The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*
*Automated Report*

# Technical Report for

## Arcadis

National Grid, Philly Coke, Philadelphia, PA

B0036790.0001.00002

SGS Job Number: JC87535

Sampling Date: 05/03/19

Report to:

Arcadis U.S.
1 Lincoln Center,110 West Fayette Street Suite 300
Syracuse, NY 13202
John.Brussel@Arcadis.com; Lawrence.Healy@Arcadis.com

ATTN: John Brussel

Total number of pages in report: **2974**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Kelly Ramos 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.



SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

**July 15, 2019**

**Mr. John Brussel**
**Arcadis U. S.**
**1 Lincoln Center,**
**110 West Fayette Street Suite 300**
**Syracuse, NY 13202**

**RE: SGS – Dayton, Job # JC87535 – Reissues**

**Dear Mr. Brussel,**

**The final report for SGS job number JC87535 has been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.**

**Specifically, the Method Detention Limiting has been reporting to meet project's requirement. The attached revised report incorporates these revisions.**

**SGS apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact me if I can be of further assistance in this matter.**

**Sincerely,**

**Report Department**

**SGS North America Inc.**

**CONTINUOUS SERVICE IMPROVEMENT!**

Our goal is to continuously improve our service to you. Please share your ideas about how we can serve you better at EHS.US.CustomerCare@sgs.com. Your feedback is appreciated!

Sections:

# Table of Contents



**Section 1: Sample Summary** ..... 6
**Section 2: Case Narrative/Conformance Summary** ..... 8
**Section 3: Summary of Hits** ..... 16
**Section 4: Sample Results** ..... 29
**4.1:** JC87535-1: S-157(7-9) ..... 30
**4.2:** JC87535-2: S-157(23-25) ..... 37
**4.3:** JC87535-3: S-156(3-5) ..... 44
**4.4:** JC87535-4: S-156(7.5-9.5) ..... 51
**4.5:** JC87535-5: S-156(14-16) ..... 58
**4.6:** JC87535-6: SO-DUP-0503 ..... 65
**4.7:** JC87535-7: S-161(5-7) ..... 72
**4.8:** JC87535-8: S-161(10-12) ..... 79
**4.9:** JC87535-9: S-162(5-7) ..... 86
**4.10:** JC87535-10: S-162(15-17) ..... 93
**4.11:** JC87535-11: S-160(10-12) ..... 100
**4.12:** JC87535-12: S-160(13-15) ..... 107
**4.13:** JC87535-13: PCWC-1 ..... 114
**4.14:** JC87535-14: PCWC-2 ..... 119
**4.15:** JC87535-15: PCWC-3 ..... 124
**Section 5: Misc. Forms** ..... 129
**5.1:** Chain of Custody ..... 130
**5.2:** Sample Tracking Chronicle ..... 133
**5.3:** Internal Chain of Custody ..... 138
**Section 6: MS Volatiles - QC Data Summaries** ..... 158
**6.1:** Method Blank Summary ..... 159
**6.2:** Leachate Blank Summary ..... 169
**6.3:** Blank Spike Summary ..... 170
**6.4:** Matrix Spike/Matrix Spike Duplicate Summary ..... 180
**6.5:** Leachate Spike Summary ..... 190
**6.6:** Instrument Performance Checks (BFB) ..... 191
**6.7:** Internal Standard Area Summaries ..... 201
**6.8:** Surrogate Recovery Summaries ..... 207
**6.9:** Initial and Continuing Calibration Summaries ..... 209
**Section 7: MS Volatiles - Raw Data** ..... 271
**7.1:** Samples ..... 272
**7.2:** Method Blanks ..... 364
**7.3:** Leachate Blanks ..... 402
**7.4:** Blank Spikes ..... 406
**7.5:** Matrix Spike/Matrix Spike Duplicates ..... 430
**7.6:** Leachate Spikes ..... 478
**7.7:** Instrument Performance Checks (BFB) ..... 482
**7.8:** Initial and Continuing Calibrations ..... 502

# Table of Contents



**7.9:** Instrument Run Logs ..... 700
**Section 8: MS Semi-volatiles - QC Data Summaries ..... 726**
**8.1:** Method Blank Summary ..... 727
**8.2:** Leachate Blank Summary ..... 737
**8.3:** Blank Spike Summary ..... 738
**8.4:** Matrix Spike/Matrix Spike Duplicate Summary ..... 745
**8.5:** Leachate Spike Summary ..... 752
**8.6:** Instrument Performance Checks (DFTPP) ..... 753
**8.7:** Internal Standard Area Summaries ..... 783
**8.8:** Surrogate Recovery Summaries ..... 795
**8.9:** Initial and Continuing Calibration Summaries ..... 798
**Section 9: MS Semi-volatiles - Raw Data ..... 904**
**9.1:** Samples ..... 905
**9.2:** Method Blanks ..... 1236
**9.3:** Leachate Blanks ..... 1249
**9.4:** Blank Spikes ..... 1252
**9.5:** Matrix Spike/Matrix Spike Duplicates ..... 1267
**9.6:** Leachate Spikes ..... 1291
**9.7:** Instrument Performance Checks (DFTPP) ..... 1295
**9.8:** Initial and Continuing Calibrations ..... 1442
**9.9:** Instrument Run Logs ..... 1871
**9.10:** Prep Logs ..... 1921
**Section 10: GC/LC Semi-volatiles - QC Data Summaries ..... 1924**
**10.1:** Method Blank Summary ..... 1925
**10.2:** Blank Spike Summary ..... 1927
**10.3:** Matrix Spike/Matrix Spike Duplicate Summary ..... 1928
**10.4:** GC Identification Summaries (Hits) ..... 1929
**10.5:** Surrogate Recovery Summaries ..... 1932
**10.6:** GC Surrogate Retention Time Summaries ..... 1933
**10.7:** Initial and Continuing Calibration Summaries ..... 1935
**Section 11: GC/LC Semi-volatiles - Raw Data ..... 1983**
**11.1:** Samples ..... 1984
**11.2:** Method Blanks ..... 2008
**11.3:** Blank Spikes ..... 2013
**11.4:** Matrix Spike/Matrix Spike Duplicates ..... 2024
**11.5:** Initial and Continuing Calibrations ..... 2060
**11.6:** Instrument Run Logs ..... 2298
**11.7:** Prep Logs ..... 2305
**Section 12: Metals Analysis - QC Data Summaries ..... 2306**
**12.1:** Inst QC MA46664: Hg ..... 2307
**12.2:** Inst QC MA46680: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag, Na,Tl,V,Zn ..... 2325

# Table of Contents



**12.3:** Inst QC MA46687: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl ..... 2362
**12.4:** Inst QC MA46695: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag, Na,Tl,V,Zn ..... 2422
**12.5:** Inst QC MA46697: Hg ..... 2463
**12.6:** Inst QC MA46698: Hg ..... 2483
**12.7:** Inst QC MA46702: Sb,As,Ba,Cd,Cr,Pb,Se,Ag ..... 2493
**12.8:** Prep QC MP14859: Hg ..... 2538
**12.9:** Prep QC MP14865: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag, Na,Tl,V,Zn ..... 2542
**12.10:** Prep QC MP14918: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag, Na,Tl,V,Zn ..... 2554
**12.11:** Prep QC MP14966: As,Ba,Cd,Cr,Pb,Se,Ag ..... 2566
**12.12:** Prep QC MP14996: Hg ..... 2576
**12.13:** Prep QC MP14998: Hg ..... 2580
**12.14:** IDL and Linear Range Summaries ..... 2584
**Section 13: Metals Analysis - Raw Data ..... 2594**
**13.1:** Raw Data MA46664 ..... 2595
**13.2:** Raw Data MA46680 ..... 2598
**13.3:** Raw Data MA46687 ..... 2632
**13.4:** Raw Data MA46695 ..... 2766
**13.5:** Raw Data MA46697 ..... 2822
**13.6:** Raw Data MA46698 ..... 2825
**13.7:** Raw Data MA46702 ..... 2827
**13.8:** Prep Logs ..... 2915
**Section 14: General Chemistry - QC Data Summaries ..... 2936**
**14.1:** Method Blank and Spike Results Summary ..... 2937
**14.2:** Duplicate Results Summary ..... 2938
**14.3:** Matrix Spike Results Summary ..... 2939
**14.4:** Inst QC GN95210: Cyanide ..... 2940
**14.5:** Percent Solids Raw Data Summary ..... 2944
**Section 15: General Chemistry - Raw Data ..... 2947**
**15.1:** Raw Data GN95210: Cyanide ..... 2948
**15.2:** Raw Data GN95409: Corrosivity as pH ..... 2965
**Section 16: Misc. Raw Data ..... 2968**
**16.1:** TCLPE Prep Log: 05/10/19 ..... 2969
**16.2:** TCLPV Prep Log: 05/11/19 ..... 2971
**16.3:** VOA Soil Prep Log ..... 2972

SGS North America Inc.

# Sample Summary

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| JC87535-1 | 05/03/19 | 10:30 | GB | 05/03/19 | SO | Soil | S-157(7-9) |
| JC87535-2 | 05/03/19 | 10:45 | GB | 05/03/19 | SO | Soil | S-157(23-25) |
| JC87535-3 | 05/03/19 | 10:00 | GB | 05/03/19 | SO | Soil | S-156(3-5) |
| JC87535-4 | 05/03/19 | 10:15 | GB | 05/03/19 | SO | Soil | S-156(7.5-9.5) |
| JC87535-5 | 05/03/19 | 10:35 | GB | 05/03/19 | SO | Soil | S-156(14-16) |
| JC87535-6 | 05/03/19 | 00:00 | GB | 05/03/19 | SO | Soil | SO-DUP-0503 |
| JC87535-7 | 05/03/19 | 12:00 | GB | 05/03/19 | SO | Soil | S-161(5-7) |
| JC87535-8 | 05/03/19 | 12:15 | GB | 05/03/19 | SO | Soil | S-161(10-12) |
| JC87535-8D | 05/03/19 | 12:15 | GB | 05/03/19 | SO | Soil Dup/MSD | S-161(10-12)MSD |
| JC87535-8S | 05/03/19 | 12:15 | GB | 05/03/19 | SO | Soil Matrix Spike | S-161(10-12)MS |
| JC87535-9 | 05/03/19 | 12:45 | GB | 05/03/19 | SO | Soil | S-162(5-7) |
| JC87535-10 | 05/03/19 | 13:00 | GB | 05/03/19 | SO | Soil | S-162(15-17) |
| JC87535-11 | 05/03/19 | 13:30 | GB | 05/03/19 | SO | Soil | S-160(10-12) |

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

# Sample Summary
(continued)

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| JC87535-12 | 05/03/19 | 13:45 | GB | 05/03/19 | SO | Soil | S-160(13-15) |
| JC87535-13 | 05/03/19 | 14:10 | GB | 05/03/19 | SO | Soil | PCWC-1 |
| JC87535-14 | 05/03/19 | 14:15 | GB | 05/03/19 | SO | Soil | PCWC-2 |
| JC87535-15 | 05/03/19 | 14:20 | GB | 05/03/19 | SO | Soil | PCWC-3 |

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Arcadis | **Job No** | JC87535 |
| **Site:** | National Grid, Philly Coke, Philadelphia, PA | **Report Date** | 5/21/2019 4:53:39 PM |

On 05/03/2019, 15 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of -0.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC87535 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

## MS Volatiles By Method SW846 8260C

**Matrix:** LEACHATE **Batch ID:** V2V2399

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-13LS, JC87535-13MS, JC87535-13MSD were used as the QC samples indicated.

**Matrix:** LEACHATE **Batch ID:** V2V2402

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87626-1MS, JC87626-1MSD were used as the QC samples indicated.

**Matrix:** SO **Batch ID:** V1C7218

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC87563-7MS, JC87563-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

**Matrix:** SO **Batch ID:** V2C7520

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC87569-2MS, JC87569-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC87535-11: Diluted due to high concentration of non-target compound.
- JC87535-7: Diluted due to high concentration of non-target compound.
- JC87535-11 for Bromomethane: Associated CCV outside of control limits low.
- JC87535-7 for Bromomethane: Associated CCV outside of control limits low.

**Matrix:** SO **Batch ID:** V2C7521

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-3MS, JC87535-3MSD were used as the QC samples indicated.
- JC87535-3: Diluted due to high concentration of non-target compound.
- JC87535-3 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-3 for Acetone: Associated CCV outside of control limits high, sample was ND.

**Matrix:** SO **Batch ID:** VY8033

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

## MS Volatiles By Method SW846 8260C

**Matrix:** SO **Batch ID:** VY8033

- Sample(s) JC87535-8MS, JC87535-8MSD were used as the QC samples indicated.
- JC87535-12 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-1 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC87535-8 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-9 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC87535-8 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-6 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-1 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-10 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-6 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC87535-10 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-10 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC87535-8 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC87535-9 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-12 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-4 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-4 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC87535-4 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-1 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-9 for Vinyl chloride: Associated CCV outside of control limits low.
- JC87535-6 for Chloromethane: Associated CCV outside of control limits low.
- JC87535-12 for Dichlorodifluoromethane: Associated CCV outside of control limits low.

## MS Semi-volatiles By Method SW846 8270D

**Matrix:** LEACHATE **Batch ID:** OP20353

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87414-5RLS, JC87414-5RMS, JC87414-5RMSD were used as the QC samples indicated.

**Matrix:** SO **Batch ID:** OP20268

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87450-16MS, JC87450-16MSD were used as the QC samples indicated.
- JC87535-3: Dilution required due to matrix interference.
- JC87535-3 for 1,4-Dioxane: Associated CCV outside of control limits low.
- JC87535-2 for 1,4-Dioxane: Associated CCV outside of control limits low.
- JC87535-4 for 4-Nitrophenol: Associated CCV outside of control limits low.
- JC87535-4 for Hexachlorobutadiene: Associated CCV outside of control limits low.
- JC87535-4 for 1,4-Dioxane: Associated CCV outside of control limits low.
- JC87535-2 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC87535-2 for 4-Nitrophenol: Associated CCV outside of control limits low.
- JC87535-2 for Hexachlorobutadiene: Associated CCV outside of control limits low.
- JC87535-1 for 1,4-Dioxane: Associated CCV outside of control limits low.
- JC87535-4 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC87535-1 for 4-Nitrophenol: Associated CCV outside of control limits low.
- JC87535-1 for Hexachlorobutadiene: Associated CCV outside of control limits low.
- JC87535-1 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC87535-3 for Terphenyl-d14: Outside control limits due to dilution.
- JC87535-3 for 2-Fluorophenol: Outside control limits due to dilution.
- JC87535-3 for Nitrobenzene-d5: Outside control limits due to dilution.
- JC87535-3 for Phenol-d5: Outside control limits due to dilution.
- JC87535-3 for 2,4,6-Tribromophenol: Outside control limits due to dilution.
- JC87535-3 for 2-Fluorobiphenyl: Outside control limits due to dilution.

**Matrix:** SO **Batch ID:** OP20269

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-8MS, JC87535-8MSD were used as the QC samples indicated.
- JC87535-11: Dilution required due to viscosity of the extract matrix.
- JC87535-7: Dilution required due to matrix interference.
- JC87535-11 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-11 for Nitrobenzene-d5: Outside control limits due to matrix interference.
- JC87535-7 for 2-Chloronaphthalene: Associated CCV outside of control limits low.
- JC87535-7 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for 2,4-Dimethylphenol: Associated CCV outside of control limits high.
- JC87535-8 for 2,3,4,6-Tetrachlorophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for Indeno(1,2,3-cd)pyrene: Associated CCV outside of control limits high.
- JC87535-8 for 2-Nitrophenol: Associated CCV outside of control limits high, sample was ND.

## MS Semi-volatiles By Method SW846 8270D

**Matrix:** SO **Batch ID:** OP20269

- JC87535-8 for 2,4-Dinitrotoluene: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for 4,6-Dinitro-o-cresol: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for 2,4-Dichlorophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for 2-Nitroaniline: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for 2,4,6-Trichlorophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for 3-Nitroaniline: Associated CCV outside of control limits high, sample was ND.
- JC87535-5 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for 2-Fluorophenol: Outside control limits due to dilution.
- JC87535-10 for Caprolactam: Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for Terphenyl-d14: Outside control limits due to dilution.
- JC87535-12 for Nitrobenzene: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for Caprolactam: Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for Nitrobenzene-d5: Outside control limits due to dilution.
- JC87535-7 for 2,4,6-Tribromophenol: Outside control limits due to dilution.
- JC87535-5 for Nitrobenzene: Associated CCV outside of control limits high, sample was ND.
- JC87535-5 for N-Nitroso-di-n-propylamine: Associated CCV outside of control limits high, sample was ND.
- JC87535-5 for Isophorone: Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for 2-Fluorobiphenyl: Outside control limits due to dilution.
- JC87535-5 for bis(2-Chloroethyl)ether: Associated CCV outside of control limits high, sample was ND.
- JC87535-8 for Hexachlorocyclopentadiene: Associated CCV outside of control limits high, sample was ND.
- JC87535-5 for 4-Chloro-3-methyl phenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-5 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-5 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-7 for Phenol-d5: Outside control limits due to dilution.
- JC87535-8 for 2,6-Dinitrotoluene: Associated CCV outside of control limits high, sample was ND.
- JC87535-11 for Phenol-d5: Outside control limits due to dilution.
- JC87535-11 for Nitrobenzene-d5: Outside control limits due to dilution.
- JC87535-11 for 2-Fluorophenol: Outside control limits due to dilution.
- JC87535-11 for 2,4,6-Tribromophenol: Outside control limits due to dilution.
- JC87535-11 for 3&4-Methylphenol: Associated CCV outside of control limits high.
- JC87535-5 for Caprolactam: Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for 4-Chloro-3-methyl phenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for bis(2-Chloroethyl)ether: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for Nitrobenzene: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for Nitrobenzene: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for Isophorone: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for 4-Chloro-3-methyl phenol: Associated CCV outside of control limits high, sample was ND.

## MS Semi-volatiles By Method SW846 8270D

**Matrix:** SO **Batch ID:** OP20269

- JC87535-12 for 4-Chloro-3-methyl phenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for Caprolactam: Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for Isophorone: Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for N-Nitroso-di-n-propylamine: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for bis(2-Chloroethyl)ether: Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for bis(2-Chloroethyl)ether: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for Isophorone: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-10 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-12 for N-Nitroso-di-n-propylamine: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for 2,2'-Oxybis(1-chloropropane): Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for 4-Chloro-3-methyl phenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for bis(2-Chloroethyl)ether: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for Caprolactam: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for Isophorone: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for N-Nitroso-di-n-propylamine: Associated CCV outside of control limits high, sample was ND.
- JC87535-9 for Nitrobenzene: Associated CCV outside of control limits high, sample was ND.
- JC87535-6 for N-Nitroso-di-n-propylamine: Associated CCV outside of control limits high, sample was ND.

## GC/LC Semi-volatiles By Method SW846 8082A

**Matrix:** SO **Batch ID:** OP20312

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87704-1MS, JC87704-1MSD were used as the QC samples indicated.
- JC87535-13 for Decachlorobiphenyl: Outside control limits due to matrix interference.
- JC87535-14 for Decachlorobiphenyl: Outside control limits due to matrix interference.

## Metals Analysis By Method SW846 6010D

**Matrix:** LEACHATE **Batch ID:** MP14966

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87414-5RMS, JC87414-5RMSD, JC87414-5RSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Chromium are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

**Matrix:** SO **Batch ID:** MP14865

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87654-4APS, JC87654-4ASDL, JC87654-4AMS, JC87654-4AMSD were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Aluminum, Antimony, Lead are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Aluminum, Antimony are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike Recovery(s) for Iron are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Antimony, Cadmium, Selenium, Silver are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- JC87535-1 for Thallium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Copper: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Antimony: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Silver: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Manganese: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Copper: Elevated detection limit due to dilution required for high interfering element.
- JC87535-11 for Thallium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Manganese: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Antimony: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Thallium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Copper: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Iron: Elevated detection limit due to dilution required for high interfering element.
- JC87535-1 for Cadmium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Silver: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Iron: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JC87535-3 for Thallium: Elevated detection limit due to dilution required for high interfering element.
- MP14865-SD1 for Potassium: Serial dilution indicates possible matrix interference.
- JC87535-4 for Manganese: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- JC87535-4 for Silver: Elevated detection limit due to dilution required for high interfering element.

**Matrix:** SO **Batch ID:** MP14918

## Metals Analysis By Method SW846 6010D

**Matrix:** SO **Batch ID:** MP14918

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-8PS, JC87535-8SDL, JC87535-8MS, JC87535-8MSD were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Aluminum, Antimony are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Aluminum, Antimony are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- RPD(s) for Serial Dilution for Antimony, Beryllium are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP14918-SD1 for Sodium: Serial dilution indicates possible matrix interference.

## Metals Analysis By Method SW846 7470A

**Matrix:** LEACHATE **Batch ID:** MP14996

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87414-5RMS, JC87414-5RMSD were used as the QC samples for metals.

## Metals Analysis By Method SW846 7471B

**Matrix:** SO **Batch ID:** MP14859

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-7MS, JC87535-7MSD were used as the QC samples for metals.

**Matrix:** SO **Batch ID:** MP14998

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-8MS, JC87535-8MSD were used as the QC samples for metals.

## General Chemistry By Method SM2540 G 18TH ED MOD

**Matrix:** SO **Batch ID:** GN95113

- Sample(s) JC87535-7DUP were used as the QC samples for Solids, Percent.

**Matrix:** SO **Batch ID:** GN95269

- Sample(s) JC87535-8DUP were used as the QC samples for Solids, Percent.

**Matrix:** SO **Batch ID:** GN95275

- Sample(s) JC87520-1DUP were used as the QC samples for Solids, Percent.

**Matrix:** SO **Batch ID:** GN95281

- Sample(s) JC87535-6DUP were used as the QC samples for Solids, Percent.

## General Chemistry By Method SW846 9012B/LACHAT

**Matrix:** SO **Batch ID:** GP21141

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87535-8DUP, JC87535-8MS were used as the QC samples for Cyanide.
- Matrix Spike Recovery(s) for Cyanide are outside control limits. Spike recovery indicates possible matrix interference.

## General Chemistry By Method SW846 9045D

**Matrix:** SO **Batch ID:** GN95409

- Sample(s) JC87862-2DUP were used as the QC samples for Corrosivity as pH.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **JC87535-1** | **S-157(7-9)** | | | | | |
| Acetone | | 62.7 | 13 | 5.2 | ug/kg | SW846 8260C |
| Benzene | | 0.99 | 0.65 | 0.59 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 10.3 J | 13 | 4.9 | ug/kg | SW846 8260C |
| Carbon disulfide | | 1.7 J | 2.6 | 1.2 | ug/kg | SW846 8260C |
| Isopropylbenzene | | 2.1 J | 2.6 | 0.91 | ug/kg | SW846 8260C |
| o-Xylene | | 1.6 | 1.3 | 0.76 | ug/kg | SW846 8260C |
| Xylene (total) | | 1.6 | 1.3 | 0.76 | ug/kg | SW846 8260C |
| Acenaphthene | | 112 | 40 | 14 | ug/kg | SW846 8270D |
| Anthracene | | 69.2 | 40 | 25 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 54.1 | 40 | 11 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 51.1 | 40 | 18 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 67.8 | 40 | 18 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 37.4 J | 40 | 20 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 25.2 J | 40 | 19 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 9.8 J | 80 | 5.5 | ug/kg | SW846 8270D |
| Benzaldehyde | | 22.9 J | 200 | 10 | ug/kg | SW846 8270D |
| Chrysene | | 65.8 | 40 | 13 | ug/kg | SW846 8270D |
| Dibenzofuran | | 23.9 J | 80 | 16 | ug/kg | SW846 8270D |
| Fluoranthene | | 138 | 40 | 18 | ug/kg | SW846 8270D |
| Fluorene | | 30.2 J | 40 | 18 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 52.7 | 40 | 19 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 25.7 J | 40 | 9.1 | ug/kg | SW846 8270D |
| Naphthalene | | 41.9 | 40 | 11 | ug/kg | SW846 8270D |
| Phenanthrene | | 94.6 | 40 | 13 | ug/kg | SW846 8270D |
| Pyrene | | 111 | 40 | 13 | ug/kg | SW846 8270D |
| Aluminum | | 10900 | 66 | 11 | mg/kg | SW846 6010D |
| Antimony [a] | | 2.1 J | 5.3 | 1.1 | mg/kg | SW846 6010D |
| Arsenic | | 12.6 | 2.6 | 0.37 | mg/kg | SW846 6010D |
| Barium | | 52.3 | 26 | 2.5 | mg/kg | SW846 6010D |
| Beryllium | | 0.62 | 0.26 | 0.11 | mg/kg | SW846 6010D |
| Cadmium [a] | | 0.79 J | 1.3 | 0.18 | mg/kg | SW846 6010D |
| Calcium | | 2790 | 660 | 58 | mg/kg | SW846 6010D |
| Chromium | | 20.0 | 1.3 | 0.49 | mg/kg | SW846 6010D |
| Cobalt | | 9.9 | 6.6 | 0.37 | mg/kg | SW846 6010D |
| Copper [a] | | 243 | 9.9 | 3.3 | mg/kg | SW846 6010D |
| Iron | | 54800 | 200 | 76 | mg/kg | SW846 6010D |
| Lead [a] | | 43.8 | 5.3 | 1.1 | mg/kg | SW846 6010D |
| Magnesium | | 792 | 660 | 18 | mg/kg | SW846 6010D |
| Manganese [a] | | 379 | 5.9 | 1.6 | mg/kg | SW846 6010D |
| Mercury | | 0.065 | 0.042 | 0.019 | mg/kg | SW846 7471B |
| Nickel | | 22.3 | 5.3 | 0.46 | mg/kg | SW846 6010D |
| Potassium | | 826 J | 1300 | 42 | mg/kg | SW846 6010D |
| Vanadium | | 25.9 | 6.6 | 0.25 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Zinc | | 451 | 6.6 | 3.0 | mg/kg | SW846 6010D |
| Cyanide | | 0.70 | 0.30 | 0.15 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-2** | **S-157(23-25)** | | | | | |
| Acetone | | 18.7 | 11 | 4.3 | ug/kg | SW846 8260C |
| Aluminum | | 8590 | 54 | 8.7 | mg/kg | SW846 6010D |
| Arsenic | | 3.8 | 2.2 | 0.30 | mg/kg | SW846 6010D |
| Barium | | 32.3 | 22 | 2.1 | mg/kg | SW846 6010D |
| Beryllium | | 0.51 | 0.22 | 0.087 | mg/kg | SW846 6010D |
| Calcium | | 248 J | 540 | 48 | mg/kg | SW846 6010D |
| Chromium | | 25.7 | 1.1 | 0.40 | mg/kg | SW846 6010D |
| Cobalt | | 7.6 | 5.4 | 0.30 | mg/kg | SW846 6010D |
| Copper | | 9.4 | 2.7 | 0.91 | mg/kg | SW846 6010D |
| Iron | | 13400 | 54 | 21 | mg/kg | SW846 6010D |
| Lead | | 6.0 | 2.2 | 0.44 | mg/kg | SW846 6010D |
| Magnesium | | 2070 | 540 | 15 | mg/kg | SW846 6010D |
| Manganese | | 111 | 1.6 | 0.44 | mg/kg | SW846 6010D |
| Nickel | | 15.7 | 4.3 | 0.38 | mg/kg | SW846 6010D |
| Potassium | | 897 J | 1100 | 34 | mg/kg | SW846 6010D |
| Silver | | 0.37 J | 0.54 | 0.18 | mg/kg | SW846 6010D |
| Vanadium | | 19.0 | 5.4 | 0.21 | mg/kg | SW846 6010D |
| Zinc | | 35.9 | 5.4 | 2.5 | mg/kg | SW846 6010D |
| **JC87535-3** | **S-156(3-5)** | | | | | |
| Benzene [b] | | 368 | 140 | 130 | ug/kg | SW846 8260C |
| Toluene [b] | | 424 | 280 | 150 | ug/kg | SW846 8260C |
| m,p-Xylene [b] | | 568 | 280 | 250 | ug/kg | SW846 8260C |
| Xylene (total) [b] | | 568 | 280 | 160 | ug/kg | SW846 8260C |
| 2,4-Dimethylphenol [c] | | 5920 | 990 | 350 | ug/kg | SW846 8270D |
| 2-Methylphenol [c] | | 2680 | 400 | 130 | ug/kg | SW846 8270D |
| 3&4-Methylphenol [c] | | 7150 | 400 | 160 | ug/kg | SW846 8270D |
| Phenol [c] | | 2720 | 400 | 100 | ug/kg | SW846 8270D |
| Acenaphthene | | 35200 | 2000 | 680 | ug/kg | SW846 8270D |
| Acenaphthylene | | 125000 | 2000 | 1000 | ug/kg | SW846 8270D |
| Acetophenone [c] | | 1900 | 990 | 43 | ug/kg | SW846 8270D |
| Anthracene | | 373000 | 20000 | 12000 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 302000 | 20000 | 5600 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 219000 | 20000 | 9000 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 267000 | 20000 | 8800 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 97300 | 2000 | 990 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 108000 | 20000 | 9200 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 72100 | 4000 | 270 | ug/kg | SW846 8270D |
| Carbazole | | 167000 | 4000 | 290 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Client Sample ID / Analyte | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| Chrysene | 270000 | 20000 | 6200 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | 28300 | 2000 | 880 | ug/kg | SW846 8270D |
| Dibenzofuran | 364000 | 40000 | 8100 | ug/kg | SW846 8270D |
| Fluoranthene | 908000 | 20000 | 8800 | ug/kg | SW846 8270D |
| Fluorene | 563000 | 20000 | 9100 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 110000 | 2000 | 930 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 312000 | 20000 | 4500 | ug/kg | SW846 8270D |
| Naphthalene | 1830000 | 20000 | 5600 | ug/kg | SW846 8270D |
| Phenanthrene | 1840000 | 20000 | 6700 | ug/kg | SW846 8270D |
| Pyrene | 611000 | 20000 | 6300 | ug/kg | SW846 8270D |
| Aluminum | 3280 | 59 | 9.6 | mg/kg | SW846 6010D |
| Antimony | 2.6 | 2.4 | 0.49 | mg/kg | SW846 6010D |
| Arsenic | 10.2 | 2.4 | 0.33 | mg/kg | SW846 6010D |
| Barium | 90.6 | 24 | 2.3 | mg/kg | SW846 6010D |
| Beryllium | 0.34 | 0.24 | 0.095 | mg/kg | SW846 6010D |
| Cadmium | 0.53 J | 0.59 | 0.083 | mg/kg | SW846 6010D |
| Calcium | 5300 | 590 | 52 | mg/kg | SW846 6010D |
| Chromium | 99.4 | 1.2 | 0.44 | mg/kg | SW846 6010D |
| Cobalt | 7.3 | 5.9 | 0.33 | mg/kg | SW846 6010D |
| Copper [a] | 175 | 5.9 | 2.0 | mg/kg | SW846 6010D |
| Iron [a] | 26900 | 120 | 46 | mg/kg | SW846 6010D |
| Lead [a] | 204 | 4.8 | 0.97 | mg/kg | SW846 6010D |
| Magnesium | 575 J | 590 | 16 | mg/kg | SW846 6010D |
| Manganese [a] | 84.4 | 3.6 | 0.97 | mg/kg | SW846 6010D |
| Mercury | 3.1 | 0.20 | 0.088 | mg/kg | SW846 7471B |
| Nickel | 46.8 | 4.8 | 0.42 | mg/kg | SW846 6010D |
| Potassium | 242 J | 1200 | 38 | mg/kg | SW846 6010D |
| Selenium [a] | 2.0 J | 4.8 | 1.5 | mg/kg | SW846 6010D |
| Silver [a] | 0.51 J | 1.2 | 0.40 | mg/kg | SW846 6010D |
| Vanadium | 17.5 | 5.9 | 0.23 | mg/kg | SW846 6010D |
| Zinc | 185 | 5.9 | 2.7 | mg/kg | SW846 6010D |
| Cyanide | 16.0 | 0.28 | 0.14 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-4 S-156(7.5-9.5)** | | | | | |
| Acetone | 58.7 | 12 | 5.0 | ug/kg | SW846 8260C |
| Benzene | 1.0 | 0.62 | 0.57 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | 8.2 J | 12 | 4.7 | ug/kg | SW846 8260C |
| Acenaphthene | 374 | 44 | 15 | ug/kg | SW846 8270D |
| Acenaphthylene | 155 | 44 | 22 | ug/kg | SW846 8270D |
| Anthracene | 403 | 44 | 27 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | 957 | 44 | 12 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | 837 | 44 | 20 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 940 | 44 | 19 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 418 | 44 | 22 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Benzo(k)fluoranthene | | 386 | 44 | 20 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 32.2 J | 87 | 6.0 | ug/kg | SW846 8270D |
| Carbazole | | 50.9 J | 87 | 6.3 | ug/kg | SW846 8270D |
| Chrysene | | 860 | 44 | 14 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | | 119 | 44 | 19 | ug/kg | SW846 8270D |
| Dibenzofuran | | 55.5 J | 87 | 18 | ug/kg | SW846 8270D |
| Fluoranthene | | 1970 | 44 | 19 | ug/kg | SW846 8270D |
| Fluorene | | 130 | 44 | 20 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 489 | 44 | 20 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 93.5 | 44 | 9.9 | ug/kg | SW846 8270D |
| Naphthalene | | 1070 | 44 | 12 | ug/kg | SW846 8270D |
| Phenanthrene | | 872 | 44 | 15 | ug/kg | SW846 8270D |
| Pyrene | | 1390 | 44 | 14 | ug/kg | SW846 8270D |
| Aluminum | | 8660 | 68 | 11 | mg/kg | SW846 6010D |
| Antimony [a] | | 2.2 J | 5.4 | 1.1 | mg/kg | SW846 6010D |
| Arsenic | | 15.9 | 2.7 | 0.38 | mg/kg | SW846 6010D |
| Barium | | 93.0 | 27 | 2.6 | mg/kg | SW846 6010D |
| Beryllium | | 1.4 | 0.27 | 0.11 | mg/kg | SW846 6010D |
| Cadmium | | 0.11 J | 0.68 | 0.095 | mg/kg | SW846 6010D |
| Calcium | | 2170 | 680 | 60 | mg/kg | SW846 6010D |
| Chromium | | 25.1 | 1.4 | 0.50 | mg/kg | SW846 6010D |
| Cobalt | | 8.3 | 6.8 | 0.38 | mg/kg | SW846 6010D |
| Copper [a] | | 97.6 | 6.8 | 2.3 | mg/kg | SW846 6010D |
| Iron [a] | | 50400 | 140 | 52 | mg/kg | SW846 6010D |
| Lead [a] | | 150 | 5.4 | 1.1 | mg/kg | SW846 6010D |
| Magnesium | | 1660 | 680 | 19 | mg/kg | SW846 6010D |
| Manganese [a] | | 265 | 4.1 | 1.1 | mg/kg | SW846 6010D |
| Mercury | | 0.83 | 0.041 | 0.018 | mg/kg | SW846 7471B |
| Nickel | | 17.8 | 5.4 | 0.48 | mg/kg | SW846 6010D |
| Potassium | | 895 J | 1400 | 43 | mg/kg | SW846 6010D |
| Selenium [a] | | 4.1 J | 5.4 | 1.8 | mg/kg | SW846 6010D |
| Silver [a] | | 0.60 J | 1.4 | 0.46 | mg/kg | SW846 6010D |
| Sodium | | 126 J | 1400 | 110 | mg/kg | SW846 6010D |
| Vanadium | | 72.7 | 6.8 | 0.26 | mg/kg | SW846 6010D |
| Zinc | | 124 | 6.8 | 3.1 | mg/kg | SW846 6010D |
| **JC87535-5** | **S-156(14-16)** | | | | | |
| Acetone | | 114 | 16 | 6.3 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 28.7 | 16 | 5.9 | ug/kg | SW846 8260C |
| Methylene chloride | | 1.8 J | 7.9 | 1.6 | ug/kg | SW846 8260C |
| Benzo(a)anthracene | | 26.3 J | 47 | 13 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 22.5 J | 47 | 21 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 29.6 J | 47 | 21 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 7.7 J | 93 | 6.4 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Client Sample ID / Analyte | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| Benzaldehyde | 20.8 J | 230 | 12 | ug/kg | SW846 8270D |
| Carbazole | 8.3 J | 93 | 6.8 | ug/kg | SW846 8270D |
| Chrysene | 25.2 J | 47 | 15 | ug/kg | SW846 8270D |
| Fluoranthene | 59.7 | 47 | 21 | ug/kg | SW846 8270D |
| Fluorene | 21.9 J | 47 | 21 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 14.4 J | 47 | 11 | ug/kg | SW846 8270D |
| Naphthalene | 77.8 | 47 | 13 | ug/kg | SW846 8270D |
| Phenanthrene | 65.2 | 47 | 16 | ug/kg | SW846 8270D |
| Pyrene | 43.4 J | 47 | 15 | ug/kg | SW846 8270D |
| Aluminum | 21800 | 72 | 12 | mg/kg | SW846 6010D |
| Arsenic | 7.4 | 2.9 | 0.41 | mg/kg | SW846 6010D |
| Barium | 183 | 29 | 2.8 | mg/kg | SW846 6010D |
| Beryllium | 1.1 | 0.29 | 0.12 | mg/kg | SW846 6010D |
| Cadmium | 0.28 J | 0.72 | 0.10 | mg/kg | SW846 6010D |
| Calcium | 2800 | 720 | 64 | mg/kg | SW846 6010D |
| Chromium | 42.7 | 1.4 | 0.54 | mg/kg | SW846 6010D |
| Cobalt | 10.9 | 7.2 | 0.41 | mg/kg | SW846 6010D |
| Copper | 22.1 | 3.6 | 1.2 | mg/kg | SW846 6010D |
| Iron | 25700 | 72 | 28 | mg/kg | SW846 6010D |
| Lead | 80.3 | 2.9 | 0.59 | mg/kg | SW846 6010D |
| Magnesium | 5160 | 720 | 20 | mg/kg | SW846 6010D |
| Manganese | 402 | 2.2 | 0.59 | mg/kg | SW846 6010D |
| Mercury | 0.11 | 0.045 | 0.020 | mg/kg | SW846 7471B |
| Nickel | 26.3 | 5.8 | 0.51 | mg/kg | SW846 6010D |
| Potassium | 1870 | 1400 | 46 | mg/kg | SW846 6010D |
| Silver | 0.52 J | 0.72 | 0.25 | mg/kg | SW846 6010D |
| Sodium | 228 J | 1400 | 110 | mg/kg | SW846 6010D |
| Vanadium | 41.9 | 7.2 | 0.28 | mg/kg | SW846 6010D |
| Zinc | 132 | 7.2 | 3.3 | mg/kg | SW846 6010D |
| **JC87535-6 SO-DUP-0503** | | | | | |
| Acetone | 229 | 20 | 7.9 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | 38.7 | 20 | 7.4 | ug/kg | SW846 8260C |
| Methyl Acetate | 6.2 J | 9.9 | 2.8 | ug/kg | SW846 8260C |
| Benzo(a)anthracene | 15.3 J | 49 | 14 | ug/kg | SW846 8270D |
| Fluoranthene | 28.6 J | 49 | 22 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 15.5 J | 49 | 11 | ug/kg | SW846 8270D |
| Naphthalene | 115 | 49 | 14 | ug/kg | SW846 8270D |
| Phenanthrene | 43.2 J | 49 | 17 | ug/kg | SW846 8270D |
| Pyrene | 22.0 J | 49 | 16 | ug/kg | SW846 8270D |
| Aluminum | 24700 | 74 | 12 | mg/kg | SW846 6010D |
| Arsenic | 4.5 | 3.0 | 0.41 | mg/kg | SW846 6010D |
| Barium | 162 | 30 | 2.8 | mg/kg | SW846 6010D |
| Beryllium | 1.2 | 0.30 | 0.12 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Cadmium | | 0.13 J | 0.74 | 0.10 | mg/kg | SW846 6010D |
| Calcium | | 2730 | 740 | 65 | mg/kg | SW846 6010D |
| Chromium | | 47.5 | 1.5 | 0.55 | mg/kg | SW846 6010D |
| Cobalt | | 12.1 | 7.4 | 0.41 | mg/kg | SW846 6010D |
| Copper | | 10.1 | 3.7 | 1.2 | mg/kg | SW846 6010D |
| Iron | | 25400 | 74 | 28 | mg/kg | SW846 6010D |
| Lead | | 14.8 | 3.0 | 0.61 | mg/kg | SW846 6010D |
| Magnesium | | 5840 | 740 | 20 | mg/kg | SW846 6010D |
| Manganese | | 325 | 2.2 | 0.61 | mg/kg | SW846 6010D |
| Nickel | | 29.6 | 5.9 | 0.52 | mg/kg | SW846 6010D |
| Potassium | | 2170 | 1500 | 47 | mg/kg | SW846 6010D |
| Silver | | 0.49 J | 0.74 | 0.25 | mg/kg | SW846 6010D |
| Sodium | | 248 J | 1500 | 110 | mg/kg | SW846 6010D |
| Vanadium | | 48.1 | 7.4 | 0.28 | mg/kg | SW846 6010D |
| Zinc | | 72.1 | 7.4 | 3.4 | mg/kg | SW846 6010D |
| **JC87535-7** | **S-161(5-7)** | | | | | |
| Benzene [b] | | 103000 | 5100 | 4700 | ug/kg | SW846 8260C |
| Ethylbenzene [b] | | 6520 J | 10000 | 5700 | ug/kg | SW846 8260C |
| Styrene [b] | | 11000 J | 21000 | 5900 | ug/kg | SW846 8260C |
| Toluene [b] | | 40800 | 10000 | 5400 | ug/kg | SW846 8260C |
| m,p-Xylene [b] | | 59900 | 10000 | 9200 | ug/kg | SW846 8260C |
| o-Xylene [b] | | 19800 | 10000 | 6000 | ug/kg | SW846 8260C |
| Xylene (total) [b] | | 79700 | 10000 | 6000 | ug/kg | SW846 8260C |
| 2,4-Dimethylphenol [d] | | 4430 | 910 | 320 | ug/kg | SW846 8270D |
| 2-Methylphenol [c] | | 1480 | 360 | 120 | ug/kg | SW846 8270D |
| 3&4-Methylphenol [c] | | 1330 | 360 | 150 | ug/kg | SW846 8270D |
| Phenol [c] | | 455 | 360 | 95 | ug/kg | SW846 8270D |
| Acenaphthene | | 48200 | 1800 | 620 | ug/kg | SW846 8270D |
| Acenaphthylene | | 286000 | 18000 | 9200 | ug/kg | SW846 8270D |
| Anthracene | | 178000 | 1800 | 1100 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 168000 | 1800 | 510 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 148000 | 1800 | 820 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 171000 | 1800 | 800 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 83600 | 1800 | 910 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 59900 | 1800 | 850 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 51900 | 3600 | 250 | ug/kg | SW846 8270D |
| Carbazole | | 111000 | 3600 | 260 | ug/kg | SW846 8270D |
| Chrysene | | 133000 | 1800 | 570 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | | 24700 | 1800 | 800 | ug/kg | SW846 8270D |
| Dibenzofuran | | 218000 | 36000 | 7400 | ug/kg | SW846 8270D |
| Fluoranthene | | 544000 | 18000 | 8100 | ug/kg | SW846 8270D |
| Fluorene | | 334000 | 18000 | 8300 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene [e] | | 87900 | 1800 | 850 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Client Sample ID / Analyte | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 155000 | 1800 | 410 | ug/kg | SW846 8270D |
| Naphthalene | 854000 | 18000 | 5100 | ug/kg | SW846 8270D |
| Phenanthrene | 860000 | 18000 | 6100 | ug/kg | SW846 8270D |
| Pyrene | 348000 | 18000 | 5800 | ug/kg | SW846 8270D |
| Aluminum | 9750 | 55 | 8.8 | mg/kg | SW846 6010D |
| Arsenic | 5.8 | 2.2 | 0.31 | mg/kg | SW846 6010D |
| Barium | 37.3 | 22 | 2.1 | mg/kg | SW846 6010D |
| Beryllium | 0.56 | 0.22 | 0.088 | mg/kg | SW846 6010D |
| Cadmium | 0.11 J | 0.55 | 0.077 | mg/kg | SW846 6010D |
| Calcium | 917 | 550 | 48 | mg/kg | SW846 6010D |
| Chromium | 21.3 | 1.1 | 0.41 | mg/kg | SW846 6010D |
| Cobalt | 7.0 | 5.5 | 0.31 | mg/kg | SW846 6010D |
| Copper | 26.6 | 2.7 | 0.92 | mg/kg | SW846 6010D |
| Iron | 20200 | 55 | 21 | mg/kg | SW846 6010D |
| Lead | 38.0 | 2.2 | 0.45 | mg/kg | SW846 6010D |
| Magnesium | 2170 | 550 | 15 | mg/kg | SW846 6010D |
| Manganese | 138 | 1.6 | 0.45 | mg/kg | SW846 6010D |
| Mercury | 0.032 J | 0.035 | 0.016 | mg/kg | SW846 7471B |
| Nickel | 16.4 | 4.4 | 0.38 | mg/kg | SW846 6010D |
| Potassium | 1180 | 1100 | 35 | mg/kg | SW846 6010D |
| Silver | 0.32 J | 0.55 | 0.19 | mg/kg | SW846 6010D |
| Sodium | 95.1 J | 1100 | 85 | mg/kg | SW846 6010D |
| Vanadium | 16.0 | 5.5 | 0.21 | mg/kg | SW846 6010D |
| Zinc | 77.4 | 5.5 | 2.5 | mg/kg | SW846 6010D |
| Cyanide | 5.1 | 0.24 | 0.12 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-8 S-161(10-12)** | | | | | |
| Acetone | 57.0 | 12 | 4.7 | ug/kg | SW846 8260C |
| Benzene | 10.2 | 0.59 | 0.54 | ug/kg | SW846 8260C |
| Carbon disulfide | 2.3 J | 2.4 | 1.1 | ug/kg | SW846 8260C |
| Toluene | 0.68 J | 1.2 | 0.62 | ug/kg | SW846 8260C |
| Acenaphthene | 1650 | 42 | 14 | ug/kg | SW846 8270D |
| Acenaphthylene | 117 | 42 | 21 | ug/kg | SW846 8270D |
| Anthracene | 2970 | 42 | 26 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | 981 | 42 | 12 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | 645 | 42 | 19 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 801 | 42 | 19 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 271 | 42 | 21 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | 273 | 42 | 20 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | 47.4 J | 84 | 5.8 | ug/kg | SW846 8270D |
| Carbazole | 761 | 84 | 6.1 | ug/kg | SW846 8270D |
| Chrysene | 1220 | 42 | 13 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | 90.4 | 42 | 19 | ug/kg | SW846 8270D |
| Dibenzofuran | 536 | 84 | 17 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Fluoranthene | | 2880 | 42 | 19 | ug/kg | SW846 8270D |
| Fluorene | | 1560 | 42 | 19 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 288 | 42 | 20 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 265 | 42 | 9.5 | ug/kg | SW846 8270D |
| Naphthalene | | 587 | 42 | 12 | ug/kg | SW846 8270D |
| Phenanthrene | | 5480 | 210 | 71 | ug/kg | SW846 8270D |
| Pyrene | | 2430 | 42 | 13 | ug/kg | SW846 8270D |
| Aluminum | | 6860 | 65 | 10 | mg/kg | SW846 6010D |
| Arsenic | | 11.8 | 2.6 | 0.36 | mg/kg | SW846 6010D |
| Barium | | 63.0 | 26 | 2.5 | mg/kg | SW846 6010D |
| Beryllium | | 0.42 | 0.26 | 0.10 | mg/kg | SW846 6010D |
| Cadmium | | 0.40 J | 0.65 | 0.091 | mg/kg | SW846 6010D |
| Calcium | | 1680 | 650 | 57 | mg/kg | SW846 6010D |
| Chromium | | 40.7 | 1.3 | 0.48 | mg/kg | SW846 6010D |
| Cobalt | | 7.5 | 6.5 | 0.36 | mg/kg | SW846 6010D |
| Copper | | 31.3 | 3.2 | 1.1 | mg/kg | SW846 6010D |
| Iron | | 15600 | 65 | 25 | mg/kg | SW846 6010D |
| Lead | | 69.3 | 2.6 | 0.53 | mg/kg | SW846 6010D |
| Magnesium | | 2360 | 650 | 18 | mg/kg | SW846 6010D |
| Manganese | | 379 | 1.9 | 0.53 | mg/kg | SW846 6010D |
| Mercury | | 0.37 | 0.037 | 0.016 | mg/kg | SW846 7471B |
| Nickel | | 14.0 | 5.2 | 0.45 | mg/kg | SW846 6010D |
| Potassium | | 931 J | 1300 | 41 | mg/kg | SW846 6010D |
| Vanadium | | 13.6 | 6.5 | 0.25 | mg/kg | SW846 6010D |
| Zinc | | 156 | 6.5 | 3.0 | mg/kg | SW846 6010D |
| Cyanide | | 0.23 J | 0.28 | 0.14 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-9** | **S-162(5-7)** | | | | | |
| Acetone | | 16.7 | 11 | 4.4 | ug/kg | SW846 8260C |
| Benzene | | 6.2 | 0.55 | 0.50 | ug/kg | SW846 8260C |
| Carbon disulfide | | 1.3 J | 2.2 | 1.0 | ug/kg | SW846 8260C |
| Ethylbenzene | | 0.83 J | 1.1 | 0.61 | ug/kg | SW846 8260C |
| Toluene | | 1.7 | 1.1 | 0.58 | ug/kg | SW846 8260C |
| m,p-Xylene | | 2.3 | 1.1 | 0.99 | ug/kg | SW846 8260C |
| o-Xylene | | 2.3 | 1.1 | 0.65 | ug/kg | SW846 8260C |
| Xylene (total) | | 4.6 | 1.1 | 0.65 | ug/kg | SW846 8260C |
| Acenaphthene | | 1440 | 39 | 13 | ug/kg | SW846 8270D |
| Anthracene | | 3190 | 39 | 24 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 716 | 39 | 11 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 446 | 39 | 18 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 601 | 39 | 17 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 177 | 39 | 19 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 246 | 39 | 18 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 4090 | 770 | 53 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Chrysene | | 560 | 39 | 12 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | | 50.2 | 39 | 17 | ug/kg | SW846 8270D |
| Dibenzofuran | | 1850 | 77 | 16 | ug/kg | SW846 8270D |
| bis(2-Ethylhexyl)phthalate | | 51.3 J | 77 | 9.0 | ug/kg | SW846 8270D |
| Fluoranthene | | 3250 | 390 | 170 | ug/kg | SW846 8270D |
| Fluorene | | 2300 | 39 | 18 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 210 | 39 | 18 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 65200 | 770 | 170 | ug/kg | SW846 8270D |
| Naphthalene | | 13500 | 390 | 110 | ug/kg | SW846 8270D |
| Phenanthrene | | 11400 | 390 | 130 | ug/kg | SW846 8270D |
| Pyrene | | 2320 | 39 | 12 | ug/kg | SW846 8270D |
| Aluminum | | 12400 | 63 | 10 | mg/kg | SW846 6010D |
| Antimony | | 2.1 J | 2.5 | 0.52 | mg/kg | SW846 6010D |
| Arsenic | | 7.2 | 2.5 | 0.35 | mg/kg | SW846 6010D |
| Barium | | 106 | 25 | 2.4 | mg/kg | SW846 6010D |
| Beryllium | | 0.63 | 0.25 | 0.10 | mg/kg | SW846 6010D |
| Cadmium | | 0.64 | 0.63 | 0.088 | mg/kg | SW846 6010D |
| Calcium | | 52000 | 1900 | 170 | mg/kg | SW846 6010D |
| Chromium | | 26.2 | 1.3 | 0.47 | mg/kg | SW846 6010D |
| Cobalt | | 6.9 | 6.3 | 0.35 | mg/kg | SW846 6010D |
| Copper | | 57.5 | 3.2 | 1.1 | mg/kg | SW846 6010D |
| Iron | | 17800 | 63 | 24 | mg/kg | SW846 6010D |
| Lead | | 296 | 2.5 | 0.52 | mg/kg | SW846 6010D |
| Magnesium | | 17300 | 630 | 17 | mg/kg | SW846 6010D |
| Manganese | | 330 | 1.9 | 0.52 | mg/kg | SW846 6010D |
| Mercury | | 0.36 | 0.039 | 0.017 | mg/kg | SW846 7471B |
| Nickel | | 17.0 | 5.1 | 0.44 | mg/kg | SW846 6010D |
| Potassium | | 2250 | 1300 | 40 | mg/kg | SW846 6010D |
| Silver | | 0.49 J | 0.63 | 0.21 | mg/kg | SW846 6010D |
| Sodium | | 247 J | 1300 | 98 | mg/kg | SW846 6010D |
| Vanadium | | 28.8 | 6.3 | 0.24 | mg/kg | SW846 6010D |
| Zinc | | 491 | 6.3 | 2.9 | mg/kg | SW846 6010D |
| Cyanide | | 1.0 | 0.28 | 0.14 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-10** | **S-162(15-17)** | | | | | |
| Acetone | | 71.3 | 19 | 7.5 | ug/kg | SW846 8260C |
| Benzene | | 17.4 | 0.93 | 0.85 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 17.3 J | 19 | 7.0 | ug/kg | SW846 8260C |
| Toluene | | 1.7 J | 1.9 | 0.98 | ug/kg | SW846 8260C |
| 3&4-Methylphenol | | 57.1 J | 120 | 50 | ug/kg | SW846 8270D |
| Acenaphthene | | 957 | 60 | 21 | ug/kg | SW846 8270D |
| Acenaphthylene | | 233 | 60 | 31 | ug/kg | SW846 8270D |
| Anthracene | | 919 | 60 | 37 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 500 | 60 | 17 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Client Sample ID / Analyte | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| Benzo(a)pyrene | 458 | 60 | 27 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 509 | 60 | 27 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 253 | 60 | 30 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | 215 | 60 | 28 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | 84.2 J | 120 | 8.3 | ug/kg | SW846 8270D |
| Carbazole | 463 | 120 | 8.8 | ug/kg | SW846 8270D |
| Chrysene | 494 | 60 | 19 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | 66.6 | 60 | 27 | ug/kg | SW846 8270D |
| Dibenzofuran | 423 | 120 | 25 | ug/kg | SW846 8270D |
| Fluoranthene | 1380 | 60 | 27 | ug/kg | SW846 8270D |
| Fluorene | 914 | 60 | 28 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 258 | 60 | 28 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 311 | 60 | 14 | ug/kg | SW846 8270D |
| Naphthalene | 1260 | 60 | 17 | ug/kg | SW846 8270D |
| Phenanthrene | 2450 | 60 | 20 | ug/kg | SW846 8270D |
| Pyrene | 1010 | 60 | 19 | ug/kg | SW846 8270D |
| Aluminum | 19900 | 94 | 15 | mg/kg | SW846 6010D |
| Antimony | 1.8 J | 3.8 | 0.77 | mg/kg | SW846 6010D |
| Arsenic | 41.7 | 3.8 | 0.53 | mg/kg | SW846 6010D |
| Barium | 208 | 38 | 3.6 | mg/kg | SW846 6010D |
| Beryllium | 1.3 | 0.38 | 0.15 | mg/kg | SW846 6010D |
| Cadmium | 2.3 | 0.94 | 0.13 | mg/kg | SW846 6010D |
| Calcium | 20300 | 940 | 83 | mg/kg | SW846 6010D |
| Chromium | 191 | 1.9 | 0.70 | mg/kg | SW846 6010D |
| Cobalt | 17.5 | 9.4 | 0.53 | mg/kg | SW846 6010D |
| Copper | 135 | 4.7 | 1.6 | mg/kg | SW846 6010D |
| Iron | 33000 | 94 | 36 | mg/kg | SW846 6010D |
| Lead | 277 | 3.8 | 0.77 | mg/kg | SW846 6010D |
| Magnesium | 5190 | 940 | 26 | mg/kg | SW846 6010D |
| Manganese | 1010 | 2.8 | 0.77 | mg/kg | SW846 6010D |
| Mercury | 1.9 | 0.11 | 0.047 | mg/kg | SW846 7471B |
| Nickel | 34.8 | 7.5 | 0.66 | mg/kg | SW846 6010D |
| Potassium | 2200 | 1900 | 60 | mg/kg | SW846 6010D |
| Selenium | 1.4 J | 3.8 | 1.2 | mg/kg | SW846 6010D |
| Silver | 1.8 | 0.94 | 0.32 | mg/kg | SW846 6010D |
| Sodium | 450 J | 1900 | 150 | mg/kg | SW846 6010D |
| Vanadium | 38.1 | 9.4 | 0.36 | mg/kg | SW846 6010D |
| Zinc | 690 | 9.4 | 4.3 | mg/kg | SW846 6010D |
| **JC87535-11 S-160(10-12)** | | | | | |
| Benzene [b] | 46600 | 7000 | 6300 | ug/kg | SW846 8260C |
| Ethylbenzene [b] | 19100 | 14000 | 7700 | ug/kg | SW846 8260C |
| Styrene [b] | 15500 J | 28000 | 8000 | ug/kg | SW846 8260C |
| Toluene [b] | 47800 | 14000 | 7300 | ug/kg | SW846 8260C |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID / Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| m,p-Xylene [b] | 81300 | 14000 | 12000 | ug/kg | SW846 8260C |
| o-Xylene [b] | 27200 | 14000 | 8100 | ug/kg | SW846 8260C |
| Xylene (total) [b] | 109000 | 14000 | 8100 | ug/kg | SW846 8260C |
| 2,4-Dimethylphenol | 152000 | 42000 | 15000 | ug/kg | SW846 8270D |
| 2-Methylphenol [f] | 73600 | 1700 | 530 | ug/kg | SW846 8270D |
| 3&4-Methylphenol [e] | 221000 | 17000 | 6900 | ug/kg | SW846 8270D |
| Phenol [f] | 75900 | 1700 | 440 | ug/kg | SW846 8270D |
| Acenaphthene | 344000 | 8300 | 2900 | ug/kg | SW846 8270D |
| Acenaphthylene | 1800000 | 83000 | 42000 | ug/kg | SW846 8270D |
| Anthracene | 1950000 | 83000 | 51000 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | 1100000 | 83000 | 24000 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | 762000 | 8300 | 3800 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 1050000 | 83000 | 37000 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 429000 | 8300 | 4200 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | 396000 | 83000 | 39000 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | 300000 | 17000 | 1100 | ug/kg | SW846 8270D |
| Carbazole | 828000 | 17000 | 1200 | ug/kg | SW846 8270D |
| Chrysene | 784000 | 8300 | 2600 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene [f] | 39000 | 830 | 370 | ug/kg | SW846 8270D |
| Dibenzofuran | 1420000 | 170000 | 34000 | ug/kg | SW846 8270D |
| Fluoranthene | 3400000 | 83000 | 37000 | ug/kg | SW846 8270D |
| Fluorene | 2130000 | 83000 | 38000 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 481000 | 8300 | 3900 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 1490000 | 83000 | 19000 | ug/kg | SW846 8270D |
| Naphthalene | 6610000 | 83000 | 24000 | ug/kg | SW846 8270D |
| Phenanthrene | 4840000 | 83000 | 28000 | ug/kg | SW846 8270D |
| Pyrene | 1920000 | 83000 | 27000 | ug/kg | SW846 8270D |
| Aluminum | 6170 | 67 | 11 | mg/kg | SW846 6010D |
| Arsenic | 12.7 | 2.7 | 0.37 | mg/kg | SW846 6010D |
| Barium | 48.4 | 27 | 2.5 | mg/kg | SW846 6010D |
| Beryllium | 0.40 | 0.27 | 0.11 | mg/kg | SW846 6010D |
| Cadmium | 1.1 | 0.67 | 0.093 | mg/kg | SW846 6010D |
| Calcium | 2290 | 670 | 59 | mg/kg | SW846 6010D |
| Chromium | 32.9 | 1.3 | 0.49 | mg/kg | SW846 6010D |
| Cobalt | 4.4 J | 6.7 | 0.37 | mg/kg | SW846 6010D |
| Copper | 31.5 | 3.3 | 1.1 | mg/kg | SW846 6010D |
| Iron | 12000 | 67 | 26 | mg/kg | SW846 6010D |
| Lead | 108 | 2.7 | 0.55 | mg/kg | SW846 6010D |
| Magnesium | 1520 | 670 | 18 | mg/kg | SW846 6010D |
| Manganese | 238 | 2.0 | 0.55 | mg/kg | SW846 6010D |
| Mercury | 0.39 | 0.037 | 0.016 | mg/kg | SW846 7471B |
| Nickel | 10.0 | 5.3 | 0.47 | mg/kg | SW846 6010D |
| Potassium | 823 J | 1300 | 42 | mg/kg | SW846 6010D |
| Selenium | 3.1 | 2.7 | 0.87 | mg/kg | SW846 6010D |
| Silver | 0.55 J | 0.67 | 0.23 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Sodium | | 109 J | 1300 | 100 | mg/kg | SW846 6010D |
| Thallium [a] | | 2.0 | 1.3 | 0.77 | mg/kg | SW846 6010D |
| Vanadium | | 12.0 | 6.7 | 0.25 | mg/kg | SW846 6010D |
| Zinc | | 164 | 6.7 | 3.1 | mg/kg | SW846 6010D |
| Cyanide | | 6.6 | 0.28 | 0.14 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-12** | **S-160(13-15)** | | | | | |
| Acetone | | 68.3 | 19 | 7.5 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 16.2 J | 19 | 7.0 | ug/kg | SW846 8260C |
| Acenaphthene | | 53.9 J | 58 | 20 | ug/kg | SW846 8270D |
| Acenaphthylene | | 63.4 | 58 | 30 | ug/kg | SW846 8270D |
| Anthracene | | 84.4 | 58 | 36 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 145 | 58 | 17 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 174 | 58 | 27 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 181 | 58 | 26 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 103 | 58 | 29 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 72.4 | 58 | 27 | ug/kg | SW846 8270D |
| 1,1'-Biphenyl | | 15.0 J | 120 | 8.0 | ug/kg | SW846 8270D |
| Carbazole | | 26.5 J | 120 | 8.5 | ug/kg | SW846 8270D |
| Chrysene | | 152 | 58 | 18 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | | 31.5 J | 58 | 26 | ug/kg | SW846 8270D |
| Dibenzofuran | | 25.6 J | 120 | 24 | ug/kg | SW846 8270D |
| Fluoranthene | | 281 | 58 | 26 | ug/kg | SW846 8270D |
| Fluorene | | 60.0 | 58 | 27 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 102 | 58 | 27 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 55.0 J | 58 | 13 | ug/kg | SW846 8270D |
| Naphthalene | | 199 | 58 | 16 | ug/kg | SW846 8270D |
| Phenanthrene | | 209 | 58 | 20 | ug/kg | SW846 8270D |
| Pyrene | | 282 | 58 | 19 | ug/kg | SW846 8270D |
| Aluminum | | 21900 | 92 | 15 | mg/kg | SW846 6010D |
| Antimony | | 1.2 J | 3.7 | 0.75 | mg/kg | SW846 6010D |
| Arsenic | | 32.8 | 3.7 | 0.52 | mg/kg | SW846 6010D |
| Barium | | 145 | 37 | 3.5 | mg/kg | SW846 6010D |
| Beryllium | | 1.3 | 0.37 | 0.15 | mg/kg | SW846 6010D |
| Cadmium | | 1.4 | 0.92 | 0.13 | mg/kg | SW846 6010D |
| Calcium | | 4280 | 920 | 81 | mg/kg | SW846 6010D |
| Chromium | | 128 | 1.8 | 0.68 | mg/kg | SW846 6010D |
| Cobalt | | 17.3 | 9.2 | 0.52 | mg/kg | SW846 6010D |
| Copper | | 81.2 | 4.6 | 1.5 | mg/kg | SW846 6010D |
| Iron | | 35200 | 92 | 35 | mg/kg | SW846 6010D |
| Lead | | 151 | 3.7 | 0.75 | mg/kg | SW846 6010D |
| Magnesium | | 6010 | 920 | 25 | mg/kg | SW846 6010D |
| Manganese | | 1230 | 2.8 | 0.75 | mg/kg | SW846 6010D |
| Mercury | | 0.86 | 0.053 | 0.023 | mg/kg | SW846 7471B |

# Summary of Hits

**Job Number:** JC87535
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 05/03/19



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Nickel | | 35.9 | 7.4 | 0.64 | mg/kg | SW846 6010D |
| Potassium | | 2660 | 1800 | 59 | mg/kg | SW846 6010D |
| Silver | | 1.2 | 0.92 | 0.31 | mg/kg | SW846 6010D |
| Sodium | | 346 J | 1800 | 140 | mg/kg | SW846 6010D |
| Vanadium | | 46.4 | 9.2 | 0.35 | mg/kg | SW846 6010D |
| Zinc | | 458 | 9.2 | 4.2 | mg/kg | SW846 6010D |
| Cyanide | | 1.8 | 0.41 | 0.21 | mg/kg | SW846 9012B/LACHAT |
| **JC87535-13** | **PCWC-1** | | | | | |
| Corrosivity as pH | | 7.22 NC | | | su | SW846 9045D |
| Benzene | | 0.0104 | 0.0025 | 0.0021 | mg/l | SW846 8260C |
| 2-Methylphenol | | 0.0093 J | 0.020 | 0.0089 | mg/l | SW846 8270D |
| 3&4-Methylphenol | | 0.0199 J | 0.020 | 0.0088 | mg/l | SW846 8270D |
| Barium | | 0.59 J | 1.0 | 0.067 | mg/l | SW846 6010D |
| Cadmium | | 0.0076 J | 0.020 | 0.0050 | mg/l | SW846 6010D |
| Lead | | 1.0 | 0.50 | 0.0090 | mg/l | SW846 6010D |
| **JC87535-14** | **PCWC-2** | | | | | |
| Corrosivity as pH | | 7.27 NC | | | su | SW846 9045D |
| Benzene | | 0.0789 | 0.0025 | 0.0021 | mg/l | SW846 8260C |
| 2-Methylphenol | | 0.363 | 0.020 | 0.0089 | mg/l | SW846 8270D |
| 3&4-Methylphenol | | 0.874 | 0.020 | 0.0088 | mg/l | SW846 8270D |
| Barium | | 0.42 J | 1.0 | 0.067 | mg/l | SW846 6010D |
| Cadmium | | 0.0064 J | 0.020 | 0.0050 | mg/l | SW846 6010D |
| Lead | | 0.53 | 0.50 | 0.0090 | mg/l | SW846 6010D |
| **JC87535-15** | **PCWC-3** | | | | | |
| Corrosivity as pH | | 7.36 NC | | | su | SW846 9045D |
| 2-Methylphenol | | 0.0709 | 0.020 | 0.0089 | mg/l | SW846 8270D |
| 3&4-Methylphenol | | 0.172 | 0.020 | 0.0088 | mg/l | SW846 8270D |
| Arsenic | | 0.015 J | 0.50 | 0.014 | mg/l | SW846 6010D |
| Barium | | 0.59 J | 1.0 | 0.067 | mg/l | SW846 6010D |
| Cadmium | | 0.0084 J | 0.020 | 0.0050 | mg/l | SW846 6010D |
| Lead | | 0.27 J | 0.50 | 0.0090 | mg/l | SW846 6010D |

(a) Elevated detection limit due to dilution required for high interfering element.
(b) Diluted due to high concentration of non-target compound.
(c) Dilution required due to matrix interference.
(d) Dilution required due to matrix interference. Associated CCV outside of control limits high.
(e) Associated CCV outside of control limits high.
(f) Dilution required due to viscosity of the extract matrix.

## Sample Results

Report of Analysis

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(7-9) | | |
| **Lab Sample ID:** | JC87535-1 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 76.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185120.D | 1 | 05/11/19 13:43 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.0 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 62.7 | 13 | 5.2 | ug/kg | |
| 71-43-2 | Benzene | 0.99 | 0.65 | 0.59 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 6.5 | 0.73 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.6 | 0.58 | ug/kg | |
| 75-25-2 | Bromoform | ND | 6.5 | 0.75 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 6.5 | 1.3 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 10.3 | 13 | 4.9 | ug/kg | J |
| 75-15-0 | Carbon disulfide | 1.7 | 2.6 | 1.2 | ug/kg | J |
| 56-23-5 | Carbon tetrachloride | ND | 2.6 | 0.80 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.6 | 0.60 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 6.5 | 0.77 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.6 | 0.64 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 6.5 | 2.5 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.6 | 0.85 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.6 | 1.1 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.6 | 0.73 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.3 | 0.55 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.3 | 0.71 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.3 | 0.64 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.3 | 0.64 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 6.5 | 0.95 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.3 | 0.64 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.3 | 0.61 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.3 | 0.85 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.3 | 1.1 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.3 | 0.79 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.6 | 0.62 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.6 | 0.62 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.6 | 0.59 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.3 | 0.72 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 6.5 | 1.3 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 6.5 | 2.8 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(7-9) | | |
| **Lab Sample ID:** | JC87535-1 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 76.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | 2.1 | 2.6 | 0.91 | ug/kg | J |
| 79-20-9 | Methyl Acetate | ND | 6.5 | 1.8 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.6 | 1.1 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.3 | 0.61 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 6.5 | 3.0 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 6.5 | 1.3 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.6 | 0.75 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.6 | 0.78 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.6 | 0.75 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.3 | 0.68 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 6.5 | 2.5 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 6.5 | 2.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.6 | 0.63 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.6 | 0.72 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.3 | 0.99 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 6.5 | 0.89 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 2.6 | 0.63 | ug/kg | |
| | m,p-Xylene | ND | 1.3 | 1.2 | ug/kg | |
| 95-47-6 | o-Xylene | 1.6 | 1.3 | 0.76 | ug/kg | |
| 1330-20-7 | Xylene (total) | 1.6 | 1.3 | 0.76 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 93% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 103% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 117% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(7-9) | | |
| **Lab Sample ID:** | JC87535-1 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 76.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M154434.D | 1 | 05/16/19 18:57 | CC | 05/11/19 03:55 | OP20268 | EM6595 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 32.4 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 80 | 20 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 200 | 25 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 200 | 34 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 200 | 71 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [a] | ND | 200 | 150 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 200 | 43 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 80 | 26 | ug/kg | |
| | 3&4-Methylphenol | ND | 80 | 33 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 200 | 27 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 400 | 110 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 160 | 38 | ug/kg | |
| 108-95-2 | Phenol | ND | 80 | 21 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 200 | 27 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 200 | 30 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 200 | 24 | ug/kg | |
| 83-32-9 | Acenaphthene | 112 | 40 | 14 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 40 | 20 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 200 | 8.6 | ug/kg | |
| 120-12-7 | Anthracene | 69.2 | 40 | 25 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 80 | 17 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 54.1 | 40 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 51.1 | 40 | 18 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 67.8 | 40 | 18 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 37.4 | 40 | 20 | ug/kg | J |
| 207-08-9 | Benzo(k)fluoranthene | 25.2 | 40 | 19 | ug/kg | J |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 80 | 15 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 80 | 9.8 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 9.8 | 80 | 5.5 | ug/kg | J |
| 100-52-7 | Benzaldehyde | 22.9 | 200 | 10 | ug/kg | J |
| 91-58-7 | 2-Chloronaphthalene | ND | 80 | 9.6 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 200 | 14 | ug/kg | |
| 86-74-8 | Carbazole | ND | 80 | 5.8 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-157(7-9)
**Lab Sample ID:** JC87535-1
**Matrix:** SO - Soil
**Method:** SW846 8270D SW846 3546
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 76.9

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam | ND | 80 | 16 | ug/kg | |
| 218-01-9 | Chrysene | 65.8 | 40 | 13 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 80 | 8.6 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 80 | 17 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 80 | 14 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 80 | 13 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 40 | 12 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 40 | 20 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 80 | 33 | ug/kg | |
| 123-91-1 | 1,4-Dioxane [a] | ND | 40 | 27 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 40 | 18 | ug/kg | |
| 132-64-9 | Dibenzofuran | 23.9 | 80 | 16 | ug/kg | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 80 | 6.5 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 80 | 10 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 80 | 8.5 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 80 | 7.1 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 80 | 9.4 | ug/kg | |
| 206-44-0 | Fluoranthene | 138 | 40 | 18 | ug/kg | |
| 86-73-7 | Fluorene | 30.2 | 40 | 18 | ug/kg | J |
| 118-74-1 | Hexachlorobenzene | ND | 80 | 10 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene [a] | ND | 40 | 16 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 400 | 16 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 200 | 20 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 52.7 | 40 | 19 | ug/kg | |
| 78-59-1 | Isophorone | ND | 80 | 8.6 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 25.7 | 40 | 9.1 | ug/kg | J |
| 88-74-4 | 2-Nitroaniline | ND | 200 | 9.5 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 200 | 10 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 200 | 10 | ug/kg | |
| 91-20-3 | Naphthalene | 41.9 | 40 | 11 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 80 | 15 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 80 | 12 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 200 | 15 | ug/kg | |
| 85-01-8 | Phenanthrene | 94.6 | 40 | 13 | ug/kg | |
| 129-00-0 | Pyrene | 111 | 40 | 13 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 200 | 10 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 57% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(7-9) | | |
| **Lab Sample ID:** | JC87535-1 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 76.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 61% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 94% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 68% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 75% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 70% | | 36-134% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-157(7-9)
**Lab Sample ID:** JC87535-1
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 76.9

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 10900 | 66 | 11 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Antimony [a] | 2.1 J | 5.3 | 1.1 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Arsenic | 12.6 | 2.6 | 0.37 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Barium | 52.3 | 26 | 2.5 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Beryllium | 0.62 | 0.26 | 0.11 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cadmium [a] | 0.79 J | 1.3 | 0.18 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Calcium | 2790 | 660 | 58 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Chromium | 20.0 | 1.3 | 0.49 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cobalt | 9.9 | 6.6 | 0.37 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Copper [a] | 243 | 9.9 | 3.3 | mg/kg | 3 | 05/08/19 | 05/10/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Iron | 54800 | 200 | 76 | mg/kg | 3 | 05/08/19 | 05/10/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Lead [a] | 43.8 | 5.3 | 1.1 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Magnesium | 792 | 660 | 18 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Manganese [a] | 379 | 5.9 | 1.6 | mg/kg | 3 | 05/08/19 | 05/10/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Mercury | 0.065 | 0.042 | 0.019 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 22.3 | 5.3 | 0.46 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Potassium | 826 J | 1300 | 42 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Selenium [a] | 2.6 U | 7.9 | 2.6 | mg/kg | 3 | 05/08/19 | 05/10/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Silver [a] | 0.67 U | 2.0 | 0.67 | mg/kg | 3 | 05/08/19 | 05/10/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Sodium | 100 U | 1300 | 100 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Thallium [a] | 2.3 U | 3.9 | 2.3 | mg/kg | 3 | 05/08/19 | 05/10/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Vanadium | 25.9 | 6.6 | 0.25 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Zinc | 451 | 6.6 | 3.0 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Instrument QC Batch: MA46687
(4) Prep QC Batch: MP14859
(5) Prep QC Batch: MP14865

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(7-9) | | |
| **Lab Sample ID:** | JC87535-1 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 76.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.70 | 0.30 | 0.15 | mg/kg | 1 | 05/10/19 18:06 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 76.9 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(23-25) | | |
| **Lab Sample ID:** | JC87535-2 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 90.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1C164514.D | 1 | 05/13/19 20:14 | PS | n/a | n/a | V1C7218 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.2 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 18.7 | 11 | 4.3 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.53 | 0.48 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.3 | 0.60 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.1 | 0.47 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.3 | 0.61 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.3 | 1.1 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 11 | 4.0 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.1 | 0.99 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.1 | 0.66 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.1 | 0.49 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.3 | 0.63 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.1 | 0.52 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.3 | 2.1 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.1 | 0.70 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.1 | 0.89 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.1 | 0.60 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.1 | 0.45 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.1 | 0.58 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.1 | 0.53 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.1 | 0.53 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.3 | 0.77 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.1 | 0.53 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.1 | 0.50 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.1 | 0.70 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.1 | 0.89 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.1 | 0.65 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.1 | 0.50 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.1 | 0.51 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.1 | 0.49 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.1 | 0.59 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.3 | 1.1 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.3 | 2.3 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(23-25) | | |
| **Lab Sample ID:** | JC87535-2 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 90.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.1 | 0.74 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.3 | 1.5 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.1 | 0.93 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.1 | 0.50 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.3 | 2.4 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.3 | 1.1 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.1 | 0.61 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.1 | 0.64 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.1 | 0.62 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.1 | 0.56 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.3 | 2.1 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.3 | 1.6 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.1 | 0.51 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.1 | 0.59 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.1 | 0.81 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.3 | 0.73 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.1 | 0.51 | ug/kg | |
| | m,p-Xylene | ND | 1.1 | 0.95 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.1 | 0.62 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.1 | 0.62 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 88% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 92% | | 79-127% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(23-25) | | |
| **Lab Sample ID:** | JC87535-2 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 90.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M154430.D | 1 | 05/16/19 17:03 | CC | 05/11/19 03:55 | OP20268 | EM6595 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.5 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 73 | 18 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 180 | 22 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 180 | 31 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 180 | 65 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [a] | ND | 180 | 140 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 180 | 39 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 73 | 23 | ug/kg | |
| | 3&4-Methylphenol | ND | 73 | 30 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 180 | 24 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 360 | 97 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 150 | 34 | ug/kg | |
| 108-95-2 | Phenol | ND | 73 | 19 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 180 | 24 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 180 | 27 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 180 | 22 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 36 | 13 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 36 | 18 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 7.8 | ug/kg | |
| 120-12-7 | Anthracene | ND | 36 | 22 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 73 | 16 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 36 | 10 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 36 | 17 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 36 | 16 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 36 | 18 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 36 | 17 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 73 | 14 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 73 | 8.8 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 73 | 5.0 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 9.0 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 73 | 8.6 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 13 | ug/kg | |
| 86-74-8 | Carbazole | ND | 73 | 5.3 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-157(23-25)
**Lab Sample ID:** JC87535-2
**Matrix:** SO - Soil
**Method:** SW846 8270D SW846 3546
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 90.4

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam | ND | 73 | 14 | ug/kg | |
| 218-01-9 | Chrysene | ND | 36 | 11 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 73 | 7.8 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 73 | 16 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 73 | 13 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 73 | 12 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 36 | 11 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 36 | 18 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 73 | 30 | ug/kg | |
| 123-91-1 | 1,4-Dioxane [a] | ND | 36 | 24 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 36 | 16 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 73 | 15 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 73 | 5.9 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 73 | 9.0 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 73 | 7.7 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 73 | 6.5 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 73 | 8.5 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 36 | 16 | ug/kg | |
| 86-73-7 | Fluorene | ND | 36 | 17 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 73 | 9.2 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene [a] | ND | 36 | 15 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 360 | 14 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 18 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 36 | 17 | ug/kg | |
| 78-59-1 | Isophorone | ND | 73 | 7.8 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 36 | 8.2 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 8.6 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 9.1 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 9.4 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 36 | 10 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 73 | 14 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 73 | 10 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 13 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 36 | 12 | ug/kg | |
| 129-00-0 | Pyrene | ND | 36 | 12 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 180 | 9.2 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 63% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(23-25) | | |
| **Lab Sample ID:** | JC87535-2 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 90.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 66% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 86% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 74% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 74% | | 36-134% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-157(23-25)
**Lab Sample ID:** JC87535-2
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 90.4

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8590 | 54 | 8.7 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.44 U | 2.2 | 0.44 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 3.8 | 2.2 | 0.30 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 32.3 | 22 | 2.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 0.51 | 0.22 | 0.087 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.076 U | 0.54 | 0.076 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 248 J | 540 | 48 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 25.7 | 1.1 | 0.40 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 7.6 | 5.4 | 0.30 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 9.4 | 2.7 | 0.91 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 13400 | 54 | 21 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 6.0 | 2.2 | 0.44 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 2070 | 540 | 15 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 111 | 1.6 | 0.44 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.014 U | 0.032 | 0.014 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [3] |
| Nickel | 15.7 | 4.3 | 0.38 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 897 J | 1100 | 34 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 0.70 U | 2.2 | 0.70 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.37 J | 0.54 | 0.18 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 84 U | 1100 | 84 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 0.63 U | 1.1 | 0.63 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 19.0 | 5.4 | 0.21 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 35.9 | 5.4 | 2.5 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Prep QC Batch: MP14859
(4) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-157(23-25) | | |
| **Lab Sample ID:** | JC87535-2 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 90.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.13 U | 0.27 | 0.13 | mg/kg | 1 | 05/10/19 18:07 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 90.4 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(3-5) | | |
| **Lab Sample ID:** | JC87535-3 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 81.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 2C167684.D | 1 | 05/16/19 12:10 | TDN | n/a | n/a | V2C7521 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 2.3 g | 10.0 ml | 100 ul |
| Run #2 | | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone [b] | ND | 2800 | 1100 | ug/kg | |
| 71-43-2 | Benzene | 368 | 140 | 130 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 1400 | 160 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 550 | 120 | ug/kg | |
| 75-25-2 | Bromoform [b] | ND | 1400 | 160 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 1400 | 280 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 2800 | 1000 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 550 | 260 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 550 | 170 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 550 | 130 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 1400 | 160 | ug/kg | |
| 67-66-3 | Chloroform | ND | 550 | 140 | ug/kg | |
| 74-87-3 | Chloromethane [c] | ND | 1400 | 540 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 550 | 180 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 550 | 230 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 550 | 160 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 280 | 120 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 280 | 150 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 280 | 140 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 280 | 140 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 1400 | 200 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 280 | 140 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 280 | 130 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 280 | 180 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 280 | 230 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 280 | 170 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 550 | 130 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 550 | 130 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 550 | 130 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 280 | 150 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 1400 | 280 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 1400 | 590 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(3-5) | | |
| **Lab Sample ID:** | JC87535-3 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 81.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 550 | 190 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 1400 | 390 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 550 | 240 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 280 | 130 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 1400 | 630 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 1400 | 280 | ug/kg | |
| 100-42-5 | Styrene | ND | 550 | 160 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 550 | 170 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 550 | 160 | ug/kg | |
| 108-88-3 | Toluene | 424 | 280 | 150 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 1400 | 540 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 1400 | 420 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 550 | 130 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 550 | 150 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 280 | 210 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 1400 | 190 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 550 | 130 | ug/kg | |
| | m,p-Xylene | 568 | 280 | 250 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 280 | 160 | ug/kg | |
| 1330-20-7 | Xylene (total) | 568 | 280 | 160 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 98% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 79-127% |

(a) Diluted due to high concentration of non-target compound.
(b) Associated CCV outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(3-5) | | |
| **Lab Sample ID:** | JC87535-3 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 81.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | M154437.D | 5 | 05/16/19 20:23 | CC | 05/11/19 03:55 | OP20268 | EM6595 |
| Run #2 | M154464.D | 50 | 05/17/19 21:12 | CC | 05/11/19 03:55 | OP20268 | EM6596 |
| Run #3 | M154465.D | 500 | 05/17/19 21:41 | CC | 05/11/19 03:55 | OP20268 | EM6596 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.9 g | 1.0 ml |
| Run #2 | 30.9 g | 1.0 ml |
| Run #3 | 30.9 g | 1.0 ml |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 400 | 98 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 990 | 120 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 990 | 170 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | 5920 | 990 | 350 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 990 | 740 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 990 | 210 | ug/kg | |
| 95-48-7 | 2-Methylphenol | 2680 | 400 | 130 | ug/kg | |
| | 3&4-Methylphenol | 7150 | 400 | 160 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 990 | 130 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [b] | ND | 2000 | 530 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 790 | 190 | ug/kg | |
| 108-95-2 | Phenol | 2720 | 400 | 100 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 990 | 130 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 990 | 150 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 990 | 120 | ug/kg | |
| 83-32-9 | Acenaphthene | 35200 [c] | 2000 | 680 | ug/kg | |
| 208-96-8 | Acenaphthylene | 125000 [c] | 2000 | 1000 | ug/kg | |
| 98-86-2 | Acetophenone | 1900 | 990 | 43 | ug/kg | |
| 120-12-7 | Anthracene | 373000 [d] | 20000 | 12000 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 400 | 85 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 302000 [d] | 20000 | 5600 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 219000 [d] | 20000 | 9000 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 267000 [d] | 20000 | 8800 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 97300 [c] | 2000 | 990 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 108000 [d] | 20000 | 9200 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 400 | 76 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 400 | 48 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 72100 [c] | 4000 | 270 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 990 | 49 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 400 | 47 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(3-5) | | |
| **Lab Sample ID:** | JC87535-3 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 81.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-47-8 | 4-Chloroaniline | ND | 990 | 71 | ug/kg | |
| 86-74-8 | Carbazole | 167000 [c] | 4000 | 290 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 400 | 78 | ug/kg | |
| 218-01-9 | Chrysene | 270000 [d] | 20000 | 6200 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 400 | 42 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 400 | 85 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 400 | 71 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 400 | 64 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 200 | 61 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 200 | 99 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 400 | 170 | ug/kg | |
| 123-91-1 | 1,4-Dioxane [b] | ND | 200 | 130 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 28300 [c] | 2000 | 880 | ug/kg | |
| 132-64-9 | Dibenzofuran | 364000 [d] | 40000 | 8100 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 400 | 32 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 400 | 49 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 400 | 42 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 400 | 35 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 400 | 46 | ug/kg | |
| 206-44-0 | Fluoranthene | 908000 [d] | 20000 | 8800 | ug/kg | |
| 86-73-7 | Fluorene | 563000 [d] | 20000 | 9100 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 400 | 50 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene [b] | ND | 200 | 80 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 2000 | 79 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 990 | 98 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 110000 [c] | 2000 | 930 | ug/kg | |
| 78-59-1 | Isophorone | ND | 400 | 42 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 312000 [d] | 20000 | 4500 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 990 | 47 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 990 | 50 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 990 | 51 | ug/kg | |
| 91-20-3 | Naphthalene | 1830000 [d] | 20000 | 5600 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 400 | 76 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 400 | 57 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 990 | 72 | ug/kg | |
| 85-01-8 | Phenanthrene | 1840000 [d] | 20000 | 6700 | ug/kg | |
| 129-00-0 | Pyrene | 611000 [d] | 20000 | 6300 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 990 | 50 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(3-5) | | |
| **Lab Sample ID:** | JC87535-3 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 81.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 65% | 60% | 0% [e] | 23-115% |
| 4165-62-2 | Phenol-d5 | 67% | 57% | 0% [e] | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 113% | 93% | 0% [e] | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 96% | 58% | 0% [e] | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 63% | 69% | 0% [e] | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 51% | 56% | 0% [e] | 36-134% |

(a) Dilution required due to matrix interference.
(b) Associated CCV outside of control limits low.
(c) Result is from Run# 2
(d) Result is from Run# 3
(e) Outside control limits due to dilution.

# Report of Analysis





**Client Sample ID:** S-156(3-5)
**Lab Sample ID:** JC87535-3
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 81.7

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 3280 | 59 | 9.6 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Antimony | 2.6 | 2.4 | 0.49 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Arsenic | 10.2 | 2.4 | 0.33 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Barium | 90.6 | 24 | 2.3 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Beryllium | 0.34 | 0.24 | 0.095 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cadmium | 0.53 J | 0.59 | 0.083 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Calcium | 5300 | 590 | 52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Chromium | 99.4 | 1.2 | 0.44 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cobalt | 7.3 | 5.9 | 0.33 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Copper [a] | 175 | 5.9 | 2.0 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Iron [a] | 26900 | 120 | 46 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Lead [a] | 204 | 4.8 | 0.97 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Magnesium | 575 J | 590 | 16 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Manganese [a] | 84.4 | 3.6 | 0.97 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Mercury | 3.1 | 0.20 | 0.088 | mg/kg | 5 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 46.8 | 4.8 | 0.42 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Potassium | 242 J | 1200 | 38 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Selenium [a] | 2.0 J | 4.8 | 1.5 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Silver [a] | 0.51 J | 1.2 | 0.40 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Sodium | 92 U | 1200 | 92 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Thallium [a] | 1.4 U | 2.4 | 1.4 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Vanadium | 17.5 | 5.9 | 0.23 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Zinc | 185 | 5.9 | 2.7 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Instrument QC Batch: MA46687
(4) Prep QC Batch: MP14859
(5) Prep QC Batch: MP14865

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(3-5) | | |
| **Lab Sample ID:** | JC87535-3 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 81.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 16.0 | 0.28 | 0.14 | mg/kg | 1 | 05/10/19 18:08 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 81.7 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(7.5-9.5) | | |
| **Lab Sample ID:** | JC87535-4 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 74.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185126.D | 1 | 05/11/19 16:34 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.4 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 58.7 | 12 | 5.0 | ug/kg | |
| 71-43-2 | Benzene | 1.0 | 0.62 | 0.57 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 6.2 | 0.70 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.5 | 0.55 | ug/kg | |
| 75-25-2 | Bromoform | ND | 6.2 | 0.72 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 6.2 | 1.2 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 8.2 | 12 | 4.7 | ug/kg | J |
| 75-15-0 | Carbon disulfide | ND | 2.5 | 1.2 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.5 | 0.77 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.5 | 0.57 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 6.2 | 0.74 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.5 | 0.61 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 6.2 | 2.4 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.5 | 0.82 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.5 | 1.0 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.5 | 0.70 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.2 | 0.52 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.2 | 0.68 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.2 | 0.62 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.2 | 0.62 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 6.2 | 0.91 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.2 | 0.62 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.2 | 0.59 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.2 | 0.82 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.2 | 1.0 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.2 | 0.76 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.5 | 0.59 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.5 | 0.59 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.5 | 0.57 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.2 | 0.69 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 6.2 | 1.3 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 6.2 | 2.6 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(7.5-9.5) | | |
| **Lab Sample ID:** | JC87535-4 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 74.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.5 | 0.87 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 6.2 | 1.7 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.5 | 1.1 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.2 | 0.58 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 6.2 | 2.8 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 6.2 | 1.2 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.5 | 0.72 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.5 | 0.75 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.5 | 0.72 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.2 | 0.65 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 6.2 | 2.4 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 6.2 | 1.9 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.5 | 0.60 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.5 | 0.69 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.2 | 0.95 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 6.2 | 0.85 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 2.5 | 0.60 | ug/kg | |
| | m,p-Xylene | ND | 1.2 | 1.1 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.2 | 0.73 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.2 | 0.73 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 87% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(7.5-9.5) | | |
| **Lab Sample ID:** | JC87535-4 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 74.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M154435.D | 1 | 05/16/19 19:26 | CC | 05/11/19 03:55 | OP20268 | EM6595 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.8 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 87 | 22 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 220 | 27 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 220 | 37 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 220 | 78 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [a] | ND | 220 | 160 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 220 | 47 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 87 | 28 | ug/kg | |
| | 3&4-Methylphenol | ND | 87 | 36 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 220 | 29 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 440 | 120 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 170 | 41 | ug/kg | |
| 108-95-2 | Phenol | ND | 87 | 23 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 220 | 29 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 220 | 33 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 220 | 26 | ug/kg | |
| 83-32-9 | Acenaphthene | 374 | 44 | 15 | ug/kg | |
| 208-96-8 | Acenaphthylene | 155 | 44 | 22 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 220 | 9.4 | ug/kg | |
| 120-12-7 | Anthracene | 403 | 44 | 27 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 87 | 19 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 957 | 44 | 12 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 837 | 44 | 20 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 940 | 44 | 19 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 418 | 44 | 22 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 386 | 44 | 20 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 87 | 17 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 87 | 11 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 32.2 | 87 | 6.0 | ug/kg | J |
| 100-52-7 | Benzaldehyde | ND | 220 | 11 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 87 | 10 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 220 | 16 | ug/kg | |
| 86-74-8 | Carbazole | 50.9 | 87 | 6.3 | ug/kg | J |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-156(7.5-9.5)
**Lab Sample ID:** JC87535-4
**Matrix:** SO - Soil
**Method:** SW846 8270D SW846 3546
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 74.3

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam | ND | 87 | 17 | ug/kg | |
| 218-01-9 | Chrysene | 860 | 44 | 14 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 87 | 9.4 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 87 | 19 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 87 | 16 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 87 | 14 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 44 | 14 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 44 | 22 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 87 | 36 | ug/kg | |
| 123-91-1 | 1,4-Dioxane [a] | ND | 44 | 29 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 119 | 44 | 19 | ug/kg | |
| 132-64-9 | Dibenzofuran | 55.5 | 87 | 18 | ug/kg | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 87 | 7.1 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 87 | 11 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 87 | 9.3 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 87 | 7.8 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 87 | 10 | ug/kg | |
| 206-44-0 | Fluoranthene | 1970 | 44 | 19 | ug/kg | |
| 86-73-7 | Fluorene | 130 | 44 | 20 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 87 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene [a] | ND | 44 | 18 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 440 | 17 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 220 | 22 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 489 | 44 | 20 | ug/kg | |
| 78-59-1 | Isophorone | ND | 87 | 9.4 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 93.5 | 44 | 9.9 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 220 | 10 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 220 | 11 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 220 | 11 | ug/kg | |
| 91-20-3 | Naphthalene | 1070 | 44 | 12 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 87 | 17 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 87 | 13 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 220 | 16 | ug/kg | |
| 85-01-8 | Phenanthrene | 872 | 44 | 15 | ug/kg | |
| 129-00-0 | Pyrene | 1390 | 44 | 14 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 220 | 11 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 67% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(7.5-9.5) | | |
| **Lab Sample ID:** | JC87535-4 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 74.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 72% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 100% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 82% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 69% | | 36-134% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-156(7.5-9.5)
**Lab Sample ID:** JC87535-4
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 74.3

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8660 | 68 | 11 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Antimony [a] | 2.2 J | 5.4 | 1.1 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Arsenic | 15.9 | 2.7 | 0.38 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Barium | 93.0 | 27 | 2.6 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Beryllium | 1.4 | 0.27 | 0.11 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cadmium | 0.11 J | 0.68 | 0.095 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Calcium | 2170 | 680 | 60 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Chromium | 25.1 | 1.4 | 0.50 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cobalt | 8.3 | 6.8 | 0.38 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Copper [a] | 97.6 | 6.8 | 2.3 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Iron [a] | 50400 | 140 | 52 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Lead [a] | 150 | 5.4 | 1.1 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Magnesium | 1660 | 680 | 19 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Manganese [a] | 265 | 4.1 | 1.1 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Mercury | 0.83 | 0.041 | 0.018 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 17.8 | 5.4 | 0.48 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Potassium | 895 J | 1400 | 43 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Selenium [a] | 4.1 J | 5.4 | 1.8 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Silver [a] | 0.60 J | 1.4 | 0.46 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Sodium | 126 J | 1400 | 110 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Thallium [a] | 1.6 U | 2.7 | 1.6 | mg/kg | 2 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Vanadium | 72.7 | 6.8 | 0.26 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Zinc | 124 | 6.8 | 3.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Instrument QC Batch: MA46687
(4) Prep QC Batch: MP14859
(5) Prep QC Batch: MP14865

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(7.5-9.5) | | |
| **Lab Sample ID:** | JC87535-4 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 74.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.16 U | 0.31 | 0.16 | mg/kg | 1 | 05/10/19 18:10 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 74.3 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(14-16) | | |
| **Lab Sample ID:** | JC87535-5 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 70.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1C164513.D | 1 | 05/13/19 19:48 | PS | n/a | n/a | V1C7218 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 4.5 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 114 | 16 | 6.3 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.79 | 0.72 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 7.9 | 0.88 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.2 | 0.70 | ug/kg | |
| 75-25-2 | Bromoform | ND | 7.9 | 0.91 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 7.9 | 1.6 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 28.7 | 16 | 5.9 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 3.2 | 1.5 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.2 | 0.98 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.2 | 0.72 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 7.9 | 0.93 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.2 | 0.77 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 7.9 | 3.1 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 3.2 | 1.0 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.2 | 1.3 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 3.2 | 0.88 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.6 | 0.66 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.6 | 0.86 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.6 | 0.78 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.6 | 0.78 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 7.9 | 1.1 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.6 | 0.78 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.6 | 0.74 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.6 | 1.0 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.6 | 1.3 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.6 | 0.96 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.2 | 0.75 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.2 | 0.75 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.2 | 0.72 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.6 | 0.87 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 7.9 | 1.6 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 7.9 | 3.3 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(14-16) | | |
| **Lab Sample ID:** | JC87535-5 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 70.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 3.2 | 1.1 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 7.9 | 2.2 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 3.2 | 1.4 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.6 | 0.74 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 7.9 | 3.6 | ug/kg | |
| 75-09-2 | Methylene chloride | 1.8 | 7.9 | 1.6 | ug/kg | J |
| 100-42-5 | Styrene | ND | 3.2 | 0.91 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.2 | 0.95 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 3.2 | 0.92 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.6 | 0.83 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 7.9 | 3.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 7.9 | 2.4 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.2 | 0.76 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.2 | 0.87 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.6 | 1.2 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 7.9 | 1.1 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 3.2 | 0.76 | ug/kg | |
| | m,p-Xylene | ND | 1.6 | 1.4 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.6 | 0.92 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.6 | 0.92 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 110% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 98% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | | 79-127% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(14-16) | | |
| **Lab Sample ID:** | JC87535-5 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 70.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 5P59694.D | 1 | 05/16/19 16:51 | CC | 05/12/19 14:30 | OP20269 | E5P2816 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.4 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 93 | 23 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol [a] | ND | 230 | 29 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 230 | 40 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 230 | 83 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 230 | 180 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 230 | 50 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 93 | 30 | ug/kg | |
| | 3&4-Methylphenol | ND | 93 | 38 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 230 | 31 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 470 | 120 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 190 | 44 | ug/kg | |
| 108-95-2 | Phenol | ND | 93 | 24 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 230 | 31 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 230 | 35 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 230 | 28 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 47 | 16 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 47 | 24 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 230 | 10 | ug/kg | |
| 120-12-7 | Anthracene | ND | 47 | 29 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 93 | 20 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 26.3 | 47 | 13 | ug/kg | J |
| 50-32-8 | Benzo(a)pyrene | 22.5 | 47 | 21 | ug/kg | J |
| 205-99-2 | Benzo(b)fluoranthene | 29.6 | 47 | 21 | ug/kg | J |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 47 | 23 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 47 | 22 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 93 | 18 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 93 | 11 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 7.7 | 93 | 6.4 | ug/kg | J |
| 100-52-7 | Benzaldehyde | 20.8 | 230 | 12 | ug/kg | J |
| 91-58-7 | 2-Chloronaphthalene | ND | 93 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 230 | 17 | ug/kg | |
| 86-74-8 | Carbazole | 8.3 | 93 | 6.8 | ug/kg | J |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-156(14-16)
**Lab Sample ID:** JC87535-5
**Matrix:** SO - Soil
**Method:** SW846 8270D SW846 3546
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 70.4

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam [a] | ND | 93 | 18 | ug/kg | |
| 218-01-9 | Chrysene | 25.2 | 47 | 15 | ug/kg | J |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 93 | 10 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether [a] | ND | 93 | 20 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [a] | ND | 93 | 17 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 93 | 15 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 47 | 14 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 47 | 23 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 93 | 39 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 47 | 31 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 47 | 21 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 93 | 19 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 93 | 7.6 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 93 | 12 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 93 | 10 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 93 | 8.3 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 93 | 11 | ug/kg | |
| 206-44-0 | Fluoranthene | 59.7 | 47 | 21 | ug/kg | |
| 86-73-7 | Fluorene | 21.9 | 47 | 21 | ug/kg | J |
| 118-74-1 | Hexachlorobenzene | ND | 93 | 12 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 47 | 19 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 470 | 19 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 230 | 23 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 47 | 22 | ug/kg | |
| 78-59-1 | Isophorone [a] | ND | 93 | 10 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 14.4 | 47 | 11 | ug/kg | J |
| 88-74-4 | 2-Nitroaniline | ND | 230 | 11 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 230 | 12 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 230 | 12 | ug/kg | |
| 91-20-3 | Naphthalene | 77.8 | 47 | 13 | ug/kg | |
| 98-95-3 | Nitrobenzene [a] | ND | 93 | 18 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine [a] | ND | 93 | 14 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 230 | 17 | ug/kg | |
| 85-01-8 | Phenanthrene | 65.2 | 47 | 16 | ug/kg | |
| 129-00-0 | Pyrene | 43.4 | 47 | 15 | ug/kg | J |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 230 | 12 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 71% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(14-16) | | |
| **Lab Sample ID:** | JC87535-5 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 70.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 78% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 73% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 95% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 81% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 77% | | 36-134% |

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-156(14-16)
**Lab Sample ID:** JC87535-5
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 70.4

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 21800 | 72 | 12 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.59 U | 2.9 | 0.59 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 7.4 | 2.9 | 0.41 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 183 | 29 | 2.8 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 1.1 | 0.29 | 0.12 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.28 J | 0.72 | 0.10 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 2800 | 720 | 64 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 42.7 | 1.4 | 0.54 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 10.9 | 7.2 | 0.41 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 22.1 | 3.6 | 1.2 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 25700 | 72 | 28 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 80.3 | 2.9 | 0.59 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 5160 | 720 | 20 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 402 | 2.2 | 0.59 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.11 | 0.045 | 0.020 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [3] |
| Nickel | 26.3 | 5.8 | 0.51 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 1870 | 1400 | 46 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 0.94 U | 2.9 | 0.94 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.52 J | 0.72 | 0.25 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 228 J | 1400 | 110 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 0.84 U | 1.4 | 0.84 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 41.9 | 7.2 | 0.28 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 132 | 7.2 | 3.3 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Prep QC Batch: MP14859
(4) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-156(14-16) | | |
| **Lab Sample ID:** | JC87535-5 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 70.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.15 U | 0.30 | 0.15 | mg/kg | 1 | 05/10/19 18:19 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 70.4 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0503 | | |
| **Lab Sample ID:** | JC87535-6 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 66.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185123.D | 1 | 05/11/19 15:08 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 3.8 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 229 | 20 | 7.9 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.99 | 0.90 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 9.9 | 1.1 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 4.0 | 0.88 | ug/kg | |
| 75-25-2 | Bromoform | ND | 9.9 | 1.1 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 9.9 | 2.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 38.7 | 20 | 7.4 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 4.0 | 1.8 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 4.0 | 1.2 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 4.0 | 0.91 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 9.9 | 1.2 | ug/kg | |
| 67-66-3 | Chloroform | ND | 4.0 | 0.97 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 9.9 | 3.9 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 4.0 | 1.3 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 4.0 | 1.7 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 4.0 | 1.1 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 2.0 | 0.83 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 2.0 | 1.1 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 2.0 | 0.98 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 2.0 | 0.98 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 9.9 | 1.4 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 2.0 | 0.98 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 2.0 | 0.93 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 2.0 | 1.3 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 2.0 | 1.7 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 2.0 | 1.2 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 4.0 | 0.94 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 4.0 | 0.94 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 4.0 | 0.91 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 2.0 | 1.1 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 9.9 | 2.0 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 9.9 | 4.2 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0503 | | |
| **Lab Sample ID:** | JC87535-6 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 66.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 4.0 | 1.4 | ug/kg | |
| 79-20-9 | Methyl Acetate | 6.2 | 9.9 | 2.8 | ug/kg | J |
| 108-87-2 | Methylcyclohexane | ND | 4.0 | 1.7 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 2.0 | 0.93 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 9.9 | 4.5 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 9.9 | 2.0 | ug/kg | |
| 100-42-5 | Styrene | ND | 4.0 | 1.1 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 4.0 | 1.2 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 4.0 | 1.1 | ug/kg | |
| 108-88-3 | Toluene | ND | 2.0 | 1.0 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 9.9 | 3.8 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 9.9 | 3.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 4.0 | 0.96 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 4.0 | 1.1 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 2.0 | 1.5 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 9.9 | 1.4 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 4.0 | 0.95 | ug/kg | |
| | m,p-Xylene | ND | 2.0 | 1.8 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 2.0 | 1.2 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 2.0 | 1.2 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 91% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 98% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0503 | | |
| **Lab Sample ID:** | JC87535-6 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 66.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 5P59690.D | 1 | 05/16/19 15:21 | CC | 05/12/19 14:30 | OP20269 | E5P2816 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.6 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 98 | 24 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol [a] | ND | 250 | 30 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 250 | 42 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 250 | 88 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 250 | 190 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 250 | 53 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 98 | 31 | ug/kg | |
| | 3&4-Methylphenol | ND | 98 | 40 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 250 | 33 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 490 | 130 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 200 | 46 | ug/kg | |
| 108-95-2 | Phenol | ND | 98 | 26 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 250 | 33 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 250 | 37 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 250 | 29 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 49 | 17 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 49 | 25 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 250 | 11 | ug/kg | |
| 120-12-7 | Anthracene | ND | 49 | 30 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 98 | 21 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 15.3 | 49 | 14 | ug/kg | J |
| 50-32-8 | Benzo(a)pyrene | ND | 49 | 22 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 49 | 22 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 49 | 25 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 49 | 23 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 98 | 19 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 98 | 12 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 98 | 6.7 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 250 | 12 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 98 | 12 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 250 | 18 | ug/kg | |
| 86-74-8 | Carbazole | ND | 98 | 7.1 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0503 | | |
| **Lab Sample ID:** | JC87535-6 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 66.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam [a] | ND | 98 | 19 | ug/kg | |
| 218-01-9 | Chrysene | ND | 49 | 16 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 98 | 11 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether [a] | ND | 98 | 21 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [a] | ND | 98 | 18 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 98 | 16 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 49 | 15 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 49 | 25 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 98 | 41 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 49 | 33 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 49 | 22 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 98 | 20 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 98 | 8.0 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 98 | 12 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 98 | 10 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 98 | 8.8 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 98 | 12 | ug/kg | |
| 206-44-0 | Fluoranthene | 28.6 | 49 | 22 | ug/kg | J |
| 86-73-7 | Fluorene | ND | 49 | 23 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 98 | 12 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 49 | 20 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 490 | 20 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 250 | 24 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 49 | 23 | ug/kg | |
| 78-59-1 | Isophorone [a] | ND | 98 | 11 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 15.5 | 49 | 11 | ug/kg | J |
| 88-74-4 | 2-Nitroaniline | ND | 250 | 12 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 250 | 12 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 250 | 13 | ug/kg | |
| 91-20-3 | Naphthalene | 115 | 49 | 14 | ug/kg | |
| 98-95-3 | Nitrobenzene [a] | ND | 98 | 19 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine [a] | ND | 98 | 14 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 250 | 18 | ug/kg | |
| 85-01-8 | Phenanthrene | 43.2 | 49 | 17 | ug/kg | J |
| 129-00-0 | Pyrene | 22.0 | 49 | 16 | ug/kg | J |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 250 | 13 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 77% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0503 | | |
| **Lab Sample ID:** | JC87535-6 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 66.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 85% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 76% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 105% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 87% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 80% | | 36-134% |

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** SO-DUP-0503
**Lab Sample ID:** JC87535-6
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 66.4

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 24700 | 74 | 12 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.61 U | 3.0 | 0.61 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 4.5 | 3.0 | 0.41 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 162 | 30 | 2.8 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 1.2 | 0.30 | 0.12 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.13 J | 0.74 | 0.10 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 2730 | 740 | 65 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 47.5 | 1.5 | 0.55 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 12.1 | 7.4 | 0.41 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 10.1 | 3.7 | 1.2 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 25400 | 74 | 28 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 14.8 | 3.0 | 0.61 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 5840 | 740 | 20 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 325 | 2.2 | 0.61 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.019 U | 0.043 | 0.019 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [3] |
| Nickel | 29.6 | 5.9 | 0.52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 2170 | 1500 | 47 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 0.96 U | 3.0 | 0.96 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.49 J | 0.74 | 0.25 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 248 J | 1500 | 110 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 0.86 U | 1.5 | 0.86 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 48.1 | 7.4 | 0.28 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 72.1 | 7.4 | 3.4 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Prep QC Batch: MP14859
(4) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0503 | | |
| **Lab Sample ID:** | JC87535-6 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 66.4 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.17 U | 0.33 | 0.17 | mg/kg | 1 | 05/10/19 18:12 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 66.4 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(5-7) | | |
| **Lab Sample ID:** | JC87535-7 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 90.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 2C167664.D | 1 | 05/15/19 18:16 | TDN | n/a | n/a | V2C7520 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 5.7 g | 10.0 ml | 1.0 ul |
| Run #2 | | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 100000 | 41000 | ug/kg | |
| 71-43-2 | Benzene | 103000 | 5100 | 4700 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 51000 | 5800 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 21000 | 4500 | ug/kg | |
| 75-25-2 | Bromoform | ND | 51000 | 5900 | ug/kg | |
| 74-83-9 | Bromomethane [b] | ND | 51000 | 10000 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 100000 | 38000 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 21000 | 9500 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 21000 | 6300 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 21000 | 4700 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 51000 | 6100 | ug/kg | |
| 67-66-3 | Chloroform | ND | 21000 | 5000 | ug/kg | |
| 74-87-3 | Chloromethane [b] | ND | 51000 | 20000 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 21000 | 6700 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 21000 | 8600 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 21000 | 5800 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 10000 | 4300 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 10000 | 5600 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 10000 | 5100 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 10000 | 5100 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [b] | ND | 51000 | 7500 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 10000 | 5100 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 10000 | 4800 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 10000 | 6700 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 10000 | 8600 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 10000 | 6300 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 21000 | 4900 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 21000 | 4900 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 21000 | 4700 | ug/kg | |
| 100-41-4 | Ethylbenzene | 6520 | 10000 | 5700 | ug/kg | J |
| 76-13-1 | Freon 113 | ND | 51000 | 10000 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 51000 | 22000 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(5-7) | | |
| **Lab Sample ID:** | JC87535-7 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 90.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 21000 | 7200 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 51000 | 14000 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 21000 | 9000 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 10000 | 4800 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 51000 | 23000 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 51000 | 10000 | ug/kg | |
| 100-42-5 | Styrene | 11000 | 21000 | 5900 | ug/kg | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 21000 | 6200 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 21000 | 6000 | ug/kg | |
| 108-88-3 | Toluene | 40800 | 10000 | 5400 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 51000 | 20000 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 51000 | 16000 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 21000 | 5000 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 21000 | 5700 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 10000 | 7800 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 51000 | 7000 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 21000 | 4900 | ug/kg | |
| | m,p-Xylene | 59900 | 10000 | 9200 | ug/kg | |
| 95-47-6 | o-Xylene | 19800 | 10000 | 6000 | ug/kg | |
| 1330-20-7 | Xylene (total) | 79700 | 10000 | 6000 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 79-127% |

(a) Diluted due to high concentration of non-target compound.
(b) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(5-7) | | |
| **Lab Sample ID:** | JC87535-7 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 90.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 5P59885.D | 5 | 05/21/19 12:07 | CS | 05/12/19 14:30 | OP20269 | E5P2823 |
| Run #2 | 5P59749.D | 50 | 05/17/19 19:00 | CC | 05/12/19 14:30 | OP20269 | E5P2818 |
| Run #3 | 5P59747.D | 500 | 05/17/19 18:15 | CC | 05/12/19 14:30 | OP20269 | E5P2818 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.6 g | 1.0 ml |
| Run #2 | 30.6 g | 1.0 ml |
| Run #3 | 30.6 g | 1.0 ml |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 360 | 89 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 910 | 110 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 910 | 150 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [b] | 4430 | 910 | 320 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 910 | 680 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol [c] | ND | 910 | 190 | ug/kg | |
| 95-48-7 | 2-Methylphenol | 1480 | 360 | 120 | ug/kg | |
| | 3&4-Methylphenol | 1330 | 360 | 150 | ug/kg | |
| 88-75-5 | 2-Nitrophenol [c] | ND | 910 | 120 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 1800 | 480 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 720 | 170 | ug/kg | |
| 108-95-2 | Phenol | 455 | 360 | 95 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 910 | 120 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 910 | 140 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 910 | 110 | ug/kg | |
| 83-32-9 | Acenaphthene | 48200 [d] | 1800 | 620 | ug/kg | |
| 208-96-8 | Acenaphthylene | 286000 [e] | 18000 | 9200 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 910 | 39 | ug/kg | |
| 120-12-7 | Anthracene | 178000 [d] | 1800 | 1100 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 360 | 78 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 168000 [d] | 1800 | 510 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 148000 [d] | 1800 | 820 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 171000 [d] | 1800 | 800 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 83600 [d] | 1800 | 910 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 59900 [d] | 1800 | 850 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 360 | 70 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 360 | 44 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 51900 [d] | 3600 | 250 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 910 | 45 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene [c] | ND | 360 | 43 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(5-7) | | |
| **Lab Sample ID:** | JC87535-7 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 90.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-47-8 | 4-Chloroaniline | ND | 910 | 65 | ug/kg | |
| 86-74-8 | Carbazole | 111000 [d] | 3600 | 260 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 360 | 72 | ug/kg | |
| 218-01-9 | Chrysene | 133000 [d] | 1800 | 570 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 360 | 39 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 360 | 78 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [f] | ND | 360 | 65 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 360 | 59 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 180 | 56 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 180 | 91 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 360 | 150 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 180 | 120 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 24700 [d] | 1800 | 800 | ug/kg | |
| 132-64-9 | Dibenzofuran | 218000 [e] | 36000 | 7400 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 360 | 30 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 360 | 45 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 360 | 39 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 360 | 32 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 360 | 42 | ug/kg | |
| 206-44-0 | Fluoranthene | 544000 [e] | 18000 | 8100 | ug/kg | |
| 86-73-7 | Fluorene | 334000 [e] | 18000 | 8300 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 360 | 46 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 180 | 73 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [c] | ND | 1800 | 72 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 910 | 90 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene [b] | 87900 [d] | 1800 | 850 | ug/kg | |
| 78-59-1 | Isophorone | ND | 360 | 39 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 155000 [d] | 1800 | 410 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 910 | 43 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 910 | 45 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 910 | 47 | ug/kg | |
| 91-20-3 | Naphthalene | 854000 [e] | 18000 | 5100 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 360 | 70 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 360 | 52 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 910 | 66 | ug/kg | |
| 85-01-8 | Phenanthrene | 860000 [e] | 18000 | 6100 | ug/kg | |
| 129-00-0 | Pyrene | 348000 [e] | 18000 | 5800 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 910 | 46 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(5-7) | | |
| **Lab Sample ID:** | JC87535-7 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 90.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 73% | 66% | 0% g | 23-115% |
| 4165-62-2 | Phenol-d5 | 85% | 66% | 0% g | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 90% | 68% | 0% g | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 132% | 120% | 0% g | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 83% | 108% | 0% g | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 72% | 99% | 0% g | 36-134% |

(a) Dilution required due to matrix interference.
(b) Associated CCV outside of control limits high.
(c) Associated CCV outside of control limits low.
(d) Result is from Run# 2
(e) Result is from Run# 3
(f) Associated CCV outside of control limits high, sample was ND.
(g) Outside control limits due to dilution.

# Report of Analysis





**Client Sample ID:** S-161(5-7)
**Lab Sample ID:** JC87535-7
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 90.2

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9750 | 55 | 8.8 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.45 U | 2.2 | 0.45 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 5.8 | 2.2 | 0.31 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 37.3 | 22 | 2.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 0.56 | 0.22 | 0.088 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.11 J | 0.55 | 0.077 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 917 | 550 | 48 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 21.3 | 1.1 | 0.41 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 7.0 | 5.5 | 0.31 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 26.6 | 2.7 | 0.92 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 20200 | 55 | 21 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 38.0 | 2.2 | 0.45 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 2170 | 550 | 15 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 138 | 1.6 | 0.45 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.032 J | 0.035 | 0.016 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [3] |
| Nickel | 16.4 | 4.4 | 0.38 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 1180 | 1100 | 35 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 0.71 U | 2.2 | 0.71 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.32 J | 0.55 | 0.19 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 95.1 J | 1100 | 85 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 0.64 U | 1.1 | 0.64 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 16.0 | 5.5 | 0.21 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 77.4 | 5.5 | 2.5 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Prep QC Batch: MP14859
(4) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(5-7) | | |
| **Lab Sample ID:** | JC87535-7 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 90.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 5.1 | 0.24 | 0.12 | mg/kg | 1 | 05/10/19 18:14 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 90.2 | | | % | 1 | 05/09/19 08:36 | RC | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(10-12) | | |
| **Lab Sample ID:** | JC87535-8 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 78.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185119.D | 1 | 05/11/19 13:14 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.4 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 57.0 | 12 | 4.7 | ug/kg | |
| 71-43-2 | Benzene | 10.2 | 0.59 | 0.54 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.9 | 0.66 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.4 | 0.52 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.9 | 0.68 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.9 | 1.2 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 12 | 4.4 | ug/kg | |
| 75-15-0 | Carbon disulfide | 2.3 | 2.4 | 1.1 | ug/kg | J |
| 56-23-5 | Carbon tetrachloride | ND | 2.4 | 0.73 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.4 | 0.54 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.9 | 0.70 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.4 | 0.58 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 5.9 | 2.3 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.4 | 0.77 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.4 | 0.98 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.4 | 0.66 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.2 | 0.50 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.2 | 0.64 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.2 | 0.58 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.2 | 0.58 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 5.9 | 0.86 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.2 | 0.58 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.2 | 0.55 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.2 | 0.77 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.2 | 0.99 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.2 | 0.72 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.4 | 0.56 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.4 | 0.56 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.4 | 0.54 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.2 | 0.65 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.9 | 1.2 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.9 | 2.5 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(10-12) | | |
| **Lab Sample ID:** | JC87535-8 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 78.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.4 | 0.82 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.9 | 1.6 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.4 | 1.0 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.2 | 0.55 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.9 | 2.7 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.9 | 1.2 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.4 | 0.68 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.4 | 0.71 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.4 | 0.68 | ug/kg | |
| 108-88-3 | Toluene | 0.68 | 1.2 | 0.62 | ug/kg | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.9 | 2.3 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.9 | 1.8 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.4 | 0.57 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.4 | 0.65 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.2 | 0.90 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.9 | 0.81 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 2.4 | 0.57 | ug/kg | |
| | m,p-Xylene | ND | 1.2 | 1.1 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.2 | 0.69 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.2 | 0.69 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 96% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 97% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





**Client Sample ID:** S-161(10-12)
**Lab Sample ID:** JC87535-8
**Matrix:** SO - Soil
**Method:** SW846 8270D SW846 3546
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 78.6

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2M112002.D | 1 | 05/18/19 11:00 | CS | 05/12/19 14:30 | OP20269 | E2M4980 |
| Run #2 | 2M112031.D | 5 | 05/19/19 06:01 | CS | 05/12/19 14:30 | OP20269 | E2M4981 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.3 g | 1.0 ml |
| Run #2 | 30.3 g | 1.0 ml |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 84 | 21 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 210 | 26 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol [a] | ND | 210 | 36 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 210 | 75 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 210 | 160 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol [a] | ND | 210 | 45 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 84 | 27 | ug/kg | |
| | 3&4-Methylphenol | ND | 84 | 35 | ug/kg | |
| 88-75-5 | 2-Nitrophenol [a] | ND | 210 | 28 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 420 | 110 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 170 | 39 | ug/kg | |
| 108-95-2 | Phenol | ND | 84 | 22 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol [a] | ND | 210 | 28 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 210 | 31 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol [a] | ND | 210 | 25 | ug/kg | |
| 83-32-9 | Acenaphthene | 1650 | 42 | 14 | ug/kg | |
| 208-96-8 | Acenaphthylene | 117 | 42 | 21 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 210 | 9.0 | ug/kg | |
| 120-12-7 | Anthracene | 2970 | 42 | 26 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 84 | 18 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 981 | 42 | 12 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 645 | 42 | 19 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 801 | 42 | 19 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 271 | 42 | 21 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 273 | 42 | 20 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 84 | 16 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 84 | 10 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 47.4 | 84 | 5.8 | ug/kg | J |
| 100-52-7 | Benzaldehyde | ND | 210 | 10 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 84 | 10 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 210 | 15 | ug/kg | |
| 86-74-8 | Carbazole | 761 | 84 | 6.1 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(10-12) | | |
| **Lab Sample ID:** | JC87535-8 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam | ND | 84 | 17 | ug/kg | |
| 218-01-9 | Chrysene | 1220 | 42 | 13 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 84 | 9.0 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 84 | 18 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 84 | 15 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 84 | 14 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene [a] | ND | 42 | 13 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene [a] | ND | 42 | 21 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 84 | 35 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 42 | 28 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 90.4 | 42 | 19 | ug/kg | |
| 132-64-9 | Dibenzofuran | 536 | 84 | 17 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 84 | 6.8 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 84 | 10 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 84 | 8.9 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 84 | 7.5 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 84 | 9.8 | ug/kg | |
| 206-44-0 | Fluoranthene | 2880 | 42 | 19 | ug/kg | |
| 86-73-7 | Fluorene | 1560 | 42 | 19 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 84 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 42 | 17 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [a] | ND | 420 | 17 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 210 | 21 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 288 | 42 | 20 | ug/kg | |
| 78-59-1 | Isophorone | ND | 84 | 9.0 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 265 | 42 | 9.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline [a] | ND | 210 | 9.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline [a] | ND | 210 | 10 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 210 | 11 | ug/kg | |
| 91-20-3 | Naphthalene | 587 | 42 | 12 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 84 | 16 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 84 | 12 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 210 | 15 | ug/kg | |
| 85-01-8 | Phenanthrene | 5480 [b] | 210 | 71 | ug/kg | |
| 129-00-0 | Pyrene | 2430 | 42 | 13 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 210 | 11 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 73% | 70% | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(10-12) | | |
| **Lab Sample ID:** | JC87535-8 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 73% | 71% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 82% | 66% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 88% | 80% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 78% | 79% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 78% | 75% | 36-134% |

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-161(10-12)
**Lab Sample ID:** JC87535-8
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 78.6

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6860 | 65 | 10 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Antimony | 0.53 U | 2.6 | 0.53 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Arsenic | 11.8 | 2.6 | 0.36 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Barium | 63.0 | 26 | 2.5 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Beryllium | 0.42 | 0.26 | 0.10 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Cadmium | 0.40 J | 0.65 | 0.091 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Calcium | 1680 | 650 | 57 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Chromium | 40.7 | 1.3 | 0.48 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Cobalt | 7.5 | 6.5 | 0.36 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Copper | 31.3 | 3.2 | 1.1 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Iron | 15600 | 65 | 25 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Lead | 69.3 | 2.6 | 0.53 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Magnesium | 2360 | 650 | 18 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Manganese | 379 | 1.9 | 0.53 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Mercury | 0.37 | 0.037 | 0.016 | mg/kg | 1 | 05/13/19 | 05/13/19 | LL | SW846 7471B [2] | SW846 7471B [4] |
| Nickel | 14.0 | 5.2 | 0.45 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Potassium | 931 J | 1300 | 41 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Selenium | 0.84 U | 2.6 | 0.84 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Silver | 0.22 U | 0.65 | 0.22 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Sodium | 100 U | 1300 | 100 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Thallium | 0.75 U | 1.3 | 0.75 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Vanadium | 13.6 | 6.5 | 0.25 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |
| Zinc | 156 | 6.5 | 3.0 | mg/kg | 1 | 05/10/19 | 05/10/19 | ND | SW846 6010D [1] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46695
(2) Instrument QC Batch: MA46698
(3) Prep QC Batch: MP14918
(4) Prep QC Batch: MP14998

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-161(10-12) | | |
| **Lab Sample ID:** | JC87535-8 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 78.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.23 J | 0.28 | 0.14 | mg/kg | 1 | 05/10/19 17:56 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 78.6 | | | % | 1 | 05/13/19 11:07 | RC | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(5-7) | | |
| **Lab Sample ID:** | JC87535-9 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 79.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185125.D | 1 | 05/11/19 16:05 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.7 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 16.7 | 11 | 4.4 | ug/kg | |
| 71-43-2 | Benzene | 6.2 | 0.55 | 0.50 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.5 | 0.62 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.2 | 0.49 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.5 | 0.64 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.5 | 1.1 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 11 | 4.1 | ug/kg | |
| 75-15-0 | Carbon disulfide | 1.3 | 2.2 | 1.0 | ug/kg | J |
| 56-23-5 | Carbon tetrachloride | ND | 2.2 | 0.69 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.2 | 0.51 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.5 | 0.66 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.2 | 0.54 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 5.5 | 2.2 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.2 | 0.73 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.2 | 0.93 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.2 | 0.62 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.1 | 0.47 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.1 | 0.61 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.1 | 0.55 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.1 | 0.55 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 5.5 | 0.81 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.1 | 0.55 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.1 | 0.52 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.1 | 0.73 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.1 | 0.93 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.1 | 0.68 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.2 | 0.52 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.2 | 0.53 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.2 | 0.51 | ug/kg | |
| 100-41-4 | Ethylbenzene | 0.83 | 1.1 | 0.61 | ug/kg | J |
| 76-13-1 | Freon 113 | ND | 5.5 | 1.1 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.5 | 2.4 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(5-7) | | |
| **Lab Sample ID:** | JC87535-9 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 79.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.2 | 0.77 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.5 | 1.5 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.2 | 0.97 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.1 | 0.52 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.5 | 2.5 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.5 | 1.1 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.2 | 0.64 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.2 | 0.66 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.2 | 0.64 | ug/kg | |
| 108-88-3 | Toluene | 1.7 | 1.1 | 0.58 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.5 | 2.1 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.5 | 1.7 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.2 | 0.54 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.2 | 0.61 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.1 | 0.85 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.5 | 0.76 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 2.2 | 0.53 | ug/kg | |
| | m,p-Xylene | 2.3 | 1.1 | 0.99 | ug/kg | |
| 95-47-6 | o-Xylene | 2.3 | 1.1 | 0.65 | ug/kg | |
| 1330-20-7 | Xylene (total) | 4.6 | 1.1 | 0.65 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 89% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 98% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 95% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(5-7) | | |
| **Lab Sample ID:** | JC87535-9 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 79.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 5P59691.D | 1 | 05/16/19 15:43 | CC | 05/12/19 14:30 | OP20269 | E5P2816 |
| Run #2 | 5P59745.D | 10 | 05/17/19 17:29 | CC | 05/12/19 14:30 | OP20269 | E5P2818 |
| Run #3 | 2M112045.D | 20 | 05/19/19 16:07 | CB | 05/12/19 14:30 | OP20269 | E2M4982 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 32.8 g | 1.0 ml |
| Run #2 | 32.8 g | 1.0 ml |
| Run #3 | 32.8 g | 1.0 ml |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 77 | 19 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol [a] | ND | 190 | 24 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 190 | 33 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 190 | 69 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 190 | 140 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 190 | 41 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 77 | 25 | ug/kg | |
| | 3&4-Methylphenol | ND | 77 | 32 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 190 | 25 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 390 | 100 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 150 | 36 | ug/kg | |
| 108-95-2 | Phenol | ND | 77 | 20 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 190 | 26 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 190 | 29 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 190 | 23 | ug/kg | |
| 83-32-9 | Acenaphthene | 1440 | 39 | 13 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 39 | 20 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 190 | 8.3 | ug/kg | |
| 120-12-7 | Anthracene | 3190 | 39 | 24 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 77 | 16 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 716 | 39 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 446 | 39 | 18 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 601 | 39 | 17 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 177 | 39 | 19 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 246 | 39 | 18 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 77 | 15 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 77 | 9.4 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 4090 [b] | 770 | 53 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 190 | 9.6 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 77 | 9.2 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(5-7) | | |
| **Lab Sample ID:** | JC87535-9 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 79.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-47-8 | 4-Chloroaniline | ND | 190 | 14 | ug/kg | |
| 86-74-8 | Carbazole | ND | 77 | 5.6 | ug/kg | |
| 105-60-2 | Caprolactam [a] | ND | 77 | 15 | ug/kg | |
| 218-01-9 | Chrysene | 560 | 39 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 77 | 8.2 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether [a] | ND | 77 | 17 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [a] | ND | 77 | 14 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 77 | 12 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 39 | 12 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 39 | 19 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 77 | 32 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 39 | 25 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 50.2 | 39 | 17 | ug/kg | |
| 132-64-9 | Dibenzofuran | 1850 | 77 | 16 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 77 | 6.3 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 77 | 9.6 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 77 | 8.2 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 77 | 6.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 51.3 | 77 | 9.0 | ug/kg | J |
| 206-44-0 | Fluoranthene | 3250 [b] | 390 | 170 | ug/kg | |
| 86-73-7 | Fluorene | 2300 | 39 | 18 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 77 | 9.8 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND [b] | 390 | 150 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 390 | 15 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 190 | 19 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 210 | 39 | 18 | ug/kg | |
| 78-59-1 | Isophorone [a] | ND | 77 | 8.2 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 65200 [c] | 770 | 170 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 190 | 9.1 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 190 | 9.6 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 190 | 10 | ug/kg | |
| 91-20-3 | Naphthalene | 13500 [b] | 390 | 110 | ug/kg | |
| 98-95-3 | Nitrobenzene [a] | ND | 77 | 15 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine [a] | ND | 77 | 11 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 190 | 14 | ug/kg | |
| 85-01-8 | Phenanthrene | 11400 [b] | 390 | 130 | ug/kg | |
| 129-00-0 | Pyrene | 2320 | 39 | 12 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 190 | 9.8 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(5-7) | | |
| **Lab Sample ID:** | JC87535-9 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 79.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 87% | 68% | 71% | 23-115% |
| 4165-62-2 | Phenol-d5 | 83% | 72% | 72% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 142% | 73% | 65% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 110% | 104% | 127% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 74% | 81% | 104% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 82% | 70% | 82% | 36-134% |

(a) Associated CCV outside of control limits high, sample was ND.
(b) Result is from Run# 2
(c) Result is from Run# 3

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-162(5-7)
**Lab Sample ID:** JC87535-9
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 79.1

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12400 | 63 | 10 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Antimony | 2.1 J | 2.5 | 0.52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Arsenic | 7.2 | 2.5 | 0.35 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Barium | 106 | 25 | 2.4 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Beryllium | 0.63 | 0.25 | 0.10 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cadmium | 0.64 | 0.63 | 0.088 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Calcium | 52000 | 1900 | 170 | mg/kg | 3 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Chromium | 26.2 | 1.3 | 0.47 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cobalt | 6.9 | 6.3 | 0.35 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Copper | 57.5 | 3.2 | 1.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Iron | 17800 | 63 | 24 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Lead | 296 | 2.5 | 0.52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Magnesium | 17300 | 630 | 17 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Manganese | 330 | 1.9 | 0.52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Mercury | 0.36 | 0.039 | 0.017 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 17.0 | 5.1 | 0.44 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Potassium | 2250 | 1300 | 40 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Selenium | 0.82 U | 2.5 | 0.82 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Silver | 0.49 J | 0.63 | 0.21 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Sodium | 247 J | 1300 | 98 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Thallium | 0.73 U | 1.3 | 0.73 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Vanadium | 28.8 | 6.3 | 0.24 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Zinc | 491 | 6.3 | 2.9 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Instrument QC Batch: MA46687
(4) Prep QC Batch: MP14859
(5) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(5-7) | | |
| **Lab Sample ID:** | JC87535-9 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 79.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 1.0 | 0.28 | 0.14 | mg/kg | 1 | 05/10/19 17:57 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 79.1 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(15-17) | | |
| **Lab Sample ID:** | JC87535-10 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 54.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185124.D | 1 | 05/11/19 15:37 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 4.9 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 71.3 | 19 | 7.5 | ug/kg | |
| 71-43-2 | Benzene | 17.4 | 0.93 | 0.85 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 9.3 | 1.0 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.7 | 0.82 | ug/kg | |
| 75-25-2 | Bromoform | ND | 9.3 | 1.1 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 9.3 | 1.9 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 17.3 | 19 | 7.0 | ug/kg | J |
| 75-15-0 | Carbon disulfide | ND | 3.7 | 1.7 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.7 | 1.2 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.7 | 0.85 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 9.3 | 1.1 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.7 | 0.91 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 9.3 | 3.6 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 3.7 | 1.2 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.7 | 1.6 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 3.7 | 1.0 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.9 | 0.78 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.9 | 1.0 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.9 | 0.92 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.9 | 0.92 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 9.3 | 1.4 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.9 | 0.92 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.9 | 0.88 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.9 | 1.2 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.9 | 1.6 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.9 | 1.1 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.7 | 0.88 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.7 | 0.88 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.7 | 0.85 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.9 | 1.0 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 9.3 | 1.9 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 9.3 | 3.9 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(15-17) | | |
| **Lab Sample ID:** | JC87535-10 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 54.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 3.7 | 1.3 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 9.3 | 2.6 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 3.7 | 1.6 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.9 | 0.87 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 9.3 | 4.2 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 9.3 | 1.9 | ug/kg | |
| 100-42-5 | Styrene | ND | 3.7 | 1.1 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.7 | 1.1 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 3.7 | 1.1 | ug/kg | |
| 108-88-3 | Toluene | 1.7 | 1.9 | 0.98 | ug/kg | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 9.3 | 3.6 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 9.3 | 2.8 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.7 | 0.90 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.7 | 1.0 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.9 | 1.4 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 9.3 | 1.3 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 3.7 | 0.90 | ug/kg | |
| | m,p-Xylene | ND | 1.9 | 1.7 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.9 | 1.1 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.9 | 1.1 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 91% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(15-17) | | |
| **Lab Sample ID:** | JC87535-10 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 54.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 5P59692.D | 1 | 05/16/19 16:06 | CC | 05/12/19 14:30 | OP20269 | E5P2816 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.2 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 120 | 30 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol [a] | ND | 300 | 37 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 300 | 52 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 300 | 110 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 300 | 230 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 300 | 65 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 120 | 39 | ug/kg | |
| | 3&4-Methylphenol | 57.1 | 120 | 50 | ug/kg | J |
| 88-75-5 | 2-Nitrophenol | ND | 300 | 40 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 600 | 160 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 240 | 57 | ug/kg | |
| 108-95-2 | Phenol | ND | 120 | 32 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 300 | 40 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 300 | 45 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 300 | 36 | ug/kg | |
| 83-32-9 | Acenaphthene | 957 | 60 | 21 | ug/kg | |
| 208-96-8 | Acenaphthylene | 233 | 60 | 31 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 300 | 13 | ug/kg | |
| 120-12-7 | Anthracene | 919 | 60 | 37 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 120 | 26 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 500 | 60 | 17 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 458 | 60 | 27 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 509 | 60 | 27 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 253 | 60 | 30 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 215 | 60 | 28 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 120 | 23 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 120 | 15 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 84.2 | 120 | 8.3 | ug/kg | J |
| 100-52-7 | Benzaldehyde | ND | 300 | 15 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 120 | 14 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 300 | 22 | ug/kg | |
| 86-74-8 | Carbazole | 463 | 120 | 8.8 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(15-17) | | |
| **Lab Sample ID:** | JC87535-10 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 54.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam [a] | ND | 120 | 24 | ug/kg | |
| 218-01-9 | Chrysene | 494 | 60 | 19 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 120 | 13 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether [a] | ND | 120 | 26 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [a] | ND | 120 | 22 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 120 | 20 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 60 | 19 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 60 | 30 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 120 | 50 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 60 | 40 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 66.6 | 60 | 27 | ug/kg | |
| 132-64-9 | Dibenzofuran | 423 | 120 | 25 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 120 | 9.8 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 120 | 15 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 120 | 13 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 120 | 11 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 120 | 14 | ug/kg | |
| 206-44-0 | Fluoranthene | 1380 | 60 | 27 | ug/kg | |
| 86-73-7 | Fluorene | 914 | 60 | 28 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 120 | 15 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 60 | 24 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 600 | 24 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 300 | 30 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 258 | 60 | 28 | ug/kg | |
| 78-59-1 | Isophorone [a] | ND | 120 | 13 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 311 | 60 | 14 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 300 | 14 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 300 | 15 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 300 | 16 | ug/kg | |
| 91-20-3 | Naphthalene | 1260 | 60 | 17 | ug/kg | |
| 98-95-3 | Nitrobenzene [a] | ND | 120 | 23 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine [a] | ND | 120 | 17 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 300 | 22 | ug/kg | |
| 85-01-8 | Phenanthrene | 2450 | 60 | 20 | ug/kg | |
| 129-00-0 | Pyrene | 1010 | 60 | 19 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 300 | 15 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 78% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(15-17) | | |
| **Lab Sample ID:** | JC87535-10 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 54.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 84% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 76% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 92% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 81% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 71% | | 36-134% |

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-162(15-17)
**Lab Sample ID:** JC87535-10
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 54.8

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 19900 | 94 | 15 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 1.8 J | 3.8 | 0.77 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 41.7 | 3.8 | 0.53 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 208 | 38 | 3.6 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 1.3 | 0.38 | 0.15 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 2.3 | 0.94 | 0.13 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 20300 | 940 | 83 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 191 | 1.9 | 0.70 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 17.5 | 9.4 | 0.53 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 135 | 4.7 | 1.6 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 33000 | 94 | 36 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 277 | 3.8 | 0.77 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 5190 | 940 | 26 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 1010 | 2.8 | 0.77 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 1.9 | 0.11 | 0.047 | mg/kg | 2 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [3] |
| Nickel | 34.8 | 7.5 | 0.66 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 2200 | 1900 | 60 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 1.4 J | 3.8 | 1.2 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 1.8 | 0.94 | 0.32 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 450 J | 1900 | 150 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 1.1 U | 1.9 | 1.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 38.1 | 9.4 | 0.36 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 690 | 9.4 | 4.3 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Prep QC Batch: MP14859
(4) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-162(15-17) | | |
| **Lab Sample ID:** | JC87535-10 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 54.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.21 U | 0.42 | 0.21 | mg/kg | 1 | 05/10/19 17:59 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 54.8 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(10-12) | | |
| **Lab Sample ID:** | JC87535-11 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 77.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 2C167663.D | 1 | 05/15/19 17:48 | TDN | n/a | n/a | V2C7520 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 5.2 g | 10.0 ml | 1.0 ul |
| Run #2 | | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 140000 | 56000 | ug/kg | |
| 71-43-2 | Benzene | 46600 | 7000 | 6300 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 70000 | 7800 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 28000 | 6200 | ug/kg | |
| 75-25-2 | Bromoform | ND | 70000 | 8000 | ug/kg | |
| 74-83-9 | Bromomethane [b] | ND | 70000 | 14000 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 140000 | 52000 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 28000 | 13000 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 28000 | 8600 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 28000 | 6400 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 70000 | 8200 | ug/kg | |
| 67-66-3 | Chloroform | ND | 28000 | 6800 | ug/kg | |
| 74-87-3 | Chloromethane [b] | ND | 70000 | 27000 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 28000 | 9100 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 28000 | 12000 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 28000 | 7800 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 14000 | 5900 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 14000 | 7600 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 14000 | 6900 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 14000 | 6900 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [b] | ND | 70000 | 10000 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 14000 | 6900 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 14000 | 6500 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 14000 | 9100 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 14000 | 12000 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 14000 | 8500 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 28000 | 6600 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 28000 | 6600 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 28000 | 6400 | ug/kg | |
| 100-41-4 | Ethylbenzene | 19100 | 14000 | 7700 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 70000 | 14000 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 70000 | 29000 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(10-12) | | |
| **Lab Sample ID:** | JC87535-11 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 77.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 28000 | 9700 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 70000 | 19000 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 28000 | 12000 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 14000 | 6500 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 70000 | 32000 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 70000 | 14000 | ug/kg | |
| 100-42-5 | Styrene | 15500 | 28000 | 8000 | ug/kg | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 28000 | 8300 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 28000 | 8100 | ug/kg | |
| 108-88-3 | Toluene | 47800 | 14000 | 7300 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 70000 | 27000 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 70000 | 21000 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 28000 | 6700 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 28000 | 7700 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 14000 | 11000 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 70000 | 9500 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 28000 | 6700 | ug/kg | |
| | m,p-Xylene | 81300 | 14000 | 12000 | ug/kg | |
| 95-47-6 | o-Xylene | 27200 | 14000 | 8100 | ug/kg | |
| 1330-20-7 | Xylene (total) | 109000 | 14000 | 8100 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 98% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | | 79-127% |

(a) Diluted due to high concentration of non-target compound.
(b) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(10-12) | | |
| **Lab Sample ID:** | JC87535-11 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 77.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 5P59704.D | 2 | 05/16/19 20:37 | CC | 05/12/19 14:30 | OP20269 | E5P2816 |
| Run #2 | 2M112048.D | 20 | 05/19/19 17:27 | CB | 05/12/19 14:30 | OP20269 | E2M4982 |
| Run #3 | 2M112049.D | 200 | 05/19/19 18:47 | CB | 05/12/19 14:30 | OP20269 | E2M4982 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 15.5 g | 5.0 ml |
| Run #2 | 15.5 g | 5.0 ml |
| Run #3 | 15.5 g | 5.0 ml |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 1700 | 410 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol [b] | ND | 4200 | 510 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 4200 | 710 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | 152000 [c] | 42000 | 15000 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 4200 | 3100 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 4200 | 890 | ug/kg | |
| 95-48-7 | 2-Methylphenol | 73600 | 1700 | 530 | ug/kg | |
| | 3&4-Methylphenol [d] | 221000 [c] | 17000 | 6900 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 4200 | 550 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [b] | ND | 8300 | 2200 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 3300 | 780 | ug/kg | |
| 108-95-2 | Phenol | 75900 | 1700 | 440 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 4200 | 550 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 4200 | 630 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 4200 | 500 | ug/kg | |
| 83-32-9 | Acenaphthene | 344000 [c] | 8300 | 2900 | ug/kg | |
| 208-96-8 | Acenaphthylene | 1800000 [e] | 83000 | 42000 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 4200 | 180 | ug/kg | |
| 120-12-7 | Anthracene | 1950000 [e] | 83000 | 51000 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 1700 | 360 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 1100000 [e] | 83000 | 24000 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 762000 [c] | 8300 | 3800 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 1050000 [e] | 83000 | 37000 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 429000 [c] | 8300 | 4200 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 396000 [e] | 83000 | 39000 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 1700 | 320 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 1700 | 200 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 300000 [c] | 17000 | 1100 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 4200 | 210 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 1700 | 200 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(10-12) | | |
| **Lab Sample ID:** | JC87535-11 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 77.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-47-8 | 4-Chloroaniline | ND | 4200 | 300 | ug/kg | |
| 86-74-8 | Carbazole | 828000 [c] | 17000 | 1200 | ug/kg | |
| 105-60-2 | Caprolactam [b] | ND | 1700 | 330 | ug/kg | |
| 218-01-9 | Chrysene | 784000 [c] | 8300 | 2600 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 1700 | 180 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether [b] | ND | 1700 | 360 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [b] | ND | 1700 | 300 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 1700 | 270 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 830 | 260 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 830 | 420 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 1700 | 700 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 830 | 550 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 39000 | 830 | 370 | ug/kg | |
| 132-64-9 | Dibenzofuran | 1420000 [e] | 170000 | 34000 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 1700 | 140 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 1700 | 210 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 1700 | 180 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 1700 | 150 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 1700 | 200 | ug/kg | |
| 206-44-0 | Fluoranthene | 3400000 [e] | 83000 | 37000 | ug/kg | |
| 86-73-7 | Fluorene | 2130000 [e] | 83000 | 38000 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 1700 | 210 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 830 | 340 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 8300 | 330 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 4200 | 410 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 481000 [c] | 8300 | 3900 | ug/kg | |
| 78-59-1 | Isophorone [b] | ND | 1700 | 180 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 1490000 [e] | 83000 | 19000 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 4200 | 200 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 4200 | 210 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 4200 | 220 | ug/kg | |
| 91-20-3 | Naphthalene | 6610000 [e] | 83000 | 24000 | ug/kg | |
| 98-95-3 | Nitrobenzene [b] | ND | 1700 | 320 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine [b] | ND | 1700 | 240 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 4200 | 310 | ug/kg | |
| 85-01-8 | Phenanthrene | 4840000 [e] | 83000 | 28000 | ug/kg | |
| 129-00-0 | Pyrene | 1920000 [e] | 83000 | 27000 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 4200 | 210 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(10-12) | | |
| **Lab Sample ID:** | JC87535-11 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 77.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 83% | 81% | 0% [f] | 23-115% |
| 4165-62-2 | Phenol-d5 | 93% | 80% | 0% [f] | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 119% | 56% | 0% [f] | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 172% [g] | 97% | 0% [f] | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 87% | 94% | 97% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 83% | 105% | 102% | 36-134% |

(a) Dilution required due to viscosity of the extract matrix.
(b) Associated CCV outside of control limits high, sample was ND.
(c) Result is from Run# 2
(d) Associated CCV outside of control limits high.
(e) Result is from Run# 3
(f) Outside control limits due to dilution.
(g) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-160(10-12)
**Lab Sample ID:** JC87535-11
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 77.3

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6170 | 67 | 11 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Antimony | 0.55 U | 2.7 | 0.55 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Arsenic | 12.7 | 2.7 | 0.37 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Barium | 48.4 | 27 | 2.5 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Beryllium | 0.40 | 0.27 | 0.11 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cadmium | 1.1 | 0.67 | 0.093 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Calcium | 2290 | 670 | 59 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Chromium | 32.9 | 1.3 | 0.49 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Cobalt | 4.4 J | 6.7 | 0.37 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Copper | 31.5 | 3.3 | 1.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Iron | 12000 | 67 | 26 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Lead | 108 | 2.7 | 0.55 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Magnesium | 1520 | 670 | 18 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Manganese | 238 | 2.0 | 0.55 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Mercury | 0.39 | 0.037 | 0.016 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 10.0 | 5.3 | 0.47 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Potassium | 823 J | 1300 | 42 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Selenium | 3.1 | 2.7 | 0.87 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Silver | 0.55 J | 0.67 | 0.23 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Sodium | 109 J | 1300 | 100 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Thallium [a] | 2.0 | 1.3 | 0.77 | mg/kg | 1 | 05/08/19 | 05/09/19 | ND | SW846 6010D [3] | SW846 3050B [5] |
| Vanadium | 12.0 | 6.7 | 0.25 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |
| Zinc | 164 | 6.7 | 3.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [5] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Instrument QC Batch: MA46687
(4) Prep QC Batch: MP14859
(5) Prep QC Batch: MP14865

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(10-12) | | |
| **Lab Sample ID:** | JC87535-11 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 77.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 6.6 | 0.28 | 0.14 | mg/kg | 1 | 05/10/19 18:03 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 77.3 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(13-15) | | |
| **Lab Sample ID:** | JC87535-12 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 56.0 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Y185127.D | 1 | 05/11/19 17:02 | PS | n/a | n/a | VY8033 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 4.8 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 68.3 | 19 | 7.5 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.93 | 0.85 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 9.3 | 1.0 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.7 | 0.82 | ug/kg | |
| 75-25-2 | Bromoform | ND | 9.3 | 1.1 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 9.3 | 1.9 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 16.2 | 19 | 7.0 | ug/kg | J |
| 75-15-0 | Carbon disulfide | ND | 3.7 | 1.7 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.7 | 1.1 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.7 | 0.85 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 9.3 | 1.1 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.7 | 0.91 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 9.3 | 3.6 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 3.7 | 1.2 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.7 | 1.6 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 3.7 | 1.0 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.9 | 0.78 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.9 | 1.0 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.9 | 0.92 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.9 | 0.92 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 9.3 | 1.4 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.9 | 0.92 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.9 | 0.87 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.9 | 1.2 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.9 | 1.6 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.9 | 1.1 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.7 | 0.88 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.7 | 0.88 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.7 | 0.85 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.9 | 1.0 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 9.3 | 1.9 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 9.3 | 3.9 | ug/kg | |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(13-15) | | |
| **Lab Sample ID:** | JC87535-12 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 56.0 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 3.7 | 1.3 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 9.3 | 2.6 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 3.7 | 1.6 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.9 | 0.87 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 9.3 | 4.2 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 9.3 | 1.8 | ug/kg | |
| 100-42-5 | Styrene | ND | 3.7 | 1.1 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.7 | 1.1 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 3.7 | 1.1 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.9 | 0.98 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 9.3 | 3.6 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 9.3 | 2.8 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.7 | 0.90 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.7 | 1.0 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.9 | 1.4 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 9.3 | 1.3 | ug/kg | |
| 75-01-4 | Vinyl chloride [a] | ND | 3.7 | 0.89 | ug/kg | |
| | m,p-Xylene | ND | 1.9 | 1.7 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.9 | 1.1 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.9 | 1.1 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 91% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 97% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | | 79-127% |

(a) Associated CCV outside of control limits low.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(13-15) | | |
| **Lab Sample ID:** | JC87535-12 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 56.0 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 5P59693.D | 1 | 05/16/19 16:29 | CC | 05/12/19 14:30 | OP20269 | E5P2816 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.6 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 120 | 29 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol [a] | ND | 290 | 36 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 290 | 50 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 290 | 100 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 290 | 220 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 290 | 62 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 120 | 37 | ug/kg | |
| | 3&4-Methylphenol | ND | 120 | 48 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 290 | 39 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 580 | 160 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 230 | 55 | ug/kg | |
| 108-95-2 | Phenol | ND | 120 | 30 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 290 | 39 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 290 | 44 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 290 | 35 | ug/kg | |
| 83-32-9 | Acenaphthene | 53.9 | 58 | 20 | ug/kg | J |
| 208-96-8 | Acenaphthylene | 63.4 | 58 | 30 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 290 | 13 | ug/kg | |
| 120-12-7 | Anthracene | 84.4 | 58 | 36 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 120 | 25 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 145 | 58 | 17 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 174 | 58 | 27 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 181 | 58 | 26 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 103 | 58 | 29 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 72.4 | 58 | 27 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 120 | 23 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 120 | 14 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | 15.0 | 120 | 8.0 | ug/kg | J |
| 100-52-7 | Benzaldehyde | ND | 290 | 14 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 120 | 14 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 290 | 21 | ug/kg | |
| 86-74-8 | Carbazole | 26.5 | 120 | 8.5 | ug/kg | J |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-160(13-15)
**Lab Sample ID:** JC87535-12
**Matrix:** SO - Soil
**Method:** SW846 8270D SW846 3546
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 56.0

**ABN TCL List (SOM0 2.0)**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam [a] | ND | 120 | 23 | ug/kg | |
| 218-01-9 | Chrysene | 152 | 58 | 18 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 120 | 12 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether [a] | ND | 120 | 25 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) [a] | ND | 120 | 21 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 120 | 19 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 58 | 18 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 58 | 29 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 120 | 49 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 58 | 39 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 31.5 | 58 | 26 | ug/kg | J |
| 132-64-9 | Dibenzofuran | 25.6 | 120 | 24 | ug/kg | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 120 | 9.5 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 120 | 15 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 120 | 12 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 120 | 10 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 120 | 14 | ug/kg | |
| 206-44-0 | Fluoranthene | 281 | 58 | 26 | ug/kg | |
| 86-73-7 | Fluorene | 60.0 | 58 | 27 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 120 | 15 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 58 | 23 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 580 | 23 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 290 | 29 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 102 | 58 | 27 | ug/kg | |
| 78-59-1 | Isophorone [a] | ND | 120 | 12 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 55.0 | 58 | 13 | ug/kg | J |
| 88-74-4 | 2-Nitroaniline | ND | 290 | 14 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 290 | 15 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 290 | 15 | ug/kg | |
| 91-20-3 | Naphthalene | 199 | 58 | 16 | ug/kg | |
| 98-95-3 | Nitrobenzene [a] | ND | 120 | 23 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine [a] | ND | 120 | 17 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 290 | 21 | ug/kg | |
| 85-01-8 | Phenanthrene | 209 | 58 | 20 | ug/kg | |
| 129-00-0 | Pyrene | 282 | 58 | 19 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 290 | 15 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 78% | | 23-115% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(13-15) | | |
| **Lab Sample ID:** | JC87535-12 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 56.0 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List (SOM0 2.0)**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-62-2 | Phenol-d5 | 81% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 81% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 93% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 80% | | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 74% | | 36-134% |

(a) Associated CCV outside of control limits high, sample was ND.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** S-160(13-15)
**Lab Sample ID:** JC87535-12
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 56.0

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 21900 | 92 | 15 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 1.2 J | 3.7 | 0.75 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 32.8 | 3.7 | 0.52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 145 | 37 | 3.5 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 1.3 | 0.37 | 0.15 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 1.4 | 0.92 | 0.13 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 4280 | 920 | 81 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 128 | 1.8 | 0.68 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 17.3 | 9.2 | 0.52 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 81.2 | 4.6 | 1.5 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 35200 | 92 | 35 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 151 | 3.7 | 0.75 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 6010 | 920 | 25 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 1230 | 2.8 | 0.75 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.86 | 0.053 | 0.023 | mg/kg | 1 | 05/07/19 | 05/07/19 | LL | SW846 7471B [1] | SW846 7471B [3] |
| Nickel | 35.9 | 7.4 | 0.64 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 2660 | 1800 | 59 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 1.2 U | 3.7 | 1.2 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 1.2 | 0.92 | 0.31 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 346 J | 1800 | 140 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 1.1 U | 1.8 | 1.1 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 46.4 | 9.2 | 0.35 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 458 | 9.2 | 4.2 | mg/kg | 1 | 05/08/19 | 05/08/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46664
(2) Instrument QC Batch: MA46680
(3) Prep QC Batch: MP14859
(4) Prep QC Batch: MP14865

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-160(13-15) | | |
| **Lab Sample ID:** | JC87535-12 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 56.0 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 1.8 | 0.41 | 0.21 | mg/kg | 1 | 05/10/19 18:04 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 56 | | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-1 | | |
| **Lab Sample ID:** | JC87535-13 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C SW846 1311 | **Percent Solids:** | 83.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2V58530.D | 5 | 05/13/19 12:54 | EH | 05/11/19 21:45 | GP21185 | V2V2399 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA TCLP Leachate** **TCLP Leachate method SW846 1311**

| CAS No. | Compound | Result | HW# | MCL | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.0104 | D018 | 0.50 | 0.0025 | 0.0021 | mg/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | D035 | 200 | 0.10 | 0.034 | mg/l | |
| 56-23-5 | Carbon tetrachloride | ND | D019 | 0.50 | 0.0050 | 0.0028 | mg/l | |
| 108-90-7 | Chlorobenzene | ND | D021 | 100 | 0.0050 | 0.0028 | mg/l | |
| 67-66-3 | Chloroform | ND | D022 | 6.0 | 0.0050 | 0.0025 | mg/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | D027 | 7.5 | 0.0050 | 0.0025 | mg/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | D028 | 0.50 | 0.0050 | 0.0030 | mg/l | |
| 75-35-4 | 1,1-Dichloroethene | ND | D029 | 0.70 | 0.0050 | 0.0030 | mg/l | |
| 127-18-4 | Tetrachloroethene | ND | D039 | 0.70 | 0.0050 | 0.0045 | mg/l | |
| 79-01-6 | Trichloroethene | ND | D040 | 0.50 | 0.0050 | 0.0026 | mg/l | |
| 75-01-4 | Vinyl chloride | ND | D043 | 0.20 | 0.0050 | 0.0039 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97% | | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | | 72-122% |

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-1 | | |
| **Lab Sample ID:** | JC87535-13 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | 83.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481890.D | 1 | 05/15/19 15:45 | AR | 05/14/19 07:00 | OP20353 | E6P2591 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 1.0 ml |
| Run #2 | | |

**ABN TCLP Leachate** **TCLP Leachate method SW846 1311**

| CAS No. | Compound | Result | HW# | MCL | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | 0.0093 | D023 | 200 | 0.020 | 0.0089 | mg/l | J |
| | 3&4-Methylphenol | 0.0199 | D024 | 200 | 0.020 | 0.0088 | mg/l | J |
| 87-86-5 | Pentachlorophenol | ND | D037 | 100 | 0.10 | 0.014 | mg/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | D041 | 400 | 0.050 | 0.013 | mg/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | D042 | 2.0 | 0.050 | 0.0092 | mg/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | D027 | 7.5 | 0.020 | 0.0017 | mg/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | D030 | 0.13 | 0.020 | 0.0055 | mg/l | |
| 118-74-1 | Hexachlorobenzene | ND | D032 | 0.13 | 0.020 | 0.0033 | mg/l | |
| 87-68-3 | Hexachlorobutadiene | ND | D033 | 0.50 | 0.010 | 0.0049 | mg/l | |
| 67-72-1 | Hexachloroethane | ND | D034 | 3.0 | 0.050 | 0.0039 | mg/l | |
| 98-95-3 | Nitrobenzene | ND | D036 | 2.0 | 0.020 | 0.0064 | mg/l | |
| 110-86-1 | Pyridine | ND | D038 | 5.0 | 0.020 | 0.0039 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 41% | | 14-88% |
| 4165-62-2 | Phenol-d5 | 31% | | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 71% | | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 88% | | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 75% | | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 75% | | 10-126% |

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-1 | | |
| **Lab Sample ID:** | JC87535-13 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8082A SW846 3546 | **Percent Solids:** | 83.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2G179806.D | 1 | 05/14/19 22:10 | TR | 05/14/19 03:00 | OP20312 | G2G4657 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 15.0 g | 10.0 ml |
| Run #2 | | |

**PCB List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 40 | 19 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | ND | 40 | 20 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | ND | 40 | 31 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | ND | 40 | 16 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | ND | 40 | 36 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | ND | 40 | 22 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | ND | 40 | 17 | ug/kg | |
| 11100-14-4 | Aroclor 1268 | ND | 40 | 17 | ug/kg | |
| 37324-23-5 | Aroclor 1262 | ND | 40 | 26 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 72% | | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 38% | | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 76% | | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 223% [a] | | 17-164% |

(a) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** PCWC-1
**Lab Sample ID:** JC87535-13
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 83.3

**Metals Analysis, TCLP Leachate SW846 1311**

| Analyte | Result | HW# | MCL | RL | MDL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.014 U | D004 | 5.0 | 0.50 | 0.014 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Barium | 0.59 J | D005 | 100 | 1.0 | 0.067 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Cadmium | 0.0076 J | D006 | 1.0 | 0.020 | 0.0050 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Chromium | 0.010 U | D007 | 5.0 | 0.050 | 0.010 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Lead | 1.0 | D008 | 5.0 | 0.50 | 0.0090 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Mercury | 0.000095 U | D009 | 0.20 | 0.00020 | 0.000095 | mg/l | 1 | 05/13/19 | 05/13/19 | LL | SW846 7470A [1] |
| Selenium | 0.025 U | D010 | 1.0 | 0.50 | 0.025 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Silver | 0.0095 U | D011 | 5.0 | 0.050 | 0.0095 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |

(1) Instrument QC Batch: MA46697
(2) Instrument QC Batch: MA46702
(3) Prep QC Batch: MP14966
(4) Prep QC Batch: MP14996

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-1 | | |
| **Lab Sample ID:** | JC87535-13 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 83.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Corrosivity as pH | 7.22 NC | | su | 1 | 05/16/19 13:24 | JOO | SW846 9045D |
| Solids, Percent | 83.3 | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-2 | | |
| **Lab Sample ID:** | JC87535-14 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C SW846 1311 | **Percent Solids:** | 80.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2V58540.D | 5 | 05/13/19 18:24 | EH | 05/11/19 21:45 | GP21185 | V2V2399 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA TCLP Leachate** **TCLP Leachate method SW846 1311**

| CAS No. | Compound | Result | HW# | MCL | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.0789 | D018 | 0.50 | 0.0025 | 0.0021 | mg/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | D035 | 200 | 0.10 | 0.034 | mg/l | |
| 56-23-5 | Carbon tetrachloride | ND | D019 | 0.50 | 0.0050 | 0.0028 | mg/l | |
| 108-90-7 | Chlorobenzene | ND | D021 | 100 | 0.0050 | 0.0028 | mg/l | |
| 67-66-3 | Chloroform | ND | D022 | 6.0 | 0.0050 | 0.0025 | mg/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | D027 | 7.5 | 0.0050 | 0.0025 | mg/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | D028 | 0.50 | 0.0050 | 0.0030 | mg/l | |
| 75-35-4 | 1,1-Dichloroethene | ND | D029 | 0.70 | 0.0050 | 0.0030 | mg/l | |
| 127-18-4 | Tetrachloroethene | ND | D039 | 0.70 | 0.0050 | 0.0045 | mg/l | |
| 79-01-6 | Trichloroethene | ND | D040 | 0.50 | 0.0050 | 0.0026 | mg/l | |
| 75-01-4 | Vinyl chloride | ND | D043 | 0.20 | 0.0050 | 0.0039 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 72-122% |

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-2 | | |
| **Lab Sample ID:** | JC87535-14 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | 80.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481891.D | 1 | 05/15/19 16:09 | AR | 05/14/19 07:00 | OP20353 | E6P2591 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 1.0 ml |
| Run #2 | | |

**ABN TCLP Leachate** **TCLP Leachate method SW846 1311**

| CAS No. | Compound | Result | HW# | MCL | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | 0.363 | D023 | 200 | 0.020 | 0.0089 | mg/l | |
| | 3&4-Methylphenol | 0.874 | D024 | 200 | 0.020 | 0.0088 | mg/l | |
| 87-86-5 | Pentachlorophenol | ND | D037 | 100 | 0.10 | 0.014 | mg/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | D041 | 400 | 0.050 | 0.013 | mg/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | D042 | 2.0 | 0.050 | 0.0092 | mg/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | D027 | 7.5 | 0.020 | 0.0017 | mg/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | D030 | 0.13 | 0.020 | 0.0055 | mg/l | |
| 118-74-1 | Hexachlorobenzene | ND | D032 | 0.13 | 0.020 | 0.0033 | mg/l | |
| 87-68-3 | Hexachlorobutadiene | ND | D033 | 0.50 | 0.010 | 0.0049 | mg/l | |
| 67-72-1 | Hexachloroethane | ND | D034 | 3.0 | 0.050 | 0.0039 | mg/l | |
| 98-95-3 | Nitrobenzene | ND | D036 | 2.0 | 0.020 | 0.0064 | mg/l | |
| 110-86-1 | Pyridine | ND | D038 | 5.0 | 0.020 | 0.0039 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 51% | | 14-88% |
| 4165-62-2 | Phenol-d5 | 38% | | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 78% | | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 100% | | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 83% | | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 80% | | 10-126% |

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-2 | | |
| **Lab Sample ID:** | JC87535-14 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8082A SW846 3546 | **Percent Solids:** | 80.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2G179807.D | 1 | 05/14/19 22:27 | TR | 05/14/19 03:00 | OP20312 | G2G4657 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 15.2 g | 10.0 ml |
| Run #2 | | |

**PCB List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 41 | 19 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | ND | 41 | 21 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | ND | 41 | 32 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | ND | 41 | 17 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | ND | 41 | 37 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | ND | 41 | 22 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | ND | 41 | 17 | ug/kg | |
| 11100-14-4 | Aroclor 1268 | ND | 41 | 17 | ug/kg | |
| 37324-23-5 | Aroclor 1262 | ND | 41 | 27 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 69% | | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 61% | | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 66% | | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 256% [a] | | 17-164% |

(a) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** PCWC-2
**Lab Sample ID:** JC87535-14
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 80.2

**Metals Analysis, TCLP Leachate SW846 1311**

| Analyte | Result | HW# | MCL | RL | MDL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.014 U | D004 | 5.0 | 0.50 | 0.014 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Barium | 0.42 J | D005 | 100 | 1.0 | 0.067 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Cadmium | 0.0064 J | D006 | 1.0 | 0.020 | 0.0050 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Chromium | 0.010 U | D007 | 5.0 | 0.050 | 0.010 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Lead | 0.53 | D008 | 5.0 | 0.50 | 0.0090 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Mercury | 0.000095 U | D009 | 0.20 | 0.00020 | 0.000095 | mg/l | 1 | 05/13/19 | 05/13/19 | LL | SW846 7470A [1] |
| Selenium | 0.025 U | D010 | 1.0 | 0.50 | 0.025 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Silver | 0.0095 U | D011 | 5.0 | 0.050 | 0.0095 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |

(1) Instrument QC Batch: MA46697
(2) Instrument QC Batch: MA46702
(3) Prep QC Batch: MP14966
(4) Prep QC Batch: MP14996

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-2 | | |
| **Lab Sample ID:** | JC87535-14 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 80.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Corrosivity as pH | 7.27 NC | | su | 1 | 05/16/19 13:26 | JOO | SW846 9045D |
| Solids, Percent | 80.2 | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-3 | | |
| **Lab Sample ID:** | JC87535-15 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8260C SW846 1311 | **Percent Solids:** | 79.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2V58593.D | 5 | 05/15/19 13:02 | EH | 05/11/19 21:45 | GP21185 | V2V2402 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA TCLP Leachate** **TCLP Leachate method SW846 1311**

| CAS No. | Compound | Result | HW# | MCL | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | D018 | 0.50 | 0.0025 | 0.0021 | mg/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | D035 | 200 | 0.10 | 0.034 | mg/l | |
| 56-23-5 | Carbon tetrachloride | ND | D019 | 0.50 | 0.0050 | 0.0028 | mg/l | |
| 108-90-7 | Chlorobenzene | ND | D021 | 100 | 0.0050 | 0.0028 | mg/l | |
| 67-66-3 | Chloroform | ND | D022 | 6.0 | 0.0050 | 0.0025 | mg/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | D027 | 7.5 | 0.0050 | 0.0025 | mg/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | D028 | 0.50 | 0.0050 | 0.0030 | mg/l | |
| 75-35-4 | 1,1-Dichloroethene | ND | D029 | 0.70 | 0.0050 | 0.0030 | mg/l | |
| 127-18-4 | Tetrachloroethene | ND | D039 | 0.70 | 0.0050 | 0.0045 | mg/l | |
| 79-01-6 | Trichloroethene | ND | D040 | 0.50 | 0.0050 | 0.0026 | mg/l | |
| 75-01-4 | Vinyl chloride | ND | D043 | 0.20 | 0.0050 | 0.0039 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99% | | 64-135% |
| 2037-26-5 | Toluene-D8 | 97% | | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 72-122% |

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-3 | | |
| **Lab Sample ID:** | JC87535-15 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8270D SW846 3510C | **Percent Solids:** | 79.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481892.D | 1 | 05/15/19 16:34 | AR | 05/14/19 07:00 | OP20353 | E6P2591 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 100 ml | 1.0 ml |
| Run #2 | | |

**ABN TCLP Leachate** **TCLP Leachate method SW846 1311**

| CAS No. | Compound | Result | HW# | MCL | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | 0.0709 | D023 | 200 | 0.020 | 0.0089 | mg/l | |
| | 3&4-Methylphenol | 0.172 | D024 | 200 | 0.020 | 0.0088 | mg/l | |
| 87-86-5 | Pentachlorophenol | ND | D037 | 100 | 0.10 | 0.014 | mg/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | D041 | 400 | 0.050 | 0.013 | mg/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | D042 | 2.0 | 0.050 | 0.0092 | mg/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | D027 | 7.5 | 0.020 | 0.0017 | mg/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | D030 | 0.13 | 0.020 | 0.0055 | mg/l | |
| 118-74-1 | Hexachlorobenzene | ND | D032 | 0.13 | 0.020 | 0.0033 | mg/l | |
| 87-68-3 | Hexachlorobutadiene | ND | D033 | 0.50 | 0.010 | 0.0049 | mg/l | |
| 67-72-1 | Hexachloroethane | ND | D034 | 3.0 | 0.050 | 0.0039 | mg/l | |
| 98-95-3 | Nitrobenzene | ND | D036 | 2.0 | 0.020 | 0.0064 | mg/l | |
| 110-86-1 | Pyridine | ND | D038 | 5.0 | 0.020 | 0.0039 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 48% | | 14-88% |
| 4165-62-2 | Phenol-d5 | 36% | | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 78% | | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 92% | | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 79% | | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 81% | | 10-126% |

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-3 | | |
| **Lab Sample ID:** | JC87535-15 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| **Method:** | SW846 8082A SW846 3546 | **Percent Solids:** | 79.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 2G179808.D | 1 | 05/14/19 22:44 | TR | 05/14/19 03:00 | OP20312 | G2G4657 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 16.4 g | 10.0 ml |
| Run #2 | | |

**PCB List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 38 | 18 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | ND | 38 | 20 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | ND | 38 | 29 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | ND | 38 | 16 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | ND | 38 | 34 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | ND | 38 | 21 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | ND | 38 | 16 | ug/kg | |
| 11100-14-4 | Aroclor 1268 | ND | 38 | 16 | ug/kg | |
| 37324-23-5 | Aroclor 1262 | ND | 38 | 25 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 64% | | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 46% | | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 66% | | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 149% | | 17-164% |

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis





**Client Sample ID:** PCWC-3
**Lab Sample ID:** JC87535-15
**Matrix:** SO - Soil
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Date Sampled:** 05/03/19
**Date Received:** 05/03/19
**Percent Solids:** 79.5

**Metals Analysis, TCLP Leachate SW846 1311**

| Analyte | Result | HW# | MCL | RL | MDL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.015 J | D004 | 5.0 | 0.50 | 0.014 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Barium | 0.59 J | D005 | 100 | 1.0 | 0.067 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Cadmium | 0.0084 J | D006 | 1.0 | 0.020 | 0.0050 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Chromium | 0.010 U | D007 | 5.0 | 0.050 | 0.010 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Lead | 0.27 J | D008 | 5.0 | 0.50 | 0.0090 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Mercury | 0.000095 U | D009 | 0.20 | 0.00020 | 0.000095 | mg/l | 1 | 05/13/19 | 05/13/19 | LL | SW846 7470A [1] |
| Selenium | 0.025 U | D010 | 1.0 | 0.50 | 0.025 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |
| Silver | 0.0095 U | D011 | 5.0 | 0.050 | 0.0095 | mg/l | 5 | 05/11/19 | 05/13/19 | ND | SW846 6010D [2] |

(1) Instrument QC Batch: MA46697
(2) Instrument QC Batch: MA46702
(3) Prep QC Batch: MP14966
(4) Prep QC Batch: MP14996

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 7/1/11) J = Indicates a result > = MDL but < RL

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | PCWC-3 | | |
| **Lab Sample ID:** | JC87535-15 | **Date Sampled:** | 05/03/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 05/03/19 |
| | | **Percent Solids:** | 79.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Corrosivity as pH | 7.36 NC | | su | 1 | 05/16/19 13:30 | JOO | SW846 9045D |
| Solids, Percent | 79.5 | | % | 1 | 05/13/19 15:15 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit

## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

SGS

SCC

SO

# CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 2

| | |
|---|---|
| FED-EX Tracking # | Bottle Order Control # KR-042219-41 |
| SGS Quote # | SGS Job # JC87535 |

**Client / Reporting Information**

| | |
|---|---|
| Company Name: | Arcadis-US |
| Street Address | 110 W Fayette St #300 |
| City / State / Zip | Syracuse NY 13202 |
| Project Contact / E-mail | Craig Healy Lawrence.healy@Arcadis.com |
| Phone # | 315-335-9594 |
| Sampler(s) Name(s) / Phone # | Evan Green 803-305-2692 |

**Project Information**

| | |
|---|---|
| Project Name: | Philadelphia Cole |
| Street | 4501 Richmond St |
| City / State | Philadelphia PA |
| Project # | Same |
| Client Purchase Order # | B0036790.0001 |
| Project Manager | John Bussel |

Billing information (if different from Report to)

| | |
|---|---|
| Company Name | Same |
| Street Address | |
| City / State / Zip | |
| Attention: | |

**Requested Analysis**

| SGS Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Grab (G) Comp (C) | Matrix | # of bottles | HCl | NaOH | $HNO_3$ | $H_2SO_4$ | NONE | DI Water | MEOH | ENCORE | Methanol | V8260TCL20 | CN | AB8270TCL20 | MTAL | P8082PCB11 | CORTL | TCLP | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S-157(7-9) | | 5/3/19 | 1030 | GB | G | SO | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |
| 2 | S-157(23-25) | | | 1045 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | D63 |
| 3 | S-156(3-5) | | | 1000 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | D5772 |
| 4 | S-156(7.5-9.5) | | | 1015 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | 14Q5 |
| 5 | S-156(14-16) | | | 1035 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | 4907 |
| 6 | SO-DUP-0503 | | | -:- | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | 4E5 |
| 7 | S-161(5-7) | | | 1200 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |
| | S-161(10-12) | | | 1215 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |
| 8 | S-161(10-12)MS | | | 1215 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |
| | S-161(10-12)MSD | | | 1215 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |
| 9 | S-162(5-7) | | | 1245 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |
| 10 | S-162(15-17) | | | 1300 | | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | |

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

**Turn Around Time (Business Days)**

Approved By (SGS PM): / Date:

- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other

All data available via Lablink

* Approval needed for 1-3 Business Day TAT

**Deliverable**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [x] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria____
- [ ] CT RCP Criteria____
- [ ] State Forms
- [ ] EDD Format____
- [ ] DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

**Comments / Special Instructions**

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

| Relinquished by: | Date / Time: | Received By: | Relinquished By: | Date / Time: | Received By: |
|---|---|---|---|---|---|
| 1 [signature] | 5/3/19 1615 | 1 [signature] | 2 [signature] | 5/3/19 1720 | 2 [signature] |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | | | |

Custody Seal # ☐ Intact ☐ Not Intact | Preserved where applicable Absent ☐ Therm. ID: | On Ice: ☐ Cooler Temp °C 0.4 °C

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

5.1

5

JC87535: Chain of Custody
Page 1 of 3

SGS

# CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 2 of 2

| FED-EX Tracking # | Bottle Order Control # |
|---|---|
| SGS Quote # | SGS Job # JC87535 |

**Client / Reporting Information**

Company Name: Acadis - US
Street Address: 110 W Fayette St #300
City: Syracuse State: NY Zip: 13202
Project Contact: Corey Healy E-mail: Lawrence.Healy@Acadis
Phone #: 315-335-9495
Sampler(s) Name(s): Evan Green Phone #: 603-306-2842

**Project Information**

Project Name: Philadelphia Coke
Street: 4501 Richmond St
City: Philadelphia State: PA
Project #: B0036740.0001
Client Purchase Order #: B0036740.0001
Project Manager: John Brussel

Billing Information (If different from Report to)
Company Name: Same
Street Address:
City: State: Zip:
Attention:

**Requested Analysis**

| SGS Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Grab (G) Comp (C) | Matrix | # of bottles | HCl | NaOH | $HNO_3$ | $H_2SO_4$ | NONE | DI Water | MEOH | ENCORE | | V8260TCL 20 | CN | AB8270TCL 20 | MTAL | P8082PCB11 | CORR | TCLP | | | | | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | S-160 (10-12) | | 5/3/19 | 1330 | GB | G | SO | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | | | | | |
| 12 | S-160 (13-15) | | ↓ | 1345 | ↓ | G | ↓ | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | | | | | | | | |
| 13 | PCWC-1 | | ↓ | 1410 | ↓ | C | ↓ | 3 | | | | | 3 | | | | | | | | | X | X | X | | | | | |
| 14 | PCWC-2 | | ↓ | 1415 | ↓ | C | ↓ | 3 | | | | | 3 | | | | | | | | | X | X | X | | | | | |
| 15 | PCWC-3 | | ↓ | 1420 | ↓ | C | ↓ | 3 | | | | | 3 | | | | | | | | | X | X | X | | | | | |

**Matrix Codes**

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

**Turn Around Time (Business Days)**

Approved By (SGS PM): / Date:

- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other

All data available via Labink
* Approval needed for 1-3 Business Day TAT

**Deliverable**

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [x] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria
- [ ] CT RCP Criteria
- [ ] State Forms
- [ ] EDD Format
- [ ] DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

**Comments / Special Instructions**

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

| Relinquished by: | Date / Time: | Received By: | Relinquished By: | Date / Time: | Received By: |
|---|---|---|---|---|---|
| 1 [signature] | 5/3/19 1615 | 1 [signature] | 2 [signature] | 5/3/19 1720 | 2 [signature] |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | | | |

Custody Seal # ☐ Intact ☐ Not intact | Preserved where applicable ☐ Absent ☐ Therm. ID: | On Ice ☐ Cooler Temp. °C 0.9 COLD

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

5.1
5

JC87535: Chain of Custody
Page 2 of 3

# SGS Sample Receipt Summary

**Job Number:** JC87535 **Client:** ARCADIS U.S. **Project:** NATIONAL GRID, PHILLY COKE, PHILADELPHI

**Date / Time Received:** 5/3/2019 5:20:00 PM **Delivery Method:** **Airbill #'s:**

**Cooler Temps (Raw Measured) °C:** Cooler 1: (0.9);

**Cooler Temps (Corrected) °C:** Cooler 1: (-0.1);

| **Cooler Security** | Y | or | N | | Y | or | N |
|---|---|---|---|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ | 3. COC Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ | 4. Smpl Dates/Time OK | ☑ | | ☐ |

| **Cooler Temperature** | Y | or | N |
|---|---|---|---|
| 1. Temp criteria achieved: | ☑ | | ☐ |
| 2. Cooler temp verification: | IR Gun | | |
| 3. Cooler media: | Ice (Bag) | | |
| 4. No. Coolers: | 1 | | |

| **Quality Control Preservation** | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☐ | | ☑ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | | ☑ | ☐ |
| 3. Samples preserved properly: | ☑ | | ☐ | |
| 4. VOCs headspace free: | ☐ | | ☐ | ☑ |

| **Sample Integrity - Documentation** | Y | or | N |
|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ |
| 2. Container labeling complete: | ☑ | | ☐ |
| 3. Sample container label / COC agree: | ☑ | | ☐ |

| **Sample Integrity - Condition** | Y | or | N |
|---|---|---|---|
| 1. Sample recvd within HT: | ☑ | | ☐ |
| 2. All containers accounted for: | ☑ | | ☐ |
| 3. Condition of sample: | Intact | | |

| **Sample Integrity - Instructions** | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Analysis requested is clear: | ☑ | | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | | ☑ | |
| 3. Sufficient volume recvd for analysis: | ☑ | | ☐ | |
| 4. Compositing instructions clear: | ☐ | | ☐ | ☑ |
| 5. Filtering instructions clear: | ☐ | | ☐ | ☑ |

Test Strip Lot #s: pH 1-12: 206717 pH 12+: 208717 Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

**JC87535: Chain of Custody**
**Page 3 of 3**

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC87535-1 | Collected: 03-MAY-19 10:30 By: GB | | | Received: 03-MAY-19 | By: AS | |
| S-157(7-9) | | | | | | |
| JC87535-1 | SW846 7471B | 07-MAY-19 14:10 | LL | 07-MAY-19 | LL | HG |
| JC87535-1 | SW846 6010D | 08-MAY-19 18:39 | ND | 08-MAY-19 | TG | AL,AS,BA,BE,CA,CO,CR,K,MG, NA,NI,V,ZN |
| JC87535-1 | SW846 6010D | 09-MAY-19 17:46 | ND | 08-MAY-19 | TG | CD,PB,SB |
| JC87535-1 | SW846 6010D | 10-MAY-19 09:28 | ND | 08-MAY-19 | TG | AG,CU,FE,MN,SE,TL |
| JC87535-1 | SW846 9012B/LACHAT | 10-MAY-19 18:06 | KI | 10-MAY-19 | RC | CN |
| JC87535-1 | SW846 8260C | 11-MAY-19 13:43 | PS | | | V8260TCL20 |
| JC87535-1 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-1 | SW846 8270D | 16-MAY-19 18:57 | CC | 11-MAY-19 | SA | AB8270TCL20 |
| JC87535-2 | Collected: 03-MAY-19 10:45 By: GB | | | Received: 03-MAY-19 | By: AS | |
| S-157(23-25) | | | | | | |
| JC87535-2 | SW846 7471B | 07-MAY-19 14:11 | LL | 07-MAY-19 | LL | HG |
| JC87535-2 | SW846 6010D | 08-MAY-19 18:44 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC87535-2 | SW846 9012B/LACHAT | 10-MAY-19 18:07 | KI | 10-MAY-19 | RC | CN |
| JC87535-2 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-2 | SW846 8260C | 13-MAY-19 20:14 | PS | | | V8260TCL20 |
| JC87535-2 | SW846 8270D | 16-MAY-19 17:03 | CC | 11-MAY-19 | SA | AB8270TCL20 |
| JC87535-3 | Collected: 03-MAY-19 10:00 By: GB | | | Received: 03-MAY-19 | By: AS | |
| S-156(3-5) | | | | | | |
| JC87535-3 | SW846 7471B | 07-MAY-19 15:59 | LL | 07-MAY-19 | LL | HG |
| JC87535-3 | SW846 6010D | 08-MAY-19 18:49 | ND | 08-MAY-19 | TG | AL,AS,BA,BE,CA,CD,CO,CR,K, MG,NA,NI,SB,V,ZN |
| JC87535-3 | SW846 6010D | 09-MAY-19 17:51 | ND | 08-MAY-19 | TG | AG,CU,FE,MN,PB,SE,TL |
| JC87535-3 | SW846 9012B/LACHAT | 10-MAY-19 18:08 | KI | 10-MAY-19 | RC | CN |
| JC87535-3 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-3 | SW846 8260C | 16-MAY-19 12:10 | TDN | | | V8260TCL20 |
| JC87535-3 | SW846 8270D | 16-MAY-19 20:23 | CC | 11-MAY-19 | SA | AB8270TCL20 |
| JC87535-3 | SW846 8270D | 17-MAY-19 21:12 | CC | 11-MAY-19 | SA | AB8270TCL20 |
| JC87535-3 | SW846 8270D | 17-MAY-19 21:41 | CC | 11-MAY-19 | SA | AB8270TCL20 |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC87535-4 | Collected: 03-MAY-19 10:15 By: GB | | | Received: 03-MAY-19 | By: AS | |
| S-156(7.5-9.5) | | | | | | |
| JC87535-4 | SW846 7471B | 07-MAY-19 14:15 | LL | 07-MAY-19 | LL | HG |
| JC87535-4 | SW846 6010D | 08-MAY-19 18:54 | ND | 08-MAY-19 | TG | AL,AS,BA,BE,CA,CD,CO,CR,K, MG,NA,NI,V,ZN |
| JC87535-4 | SW846 6010D | 09-MAY-19 17:56 | ND | 08-MAY-19 | TG | AG,CU,FE,MN,PB,SB,SE,TL |
| JC87535-4 | SW846 9012B/LACHAT | 10-MAY-19 18:10 | KI | 10-MAY-19 | RC | CN |
| JC87535-4 | SW846 8260C | 11-MAY-19 16:34 | PS | | | V8260TCL20 |
| JC87535-4 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-4 | SW846 8270D | 16-MAY-19 19:26 | CC | 11-MAY-19 | SA | AB8270TCL20 |
| JC87535-5 | Collected: 03-MAY-19 10:35 By: GB | | | Received: 03-MAY-19 | By: AS | |
| S-156(14-16) | | | | | | |
| JC87535-5 | SW846 7471B | 07-MAY-19 14:17 | LL | 07-MAY-19 | LL | HG |
| JC87535-5 | SW846 6010D | 08-MAY-19 18:59 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC87535-5 | SW846 9012B/LACHAT | 10-MAY-19 18:19 | KI | 10-MAY-19 | RC | CN |
| JC87535-5 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-5 | SW846 8260C | 13-MAY-19 19:48 | PS | | | V8260TCL20 |
| JC87535-5 | SW846 8270D | 16-MAY-19 16:51 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-6 | Collected: 03-MAY-19 00:00 By: GB | | | Received: 03-MAY-19 | By: AS | |
| SO-DUP-0503 | | | | | | |
| JC87535-6 | SW846 7471B | 07-MAY-19 14:20 | LL | 07-MAY-19 | LL | HG |
| JC87535-6 | SW846 6010D | 08-MAY-19 19:04 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC87535-6 | SW846 9012B/LACHAT | 10-MAY-19 18:12 | KI | 10-MAY-19 | RC | CN |
| JC87535-6 | SW846 8260C | 11-MAY-19 15:08 | PS | | | V8260TCL20 |
| JC87535-6 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-6 | SW846 8270D | 16-MAY-19 15:21 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-7 | Collected: 03-MAY-19 12:00 By: GB | | | Received: 03-MAY-19 | By: AS | |
| S-161(5-7) | | | | | | |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC87535-7 | SW846 7471B | 07-MAY-19 14:04 | LL | 07-MAY-19 | LL | HG |
| JC87535-7 | SW846 6010D | 08-MAY-19 19:20 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN |
| JC87535-7 | SM2540 G 18TH ED MOD | 09-MAY-19 08:36 | RC | | | SOL104 |
| JC87535-7 | SW846 9012B/LACHAT | 10-MAY-19 18:14 | KI | 10-MAY-19 | RC | CN |
| JC87535-7 | SW846 8260C | 15-MAY-19 18:16 | TDN | | | V8260TCL20 |
| JC87535-7 | SW846 8270D | 17-MAY-19 18:15 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-7 | SW846 8270D | 17-MAY-19 19:00 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-7 | SW846 8270D | 21-MAY-19 12:07 | CS | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-8 | Collected: 03-MAY-19 12:15 By: GB | | | Received: 03-MAY-19 By: AS | | |
| S-161(10-12) | | | | | | |
| JC87535-8 | SW846 9012B/LACHAT | 10-MAY-19 17:56 | KI | 10-MAY-19 | RC | CN |
| JC87535-8 | SW846 6010D | 10-MAY-19 18:36 | ND | 10-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN |
| JC87535-8 | SW846 8260C | 11-MAY-19 13:14 | PS | | | V8260TCL20 |
| JC87535-8 | SM2540 G 18TH ED MOD | 13-MAY-19 11:07 | RC | | | SOL104 |
| JC87535-8 | SW846 7471B | 13-MAY-19 14:34 | LL | 13-MAY-19 | LL | HG |
| JC87535-8 | SW846 8270D | 18-MAY-19 11:00 | CS | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-8 | SW846 8270D | 19-MAY-19 06:01 | CS | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-9 | Collected: 03-MAY-19 12:45 By: GB | | | Received: 03-MAY-19 By: AS | | |
| S-162(5-7) | | | | | | |
| JC87535-9 | SW846 7471B | 07-MAY-19 14:23 | LL | 07-MAY-19 | LL | HG |
| JC87535-9 | SW846 6010D | 08-MAY-19 19:30 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN |
| JC87535-9 | SW846 6010D | 09-MAY-19 18:01 | ND | 08-MAY-19 | TG | CA |
| JC87535-9 | SW846 9012B/LACHAT | 10-MAY-19 17:57 | KI | 10-MAY-19 | RC | CN |
| JC87535-9 | SW846 8260C | 11-MAY-19 16:05 | PS | | | V8260TCL20 |
| JC87535-9 | SM2540 G 18TH ED MOD | 13-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-9 | SW846 8270D | 16-MAY-19 15:43 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-9 | SW846 8270D | 17-MAY-19 17:29 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-9 | SW846 8270D | 19-MAY-19 16:07 | CB | 12-MAY-19 | SA | AB8270TCL20 |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC87535-10 Collected: 03-MAY-19 13:00 By: GB Received: 03-MAY-19 By: AS S-162(15-17) | | | | | | |
| JC87535-10 | SW846 7471B | 07-MAY-19 16:05 | LL | 07-MAY-19 | LL | HG |
| JC87535-10 | SW846 6010D | 08-MAY-19 19:35 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN |
| JC87535-10 | SW846 9012B/LACHAT | 10-MAY-19 17:59 | KI | 10-MAY-19 | RC | CN |
| JC87535-10 | SW846 8260C | 11-MAY-19 15:37 | PS | | | V8260TCL20 |
| JC87535-10 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-10 | SW846 8270D | 16-MAY-19 16:06 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-11 Collected: 03-MAY-19 13:30 By: GB Received: 03-MAY-19 By: AS S-160(10-12) | | | | | | |
| JC87535-11 | SW846 7471B | 07-MAY-19 15:38 | LL | 07-MAY-19 | LL | HG |
| JC87535-11 | SW846 6010D | 08-MAY-19 19:40 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,V,ZN |
| JC87535-11 | SW846 6010D | 09-MAY-19 18:06 | ND | 08-MAY-19 | TG | TL |
| JC87535-11 | SW846 9012B/LACHAT | 10-MAY-19 18:03 | KI | 10-MAY-19 | RC | CN |
| JC87535-11 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-11 | SW846 8260C | 15-MAY-19 17:48 | TDN | | | V8260TCL20 |
| JC87535-11 | SW846 8270D | 16-MAY-19 20:37 | CC | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-11 | SW846 8270D | 19-MAY-19 17:27 | CB | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-11 | SW846 8270D | 19-MAY-19 18:47 | CB | 12-MAY-19 | SA | AB8270TCL20 |
| JC87535-12 Collected: 03-MAY-19 13:45 By: GB Received: 03-MAY-19 By: AS S-160(13-15) | | | | | | |
| JC87535-12 | SW846 7471B | 07-MAY-19 15:39 | LL | 07-MAY-19 | LL | HG |
| JC87535-12 | SW846 6010D | 08-MAY-19 19:45 | ND | 08-MAY-19 | TG | AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN |
| JC87535-12 | SW846 9012B/LACHAT | 10-MAY-19 18:04 | KI | 10-MAY-19 | RC | CN |
| JC87535-12 | SW846 8260C | 11-MAY-19 17:02 | PS | | | V8260TCL20 |
| JC87535-12 | SM2540 G 18TH ED MOD | 03-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-12 | SW846 8270D | 16-MAY-19 16:29 | CC | 12-MAY-19 | SA | AB8270TCL20 |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC87535

National Grid, Philly Coke, Philadelphia, PA
Project No: B0036790.0001.00002



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC87535-13 Collected: 03-MAY-19 14:10 By: GB Received: 03-MAY-19 By: AS PCWC-1 | | | | | | |
| JC87535-13 | SW846 6010D | 13-MAY-19 11:44 | ND | 11-MAY-19 | BP | EAG,EAS,EBA,ECD,ECR,EPB,ESE |
| JC87535-13 | SW846 8260C | 13-MAY-19 12:54 | EH | 11-MAY-19 | TM | V8260TCLP |
| JC87535-13 | SW846 7470A | 13-MAY-19 14:16 | LL | 13-MAY-19 | LL | EHG |
| JC87535-13 | SM2540 G 18TH ED MOD | 13-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-13 | SW846 8082A | 14-MAY-19 22:10 | TR | 14-MAY-19 | NT | P8082PCB11 |
| JC87535-13 | SW846 8270D | 15-MAY-19 15:45 | AR | 14-MAY-19 | BJ | AB8270TCLP |
| JC87535-13 | SW846 9045D | 16-MAY-19 13:24 | JOO | | | CORR |
| JC87535-14 Collected: 03-MAY-19 14:15 By: GB Received: 03-MAY-19 By: AS PCWC-2 | | | | | | |
| JC87535-14 | SW846 6010D | 13-MAY-19 11:49 | ND | 11-MAY-19 | BP | EAG,EAS,EBA,ECD,ECR,EPB,ESE |
| JC87535-14 | SW846 7470A | 13-MAY-19 14:17 | LL | 13-MAY-19 | LL | EHG |
| JC87535-14 | SM2540 G 18TH ED MOD | 13-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-14 | SW846 8260C | 13-MAY-19 18:24 | EH | 11-MAY-19 | TM | V8260TCLP |
| JC87535-14 | SW846 8082A | 14-MAY-19 22:27 | TR | 14-MAY-19 | NT | P8082PCB11 |
| JC87535-14 | SW846 8270D | 15-MAY-19 16:09 | AR | 14-MAY-19 | BJ | AB8270TCLP |
| JC87535-14 | SW846 9045D | 16-MAY-19 13:26 | JOO | | | CORR |
| JC87535-15 Collected: 03-MAY-19 14:20 By: GB Received: 03-MAY-19 By: AS PCWC-3 | | | | | | |
| JC87535-15 | SW846 6010D | 13-MAY-19 12:14 | ND | 11-MAY-19 | BP | EAG,EAS,EBA,ECD,ECR,EPB,ESE |
| JC87535-15 | SW846 7470A | 13-MAY-19 14:18 | LL | 13-MAY-19 | LL | EHG |
| JC87535-15 | SM2540 G 18TH ED MOD | 13-MAY-19 15:15 | BG | | | SOL104 |
| JC87535-15 | SW846 8082A | 14-MAY-19 22:44 | TR | 14-MAY-19 | NT | P8082PCB11 |
| JC87535-15 | SW846 8260C | 15-MAY-19 13:02 | EH | 11-MAY-19 | TM | V8260TCLP |
| JC87535-15 | SW846 8270D | 15-MAY-19 16:34 | AR | 14-MAY-19 | BJ | AB8270TCLP |
| JC87535-15 | SW846 9045D | 16-MAY-19 13:30 | JOO | | | CORR |

# SGS Internal Chain of Custody



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-1.1 | Secured Storage | Lindsey Lee | 05/07/19 11:26 | Retrieve from Storage |
| JC87535-1.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-1.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-1.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-1.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-1.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-1.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-1.1 | Sauvelson Auguste | Secured Storage | 05/11/19 15:54 | Return to Storage |
| JC87535-1.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-1.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-1.1 |
| JC87535-1.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-1.1 |
| JC87535-1.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-1.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-1.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:37 | Extract from JC87535-1.1 |
| JC87535-1.1.2 | Organics Prep | Sauvelson Auguste | 05/11/19 15:53 | Extract from JC87535-1.1 |
| JC87535-1.1.2 | Sauvelson Auguste | Extract Storage | 05/11/19 15:53 | Return to Storage |
| JC87535-1.1.2 | Extract Storage | Christine Change | 05/16/19 10:46 | Retrieve from Storage |
| JC87535-1.1.2 | Christine Change | GCMSM | 05/16/19 10:46 | Load on Instrument |
| JC87535-1.1.2 | GCMSM | Christine Change | 05/17/19 14:17 | Unload from Instrument |
| JC87535-1.1.2 | Christine Change | Extract Freezer | 05/17/19 14:17 | Return to Storage |
| JC87535-1.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-1.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-1.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-1.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-1.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-1.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-1.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-1.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-1.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-1.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-1.4 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-1.4 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-1.4 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-1.4 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-2.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-2.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-2.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-2.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-2.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |

# SGS Internal Chain of Custody



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-2.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-2.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-2.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-2.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-2.1 | Sauvelson Auguste | Secured Storage | 05/11/19 15:54 | Return to Storage |
| JC87535-2.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-2.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-2.1 |
| JC87535-2.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-2.1 |
| JC87535-2.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-2.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-2.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:37 | Extract from JC87535-2.1 |
| JC87535-2.1.2 | Organics Prep | Sauvelson Auguste | 05/11/19 15:53 | Extract from JC87535-2.1 |
| JC87535-2.1.2 | Sauvelson Auguste | Extract Storage | 05/11/19 15:53 | Return to Storage |
| JC87535-2.1.2 | Extract Storage | Christine Change | 05/16/19 10:46 | Retrieve from Storage |
| JC87535-2.1.2 | Christine Change | GCMSM | 05/16/19 10:46 | Load on Instrument |
| JC87535-2.1.2 | GCMSM | Christine Change | 05/17/19 14:17 | Unload from Instrument |
| JC87535-2.1.2 | Christine Change | Extract Freezer | 05/17/19 14:17 | Return to Storage |
| JC87535-2.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-2.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-2.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-2.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-2.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-2.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-2.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-2.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-2.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-2.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-2.4 | Secured Storage | Prashant Shukla | 05/13/19 13:23 | Retrieve from Storage |
| JC87535-2.4 | Prashant Shukla | GCMS1C | 05/13/19 13:23 | Load on Instrument |
| JC87535-2.4 | GCMS1C | Prashant Shukla | 05/14/19 08:46 | Unload from Instrument |
| JC87535-2.4 | Prashant Shukla | | 05/14/19 08:47 | Depleted |
| JC87535-2.5 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-2.5 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-2.5 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-2.5 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-3.1 | Secured Storage | Lindsey Lee | 05/07/19 11:38 | Retrieve from Storage |
| JC87535-3.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-3.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-3.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-3.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-3.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-3.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-3.1 | Sauvelson Auguste | Secured Storage | 05/11/19 15:54 | Return to Storage |
| JC87535-3.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-3.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-3.1 |
| JC87535-3.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-3.1 |
| JC87535-3.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-3.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-3.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:37 | Extract from JC87535-3.1 |
| JC87535-3.1.2 | Organics Prep | Sauvelson Auguste | 05/11/19 15:53 | Extract from JC87535-3.1 |
| JC87535-3.1.2 | Sauvelson Auguste | Extract Storage | 05/11/19 15:53 | Return to Storage |
| JC87535-3.1.2 | Extract Storage | Christine Change | 05/16/19 10:46 | Retrieve from Storage |
| JC87535-3.1.2 | Christine Change | GCMSM | 05/16/19 10:46 | Load on Instrument |
| JC87535-3.1.2 | GCMSM | Christine Change | 05/17/19 14:17 | Unload from Instrument |
| JC87535-3.1.2 | Christine Change | Extract Freezer | 05/17/19 14:17 | Return to Storage |
| JC87535-3.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-3.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-3.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-3.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-3.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-3.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-3.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-3.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-3.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-3.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-3.3 | Secured Storage | Thien Nguyen | 05/13/19 08:19 | Retrieve from Storage |
| JC87535-3.3 | Thien Nguyen | Secured Storage | 05/13/19 08:19 | Return to Storage |
| JC87535-3.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-4.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-4.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-4.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-4.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-4.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-4.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-4.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-4.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-4.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-4.1 | Sauvelson Auguste | Secured Storage | 05/11/19 15:54 | Return to Storage |
| JC87535-4.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-4.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-4.1 |
| JC87535-4.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-4.1 |
| JC87535-4.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-4.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-4.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:37 | Extract from JC87535-4.1 |
| JC87535-4.1.2 | Organics Prep | Sauvelson Auguste | 05/11/19 15:53 | Extract from JC87535-4.1 |
| JC87535-4.1.2 | Sauvelson Auguste | Extract Storage | 05/11/19 15:53 | Return to Storage |
| JC87535-4.1.2 | Extract Storage | Christine Change | 05/16/19 10:46 | Retrieve from Storage |
| JC87535-4.1.2 | Christine Change | GCMSM | 05/16/19 10:46 | Load on Instrument |
| JC87535-4.1.2 | GCMSM | Christine Change | 05/17/19 14:17 | Unload from Instrument |
| JC87535-4.1.2 | Christine Change | Extract Freezer | 05/17/19 14:17 | Return to Storage |
| JC87535-4.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-4.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-4.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-4.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-4.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-4.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-4.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-4.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-4.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-4.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-4.5 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-4.5 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-4.5 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-4.5 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-5.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-5.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-5.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-5.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-5.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-5.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-5.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-5.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-5.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-5.1 | Sauvelson Auguste | Secured Storage | 05/11/19 15:54 | Return to Storage |
| JC87535-5.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-5.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-5.1 |
| JC87535-5.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-5.1 |
| JC87535-5.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-5.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-5.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:37 | Extract from JC87535-5.1 |
| JC87535-5.1.2 | Organics Prep | Sauvelson Auguste | 05/11/19 15:52 | Extract from JC87535-5.1 |
| JC87535-5.1.2 | Sauvelson Auguste | Extract Storage | 05/11/19 15:56 | Return to Storage |
| JC87535-5.1.2 | Extract Storage | | 06/21/19 09:00 | Disposed |
| JC87535-5.1.3 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-5.1 |
| JC87535-5.1.3 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-5.1 |
| JC87535-5.1.3 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-5.1.3 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-5.1.3 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-5.1.3 | GCMS5P | Christine Change | 05/17/19 16:25 | Unload from Instrument |
| JC87535-5.1.3 | Christine Change | Extract Freezer | 05/17/19 16:25 | Return to Storage |
| JC87535-5.1.3 | Extract Freezer | Christopher Sowa | 05/18/19 05:18 | Retrieve from Storage |
| JC87535-5.1.3 | Christopher Sowa | GCMS2M | 05/18/19 05:18 | Load on Instrument |
| JC87535-5.1.3 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-5.1.3 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-5.1.3 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-5.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-5.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-5.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-5.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-5.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-5.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-5.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-5.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-5.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-5.4 | Secured Storage | Prashant Shukla | 05/13/19 13:23 | Retrieve from Storage |
| JC87535-5.4 | Prashant Shukla | GCMS1C | 05/13/19 13:23 | Load on Instrument |
| JC87535-5.4 | GCMS1C | Prashant Shukla | 05/14/19 08:46 | Unload from Instrument |
| JC87535-5.4 | Prashant Shukla | | 05/14/19 08:47 | Depleted |
| JC87535-5.5 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-5.5 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-5.5 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-5.5 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-6.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-6.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-6.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-6.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-6.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-6.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-6.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-6.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-6.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-6.1 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-6.1 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-6.1 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-6.1 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-6.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| | | | | |
| JC87535-6.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-6.1 |
| JC87535-6.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-6.1 |
| JC87535-6.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-6.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| | | | | |
| JC87535-6.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-6.1 |
| JC87535-6.1.2 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-6.1 |
| JC87535-6.1.2 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-6.1.2 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-6.1.2 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-6.1.2 | GCMS5P | Christine Change | 05/17/19 16:25 | Unload from Instrument |
| JC87535-6.1.2 | Christine Change | Extract Freezer | 05/17/19 16:25 | Return to Storage |
| JC87535-6.1.2 | Extract Freezer | Christopher Sowa | 05/18/19 05:18 | Retrieve from Storage |
| JC87535-6.1.2 | Christopher Sowa | GCMS2M | 05/18/19 05:18 | Load on Instrument |
| JC87535-6.1.2 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-6.1.2 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-6.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| | | | | |
| JC87535-6.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-6.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-6.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-6.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-6.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-6.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-6.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-6.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-6.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| | | | | |
| JC87535-6.5 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-6.5 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-6.5 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-6.5 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| | | | | |
| JC87535-7.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-7.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-7.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-7.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-7.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-7.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-7.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-7.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-7.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-7.1 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-7.1 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-7.1 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-7.1 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-7.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| | | | | |
| JC87535-7.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-7.1 |
| JC87535-7.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-7.1 |
| JC87535-7.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-7.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| | | | | |
| JC87535-7.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-7.1 |
| JC87535-7.1.2 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-7.1 |
| JC87535-7.1.2 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-7.1.2 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-7.1.2 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-7.1.2 | GCMS5P | Christopher Sowa | 05/18/19 05:19 | Unload from Instrument |
| JC87535-7.1.2 | Christopher Sowa | GCMS2M | 05/18/19 05:19 | Load on Instrument |
| JC87535-7.1.2 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-7.1.2 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-7.1.2 | Extract Freezer | Angela Rastelli | 05/21/19 10:49 | Retrieve from Storage |
| JC87535-7.1.2 | Angela Rastelli | GCMS5P | 05/21/19 10:49 | Load on Instrument |
| JC87535-7.1.2 | GCMS5P | Angela Rastelli | 05/21/19 13:12 | Unload from Instrument |
| JC87535-7.1.2 | Angela Rastelli | Extract Freezer | 05/21/19 13:12 | Return to Storage |
| JC87535-7.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| | | | | |
| JC87535-7.2 | Secured Storage | Dwayne Johnson | 05/09/19 08:17 | Retrieve from Storage |
| JC87535-7.2 | Dwayne Johnson | Secured Staging Area | 05/09/19 08:17 | Return to Storage |
| JC87535-7.2 | Secured Staging Area | Ruchitaben Chauhan | 05/09/19 09:15 | Retrieve from Storage |
| JC87535-7.2 | Ruchitaben Chauhan | Secured Storage | 05/09/19 16:49 | Return to Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-7.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-7.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-7.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-7.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-7.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-7.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-7.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-7.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-7.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-7.3 | Secured Storage | Thien Nguyen | 05/13/19 08:19 | Retrieve from Storage |
| JC87535-7.3 | Thien Nguyen | Secured Storage | 05/13/19 08:19 | Return to Storage |
| JC87535-7.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-8.2 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-8.2 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-8.2 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-8.2 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-8.2 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-8.2 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-8.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-8.2.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-8.2 |
| JC87535-8.2.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-8.2 |
| JC87535-8.2.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-8.2.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-8.3 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-8.3 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-8.3 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-8.3 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-8.3 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-8.3 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-8.3 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-8.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-8.3.1 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-8.3 |
| JC87535-8.3.1 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-8.3 |
| JC87535-8.3.1 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-8.3.1 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-8.3.1 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-8.3.1 | GCMS5P | Christopher Sowa | 05/18/19 05:19 | Unload from Instrument |
| JC87535-8.3.1 | Christopher Sowa | GCMS2M | 05/18/19 05:19 | Load on Instrument |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-8.3.1 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-8.3.1 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-8.3.1 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-8.4 | Secured Storage | Sahara Feliciano | 05/09/19 22:29 | Retrieve from Storage |
| JC87535-8.4 | Sahara Feliciano | Secured Staging Area | 05/09/19 22:29 | Return to Storage |
| JC87535-8.4 | Secured Staging Area | Taylor Gorman | 05/10/19 04:49 | Retrieve from Storage |
| JC87535-8.4 | Taylor Gorman | Secured Storage | 05/10/19 08:53 | Return to Storage |
| JC87535-8.4 | Secured Storage | Sahara Feliciano | 05/12/19 14:25 | Retrieve from Storage |
| JC87535-8.4 | Sahara Feliciano | Secured Staging Area | 05/12/19 14:25 | Return to Storage |
| JC87535-8.4 | Secured Staging Area | Lindsey Lee | 05/13/19 07:37 | Retrieve from Storage |
| JC87535-8.4 | Lindsey Lee | Secured Storage | 05/13/19 13:17 | Return to Storage |
| JC87535-8.4 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-8.4.1 | Taylor Gorman | Metals Digestion | 05/10/19 06:38 | Digestate from JC87535-8.4 |
| JC87535-8.4.1 | Metals Digestion | Taylor Gorman | 05/10/19 06:38 | Digestate from JC87535-8.4 |
| JC87535-8.4.1 | Taylor Gorman | Metals Digestate Storage | 05/10/19 06:38 | Return to Storage |
| JC87535-8.5 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-8.5 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-8.5 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-8.5 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-8.5 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-8.6 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-8.6 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-8.6 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-8.6 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-8.6 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-8.10 | Secured Storage | Prashant Shukla | 05/11/19 15:45 | Retrieve from Storage |
| JC87535-8.10 | Prashant Shukla | GCMSY | 05/11/19 15:45 | Load on Instrument |
| JC87535-8.10 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-8.10 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-8.14 | Secured Storage | Prashant Shukla | 05/11/19 15:45 | Retrieve from Storage |
| JC87535-8.14 | Prashant Shukla | GCMSY | 05/11/19 15:45 | Load on Instrument |
| JC87535-8.14 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-8.14 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-8.15 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-8.15 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-8.15 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-8.15 | Prashant Shukla | | 05/13/19 09:26 | Depleted |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-9.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-9.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-9.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-9.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-9.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-9.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-9.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-9.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-9.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-9.1 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-9.1 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-9.1 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-9.1 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-9.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| | | | | |
| JC87535-9.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-9.1 |
| JC87535-9.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-9.1 |
| JC87535-9.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-9.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| | | | | |
| JC87535-9.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-9.1 |
| JC87535-9.1.2 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-9.1 |
| JC87535-9.1.2 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-9.1.2 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-9.1.2 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-9.1.2 | GCMS5P | Christopher Sowa | 05/18/19 05:19 | Unload from Instrument |
| JC87535-9.1.2 | Christopher Sowa | GCMS2M | 05/18/19 05:19 | Load on Instrument |
| JC87535-9.1.2 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-9.1.2 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-9.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| | | | | |
| JC87535-9.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-9.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-9.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-9.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-9.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-9.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-9.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-9.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-9.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| | | | | |
| JC87535-9.5 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-9.5 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-9.5 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-9.5 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| | | | | |
| JC87535-10.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-10.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-10.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-10.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-10.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-10.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-10.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-10.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-10.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-10.1 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-10.1 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-10.1 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-10.1 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-10.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| | | | | |
| JC87535-10.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-10.1 |
| JC87535-10.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-10.1 |
| JC87535-10.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-10.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| | | | | |
| JC87535-10.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-10.1 |
| JC87535-10.1.2 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-10.1 |
| JC87535-10.1.2 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-10.1.2 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-10.1.2 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-10.1.2 | GCMS5P | Christine Change | 05/17/19 16:25 | Unload from Instrument |
| JC87535-10.1.2 | Christine Change | Extract Freezer | 05/17/19 16:25 | Return to Storage |
| JC87535-10.1.2 | Extract Freezer | Christopher Sowa | 05/18/19 05:18 | Retrieve from Storage |
| JC87535-10.1.2 | Christopher Sowa | GCMS2M | 05/18/19 05:18 | Load on Instrument |
| JC87535-10.1.2 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-10.1.2 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-10.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| | | | | |
| JC87535-10.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-10.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-10.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-10.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-10.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-10.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-10.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-10.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-10.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-10.4 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-10.4 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-10.4 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-10.4 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-11.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-11.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-11.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-11.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-11.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-11.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-11.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-11.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-11.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-11.1 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-11.1 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-11.1 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-11.1 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-11.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-11.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-11.1 |
| JC87535-11.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-11.1 |
| JC87535-11.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-11.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-11.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-11.1 |
| JC87535-11.1.2 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-11.1 |
| JC87535-11.1.2 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-11.1.2 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-11.1.2 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-11.1.2 | GCMS5P | Christopher Sowa | 05/18/19 05:19 | Unload from Instrument |
| JC87535-11.1.2 | Christopher Sowa | GCMS2M | 05/18/19 05:19 | Load on Instrument |
| JC87535-11.1.2 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-11.1.2 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-11.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |
| JC87535-11.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-11.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-11.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-11.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-11.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-11.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-11.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-11.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-11.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-11.3 | Secured Storage | Thien Nguyen | 05/13/19 08:19 | Retrieve from Storage |
| JC87535-11.3 | Thien Nguyen | Secured Storage | 05/13/19 08:19 | Return to Storage |
| JC87535-11.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-12.1 | Secured Storage | Matthew Robbins | 05/06/19 17:40 | Retrieve from Storage |
| JC87535-12.1 | Matthew Robbins | Secured Staging Area | 05/06/19 17:40 | Return to Storage |
| JC87535-12.1 | Secured Staging Area | Lindsey Lee | 05/07/19 07:38 | Retrieve from Storage |
| JC87535-12.1 | Lindsey Lee | Secured Storage | 05/07/19 15:44 | Return to Storage |
| JC87535-12.1 | Secured Storage | Taylor Gorman | 05/08/19 07:25 | Retrieve from Storage |
| JC87535-12.1 | Taylor Gorman | Secured Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-12.1 | Secured Storage | Sahara Feliciano | 05/10/19 20:46 | Retrieve from Storage |
| JC87535-12.1 | Sahara Feliciano | Secured Staging Area | 05/10/19 20:46 | Return to Storage |
| JC87535-12.1 | Secured Staging Area | Sauvelson Auguste | 05/11/19 07:34 | Retrieve from Storage |
| JC87535-12.1 | Secured Storage | Sahara Feliciano | 05/11/19 14:36 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC87535-12.1 | Sahara Feliciano | Secured Staging Area | 05/11/19 14:36 | Return to Storage |
| JC87535-12.1 | Secured Staging Area | Luis Jimenez | 05/12/19 07:45 | Retrieve from Storage |
| JC87535-12.1 | Luis Jimenez | Secured Storage | 05/12/19 15:15 | Return to Storage |
| JC87535-12.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-12.1.1 | Taylor Gorman | Metals Digestion | 05/08/19 07:27 | Digestate from JC87535-12.1 |
| JC87535-12.1.1 | Metals Digestion | Taylor Gorman | 05/08/19 09:18 | Digestate from JC87535-12.1 |
| JC87535-12.1.1 | Taylor Gorman | Metals Digestate Storage | 05/08/19 09:18 | Return to Storage |
| JC87535-12.1.1 | Metals Digestate Storage | | 07/15/19 09:00 | Disposed |
| JC87535-12.1.2 | Sauvelson Auguste | Organics Prep | 05/11/19 07:38 | Extract from JC87535-12.1 |
| JC87535-12.1.2 | Organics Prep | Sauvelson Auguste | 05/12/19 16:24 | Extract from JC87535-12.1 |
| JC87535-12.1.2 | Sauvelson Auguste | Extract Storage | 05/12/19 16:24 | Return to Storage |
| JC87535-12.1.2 | Extract Storage | Christine Change | 05/16/19 12:49 | Retrieve from Storage |
| JC87535-12.1.2 | Christine Change | GCMS5P | 05/16/19 12:49 | Load on Instrument |
| JC87535-12.1.2 | GCMS5P | Christine Change | 05/17/19 16:25 | Unload from Instrument |
| JC87535-12.1.2 | Christine Change | Extract Freezer | 05/17/19 16:25 | Return to Storage |
| JC87535-12.1.2 | Extract Freezer | Christopher Sowa | 05/18/19 05:18 | Retrieve from Storage |
| JC87535-12.1.2 | Christopher Sowa | GCMS2M | 05/18/19 05:18 | Load on Instrument |
| JC87535-12.1.2 | GCMS2M | Carol Boykin | 05/19/19 14:49 | Unload from Instrument |
| JC87535-12.1.2 | Carol Boykin | Extract Freezer | 05/19/19 14:49 | Return to Storage |
| JC87535-12.1.2 | Extract Freezer | | 06/21/19 09:00 | Disposed |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-12.2 | Secured Storage | Sahara Feliciano | 05/09/19 21:11 | Retrieve from Storage |
| JC87535-12.2 | Sahara Feliciano | Secured Staging Area | 05/09/19 21:11 | Return to Storage |
| JC87535-12.2 | Secured Staging Area | Ruchitaben Chauhan | 05/10/19 11:10 | Retrieve from Storage |
| JC87535-12.2 | Ruchitaben Chauhan | Secured Storage | 05/10/19 19:03 | Return to Storage |
| JC87535-12.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-12.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-12.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-12.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-12.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-12.4 | Secured Storage | Prashant Shukla | 05/11/19 12:11 | Retrieve from Storage |
| JC87535-12.4 | Prashant Shukla | GCMSY | 05/11/19 12:11 | Load on Instrument |
| JC87535-12.4 | GCMSY | Prashant Shukla | 05/13/19 09:26 | Unload from Instrument |
| JC87535-12.4 | Prashant Shukla | | 05/13/19 09:26 | Depleted |
| JC87535-13.1 | Secured Storage | Dwayne Johnson | 05/10/19 10:42 | Retrieve from Storage |
| JC87535-13.1 | Dwayne Johnson | Secured Staging Area | 05/10/19 10:42 | Return to Storage |
| JC87535-13.1 | Secured Staging Area | Tharun Murali | 05/10/19 13:13 | Retrieve from Storage |
| JC87535-13.1 | Tharun Murali | Secured Storage | 05/10/19 20:13 | Return to Storage |
| JC87535-13.1 | Secured Storage | Sahara Feliciano | 05/12/19 15:39 | Retrieve from Storage |
| JC87535-13.1 | Sahara Feliciano | Secured Staging Area | 05/12/19 15:39 | Return to Storage |
| JC87535-13.1 | Secured Staging Area | Sauvelson Auguste | 05/13/19 07:37 | Retrieve from Storage |
| JC87535-13.1 | Sauvelson Auguste | Secured Storage | 05/13/19 14:05 | Return to Storage |
| JC87535-13.1 | Secured Storage | Matthew Robbins | 05/13/19 15:42 | Retrieve from Storage |
| JC87535-13.1 | Matthew Robbins | Secured Staging Area | 05/13/19 15:42 | Return to Storage |
| JC87535-13.1 | Secured Staging Area | Luis Jimenez | 05/13/19 16:08 | Retrieve from Storage |
| JC87535-13.1 | Luis Jimenez | Secured Storage | 05/13/19 23:36 | Return to Storage |
| JC87535-13.1 | Secured Storage | Todd Shoemaker | 05/16/19 09:52 | Retrieve from Storage |
| JC87535-13.1 | Todd Shoemaker | Secured Staging Area | 05/16/19 09:52 | Return to Storage |
| JC87535-13.1 | Secured Staging Area | Jared O. Onindo | 05/16/19 17:25 | Retrieve from Storage |
| JC87535-13.1 | Jared O. Onindo | Secured Storage | 05/16/19 17:25 | Return to Storage |
| JC87535-13.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-13.1.1 | Tharun Murali | TCLP | 05/10/19 13:18 | Leachate from JC87535-13.1 |
| JC87535-13.1.1 | TCLP | Tharun Murali | 05/11/19 11:39 | Leachate from JC87535-13.1 |
| JC87535-13.1.1 | Tharun Murali | Secured Storage | 05/11/19 11:39 | Return to Storage |
| JC87535-13.1.1 | Secured Storage | Brian Johnson | 05/14/19 04:25 | Retrieve from Storage |
| JC87535-13.1.1 | Brian Johnson | Vikas Parikh | 05/14/19 06:04 | Custody Transfer |
| JC87535-13.1.1 | Vikas Parikh | Huachi Wu | 05/14/19 06:36 | Custody Transfer |
| JC87535-13.1.1 | Huachi Wu | Secured Storage | 05/14/19 06:40 | Return to Storage |
| JC87535-13.1.1 | Secured Storage | | 07/10/19 09:00 | Disposed |
| JC87535-13.1.2 | TCLP | Tharun Murali | 05/11/19 11:39 | Leachate from JC87535-13.1 |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-13.1.2 | Tharun Murali | Secured Storage | 05/11/19 11:39 | Return to Storage |
| JC87535-13.1.2 | Secured Storage | | 07/11/19 09:00 | Disposed |
| JC87535-13.1.3 | Luis Jimenez | Organics Prep | 05/13/19 16:09 | Extract from JC87535-13.1 |
| JC87535-13.1.3 | Organics Prep | Natasha Torres | 05/14/19 09:28 | Extract from JC87535-13.1 |
| JC87535-13.1.3 | Natasha Torres | Extract Storage | 05/14/19 09:28 | Return to Storage |
| JC87535-13.1.3 | Extract Storage | Summer Kotb | 05/14/19 10:39 | Retrieve from Storage |
| JC87535-13.1.3 | Summer Kotb | GCXX | 05/14/19 10:39 | Load on Instrument |
| JC87535-13.1.3 | GCXX | Tianwei Ruan | 07/12/19 11:07 | Unload from Instrument |
| JC87535-13.1.3 | Tianwei Ruan | Extract Freezer | 07/12/19 11:08 | Return to Storage |
| JC87535-13.1.3 | Extract Freezer | | 07/15/19 09:00 | Disposed |
| JC87535-13.1.4 | Brian Johnson | Organics Prep | 05/14/19 04:31 | Extract from JC87535-13.1.1 |
| JC87535-13.1.4 | Organics Prep | Christine Change | 05/14/19 17:04 | Extract from JC87535-13.1.1 |
| JC87535-13.1.4 | Christine Change | Extract Storage | 05/14/19 17:04 | Return to Storage |
| JC87535-13.1.4 | Extract Storage | Angela Rastelli | 05/15/19 09:55 | Retrieve from Storage |
| JC87535-13.1.4 | Angela Rastelli | GCMS6P | 05/15/19 09:55 | Load on Instrument |
| JC87535-13.1.4 | GCMS6P | Angela Rastelli | 05/16/19 10:32 | Unload from Instrument |
| JC87535-13.1.4 | Angela Rastelli | Extract Freezer | 05/16/19 10:32 | Return to Storage |
| JC87535-13.1.4 | Extract Freezer | | 06/24/19 09:00 | Disposed |
| JC87535-13.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-13.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-13.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-13.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-13.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-13.3 | Secured Storage | Dwayne Johnson | 05/09/19 10:19 | Retrieve from Storage |
| JC87535-13.3 | Dwayne Johnson | Secured Staging Area | 05/09/19 10:19 | Return to Storage |
| JC87535-13.3 | Secured Staging Area | Tharun Murali | 05/09/19 17:00 | Retrieve from Storage |
| JC87535-13.3 | Tharun Murali | Secured Storage | 05/09/19 21:55 | Return to Storage |
| JC87535-13.3 | Secured Storage | Dwayne Johnson | 05/10/19 10:42 | Retrieve from Storage |
| JC87535-13.3 | Dwayne Johnson | Secured Staging Area | 05/10/19 10:42 | Return to Storage |
| JC87535-13.3 | Secured Staging Area | Tharun Murali | 05/10/19 13:13 | Retrieve from Storage |
| JC87535-13.3 | Tharun Murali | Secured Storage | 05/10/19 20:13 | Return to Storage |
| JC87535-13.3 | Secured Storage | Sahara Feliciano | 05/11/19 10:17 | Retrieve from Storage |
| JC87535-13.3 | Sahara Feliciano | Secured Staging Area | 05/11/19 10:17 | Return to Storage |
| JC87535-13.3 | Secured Staging Area | Tharun Murali | 05/11/19 15:21 | Retrieve from Storage |
| JC87535-13.3 | Tharun Murali | Secured Storage | 05/11/19 21:56 | Return to Storage |
| JC87535-13.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-13.3.1 | Tharun Murali | TCLP | 05/09/19 17:00 | Leachate from JC87535-13.3 |
| JC87535-13.3.1 | TCLP | Tharun Murali | 05/12/19 10:07 | Leachate from JC87535-13.3 |
| JC87535-13.3.1 | Tharun Murali | Secured Storage | 05/12/19 10:08 | Return to Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-13.3.1 | Secured Storage | Eddie Huang | 05/13/19 11:02 | Retrieve from Storage |
| JC87535-13.3.1 | Eddie Huang | GCMS2V | 05/13/19 11:02 | Load on Instrument |
| JC87535-13.3.1 | GCMS2V | Eddie Huang | 05/14/19 09:34 | Unload from Instrument |
| JC87535-13.3.1 | Eddie Huang | Secured Storage | 05/14/19 09:34 | Return to Storage |
| JC87535-13.3.1 | Secured Storage | | 07/09/19 09:00 | Disposed |
| JC87535-13.3.2 | Tharun Murali | TCLP | 05/10/19 13:18 | Leachate from JC87535-13.3 |
| JC87535-13.3.2 | TCLP | Tharun Murali | 06/21/19 15:51 | Leachate from JC87535-13.3 |
| JC87535-13.3.2 | Tharun Murali | Secured Storage | 06/21/19 15:58 | Return to Storage |
| JC87535-13.3.2 | Secured Storage | | 07/10/19 09:00 | Disposed |
| JC87535-13.3.3 | Tharun Murali | TCLP | 05/11/19 15:21 | Leachate from JC87535-13.3 |
| JC87535-13.3.3 | TCLP | Tharun Murali | 06/21/19 15:51 | Leachate from JC87535-13.3 |
| JC87535-13.3.3 | Tharun Murali | Secured Storage | 06/21/19 15:58 | Return to Storage |
| JC87535-13.3.3 | Secured Storage | | 07/11/19 09:00 | Disposed |
| JC87535-13.3.4 | TCLP | Tharun Murali | 05/12/19 10:07 | Leachate from JC87535-13.3 |
| JC87535-13.3.4 | Tharun Murali | Secured Storage | 05/12/19 10:08 | Return to Storage |
| JC87535-13.3.4 | Secured Storage | | 07/12/19 09:00 | Disposed |
| JC87535-14.1 | Secured Storage | Dwayne Johnson | 05/10/19 10:42 | Retrieve from Storage |
| JC87535-14.1 | Dwayne Johnson | Secured Staging Area | 05/10/19 10:42 | Return to Storage |
| JC87535-14.1 | Secured Staging Area | Tharun Murali | 05/10/19 13:13 | Retrieve from Storage |
| JC87535-14.1 | Tharun Murali | Secured Storage | 05/10/19 20:13 | Return to Storage |
| JC87535-14.1 | Secured Storage | Sahara Feliciano | 05/12/19 15:39 | Retrieve from Storage |
| JC87535-14.1 | Sahara Feliciano | Secured Staging Area | 05/12/19 15:39 | Return to Storage |
| JC87535-14.1 | Secured Staging Area | Sauvelson Auguste | 05/13/19 07:37 | Retrieve from Storage |
| JC87535-14.1 | Sauvelson Auguste | Secured Storage | 05/13/19 14:05 | Return to Storage |
| JC87535-14.1 | Secured Storage | Matthew Robbins | 05/13/19 15:42 | Retrieve from Storage |
| JC87535-14.1 | Matthew Robbins | Secured Staging Area | 05/13/19 15:42 | Return to Storage |
| JC87535-14.1 | Secured Staging Area | Luis Jimenez | 05/13/19 16:08 | Retrieve from Storage |
| JC87535-14.1 | Luis Jimenez | Secured Storage | 05/13/19 23:36 | Return to Storage |
| JC87535-14.1 | Secured Storage | Todd Shoemaker | 05/16/19 09:52 | Retrieve from Storage |
| JC87535-14.1 | Todd Shoemaker | Secured Staging Area | 05/16/19 09:52 | Return to Storage |
| JC87535-14.1 | Secured Staging Area | Jared O. Onindo | 05/16/19 17:25 | Retrieve from Storage |
| JC87535-14.1 | Jared O. Onindo | Secured Storage | 05/16/19 17:25 | Return to Storage |
| JC87535-14.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-14.1.1 | Tharun Murali | TCLP | 05/10/19 13:18 | Leachate from JC87535-14.1 |
| JC87535-14.1.1 | TCLP | Tharun Murali | 05/11/19 11:39 | Leachate from JC87535-14.1 |
| JC87535-14.1.1 | Tharun Murali | Secured Storage | 05/11/19 11:39 | Return to Storage |
| JC87535-14.1.1 | Secured Storage | Brian Johnson | 05/14/19 04:25 | Retrieve from Storage |
| JC87535-14.1.1 | Brian Johnson | Vikas Parikh | 05/14/19 06:04 | Custody Transfer |
| JC87535-14.1.1 | Vikas Parikh | Huachi Wu | 05/14/19 06:36 | Custody Transfer |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-14.1.1 | Huachi Wu | Secured Storage | 05/14/19 06:40 | Return to Storage |
| JC87535-14.1.1 | Secured Storage | | 07/10/19 09:00 | Disposed |
| JC87535-14.1.2 | TCLP | Tharun Murali | 05/11/19 11:39 | Leachate from JC87535-14.1 |
| JC87535-14.1.2 | Tharun Murali | Secured Storage | 05/11/19 11:39 | Return to Storage |
| JC87535-14.1.2 | Secured Storage | | 07/11/19 09:00 | Disposed |
| JC87535-14.1.3 | Luis Jimenez | Organics Prep | 05/13/19 16:09 | Extract from JC87535-14.1 |
| JC87535-14.1.3 | Organics Prep | Natasha Torres | 05/14/19 09:28 | Extract from JC87535-14.1 |
| JC87535-14.1.3 | Natasha Torres | Extract Storage | 05/14/19 09:28 | Return to Storage |
| JC87535-14.1.3 | Extract Storage | Summer Kotb | 05/14/19 10:39 | Retrieve from Storage |
| JC87535-14.1.3 | Summer Kotb | GCXX | 05/14/19 10:39 | Load on Instrument |
| JC87535-14.1.3 | GCXX | Tianwei Ruan | 07/12/19 11:07 | Unload from Instrument |
| JC87535-14.1.3 | Tianwei Ruan | Extract Freezer | 07/12/19 11:08 | Return to Storage |
| JC87535-14.1.3 | Extract Freezer | | 07/15/19 09:00 | Disposed |
| JC87535-14.1.4 | Brian Johnson | Organics Prep | 05/14/19 04:31 | Extract from JC87535-14.1.1 |
| JC87535-14.1.4 | Organics Prep | Christine Change | 05/14/19 17:04 | Extract from JC87535-14.1.1 |
| JC87535-14.1.4 | Christine Change | Extract Storage | 05/14/19 17:04 | Return to Storage |
| JC87535-14.1.4 | Extract Storage | Angela Rastelli | 05/15/19 09:55 | Retrieve from Storage |
| JC87535-14.1.4 | Angela Rastelli | GCMS6P | 05/15/19 09:55 | Load on Instrument |
| JC87535-14.1.4 | GCMS6P | Angela Rastelli | 05/16/19 10:32 | Unload from Instrument |
| JC87535-14.1.4 | Angela Rastelli | Extract Freezer | 05/16/19 10:32 | Return to Storage |
| JC87535-14.1.4 | Extract Freezer | | 06/24/19 09:00 | Disposed |
| JC87535-14.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-14.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-14.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-14.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-14.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-14.3 | Secured Storage | Dwayne Johnson | 05/09/19 10:19 | Retrieve from Storage |
| JC87535-14.3 | Dwayne Johnson | Secured Staging Area | 05/09/19 10:19 | Return to Storage |
| JC87535-14.3 | Secured Staging Area | Tharun Murali | 05/09/19 17:00 | Retrieve from Storage |
| JC87535-14.3 | Tharun Murali | Secured Storage | 05/09/19 21:55 | Return to Storage |
| JC87535-14.3 | Secured Storage | Dwayne Johnson | 05/10/19 10:42 | Retrieve from Storage |
| JC87535-14.3 | Dwayne Johnson | Secured Staging Area | 05/10/19 10:42 | Return to Storage |
| JC87535-14.3 | Secured Staging Area | Tharun Murali | 05/10/19 13:13 | Retrieve from Storage |
| JC87535-14.3 | Tharun Murali | Secured Storage | 05/10/19 20:13 | Return to Storage |
| JC87535-14.3 | Secured Storage | Sahara Feliciano | 05/11/19 10:17 | Retrieve from Storage |
| JC87535-14.3 | Sahara Feliciano | Secured Staging Area | 05/11/19 10:17 | Return to Storage |
| JC87535-14.3 | Secured Staging Area | Tharun Murali | 05/11/19 15:21 | Retrieve from Storage |
| JC87535-14.3 | Tharun Murali | Secured Storage | 05/11/19 21:56 | Return to Storage |
| JC87535-14.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-14.3.1 | Tharun Murali | TCLP | 05/09/19 17:00 | Leachate from JC87535-14.3 |
| JC87535-14.3.1 | TCLP | Tharun Murali | 05/12/19 10:07 | Leachate from JC87535-14.3 |
| JC87535-14.3.1 | Tharun Murali | Secured Storage | 05/12/19 10:08 | Return to Storage |
| JC87535-14.3.1 | Secured Storage | Eddie Huang | 05/13/19 16:28 | Retrieve from Storage |
| JC87535-14.3.1 | Eddie Huang | GCMS2V | 05/13/19 16:28 | Load on Instrument |
| JC87535-14.3.1 | Eddie Huang | Secured Storage | 05/14/19 09:34 | Return to Storage |
| JC87535-14.3.1 | GCMS2V | Eddie Huang | 05/14/19 09:34 | Unload from Instrument |
| JC87535-14.3.1 | Secured Storage | | 07/09/19 09:00 | Disposed |
| JC87535-14.3.2 | Tharun Murali | TCLP | 05/10/19 13:18 | Leachate from JC87535-14.3 |
| JC87535-14.3.2 | TCLP | Tharun Murali | 06/21/19 15:51 | Leachate from JC87535-14.3 |
| JC87535-14.3.2 | Tharun Murali | Secured Storage | 06/21/19 15:58 | Return to Storage |
| JC87535-14.3.2 | Secured Storage | | 07/10/19 09:00 | Disposed |
| JC87535-14.3.3 | Tharun Murali | TCLP | 05/11/19 15:21 | Leachate from JC87535-14.3 |
| JC87535-14.3.3 | TCLP | Tharun Murali | 06/21/19 15:51 | Leachate from JC87535-14.3 |
| JC87535-14.3.3 | Tharun Murali | Secured Storage | 06/21/19 15:58 | Return to Storage |
| JC87535-14.3.3 | Secured Storage | | 07/11/19 09:00 | Disposed |
| JC87535-14.3.4 | TCLP | Tharun Murali | 05/12/19 10:07 | Leachate from JC87535-14.3 |
| JC87535-14.3.4 | Tharun Murali | Secured Storage | 05/12/19 10:08 | Return to Storage |
| JC87535-14.3.4 | Secured Storage | | 07/12/19 09:00 | Disposed |
| JC87535-15.1 | Secured Storage | Dwayne Johnson | 05/10/19 10:42 | Retrieve from Storage |
| JC87535-15.1 | Dwayne Johnson | Secured Staging Area | 05/10/19 10:42 | Return to Storage |
| JC87535-15.1 | Secured Staging Area | Tharun Murali | 05/10/19 13:13 | Retrieve from Storage |
| JC87535-15.1 | Tharun Murali | Secured Storage | 05/10/19 20:13 | Return to Storage |
| JC87535-15.1 | Secured Storage | Sahara Feliciano | 05/12/19 15:39 | Retrieve from Storage |
| JC87535-15.1 | Sahara Feliciano | Secured Staging Area | 05/12/19 15:39 | Return to Storage |
| JC87535-15.1 | Secured Staging Area | Sauvelson Auguste | 05/13/19 07:37 | Retrieve from Storage |
| JC87535-15.1 | Sauvelson Auguste | Secured Storage | 05/13/19 14:05 | Return to Storage |
| JC87535-15.1 | Secured Storage | Matthew Robbins | 05/13/19 15:42 | Retrieve from Storage |
| JC87535-15.1 | Matthew Robbins | Secured Staging Area | 05/13/19 15:42 | Return to Storage |
| JC87535-15.1 | Secured Staging Area | Luis Jimenez | 05/13/19 16:08 | Retrieve from Storage |
| JC87535-15.1 | Luis Jimenez | Secured Storage | 05/13/19 23:36 | Return to Storage |
| JC87535-15.1 | Secured Storage | Todd Shoemaker | 05/16/19 09:52 | Retrieve from Storage |
| JC87535-15.1 | Todd Shoemaker | Secured Staging Area | 05/16/19 09:52 | Return to Storage |
| JC87535-15.1 | Secured Staging Area | Jared O. Onindo | 05/16/19 17:25 | Retrieve from Storage |
| JC87535-15.1 | Jared O. Onindo | Secured Storage | 05/16/19 17:25 | Return to Storage |
| JC87535-15.1 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-15.1.1 | Tharun Murali | TCLP | 05/10/19 13:18 | Leachate from JC87535-15.1 |
| JC87535-15.1.1 | TCLP | Tharun Murali | 05/11/19 11:39 | Leachate from JC87535-15.1 |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-15.1.1 | Tharun Murali | Secured Storage | 05/11/19 11:39 | Return to Storage |
| JC87535-15.1.1 | Secured Storage | Brian Johnson | 05/14/19 04:25 | Retrieve from Storage |
| JC87535-15.1.1 | Brian Johnson | Vikas Parikh | 05/14/19 06:04 | Custody Transfer |
| JC87535-15.1.1 | Vikas Parikh | Huachi Wu | 05/14/19 06:36 | Custody Transfer |
| JC87535-15.1.1 | Huachi Wu | Secured Storage | 05/14/19 06:40 | Return to Storage |
| JC87535-15.1.1 | Secured Storage | | 07/10/19 09:00 | Disposed |
| JC87535-15.1.2 | TCLP | Tharun Murali | 05/11/19 11:39 | Leachate from JC87535-15.1 |
| JC87535-15.1.2 | Tharun Murali | Secured Storage | 05/11/19 11:39 | Return to Storage |
| JC87535-15.1.2 | Secured Storage | | 07/11/19 09:00 | Disposed |
| JC87535-15.1.3 | Luis Jimenez | Organics Prep | 05/13/19 16:09 | Extract from JC87535-15.1 |
| JC87535-15.1.3 | Organics Prep | Natasha Torres | 05/14/19 09:28 | Extract from JC87535-15.1 |
| JC87535-15.1.3 | Natasha Torres | Extract Storage | 05/14/19 09:28 | Return to Storage |
| JC87535-15.1.3 | Extract Storage | Summer Kotb | 05/14/19 10:39 | Retrieve from Storage |
| JC87535-15.1.3 | Summer Kotb | GCXX | 05/14/19 10:39 | Load on Instrument |
| JC87535-15.1.3 | GCXX | Tianwei Ruan | 07/12/19 11:07 | Unload from Instrument |
| JC87535-15.1.3 | Tianwei Ruan | Extract Freezer | 07/12/19 11:08 | Return to Storage |
| JC87535-15.1.3 | Extract Freezer | | 07/15/19 09:00 | Disposed |
| JC87535-15.1.4 | Brian Johnson | Organics Prep | 05/14/19 04:31 | Extract from JC87535-15.1.1 |
| JC87535-15.1.4 | Organics Prep | Christine Change | 05/14/19 17:04 | Extract from JC87535-15.1.1 |
| JC87535-15.1.4 | Christine Change | Extract Storage | 05/14/19 17:04 | Return to Storage |
| JC87535-15.1.4 | Extract Storage | Angela Rastelli | 05/15/19 09:55 | Retrieve from Storage |
| JC87535-15.1.4 | Angela Rastelli | GCMS6P | 05/15/19 09:55 | Load on Instrument |
| JC87535-15.1.4 | GCMS6P | Angela Rastelli | 05/16/19 10:32 | Unload from Instrument |
| JC87535-15.1.4 | Angela Rastelli | Extract Freezer | 05/16/19 10:32 | Return to Storage |
| JC87535-15.1.4 | Extract Freezer | | 06/24/19 09:00 | Disposed |
| JC87535-15.2 | Secured Storage | Dwayne Johnson | 05/13/19 10:05 | Retrieve from Storage |
| JC87535-15.2 | Dwayne Johnson | Secured Staging Area | 05/13/19 10:05 | Return to Storage |
| JC87535-15.2 | Secured Staging Area | Benjamin Gaines | 05/13/19 10:58 | Retrieve from Storage |
| JC87535-15.2 | Benjamin Gaines | Secured Storage | 05/13/19 15:03 | Return to Storage |
| JC87535-15.2 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-15.3 | Secured Storage | Dwayne Johnson | 05/09/19 10:19 | Retrieve from Storage |
| JC87535-15.3 | Dwayne Johnson | Secured Staging Area | 05/09/19 10:19 | Return to Storage |
| JC87535-15.3 | Secured Staging Area | Tharun Murali | 05/09/19 17:00 | Retrieve from Storage |
| JC87535-15.3 | Tharun Murali | Secured Storage | 05/09/19 21:55 | Return to Storage |
| JC87535-15.3 | Secured Storage | Dwayne Johnson | 05/10/19 10:42 | Retrieve from Storage |
| JC87535-15.3 | Dwayne Johnson | Secured Staging Area | 05/10/19 10:42 | Return to Storage |
| JC87535-15.3 | Secured Staging Area | Tharun Murali | 05/10/19 13:13 | Retrieve from Storage |
| JC87535-15.3 | Tharun Murali | Secured Storage | 05/10/19 20:13 | Return to Storage |
| JC87535-15.3 | Secured Storage | Sahara Feliciano | 05/11/19 10:17 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 05/03/19



| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC87535-15.3 | Sahara Feliciano | Secured Staging Area | 05/11/19 10:17 | Return to Storage |
| JC87535-15.3 | Secured Staging Area | Tharun Murali | 05/11/19 15:21 | Retrieve from Storage |
| JC87535-15.3 | Tharun Murali | Secured Storage | 05/11/19 21:56 | Return to Storage |
| JC87535-15.3 | Dave Hunkele | | 06/21/19 05:19 | Disposed |
| JC87535-15.3.1 | Tharun Murali | TCLP | 05/09/19 17:00 | Leachate from JC87535-15.3 |
| JC87535-15.3.1 | TCLP | Tharun Murali | 05/12/19 10:07 | Leachate from JC87535-15.3 |
| JC87535-15.3.1 | Tharun Murali | Secured Storage | 05/12/19 10:08 | Return to Storage |
| JC87535-15.3.1 | Secured Storage | Eddie Huang | 05/14/19 13:51 | Retrieve from Storage |
| JC87535-15.3.1 | Eddie Huang | GCMS2V | 05/14/19 13:51 | Load on Instrument |
| JC87535-15.3.1 | GCMS2V | Eddie Huang | 05/15/19 08:27 | Unload from Instrument |
| JC87535-15.3.1 | Eddie Huang | Secured Storage | 05/15/19 08:27 | Return to Storage |
| JC87535-15.3.1 | Secured Storage | | 07/09/19 09:00 | Disposed |
| JC87535-15.3.2 | Tharun Murali | TCLP | 05/10/19 13:18 | Leachate from JC87535-15.3 |
| JC87535-15.3.2 | TCLP | Tharun Murali | 06/21/19 15:51 | Leachate from JC87535-15.3 |
| JC87535-15.3.2 | Tharun Murali | Secured Storage | 06/21/19 15:58 | Return to Storage |
| JC87535-15.3.2 | Secured Storage | | 07/10/19 09:00 | Disposed |
| JC87535-15.3.3 | Tharun Murali | TCLP | 05/11/19 15:21 | Leachate from JC87535-15.3 |
| JC87535-15.3.3 | TCLP | Tharun Murali | 06/21/19 15:51 | Leachate from JC87535-15.3 |
| JC87535-15.3.3 | Tharun Murali | Secured Storage | 06/21/19 15:58 | Return to Storage |
| JC87535-15.3.3 | Secured Storage | | 07/11/19 09:00 | Disposed |
| JC87535-15.3.4 | TCLP | Tharun Murali | 05/12/19 10:07 | Leachate from JC87535-15.3 |
| JC87535-15.3.4 | Tharun Murali | Secured Storage | 05/12/19 10:08 | Return to Storage |
| JC87535-15.3.4 | Secured Storage | Eddie Huang | 05/15/19 12:47 | Retrieve from Storage |
| JC87535-15.3.4 | Eddie Huang | GCMS2V | 05/15/19 12:47 | Load on Instrument |
| JC87535-15.3.4 | GCMS2V | Eddie Huang | 05/16/19 10:59 | Unload from Instrument |
| JC87535-15.3.4 | Eddie Huang | Secured Storage | 05/16/19 10:59 | Return to Storage |
| JC87535-15.3.4 | Secured Storage | | 07/12/19 09:00 | Disposed |

## MS Volatiles

6

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VY8033-MB | Y185118.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-1, JC87535-4, JC87535-6, JC87535-8, JC87535-9, JC87535-10, JC87535-12

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 10 | 4.0 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.50 | 0.46 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.0 | 0.56 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.0 | 0.58 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.0 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.7 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.93 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.62 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.46 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.0 | 0.59 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.49 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.0 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.66 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.84 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.56 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.42 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.55 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.50 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.49 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | 0.73 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.50 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.47 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.66 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.84 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.61 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.47 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.48 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.46 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.55 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.0 | 1.0 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.0 | 2.1 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.70 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.0 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.88 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.47 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VY8033-MB | Y185118.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |



**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-1, JC87535-4, JC87535-6, JC87535-8, JC87535-9, JC87535-10, JC87535-12

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.0 | 2.3 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 0.99 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.58 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.60 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.58 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.53 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.0 | 1.9 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.5 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.48 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.55 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.76 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | 0.68 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.48 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.90 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.58 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.58 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 103% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | 75-130% |
| 2037-26-5 | Toluene-D8 | 101% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | 79-127% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Volatile | | 0 | ug/kg | |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2V2399-MB | 2V58523.D | 1 | 05/13/19 | EH | n/a | n/a | V2V2399 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-13, JC87535-14

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 0.50 | 0.43 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 6.9 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 1.0 | 0.55 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 1.0 | 0.56 | ug/l | |
| 67-66-3 | Chloroform | ND | 1.0 | 0.50 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.51 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.60 | ug/l | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.59 | ug/l | |
| 127-18-4 | Tetrachloroethene | ND | 1.0 | 0.90 | ug/l | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.53 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | 0.79 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 93% | 64-135% |
| 2037-26-5 | Toluene-D8 | 100% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | 72-122% |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7218-MB | 1C164494.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-2, JC87535-5

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 10 | 4.0 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.50 | 0.46 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.0 | 0.56 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.0 | 0.58 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.0 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.7 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.93 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.62 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.46 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.0 | 0.59 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.49 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.0 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.66 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.84 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.56 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.42 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.55 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.50 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.49 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | 0.73 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.50 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.47 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.66 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.84 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.61 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.47 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.48 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.46 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.55 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.0 | 1.0 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.0 | 2.1 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.70 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.0 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.88 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.47 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7218-MB | 1C164494.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-2, JC87535-5

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.0 | 2.3 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 0.99 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.58 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.60 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.58 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.53 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.0 | 1.9 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.5 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.48 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.55 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.76 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | 0.68 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.48 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.90 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.58 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.58 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 81% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | 79-127% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Volatile | | 0 | ug/kg | |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7520-MB | 2C167644.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-7, JC87535-11

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 500 | 200 | ug/kg | |
| 71-43-2 | Benzene | ND | 25 | 23 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 250 | 28 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 100 | 22 | ug/kg | |
| 75-25-2 | Bromoform | ND | 250 | 29 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 250 | 50 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 500 | 190 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 100 | 46 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 100 | 31 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 100 | 23 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 250 | 30 | ug/kg | |
| 67-66-3 | Chloroform | ND | 100 | 24 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 250 | 98 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 100 | 33 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 100 | 42 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 100 | 28 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 50 | 21 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 50 | 27 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 50 | 25 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 50 | 25 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 250 | 36 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 50 | 25 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 50 | 24 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 50 | 33 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 50 | 42 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 50 | 31 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 100 | 24 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 100 | 24 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 100 | 23 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 50 | 28 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 250 | 51 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 250 | 110 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 100 | 35 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 250 | 70 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 100 | 44 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 50 | 23 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7520-MB | 2C167644.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-7, JC87535-11

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 250 | 110 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 250 | 50 | ug/kg | |
| 100-42-5 | Styrene | ND | 100 | 29 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 100 | 30 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 100 | 29 | ug/kg | |
| 108-88-3 | Toluene | ND | 50 | 26 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 250 | 97 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 250 | 77 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 100 | 24 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 100 | 28 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 50 | 38 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 250 | 34 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 100 | 24 | ug/kg | |
| | m,p-Xylene | ND | 50 | 45 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 50 | 29 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 50 | 29 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | 75-130% |
| 2037-26-5 | Toluene-D8 | 97% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | 79-127% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 18.03 | 660 | ug/kg | J |
| | Total TIC, Volatile | | 0 | ug/kg | |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2V2402-MB | 2V58591.D | 1 | 05/15/19 | EH | n/a | n/a | V2V2402 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-15

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 0.50 | 0.43 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 6.9 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 1.0 | 0.55 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 1.0 | 0.56 | ug/l | |
| 67-66-3 | Chloroform | ND | 1.0 | 0.50 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.51 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.60 | ug/l | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.59 | ug/l | |
| 127-18-4 | Tetrachloroethene | ND | 1.0 | 0.90 | ug/l | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.53 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | 0.79 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 95% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | 72-122% |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7521-MB | 2C167679.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-3

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 500 | 200 | ug/kg | |
| 71-43-2 | Benzene | ND | 25 | 23 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 250 | 28 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 100 | 22 | ug/kg | |
| 75-25-2 | Bromoform | ND | 250 | 29 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 250 | 50 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 500 | 190 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 100 | 46 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 100 | 31 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 100 | 23 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 250 | 30 | ug/kg | |
| 67-66-3 | Chloroform | ND | 100 | 24 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 250 | 98 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 100 | 33 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 100 | 42 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 100 | 28 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 50 | 21 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 50 | 27 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 50 | 25 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 50 | 25 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 250 | 36 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 50 | 25 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 50 | 24 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 50 | 33 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 50 | 42 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 50 | 31 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 100 | 24 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 100 | 24 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 100 | 23 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 50 | 28 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 250 | 51 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 250 | 110 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 100 | 35 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 250 | 70 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 100 | 44 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 50 | 23 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7521-MB | 2C167679.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-3

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 250 | 110 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 250 | 50 | ug/kg | |
| 100-42-5 | Styrene | ND | 100 | 29 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 100 | 30 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 100 | 29 | ug/kg | |
| 108-88-3 | Toluene | ND | 50 | 26 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 250 | 97 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 250 | 77 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 100 | 24 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 100 | 28 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 50 | 38 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 250 | 34 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 100 | 24 | ug/kg | |
| | m,p-Xylene | ND | 50 | 45 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 50 | 29 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 50 | 29 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97% | 75-130% |
| 2037-26-5 | Toluene-D8 | 97% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 79-127% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Volatile | | 0 | ug/kg | |

# Leachate Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| GP21185-22LB | 2V58525.D | 5 | 05/13/19 | EH | 05/11/19 | GP21185 | V2V2399 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 2.5 | 2.1 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | 50 | 34 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 5.0 | 2.8 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 5.0 | 2.8 | ug/l | |
| 67-66-3 | Chloroform | ND | 5.0 | 2.5 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 5.0 | 2.5 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.0 | 3.0 | ug/l | |
| 75-35-4 | 1,1-Dichloroethene | ND | 5.0 | 3.0 | ug/l | |
| 127-18-4 | Tetrachloroethene | ND | 5.0 | 4.5 | ug/l | |
| 79-01-6 | Trichloroethene | ND | 5.0 | 2.6 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 5.0 | 3.9 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 64-135% |
| 2037-26-5 | Toluene-D8 | 99% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | 72-122% |

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VY8033-BS | Y185116.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-1, JC87535-4, JC87535-6, JC87535-8, JC87535-9, JC87535-10, JC87535-12

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 200 | 186 | 93 | 48-149 |
| 71-43-2 | Benzene | 50 | 50.4 | 101 | 74-117 |
| 74-97-5 | Bromochloromethane | 50 | 50.7 | 101 | 82-121 |
| 75-27-4 | Bromodichloromethane | 50 | 48.6 | 97 | 78-119 |
| 75-25-2 | Bromoform | 50 | 54.0 | 108 | 76-130 |
| 74-83-9 | Bromomethane | 50 | 43.9 | 88 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 207 | 104 | 65-143 |
| 75-15-0 | Carbon disulfide | 50 | 52.8 | 106 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 50 | 50.5 | 101 | 69-136 |
| 108-90-7 | Chlorobenzene | 50 | 49.7 | 99 | 79-117 |
| 75-00-3 | Chloroethane | 50 | 52.2 | 104 | 62-139 |
| 67-66-3 | Chloroform | 50 | 45.8 | 92 | 76-119 |
| 74-87-3 | Chloromethane | 50 | 37.0 | 74 | 52-144 |
| 110-82-7 | Cyclohexane | 50 | 45.8 | 92 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 50 | 53.0 | 106 | 72-124 |
| 124-48-1 | Dibromochloromethane | 50 | 53.0 | 106 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 50 | 43.2 | 86 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 50 | 50.5 | 101 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 52.0 | 104 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 50.9 | 102 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 50 | 36.6 | 73 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 50 | 48.9 | 98 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 44.7 | 89 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 53.9 | 108 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 50 | 48.9 | 98 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 50 | 48.4 | 97 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 50 | 51.1 | 102 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 50 | 51.0 | 102 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 50 | 49.5 | 99 | 78-119 |
| 100-41-4 | Ethylbenzene | 50 | 50.9 | 102 | 75-118 |
| 76-13-1 | Freon 113 | 50 | 58.4 | 117 | 60-181 |
| 591-78-6 | 2-Hexanone | 200 | 209 | 105 | 63-138 |
| 98-82-8 | Isopropylbenzene | 50 | 52.0 | 104 | 74-122 |
| 79-20-9 | Methyl Acetate | 50 | 46.6 | 93 | 61-140 |
| 108-87-2 | Methylcyclohexane | 50 | 56.6 | 113 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 50 | 45.8 | 92 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VY8033-BS | Y185116.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |



**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-1, JC87535-4, JC87535-6, JC87535-8, JC87535-9, JC87535-10, JC87535-12

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 200 | 199 | 100 | 73-136 |
| 75-09-2 | Methylene chloride | 50 | 48.3 | 97 | 73-120 |
| 100-42-5 | Styrene | 50 | 52.7 | 105 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50 | 51.9 | 104 | 72-120 |
| 127-18-4 | Tetrachloroethene | 50 | 54.7 | 109 | 69-128 |
| 108-88-3 | Toluene | 50 | 50.6 | 101 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50 | 55.9 | 112 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 54.4 | 109 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 50 | 49.6 | 99 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 50 | 49.3 | 99 | 79-117 |
| 79-01-6 | Trichloroethene | 50 | 54.7 | 109 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 50 | 50.3 | 101 | 63-141 |
| 75-01-4 | Vinyl chloride | 50 | 41.0 | 82 | 55-145 |
| | m,p-Xylene | 100 | 104 | 104 | 75-120 |
| 95-47-6 | o-Xylene | 50 | 50.9 | 102 | 75-119 |
| 1330-20-7 | Xylene (total) | 150 | 155 | 103 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 92% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 79-127% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2V2399-BS | 2V58521.D | 1 | 05/13/19 | EH | n/a | n/a | V2V2399 |



**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-13, JC87535-14

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 50 | 57.1 | 114 | 75-122 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 227 | 114 | 64-130 |
| 56-23-5 | Carbon tetrachloride | 50 | 60.6 | 121 | 75-148 |
| 108-90-7 | Chlorobenzene | 50 | 58.2 | 116 | 76-124 |
| 67-66-3 | Chloroform | 50 | 54.0 | 108 | 77-124 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 56.1 | 112 | 71-123 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 52.5 | 105 | 66-150 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 54.7 | 109 | 61-132 |
| 127-18-4 | Tetrachloroethene | 50 | 58.1 | 116 | 70-136 |
| 79-01-6 | Trichloroethene | 50 | 58.5 | 117 | 79-126 |
| 75-01-4 | Vinyl chloride | 50 | 57.2 | 114 | 56-146 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 93% | 72-122% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7218-BS | 1C164492.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-2, JC87535-5

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 200 | 182 | 91 | 48-149 |
| 71-43-2 | Benzene | 50 | 45.8 | 92 | 74-117 |
| 74-97-5 | Bromochloromethane | 50 | 52.8 | 106 | 82-121 |
| 75-27-4 | Bromodichloromethane | 50 | 45.7 | 91 | 78-119 |
| 75-25-2 | Bromoform | 50 | 54.9 | 110 | 76-130 |
| 74-83-9 | Bromomethane | 50 | 44.8 | 90 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 211 | 106 | 65-143 |
| 75-15-0 | Carbon disulfide | 50 | 48.2 | 96 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 50 | 48.1 | 96 | 69-136 |
| 108-90-7 | Chlorobenzene | 50 | 48.0 | 96 | 79-117 |
| 75-00-3 | Chloroethane | 50 | 47.0 | 94 | 62-139 |
| 67-66-3 | Chloroform | 50 | 43.8 | 88 | 76-119 |
| 74-87-3 | Chloromethane | 50 | 42.5 | 85 | 52-144 |
| 110-82-7 | Cyclohexane | 50 | 44.9 | 90 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 50 | 43.6 | 87 | 72-124 |
| 124-48-1 | Dibromochloromethane | 50 | 51.1 | 102 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 50 | 43.2 | 86 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 50 | 48.7 | 97 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 47.7 | 95 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 47.5 | 95 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 50 | 40.6 | 81 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 50 | 45.5 | 91 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 39.5 | 79 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 50.6 | 101 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 50 | 48.8 | 98 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 50 | 48.5 | 97 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 50 | 45.5 | 91 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 50 | 46.6 | 93 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 50 | 46.2 | 92 | 78-119 |
| 100-41-4 | Ethylbenzene | 50 | 44.7 | 89 | 75-118 |
| 76-13-1 | Freon 113 | 50 | 54.7 | 109 | 60-181 |
| 591-78-6 | 2-Hexanone | 200 | 189 | 95 | 63-138 |
| 98-82-8 | Isopropylbenzene | 50 | 45.9 | 92 | 74-122 |
| 79-20-9 | Methyl Acetate | 50 | 45.9 | 92 | 61-140 |
| 108-87-2 | Methylcyclohexane | 50 | 48.0 | 96 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 50 | 47.1 | 94 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7218-BS | 1C164492.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |



**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-2, JC87535-5

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 200 | 184 | 92 | 73-136 |
| 75-09-2 | Methylene chloride | 50 | 49.3 | 99 | 73-120 |
| 100-42-5 | Styrene | 50 | 47.2 | 94 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50 | 49.0 | 98 | 72-120 |
| 127-18-4 | Tetrachloroethene | 50 | 53.2 | 106 | 69-128 |
| 108-88-3 | Toluene | 50 | 46.6 | 93 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50 | 47.6 | 95 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 49.6 | 99 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 50 | 47.2 | 94 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 50 | 49.5 | 99 | 79-117 |
| 79-01-6 | Trichloroethene | 50 | 52.3 | 105 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 50 | 46.5 | 93 | 63-141 |
| 75-01-4 | Vinyl chloride | 50 | 45.0 | 90 | 55-145 |
| | m,p-Xylene | 100 | 93.5 | 94 | 75-120 |
| 95-47-6 | o-Xylene | 50 | 47.3 | 95 | 75-119 |
| 1330-20-7 | Xylene (total) | 150 | 141 | 94 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 100% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 84% | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 92% | 79-127% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7520-BS | 2C167642.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-7, JC87535-11

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 10000 | 9430 | 94 | 48-149 |
| 71-43-2 | Benzene | 2500 | 2400 | 96 | 74-117 |
| 74-97-5 | Bromochloromethane | 2500 | 2490 | 100 | 82-121 |
| 75-27-4 | Bromodichloromethane | 2500 | 2540 | 102 | 78-119 |
| 75-25-2 | Bromoform | 2500 | 3030 | 121 | 76-130 |
| 74-83-9 | Bromomethane | 2500 | 1870 | 75 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 10000 | 9380 | 94 | 65-143 |
| 75-15-0 | Carbon disulfide | 2500 | 2350 | 94 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 2500 | 2560 | 102 | 69-136 |
| 108-90-7 | Chlorobenzene | 2500 | 2430 | 97 | 79-117 |
| 75-00-3 | Chloroethane | 2500 | 1930 | 77 | 62-139 |
| 67-66-3 | Chloroform | 2500 | 2290 | 92 | 76-119 |
| 74-87-3 | Chloromethane | 2500 | 1810 | 72 | 52-144 |
| 110-82-7 | Cyclohexane | 2500 | 2260 | 90 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2500 | 2530 | 101 | 72-124 |
| 124-48-1 | Dibromochloromethane | 2500 | 2800 | 112 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 2500 | 2260 | 90 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 2500 | 2390 | 96 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 2500 | 2430 | 97 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 2500 | 2410 | 96 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 2500 | 2020 | 81 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 2500 | 2350 | 94 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 2500 | 2230 | 89 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 2500 | 2300 | 92 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 2500 | 2320 | 93 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 2500 | 2420 | 97 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 2500 | 2220 | 89 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 2500 | 2380 | 95 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 2500 | 2540 | 102 | 78-119 |
| 100-41-4 | Ethylbenzene | 2500 | 2310 | 92 | 75-118 |
| 76-13-1 | Freon 113 | 2500 | 2080 | 83 | 60-181 |
| 591-78-6 | 2-Hexanone | 10000 | 9310 | 93 | 63-138 |
| 98-82-8 | Isopropylbenzene | 2500 | 2330 | 93 | 74-122 |
| 79-20-9 | Methyl Acetate | 2500 | 2040 | 82 | 61-140 |
| 108-87-2 | Methylcyclohexane | 2500 | 2290 | 92 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 2500 | 2170 | 87 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7520-BS | 2C167642.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-7, JC87535-11

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 10000 | 9110 | 91 | 73-136 |
| 75-09-2 | Methylene chloride | 2500 | 2300 | 92 | 73-120 |
| 100-42-5 | Styrene | 2500 | 2360 | 94 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2500 | 2620 | 105 | 72-120 |
| 127-18-4 | Tetrachloroethene | 2500 | 2370 | 95 | 69-128 |
| 108-88-3 | Toluene | 2500 | 2440 | 98 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2500 | 2440 | 98 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2500 | 2480 | 99 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 2500 | 2350 | 94 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 2500 | 2430 | 97 | 79-117 |
| 79-01-6 | Trichloroethene | 2500 | 2450 | 98 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 2500 | 2150 | 86 | 63-141 |
| 75-01-4 | Vinyl chloride | 2500 | 1950 | 78 | 55-145 |
| | m,p-Xylene | 5000 | 4720 | 94 | 75-120 |
| 95-47-6 | o-Xylene | 2500 | 2320 | 93 | 75-119 |
| 1330-20-7 | Xylene (total) | 7500 | 7040 | 94 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 93% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 105% | 79-127% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2V2402-BS | 2V58589.D | 1 | 05/15/19 | EH | n/a | n/a | V2V2402 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-15

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 50 | 53.4 | 107 | 75-122 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 232 | 116 | 64-130 |
| 56-23-5 | Carbon tetrachloride | 50 | 52.7 | 105 | 75-148 |
| 108-90-7 | Chlorobenzene | 50 | 54.3 | 109 | 76-124 |
| 67-66-3 | Chloroform | 50 | 50.4 | 101 | 77-124 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 52.6 | 105 | 71-123 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 50.2 | 100 | 66-150 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 49.3 | 99 | 61-132 |
| 127-18-4 | Tetrachloroethene | 50 | 51.0 | 102 | 70-136 |
| 79-01-6 | Trichloroethene | 50 | 53.1 | 106 | 79-126 |
| 75-01-4 | Vinyl chloride | 50 | 50.4 | 101 | 56-146 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 93% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | 72-122% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7521-BS | 2C167677.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-3

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 10000 | 8880 | 89 | 48-149 |
| 71-43-2 | Benzene | 2500 | 2330 | 93 | 74-117 |
| 74-97-5 | Bromochloromethane | 2500 | 2460 | 98 | 82-121 |
| 75-27-4 | Bromodichloromethane | 2500 | 2480 | 99 | 78-119 |
| 75-25-2 | Bromoform | 2500 | 2960 | 118 | 76-130 |
| 74-83-9 | Bromomethane | 2500 | 1970 | 79 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 10000 | 9090 | 91 | 65-143 |
| 75-15-0 | Carbon disulfide | 2500 | 2340 | 94 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 2500 | 2540 | 102 | 69-136 |
| 108-90-7 | Chlorobenzene | 2500 | 2350 | 94 | 79-117 |
| 75-00-3 | Chloroethane | 2500 | 2030 | 81 | 62-139 |
| 67-66-3 | Chloroform | 2500 | 2250 | 90 | 76-119 |
| 74-87-3 | Chloromethane | 2500 | 1860 | 74 | 52-144 |
| 110-82-7 | Cyclohexane | 2500 | 2360 | 94 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2500 | 2470 | 99 | 72-124 |
| 124-48-1 | Dibromochloromethane | 2500 | 2750 | 110 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 2500 | 2210 | 88 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 2500 | 2320 | 93 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 2500 | 2350 | 94 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 2500 | 2360 | 94 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 2500 | 2080 | 83 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 2500 | 2310 | 92 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 2500 | 2180 | 87 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 2500 | 2330 | 93 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 2500 | 2310 | 92 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 2500 | 2440 | 98 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 2500 | 2160 | 86 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 2500 | 2310 | 92 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 2500 | 2490 | 100 | 78-119 |
| 100-41-4 | Ethylbenzene | 2500 | 2230 | 89 | 75-118 |
| 76-13-1 | Freon 113 | 2500 | 2060 | 82 | 60-181 |
| 591-78-6 | 2-Hexanone | 10000 | 8870 | 89 | 63-138 |
| 98-82-8 | Isopropylbenzene | 2500 | 2250 | 90 | 74-122 |
| 79-20-9 | Methyl Acetate | 2500 | 2000 | 80 | 61-140 |
| 108-87-2 | Methylcyclohexane | 2500 | 2190 | 88 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 2500 | 2090 | 84 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V2C7521-BS | 2C167677.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-3

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 10000 | 8760 | 88 | 73-136 |
| 75-09-2 | Methylene chloride | 2500 | 2330 | 93 | 73-120 |
| 100-42-5 | Styrene | 2500 | 2290 | 92 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2500 | 2550 | 102 | 72-120 |
| 127-18-4 | Tetrachloroethene | 2500 | 2310 | 92 | 69-128 |
| 108-88-3 | Toluene | 2500 | 2360 | 94 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2500 | 2390 | 96 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2500 | 2450 | 98 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 2500 | 2320 | 93 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 2500 | 2370 | 95 | 79-117 |
| 79-01-6 | Trichloroethene | 2500 | 2350 | 94 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 2500 | 2290 | 92 | 63-141 |
| 75-01-4 | Vinyl chloride | 2500 | 2020 | 81 | 55-145 |
| | m,p-Xylene | 5000 | 4550 | 91 | 75-120 |
| 95-47-6 | o-Xylene | 2500 | 2230 | 89 | 75-119 |
| 1330-20-7 | Xylene (total) | 7500 | 6780 | 90 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 93% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | 79-127% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87535-8MS | Y185128.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |
| JC87535-8MSD | Y185129.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |
| JC87535-8 | Y185119.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-1, JC87535-4, JC87535-6, JC87535-8, JC87535-9, JC87535-10, JC87535-12

| CAS No. | Compound | JC87535-8 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 57.0 | | 202 | 138 | 40 | 245 | 164 | 44 | 17 | 10-157/31 |
| 71-43-2 | Benzene | 10.2 | | 50.5 | 52.4 | 84 | 61.2 | 54.1 | 72 | 3 | 58-125/22 |
| 74-97-5 | Bromochloromethane | ND | | 50.5 | 41.6 | 82 | 61.2 | 50.2 | 82 | 19 | 60-127/22 |
| 75-27-4 | Bromodichloromethane | ND | | 50.5 | 38.6 | 76 | 61.2 | 45.3 | 74 | 16 | 57-128/22 |
| 75-25-2 | Bromoform | ND | | 50.5 | 37.0 | 73 | 61.2 | 41.3 | 68 | 11 | 48-133/21 |
| 74-83-9 | Bromomethane | ND | | 50.5 | 34.1 | 68 | 61.2 | 42.0 | 69 | 21 | 31-141/28 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 202 | 168 | 83 | 245 | 185 | 76 | 10 | 29-146/27 |
| 75-15-0 | Carbon disulfide | 2.3 | J | 50.5 | 34.1 | 63 | 61.2 | 42.4 | 66 | 22 | 47-145/24 |
| 56-23-5 | Carbon tetrachloride | ND | | 50.5 | 36.3 | 72 | 61.2 | 40.8 | 67 | 12 | 51-143/25 |
| 108-90-7 | Chlorobenzene | ND | | 50.5 | 39.4 | 78 | 61.2 | 44.9 | 73 | 13 | 54-130/22 |
| 75-00-3 | Chloroethane | ND | | 50.5 | 45.5 | 90 | 61.2 | 56.0 | 92 | 21 | 22-153/32 |
| 67-66-3 | Chloroform | ND | | 50.5 | 38.4 | 76 | 61.2 | 45.9 | 75 | 18 | 61-125/22 |
| 74-87-3 | Chloromethane | ND | | 50.5 | 37.0 | 73 | 61.2 | 46.9 | 77 | 24 | 43-142/27 |
| 110-82-7 | Cyclohexane | ND | | 50.5 | 35.7 | 71 | 61.2 | 41.9 | 69 | 16 | 37-148/26 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 50.5 | 40.2 | 80 | 61.2 | 42.1 | 69 | 5 | 41-127/23 |
| 124-48-1 | Dibromochloromethane | ND | | 50.5 | 42.1 | 83 | 61.2 | 47.7 | 78 | 12 | 56-127/21 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 50.5 | 35.0 | 69 | 61.2 | 39.7 | 65 | 13 | 54-121/21 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 50.5 | 32.1 | 64 | 61.2 | 34.3 | 56 | 7 | 41-134/22 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 50.5 | 33.1 | 66 | 61.2 | 35.9 | 59 | 8 | 41-135/22 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 50.5 | 32.3 | 64 | 61.2 | 34.3 | 56 | 6 | 41-133/22 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 50.5 | 33.1 | 66 | 61.2 | 39.8 | 65 | 18 | 30-153/29 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 50.5 | 41.7 | 83 | 61.2 | 50.1 | 82 | 18 | 61-131/23 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 50.5 | 34.5 | 68 | 61.2 | 40.1 | 66 | 15 | 56-126/21 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 50.5 | 43.5 | 86 | 61.2 | 51.2 | 84 | 16 | 53-132/23 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 50.5 | 41.1 | 81 | 61.2 | 50.1 | 82 | 20 | 57-125/22 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 50.5 | 37.3 | 74 | 61.2 | 46.1 | 75 | 21 | 56-130/23 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 50.5 | 42.8 | 85 | 61.2 | 50.1 | 82 | 16 | 63-126/22 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 50.5 | 34.6 | 69 | 61.2 | 39.7 | 65 | 14 | 55-126/21 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 50.5 | 34.5 | 68 | 61.2 | 39.9 | 65 | 15 | 51-126/21 |
| 100-41-4 | Ethylbenzene | ND | | 50.5 | 39.2 | 78 | 61.2 | 44.6 | 73 | 13 | 49-132/23 |
| 76-13-1 | Freon 113 | ND | | 50.5 | 41.7 | 83 | 61.2 | 49.1 | 80 | 16 | 42-179/25 |
| 591-78-6 | 2-Hexanone | ND | | 202 | 174 | 86 | 245 | 192 | 78 | 10 | 25-150/25 |
| 98-82-8 | Isopropylbenzene | ND | | 50.5 | 34.5 | 68 | 61.2 | 39.6 | 65 | 14 | 43-141/25 |
| 79-20-9 | Methyl Acetate | ND | | 50.5 | 40.3 | 80 | 61.2 | 46.3 | 76 | 14 | 32-158/26 |
| 108-87-2 | Methylcyclohexane | ND | | 50.5 | 27.7 | 55 | 61.2 | 32.8 | 54 | 17 | 22-158/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 50.5 | 40.8 | 81 | 61.2 | 46.6 | 76 | 13 | 58-123/23 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87535-8MS | Y185128.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |
| JC87535-8MSD | Y185129.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |
| JC87535-8 | Y185119.D | 1 | 05/11/19 | PS | n/a | n/a | VY8033 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-1, JC87535-4, JC87535-6, JC87535-8, JC87535-9, JC87535-10, JC87535-12

| CAS No. | Compound | JC87535-8 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 202 | 169 | 84 | 245 | 189 | 77 | 11 | 40-140/24 |
| 75-09-2 | Methylene chloride | ND | | 50.5 | 40.8 | 81 | 61.2 | 48.8 | 80 | 18 | 57-123/23 |
| 100-42-5 | Styrene | ND | | 50.5 | 37.3 | 74 | 61.2 | 40.6 | 66 | 8 | 46-139/22 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 50.5 | 40.1 | 79 | 61.2 | 43.5 | 71 | 8 | 44-127/26 |
| 127-18-4 | Tetrachloroethene | ND | | 50.5 | 40.5 | 80 | 61.2 | 48.2 | 79 | 17 | 39-154/26 |
| 108-88-3 | Toluene | 0.68 | J | 50.5 | 43.7 | 85 | 61.2 | 50.1 | 81 | 14 | 54-127/22 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 50.5 | 22.2 | 44 | 61.2 | 22.6 | 37 | 2 | 17-151/32 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 50.5 | 22.6 | 45 | 61.2 | 22.9 | 37 | 1 | 19-153/32 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 50.5 | 39.1 | 77 | 61.2 | 46.3 | 76 | 17 | 57-138/24 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 50.5 | 41.3 | 82 | 61.2 | 48.0 | 78 | 15 | 53-127/22 |
| 79-01-6 | Trichloroethene | ND | | 50.5 | 44.1 | 87 | 61.2 | 51.8 | 85 | 16 | 52-140/24 |
| 75-69-4 | Trichlorofluoromethane | ND | | 50.5 | 40.2 | 80 | 61.2 | 47.9 | 78 | 17 | 46-142/27 |
| 75-01-4 | Vinyl chloride | ND | | 50.5 | 35.7 | 71 | 61.2 | 45.7 | 75 | 25 | 43-146/26 |
| | m,p-Xylene | ND | | 101 | 79.4 | 79 | 122 | 88.1 | 72 | 10 | 45-137/23 |
| 95-47-6 | o-Xylene | ND | | 50.5 | 38.0 | 75 | 61.2 | 43.0 | 70 | 12 | 48-135/22 |
| 1330-20-7 | Xylene (total) | ND | | 151 | 117 | 77 | 183 | 131 | 71 | 11 | 46-137/23 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87535-8 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 94% | 92% | 104% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 81% | 80% | 96% | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | 103% | 97% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | 95% | 97% | 79-127% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87535-13MS | 2V58532.D | 5 | 05/13/19 | EH | n/a | n/a | V2V2399 |
| JC87535-13MSD | 2V58533.D | 5 | 05/13/19 | EH | n/a | n/a | V2V2399 |
| JC87535-13 | 2V58530.D | 5 | 05/13/19 | EH | 05/11/19 | GP21185 | V2V2399 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-13, JC87535-14

| CAS No. | Compound | JC87535-13 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 10.4 | | 250 | 280 | 108 | 250 | 278 | 107 | 1 | 38-139/13 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 1000 | 1170 | 117 | 1000 | 1160 | 116 | 1 | 58-140/14 |
| 56-23-5 | Carbon tetrachloride | ND | | 250 | 298 | 119 | 250 | 293 | 117 | 2 | 50-161/18 |
| 108-90-7 | Chlorobenzene | ND | | 250 | 272 | 109 | 250 | 274 | 110 | 1 | 65-128/12 |
| 67-66-3 | Chloroform | ND | | 250 | 266 | 106 | 250 | 263 | 105 | 1 | 66-132/14 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 250 | 264 | 106 | 250 | 268 | 107 | 2 | 63-126/13 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 250 | 249 | 100 | 250 | 251 | 100 | 1 | 59-153/15 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 250 | 284 | 114 | 250 | 282 | 113 | 1 | 41-144/17 |
| 127-18-4 | Tetrachloroethene | ND | | 250 | 272 | 109 | 250 | 269 | 108 | 1 | 48-145/15 |
| 79-01-6 | Trichloroethene | ND | | 250 | 273 | 109 | 250 | 276 | 110 | 1 | 53-141/15 |
| 75-01-4 | Vinyl chloride | ND | | 250 | 264 | 106 | 250 | 278 | 111 | 5 | 34-151/20 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87535-13 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 99% | 102% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | 96% | 97% | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | 97% | 98% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 93% | 93% | 98% | 72-122% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87563-7MS | 1C164505.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |
| JC87563-7MSD | 1C164506.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |
| JC87563-7 | 1C164496.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-2, JC87535-5

| CAS No. | Compound | JC87563-7 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | 195 | 127 | 65 | 206 | 133 | 65 | 5 | 10-157/31 |
| 71-43-2 | Benzene | ND | | 48.9 | 44.6 | 91 | 51.5 | 46.7 | 91 | 5 | 58-125/22 |
| 74-97-5 | Bromochloromethane | ND | | 48.9 | 51.4 | 105 | 51.5 | 52.7 | 102 | 2 | 60-127/22 |
| 75-27-4 | Bromodichloromethane | ND | | 48.9 | 44.9 | 92 | 51.5 | 46.9 | 91 | 4 | 57-128/22 |
| 75-25-2 | Bromoform | ND | | 48.9 | 47.3 | 97 | 51.5 | 50.3 | 98 | 6 | 48-133/21 |
| 74-83-9 | Bromomethane | ND | | 48.9 | 46.4 | 95 | 51.5 | 50.1 | 97 | 8 | 31-141/28 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 195 | 167 | 85 | 206 | 174 | 84 | 4 | 29-146/27 |
| 75-15-0 | Carbon disulfide | ND | | 48.9 | 43.7 | 89 | 51.5 | 45.4 | 88 | 4 | 47-145/24 |
| 56-23-5 | Carbon tetrachloride | ND | | 48.9 | 48.1 | 98 | 51.5 | 49.6 | 96 | 3 | 51-143/25 |
| 108-90-7 | Chlorobenzene | ND | | 48.9 | 43.2 | 88 | 51.5 | 45.1 | 88 | 4 | 54-130/22 |
| 75-00-3 | Chloroethane | ND | | 48.9 | 47.8 | 98 | 51.5 | 50.8 | 99 | 6 | 22-153/32 |
| 67-66-3 | Chloroform | ND | | 48.9 | 45.1 | 92 | 51.5 | 46.6 | 90 | 3 | 61-125/22 |
| 74-87-3 | Chloromethane | ND | | 48.9 | 41.8 | 86 | 51.5 | 49.1 | 95 | 16 | 43-142/27 |
| 110-82-7 | Cyclohexane | ND | | 48.9 | 42.6 | 87 | 51.5 | 43.5 | 84 | 2 | 37-148/26 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 48.9 | 35.2 | 72 | 51.5 | 38.0 | 74 | 8 | 41-127/23 |
| 124-48-1 | Dibromochloromethane | ND | | 48.9 | 47.5 | 97 | 51.5 | 49.6 | 96 | 4 | 56-127/21 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 48.9 | 38.2 | 78 | 51.5 | 40.8 | 79 | 7 | 54-121/21 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 48.9 | 39.9 | 82 | 51.5 | 41.2 | 80 | 3 | 41-134/22 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 48.9 | 39.0 | 80 | 51.5 | 39.4 | 76 | 1 | 41-135/22 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 48.9 | 38.4 | 79 | 51.5 | 39.4 | 76 | 3 | 41-133/22 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 48.9 | 43.6 | 89 | 51.5 | 45.0 | 87 | 3 | 30-153/29 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 48.9 | 45.2 | 92 | 51.5 | 47.4 | 92 | 5 | 61-131/23 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 48.9 | 38.5 | 79 | 51.5 | 40.7 | 79 | 6 | 56-126/21 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 48.9 | 48.6 | 99 | 51.5 | 51.0 | 99 | 5 | 53-132/23 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 48.9 | 48.9 | 100 | 51.5 | 50.1 | 97 | 2 | 57-125/22 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 48.9 | 48.1 | 98 | 51.5 | 49.8 | 97 | 3 | 56-130/23 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 48.9 | 44.1 | 90 | 51.5 | 46.0 | 89 | 4 | 63-126/22 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 48.9 | 42.5 | 87 | 51.5 | 44.0 | 85 | 3 | 55-126/21 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 48.9 | 41.4 | 85 | 51.5 | 43.1 | 84 | 4 | 51-126/21 |
| 100-41-4 | Ethylbenzene | ND | | 48.9 | 40.2 | 82 | 51.5 | 41.5 | 81 | 3 | 49-132/23 |
| 76-13-1 | Freon 113 | ND | | 48.9 | 48.0 | 98 | 51.5 | 48.4 | 94 | 1 | 42-179/25 |
| 591-78-6 | 2-Hexanone | ND | | 195 | 143 | 73 | 206 | 154 | 75 | 7 | 25-150/25 |
| 98-82-8 | Isopropylbenzene | ND | | 48.9 | 40.0 | 82 | 51.5 | 40.8 | 79 | 2 | 43-141/25 |
| 79-20-9 | Methyl Acetate | ND | | 48.9 | 66.4 | 136 | 51.5 | 64.5 | 125 | 3 | 32-158/26 |
| 108-87-2 | Methylcyclohexane | ND | | 48.9 | 34.3 | 70 | 51.5 | 34.0 | 66 | 1 | 22-158/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 48.9 | 44.3 | 91 | 51.5 | 47.1 | 91 | 6 | 58-123/23 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87563-7MS | 1C164505.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |
| JC87563-7MSD | 1C164506.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |
| JC87563-7 | 1C164496.D | 1 | 05/13/19 | PS | n/a | n/a | V1C7218 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-2, JC87535-5

| CAS No. | Compound | JC87563-7 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 195 | 148 | 76 | 206 | 162 | 79 | 9 | 40-140/24 |
| 75-09-2 | Methylene chloride | ND | | 48.9 | 50.2 | 103 | 51.5 | 51.3 | 100 | 2 | 57-123/23 |
| 100-42-5 | Styrene | ND | | 48.9 | 42.6 | 87 | 51.5 | 43.4 | 84 | 2 | 46-139/22 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 48.9 | 41.0 | 84 | 51.5 | 44.8 | 87 | 9 | 44-127/26 |
| 127-18-4 | Tetrachloroethene | ND | | 48.9 | 44.2 | 90 | 51.5 | 46.4 | 90 | 5 | 39-154/26 |
| 108-88-3 | Toluene | ND | | 48.9 | 42.9 | 88 | 51.5 | 45.0 | 87 | 5 | 54-127/22 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 48.9 | 29.8 | 61 | 51.5 | 29.0 | 56 | 3 | 17-151/32 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 48.9 | 30.8 | 63 | 51.5 | 29.9 | 58 | 3 | 19-153/32 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 48.9 | 48.0 | 98 | 51.5 | 50.0 | 97 | 4 | 57-138/24 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 48.9 | 45.2 | 92 | 51.5 | 47.7 | 93 | 5 | 53-127/22 |
| 79-01-6 | Trichloroethene | ND | | 48.9 | 48.9 | 100 | 51.5 | 50.4 | 98 | 3 | 52-140/24 |
| 75-69-4 | Trichlorofluoromethane | ND | | 48.9 | 48.5 | 99 | 51.5 | 50.0 | 97 | 3 | 46-142/27 |
| 75-01-4 | Vinyl chloride | ND | | 48.9 | 49.4 | 101 | 51.5 | 52.9 | 103 | 7 | 43-146/26 |
| | m,p-Xylene | ND | | 97.7 | 83.3 | 85 | 103 | 85.8 | 83 | 3 | 45-137/23 |
| 95-47-6 | o-Xylene | ND | | 48.9 | 43.4 | 89 | 51.5 | 44.7 | 87 | 3 | 48-135/22 |
| 1330-20-7 | Xylene (total) | ND | | 147 | 127 | 87 | 155 | 130 | 84 | 2 | 46-137/23 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87563-7 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 108% | 106% | 104% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | 86% | 89% | 75-130% |
| 2037-26-5 | Toluene-D8 | 98% | 99% | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 93% | 95% | 93% | 79-127% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87569-2MS | 2C167649.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |
| JC87569-2MSD | 2C167650.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |
| JC87569-2 [a] | 2C167646.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |
| JC87569-2 | 2C167652.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-7, JC87535-11

| CAS No. | Compound | JC87569-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | 32700 | 34800 | 106 | 32700 | 37000 | 113 | 6 | 10-157/31 |
| 71-43-2 | Benzene | 2840 | | 8180 | 10400 | 92 | 8180 | 10100 | 89 | 3 | 58-125/22 |
| 74-97-5 | Bromochloromethane | ND | | 8180 | 8200 | 100 | 8180 | 8040 | 98 | 2 | 60-127/22 |
| 75-27-4 | Bromodichloromethane | ND | | 8180 | 8140 | 99 | 8180 | 8160 | 100 | 0 | 57-128/22 |
| 75-25-2 | Bromoform | ND | | 8180 | 9800 | 120 | 8180 | 9800 | 120 | 0 | 48-133/21 |
| 74-83-9 | Bromomethane | ND | | 8180 | 4920 | 60 | 8180 | 5220 | 64 | 6 | 31-141/28 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 32700 | 33200 | 101 | 32700 | 36100 | 110 | 8 | 29-146/27 |
| 75-15-0 | Carbon disulfide | ND | | 8180 | 7800 | 95 | 8180 | 7890 | 96 | 1 | 47-145/24 |
| 56-23-5 | Carbon tetrachloride | ND | | 8180 | 7890 | 96 | 8180 | 7790 | 95 | 1 | 51-143/25 |
| 108-90-7 | Chlorobenzene | ND | | 8180 | 7940 | 97 | 8180 | 7710 | 94 | 3 | 54-130/22 |
| 75-00-3 | Chloroethane | ND | | 8180 | 5450 | 67 | 8180 | 5730 | 70 | 5 | 22-153/32 |
| 67-66-3 | Chloroform | 834 | | 8180 | 8420 | 93 | 8180 | 8330 | 92 | 1 | 61-125/22 |
| 74-87-3 | Chloromethane | ND | | 8180 | 5970 | 73 | 8180 | 6430 | 79 | 7 | 43-142/27 |
| 110-82-7 | Cyclohexane | 3190 | | 8180 | 9570 | 78 | 8180 | 8690 | 67 | 10 | 37-148/26 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 8180 | 7610 | 93 | 8180 | 7510 | 92 | 1 | 41-127/23 |
| 124-48-1 | Dibromochloromethane | ND | | 8180 | 8850 | 108 | 8180 | 8910 | 109 | 1 | 56-127/21 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 8180 | 7280 | 89 | 8180 | 7290 | 89 | 0 | 54-121/21 |
| 95-50-1 | 1,2-Dichlorobenzene | 629 | | 8180 | 7770 | 87 | 8180 | 7170 | 80 | 8 | 41-134/22 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 8180 | 7510 | 92 | 8180 | 6810 | 83 | 10 | 41-135/22 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 8180 | 7300 | 89 | 8180 | 6680 | 82 | 9 | 41-133/22 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 8180 | 6420 | 78 | 8180 | 6660 | 81 | 4 | 30-153/29 |
| 75-34-3 | 1,1-Dichloroethane | 143 | J | 8180 | 7910 | 95 | 8180 | 7840 | 94 | 1 | 61-131/23 |
| 107-06-2 | 1,2-Dichloroethane | 175 | | 8180 | 7670 | 92 | 8180 | 7480 | 89 | 3 | 56-126/21 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 8180 | 7820 | 96 | 8180 | 7870 | 96 | 1 | 53-132/23 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 8180 | 7590 | 93 | 8180 | 7360 | 90 | 3 | 57-125/22 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 8180 | 7910 | 97 | 8180 | 7860 | 96 | 1 | 56-130/23 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 8180 | 7320 | 89 | 8180 | 7180 | 88 | 2 | 63-126/22 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 8180 | 7130 | 87 | 8180 | 7270 | 89 | 2 | 55-126/21 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 8180 | 7940 | 97 | 8180 | 7940 | 97 | 0 | 51-126/21 |
| 100-41-4 | Ethylbenzene | 17100 | | 8180 | 22400 | 65 | 8180 | 21200 | 50 | 6 | 49-132/23 |
| 76-13-1 | Freon 113 | ND | | 8180 | 6160 | 75 | 8180 | 6020 | 74 | 2 | 42-179/25 |
| 591-78-6 | 2-Hexanone | ND | | 32700 | 33900 | 104 | 32700 | 35000 | 107 | 3 | 25-150/25 |
| 98-82-8 | Isopropylbenzene | 2910 | | 8180 | 10100 | 88 | 8180 | 8860 | 73 | 13 | 43-141/25 |
| 79-20-9 | Methyl Acetate | 366 | J | 8180 | 8360 | 98 | 8180 | 8400 | 98 | 0 | 32-158/26 |
| 108-87-2 | Methylcyclohexane | 7700 | | 8180 | 13000 | 65 | 8180 | 10400 | 33 | 22 | 22-158/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 8180 | 7510 | 92 | 8180 | 7490 | 92 | 0 | 58-123/23 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87569-2MS | 2C167649.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |
| JC87569-2MSD | 2C167650.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |
| JC87569-2 [a] | 2C167646.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |
| JC87569-2 | 2C167652.D | 1 | 05/15/19 | TDN | n/a | n/a | V2C7520 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-7, JC87535-11

| CAS No. | Compound | JC87569-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 516 | J | 32700 | 33900 | 102 | 32700 | 34000 | 102 | 0 | 40-140/24 |
| 75-09-2 | Methylene chloride | 4860 | | 8180 | 12000 | 87 | 8180 | 12100 | 88 | 1 | 57-123/23 |
| 100-42-5 | Styrene | ND | | 8180 | 8540 | 104 | 8180 | 8120 | 99 | 5 | 46-139/22 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 8180 | 8480 | 104 | 8180 | 8460 | 103 | 0 | 44-127/26 |
| 127-18-4 | Tetrachloroethene | 4150 | | 8180 | 11100 | 85 | 8180 | 10400 | 76 | 7 | 39-154/26 |
| 108-88-3 | Toluene | 38700 [c] | | 8180 | 43500 | 59 | 8180 | 42900 | 51* [b] | 1 | 54-127/22 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 8180 | 6600 | 81 | 8180 | 5580 | 68 | 17 | 17-151/32 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 8180 | 6510 | 80 | 8180 | 5360 | 65 | 19 | 19-153/32 |
| 71-55-6 | 1,1,1-Trichloroethane | 593 | | 8180 | 8050 | 91 | 8180 | 7980 | 90 | 1 | 57-138/24 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 8180 | 8360 | 102 | 8180 | 8230 | 101 | 2 | 53-127/22 |
| 79-01-6 | Trichloroethene | ND | | 8180 | 7990 | 98 | 8180 | 7800 | 95 | 2 | 52-140/24 |
| 75-69-4 | Trichlorofluoromethane | ND | | 8180 | 7420 | 91 | 8180 | 7280 | 89 | 2 | 46-142/27 |
| 75-01-4 | Vinyl chloride | ND | | 8180 | 6260 | 76 | 8180 | 6580 | 80 | 5 | 43-146/26 |
| | m,p-Xylene | 72100 [c] | | 16400 | 79600 | 46 | 16400 | 74700 | 16* [b] | 6 | 45-137/23 |
| 95-47-6 | o-Xylene | 34600 [c] | | 8180 | 39300 | 57 | 8180 | 36900 | 28* [b] | 6 | 48-135/22 |
| 1330-20-7 | Xylene (total) | 107000 [c] | | 24600 | 119000 | 49 | 24600 | 112000 | 20* [b] | 6 | 46-137/23 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87569-2 | JC87569-2 | Limits |
|---|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 96% | 101% | 97% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | 95% | 103% | 98% | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | 100% | 103% | 97% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 109% | 110% | 100% | 102% | 79-127% |

(a) Diluted due to high concentration of target compound.
(b) Outside control limits due to high level in sample relative to spike amount.
(c) Result is from Run #2.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87626-1MS | 2V58597.D | 5 | 05/15/19 | EH | n/a | n/a | V2V2402 |
| JC87626-1MSD | 2V58598.D | 5 | 05/15/19 | EH | n/a | n/a | V2V2402 |
| JC87626-1 | 2V58594.D | 5 | 05/15/19 | EH | 05/10/19 | GP21166 | V2V2402 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-15

| CAS No. | Compound | JC87626-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | | 250 | 265 | 106 | 250 | 264 | 106 | 0 | 38-139/13 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 1000 | 1350 | 135 | 1000 | 1350 | 135 | 0 | 58-140/14 |
| 56-23-5 | Carbon tetrachloride | ND | | 250 | 272 | 109 | 250 | 266 | 106 | 2 | 50-161/18 |
| 108-90-7 | Chlorobenzene | ND | | 250 | 263 | 105 | 250 | 263 | 105 | 0 | 65-128/12 |
| 67-66-3 | Chloroform | ND | | 250 | 247 | 99 | 250 | 242 | 97 | 2 | 66-132/14 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 250 | 253 | 101 | 250 | 260 | 104 | 3 | 63-126/13 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 250 | 241 | 96 | 250 | 238 | 95 | 1 | 59-153/15 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 250 | 259 | 104 | 250 | 257 | 103 | 1 | 41-144/17 |
| 127-18-4 | Tetrachloroethene | ND | | 250 | 255 | 102 | 250 | 260 | 104 | 2 | 48-145/15 |
| 79-01-6 | Trichloroethene | ND | | 250 | 265 | 106 | 250 | 263 | 105 | 1 | 53-141/15 |
| 75-01-4 | Vinyl chloride | ND | | 250 | 269 | 108 | 250 | 272 | 109 | 1 | 34-151/20 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87626-1 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 95% | 93% | 94% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | 92% | 91% | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | 97% | 100% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 93% | 96% | 98% | 72-122% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87535-3MS | 2C167685.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |
| JC87535-3MSD | 2C167686.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |
| JC87535-3 [a] | 2C167684.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-3

| CAS No. | Compound | JC87535-3 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | 55500 | 47200 | 85 | 55500 | 47900 | 86 | 1 | 10-157/31 |
| 71-43-2 | Benzene | 368 | | 13900 | 13200 | 93 | 13900 | 13300 | 93 | 1 | 58-125/22 |
| 74-97-5 | Bromochloromethane | ND | | 13900 | 13600 | 98 | 13900 | 13500 | 97 | 1 | 60-127/22 |
| 75-27-4 | Bromodichloromethane | ND | | 13900 | 13400 | 97 | 13900 | 13600 | 98 | 1 | 57-128/22 |
| 75-25-2 | Bromoform | ND | | 13900 | 15800 | 114 | 13900 | 15800 | 114 | 0 | 48-133/21 |
| 74-83-9 | Bromomethane | ND | | 13900 | 9840 | 71 | 13900 | 10100 | 73 | 3 | 31-141/28 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 55500 | 48000 | 87 | 55500 | 48500 | 87 | 1 | 29-146/27 |
| 75-15-0 | Carbon disulfide | ND | | 13900 | 12400 | 89 | 13900 | 12800 | 92 | 3 | 47-145/24 |
| 56-23-5 | Carbon tetrachloride | ND | | 13900 | 13700 | 99 | 13900 | 13600 | 98 | 1 | 51-143/25 |
| 108-90-7 | Chlorobenzene | ND | | 13900 | 12900 | 93 | 13900 | 12900 | 93 | 0 | 54-130/22 |
| 75-00-3 | Chloroethane | ND | | 13900 | 10300 | 74 | 13900 | 10600 | 76 | 3 | 22-153/32 |
| 67-66-3 | Chloroform | ND | | 13900 | 12400 | 89 | 13900 | 12300 | 89 | 1 | 61-125/22 |
| 74-87-3 | Chloromethane | ND | | 13900 | 9360 | 68 | 13900 | 9580 | 69 | 2 | 43-142/27 |
| 110-82-7 | Cyclohexane | ND | | 13900 | 12000 | 87 | 13900 | 12000 | 87 | 0 | 37-148/26 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 13900 | 13700 | 99 | 13900 | 14300 | 103 | 4 | 41-127/23 |
| 124-48-1 | Dibromochloromethane | ND | | 13900 | 14800 | 107 | 13900 | 14700 | 106 | 1 | 56-127/21 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 13900 | 12000 | 87 | 13900 | 11900 | 86 | 1 | 54-121/21 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 13900 | 12700 | 92 | 13900 | 12800 | 92 | 1 | 41-134/22 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 13900 | 12800 | 92 | 13900 | 12900 | 93 | 1 | 41-135/22 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 13900 | 13000 | 94 | 13900 | 12900 | 93 | 1 | 41-133/22 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 13900 | 10400 | 75 | 13900 | 10800 | 78 | 4 | 30-153/29 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 13900 | 12900 | 93 | 13900 | 12800 | 92 | 1 | 61-131/23 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 13900 | 12000 | 87 | 13900 | 12000 | 87 | 0 | 56-126/21 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 13900 | 12200 | 88 | 13900 | 12400 | 89 | 2 | 53-132/23 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 13900 | 12800 | 92 | 13900 | 12700 | 92 | 1 | 57-125/22 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 13900 | 13400 | 97 | 13900 | 13300 | 96 | 1 | 56-130/23 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 13900 | 11900 | 86 | 13900 | 12000 | 87 | 1 | 63-126/22 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 13900 | 12500 | 90 | 13900 | 12500 | 90 | 0 | 55-126/21 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 13900 | 13400 | 97 | 13900 | 13300 | 96 | 1 | 51-126/21 |
| 100-41-4 | Ethylbenzene | ND | | 13900 | 12300 | 89 | 13900 | 12200 | 88 | 1 | 49-132/23 |
| 76-13-1 | Freon 113 | ND | | 13900 | 10600 | 76 | 13900 | 10800 | 78 | 2 | 42-179/25 |
| 591-78-6 | 2-Hexanone | ND | | 55500 | 49600 | 89 | 55500 | 49700 | 90 | 0 | 25-150/25 |
| 98-82-8 | Isopropylbenzene | ND | | 13900 | 12300 | 89 | 13900 | 12200 | 88 | 1 | 43-141/25 |
| 79-20-9 | Methyl Acetate | ND | | 13900 | 11600 | 84 | 13900 | 10800 | 78 | 7 | 32-158/26 |
| 108-87-2 | Methylcyclohexane | ND | | 13900 | 11600 | 84 | 13900 | 11800 | 85 | 2 | 22-158/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 13900 | 11500 | 83 | 13900 | 11600 | 84 | 1 | 58-123/23 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87535-3MS | 2C167685.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |
| JC87535-3MSD | 2C167686.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |
| JC87535-3 [a] | 2C167684.D | 1 | 05/16/19 | TDN | n/a | n/a | V2C7521 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-3

| CAS No. | Compound | JC87535-3 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 55500 | 49200 | 89 | 55500 | 49100 | 89 | 0 | 40-140/24 |
| 75-09-2 | Methylene chloride | ND | | 13900 | 12500 | 90 | 13900 | 12500 | 90 | 0 | 57-123/23 |
| 100-42-5 | Styrene | ND | | 13900 | 12400 | 89 | 13900 | 12400 | 89 | 0 | 46-139/22 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 13900 | 14000 | 101 | 13900 | 14100 | 102 | 1 | 44-127/26 |
| 127-18-4 | Tetrachloroethene | ND | | 13900 | 12300 | 89 | 13900 | 12300 | 89 | 0 | 39-154/26 |
| 108-88-3 | Toluene | 424 | | 13900 | 13400 | 94 | 13900 | 13200 | 92 | 2 | 54-127/22 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 13900 | 13100 | 94 | 13900 | 13800 | 100 | 5 | 17-151/32 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 13900 | 13300 | 96 | 13900 | 14000 | 101 | 5 | 19-153/32 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 13900 | 12400 | 89 | 13900 | 12500 | 90 | 1 | 57-138/24 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 13900 | 13000 | 94 | 13900 | 13000 | 94 | 0 | 53-127/22 |
| 79-01-6 | Trichloroethene | ND | | 13900 | 12800 | 92 | 13900 | 12900 | 93 | 1 | 52-140/24 |
| 75-69-4 | Trichlorofluoromethane | ND | | 13900 | 11500 | 83 | 13900 | 11700 | 84 | 2 | 46-142/27 |
| 75-01-4 | Vinyl chloride | ND | | 13900 | 10200 | 74 | 13900 | 10300 | 74 | 1 | 43-146/26 |
| | m,p-Xylene | 568 | | 27700 | 25500 | 90 | 27700 | 25200 | 89 | 1 | 45-137/23 |
| 95-47-6 | o-Xylene | ND | | 13900 | 12400 | 89 | 13900 | 12500 | 90 | 1 | 48-135/22 |
| 1330-20-7 | Xylene (total) | 568 | | 41600 | 37900 | 89 | 41600 | 37700 | 89 | 1 | 46-137/23 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87535-3 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 98% | 97% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | 95% | 97% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 100% | 98% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 107% | 106% | 100% | 79-127% |

(a) Diluted due to high concentration of non-target compound.

* = Outside of Control Limits.

# Leachate Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| GP21185-20LS | 2V58532A.D | 5 | 05/13/19 | EH | 05/11/19 | GP21185 | V2V2399 |
| JC87535-13 | 2V58530.D | 5 | 05/13/19 | EH | 05/11/19 | GP21185 | V2V2399 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260C

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | JC87535-13 ug/l | Q | Spike ug/l | LS ug/l | LS % | Limits |
|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 10.4 | | 250 | 280 | 108 | 38-139 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 1000 | 1170 | 117 | 58-140 |
| 56-23-5 | Carbon tetrachloride | ND | | 250 | 298 | 119 | 50-161 |
| 108-90-7 | Chlorobenzene | ND | | 250 | 272 | 109 | 65-128 |
| 67-66-3 | Chloroform | ND | | 250 | 266 | 106 | 66-132 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 250 | 264 | 106 | 63-126 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 250 | 249 | 100 | 59-153 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 250 | 284 | 114 | 41-144 |
| 127-18-4 | Tetrachloroethene | ND | | 250 | 272 | 109 | 48-145 |
| 79-01-6 | Trichloroethene | ND | | 250 | 273 | 109 | 53-141 |
| 75-01-4 | Vinyl chloride | ND | | 250 | 264 | 106 | 34-151 |

| CAS No. | Surrogate Recoveries | LS | JC87535-13 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 102% | 76-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | 97% | 64-135% |
| 2037-26-5 | Toluene-D8 | 98% | 98% | 76-117% |
| 460-00-4 | 4-Bromofluorobenzene | 93% | 98% | 72-122% |

* = Outside of Control Limits.

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-BFB
**Lab File ID:** 1C164004.D
**Instrument ID:** GCMS1C
**Injection Date:** 04/24/19
**Injection Time:** 14:40

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 14.99 - 40.0% of mass 95 | 9866 | 18.0 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 26882 | 49.0 | | Pass |
| 95 | Base peak, 100% relative abundance | 54821 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 3741 | 6.82 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 47850 | 87.3 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 3704 | 6.76 | (7.74) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 46538 | 84.9 | (97.3) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 3149 | 5.74 | (6.77) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V1C7200-IC7200 | 1C164005.D | 04/24/19 | 15:12 | 00:32 | Initial cal 0.5 |
| V1C7200-IC7200 | 1C164006.D | 04/24/19 | 15:38 | 00:58 | Initial cal 1 |
| V1C7200-IC7200 | 1C164007.D | 04/24/19 | 16:05 | 01:25 | Initial cal 2 |
| V1C7200-IC7200 | 1C164008.D | 04/24/19 | 16:31 | 01:51 | Initial cal 4 |
| V1C7200-IC7200 | 1C164009.D | 04/24/19 | 16:58 | 02:18 | Initial cal 8 |
| V1C7200-IC7200 | 1C164010.D | 04/24/19 | 17:24 | 02:44 | Initial cal 20 |
| V1C7200-ICC7200 | 1C164011.D | 04/24/19 | 17:51 | 03:11 | Initial cal 50 |
| V1C7200-IC7200 | 1C164012.D | 04/24/19 | 18:17 | 03:37 | Initial cal 100 |
| V1C7200-IC7200 | 1C164013.D | 04/24/19 | 18:44 | 04:04 | Initial cal 200 |
| V1C7200-ICV7200 | 1C164016.D | 04/24/19 | 20:03 | 05:23 | Initial cal verification 50 |
| V1C7200-ICV7200 | 1C164017.D | 04/24/19 | 20:30 | 05:50 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7218-BFB
**Lab File ID:** 1C164491.D
**Instrument ID:** GCMS1C
**Injection Date:** 05/13/19
**Injection Time:** 09:43

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 14.99 - 40.0% of mass 95 | 9704 | 15.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 28920 | 45.0 | | Pass |
| 95 | Base peak, 100% relative abundance | 64205 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4250 | 6.62 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 62629 | 97.5 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4841 | 7.54 | (7.73) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 61379 | 95.6 | (98.0) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 4126 | 6.43 | (6.72) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V1C7218-CC7200 | 1C164491.D | 05/13/19 | 09:43 | 00:00 | Continuing cal 50 |
| V1C7218-BS | 1C164492.D | 05/13/19 | 10:20 | 00:37 | Blank Spike |
| V1C7218-MB | 1C164494.D | 05/13/19 | 11:23 | 01:40 | Method Blank |
| JC87563-7 | 1C164496.D | 05/13/19 | 12:16 | 02:33 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 1C164497.D | 05/13/19 | 12:43 | 03:00 | (unrelated sample) |
| ZZZZZZ | 1C164498.D | 05/13/19 | 13:10 | 03:27 | (unrelated sample) |
| ZZZZZZ | 1C164499.D | 05/13/19 | 13:36 | 03:53 | (unrelated sample) |
| ZZZZZZ | 1C164500.D | 05/13/19 | 14:02 | 04:19 | (unrelated sample) |
| ZZZZZZ | 1C164501.D | 05/13/19 | 14:29 | 04:46 | (unrelated sample) |
| ZZZZZZ | 1C164502.D | 05/13/19 | 14:56 | 05:13 | (unrelated sample) |
| ZZZZZZ | 1C164503.D | 05/13/19 | 15:22 | 05:39 | (unrelated sample) |
| ZZZZZZ | 1C164504.D | 05/13/19 | 15:49 | 06:06 | (unrelated sample) |
| JC87563-7MS | 1C164505.D | 05/13/19 | 16:15 | 06:32 | Matrix Spike |
| JC87563-7MSD | 1C164506.D | 05/13/19 | 16:42 | 06:59 | Matrix Spike Duplicate |
| ZZZZZZ | 1C164508.D | 05/13/19 | 17:35 | 07:52 | (unrelated sample) |
| ZZZZZZ | 1C164509.D | 05/13/19 | 18:01 | 08:18 | (unrelated sample) |
| ZZZZZZ | 1C164510.D | 05/13/19 | 18:28 | 08:45 | (unrelated sample) |
| ZZZZZZ | 1C164511.D | 05/13/19 | 18:54 | 09:11 | (unrelated sample) |
| ZZZZZZ | 1C164512.D | 05/13/19 | 19:21 | 09:38 | (unrelated sample) |
| JC87535-5 | 1C164513.D | 05/13/19 | 19:48 | 10:05 | S-156(14-16) |
| JC87535-2 | 1C164514.D | 05/13/19 | 20:14 | 10:31 | S-157(23-25) |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-BFB
**Lab File ID:** 2C166194.D
**Instrument ID:** GCMS2C
**Injection Date:** 03/20/19
**Injection Time:** 15:08

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19561 | 20.5 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 47709 | 49.9 | | Pass |
| 95 | Base peak, 100% relative abundance | 95514 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 6244 | 6.54 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 95981 | 100.5 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 7159 | 7.50 | (7.46) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 94133 | 98.6 | (98.1) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5988 | 6.27 | (6.36) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V2C7441-IC7441 | 2C166195.D | 03/20/19 | 15:39 | 00:31 | Initial cal 0.2 |
| V2C7441-IC7441 | 2C166196.D | 03/20/19 | 16:07 | 00:59 | Initial cal 0.5 |
| V2C7441-IC7441 | 2C166197.D | 03/20/19 | 16:36 | 01:28 | Initial cal 1 |
| V2C7441-IC7441 | 2C166198.D | 03/20/19 | 17:04 | 01:56 | Initial cal 2 |
| V2C7441-IC7441 | 2C166199.D | 03/20/19 | 17:33 | 02:25 | Initial cal 4 |
| V2C7441-IC7441 | 2C166200.D | 03/20/19 | 18:02 | 02:54 | Initial cal 8 |
| V2C7441-IC7441 | 2C166201.D | 03/20/19 | 18:30 | 03:22 | Initial cal 20 |
| V2C7441-ICC7441 | 2C166202.D | 03/20/19 | 18:59 | 03:51 | Initial cal 50 |
| V2C7441-IC7441 | 2C166203.D | 03/20/19 | 19:27 | 04:19 | Initial cal 100 |
| V2C7441-IC7441 | 2C166204.D | 03/20/19 | 19:56 | 04:48 | Initial cal 200 |
| V2C7441-ICV7441 | 2C166207.D | 03/20/19 | 21:21 | 06:13 | Initial cal verification 50 |
| V2C7441-ICV7441 | 2C166208.D | 03/20/19 | 21:50 | 06:42 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | V2C7520-BFB | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | 2C167640.D | **Injection Time:** | 06:35 |
| **Instrument ID:** | GCMS2C | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 21784 | 18.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 57507 | 47.9 | | Pass |
| 95 | Base peak, 100% relative abundance | 120035 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7369 | 6.14 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 122989 | 102.5 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 9119 | 7.60 | (7.41) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 121173 | 100.9 | (98.5) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 7721 | 6.43 | (6.37) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V2C7520-CC7441 | 2C167640.D | 05/15/19 | 06:35 | 00:00 | Continuing cal 20 |
| V2C7520-BS | 2C167642.D | 05/15/19 | 07:36 | 01:01 | Blank Spike |
| ZZZZZZ | 2C167644A.D | 05/15/19 | 08:33 | 01:58 | (unrelated sample) |
| V2C7520-MB | 2C167644.D | 05/15/19 | 08:33 | 01:58 | Method Blank |
| ZZZZZZ | 2C167645.D | 05/15/19 | 09:05 | 02:30 | (unrelated sample) |
| JC87569-2 | 2C167646.D | 05/15/19 | 09:42 | 03:07 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 2C167647.D | 05/15/19 | 10:11 | 03:36 | (unrelated sample) |
| ZZZZZZ | 2C167648.D | 05/15/19 | 10:39 | 04:04 | (unrelated sample) |
| JC87569-2MS | 2C167649.D | 05/15/19 | 11:08 | 04:33 | Matrix Spike |
| JC87569-2MSD | 2C167650.D | 05/15/19 | 11:36 | 05:01 | Matrix Spike Duplicate |
| JC87569-2 | 2C167652.D | 05/15/19 | 12:33 | 05:58 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 2C167656.D | 05/15/19 | 14:27 | 07:52 | (unrelated sample) |
| ZZZZZZ | 2C167657.D | 05/15/19 | 14:56 | 08:21 | (unrelated sample) |
| ZZZZZZ | 2C167658.D | 05/15/19 | 15:24 | 08:49 | (unrelated sample) |
| ZZZZZZ | 2C167659.D | 05/15/19 | 15:53 | 09:18 | (unrelated sample) |
| ZZZZZZ | 2C167660.D | 05/15/19 | 16:21 | 09:46 | (unrelated sample) |
| ZZZZZZ | 2C167661.D | 05/15/19 | 16:50 | 10:15 | (unrelated sample) |
| JC87535-11 | 2C167663.D | 05/15/19 | 17:48 | 11:13 | S-160(10-12) |
| JC87535-7 | 2C167664.D | 05/15/19 | 18:16 | 11:41 | S-161(5-7) |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7521-BFB
**Lab File ID:** 2C167675.D
**Instrument ID:** GCMS2C
**Injection Date:** 05/16/19
**Injection Time:** 07:47

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19435 | 18.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 50485 | 47.0 | | Pass |
| 95 | Base peak, 100% relative abundance | 107376 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7167 | 6.67 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 109170 | 101.7 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 8267 | 7.70 | (7.57) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 106800 | 99.5 | (97.8) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 6909 | 6.43 | (6.47) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V2C7521-CC7441 | 2C167675.D | 05/16/19 | 07:47 | 00:00 | Continuing cal 50 |
| V2C7521-BS | 2C167677.D | 05/16/19 | 08:49 | 01:02 | Blank Spike |
| ZZZZZZ | 2C167679A.D | 05/16/19 | 09:47 | 02:00 | (unrelated sample) |
| V2C7521-MB | 2C167679.D | 05/16/19 | 09:47 | 02:00 | Method Blank |
| ZZZZZZ | 2C167680.D | 05/16/19 | 10:15 | 02:28 | (unrelated sample) |
| ZZZZZZ | 2C167681.D | 05/16/19 | 10:44 | 02:57 | (unrelated sample) |
| ZZZZZZ | 2C167682.D | 05/16/19 | 11:13 | 03:26 | (unrelated sample) |
| JC87535-3 | 2C167684.D | 05/16/19 | 12:10 | 04:23 | S-156(3-5) |
| JC87535-3MS | 2C167685.D | 05/16/19 | 12:39 | 04:52 | Matrix Spike |
| JC87535-3MSD | 2C167686.D | 05/16/19 | 13:07 | 05:20 | Matrix Spike Duplicate |
| ZZZZZZ | 2C167689.D | 05/16/19 | 14:33 | 06:46 | (unrelated sample) |
| ZZZZZZ | 2C167690.D | 05/16/19 | 15:02 | 07:15 | (unrelated sample) |
| ZZZZZZ | 2C167691.D | 05/16/19 | 15:30 | 07:43 | (unrelated sample) |
| ZZZZZZ | 2C167692.D | 05/16/19 | 15:59 | 08:12 | (unrelated sample) |
| ZZZZZZ | 2C167693.D | 05/16/19 | 16:28 | 08:41 | (unrelated sample) |
| ZZZZZZ | 2C167696.D | 05/16/19 | 17:54 | 10:07 | (unrelated sample) |
| ZZZZZZ | 2C167697.D | 05/16/19 | 18:22 | 10:35 | (unrelated sample) |
| ZZZZZZ | 2C167698.D | 05/16/19 | 18:51 | 11:04 | (unrelated sample) |
| ZZZZZZ | 2C167699.D | 05/16/19 | 19:20 | 11:33 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | V2V2392-BFB | **Injection Date:** | 05/02/19 |
| **Lab File ID:** | 2V58387.D | **Injection Time:** | 17:18 |
| **Instrument ID:** | GCMS2V | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 14543 | 16.3 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 41733 | 46.9 | | Pass |
| 95 | Base peak, 100% relative abundance | 89016 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 6175 | 6.94 | | Pass |
| 173 | Less than 2.0% of mass 174 | 893 | 1.00 | (1.10) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 81229 | 91.3 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 6033 | 6.78 | (7.43) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 78155 | 87.8 | (96.2) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5116 | 5.75 | (6.55) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V2V2392-IC2392 | 2V58388.D | 05/02/19 | 17:49 | 00:31 | Initial cal 0.2 |
| V2V2392-IC2392 | 2V58389.D | 05/02/19 | 18:15 | 00:57 | Initial cal 0.5 |
| V2V2392-IC2392 | 2V58390.D | 05/02/19 | 18:40 | 01:22 | Initial cal 1 |
| V2V2392-IC2392 | 2V58391.D | 05/02/19 | 19:06 | 01:48 | Initial cal 2 |
| V2V2392-IC2392 | 2V58392.D | 05/02/19 | 19:32 | 02:14 | Initial cal 4 |
| V2V2392-IC2392 | 2V58393.D | 05/02/19 | 19:58 | 02:40 | Initial cal 8 |
| V2V2392-IC2392 | 2V58394.D | 05/02/19 | 20:24 | 03:06 | Initial cal 20 |
| V2V2392-ICC2392 | 2V58395.D | 05/02/19 | 20:50 | 03:32 | Initial cal 50 |
| V2V2392-IC2392 | 2V58396.D | 05/02/19 | 21:16 | 03:58 | Initial cal 100 |
| V2V2392-IC2392 | 2V58397.D | 05/02/19 | 21:41 | 04:23 | Initial cal 200 |
| V2V2392-ICV2392 | 2V58401.D | 05/02/19 | 23:25 | 06:07 | Initial cal verification 50 |
| V2V2392-ICV2392 | 2V58405.D | 05/03/19 | 11:29 | 18:11 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | V2V2399-BFB | **Injection Date:** | 05/13/19 |
| **Lab File ID:** | 2V58520.D | **Injection Time:** | 06:40 |
| **Instrument ID:** | GCMS2V | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 12322 | 16.2 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 34389 | 45.2 | | Pass |
| 95 | Base peak, 100% relative abundance | 76072 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4779 | 6.28 | | Pass |
| 173 | Less than 2.0% of mass 174 | 948 | 1.25 | (1.27) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 74757 | 98.3 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 5608 | 7.37 | (7.50) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 71821 | 94.4 | (96.1) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 4392 | 5.77 | (6.12) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V2V2399-CC2392 | 2V58520.D | 05/13/19 | 06:40 | 00:00 | Continuing cal 20 |
| V2V2399-BS | 2V58521.D | 05/13/19 | 07:18 | 00:38 | Blank Spike |
| V2V2399-MB | 2V58523.D | 05/13/19 | 09:18 | 02:38 | Method Blank |
| GP21174-20LB | 2V58524.D | 05/13/19 | 10:17 | 03:37 | Leachate Blank |
| GP21185-22LB | 2V58525.D | 05/13/19 | 10:43 | 04:03 | Leachate Blank |
| ZZZZZZ | 2V58526.D | 05/13/19 | 11:09 | 04:29 | (unrelated sample) |
| ZZZZZZ | 2V58527.D | 05/13/19 | 11:35 | 04:55 | (unrelated sample) |
| ZZZZZZ | 2V58528.D | 05/13/19 | 12:02 | 05:22 | (unrelated sample) |
| ZZZZZZ | 2V58529.D | 05/13/19 | 12:28 | 05:48 | (unrelated sample) |
| JC87535-13 | 2V58530.D | 05/13/19 | 12:54 | 06:14 | PCWC-1 |
| JC87535-13MS | 2V58532.D | 05/13/19 | 14:02 | 07:22 | Matrix Spike |
| GP21185-20LS | 2V58532A.D | 05/13/19 | 14:02 | 07:22 | Leachate Spike |
| JC87535-13MSD | 2V58533.D | 05/13/19 | 14:28 | 07:48 | Matrix Spike Duplicate |
| ZZZZZZ | 2V58535.D | 05/13/19 | 16:13 | 09:33 | (unrelated sample) |
| ZZZZZZ | 2V58536.D | 05/13/19 | 16:39 | 09:59 | (unrelated sample) |
| ZZZZZZ | 2V58537.D | 05/13/19 | 17:06 | 10:26 | (unrelated sample) |
| ZZZZZZ | 2V58538.D | 05/13/19 | 17:32 | 10:52 | (unrelated sample) |
| ZZZZZZ | 2V58539.D | 05/13/19 | 17:58 | 11:18 | (unrelated sample) |
| JC87535-14 | 2V58540.D | 05/13/19 | 18:24 | 11:44 | PCWC-2 |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2401-BFB
**Lab File ID:** 2V58580.D
**Instrument ID:** GCMS2V
**Injection Date:** 05/15/19
**Injection Time:** 06:38

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 11195 | 16.0 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 30565 | 43.6 | | Pass |
| 95 | Base peak, 100% relative abundance | 70099 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4639 | 6.62 | | Pass |
| 173 | Less than 2.0% of mass 174 | 624 | 0.89 | (0.92) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 67883 | 96.8 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4851 | 6.92 | (7.15) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 66117 | 94.3 | (97.4) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 4372 | 6.24 | (6.61) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V2V2401-BS | 2V58581.D | 05/15/19 | 07:10 | 00:32 | Blank Spike |
| V2V2401-MB | 2V58583.D | 05/15/19 | 08:06 | 01:28 | Method Blank |
| GP21186-23LB | 2V58584.D | 05/15/19 | 08:41 | 02:03 | Leachate Blank |
| TD38572-1 | 2V58585.D | 05/15/19 | 09:07 | 02:29 | (used for QC only; not part of job JC87535) |
| GP21186-21LS | 2V58586A.D | 05/15/19 | 09:50 | 03:12 | Leachate Spike |
| TD38572-1MS | 2V58586.D | 05/15/19 | 09:50 | 03:12 | Matrix Spike |
| TD38572-1MSD | 2V58587.D | 05/15/19 | 10:16 | 03:38 | Matrix Spike Duplicate |
| V2V2402-BS | 2V58589.D | 05/15/19 | 11:10 | 04:32 | Blank Spike |
| V2V2402-MB | 2V58591.D | 05/15/19 | 12:06 | 05:28 | Method Blank |
| GP21166-19LB | 2V58592.D | 05/15/19 | 12:35 | 05:57 | Leachate Blank |
| JC87535-15 | 2V58593.D | 05/15/19 | 13:02 | 06:24 | PCWC-3 |
| JC87626-1 | 2V58594.D | 05/15/19 | 13:28 | 06:50 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 2V58595.D | 05/15/19 | 13:54 | 07:16 | (unrelated sample) |
| ZZZZZZ | 2V58596.D | 05/15/19 | 14:20 | 07:42 | (unrelated sample) |
| GP21166-17LS | 2V58597A.D | 05/15/19 | 14:46 | 08:08 | Leachate Spike |
| JC87626-1MS | 2V58597.D | 05/15/19 | 14:46 | 08:08 | Matrix Spike |
| JC87626-1MSD | 2V58598.D | 05/15/19 | 15:12 | 08:34 | Matrix Spike Duplicate |
| ZZZZZZ | 2V58600.D | 05/15/19 | 16:04 | 09:26 | (unrelated sample) |
| GP21174-18LS | 2V58601.D | 05/15/19 | 16:30 | 09:52 | Leachate Spike |
| ZZZZZZ | 2V58603.D | 05/15/19 | 17:22 | 10:44 | (unrelated sample) |
| V2V2402-ECC2392 | 2V58604.D | 05/15/19 | 17:48 | 11:10 | Ending cal 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-BFB
**Lab File ID:** Y184712.D
**Instrument ID:** GCMSY
**Injection Date:** 04/24/19
**Injection Time:** 14:32

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 12333 | 18.5 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 32341 | 48.6 | | Pass |
| 95 | Base peak, 100% relative abundance | 66517 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4405 | 6.62 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 61248 | 92.1 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4917 | 7.39 | (8.03) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 60341 | 90.7 | (98.5) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 4460 | 6.71 | (7.39) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VY8014-IC8014 | Y184713.D | 04/24/19 | 15:12 | 00:40 | Initial cal 0.5 |
| VY8014-IC8014 | Y184714.D | 04/24/19 | 15:40 | 01:08 | Initial cal 1 |
| VY8014-IC8014 | Y184715.D | 04/24/19 | 16:09 | 01:37 | Initial cal 2 |
| VY8014-IC8014 | Y184716.D | 04/24/19 | 16:38 | 02:06 | Initial cal 4 |
| VY8014-IC8014 | Y184717.D | 04/24/19 | 17:07 | 02:35 | Initial cal 8 |
| VY8014-IC8014 | Y184718.D | 04/24/19 | 17:35 | 03:03 | Initial cal 20 |
| VY8014-ICC8014 | Y184719.D | 04/24/19 | 18:04 | 03:32 | Initial cal 50 |
| VY8014-IC8014 | Y184720.D | 04/24/19 | 18:32 | 04:00 | Initial cal 100 |
| VY8014-IC8014 | Y184721.D | 04/24/19 | 19:01 | 04:29 | Initial cal 200 |
| VY8014-ICV8014 | Y184724.D | 04/24/19 | 20:27 | 05:55 | Initial cal verification 50 |
| VY8014-ICV8014 | Y184725.D | 04/24/19 | 20:55 | 06:23 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | VY8033-BFB | **Injection Date:** | 05/11/19 |
| **Lab File ID:** | Y185114.D | **Injection Time:** | 10:31 |
| **Instrument ID:** | GCMSY | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 10512 | 16.3 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 28915 | 44.9 | | Pass |
| 95 | Base peak, 100% relative abundance | 64363 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4384 | 6.81 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 63880 | 99.2 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4956 | 7.70 | (7.76) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 62899 | 97.7 | (98.5) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 4215 | 6.55 | (6.70) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VY8033-CC8014 | Y185114.D | 05/11/19 | 10:31 | 00:00 | Continuing cal 50 |
| VY8033-BS | Y185116.D | 05/11/19 | 11:39 | 01:08 | Blank Spike |
| VY8033-MB | Y185118.D | 05/11/19 | 12:45 | 02:14 | Method Blank |
| JC87535-8 | Y185119.D | 05/11/19 | 13:14 | 02:43 | S-161(10-12) |
| JC87535-1 | Y185120.D | 05/11/19 | 13:43 | 03:12 | S-157(7-9) |
| JC87535-6 | Y185123.D | 05/11/19 | 15:08 | 04:37 | SO-DUP-0503 |
| JC87535-10 | Y185124.D | 05/11/19 | 15:37 | 05:06 | S-162(15-17) |
| JC87535-9 | Y185125.D | 05/11/19 | 16:05 | 05:34 | S-162(5-7) |
| JC87535-4 | Y185126.D | 05/11/19 | 16:34 | 06:03 | S-156(7.5-9.5) |
| JC87535-12 | Y185127.D | 05/11/19 | 17:02 | 06:31 | S-160(13-15) |
| JC87535-8MS | Y185128.D | 05/11/19 | 17:31 | 07:00 | Matrix Spike |
| JC87535-8MSD | Y185129.D | 05/11/19 | 17:59 | 07:28 | Matrix Spike Duplicate |
| ZZZZZZ | Y185131.D | 05/11/19 | 18:56 | 08:25 | (unrelated sample) |
| ZZZZZZ | Y185132.D | 05/11/19 | 19:25 | 08:54 | (unrelated sample) |
| ZZZZZZ | Y185133.D | 05/11/19 | 19:54 | 09:23 | (unrelated sample) |
| ZZZZZZ | Y185134.D | 05/11/19 | 20:22 | 09:51 | (unrelated sample) |
| ZZZZZZ | Y185135.D | 05/11/19 | 20:50 | 10:19 | (unrelated sample) |
| ZZZZZZ | Y185136.D | 05/11/19 | 21:19 | 10:48 | (unrelated sample) |
| ZZZZZZ | Y185137.D | 05/11/19 | 21:47 | 11:16 | (unrelated sample) |
| ZZZZZZ | Y185138.D | 05/11/19 | 22:16 | 11:45 | (unrelated sample) |

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V1C7218-CC7200 | **Injection Date:** | 05/13/19 |
| **Lab File ID:** | 1C164491.D | **Injection Time:** | 09:43 |
| **Instrument ID:** | GCMS1C | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 61373 | 7.36 | 212050 | 9.60 | 299095 | 10.52 | 236328 | 13.66 | 129709 | 15.97 |
| Upper Limit [a] | 122746 | 7.86 | 424100 | 10.10 | 598190 | 11.02 | 472656 | 14.16 | 259418 | 16.47 |
| Lower Limit [b] | 30687 | 6.86 | 106025 | 9.10 | 149548 | 10.02 | 118164 | 13.16 | 64855 | 15.47 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V1C7218-BS | 72090 | 7.36 | 231696 | 9.60 | 332376 | 10.52 | 261300 | 13.66 | 138267 | 15.97 |
| V1C7218-MB | 52977 | 7.36 | 232681 | 9.60 | 318110 | 10.52 | 259763 | 13.66 | 135768 | 15.97 |
| JC87563-7 | 61492 | 7.37 | 212579 | 9.60 | 300083 | 10.52 | 244872 | 13.66 | 127779 | 15.97 |
| ZZZZZZ | 58007 | 7.36 | 199377 | 9.60 | 282933 | 10.52 | 229549 | 13.66 | 119565 | 15.97 |
| ZZZZZZ | 55554 | 7.36 | 186417 | 9.60 | 265816 | 10.52 | 217058 | 13.66 | 116956 | 15.97 |
| ZZZZZZ | 53050 | 7.36 | 187941 | 9.60 | 266930 | 10.52 | 219212 | 13.66 | 115966 | 15.97 |
| ZZZZZZ | 52255 | 7.37 | 183718 | 9.60 | 261171 | 10.52 | 216835 | 13.66 | 113583 | 15.97 |
| ZZZZZZ | 40358 | 7.36 | 175870 | 9.60 | 248720 | 10.52 | 204714 | 13.66 | 106306 | 15.97 |
| ZZZZZZ | 53749 | 7.36 | 172633 | 9.60 | 245597 | 10.52 | 200465 | 13.66 | 100536 | 15.97 |
| ZZZZZZ | 51645 | 7.36 | 176416 | 9.60 | 249512 | 10.52 | 207089 | 13.66 | 109404 | 15.97 |
| ZZZZZZ | 51233 | 7.36 | 176197 | 9.60 | 250496 | 10.52 | 203194 | 13.66 | 101569 | 15.97 |
| JC87563-7MS | 45892 | 7.37 | 175081 | 9.60 | 256022 | 10.52 | 206025 | 13.66 | 108558 | 15.97 |
| JC87563-7MSD | 49011 | 7.36 | 174747 | 9.60 | 254925 | 10.52 | 202533 | 13.66 | 104623 | 15.97 |
| ZZZZZZ | 52148 | 7.36 | 178378 | 9.60 | 253138 | 10.52 | 208682 | 13.66 | 110301 | 15.97 |
| ZZZZZZ | 53852 | 7.36 | 173233 | 9.60 | 246226 | 10.52 | 200031 | 13.66 | 101646 | 15.97 |
| ZZZZZZ | 48102 | 7.36 | 174917 | 9.60 | 246189 | 10.52 | 202754 | 13.66 | 103241 | 15.97 |
| ZZZZZZ | 49293 | 7.36 | 174269 | 9.60 | 248882 | 10.52 | 204080 | 13.66 | 107518 | 15.97 |
| ZZZZZZ | 44110 | 7.36 | 167080 | 9.60 | 235880 | 10.52 | 199215 | 13.66 | 104818 | 15.97 |
| JC87535-5 | 57199 | 7.36 | 178985 | 9.60 | 259163 | 10.52 | 212817 | 13.66 | 110465 | 15.97 |
| JC87535-2 | 47606 | 7.36 | 177090 | 9.60 | 251661 | 10.52 | 205572 | 13.66 | 107615 | 15.97 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V2C7520-CC7441 | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | 2C167640.D | **Injection Time:** | 06:35 |
| **Instrument ID:** | GCMS2C | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 235838 | 8.23 | 271855 | 10.68 | 372819 | 11.63 | 373384 | 14.61 | 241663 | 16.79 |
| Upper Limit [a] | 471676 | 8.73 | 543710 | 11.18 | 745638 | 12.13 | 746768 | 15.11 | 483326 | 17.29 |
| Lower Limit [b] | 117919 | 7.73 | 135928 | 10.18 | 186410 | 11.13 | 186692 | 14.11 | 120832 | 16.29 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V2C7520-BS | 237023 | 8.23 | 276684 | 10.68 | 379198 | 11.63 | 369728 | 14.61 | 235194 | 16.79 |
| ZZZZZZ | 250786 | 8.24 | 269004 | 10.68 | 364819 | 11.63 | 368927 | 14.61 | 252490 | 16.79 |
| V2C7520-MB | 250786 | 8.24 | 269004 | 10.68 | 364819 | 11.63 | 368927 | 14.61 | 252490 | 16.79 |
| ZZZZZZ | 262083 | 8.25 | 243649 | 10.68 | 306423 | 11.63 | 306132 | 14.61 | 222816 | 16.79 |
| JC87569-2 | 290665 | 8.25 | 257787 | 10.68 | 332301 | 11.63 | 321136 | 14.61 | 234134 | 16.79 |
| ZZZZZZ | 258787 | 8.24 | 285413 | 10.68 | 375950 | 11.63 | 366746 | 14.61 | 243677 | 16.79 |
| ZZZZZZ | 255781 | 8.23 | 295040 | 10.68 | 395716 | 11.62 | 383440 | 14.61 | 250108 | 16.79 |
| JC87569-2MS | 304544 | 8.23 | 289581 | 10.68 | 390000 | 11.63 | 374725 | 14.61 | 254040 | 16.79 |
| JC87569-2MSD | 311547 | 8.22 | 291913 | 10.68 | 404809 | 11.63 | 393230 | 14.61 | 261635 | 16.79 |
| JC87569-2 | 262435 | 8.22 | 283471 | 10.68 | 385320 | 11.63 | 383257 | 14.61 | 254813 | 16.79 |
| ZZZZZZ | 249525 | 8.23 | 296043 | 10.68 | 401705 | 11.63 | 388997 | 14.61 | 267752 | 16.79 |
| ZZZZZZ | 242476 | 8.25 | 286237 | 10.68 | 386349 | 11.63 | 368951 | 14.61 | 256623 | 16.79 |
| ZZZZZZ | 237514 | 8.23 | 297356 | 10.68 | 408484 | 11.63 | 389406 | 14.61 | 258392 | 16.79 |
| ZZZZZZ | 248616 | 8.24 | 289679 | 10.68 | 395831 | 11.63 | 391275 | 14.61 | 263873 | 16.79 |
| ZZZZZZ | 237307 | 8.24 | 279255 | 10.68 | 374593 | 11.63 | 368127 | 14.61 | 263205 | 16.79 |
| ZZZZZZ | 244525 | 8.27 | 303867 | 10.68 | 402256 | 11.63 | 423299 | 14.61 | 276058 | 16.79 |
| JC87535-11 [c] | 275081 | 8.24 | 298653 | 10.68 | 397288 | 11.63 | 381978 | 14.61 | 253371 | 16.79 |
| JC87535-7 [c] | 259052 | 8.22 | 279264 | 10.68 | 364136 | 11.63 | 350270 | 14.61 | 239731 | 16.79 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Diluted due to high concentration of non-target compound.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V2C7521-CC7441 | **Injection Date:** | 05/16/19 |
| **Lab File ID:** | 2C167675.D | **Injection Time:** | 07:47 |
| **Instrument ID:** | GCMS2C | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 257560 | 8.23 | 262192 | 10.69 | 344714 | 11.63 | 331934 | 14.61 | 211495 | 16.79 |
| Upper Limit [a] | 515120 | 8.73 | 524384 | 11.19 | 689428 | 12.13 | 663868 | 15.11 | 422990 | 17.29 |
| Lower Limit [b] | 128780 | 7.73 | 131096 | 10.19 | 172357 | 11.13 | 165967 | 14.11 | 105748 | 16.29 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V2C7521-BS | 227679 | 8.21 | 271863 | 10.68 | 376862 | 11.63 | 368140 | 14.61 | 232063 | 16.79 |
| ZZZZZZ | 240248 | 8.23 | 276132 | 10.68 | 382402 | 11.63 | 378042 | 14.61 | 255440 | 16.79 |
| V2C7521-MB | 240248 | 8.23 | 276132 | 10.68 | 382402 | 11.63 | 378042 | 14.61 | 255440 | 16.79 |
| ZZZZZZ | 241941 | 8.23 | 289378 | 10.68 | 402096 | 11.63 | 397008 | 14.61 | 262713 | 16.79 |
| ZZZZZZ | 242591 | 8.24 | 271382 | 10.68 | 370074 | 11.63 | 372865 | 14.61 | 254395 | 16.79 |
| ZZZZZZ | 242033 | 8.23 | 269507 | 10.68 | 366309 | 11.63 | 370980 | 14.61 | 238721 | 16.79 |
| JC87535-3 [c] | 237496 | 8.21 | 274728 | 10.68 | 382280 | 11.63 | 373830 | 14.61 | 246801 | 16.79 |
| JC87535-3MS | 234178 | 8.23 | 268874 | 10.68 | 370637 | 11.63 | 364746 | 14.61 | 228321 | 16.79 |
| JC87535-3MSD | 245799 | 8.23 | 266670 | 10.68 | 363312 | 11.63 | 357137 | 14.61 | 221476 | 16.79 |
| ZZZZZZ | 242740 | 8.23 | 273251 | 10.68 | 364553 | 11.63 | 359073 | 14.61 | 235621 | 16.79 |
| ZZZZZZ | 252560 | 8.23 | 273055 | 10.68 | 370419 | 11.63 | 386071 | 14.61 | 250160 | 16.79 |
| ZZZZZZ | 265332 | 8.22 | 291098 | 10.68 | 392594 | 11.63 | 401182 | 14.61 | 256897 | 16.79 |
| ZZZZZZ | 288438 | 8.25 | 324508 | 10.69 | 473027 | 11.63 | 459366 | 14.62 | 275657 | 16.80 |
| ZZZZZZ | 301626 | 8.27 | 324533 | 10.69 | 442195 | 11.63 | 453607 | 14.62 | 270120 | 16.80 |
| ZZZZZZ | 264879 | 8.23 | 296663 | 10.69 | 376251 | 11.63 | 371904 | 14.61 | 239470 | 16.79 |
| ZZZZZZ | 265479 | 8.23 | 299864 | 10.68 | 395100 | 11.63 | 380649 | 14.61 | 239034 | 16.79 |
| ZZZZZZ | 250441 | 8.24 | 320791 | 10.69 | 460206 | 11.63 | 428257 | 14.62 | 297905 | 16.80 |
| ZZZZZZ | 233688 | 8.23 | 324194 | 10.69 | 425354 | 11.63 | 411560 | 14.62 | 221891 | 16.80 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Diluted due to high concentration of non-target compound.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V2V2399-CC2392 | **Injection Date:** | 05/13/19 |
| **Lab File ID:** | 2V58520.D | **Injection Time:** | 06:40 |
| **Instrument ID:** | GCMS2V | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 113014 | 2.94 | 247896 | 4.15 | 345723 | 4.71 | 294126 | 7.10 | 140414 | 9.30 |
| Upper Limit [a] | 226028 | 3.44 | 495792 | 4.65 | 691446 | 5.21 | 588252 | 7.60 | 280828 | 9.80 |
| Lower Limit [b] | 56507 | 2.44 | 123948 | 3.65 | 172862 | 4.21 | 147063 | 6.60 | 70207 | 8.80 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V2V2399-BS | 108116 | 2.94 | 235054 | 4.15 | 332947 | 4.71 | 293233 | 7.10 | 147797 | 9.30 |
| V2V2399-MB | 106777 | 2.94 | 220433 | 4.15 | 312189 | 4.71 | 263574 | 7.10 | 122396 | 9.30 |
| GP21174-20LB | 103165 | 2.94 | 216335 | 4.15 | 310299 | 4.71 | 265608 | 7.10 | 124765 | 9.30 |
| GP21185-22LB | 101665 | 2.94 | 209879 | 4.15 | 300752 | 4.71 | 259284 | 7.10 | 121042 | 9.30 |
| ZZZZZZ | 109390 | 2.94 | 211565 | 4.15 | 308446 | 4.71 | 268061 | 7.10 | 124687 | 9.30 |
| ZZZZZZ | 100481 | 2.94 | 208538 | 4.15 | 304571 | 4.71 | 262543 | 7.10 | 119282 | 9.30 |
| ZZZZZZ | 103515 | 2.94 | 203697 | 4.15 | 301347 | 4.71 | 257989 | 7.10 | 118490 | 9.30 |
| ZZZZZZ | 102848 | 2.94 | 193538 | 4.15 | 284577 | 4.71 | 246735 | 7.10 | 116053 | 9.30 |
| JC87535-13 | 95228 | 2.94 | 194014 | 4.15 | 287972 | 4.71 | 251104 | 7.10 | 117944 | 9.30 |
| JC87535-13MS | 102651 | 2.94 | 211651 | 4.14 | 311475 | 4.71 | 274323 | 7.10 | 137711 | 9.30 |
| GP21185-20LS | 102651 | 2.94 | 211651 | 4.14 | 311475 | 4.71 | 274323 | 7.10 | 137711 | 9.30 |
| JC87535-13MSD | 107585 | 2.94 | 217439 | 4.15 | 315281 | 4.71 | 281213 | 7.10 | 139652 | 9.30 |
| ZZZZZZ | 108555 | 2.94 | 212455 | 4.15 | 312603 | 4.71 | 266760 | 7.10 | 121910 | 9.30 |
| ZZZZZZ | 100373 | 2.94 | 205833 | 4.15 | 300741 | 4.71 | 254212 | 7.10 | 113535 | 9.30 |
| ZZZZZZ | 104923 | 2.94 | 206176 | 4.15 | 301740 | 4.71 | 264524 | 7.10 | 119156 | 9.30 |
| ZZZZZZ | 100910 | 2.94 | 201602 | 4.15 | 299061 | 4.71 | 254090 | 7.10 | 113698 | 9.30 |
| ZZZZZZ | 96363 | 2.94 | 197987 | 4.15 | 291114 | 4.71 | 248465 | 7.10 | 110003 | 9.30 |
| JC87535-14 | 100163 | 2.94 | 195441 | 4.15 | 290072 | 4.71 | 255070 | 7.10 | 122844 | 9.30 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V2V2401-CC2392 | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | 2V58580.D | **Injection Time:** | 06:38 |
| **Instrument ID:** | GCMS2V | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 103646 | 2.94 | 219620 | 4.15 | 310308 | 4.71 | 270286 | 7.10 | 131264 | 9.30 |
| Upper Limit [a] | 207292 | 3.44 | 439240 | 4.65 | 620616 | 5.21 | 540572 | 7.60 | 262528 | 9.80 |
| Lower Limit [b] | 51823 | 2.44 | 109810 | 3.65 | 155154 | 4.21 | 135143 | 6.60 | 65632 | 8.80 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V2V2401-BS | 101240 | 2.94 | 223978 | 4.15 | 312484 | 4.71 | 279921 | 7.10 | 137134 | 9.30 |
| V2V2401-MB | 97242 | 2.94 | 202896 | 4.15 | 286774 | 4.71 | 246053 | 7.10 | 113473 | 9.30 |
| GP21186-23LB | 100226 | 2.94 | 211241 | 4.15 | 297803 | 4.71 | 254914 | 7.10 | 117138 | 9.30 |
| TD38572-1 | 98208 | 2.94 | 201807 | 4.15 | 286671 | 4.71 | 251768 | 7.10 | 118616 | 9.30 |
| GP21186-21LS | 111328 | 2.94 | 226398 | 4.15 | 316047 | 4.71 | 288253 | 7.10 | 143582 | 9.30 |
| TD38572-1MS | 111328 | 2.94 | 226398 | 4.15 | 316047 | 4.71 | 288253 | 7.10 | 143582 | 9.30 |
| TD38572-1MSD | 110675 | 2.94 | 229864 | 4.15 | 323736 | 4.71 | 287327 | 7.10 | 142454 | 9.30 |
| V2V2402-BS | 103252 | 2.94 | 223845 | 4.14 | 313491 | 4.71 | 277591 | 7.10 | 137721 | 9.30 |
| V2V2402-MB | 99861 | 2.94 | 204594 | 4.15 | 288181 | 4.71 | 248625 | 7.10 | 114401 | 9.30 |
| GP21166-19LB | 90642 | 2.94 | 204822 | 4.15 | 289271 | 4.71 | 247257 | 7.10 | 112544 | 9.30 |
| JC87535-15 | 100754 | 2.94 | 208999 | 4.15 | 296236 | 4.71 | 258415 | 7.10 | 121036 | 9.30 |
| JC87626-1 | 84294 | 2.94 | 202974 | 4.15 | 284488 | 4.71 | 243389 | 7.10 | 110468 | 9.30 |
| ZZZZZZ | 100435 | 2.94 | 203372 | 4.15 | 290553 | 4.71 | 252281 | 7.10 | 117289 | 9.30 |
| ZZZZZZ | 92059 | 2.94 | 200250 | 4.15 | 283689 | 4.71 | 246181 | 7.10 | 114331 | 9.30 |
| JC87626-1MS | 102582 | 2.94 | 223635 | 4.15 | 315511 | 4.71 | 280915 | 7.10 | 140475 | 9.30 |
| GP21166-17LS | 102582 | 2.94 | 223635 | 4.15 | 315511 | 4.71 | 280915 | 7.10 | 140475 | 9.30 |
| JC87626-1MSD | 106457 | 2.94 | 230388 | 4.15 | 320518 | 4.71 | 284681 | 7.10 | 137111 | 9.30 |
| ZZZZZZ | 95522 | 2.94 | 201147 | 4.15 | 286775 | 4.71 | 251771 | 7.10 | 117867 | 9.30 |
| GP21174-18LS | 105370 | 2.94 | 215735 | 4.15 | 307763 | 4.71 | 275836 | 7.10 | 137528 | 9.30 |
| ZZZZZZ | 91613 | 2.94 | 205696 | 4.15 | 293410 | 4.71 | 249927 | 7.10 | 113169 | 9.30 |
| V2V2402-ECC2392 | 104961 | 2.94 | 225404 | 4.15 | 315760 | 4.71 | 279499 | 7.10 | 137686 | 9.30 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | VY8033-CC8014 | **Injection Date:** | 05/11/19 |
| **Lab File ID:** | Y185114.D | **Injection Time:** | 10:31 |
| **Instrument ID:** | GCMSY | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 51411 | 7.73 | 194431 | 9.97 | 268103 | 10.91 | 230953 | 13.99 | 127658 | 16.29 |
| Upper Limit [a] | 102822 | 8.23 | 388862 | 10.47 | 536206 | 11.41 | 461906 | 14.49 | 255316 | 16.79 |
| Lower Limit [b] | 25706 | 7.23 | 97216 | 9.47 | 134052 | 10.41 | 115477 | 13.49 | 63829 | 15.79 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| VY8033-BS | 52337 | 7.73 | 194416 | 9.97 | 270631 | 10.91 | 234592 | 13.99 | 126899 | 16.29 |
| VY8033-MB | 48056 | 7.74 | 172932 | 9.97 | 243594 | 10.91 | 207408 | 13.99 | 106573 | 16.29 |
| JC87535-8 | 49808 | 7.73 | 183039 | 9.97 | 261622 | 10.91 | 233745 | 13.99 | 116456 | 16.29 |
| JC87535-1 | 57636 | 7.75 | 202858 | 9.97 | 286461 | 10.91 | 252869 | 13.99 | 199750 | 16.29 |
| JC87535-6 | 78809 | 7.74 | 246753 | 9.97 | 354520 | 10.91 | 308042 | 13.99 | 160883 | 16.29 |
| JC87535-10 | 77733 | 7.74 | 256478 | 9.97 | 369256 | 10.91 | 317918 | 13.99 | 170680 | 16.29 |
| JC87535-9 | 89902 | 7.74 | 279144 | 9.97 | 399942 | 10.91 | 357032 | 13.99 | 191504 | 16.29 |
| JC87535-4 | 80556 | 7.73 | 280581 | 9.97 | 397130 | 10.91 | 354321 | 13.99 | 182507 | 16.29 |
| JC87535-12 | 90774 | 7.74 | 267676 | 9.97 | 382266 | 10.91 | 342251 | 13.99 | 179137 | 16.29 |
| JC87535-8MS | 80760 | 7.73 | 294742 | 9.97 | 415835 | 10.91 | 349784 | 13.99 | 186038 | 16.29 |
| JC87535-8MSD | 70653 | 7.72 | 293341 | 9.97 | 416231 | 10.91 | 348756 | 13.99 | 184662 | 16.29 |
| ZZZZZZ | 67885 | 7.74 | 268234 | 9.97 | 378032 | 10.91 | 335841 | 13.99 | 179305 | 16.29 |
| ZZZZZZ | 71630 | 7.72 | 264500 | 9.97 | 370159 | 10.91 | 325881 | 13.99 | 178451 | 16.29 |
| ZZZZZZ | 69028 | 7.73 | 257075 | 9.97 | 363994 | 10.91 | 309512 | 13.99 | 169504 | 16.29 |
| ZZZZZZ | 77905 | 7.73 | 254322 | 9.97 | 361905 | 10.91 | 316104 | 13.99 | 169975 | 16.29 |
| ZZZZZZ | 83458 | 7.73 | 272124 | 9.97 | 391545 | 10.91 | 316552 | 13.99 | 175410 | 16.29 |
| ZZZZZZ | 82112 | 7.74 | 284149 | 9.97 | 403479 | 10.91 | 343818 | 13.99 | 182318 | 16.29 |
| ZZZZZZ | 78383 | 7.73 | 256848 | 9.97 | 366297 | 10.91 | 315946 | 13.99 | 165775 | 16.29 |
| ZZZZZZ | 75294 | 7.73 | 246948 | 9.97 | 349300 | 10.91 | 291719 | 13.99 | 155991 | 16.29 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Surrogate Recovery Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8260C **Matrix:** LEACHATE

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 |
|---|---|---|---|---|---|
| JC87535-13 | 2V58530.D | 102 | 97 | 98 | 98 |
| JC87535-14 | 2V58540.D | 102 | 100 | 98 | 96 |
| JC87535-15 | 2V58593.D | 97 | 99 | 97 | 97 |
| GP21185-20LS | 2V58532A.D | 99 | 95 | 98 | 93 |
| GP21185-22LB | 2V58525.D | 99 | 100 | 99 | 97 |
| JC87535-13MS | 2V58532.D | 99 | 95 | 98 | 93 |
| JC87535-13MSD | 2V58533.D | 99 | 96 | 97 | 93 |
| JC87626-1MS | 2V58597.D | 95 | 94 | 98 | 93 |
| JC87626-1MSD | 2V58598.D | 93 | 92 | 97 | 96 |
| V2V2399-BS | 2V58521.D | 96 | 94 | 98 | 93 |
| V2V2399-MB | 2V58523.D | 96 | 93 | 100 | 98 |
| V2V2402-BS | 2V58589.D | 93 | 94 | 98 | 94 |
| V2V2402-MB | 2V58591.D | 95 | 95 | 98 | 99 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = Dibromofluoromethane | 76-120% |
| **S2** = 1,2-Dichloroethane-D4 | 64-135% |
| **S3** = Toluene-D8 | 76-117% |
| **S4** = 4-Bromofluorobenzene | 72-122% |

# Surrogate Recovery Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8260C **Matrix:** SO

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 |
|---|---|---|---|---|---|
| JC87535-1 | Y185120.D | 101 | 93 | 103 | 117 |
| JC87535-2 | 1C164514.D | 104 | 88 | 100 | 92 |
| JC87535-3 | 2C167684.D | 97 | 97 | 98 | 100 |
| JC87535-4 | Y185126.D | 97 | 87 | 99 | 100 |
| JC87535-5 | 1C164513.D | 110 | 94 | 98 | 94 |
| JC87535-6 | Y185123.D | 102 | 91 | 98 | 96 |
| JC87535-7 | 2C167664.D | 97 | 99 | 100 | 100 |
| JC87535-8 | Y185119.D | 104 | 96 | 97 | 97 |
| JC87535-9 | Y185125.D | 99 | 89 | 98 | 95 |
| JC87535-10 | Y185124.D | 102 | 91 | 99 | 96 |
| JC87535-11 | 2C167663.D | 97 | 100 | 98 | 102 |
| JC87535-12 | Y185127.D | 99 | 91 | 97 | 99 |
| JC87535-3MS | 2C167685.D | 99 | 94 | 99 | 107 |
| JC87535-3MSD | 2C167686.D | 98 | 95 | 100 | 106 |
| JC87535-8MS | Y185128.D | 94 | 81 | 102 | 97 |
| JC87535-8MSD | Y185129.D | 92 | 80 | 103 | 95 |
| JC87563-7MS | 1C164505.D | 108 | 86 | 98 | 93 |
| JC87563-7MSD | 1C164506.D | 106 | 86 | 99 | 95 |
| JC87569-2MS | 2C167649.D | 97 | 98 | 102 | 109 |
| JC87569-2MSD | 2C167650.D | 96 | 95 | 100 | 110 |
| V1C7218-BS | 1C164492.D | 100 | 84 | 100 | 92 |
| V1C7218-MB | 1C164494.D | 99 | 81 | 99 | 94 |
| V2C7520-BS | 2C167642.D | 97 | 93 | 99 | 105 |
| V2C7520-MB | 2C167644.D | 97 | 98 | 97 | 99 |
| V2C7521-BS | 2C167677.D | 99 | 93 | 99 | 106 |
| V2C7521-MB | 2C167679.D | 96 | 97 | 97 | 100 |
| VY8033-BS | Y185116.D | 97 | 92 | 99 | 100 |
| VY8033-MB | Y185118.D | 103 | 95 | 101 | 94 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = Dibromofluoromethane | 75-127% |
| **S2** = 1,2-Dichloroethane-D4 | 75-130% |
| **S3** = Toluene-D8 | 80-120% |
| **S4** = 4-Bromofluorobenzene | 79-127% |

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICC7200
**Lab FileID:** 1C164011.D

Response Factor Report GCMS1C

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

Calibration Files
1 =1C164006.D 0.5 =1C164005.D 100 =1C164012.D 50 =1C164011.D
20 =1C164010.D 200 =1C164013.D 4 =1C164008.D 2 =1C164007.D
8 =1C164009.D =

| Compound | 1 | 0.5 | 100 | 50 | 20 | 200 | 4 | 2 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | ----------ISTD---------- | | | | | | | | | | |
| 2) tertiary butyl alcohol | | 1.382 | 1.299 | 1.340 | 1.361 | 1.299 | 1.213 | 1.403 | | 1.328 | 4.83 |
| 3) ethanol | | | | | | | | | | 0.000# | -1.00 |
| 4) 1,4-dioxane | | 0.130 | 0.123 | 0.121 | 0.129 | 0.098 | | 0.127 | | 0.121 | 9.95 |
| 5) I pentafluorobenzene | ----------ISTD---------- | | | | | | | | | | |
| 6) chlorodifluoromethane | 0.492 | 0.512 | 0.534 | 0.549 | 0.507 | 0.505 | 0.517 | 0.551 | 0.521 | 0.521 | 3.87 |
| 7) dichlorodifluoromethane | 0.773 | 0.591 | 0.765 | 0.779 | 0.784 | 0.729 | 0.774 | 0.703 | 0.755 | 0.739 | 8.32 |
| 8) chloromethane | 0.571 | 0.599 | 0.529 | 0.543 | 0.539 | 0.485 | 0.545 | 0.525 | 0.543 | 0.542 | 5.79 |
| 9) vinyl chloride | 0.554 | 0.448 | 0.517 | 0.536 | 0.535 | 0.492 | 0.522 | 0.478 | 0.510 | 0.510 | 6.43 |
| 10) 1,3-butadiene | 0.316 | 0.275 | 0.331 | 0.345 | 0.323 | 0.313 | 0.326 | 0.329 | 0.325 | 0.320 | 5.99 |
| 11) bromomethane | 0.440 | 0.384 | 0.368 | 0.384 | 0.387 | 0.347 | 0.399 | 0.384 | 0.407 | 0.389 | 6.61 |
| 12) chloroethane | 0.317 | | 0.311 | 0.311 | 0.314 | 0.288 | 0.308 | 0.287 | 0.308 | 0.306 | 3.76 |
| 13) trichlorofluoromethane | 0.750 | 0.686 | 0.781 | 0.802 | 0.802 | 0.736 | 0.790 | 0.737 | 0.764 | 0.761 | 4.99 |
| 14) vinyl bromide | 0.298 | | 0.306 | 0.312 | 0.310 | 0.290 | 0.309 | 0.264 | 0.298 | 0.298 | 5.34 |
| 15) ethyl ether | | 0.214 | 0.213 | 0.205 | 0.205 | 0.194 | 0.184 | 0.207 | | 0.203 | 5.20 |
| 16) acrolein | | 0.055 | 0.054 | 0.052 | 0.054 | | | 0.047 | | 0.052 | 6.21 |
| 17) freon 113 | 0.300 | | 0.351 | 0.363 | 0.337 | 0.334 | 0.352 | 0.310 | 0.344 | 0.336 | 6.37 |
| 18) 1,1-dichloroethene | 0.419 | 0.397 | 0.405 | 0.422 | 0.394 | 0.375 | 0.411 | 0.441 | 0.421 | 0.409 | 4.69 |
| 19) acetone | | 0.104 | 0.099 | 0.101 | 0.098 | 0.102 | 0.100 | 0.109 | | 0.102 | 3.51 |
| 20) acetonitrile | | 0.042 | 0.042 | 0.044 | 0.041 | 0.045 | 0.036 | 0.047 | | 0.042 | 8.67 |
| 21) iodomethane | | 0.491 | 0.436 | 0.336 | 0.486 | 0.244 | | 0.274 | | 0.378 | 28.61 |

----- Linear regression ----- Coefficient = 0.9965
Response Ratio = -0.02896 + 0.48886 *A

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICC7200
**Lab FileID:** 1C164011.D

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 22) | carbon disulfide | | | | | | | | | | |
| | 1.504 | 1.254 | 1.307 | 1.239 | 1.184 | 1.344 | 1.425 | 1.320 | 1.322 | 7.83 | |
| 23) | methylene chloride | | | | | | | | | | |
| | | 0.438 | 0.446 | 0.435 | 0.413 | 0.449 | 0.463 | 0.465 | 0.444 | 3.97 | |
| 24) | methyl acetate | | | | | | | | | | |
| | | 0.247 | 0.255 | 0.252 | 0.242 | 0.227 | | 0.266 | 0.248 | 5.36 | |
| 25) | methyl tert butyl ether | | | | | | | | | | |
| | 1.046 | 1.090 | 1.150 | 1.157 | 1.107 | 1.092 | 1.131 | 1.062 | 1.147 | 1.109 | 3.60 |
| 26) | trans-1,2-dichloroethene | | | | | | | | | | |
| | 0.464 | 0.513 | 0.432 | 0.454 | 0.441 | 0.403 | 0.460 | 0.469 | 0.453 | 0.454 | 6.53 |
| 27) | di-isopropyl ether | | | | | | | | | | |
| | 1.333 | 1.349 | 1.388 | 1.406 | 1.374 | 1.300 | 1.370 | 1.370 | 1.402 | 1.366 | 2.49 |
| 28) | 2-butanone | | | | | | | | | | |
| | | 0.040 | 0.040 | 0.040 | 0.038 | 0.036 | 0.033 | 0.041 | 0.038 | 7.39 | |
| 29) | 1,1-dichloroethane | | | | | | | | | | |
| | 0.750 | 0.767 | 0.745 | 0.784 | 0.784 | 0.690 | 0.822 | 0.803 | 0.793 | 0.771 | 5.06 |
| 30) | chloroprene | | | | | | | | | | |
| | 0.667 | 0.610 | 0.667 | 0.695 | 0.674 | 0.628 | 0.672 | 0.676 | 0.692 | 0.665 | 4.22 |
| 31) | acrylonitrile | | | | | | | | | | |
| | | 0.116 | 0.116 | 0.114 | 0.112 | 0.091 | | 0.116 | 0.111 | 8.79 | |
| 32) | hexane | | | | | | | | | | |
| | 0.697 | 0.673 | 0.714 | 0.743 | 0.696 | 0.670 | 0.744 | 0.704 | 0.713 | 0.706 | 3.70 |
| 33) | vinyl acetate | | | | | | | | | | |
| | | 0.068 | 0.070 | 0.068 | 0.064 | 0.051 | | 0.065 | 0.064 | 10.57 | |
| 34) | ethyl tert-butyl ether | | | | | | | | | | |
| | 1.212 | 1.278 | 1.365 | 1.379 | 1.338 | 1.293 | 1.326 | 1.283 | 1.373 | 1.316 | 4.18 |
| 35) | ethyl acetate | | | | | | | | | | |
| | | 0.049 | 0.051 | 0.051 | 0.047 | 0.042 | | 0.050 | 0.048 | 7.05 | |
| 36) | 2,2-dichloropropane | | | | | | | | | | |
| | 0.694 | 0.658 | 0.679 | 0.712 | 0.672 | 0.634 | 0.712 | 0.718 | 0.707 | 0.687 | 4.19 |
| 37) | cis-1,2-dichloroethene | | | | | | | | | | |
| | 0.494 | 0.474 | 0.473 | 0.491 | 0.484 | 0.435 | 0.515 | 0.538 | 0.508 | 0.490 | 5.95 |
| 38) | methyl acrylate | | | | | | | | | | |
| | | 0.055 | 0.055 | 0.052 | 0.054 | 0.034 | | 0.051 | 0.050 | 16.35 | |
| 39) | propionitrile | | | | | | | | | | |
| | 0.043 | 0.049 | 0.049 | 0.051 | 0.047 | 0.048 | 0.045 | 0.056 | 0.048 | 7.62 | |
| 40) | bromochloromethane | | | | | | | | | | |
| | 0.190 | 0.219 | 0.222 | 0.218 | 0.203 | 0.221 | 0.205 | 0.225 | 0.213 | 5.78 | |
| 41) | tetrahydrofuran | | | | | | | | | | |
| | | 0.046 | 0.047 | 0.047 | 0.044 | 0.040 | | 0.051 | 0.046 | 7.90 | |
| 42) | chloroform | | | | | | | | | | |
| | 0.556 | 0.659 | 0.511 | 0.528 | 0.526 | 0.476 | 0.541 | 0.568 | 0.545 | 0.546 | 9.23 |
| 43) | t-butyl formate | | | | | | | | | | |
| | | 0.295 | 0.333 | 0.269 | 0.306 | 0.271 | 0.258 | 0.322 | 0.293 | 9.86 | |
| 44) | dibromofluoromethane (s) | | | | | | | | | | |
| | 0.417 | 0.417 | 0.428 | 0.425 | 0.423 | 0.422 | 0.422 | 0.419 | 0.422 | 0.422 | 0.84 |
| 45) | methacrylonitrile | | | | | | | | | | |
| | | 0.145 | 0.149 | 0.142 | 0.141 | 0.139 | 0.119 | 0.145 | 0.140 | 6.95 | |
| 46) | 1,1,1-trichloroethane | | | | | | | | | | |
| | 0.690 | 0.624 | 0.724 | 0.745 | 0.707 | 0.684 | 0.731 | 0.729 | 0.723 | 0.706 | 5.21 |
| 47) | cyclohexane | | | | | | | | | | |
| | 0.767 | 0.570 | 0.688 | 0.716 | 0.747 | 0.642 | 0.727 | 0.682 | 0.735 | 0.697 | 8.70 |
| 48) | 1,1-dichloropropene | | | | | | | | | | |
| | 0.582 | 0.575 | 0.589 | 0.621 | 0.597 | 0.558 | 0.617 | 0.619 | 0.625 | 0.598 | 3.96 |
| 49) | iso-butyl alcohol | | | | | | | | | | |
| | | 0.015 | 0.016 | 0.016 | 0.015 | 0.015 | | 0.017 | 0.016 | 6.04 | |
| 50) | carbon tetrachloride | | | | | | | | | | |
| | 0.615 | 0.548 | 0.630 | 0.652 | 0.615 | 0.595 | 0.628 | 0.631 | 0.637 | 0.617 | 4.92 |
| 51) | tert amyl alcohol | | | | | | | | | | |
| | | 0.015 | 0.015 | 0.015 | 0.015 | 0.014 | | 0.015 | 0.015 | 4.02 | |

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
52) I   1,4-difluorobenzene   ----------------ISTD--------------------
53)  1,2-dichloroethane-d4 (s)
          0.318 0.309 0.311 0.307 0.320 0.309 0.315 0.316 0.322   0.314    1.71
54)  n-butyl alcohol
                      0.008 0.008 0.008 0.008 0.007 0.006 0.008   0.007#  10.61
55)  2,2,4-trimethylpentane
          1.191 0.971 1.196 1.241 1.226 1.116 1.321 1.241 1.300   1.200    8.73
56)  benzene
          1.277 1.410 1.156 1.208 1.232 1.050 1.307 1.309 1.318   1.252    8.40
57)  tert-amyl methyl ether
          0.160       0.199 0.203 0.202 0.187 0.195 0.197 0.218   0.195    8.56
58)  heptane
          0.241       0.270 0.280 0.275 0.250 0.291 0.263 0.291   0.270    6.66
59)  isopropyl acetate
                      0.055 0.054 0.051 0.052 0.044       0.055   0.052    7.85
60)  1,2-dichloroethane
          0.469       0.383 0.389 0.397 0.354 0.406 0.420 0.437   0.407    8.68
61)  trichloroethene
          0.318 0.289 0.322 0.335 0.327 0.300 0.324 0.349 0.337   0.322    5.76
62)  ethyl acrylate
          0.260       0.310 0.317 0.310 0.294 0.305 0.290 0.334   0.302    7.23
63)  2-nitropropane
                                                                  0.000#  -1.00
64)  2-chloroethyl vinyl ether
          0.133 0.144 0.147 0.165 0.147 0.144 0.143 0.139 0.175   0.149    8.87
65)  methyl methacrylate
                      0.064 0.064 0.063 0.061 0.057       0.067   0.063    5.13
66)  1,2-dichloropropane
          0.304 0.295 0.288 0.298 0.309 0.265 0.310 0.295 0.318   0.298    5.11
67)  dibromomethane
          0.157       0.177 0.180 0.176 0.167 0.175 0.176 0.189   0.175    5.24
68)  methylcyclohexane
          0.634       0.521 0.543 0.528 0.490 0.573 0.596 0.561   0.556    8.20
69)  bromodichloromethane
          0.403 0.408 0.435 0.434 0.420 0.409 0.418 0.440 0.434   0.422    3.25
70)  epichlorohydrin
                      0.024 0.024 0.024 0.024 0.023 0.022 0.026   0.024    5.06
71)  cis-1,3-dichloropropene
          0.474 0.492 0.485 0.495 0.487 0.459 0.489 0.474 0.508   0.485    2.90
72)  4-methyl-2-pentanone
          0.085 0.093 0.084 0.085 0.086 0.079 0.087 0.086 0.095   0.087    5.57
73)  3-methyl-1-butanol
                      0.011 0.011 0.011 0.011 0.010 0.010 0.012   0.011    7.44

74) I   chlorobenzene-d5      ----------------ISTD--------------------
75)  toluene-d8 (s)
          1.348 1.350 1.347 1.337 1.339 1.329 1.340 1.373 1.358   1.347    0.97
76)  toluene
          0.939 1.030 0.869 0.885 0.868 0.807 0.945 0.951 0.941   0.915    7.06
77)  trans-1,3-dichloropropene
          0.484 0.524 0.521 0.530 0.511 0.489 0.514 0.512 0.550   0.515    3.90
78)  ethyl methacrylate
          0.318 0.322 0.387 0.386 0.381 0.360 0.369 0.343 0.410   0.364    8.59
79)  1,1,2-trichloroethane
          0.218 0.226 0.254 0.255 0.247 0.239 0.250 0.228 0.252   0.241    5.71
80)  tetrachloroethene
          0.303 0.314 0.320 0.329 0.310 0.296 0.333 0.342 0.316   0.318    4.67
81)  1,3-dichloropropane
          0.403 0.435 0.446 0.453 0.449 0.413 0.457 0.455 0.468   0.442    4.85
```

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

82) 2-hexanone
0.090 0.093 0.099 0.101 0.103 0.090 0.104 0.103 0.112 0.099 7.35
83) butyl acetate
0.179 0.182 0.182 0.169 0.185 0.175 0.197 0.181 4.76
84) dibromochloromethane
0.339 0.332 0.393 0.384 0.361 0.379 0.353 0.348 0.372 0.363 5.78
85) 1,2-dibromoethane
0.361 0.331 0.408 0.404 0.397 0.389 0.385 0.374 0.397 0.383 6.40
86) n-butyl ether
1.382 1.483 1.373 1.378 1.344 1.251 1.382 1.389 1.411 1.377 4.42
87) chlorobenzene
0.920 0.986 0.916 0.921 0.899 0.853 0.939 0.964 0.960 0.928 4.25
88) 1,1,1,2-tetrachloroethane
0.324 0.295 0.356 0.357 0.339 0.333 0.348 0.334 0.352 0.338 5.77
89) ethylbenzene
1.702 1.965 1.601 1.641 1.586 1.451 1.744 1.745 1.706 1.682 8.40
90) m,p-xylene
0.639 0.694 0.597 0.610 0.605 0.531 0.640 0.662 0.647 0.625 7.43
91) o-xylene
0.579 0.640 0.578 0.596 0.589 0.523 0.630 0.613 0.621 0.597 5.94
92) styrene
1.012 1.014 0.962 0.994 0.977 0.863 1.026 1.016 1.041 0.989 5.39
93) bromoform
0.192 0.196 0.246 0.238 0.218 0.240 0.208 0.219 0.223 0.220 8.70
94) butyl acrylate
0.559 0.548 0.599 0.602 0.588 0.567 0.571 0.570 0.613 0.580 3.78
95) isopropylbenzene
1.584 1.811 1.567 1.586 1.550 1.439 1.621 1.675 1.615 1.605 6.24
96) cis-1,4-dichloro-2-butene
0.144 0.140 0.133 0.139 0.122 0.139 0.136 5.71

97) I 1,4-dichlorobenzene-d ----------ISTD----------
98) 4-bromofluorobenzene (s)
0.928 0.944 0.940 0.931 0.929 0.953 0.938 0.939 0.946 0.939 0.88
99) bromobenzene
0.786 0.827 0.771 0.783 0.775 0.715 0.807 0.790 0.812 0.785 4.07
100) 1,1,2,2-tetrachloroethane
0.534 0.595 0.640 0.636 0.620 0.627 0.617 0.630 0.643 0.616 5.50
101) trans-1,4-dichloro-2-butene
0.172 0.173 0.163 0.169 0.156 0.173 0.168 4.12
102) 1,2,3-trichloropropane
0.159 0.161 0.160 0.153 0.152 0.166 0.159 3.34
103) n-propylbenzene
3.621 3.902 3.473 3.603 3.492 3.166 3.771 3.767 3.702 3.611 5.99
104) 4-ethyltoluene
0.000# -1.00
105) 2-chlorotoluene
0.711 0.707 0.687 0.704 0.698 0.632 0.745 0.712 0.730 0.703 4.49
106) 4-chlorotoluene
2.237 2.571 2.146 2.168 2.135 1.999 2.233 2.250 2.259 2.222 6.95
107) 1,3,5-trimethylbenzene
2.592 2.907 2.534 2.589 2.514 2.345 2.646 2.629 2.688 2.605 5.78
108) tert-butylbenzene
0.410 0.444 0.454 0.445 0.419 0.438 0.428 0.455 0.437 3.73
109) 1,2,4-trimethylbenzene
2.607 2.950 2.508 2.555 2.524 2.336 2.674 2.687 2.641 2.609 6.39
110) sec-butylbenzene
3.232 3.413 3.187 3.258 3.154 2.939 3.312 3.383 3.266 3.238 4.33
111) 1,3-dichlorobenzene
1.445 1.636 1.452 1.464 1.455 1.355 1.548 1.512 1.514 1.487 5.28

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 112) | p-isopropyltoluene | | | | | | | | | | | |
| | 2.786 | 2.957 | 2.732 | 2.790 | 2.752 | 2.523 | 2.887 | 2.790 | 2.854 | 2.785 | | 4.35 |
| 113) | 1,4-dichlorobenzene | | | | | | | | | | | |
| | 1.493 | 1.639 | 1.446 | 1.465 | 1.431 | 1.353 | 1.504 | 1.505 | 1.532 | 1.485 | | 5.27 |
| 114) | benzyl chloride | | | | | | | | | | | |
| | 1.189 | 1.386 | 1.309 | 1.309 | 1.235 | 1.251 | 1.224 | 1.242 | 1.363 | 1.279 | | 5.20 |
| 115) | 1,2-dichlorobenzene | | | | | | | | | | | |
| | 1.320 | 1.499 | 1.392 | 1.407 | 1.373 | 1.307 | 1.426 | 1.316 | 1.446 | 1.387 | | 4.70 |
| 116) | 1,4-diethylbenzene | | | | | | | | | | | |
| | | | | | | | | | | 0.000# | | -1.00 |
| 117) | n-butylbenzene | | | | | | | | | | | |
| | 1.370 | 1.505 | 1.385 | 1.420 | 1.389 | 1.283 | 1.500 | 1.437 | 1.451 | 1.416 | | 4.88 |
| 118) | 1,2-dibromo-3-chloropropane | | | | | | | | | | | |
| | | 0.127 | 0.126 | 0.127 | 0.123 | 0.123 | 0.107 | 0.130 | | 0.123 | | 6.19 |
| 119) | 1,3,5-trichlorobenzene | | | | | | | | | | | |
| | 1.100 | 1.285 | 1.142 | 1.142 | 1.117 | 1.054 | 1.158 | 1.126 | 1.151 | 1.142 | | 5.47 |
| 120) | 1,2,4,5-tetramethylbenzene | | | | | | | | | | | |
| | | | | | | | | | | 0.000# | | -1.00 |
| 121) | 2-ethylhexyl acrylate | | | | | | | | | | | |
| | | 0.637 | 0.584 | 0.506 | 0.622 | | | 0.508 | | 0.571 | | 10.83 |
| 122) | 1,2,4-trichlorobenzene | | | | | | | | | | | |
| | 0.932 | 0.910 | 0.957 | 0.953 | 0.923 | 0.884 | 0.955 | 0.888 | 0.967 | 0.930 | | 3.30 |
| 123) | hexachlorobutadiene | | | | | | | | | | | |
| | 0.631 | 0.662 | 0.651 | 0.674 | 0.645 | 0.602 | 0.670 | 0.676 | 0.666 | 0.653 | | 3.71 |
| 124) | naphthalene | | | | | | | | | | | |
| | 1.716 | 2.032 | 1.812 | 1.824 | 1.812 | 1.701 | 1.780 | 1.708 | 1.898 | 1.809 | | 5.85 |
| 125) | 1,2,3-trichlorobenzene | | | | | | | | | | | |
| | 0.778 | 0.998 | 0.887 | 0.889 | 0.844 | 0.828 | 0.898 | 0.866 | 0.918 | 0.879 | | 7.01 |
| 126) | hexachloroethane | | | | | | | | | | | |
| | 0.423 | | 0.537 | 0.524 | 0.489 | 0.526 | 0.492 | 0.496 | 0.494 | 0.498 | | 7.10 |
| 127) | 2-methylnaphthalene | | | | | | | | | | | |
| | | 1.258 | 1.223 | 1.122 | 1.198 | 0.958 | | 1.152 | | 1.152 | | 9.26 |
| 128) | bis(chloromethyl)ether | | | | | | | | | | | |
| | | | | | | | | | | 0.000# | | -1.00 |
| 129) | ethylenimine | | | | | | | | | | | |
| | | | | | | | | | | 0.000# | | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

M1CS7200.M Thu Apr 25 08:06:45 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164016.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1C7200\1C164016.D Vial: 14
Acq On : 24 Apr 2019 8:03 pm Operator: ROBERTS
Sample : ICV7200-50 Inst : GCMS1C
Misc : MS34128,V1C7200,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update : Thu Apr 25 08:03:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 102 | -0.02 | 7.36 |
| 2 | M | tertiary butyl alcohol | 1.328 | 1.294 | 2.6 | 102 | -0.02 | 7.48 |
| 3 | | ethanol | | ----------NA---------- | | | | |
| 4 | M | 1,4-dioxane | 0.121 | 0.121 | 0.0 | 100 | 0.00 | 11.25 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 9.60 |
| 6 | M | chlorodifluoromethane | 0.521 | 0.552 | -6.0 | 106 | 0.00 | 3.90 |
| 7 | M | dichlorodifluoromethane | 0.739 | 0.681 | 7.8 | 92 | 0.00 | 3.86 |
| 8 | M | chloromethane | 0.542 | 0.580 | -7.0 | 112 | 0.00 | 4.28 |
| 9 | M | vinyl chloride | 0.510 | 0.478 | 6.3 | 94 | 0.00 | 4.51 |
| 10 | | 1,3-butadiene | 0.320 | 0.378 | -18.1 | 115 | 0.00 | 4.59 |
| 11 | M | bromomethane | 0.389 | 0.368 | 5.4 | 101 | 0.02 | 5.19 |
| 12 | M | chloroethane | 0.306 | 0.269 | 12.1 | 91 | 0.01 | 5.38 |
| 13 | M | trichlorofluoromethane | 0.761 | 0.738 | 3.0 | 97 | 0.00 | 5.81 |
| 14 | | vinyl bromide | 0.298 | 0.310 | -4.0 | 104 | 0.00 | 5.72 |
| 15 | M | ethyl ether | 0.203 | 0.212 | -4.4 | 105 | 0.00 | 6.25 |
| 16 | M | acrolein | 0.052 | 0.055 | -5.8 | 107 | 0.00 | 6.54 |
| 17 | | freon 113 | 0.336 | 0.386 | -14.9 | 112 | 0.00 | 6.62 |
| 18 | M | 1,1-dichloroethene | 0.409 | 0.386 | 5.6 | 96 | 0.00 | 6.68 |
| 19 | M | acetone | 0.102 | 0.099 | 2.9 | 104 | 0.00 | 6.75 |
| 20 | M | acetonitrile | | ----------NA---------- | | | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 21 | M | iodomethane | 50.000 | 44.599 | 10.8 | 98 | 0.00 | 6.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 22 | M | carbon disulfide | 1.322 | 1.384 | -4.7 | 111 | 0.00 | 7.09 |
| 23 | M | methylene chloride | 0.444 | 0.428 | 3.6 | 101 | 0.00 | 7.42 |
| 24 | M | methyl acetate | 0.248 | 0.234 | 5.6 | 97 | 0.00 | 7.21 |
| 25 | M | methyl tert butyl ether | 1.109 | 1.096 | 1.2 | 100 | 0.00 | 7.71 |
| 26 | M | trans-1,2-dichloroethene | 0.454 | 0.432 | 4.8 | 100 | 0.00 | 7.79 |
| 27 | M | di-isopropyl ether | 1.366 | 1.296 | 5.1 | 97 | 0.00 | 8.30 |
| 28 | M | 2-butanone | 0.038 | 0.039 | -2.6 | 102 | 0.00 | 9.06 |
| 29 | M | 1,1-dichloroethane | 0.771 | 0.766 | 0.6 | 103 | 0.00 | 8.36 |
| 30 | M | chloroprene | 0.665 | 0.685 | -3.0 | 104 | 0.00 | 8.46 |
| 31 | M | acrylonitrile | 0.111 | 0.113 | -1.8 | 103 | 0.00 | 7.77 |
| 32 | | hexane | 0.706 | 0.766 | -8.5 | 108 | 0.00 | 8.06 |
| 33 | M | vinyl acetate | 0.064 | 0.062 | 3.1 | 94 | 0.00 | 8.34 |
| 34 | M | ethyl tert-butyl ether | 1.316 | 1.284 | 2.4 | 98 | 0.00 | 8.77 |
| 35 | M | ethyl acetate | 0.048 | 0.049 | -2.1 | 101 | 0.00 | 9.07 |
| 36 | M | 2,2-dichloropropane | 0.687 | 0.660 | 3.9 | 98 | 0.00 | 9.08 |
| 37 | M | cis-1,2-dichloroethene | 0.490 | 0.466 | 4.9 | 100 | 0.00 | 9.10 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164016.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | methyl acrylate | 0.050 | 0.053 | -6.0 | 101 | 0.00 | 9.15 |
| 39 | M | propionitrile | 0.048 | 0.049 | -2.1 | 104 | 0.00 | 9.18 |
| 40 | M | bromochloromethane | 0.213 | 0.219 | -2.8 | 103 | 0.00 | 9.42 |
| 41 | M | tetrahydrofuran | 0.046 | 0.046 | 0.0 | 104 | 0.00 | 9.45 |
| 42 | M | chloroform | 0.546 | 0.514 | 5.9 | 102 | 0.00 | 9.47 |
| 43 | M | t-butyl formate | 0.293 | 0.289 | 1.4 | 91 | 0.00 | 9.48 |
| 44 | S | dibromofluoromethane (s) | 0.422 | 0.431 | -2.1 | 107 | 0.00 | 9.67 |
| 45 | M | methacrylonitrile | 0.140 | 0.142 | -1.4 | 100 | 0.00 | 9.36 |
| 46 | M | 1,1,1-trichloroethane | 0.706 | 0.705 | 0.1 | 99 | 0.00 | 9.70 |
| 47 | | cyclohexane | 0.697 | 0.660 | 5.3 | 97 | 0.00 | 9.76 |
| 48 | | 1,1-dichloropropene | 0.598 | 0.601 | -0.5 | 102 | 0.00 | 9.88 |
| 49 | | iso-butyl alcohol | 0.016 | 0.015 | 6.3 | 99 | 0.00 | 9.91 |
| 50 | | carbon tetrachloride | 0.617 | 0.637 | -3.2 | 103 | 0.00 | 9.91 |
| 51 | | tert amyl alcohol | 0.015 | 0.015 | 0.0 | 105 | 0.00 | 10.02 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 10.52 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.314 | 0.301 | 4.1 | 104 | 0.00 | 10.09 |
| 54 | M | n-butyl alcohol | 0.007 | 0.007# | 0.0 | 102 | 0.00 | 10.65 |
| 55 | | 2,2,4-trimethylpentane | 1.200 | 1.162 | 3.2 | 99 | 0.00 | 10.11 |
| 56 | M | benzene | 1.252 | 1.169 | 6.6 | 103 | 0.00 | 10.15 |
| 57 | M | tert-amyl methyl ether | 0.195 | 0.186 | 4.6 | 97 | 0.00 | 10.16 |
| 58 | M | heptane | 0.270 | 0.321 | -18.9 | 122 | 0.00 | 10.29 |
| 59 | M | isopropyl acetate | 0.052 | 0.049 | 5.8 | 96 | 0.00 | 10.06 |
| 60 | M | 1,2-dichloroethane | 0.407 | 0.364 | 10.6 | 99 | 0.00 | 10.18 |
| 61 | M | trichloroethene | 0.322 | 0.326 | -1.2 | 103 | 0.00 | 10.86 |
| 62 | | ethyl acrylate | 0.302 | 0.306 | -1.3 | 102 | 0.00 | 10.86 |
| 63 | M | 2-nitropropane | | ----------NA---------- | | | | |
| 64 | M | 2-chloroethyl vinyl ether | 0.149 | 0.164 | -10.1 | 105 | 0.00 | 11.65 |
| 65 | M | methyl methacrylate | 0.063 | 0.061 | 3.2 | 102 | 0.00 | 11.12 |
| 66 | M | 1,2-dichloropropane | 0.298 | 0.286 | 4.0 | 102 | 0.00 | 11.13 |
| 67 | M | dibromomethane | 0.175 | 0.168 | 4.0 | 99 | 0.00 | 11.30 |
| 68 | M | methylcyclohexane | 0.556 | 0.521 | 6.3 | 102 | 0.00 | 11.06 |
| 69 | M | bromodichloromethane | 0.422 | 0.406 | 3.8 | 99 | 0.00 | 11.43 |
| 70 | | epichlorohydrin | 0.024 | 0.024 | 0.0 | 106 | 0.00 | 11.79 |
| 71 | M | cis-1,3-dichloropropene | 0.485 | 0.475 | 2.1 | 102 | 0.00 | 11.87 |
| 72 | M | 4-methyl-2-pentanone | 0.087 | 0.082 | 5.7 | 101 | 0.00 | 11.96 |
| 73 | M | 3-methyl-1-butanol | 0.011 | 0.011 | 0.0 | 102 | 0.00 | 11.98 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 13.66 |
| 75 | S | toluene-d8 (s) | 1.347 | 1.318 | 2.2 | 104 | 0.00 | 12.15 |
| 76 | | toluene | 0.915 | 0.856 | 6.4 | 102 | 0.00 | 12.22 |
| 77 | | trans-1,3-dichloropropene | 0.515 | 0.517 | -0.4 | 103 | 0.00 | 12.43 |
| 78 | | ethyl methacrylate | 0.364 | 0.372 | -2.2 | 102 | 0.00 | 12.41 |
| 79 | | 1,1,2-trichloroethane | 0.241 | 0.243 | -0.8 | 100 | 0.00 | 12.65 |
| 80 | M | tetrachloroethene | | ----------NA---------- | | | | |
| 81 | M | 1,3-dichloropropane | 0.442 | 0.437 | 1.1 | 102 | 0.00 | 12.83 |
| 82 | | 2-hexanone | 0.099 | 0.097 | 2.0 | 102 | 0.00 | 12.80 |
| 83 | M | butyl acetate | 0.181 | 0.175 | 3.3 | 102 | 0.00 | 12.87 |
| 84 | M | dibromochloromethane | 0.363 | 0.382 | -5.2 | 105 | 0.00 | 13.10 |
| 85 | M | 1,2-dibromoethane | 0.383 | 0.385 | -0.5 | 101 | 0.00 | 13.24 |
| 86 | | n-butyl ether | 1.377 | 1.387 | -0.7 | 106 | 0.00 | 13.57 |
| 87 | M | chlorobenzene | 0.928 | 0.900 | 3.0 | 103 | 0.00 | 13.69 |
| 88 | M | 1,1,1,2-tetrachloroethane | 0.338 | 0.345 | -2.1 | 102 | 0.00 | 13.75 |
| 89 | M | ethylbenzene | 1.682 | 1.566 | 6.9 | 101 | 0.00 | 13.73 |
| 90 | M | m,p-xylene | 0.625 | 0.589 | 5.8 | 102 | 0.00 | 13.84 |
| 91 | M | o-xylene | 0.597 | 0.567 | 5.0 | 101 | 0.00 | 14.26 |
| 92 | M | styrene | 0.989 | 0.957 | 3.2 | 102 | 0.00 | 14.27 |
| 93 | M | bromoform | 0.220 | 0.244 | -10.9 | 108 | 0.00 | 14.55 |
| 94 | | butyl acrylate | 0.580 | 0.569 | 1.9 | 100 | 0.00 | 14.07 |
| 95 | | isopropylbenzene | 1.605 | 1.540 | 4.0 | 103 | 0.00 | 14.59 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164016.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | cis-1,4-dichloro-2-butene | 0.136 | 0.133 | 2.2 | 100 | 0.00 | 14.69 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 15.97 |
| 98 | S | 4-bromofluorobenzene (s) | 0.939 | 0.936 | 0.3 | 106 | 0.00 | 14.81 |
| 99 | M | bromobenzene | 0.785 | 0.756 | 3.7 | 102 | 0.00 | 15.00 |
| 100 | M | 1,1,2,2-tetrachloroethane | 0.616 | 0.611 | 0.8 | 101 | 0.00 | 14.92 |
| 101 | M | trans-1,4-dichloro-2-bute | 0.168 | 0.185 | -10.1 | 112 | 0.00 | 14.96 |
| 102 | M | 1,2,3-trichloropropane | 0.159 | 0.156 | 1.9 | 102 | 0.00 | 14.99 |
| 103 | M | n-propylbenzene | 3.611 | 3.485 | 3.5 | 102 | 0.00 | 15.00 |
| 104 | | 4-ethyltoluene | | ----------NA---------- | | | | |
| 105 | M | 2-chlorotoluene | 0.703 | 0.677 | 3.7 | 101 | 0.00 | 15.15 |
| 106 | M | 4-chlorotoluene | 2.222 | 2.130 | 4.1 | 104 | 0.00 | 15.25 |
| 107 | M | 1,3,5-trimethylbenzene | 2.605 | 2.486 | 4.6 | 101 | 0.00 | 15.15 |
| 108 | M | tert-butylbenzene | 0.437 | 0.445 | -1.8 | 103 | 0.00 | 15.49 |
| 109 | M | 1,2,4-trimethylbenzene | 2.609 | 2.504 | 4.0 | 103 | 0.00 | 15.54 |
| 110 | M | sec-butylbenzene | 3.238 | 3.165 | 2.3 | 102 | 0.00 | 15.71 |
| 111 | M | 1,3-dichlorobenzene | 1.487 | 1.459 | 1.9 | 105 | 0.00 | 15.91 |
| 112 | M | p-isopropyltoluene | 2.785 | 2.742 | 1.5 | 104 | 0.00 | 15.83 |
| 113 | M | 1,4-dichlorobenzene | 1.485 | 1.432 | 3.6 | 103 | 0.00 | 16.00 |
| 114 | | benzyl chloride | 1.279 | 1.601 | -25.2 | 129 | 0.00 | 16.12 |
| 115 | M | 1,2-dichlorobenzene | 1.387 | 1.375 | 0.9 | 103 | 0.00 | 16.40 |
| 116 | | 1,4-diethylbenzene | | ----------NA---------- | | | | |
| 117 | M | n-butylbenzene | 1.416 | 1.382 | 2.4 | 102 | 0.00 | 16.25 |
| 118 | M | 1,2-dibromo-3-chloropropa | 0.123 | 0.119 | 3.3 | 100 | 0.00 | 17.19 |
| 119 | | 1,3,5-trichlorobenzene | 1.142 | 1.121 | 1.8 | 103 | 0.00 | 17.35 |
| 120 | | 1,2,4,5-tetramethylbenzen | | ----------NA---------- | | | | |
| 121 | | 2-ethylhexyl acrylate | 0.571 | 0.589 | -3.2 | 106 | 0.00 | 17.88 |
| 122 | M | 1,2,4-trichlorobenzene | 0.930 | 0.890 | 4.3 | 98 | 0.00 | 17.92 |
| 123 | M | hexachlorobutadiene | 0.653 | 0.630 | 3.5 | 99 | 0.00 | 18.01 |
| 124 | M | naphthalene | 1.809 | 1.780 | 1.6 | 103 | 0.00 | 18.16 |
| 125 | M | 1,2,3-trichlorobenzene | 0.879 | 0.827 | 5.9 | 98 | 0.00 | 18.38 |
| 126 | m | hexachloroethane | 0.498 | 0.527 | -5.8 | 106 | 0.00 | 16.66 |
| 127 | | 2-methylnaphthalene | 1.152 | 1.152 | 0.0 | 99 | 0.00 | 19.13 |
| 128 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 129 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1C164011.D M1CS7200.M Thu Apr 25 08:06:32 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164017.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1C7200\1C164017.D Vial: 15
Acq On : 24 Apr 2019 8:30 pm Operator: ROBERTS
Sample : ICV7200-50 Inst : GCMS1C
Misc : MS34128,V1C7200,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update : Thu Apr 25 08:03:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 104 | -0.02 | 7.36 |
| 2 | M | tertiary butyl alcohol | | ----------NA---------- | | | | |
| 3 | | ethanol | | ----------NA---------- | | | | |
| 4 | M | 1,4-dioxane | | ----------NA---------- | | | | |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 9.60 |
| 6 | M | chlorodifluoromethane | | ----------NA---------- | | | | |
| 7 | M | dichlorodifluoromethane | | ----------NA---------- | | | | |
| 8 | M | chloromethane | | ----------NA---------- | | | | |
| 9 | M | vinyl chloride | | ----------NA---------- | | | | |
| 10 | | 1,3-butadiene | | ----------NA---------- | | | | |
| 11 | M | bromomethane | | ----------NA---------- | | | | |
| 12 | M | chloroethane | | ----------NA---------- | | | | |
| 13 | M | trichlorofluoromethane | | ----------NA---------- | | | | |
| 14 | | vinyl bromide | | ----------NA---------- | | | | |
| 15 | M | ethyl ether | | ----------NA---------- | | | | |
| 16 | M | acrolein | | ----------NA---------- | | | | |
| 17 | | freon 113 | | ----------NA---------- | | | | |
| 18 | M | 1,1-dichloroethene | | ----------NA---------- | | | | |
| 19 | M | acetone | | ----------NA---------- | | | | |
| 20 | M | acetonitrile | 0.042 | 0.042 | 0.0 | 105 | 0.00 | 7.22 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 21 | M | iodomethane | | ----------NA---------- | | | | |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 22 | M | carbon disulfide | | ----------NA---------- | | | | |
| 23 | M | methylene chloride | | ----------NA---------- | | | | |
| 24 | M | methyl acetate | | ----------NA---------- | | | | |
| 25 | M | methyl tert butyl ether | | ----------NA---------- | | | | |
| 26 | M | trans-1,2-dichloroethene | | ----------NA---------- | | | | |
| 27 | M | di-isopropyl ether | | ----------NA---------- | | | | |
| 28 | M | 2-butanone | | ----------NA---------- | | | | |
| 29 | M | 1,1-dichloroethane | | ----------NA---------- | | | | |
| 30 | M | chloroprene | | ----------NA---------- | | | | |
| 31 | M | acrylonitrile | | ----------NA---------- | | | | |
| 32 | | hexane | | ----------NA---------- | | | | |
| 33 | M | vinyl acetate | | ----------NA---------- | | | | |
| 34 | M | ethyl tert-butyl ether | | ----------NA---------- | | | | |
| 35 | M | ethyl acetate | | ----------NA---------- | | | | |
| 36 | M | 2,2-dichloropropane | | ----------NA---------- | | | | |
| 37 | M | cis-1,2-dichloroethene | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164017.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 38 | | methyl acrylate | | ----------NA---------- | | | | | |
| 39 | M | propionitrile | | ----------NA---------- | | | | | |
| 40 | M | bromochloromethane | | ----------NA---------- | | | | | |
| 41 | M | tetrahydrofuran | | ----------NA---------- | | | | | |
| 42 | M | chloroform | | ----------NA---------- | | | | | |
| 43 | M | t-butyl formate | | ----------NA---------- | | | | | |
| 44 | S | dibromofluoromethane (s) | 0.422 | 0.418 | 0.9 | 106 | 0.00 | 9.67 | |
| 45 | M | methacrylonitrile | | ----------NA---------- | | | | | |
| 46 | M | 1,1,1-trichloroethane | | ----------NA---------- | | | | | |
| 47 | | cyclohexane | | ----------NA---------- | | | | | |
| 48 | | 1,1-dichloropropene | | ----------NA---------- | | | | | |
| 49 | | iso-butyl alcohol | | ----------NA---------- | | | | | |
| 50 | | carbon tetrachloride | | ----------NA---------- | | | | | |
| 51 | | tert amyl alcohol | | ----------NA---------- | | | | | |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 10.52 | |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.314 | 0.311 | 1.0 | 105 | 0.00 | 10.09 | |
| 54 | M | n-butyl alcohol | | ----------NA---------- | | | | | |
| 55 | | 2,2,4-trimethylpentane | | ----------NA---------- | | | | | |
| 56 | M | benzene | | ----------NA---------- | | | | | |
| 57 | M | tert-amyl methyl ether | | ----------NA---------- | | | | | |
| 58 | M | heptane | | ----------NA---------- | | | | | |
| 59 | M | isopropyl acetate | | ----------NA---------- | | | | | |
| 60 | M | 1,2-dichloroethane | | ----------NA---------- | | | | | |
| 61 | M | trichloroethene | | ----------NA---------- | | | | | |
| 62 | | ethyl acrylate | | ----------NA---------- | | | | | |
| 63 | M | 2-nitropropane | | ----------NA---------- | | | | | |
| 64 | M | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | | |
| 65 | M | methyl methacrylate | | ----------NA---------- | | | | | |
| 66 | M | 1,2-dichloropropane | | ----------NA---------- | | | | | |
| 67 | M | dibromomethane | | ----------NA---------- | | | | | |
| 68 | M | methylcyclohexane | | ----------NA---------- | | | | | |
| 69 | M | bromodichloromethane | | ----------NA---------- | | | | | |
| 70 | | epichlorohydrin | | ----------NA---------- | | | | | |
| 71 | M | cis-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 72 | M | 4-methyl-2-pentanone | | ----------NA---------- | | | | | |
| 73 | M | 3-methyl-1-butanol | | ----------NA---------- | | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 13.66 | |
| 75 | S | toluene-d8 (s) | 1.347 | 1.330 | 1.3 | 107 | 0.00 | 12.15 | |
| 76 | | toluene | | ----------NA---------- | | | | | |
| 77 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 78 | | ethyl methacrylate | | ----------NA---------- | | | | | |
| 79 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | | |
| 80 | M | tetrachloroethene | 0.318 | 0.309 | 2.8 | 101 | 0.00 | 12.80 | |
| 81 | M | 1,3-dichloropropane | | ----------NA---------- | | | | | |
| 82 | | 2-hexanone | | ----------NA---------- | | | | | |
| 83 | M | butyl acetate | | ----------NA---------- | | | | | |
| 84 | M | dibromochloromethane | | ----------NA---------- | | | | | |
| 85 | M | 1,2-dibromoethane | | ----------NA---------- | | | | | |
| 86 | | n-butyl ether | | ----------NA---------- | | | | | |
| 87 | M | chlorobenzene | | ----------NA---------- | | | | | |
| 88 | M | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | | |
| 89 | M | ethylbenzene | | ----------NA---------- | | | | | |
| 90 | M | m,p-xylene | | ----------NA---------- | | | | | |
| 91 | M | o-xylene | | ----------NA---------- | | | | | |
| 92 | M | styrene | | ----------NA---------- | | | | | |
| 93 | M | bromoform | | ----------NA---------- | | | | | |
| 94 | | butyl acrylate | | ----------NA---------- | | | | | |
| 95 | | isopropylbenzene | | ----------NA---------- | | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164017.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | cis-1,4-dichloro-2-butene | | ----------NA---------- | | | | |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 15.97 |
| 98 | S | 4-bromofluorobenzene (s) | 0.939 | 0.934 | 0.5 | 106 | 0.00 | 14.81 |
| 99 | M | bromobenzene | | ----------NA---------- | | | | |
| 100 | M | 1,1,2,2-tetrachloroethane | | ----------NA---------- | | | | |
| 101 | M | trans-1,4-dichloro-2-bute | | ----------NA---------- | | | | |
| 102 | M | 1,2,3-trichloropropane | | ----------NA---------- | | | | |
| 103 | M | n-propylbenzene | | ----------NA---------- | | | | |
| 104 | | 4-ethyltoluene | | ----------NA---------- | | | | |
| 105 | M | 2-chlorotoluene | | ----------NA---------- | | | | |
| 106 | M | 4-chlorotoluene | | ----------NA---------- | | | | |
| 107 | M | 1,3,5-trimethylbenzene | | ----------NA---------- | | | | |
| 108 | M | tert-butylbenzene | | ----------NA---------- | | | | |
| 109 | M | 1,2,4-trimethylbenzene | | ----------NA---------- | | | | |
| 110 | M | sec-butylbenzene | | ----------NA---------- | | | | |
| 111 | M | 1,3-dichlorobenzene | | ----------NA---------- | | | | |
| 112 | M | p-isopropyltoluene | | ----------NA---------- | | | | |
| 113 | M | 1,4-dichlorobenzene | | ----------NA---------- | | | | |
| 114 | | benzyl chloride | | ----------NA---------- | | | | |
| 115 | M | 1,2-dichlorobenzene | | ----------NA---------- | | | | |
| 116 | | 1,4-diethylbenzene | | ----------NA---------- | | | | |
| 117 | M | n-butylbenzene | | ----------NA---------- | | | | |
| 118 | M | 1,2-dibromo-3-chloropropa | | ----------NA---------- | | | | |
| 119 | | 1,3,5-trichlorobenzene | | ----------NA---------- | | | | |
| 120 | | 1,2,4,5-tetramethylbenzen | | ----------NA---------- | | | | |
| 121 | | 2-ethylhexyl acrylate | | ----------NA---------- | | | | |
| 122 | M | 1,2,4-trichlorobenzene | | ----------NA---------- | | | | |
| 123 | M | hexachlorobutadiene | | ----------NA---------- | | | | |
| 124 | M | naphthalene | | ----------NA---------- | | | | |
| 125 | M | 1,2,3-trichlorobenzene | | ----------NA---------- | | | | |
| 126 | m | hexachloroethane | | ----------NA---------- | | | | |
| 127 | | 2-methylnaphthalene | | ----------NA---------- | | | | |
| 128 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 129 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1C164011.D M1CS7200.M Thu Apr 25 08:06:34 2019

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7218-CC7200
**Lab FileID:** 1C164491.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ke...14\v1c7218\1c164491.d Vial: 1
Acq On : 13 May 2019 9:43 am Operator: PrashanS
Sample : CC7200-50 Inst : GCMS1C
Misc : MS34533,V1C7218,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update : Thu Apr 25 08:03:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 109 | -0.02 | 7.36 |
| 2 | M | tertiary butyl alcohol | 1.328 | 1.393 | -4.9 | 117 | -0.01 | 7.48 |
| 3 | | ethanol | | ----------NA---------- | | | | |
| 4 | M | 1,4-dioxane | 0.121 | 0.145 | -19.8 | 128 | 0.00 | 11.25 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 129 | 0.00 | 9.60 |
| 6 | M | chlorodifluoromethane | 0.521 | 0.499 | 4.2 | 117 | 0.00 | 3.89 |
| 7 | M | dichlorodifluoromethane | 0.739 | 0.653 | 11.6 | 108 | 0.00 | 3.86 |
| 8 | M | chloromethane | 0.542 | 0.505 | 6.8 | 120 | 0.00 | 4.28 |
| 9 | M | vinyl chloride | 0.510 | 0.518 | -1.6 | 124 | 0.00 | 4.51 |
| 10 | | 1,3-butadiene | 0.320 | 0.356 | -11.2 | 133 | 0.00 | 4.58 |
| 11 | M | bromomethane | 0.389 | 0.384 | 1.3 | 129 | 0.02 | 5.19 |
| 12 | M | chloroethane | 0.306 | 0.302 | 1.3 | 125 | 0.01 | 5.38 |
| 13 | M | trichlorofluoromethane | 0.761 | 0.773 | -1.6 | 124 | 0.00 | 5.81 |
| 14 | | vinyl bromide | 0.298 | 0.475 | -59.4# | 196 | 0.00 | 5.72 |
| 15 | M | ethyl ether | 0.203 | 0.213 | -4.9 | 129 | 0.00 | 6.25 |
| 16 | M | acrolein | 0.052 | 0.053 | -1.9 | 128 | 0.00 | 6.54 |
| 17 | | freon 113 | 0.336 | 0.395 | -17.6 | 140 | 0.00 | 6.62 |
| 18 | M | 1,1-dichloroethene | 0.409 | 0.455 | -11.2 | 139 | 0.00 | 6.68 |
| 19 | M | acetone | 0.102 | 0.095 | 6.9 | 123 | 0.00 | 6.75 |
| 20 | M | acetonitrile | 0.042 | 0.038 | 9.5 | 114 | 0.00 | 7.21 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 21 | M | iodomethane | 50.000 | 50.670 | -1.3 | 138 | 0.00 | 6.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 22 | M | carbon disulfide | 1.322 | 1.364 | -3.2 | 134 | 0.00 | 7.09 |
| 23 | M | methylene chloride | 0.444 | 0.464 | -4.5 | 134 | 0.00 | 7.42 |
| 24 | M | methyl acetate | 0.248 | 0.229 | 7.7 | 116 | 0.00 | 7.21 |
| 25 | M | methyl tert butyl ether | 1.109 | 1.081 | 2.5 | 120 | 0.00 | 7.71 |
| 26 | M | trans-1,2-dichloroethene | 0.454 | 0.483 | -6.4 | 137 | 0.00 | 7.78 |
| 27 | M | di-isopropyl ether | 1.366 | 1.239 | 9.3 | 113 | 0.00 | 8.30 |
| 28 | M | 2-butanone | 0.038 | 0.042 | -10.5 | 135 | 0.00 | 9.06 |
| 29 | M | 1,1-dichloroethane | 0.771 | 0.748 | 3.0 | 123 | 0.00 | 8.36 |
| 30 | M | chloroprene | 0.665 | 0.642 | 3.5 | 119 | 0.00 | 8.46 |
| 31 | M | acrylonitrile | 0.111 | 0.111 | 0.0 | 123 | 0.00 | 7.77 |
| 32 | | hexane | 0.706 | 0.737 | -4.4 | 128 | 0.00 | 8.06 |
| 33 | M | vinyl acetate | 0.064 | 0.069 | -7.8 | 128 | 0.00 | 8.34 |
| 34 | M | ethyl tert-butyl ether | 1.316 | 1.254 | 4.7 | 117 | 0.00 | 8.77 |
| 35 | M | ethyl acetate | 0.048 | 0.044 | 8.3 | 112 | 0.00 | 9.07 |
| 36 | M | 2,2-dichloropropane | 0.687 | 0.683 | 0.6 | 124 | 0.00 | 9.08 |
| 37 | M | cis-1,2-dichloroethene | 0.490 | 0.517 | -5.5 | 135 | 0.00 | 9.09 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V1C7218-CC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164491.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | methyl acrylate | 0.050 | 0.054 | -8.0 | 126 | 0.00 | 9.16 |
| 39 | M | propionitrile | 0.048 | 0.046 | 4.2 | 120 | 0.00 | 9.18 |
| 40 | M | bromochloromethane | 0.213 | 0.237 | -11.3 | 137 | 0.00 | 9.41 |
| 41 | M | tetrahydrofuran | 0.046 | 0.046 | 0.0 | 128 | 0.00 | 9.44 |
| 42 | M | chloroform | 0.546 | 0.512 | 6.2 | 125 | 0.00 | 9.47 |
| 43 | M | t-butyl formate | 0.293 | 0.299 | -2.0 | 116 | 0.00 | 9.48 |
| 44 | S | dibromofluoromethane (s) | 0.422 | 0.424 | -0.5 | 128 | 0.00 | 9.67 |
| 45 | M | methacrylonitrile | 0.140 | 0.140 | 0.0 | 121 | 0.00 | 9.36 |
| 46 | M | 1,1,1-trichloroethane | 0.706 | 0.724 | -2.5 | 125 | 0.00 | 9.70 |
| 47 | | cyclohexane | 0.697 | 0.665 | 4.6 | 120 | 0.00 | 9.76 |
| 48 | | 1,1-dichloropropene | 0.598 | 0.623 | -4.2 | 129 | 0.00 | 9.88 |
| 49 | | iso-butyl alcohol | 0.016 | 0.013 | 18.8 | 106 | 0.00 | 9.90 |
| 50 | | carbon tetrachloride | 0.617 | 0.650 | -5.3 | 128 | 0.00 | 9.90 |
| 51 | | tert amyl alcohol | 0.015 | 0.014 | 6.7 | 117 | 0.00 | 10.02 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 128 | 0.00 | 10.52 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.314 | 0.264 | 15.9 | 111 | 0.00 | 10.09 |
| 54 | M | n-butyl alcohol | 0.007 | 0.007# | 0.0 | 121 | -0.01 | 10.65 |
| 55 | | 2,2,4-trimethylpentane | 1.200 | 1.209 | -0.8 | 125 | 0.00 | 10.11 |
| 56 | M | benzene | 1.252 | 1.241 | 0.9 | 132 | 0.00 | 10.15 |
| 57 | M | tert-amyl methyl ether | 0.195 | 0.195 | 0.0 | 123 | 0.00 | 10.16 |
| 58 | M | heptane | 0.270 | 0.291 | -7.8 | 134 | 0.00 | 10.29 |
| 59 | M | isopropyl acetate | 0.052 | 0.055 | -5.8 | 129 | 0.00 | 10.06 |
| 60 | M | 1,2-dichloroethane | 0.407 | 0.343 | 15.7 | 113 | 0.00 | 10.18 |
| 61 | M | trichloroethene | 0.322 | 0.366 | -13.7 | 140 | 0.00 | 10.86 |
| 62 | | ethyl acrylate | 0.302 | 0.284 | 6.0 | 115 | 0.00 | 10.86 |
| 63 | M | 2-nitropropane | | ----------NA---------- | | | | |
| 64 | M | 2-chloroethyl vinyl ether | 0.149 | 0.158 | -6.0 | 123 | 0.00 | 11.65 |
| 65 | M | methyl methacrylate | 0.063 | 0.064 | -1.6 | 128 | 0.00 | 11.12 |
| 66 | M | 1,2-dichloropropane | 0.298 | 0.290 | 2.7 | 125 | 0.00 | 11.13 |
| 67 | M | dibromomethane | 0.175 | 0.177 | -1.1 | 127 | 0.00 | 11.30 |
| 68 | M | methylcyclohexane | 0.556 | 0.577 | -3.8 | 136 | 0.00 | 11.06 |
| 69 | M | bromodichloromethane | 0.422 | 0.421 | 0.2 | 124 | 0.00 | 11.42 |
| 70 | | epichlorohydrin | 0.024 | 0.023 | 4.2 | 123 | 0.00 | 11.79 |
| 71 | M | cis-1,3-dichloropropene | 0.485 | 0.491 | -1.2 | 127 | 0.00 | 11.87 |
| 72 | M | 4-methyl-2-pentanone | 0.087 | 0.080 | 8.0 | 121 | 0.00 | 11.96 |
| 73 | M | 3-methyl-1-butanol | 0.011 | 0.010 | 9.1 | 118 | 0.00 | 11.98 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 130 | 0.00 | 13.66 |
| 75 | S | toluene-d8 (s) | 1.347 | 1.335 | 0.9 | 130 | 0.00 | 12.15 |
| 76 | | toluene | 0.915 | 0.921 | -0.7 | 135 | 0.00 | 12.22 |
| 77 | | trans-1,3-dichloropropene | 0.515 | 0.510 | 1.0 | 125 | 0.00 | 12.43 |
| 78 | | ethyl methacrylate | 0.364 | 0.365 | -0.3 | 123 | 0.00 | 12.41 |
| 79 | | 1,1,2-trichloroethane | 0.241 | 0.251 | -4.1 | 128 | 0.00 | 12.65 |
| 80 | M | tetrachloroethene | 0.318 | 0.367 | -15.4 | 145 | 0.00 | 12.80 |
| 81 | M | 1,3-dichloropropane | 0.442 | 0.439 | 0.7 | 126 | 0.00 | 12.83 |
| 82 | | 2-hexanone | 0.099 | 0.098 | 1.0 | 126 | 0.00 | 12.80 |
| 83 | M | butyl acetate | 0.181 | 0.168 | 7.2 | 119 | 0.00 | 12.87 |
| 84 | M | dibromochloromethane | 0.363 | 0.397 | -9.4 | 134 | 0.00 | 13.10 |
| 85 | M | 1,2-dibromoethane | 0.383 | 0.352 | 8.1 | 113 | 0.00 | 13.24 |
| 86 | | n-butyl ether | 1.377 | 1.318 | 4.3 | 124 | 0.00 | 13.57 |
| 87 | M | chlorobenzene | 0.928 | 0.952 | -2.6 | 134 | 0.00 | 13.69 |
| 88 | M | 1,1,1,2-tetrachloroethane | 0.338 | 0.358 | -5.9 | 130 | 0.00 | 13.75 |
| 89 | M | ethylbenzene | 1.682 | 1.643 | 2.3 | 130 | 0.00 | 13.73 |
| 90 | M | m,p-xylene | 0.625 | 0.640 | -2.4 | 136 | 0.00 | 13.84 |
| 91 | M | o-xylene | 0.597 | 0.616 | -3.2 | 134 | 0.00 | 14.26 |
| 92 | M | styrene | 0.989 | 1.005 | -1.6 | 131 | 0.00 | 14.27 |
| 93 | M | bromoform | 0.220 | 0.253 | -15.0 | 138 | 0.00 | 14.55 |
| 94 | | butyl acrylate | 0.580 | 0.535 | 7.8 | 115 | 0.00 | 14.07 |
| 95 | | isopropylbenzene | 1.605 | 1.621 | -1.0 | 133 | 0.00 | 14.59 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V1C7218-CC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164491.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | cis-1,4-dichloro-2-butene | 0.136 | 0.129 | 5.1 | 119 | 0.00 | 14.68 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 136 | 0.00 | 15.97 |
| 98 | S | 4-bromofluorobenzene (s) | 0.939 | 0.863 | 8.1 | 126 | 0.00 | 14.81 |
| 99 | M | bromobenzene | 0.785 | 0.790 | -0.6 | 137 | 0.00 | 15.00 |
| 100 | M | 1,1,2,2-tetrachloroethane | 0.616 | 0.602 | 2.3 | 129 | 0.00 | 14.92 |
| 101 | M | trans-1,4-dichloro-2-bute | 0.168 | 0.144 | 14.3 | 112 | 0.00 | 14.96 |
| 102 | M | 1,2,3-trichloropropane | 0.159 | 0.153 | 3.8 | 128 | 0.00 | 14.99 |
| 103 | M | n-propylbenzene | 3.611 | 3.446 | 4.6 | 130 | 0.00 | 14.99 |
| 104 | | 4-ethyltoluene | | ----------NA---------- | | | | |
| 105 | M | 2-chlorotoluene | 0.703 | 0.709 | -0.9 | 137 | 0.00 | 15.15 |
| 106 | M | 4-chlorotoluene | 2.222 | 2.034 | 8.5 | 127 | 0.00 | 15.25 |
| 107 | M | 1,3,5-trimethylbenzene | 2.605 | 2.467 | 5.3 | 129 | 0.00 | 15.15 |
| 108 | M | tert-butylbenzene | 0.437 | 0.466 | -6.6 | 139 | 0.00 | 15.49 |
| 109 | M | 1,2,4-trimethylbenzene | 2.609 | 2.429 | 6.9 | 129 | 0.00 | 15.54 |
| 110 | M | sec-butylbenzene | 3.238 | 3.209 | 0.9 | 134 | 0.00 | 15.71 |
| 111 | M | 1,3-dichlorobenzene | 1.487 | 1.516 | -2.0 | 141 | 0.00 | 15.91 |
| 112 | M | p-isopropyltoluene | 2.785 | 2.734 | 1.8 | 133 | 0.00 | 15.83 |
| 113 | M | 1,4-dichlorobenzene | 1.485 | 1.505 | -1.3 | 139 | 0.00 | 16.00 |
| 114 | | benzyl chloride | 1.279 | 1.340 | -4.8 | 139 | 0.00 | 16.12 |
| 115 | M | 1,2-dichlorobenzene | 1.387 | 1.420 | -2.4 | 137 | 0.00 | 16.40 |
| 116 | | 1,4-diethylbenzene | | ----------NA---------- | | | | |
| 117 | M | n-butylbenzene | 1.416 | 1.397 | 1.3 | 134 | 0.00 | 16.24 |
| 118 | M | 1,2-dibromo-3-chloropropa | 0.123 | 0.112 | 8.9 | 121 | 0.00 | 17.19 |
| 119 | | 1,3,5-trichlorobenzene | 1.142 | 1.205 | -5.5 | 143 | 0.00 | 17.34 |
| 120 | | 1,2,4,5-tetramethylbenzen | | ----------NA---------- | | | | |
| 121 | | 2-ethylhexyl acrylate | 0.571 | 0.467 | 18.2 | 109 | 0.00 | 17.88 |
| 122 | M | 1,2,4-trichlorobenzene | 0.930 | 0.968 | -4.1 | 138 | 0.00 | 17.92 |
| 123 | M | hexachlorobutadiene | 0.653 | 0.670 | -2.6 | 135 | 0.00 | 18.01 |
| 124 | M | naphthalene | 1.809 | 1.737 | 4.0 | 129 | 0.00 | 18.16 |
| 125 | M | 1,2,3-trichlorobenzene | 0.879 | 0.882 | -0.3 | 135 | 0.00 | 18.37 |
| 126 | m | hexachloroethane | 0.498 | 0.565 | -13.5 | 146 | 0.00 | 16.66 |
| 127 | | 2-methylnaphthalene | 1.152 | 1.125 | 2.3 | 125 | 0.00 | 19.12 |
| 128 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 129 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1C164011.D M1CS7200.M Tue May 14 11:20:04 2019

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICC7441
**Lab FileID:** 2C166202.D

Response Factor Report Instrument #1

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
Last Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

Calibration Files
1 =2C166197.D 2 =2C166198.D 100 =2C166203.D 50 =2C166202.D
20 =2C166201.D 200 =2C166204.D 0.5 =2C166196.D 4 =2C166199.D
8 =2C166200.D 0.2 =2C166195.D = =

| Compound | 1 | 2 | 100 | 50 | 20 | 200 | 0.5 | 4 | 8 | 0.2 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) I Tert Butyl Alcohol-d9 | ----------ISTD---------- | | | | | | | | | | | |
| 2) ethanol | | | | | | | | | | | 0.000# | -1.00 |
| 3) tertiary butyl alcohol | 1.338 | 1.059 | 1.304 | 1.413 | 1.360 | 1.289 | | 1.271 | 1.288 | | 1.290 | 8.09 |
| 4) 1,4-dioxane | | | 0.091 | 0.119 | 0.104 | 0.100 | | 0.120 | 0.098 | | 0.105 | 11.22 |
| 5) I pentafluorobenzene | ----------ISTD---------- | | | | | | | | | | | |
| 6) chlorodifluoromethane | 1.101 | 1.015 | 1.086 | 1.143 | 1.140 | 0.994 | 1.259 | 1.110 | 1.093 | 0.996 | 1.094 | 7.34 |
| 7) dichlorodifluoromethane | 1.259 | 1.290 | 1.347 | 1.386 | 1.357 | 1.244 | 0.966 | 1.348 | 1.329 | | 1.281 | 9.92 |
| 8) chloromethane | 1.563 | 1.451 | 1.324 | 1.356 | 1.321 | 1.220 | | 1.486 | 1.401 | | 1.390 | 7.80 |
| 9) vinyl chloride | 1.227 | 1.203 | 1.252 | 1.284 | 1.260 | 1.171 | 1.238 | 1.271 | 1.233 | 1.187 | 1.233 | 2.98 |
| 10) 1,3-butadiene | 0.907 | 0.799 | 0.772 | 0.793 | 0.796 | 0.716 | | 0.772 | 0.769 | | 0.790 | 6.83 |
| 11) bromomethane | 1.079 | 0.944 | 0.968 | 1.077 | 0.941 | 0.986 | | 0.994 | 0.890 | | 0.985 | 6.66 |
| 12) chloroethane | 0.667 | 0.654 | 0.650 | 0.670 | 0.615 | 0.672 | | 0.650 | 0.609 | | 0.648 | 3.73 |
| 13) trichlorofluoromethane | 1.310 | 1.303 | 1.375 | 1.346 | 1.302 | 1.402 | 1.240 | 1.378 | 1.307 | 1.113 | 1.308 | 6.38 |
| 14) vinyl bromide | 0.732 | 0.732 | 0.763 | 0.742 | 0.709 | 0.786 | 0.754 | 0.726 | 0.697 | 0.898 | 0.754 | 7.55 |
| 15) ethyl ether | 0.248 | 0.273 | 0.283 | 0.282 | 0.277 | 0.291 | | 0.269 | 0.270 | | 0.274 | 4.69 |
| 16) 2-chloropropane | 1.256 | 1.137 | 1.040 | 1.066 | 1.046 | 1.013 | | 1.151 | 1.035 | | 1.093 | 7.52 |
| 17) acrolein | | | 0.135 | 0.151 | 0.152 | 0.146 | 0.139 | | 0.148 | 0.144 | 0.145 | 4.29 |
| 18) freon 113 | 0.725 | 0.582 | 0.627 | 0.643 | 0.643 | 0.595 | 0.615 | 0.651 | 0.596 | | 0.631 | 6.79 |
| 19) 1,1-dichloroethene | 0.651 | 0.583 | 0.566 | 0.578 | 0.580 | 0.551 | 0.671 | 0.601 | 0.563 | | 0.594 | 6.91 |
| 20) acetone | 0.067 | 0.072 | 0.070 | 0.075 | 0.076 | 0.067 | | 0.077 | 0.072 | | 0.072 | 5.35 |
| 21) iodomethane | 1.135 | 1.043 | 1.104 | 1.120 | 1.082 | 1.079 | 1.097 | 1.093 | 1.033 | 0.953 | 1.074 | 4.91 |
| 22) acetonitrile | 0.130 | 0.121 | 0.113 | 0.133 | 0.131 | 0.106 | | 0.140 | 0.120 | | 0.124 | 9.05 |
| 23) carbon disulfide | | | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICC7441
**Lab FileID:** 2C166202.D

```
      1.918 1.763 1.847 1.890 1.861 1.782 1.981 1.857 1.763        1.851    3.97
24)  methylene chloride
      0.789 0.724 0.622 0.644 0.644 0.608 0.721 0.655 0.609        0.668    9.31
25)  methyl acetate
      0.735 0.620 0.538 0.572 0.587 0.526       0.576 0.571        0.591   11.01
26)  methyl tert butyl ether
      2.133 1.870 1.858 1.958 1.928 1.766 2.015 1.853 1.846 2.161  1.939    6.67
27)  trans-1,2-dichloroethene
      0.604 0.550 0.522 0.535 0.547 0.496 0.561 0.564 0.521        0.544    5.69
28)  hexane
      0.409 0.413 0.409 0.417 0.403 0.383 0.483 0.409 0.385        0.412    7.03
29)  di-isopropyl ether
      2.117 1.982 1.917 2.008 1.960 1.833 2.022 1.909 1.881 2.278  1.991    6.47
30)  1,1-dichloroethane
      1.040 0.929 0.930 0.964 0.955 0.893 1.030 0.958 0.937 0.978  0.961    4.73
31)  chloroprene
      0.799 0.760 0.794 0.816 0.797 0.770 0.880 0.801 0.746 0.717  0.788    5.58
32)  acrylonitrile
      0.225 0.259 0.290 0.298 0.294 0.286       0.263 0.282        0.275    8.86
33)  vinyl acetate
                  0.110 0.111 0.109 0.110       0.094 0.100        0.106    6.54
34)  ethyl tert-butyl ether
      2.107 1.922 1.958 2.028 1.964 1.870 2.013 1.893 1.864 1.835  1.945    4.40
35)  2-butanone
      0.076 0.083 0.089 0.093 0.095 0.090 0.069 0.092 0.084        0.086    9.81
36)  ethyl acetate
      0.090 0.106 0.100 0.103 0.120 0.107       0.109 0.096        0.104    8.68
37)  2,2-dichloropropane
      1.010 0.868 0.855 0.892 0.884 0.806 0.991 0.900 0.874 0.965  0.904    7.14
38)  cis-1,2-dichloroethene
      0.708 0.609 0.581 0.611 0.594 0.565 0.754 0.620 0.589 0.688  0.632    9.93
39)  propionitrile
      0.127 0.117 0.118 0.127 0.130 0.115 0.127 0.133 0.124        0.124    5.12
40)  bromochloromethane
      0.349 0.313 0.317 0.323 0.321 0.305 0.262 0.308 0.314        0.312    7.23
41)  tetrahydrofuran
            0.091 0.096 0.100 0.105 0.095       0.107 0.092        0.098    6.43
42)  chloroform
      1.109 0.996 0.965 1.007 0.974 0.925 1.164 0.996 0.952 1.156  1.024    8.42
43)  t-butyl formate
      0.526 0.474 0.532 0.549 0.526 0.511 0.496 0.504 0.483        0.511    4.75
44)  dibromofluoromethane (s)
      0.470 0.484 0.478 0.478 0.471 0.476 0.464 0.471 0.470 0.485  0.475    1.42
45)  methacrylonitrile
      0.268 0.251 0.267 0.276 0.269 0.267       0.276 0.256        0.266    3.34
46)  1,1,1-trichloroethane
      1.051 0.934 1.016 1.034 0.995 0.977 1.028 0.958 0.947 0.879  0.982    5.45
47)  cyclohexane
      1.052 0.912 0.911 0.931 0.908 0.870 0.822 0.936 0.889 0.954  0.918    6.52
48)  1,1-dichloropropene
      0.676 0.675 0.659 0.677 0.674 0.637 0.732 0.708 0.649        0.676    4.26
49)  carbon tetrachloride
      0.767 0.732 0.799 0.804 0.768 0.790 0.785 0.758 0.724 0.649  0.758    6.13
50)  isobutyl alcohol
                                                                   0.000#  -1.00

51) I   1,4-difluorobenzene   ----------------ISTD--------------------
52)  1,2-dichloroethane-d4 (s)
      0.414 0.418 0.380 0.385 0.399 0.368 0.406 0.410 0.411 0.421  0.401    4.38
53)  n-butyl alcohol
```

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.023 | 0.022 | 0.022 | 0.025 | 0.026 | 0.022 | 0.024 | 0.022 | | 0.023 | 7.25 |
| 54) | tert-amyl alcohol | | | | | | | | | | | |
| | 0.032 | 0.030 | 0.035 | 0.035 | 0.028 | | 0.036 | 0.033 | | 0.033 | 9.07 |
| 55) | iso-octane | | | | | | | | | | | |
| | 1.618 | 1.503 | 1.675 | 1.701 | 1.622 | 1.604 | 1.633 | 1.543 | 1.521 | 1.474 | 1.590 | 4.75 |
| 56) | benzene | | | | | | | | | | | |
| | 1.498 | 1.372 | 1.390 | 1.452 | 1.423 | 1.333 | 1.560 | 1.390 | 1.360 | 1.387 | 1.416 | 4.88 |
| 57) | tert-amyl methyl ether | | | | | | | | | | | |
| | 0.376 | 0.310 | 0.318 | 0.333 | 0.331 | 0.309 | 0.339 | 0.318 | 0.321 | | 0.328 | 6.31 |
| 58) | heptane | | | | | | | | | | | |
| | 0.295 | 0.258 | 0.272 | 0.277 | 0.264 | 0.252 | 0.284 | 0.268 | 0.259 | | 0.270 | 5.07 |
| 59) | isopropyl acetate | | | | | | | | | | | |
| | 0.098 | 0.079 | 0.099 | 0.104 | 0.102 | 0.095 | | 0.093 | 0.086 | | 0.095 | 8.90 |
| 60) | 1,2-dichloroethane | | | | | | | | | | | |
| | 0.700 | 0.592 | 0.514 | 0.545 | 0.539 | 0.495 | | 0.561 | 0.538 | | 0.561 | 11.31 |
| 61) | ethyl acrylate | | | | | | | | | | | |
| | 0.527 | 0.515 | 0.569 | 0.585 | 0.572 | 0.564 | 0.512 | 0.532 | 0.548 | 0.540 | 0.546 | 4.62 |
| 62) | trichloroethene | | | | | | | | | | | |
| | 0.428 | 0.376 | 0.384 | 0.398 | 0.390 | 0.372 | 0.360 | 0.380 | 0.377 | 0.391 | 0.386 | 4.74 |
| 63) | 2-nitropropane | | | | | | | | | | | |
| | 0.130 | 0.133 | 0.131 | 0.122 | 0.111 | 0.141 | | 0.114 | 0.104 | | 0.123 | 10.42 |
| 64) | 2-chloroethyl vinyl ether | | | | | | | | | | | |
| | 0.243 | 0.223 | 0.234 | 0.246 | 0.241 | 0.246 | 0.235 | 0.229 | 0.225 | 0.200 | 0.232 | 6.03 |
| 65) | methyl methacrylate | | | | | | | | | | | |
| | 0.102 | 0.091 | 0.108 | 0.116 | 0.112 | 0.113 | | 0.098 | 0.100 | | 0.105 | 8.21 |
| 66) | 1,2-dichloropropane | | | | | | | | | | | |
| | 0.424 | 0.377 | 0.367 | 0.395 | 0.386 | 0.366 | 0.399 | 0.401 | 0.383 | 0.468 | 0.397 | 7.69 |
| 67) | dibromomethane | | | | | | | | | | | |
| | 0.304 | 0.274 | 0.266 | 0.288 | 0.279 | 0.271 | 0.279 | 0.285 | 0.272 | 0.291 | 0.281 | 3.96 |
| 68) | methylcyclohexane | | | | | | | | | | | |
| | 0.838 | 0.763 | 0.742 | 0.811 | 0.792 | 0.749 | 0.832 | 0.774 | 0.760 | 0.779 | 0.784 | 4.29 |
| 69) | bromodichloromethane | | | | | | | | | | | |
| | 0.498 | 0.460 | 0.538 | 0.551 | 0.519 | 0.541 | 0.499 | 0.476 | 0.479 | 0.563 | 0.512 | 6.91 |
| 70) | epichlorohydrin | | | | | | | | | | | |
| | 0.062 | 0.059 | 0.061 | 0.066 | 0.067 | 0.063 | 0.058 | 0.065 | 0.063 | | 0.063 | 4.91 |
| 71) | cis-1,3-dichloropropene | | | | | | | | | | | |
| | 0.673 | 0.571 | 0.625 | 0.654 | 0.625 | 0.617 | 0.692 | 0.596 | 0.584 | 0.586 | 0.622 | 6.46 |
| 72) | 4-methyl-2-pentanone | | | | | | | | | | | |
| | 0.226 | 0.212 | 0.217 | 0.231 | 0.230 | 0.220 | 0.212 | 0.217 | 0.216 | 0.159 | 0.214 | 9.59 |
| 73) | 3-methyl-1-butanol | | | | | | | | | | | |
| | 0.040 | 0.039 | 0.036 | 0.040 | 0.042 | 0.037 | 0.037 | 0.040 | 0.039 | 0.032 | 0.038 | 7.36 |
| 74) | I chlorobenzene-d5 | ---------- | ISTD | ---------- | | | | | | | | |
| 75) | toluene-d8 (s) | | | | | | | | | | | |
| | 1.170 | 1.188 | 1.189 | 1.195 | 1.174 | 1.196 | 1.178 | 1.177 | 1.175 | 1.196 | 1.184 | 0.86 |
| 76) | toluene | | | | | | | | | | | |
| | 0.911 | 0.835 | 0.898 | 0.914 | 0.870 | 0.882 | 0.908 | 0.859 | 0.852 | 0.929 | 0.886 | 3.50 |
| 77) | ethyl methacrylate | | | | | | | | | | | |
| | 0.545 | 0.495 | 0.532 | 0.543 | 0.519 | 0.521 | 0.464 | 0.504 | 0.489 | 0.519 | 0.513 | 4.95 |
| 78) | trans-1,3-dichloropropene | | | | | | | | | | | |
| | 0.585 | 0.506 | 0.580 | 0.587 | 0.565 | 0.571 | 0.508 | 0.532 | 0.528 | 0.581 | 0.554 | 5.86 |
| 79) | 1,1,2-trichloroethane | | | | | | | | | | | |
| | 0.341 | 0.313 | 0.318 | 0.329 | 0.318 | 0.304 | 0.304 | 0.310 | 0.303 | 0.334 | 0.317 | 4.15 |
| 80) | 2-hexanone | | | | | | | | | | | |
| | 0.216 | 0.192 | 0.194 | 0.206 | 0.211 | 0.192 | 0.200 | 0.203 | 0.199 | 0.185 | 0.200 | 4.79 |
| 81) | tetrachloroethene | | | | | | | | | | | |
| | 0.374 | 0.371 | 0.380 | 0.384 | 0.373 | 0.369 | 0.391 | 0.367 | 0.354 | 0.346 | 0.371 | 3.60 |
| 82) | 1,3-dichloropropane | | | | | | | | | | | |
| | 0.578 | 0.578 | 0.532 | 0.556 | 0.549 | 0.524 | 0.569 | 0.561 | 0.539 | 0.532 | 0.552 | 3.61 |
| 83) | butyl acetate | | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICC7441
**Lab FileID:** 2C166202.D

```
      0.304 0.284 0.283 0.298 0.304 0.283 0.263 0.303 0.287 0.266  0.287    5.24
 84)  dibromochloromethane
      0.394 0.340 0.459 0.443 0.390 0.464       0.335 0.356        0.398   13.24
 85)  1,2-dibromoethane
      0.514 0.486 0.537 0.552 0.525 0.524 0.491 0.511 0.505 0.581  0.523    5.50
 86)  n-butyl ether
      1.604 1.522 1.611 1.654 1.585 1.559 1.711 1.500 1.476 1.770  1.599    5.80
 87)  chlorobenzene
      1.118 1.010 1.054 1.077 1.051 1.036 1.112 1.005 0.968 1.046  1.048    4.48
 88)  1,1,1,2-tetrachloroethane
      0.410 0.388 0.466 0.465 0.422 0.462 0.398 0.396 0.391 0.453  0.425    7.79
 89)  ethylbenzene
      1.851 1.669 1.771 1.812 1.770 1.711 1.913 1.704 1.691 2.049  1.794    6.57
 90)  m,p-xylene
      0.698 0.644 0.700 0.708 0.687 0.699 0.698 0.664 0.658 0.741  0.690    4.04
 91)  o-xylene
      0.786 0.736 0.806 0.805 0.766 0.794 0.806 0.723 0.718 0.827  0.777    4.99
 92)  styrene
      1.211 1.131 1.219 1.244 1.221 1.215 1.257 1.150 1.145 1.155  1.195    3.78
 93)  butyl acrylate
      1.037 0.908 0.906 0.954 0.942 0.896 0.997 0.908 0.900 1.140  0.959    8.23
 94)  bromoform
      0.269 0.261 0.385 0.358 0.315 0.399       0.256 0.272        0.314   18.66
 95)  isopropylbenzene
      2.111 1.948 2.137 2.194 2.111 2.021 2.120 1.982 1.984 2.044  2.065    3.91
 96)  cis-1,4-dichloro-2-butene
      0.193 0.190 0.234 0.233 0.219 0.236 0.191 0.203 0.180        0.209   10.43

 97) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 98)  4-bromofluorobenzene (s)
      0.734 0.731 0.806 0.788 0.765 0.803 0.728 0.733 0.746 0.717  0.755    4.39
 99)  bromobenzene
      0.869 0.775 0.860 0.890 0.862 0.821 0.812 0.843 0.800 0.766  0.830    5.02
100)  1,1,2,2-tetrachloroethane
      1.061 1.008 1.098 1.145 1.068 1.015 0.939 0.980 0.979 0.920  1.021    6.97
101)  trans-1,4-dichloro-2-butene
      0.094 0.119 0.134 0.132 0.126 0.130       0.112 0.106        0.119   11.96
102)  1,2,3-trichloropropane
      0.250 0.250 0.265 0.274 0.258 0.252 0.254 0.258 0.256 0.236  0.256    3.89
103)  n-propylbenzene
      3.398 3.141 3.411 3.512 3.375 3.169 3.372 3.218 3.247 3.294  3.314    3.60
104)  2-chlorotoluene
      0.756 0.690 0.833 0.828 0.776 0.801 0.751 0.726 0.717 0.800  0.768    6.29
105)  4-chlorotoluene
      2.172 1.928 2.126 2.179 2.101 2.043 2.315 1.985 1.973 2.407  2.123    7.19
106)  1,3,5-trimethylbenzene
      2.561 2.420 2.767 2.828 2.654 2.586 2.550 2.487 2.480 2.588  2.592    4.91
107)  tert-butylbenzene
      2.129 1.995 2.529 2.534 2.343 2.383 2.069 2.103 2.094 2.099  2.228    8.99
108)  1,2,4-trimethylbenzene
      2.698 2.486 2.805 2.866 2.732 2.617 2.532 2.533 2.570 2.511  2.635    5.04
109)  sec-butylbenzene
      3.431 3.198 3.945 3.997 3.740 3.620 3.508 3.388 3.408 3.205  3.544    7.88
110)  1,3-dichlorobenzene
      1.859 1.635 1.680 1.756 1.729 1.591 1.831 1.690 1.667 1.694  1.713    4.87
111)  p-isopropyltoluene
      2.887 2.777 3.295 3.345 3.119 3.093 2.899 2.876 2.884 2.829  3.000    6.66
112)  1,4-dichlorobenzene
      1.873 1.630 1.697 1.748 1.694 1.622 1.847 1.623 1.637 1.828  1.720    5.72
113)  1,2-dichlorobenzene
```

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICC7441
**Lab FileID:** 2C166202.D

```
       1.964 1.809 1.858 1.945 1.915 1.723 2.011 1.816 1.819 2.120  1.898    6.13
114)  n-butylbenzene
       1.507 1.450 1.687 1.719 1.625 1.585 1.667 1.512 1.534 1.558  1.584    5.55
115)  1,2-dibromo-3-chloropropane
       0.246 0.245 0.330 0.326 0.289 0.307       0.251 0.256        0.281   12.92
116)  1,3,5-trichlorobenzene
       1.957 1.794 1.925 2.002 1.906 1.716 1.853 1.742 1.804 1.854  1.855    5.02
117)  Nitrobenzene
       0.028 0.021 0.039 0.036 0.033             0.030 0.030        0.031   18.36
118)  1,2,4-trichlorobenzene
       1.600 1.556 1.826 1.898 1.739 1.595 1.545 1.535 1.594 1.746  1.663    7.75
119)  2-ethylhexyl acrylate
                   1.246 1.194 1.000 1.178             0.885        1.101   13.80
120)  hexachlorobutadiene
       0.853 0.815 0.934 0.957 0.898 0.850 0.961 0.840 0.852 0.801  0.876    6.61
121)  naphthalene
       3.864 3.679 4.465 4.584 4.208 3.888 3.502 3.687 3.867 4.299  4.004    9.07
122)  1,2,3-trichlorobenzene
       1.552 1.413 1.711 1.772 1.614 1.495 1.428 1.429 1.456 1.546  1.541    8.05
123)  hexachloroethane
             0.323 0.598 0.544 0.440 0.606       0.360 0.353        0.461   26.30
          ----- Quadratic regression -----                Coefficient =  0.9975
               Response Ratio = -0.01388 + 0.53282 *A + 0.02091 *A^2

124)  2-methylnaphthalene
                   2.572 2.550 2.113 2.356             1.809        2.280   14.10
125)  Ethylenimine
                                                                    0.000#  -1.00
126)  Bis(chloromethyl)ether
                                                                    0.000#  -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M2C7441.M         Mon Mar 25 11:02:14 2019   RPT1
```

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICV7441
**Lab FileID:** 2C166207.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V2C7441\2C166207.D Vial: 14
Acq On : 20 Mar 2019 9:21 pm Operator: edwardd
Sample : ICV7441-50 Inst : Instrument #1
Misc : MS32911,V2C7441,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
Last Update : Mon Mar 25 11:00:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 8.24 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.290 | 1.341 | -4.0 | 91 | 0.00 | 8.38 |
| 4 | | 1,4-dioxane | 0.105 | 0.099 | 5.7 | 80 | 0.00 | 12.27 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 10.68 |
| 6 | | chlorodifluoromethane | 1.094 | 1.116 | -2.0 | 99 | 0.00 | 4.37 |
| 7 | | dichlorodifluoromethane | 1.281 | 1.151 | 10.1 | 84 | -0.01 | 4.34 |
| 8 | | chloromethane | 1.390 | 1.191 | 14.3 | 89 | 0.00 | 4.79 |
| 9 | | vinyl chloride | 1.233 | 1.164 | 5.6 | 92 | 0.00 | 5.06 |
| 10 | | 1,3-butadiene | 0.790 | 0.898 | -13.7 | 115 | 0.00 | 5.09 |
| 11 | | bromomethane | 0.985 | 0.912 | 7.4 | 86 | 0.00 | 5.76 |
| 12 | | chloroethane | 0.648 | 0.605 | 6.6 | 91 | 0.00 | 5.96 |
| 13 | | trichlorofluoromethane | 1.308 | 1.291 | 1.3 | 97 | 0.00 | 6.51 |
| 14 | | vinyl bromide | 0.754 | 0.722 | 4.2 | 99 | 0.00 | 6.36 |
| 15 | | ethyl ether | 0.274 | 0.274 | 0.0 | 99 | 0.00 | 6.94 |
| 16 | | 2-chloropropane | 1.093 | 1.027 | 6.0 | 98 | 0.00 | 7.19 |
| 17 | | acrolein | 0.145 | 0.143 | 1.4 | 95 | 0.00 | 7.20 |
| 18 | | freon 113 | 0.631 | 0.665 | -5.4 | 105 | 0.00 | 7.45 |
| 19 | | 1,1-dichloroethene | 0.594 | 0.538 | 9.4 | 94 | -0.01 | 7.42 |
| 20 | | acetone | 0.072 | 0.073 | -1.4 | 99 | 0.00 | 7.43 |
| 21 | | iodomethane | 1.074 | 1.222 | -13.8 | 111 | 0.00 | 7.71 |
| 22 | | acetonitrile | | ----------NA---------- | | | | |
| 23 | | carbon disulfide | 1.851 | 2.053 | -10.9 | 110 | 0.00 | 7.87 |
| 24 | | methylene chloride | 0.668 | 0.624 | 6.6 | 98 | 0.00 | 8.24 |
| 25 | | methyl acetate | 0.591 | 0.532 | 10.0 | 94 | 0.00 | 7.96 |
| 26 | | methyl tert butyl ether | 1.939 | 1.898 | 2.1 | 98 | 0.00 | 8.65 |
| 27 | | trans-1,2-dichloroethene | 0.544 | 0.489 | 10.1 | 93 | 0.00 | 8.67 |
| 28 | | hexane | 0.412 | 0.332 | 19.4 | 81 | 0.00 | 9.08 |
| 29 | | di-isopropyl ether | 1.991 | 1.848 | 7.2 | 93 | 0.00 | 9.32 |
| 30 | | 1,1-dichloroethane | 0.961 | 0.918 | 4.5 | 96 | 0.00 | 9.31 |
| 31 | | chloroprene | 0.788 | 0.803 | -1.9 | 100 | 0.00 | 9.43 |
| 32 | | acrylonitrile | 0.275 | 0.318 | -15.6 | 108 | 0.00 | 8.57 |
| 33 | | vinyl acetate | 0.106 | 0.103 | 2.8 | 94 | 0.00 | 9.25 |
| 34 | | ethyl tert-butyl ether | 1.945 | 1.918 | 1.4 | 96 | 0.00 | 9.82 |
| 35 | | 2-butanone | 0.086 | 0.090 | -4.7 | 99 | 0.00 | 10.03 |
| 36 | | ethyl acetate | 0.104 | 0.111 | -6.7 | 109 | 0.00 | 10.05 |
| 37 | | 2,2-dichloropropane | 0.904 | 0.830 | 8.2 | 94 | 0.00 | 10.13 |
| 38 | | cis-1,2-dichloroethene | 0.632 | 0.589 | 6.8 | 98 | 0.00 | 10.09 |
| 39 | | propionitrile | 0.124 | 0.124 | 0.0 | 99 | -0.01 | 10.11 |
| 40 | | bromochloromethane | 0.312 | 0.314 | -0.6 | 99 | 0.00 | 10.41 |
| 41 | | tetrahydrofuran | 0.098 | 0.100 | -2.0 | 101 | 0.00 | 10.43 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICV7441
**Lab FileID:** 2C166207.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | 1.024 | 0.961 | 6.2 | 97 | 0.00 | 10.51 |
| 43 | | t-butyl formate | 0.511 | 0.385 | 24.7 | 71 | 0.00 | 10.55 |
| 44 | S | dibromofluoromethane (s) | 0.475 | 0.467 | 1.7 | 99 | 0.00 | 10.71 |
| 45 | | methacrylonitrile | 0.266 | 0.268 | -0.8 | 98 | 0.00 | 10.32 |
| 46 | | 1,1,1-trichloroethane | 0.982 | 0.964 | 1.8 | 95 | 0.00 | 10.78 |
| 47 | | cyclohexane | 0.918 | 0.882 | 3.9 | 96 | 0.00 | 10.90 |
| 48 | | 1,1-dichloropropene | 0.676 | 0.658 | 2.7 | 99 | 0.00 | 10.95 |
| 49 | | carbon tetrachloride | 0.758 | 0.776 | -2.4 | 98 | 0.00 | 10.99 |
| 50 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 51 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 11.63 |
| 52 | S | 1,2-dichloroethane-d4 (s) | 0.401 | 0.387 | 3.5 | 103 | 0.00 | 11.14 |
| 53 | | n-butyl alcohol | 0.023 | 0.023 | 0.0 | 93 | 0.00 | 11.69 |
| 54 | | tert-amyl alcohol | 0.033 | 0.033 | 0.0 | 96 | 0.00 | 11.11 |
| 55 | | iso-octane | 1.590 | 1.608 | -1.1 | 97 | 0.00 | 11.32 |
| 56 | | benzene | 1.416 | 1.408 | 0.6 | 99 | 0.00 | 11.21 |
| 57 | | tert-amyl methyl ether | 0.328 | 0.303 | 7.6 | 93 | 0.00 | 11.30 |
| 58 | | heptane | 0.270 | 0.294 | -8.9 | 109 | 0.00 | 11.47 |
| 59 | | isopropyl acetate | 0.095 | 0.096 | -1.1 | 95 | 0.00 | 11.13 |
| 60 | | 1,2-dichloroethane | 0.561 | 0.534 | 4.8 | 100 | 0.00 | 11.23 |
| 61 | | ethyl acrylate | 0.546 | 0.604 | -10.6 | 106 | 0.00 | 11.92 |
| 62 | | trichloroethene | 0.386 | 0.391 | -1.3 | 100 | 0.00 | 11.93 |
| 63 | | 2-nitropropane | 0.123 | 0.127 | -3.3 | 106 | 0.00 | 12.65 |
| 64 | | 2-chloroethyl vinyl ether | 0.232 | 0.245 | -5.6 | 102 | 0.00 | 12.69 |
| 65 | | methyl methacrylate | 0.105 | 0.114 | -8.6 | 100 | 0.00 | 12.18 |
| 66 | | 1,2-dichloropropane | 0.397 | 0.374 | 5.8 | 97 | 0.00 | 12.21 |
| 67 | | dibromomethane | 0.281 | 0.292 | -3.9 | 104 | 0.00 | 12.31 |
| 68 | | methylcyclohexane | 0.784 | 0.732 | 6.6 | 92 | 0.00 | 12.22 |
| 69 | | bromodichloromethane | 0.512 | 0.541 | -5.7 | 100 | 0.00 | 12.46 |
| 70 | | epichlorohydrin | 0.063 | 0.068 | -7.9 | 105 | 0.00 | 12.77 |
| 71 | | cis-1,3-dichloropropene | 0.622 | 0.650 | -4.5 | 102 | 0.00 | 12.90 |
| 72 | | 4-methyl-2-pentanone | 0.214 | 0.226 | -5.6 | 100 | 0.00 | 12.99 |
| 73 | | 3-methyl-1-butanol | 0.038 | 0.038 | 0.0 | 96 | 0.00 | 13.00 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 14.61 |
| 75 | S | toluene-d8 (s) | 1.184 | 1.169 | 1.3 | 102 | 0.00 | 13.19 |
| 76 | | toluene | 0.886 | 0.886 | 0.0 | 101 | 0.00 | 13.26 |
| 77 | | ethyl methacrylate | 0.513 | 0.507 | 1.2 | 97 | 0.00 | 13.42 |
| 78 | | trans-1,3-dichloropropene | 0.554 | 0.556 | -0.4 | 99 | 0.00 | 13.43 |
| 79 | | 1,1,2-trichloroethane | 0.317 | 0.315 | 0.6 | 100 | 0.00 | 13.64 |
| 80 | | 2-hexanone | 0.200 | 0.201 | -0.5 | 102 | 0.00 | 13.80 |
| 81 | | tetrachloroethene | 0.371 | 0.371 | 0.0 | 101 | 0.00 | 13.79 |
| 82 | | 1,3-dichloropropane | 0.552 | 0.556 | -0.7 | 104 | 0.00 | 13.82 |
| 83 | | butyl acetate | 0.287 | 0.289 | -0.7 | 101 | 0.00 | 13.87 |
| 84 | | dibromochloromethane | 0.398 | 0.452 | -13.6 | 107 | 0.00 | 14.05 |
| 85 | | 1,2-dibromoethane | 0.523 | 0.536 | -2.5 | 101 | 0.00 | 14.19 |
| 86 | | n-butyl ether | 1.599 | 1.622 | -1.4 | 102 | 0.00 | 14.60 |
| 87 | | chlorobenzene | 1.048 | 1.050 | -0.2 | 102 | 0.00 | 14.64 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.425 | 0.452 | -6.4 | 101 | 0.00 | 14.70 |
| 89 | | ethylbenzene | 1.794 | 1.758 | 2.0 | 101 | 0.00 | 14.70 |
| 90 | | m,p-xylene | 0.690 | 0.694 | -0.6 | 102 | 0.00 | 14.81 |
| 91 | | o-xylene | 0.777 | 0.780 | -0.4 | 101 | 0.00 | 15.19 |
| 92 | | styrene | 1.195 | 1.224 | -2.4 | 103 | 0.00 | 15.20 |
| 93 | | butyl acrylate | 0.959 | 0.923 | 3.8 | 101 | 0.00 | 15.02 |
| 94 | | bromoform | 0.314 | 0.383 | -22.0 | 112 | 0.00 | 15.41 |
| 95 | | isopropylbenzene | 2.065 | 2.099 | -1.6 | 100 | 0.00 | 15.51 |
| 96 | | cis-1,4-dichloro-2-butene | 0.209 | 0.222 | -6.2 | 99 | 0.00 | 15.54 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 16.79 |
| 98 | S | 4-bromofluorobenzene (s) | 0.755 | 0.796 | -5.4 | 105 | 0.00 | 15.70 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICV7441
**Lab FileID:** 2C166207.D

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 99 | bromobenzene | 0.830 | 0.880 | -6.0 | 103 | 0.00 | 15.87 |
| 100 | 1,1,2,2-tetrachloroethane | 1.021 | 1.092 | -7.0 | 99 | 0.00 | 15.77 |
| 101 | trans-1,4-dichloro-2-bute | 0.119 | 0.151 | -26.9 | 118 | 0.00 | 15.80 |
| 102 | 1,2,3-trichloropropane | 0.256 | 0.266 | -3.9 | 101 | 0.00 | 15.85 |
| 103 | n-propylbenzene | 3.314 | 3.428 | -3.4 | 101 | 0.00 | 15.90 |
| 104 | 2-chlorotoluene | 0.768 | 0.806 | -4.9 | 101 | 0.00 | 16.02 |
| 105 | 4-chlorotoluene | 2.123 | 2.199 | -3.6 | 105 | 0.00 | 16.12 |
| 106 | 1,3,5-trimethylbenzene | 2.592 | 2.716 | -4.8 | 100 | 0.00 | 16.04 |
| 107 | tert-butylbenzene | 2.228 | 2.465 | -10.6 | 101 | 0.00 | 16.36 |
| 108 | 1,2,4-trimethylbenzene | 2.635 | 2.838 | -7.7 | 103 | 0.00 | 16.41 |
| 109 | sec-butylbenzene | 3.544 | 3.859 | -8.9 | 100 | 0.00 | 16.56 |
| 110 | 1,3-dichlorobenzene | 1.713 | 1.723 | -0.6 | 102 | 0.00 | 16.73 |
| 111 | p-isopropyltoluene | 3.000 | 3.243 | -8.1 | 101 | 0.00 | 16.69 |
| 112 | 1,4-dichlorobenzene | 1.720 | 1.731 | -0.6 | 103 | 0.00 | 16.82 |
| 113 | 1,2-dichlorobenzene | 1.898 | 1.893 | 0.3 | 101 | 0.00 | 17.17 |
| 114 | n-butylbenzene | 1.584 | 1.664 | -5.1 | 100 | 0.00 | 17.07 |
| 115 | 1,2-dibromo-3-chloropropa | 0.281 | 0.306 | -8.9 | 97 | 0.00 | 17.92 |
| 116 | 1,3,5-trichlorobenzene | 1.855 | 1.925 | -3.8 | 100 | 0.00 | 18.12 |
| 117 | Nitrobenzene | 0.031 | 0.033 | -6.5 | 96 | 0.00 | 18.12 |
| 118 | 1,2,4-trichlorobenzene | 1.663 | 1.799 | -8.2 | 98 | 0.00 | 18.77 |
| 119 | 2-ethylhexyl acrylate | 1.101 | 1.338 | -21.5 | 116 | 0.00 | 18.78 |
| 120 | hexachlorobutadiene | 0.876 | 0.875 | 0.1 | 95 | 0.00 | 18.89 |
| 121 | naphthalene | 4.004 | 4.362 | -8.9 | 99 | 0.00 | 19.07 |
| 122 | 1,2,3-trichlorobenzene | 1.541 | 1.645 | -6.7 | 96 | 0.00 | 19.30 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 123 | hexachloroethane | 50.000 | 52.290 | -4.6 | 108 | 0.00 | 17.46 |
| | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 124 | 2-methylnaphthalene | 2.280 | 2.288 | -0.4 | 93 | 0.00 | 20.23 |
| 125 | Ethylenimine | | ----------NA---------- | | | | |
| 126 | Bis(chloromethyl)ether | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2C166202.D M2C7441.M Mon Mar 25 11:02:25 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICV7441
**Lab FileID:** 2C166208.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V2C7441\2C166208.D Vial: 15
Acq On : 20 Mar 2019 9:50 pm Operator: edwardd
Sample : ICV7441-50 Inst : Instrument #1
Misc : MS32911,V2C7441,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
Last Update : Thu Mar 21 14:10:37 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 8.24 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | | ----------NA---------- | | | | |
| 4 | | 1,4-dioxane | | ----------NA---------- | | | | |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 10.68 |
| 6 | | chlorodifluoromethane | | ----------NA---------- | | | | |
| 7 | | dichlorodifluoromethane | | ----------NA---------- | | | | |
| 8 | | chloromethane | | ----------NA---------- | | | | |
| 9 | | vinyl chloride | | ----------NA---------- | | | | |
| 10 | | 1,3-butadiene | | ----------NA---------- | | | | |
| 11 | | bromomethane | | ----------NA---------- | | | | |
| 12 | | chloroethane | | ----------NA---------- | | | | |
| 13 | | trichlorofluoromethane | | ----------NA---------- | | | | |
| 14 | | vinyl bromide | | ----------NA---------- | | | | |
| 15 | | ethyl ether | | ----------NA---------- | | | | |
| 16 | | 2-chloropropane | | ----------NA---------- | | | | |
| 17 | | acrolein | | ----------NA---------- | | | | |
| 18 | | freon 113 | | ----------NA---------- | | | | |
| 19 | | 1,1-dichloroethene | | ----------NA---------- | | | | |
| 20 | | acetone | 0.072 | 0.074 | -2.8 | 101 | 0.00 | 7.43 |
| 21 | | iodomethane | | ----------NA---------- | | | | |
| 22 | | acetonitrile | 0.124 | 0.123 | 0.8 | 94 | -0.01 | 7.92 |
| 23 | | carbon disulfide | | ----------NA---------- | | | | |
| 24 | | methylene chloride | | ----------NA---------- | | | | |
| 25 | | methyl acetate | | ----------NA---------- | | | | |
| 26 | | methyl tert butyl ether | | ----------NA---------- | | | | |
| 27 | | trans-1,2-dichloroethene | | ----------NA---------- | | | | |
| 28 | | hexane | | ----------NA---------- | | | | |
| 29 | | di-isopropyl ether | | ----------NA---------- | | | | |
| 30 | | 1,1-dichloroethane | | ----------NA---------- | | | | |
| 31 | | chloroprene | | ----------NA---------- | | | | |
| 32 | | acrylonitrile | | ----------NA---------- | | | | |
| 33 | | vinyl acetate | | ----------NA---------- | | | | |
| 34 | | ethyl tert-butyl ether | | ----------NA---------- | | | | |
| 35 | | 2-butanone | | ----------NA---------- | | | | |
| 36 | | ethyl acetate | | ----------NA---------- | | | | |
| 37 | | 2,2-dichloropropane | | ----------NA---------- | | | | |
| 38 | | cis-1,2-dichloroethene | | ----------NA---------- | | | | |
| 39 | | propionitrile | | ----------NA---------- | | | | |
| 40 | | bromochloromethane | | ----------NA---------- | | | | |
| 41 | | tetrahydrofuran | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICV7441
**Lab FileID:** 2C166208.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | | ----------NA---------- | | | | | |
| 43 | | t-butyl formate | | ----------NA---------- | | | | | |
| 44 | S | dibromofluoromethane (s) | 0.475 | 0.468 | 1.5 | 100 | 0.00 | 10.71 | |
| 45 | | methacrylonitrile | | ----------NA---------- | | | | | |
| 46 | | 1,1,1-trichloroethane | | ----------NA---------- | | | | | |
| 47 | | cyclohexane | | ----------NA---------- | | | | | |
| 48 | | 1,1-dichloropropene | | ----------NA---------- | | | | | |
| 49 | | carbon tetrachloride | | ----------NA---------- | | | | | |
| 50 | | isobutyl alcohol | | ----------NA---------- | | | | | |
| 51 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 11.63 | |
| 52 | S | 1,2-dichloroethane-d4 (s) | 0.401 | 0.408 | -1.7 | 108 | 0.00 | 11.14 | |
| 53 | | n-butyl alcohol | | ----------NA---------- | | | | | |
| 54 | | tert-amyl alcohol | | ----------NA---------- | | | | | |
| 55 | | iso-octane | | ----------NA---------- | | | | | |
| 56 | | benzene | | ----------NA---------- | | | | | |
| 57 | | tert-amyl methyl ether | | ----------NA---------- | | | | | |
| 58 | | heptane | | ----------NA---------- | | | | | |
| 59 | | isopropyl acetate | | ----------NA---------- | | | | | |
| 60 | | 1,2-dichloroethane | | ----------NA---------- | | | | | |
| 61 | | ethyl acrylate | | ----------NA---------- | | | | | |
| 62 | | trichloroethene | | ----------NA---------- | | | | | |
| 63 | | 2-nitropropane | | ----------NA---------- | | | | | |
| 64 | | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | | |
| 65 | | methyl methacrylate | | ----------NA---------- | | | | | |
| 66 | | 1,2-dichloropropane | | ----------NA---------- | | | | | |
| 67 | | dibromomethane | | ----------NA---------- | | | | | |
| 68 | | methylcyclohexane | | ----------NA---------- | | | | | |
| 69 | | bromodichloromethane | | ----------NA---------- | | | | | |
| 70 | | epichlorohydrin | | ----------NA---------- | | | | | |
| 71 | | cis-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 72 | | 4-methyl-2-pentanone | | ----------NA---------- | | | | | |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 14.61 | |
| 75 | S | toluene-d8 (s) | 1.184 | 1.173 | 0.9 | 99 | 0.00 | 13.19 | |
| 76 | | toluene | | ----------NA---------- | | | | | |
| 77 | | ethyl methacrylate | | ----------NA---------- | | | | | |
| 78 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 79 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | | |
| 80 | | 2-hexanone | | ----------NA---------- | | | | | |
| 81 | | tetrachloroethene | 0.371 | 0.338 | 8.9 | 89 | 0.00 | 13.79 | |
| 82 | | 1,3-dichloropropane | | ----------NA---------- | | | | | |
| 83 | | butyl acetate | | ----------NA---------- | | | | | |
| 84 | | dibromochloromethane | | ----------NA---------- | | | | | |
| 85 | | 1,2-dibromoethane | | ----------NA---------- | | | | | |
| 86 | | n-butyl ether | | ----------NA---------- | | | | | |
| 87 | | chlorobenzene | | ----------NA---------- | | | | | |
| 88 | | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | | |
| 89 | | ethylbenzene | | ----------NA---------- | | | | | |
| 90 | | m,p-xylene | | ----------NA---------- | | | | | |
| 91 | | o-xylene | | ----------NA---------- | | | | | |
| 92 | | styrene | | ----------NA---------- | | | | | |
| 93 | | butyl acrylate | | ----------NA---------- | | | | | |
| 94 | | bromoform | | ----------NA---------- | | | | | |
| 95 | | isopropylbenzene | | ----------NA---------- | | | | | |
| 96 | | cis-1,4-dichloro-2-butene | | ----------NA---------- | | | | | |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 109 | 0.00 | 16.79 | |
| 98 | S | 4-bromofluorobenzene (s) | 0.755 | 0.741 | 1.9 | 103 | 0.00 | 15.70 | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7441-ICV7441
**Lab FileID:** 2C166208.D

| | | | |
|---|---|---|---|
| 99 | bromobenzene | ----------NA---------- | |
| 100 | 1,1,2,2-tetrachloroethane | ----------NA---------- | |
| 101 | trans-1,4-dichloro-2-bute | ----------NA---------- | |
| 102 | 1,2,3-trichloropropane | ----------NA---------- | |
| 103 | n-propylbenzene | ----------NA---------- | |
| 104 | 2-chlorotoluene | ----------NA---------- | |
| 105 | 4-chlorotoluene | ----------NA---------- | |
| 106 | 1,3,5-trimethylbenzene | ----------NA---------- | |
| 107 | tert-butylbenzene | ----------NA---------- | |
| 108 | 1,2,4-trimethylbenzene | ----------NA---------- | |
| 109 | sec-butylbenzene | ----------NA---------- | |
| 110 | 1,3-dichlorobenzene | ----------NA---------- | |
| 111 | p-isopropyltoluene | ----------NA---------- | |
| 112 | 1,4-dichlorobenzene | ----------NA---------- | |
| 113 | 1,2-dichlorobenzene | ----------NA---------- | |
| 114 | n-butylbenzene | ----------NA---------- | |
| 115 | 1,2-dibromo-3-chloropropa | ----------NA---------- | |
| 116 | 1,3,5-trichlorobenzene | ----------NA---------- | |
| 117 | Nitrobenzene | ----------NA---------- | |
| 118 | 1,2,4-trichlorobenzene | ----------NA---------- | |
| 119 | 2-ethylhexyl acrylate | ----------NA---------- | |
| 120 | hexachlorobutadiene | ----------NA---------- | |
| 121 | naphthalene | ----------NA---------- | |
| 122 | 1,2,3-trichlorobenzene | ----------NA---------- | |
| | ---------- True | Calc. | % Drift ---------- |
| 123 | hexachloroethane | ----------NA---------- | |
| | ---------- AvgRF | CCRF | % Dev ---------- |
| 124 | 2-methylnaphthalene | ----------NA---------- | |
| 125 | Ethylenimine | ----------NA---------- | |
| 126 | Bis(chloromethyl)ether | ----------NA---------- | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2C166202.D M2C7441.M Thu Mar 21 14:12:53 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7520-CC7441
**Lab FileID:** 2C167640.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ja...19\v2c7520\2c167640.d Vial: 2
Acq On : 15 May 2019 6:35 am Operator: thienn
Sample : CC7441-20 Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
Last Update : Mon Mar 25 11:00:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 99 | -0.01 | 8.23 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.290 | 1.196 | 7.3 | 87 | 0.00 | 8.36 |
| 4 | | 1,4-dioxane | 0.105 | 0.067 | 36.2# | 63 | 0.00 | 12.25 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 132 | 0.00 | 10.68 |
| 6 | | chlorodifluoromethane | 1.094 | 0.890 | 18.6 | 103 | 0.01 | 4.39 |
| 7 | | dichlorodifluoromethane | 1.281 | 0.991 | 22.6# | 97 | 0.00 | 4.35 |
| 8 | | chloromethane | 1.390 | 1.054 | 24.2# | 105 | 0.01 | 4.80 |
| 9 | | vinyl chloride | 1.233 | 1.008 | 18.2 | 106 | 0.01 | 5.07 |
| 10 | | 1,3-butadiene | 0.790 | 0.639 | 19.1 | 106 | 0.02 | 5.11 |
| 11 | | bromomethane | 0.985 | 0.785 | 20.3# | 110 | 0.02 | 5.79 |
| 12 | | chloroethane | 0.648 | 0.527 | 18.7 | 113 | 0.02 | 5.98 |
| 13 | | trichlorofluoromethane | 1.308 | 1.134 | 13.3 | 115 | 0.01 | 6.52 |
| 14 | | vinyl bromide | 0.754 | 0.738 | 2.1 | 138 | 0.02 | 6.37 |
| 15 | | ethyl ether | 0.274 | 0.289 | -5.5 | 138 | 0.00 | 6.95 |
| 16 | | 2-chloropropane | 1.093 | 0.960 | 12.2 | 121 | 0.00 | 7.18 |
| 17 | | acrolein | 0.145 | 0.125 | 13.8 | 113 | 0.01 | 7.21 |
| 18 | | freon 113 | 0.631 | 0.551 | 12.7 | 113 | 0.01 | 7.45 |
| 19 | | 1,1-dichloroethene | 0.594 | 0.588 | 1.0 | 134 | 0.00 | 7.43 |
| 20 | | acetone | 0.072 | 0.070 | 2.8 | 123 | 0.01 | 7.45 |
| 21 | | iodomethane | 1.074 | 1.075 | -0.1 | 131 | 0.00 | 7.71 |
| 22 | | acetonitrile | 0.124 | 0.094 | 24.2# | 95 | 0.00 | 7.93 |
| 23 | | carbon disulfide | 1.851 | 1.777 | 4.0 | 126 | 0.00 | 7.88 |
| 24 | | methylene chloride | 0.668 | 0.654 | 2.1 | 134 | 0.00 | 8.24 |
| 25 | | methyl acetate | 0.591 | 0.498 | 15.7 | 112 | 0.00 | 7.97 |
| 26 | | methyl tert butyl ether | 1.939 | 1.765 | 9.0 | 121 | 0.00 | 8.65 |
| 27 | | trans-1,2-dichloroethene | 0.544 | 0.554 | -1.8 | 134 | 0.00 | 8.68 |
| 28 | | hexane | 0.412 | 0.342 | 17.0 | 112 | 0.00 | 9.08 |
| 29 | | di-isopropyl ether | 1.991 | 1.755 | 11.9 | 118 | 0.00 | 9.32 |
| 30 | | 1,1-dichloroethane | 0.961 | 0.945 | 1.7 | 131 | 0.00 | 9.32 |
| 31 | | chloroprene | 0.788 | 0.746 | 5.3 | 124 | 0.00 | 9.43 |
| 32 | | acrylonitrile | 0.275 | 0.282 | -2.5 | 127 | 0.00 | 8.57 |
| 33 | | vinyl acetate | 0.106 | 0.105 | 0.9 | 128 | 0.00 | 9.26 |
| 34 | | ethyl tert-butyl ether | 1.945 | 1.784 | 8.3 | 120 | 0.00 | 9.82 |
| 35 | | 2-butanone | 0.086 | 0.086 | 0.0 | 121 | 0.00 | 10.03 |
| 36 | | ethyl acetate | 0.104 | 0.092 | 11.5 | 102 | 0.00 | 10.05 |
| 37 | | 2,2-dichloropropane | 0.904 | 0.870 | 3.8 | 130 | 0.00 | 10.14 |
| 38 | | cis-1,2-dichloroethene | 0.632 | 0.609 | 3.6 | 136 | 0.00 | 10.09 |
| 39 | | propionitrile | 0.124 | 0.113 | 8.9 | 115 | 0.00 | 10.11 |
| 40 | | bromochloromethane | 0.312 | 0.331 | -6.1 | 136 | 0.00 | 10.41 |
| 41 | | tetrahydrofuran | 0.098 | 0.098 | 0.0 | 123 | 0.00 | 10.43 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2C7520-CC7441
**Account:** BBLNYS Arcadis **Lab FileID:** 2C167640.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | 1.024 | 0.988 | 3.5 | 134 | 0.00 | 10.51 |
| 43 | | t-butyl formate | 0.511 | 0.445 | 12.9 | 112 | 0.00 | 10.55 |
| 44 | S | dibromofluoromethane (s) | 0.475 | 0.459 | 3.4 | 129 | 0.00 | 10.71 |
| 45 | | methacrylonitrile | 0.266 | 0.252 | 5.3 | 124 | 0.00 | 10.32 |
| 46 | | 1,1,1-trichloroethane | 0.982 | 0.941 | 4.2 | 125 | 0.00 | 10.78 |
| 47 | | cyclohexane | 0.918 | 0.831 | 9.5 | 121 | 0.00 | 10.90 |
| 48 | | 1,1-dichloropropene | 0.676 | 0.662 | 2.1 | 130 | 0.00 | 10.95 |
| 49 | | carbon tetrachloride | 0.758 | 0.810 | -6.9 | 140 | 0.00 | 10.99 |
| 50 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 51 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 128 | 0.00 | 11.63 |
| 52 | S | 1,2-dichloroethane-d4 (s) | 0.401 | 0.381 | 5.0 | 122 | 0.00 | 11.14 |
| 53 | | n-butyl alcohol | 0.023 | 0.016# | 30.4# | 81 | 0.00 | 11.69 |
| 54 | | tert-amyl alcohol | 0.033 | 0.030# | 9.1 | 109 | -0.01 | 11.10 |
| 55 | | iso-octane | 1.590 | 1.481 | 6.9 | 116 | 0.00 | 11.32 |
| 56 | | benzene | 1.416 | 1.441 | -1.8 | 129 | 0.00 | 11.21 |
| 57 | | tert-amyl methyl ether | 0.328 | 0.306 | 6.7 | 118 | 0.00 | 11.30 |
| 58 | | heptane | 0.270 | 0.241 | 10.7 | 116 | 0.00 | 11.47 |
| 59 | | isopropyl acetate | 0.095 | 0.096 | -1.1 | 120 | 0.00 | 11.13 |
| 60 | | 1,2-dichloroethane | 0.561 | 0.539 | 3.9 | 127 | 0.00 | 11.24 |
| 61 | | ethyl acrylate | 0.546 | 0.512 | 6.2 | 114 | 0.00 | 11.92 |
| 62 | | trichloroethene | 0.386 | 0.397 | -2.8 | 130 | 0.00 | 11.93 |
| 63 | | 2-nitropropane | 0.123 | 0.130 | -5.7 | 150 | 0.00 | 12.65 |
| 64 | | 2-chloroethyl vinyl ether | 0.232 | 0.242 | -4.3 | 128 | 0.00 | 12.69 |
| 65 | | methyl methacrylate | 0.105 | 0.102 | 2.9 | 116 | 0.00 | 12.18 |
| 66 | | 1,2-dichloropropane | 0.397 | 0.375 | 5.5 | 124 | 0.00 | 12.21 |
| 67 | | dibromomethane | 0.281 | 0.279 | 0.7 | 127 | 0.00 | 12.31 |
| 68 | | methylcyclohexane | 0.784 | 0.727 | 7.3 | 117 | 0.00 | 12.22 |
| 69 | | bromodichloromethane | 0.512 | 0.536 | -4.7 | 132 | 0.00 | 12.46 |
| 70 | | epichlorohydrin | 0.063 | 0.059 | 6.3 | 112 | 0.00 | 12.77 |
| 71 | | cis-1,3-dichloropropene | 0.622 | 0.613 | 1.4 | 125 | 0.00 | 12.90 |
| 72 | | 4-methyl-2-pentanone | 0.214 | 0.210 | 1.9 | 116 | 0.00 | 12.99 |
| 73 | | 3-methyl-1-butanol | 0.038 | 0.029# | 23.7# | 89 | 0.00 | 13.00 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 122 | 0.00 | 14.61 |
| 75 | S | toluene-d8 (s) | 1.184 | 1.149 | 3.0 | 120 | 0.00 | 13.19 |
| 76 | | toluene | 0.886 | 0.881 | 0.6 | 124 | 0.00 | 13.26 |
| 77 | | ethyl methacrylate | 0.513 | 0.486 | 5.3 | 114 | 0.00 | 13.43 |
| 78 | | trans-1,3-dichloropropene | 0.554 | 0.570 | -2.9 | 123 | 0.00 | 13.43 |
| 79 | | 1,1,2-trichloroethane | 0.317 | 0.321 | -1.3 | 124 | 0.00 | 13.64 |
| 80 | | 2-hexanone | 0.200 | 0.197 | 1.5 | 114 | 0.00 | 13.80 |
| 81 | | tetrachloroethene | 0.371 | 0.362 | 2.4 | 119 | 0.00 | 13.79 |
| 82 | | 1,3-dichloropropane | 0.552 | 0.552 | 0.0 | 123 | 0.00 | 13.81 |
| 83 | | butyl acetate | 0.287 | 0.283 | 1.4 | 114 | 0.00 | 13.87 |
| 84 | | dibromochloromethane | 0.398 | 0.440 | -10.6 | 138 | 0.00 | 14.05 |
| 85 | | 1,2-dibromoethane | 0.523 | 0.477 | 8.8 | 111 | 0.00 | 14.19 |
| 86 | | n-butyl ether | 1.599 | 1.455 | 9.0 | 112 | 0.00 | 14.60 |
| 87 | | chlorobenzene | 1.048 | 1.067 | -1.8 | 124 | 0.00 | 14.64 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.425 | 0.444 | -4.5 | 128 | 0.00 | 14.70 |
| 89 | | ethylbenzene | 1.794 | 1.745 | 2.7 | 120 | 0.00 | 14.70 |
| 90 | | m,p-xylene | 0.690 | 0.675 | 2.2 | 120 | 0.00 | 14.81 |
| 91 | | o-xylene | 0.777 | 0.746 | 4.0 | 119 | 0.00 | 15.19 |
| 92 | | styrene | 1.195 | 1.180 | 1.3 | 118 | 0.00 | 15.20 |
| 93 | | butyl acrylate | 0.959 | 0.861 | 10.2 | 112 | 0.00 | 15.02 |
| 94 | | bromoform | 0.314 | 0.368 | -17.2 | 143 | 0.00 | 15.41 |
| 95 | | isopropylbenzene | 2.065 | 2.005 | 2.9 | 116 | 0.00 | 15.51 |
| 96 | | cis-1,4-dichloro-2-butene | 0.209 | 0.228 | -9.1 | 127 | 0.00 | 15.54 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 116 | 0.00 | 16.79 |
| 98 | S | 4-bromofluorobenzene (s) | 0.755 | 0.769 | -1.9 | 116 | 0.00 | 15.70 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2C7520-CC7441
**Account:** BBLNYS Arcadis **Lab FileID:** 2C167640.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 99 | bromobenzene | 0.830 | 0.891 | -7.3 | 120 | 0.00 | 15.87 |
| 100 | 1,1,2,2-tetrachloroethane | 1.021 | 1.095 | -7.2 | 119 | 0.00 | 15.77 |
| 101 | trans-1,4-dichloro-2-bute | 0.119 | 0.131 | -10.1 | 121 | 0.00 | 15.80 |
| 102 | 1,2,3-trichloropropane | 0.256 | 0.271 | -5.9 | 122 | 0.00 | 15.85 |
| 103 | n-propylbenzene | 3.314 | 3.461 | -4.4 | 119 | 0.00 | 15.90 |
| 104 | 2-chlorotoluene | 0.768 | 0.798 | -3.9 | 119 | 0.00 | 16.02 |
| 105 | 4-chlorotoluene | 2.123 | 2.187 | -3.0 | 121 | 0.00 | 16.12 |
| 106 | 1,3,5-trimethylbenzene | 2.592 | 2.669 | -3.0 | 116 | 0.00 | 16.04 |
| 107 | tert-butylbenzene | 2.228 | 2.257 | -1.3 | 112 | 0.00 | 16.36 |
| 108 | 1,2,4-trimethylbenzene | 2.635 | 2.759 | -4.7 | 117 | 0.00 | 16.41 |
| 109 | sec-butylbenzene | 3.544 | 3.600 | -1.6 | 111 | 0.00 | 16.56 |
| 110 | 1,3-dichlorobenzene | 1.713 | 1.769 | -3.3 | 118 | 0.00 | 16.73 |
| 111 | p-isopropyltoluene | 3.000 | 3.068 | -2.3 | 114 | 0.00 | 16.69 |
| 112 | 1,4-dichlorobenzene | 1.720 | 1.736 | -0.9 | 119 | 0.00 | 16.82 |
| 113 | 1,2-dichlorobenzene | 1.898 | 1.926 | -1.5 | 116 | 0.00 | 17.17 |
| 114 | n-butylbenzene | 1.584 | 1.626 | -2.7 | 116 | 0.00 | 17.08 |
| 115 | 1,2-dibromo-3-chloropropa | 0.281 | 0.280 | 0.4 | 112 | 0.00 | 17.92 |
| 116 | 1,3,5-trichlorobenzene | 1.855 | 1.924 | -3.7 | 117 | 0.00 | 18.12 |
| 117 | Nitrobenzene | 0.031 | 0.059 | -90.3# | 207# | 0.00 | 18.12 |
| 118 | 1,2,4-trichlorobenzene | 1.663 | 1.671 | -0.5 | 111 | 0.00 | 18.77 |
| 119 | 2-ethylhexyl acrylate | 1.101 | 0.700 | 36.4# | 81 | 0.00 | 18.78 |
| 120 | hexachlorobutadiene | 0.876 | 0.882 | -0.7 | 114 | 0.00 | 18.89 |
| 121 | naphthalene | 4.004 | 3.884 | 3.0 | 107 | 0.00 | 19.07 |
| 122 | 1,2,3-trichlorobenzene | 1.541 | 1.524 | 1.1 | 109 | 0.00 | 19.30 |
| | | True | Calc. | % Drift | | | |
| 123 | hexachloroethane | 20.000 | 21.221 | -6.1 | 142 | 0.00 | 17.47 |
| | | AvgRF | CCRF | % Dev | | | |
| 124 | 2-methylnaphthalene | 2.280 | 1.711 | 25.0# | 94 | 0.00 | 20.23 |
| 125 | Ethylenimine | | ----------NA---------- | | | | |
| 126 | Bis(chloromethyl)ether | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2C166201.D M2C7441.M Wed May 15 23:31:17 2019

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2C7521-CC7441
**Lab FileID:** 2C167675.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V2C7521\2C167675.D Vial: 4
Acq On : 16 May 2019 7:47 am Operator: thienn
Sample : cc7441-50 Inst : Instrument #1
Misc : MS32144,V2C7521,5,,100,5,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
Last Update : Mon Mar 25 11:00:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 111 | -0.01 | 8.23 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.290 | 1.210 | 6.2 | 95 | -0.02 | 8.35 |
| 4 | | 1,4-dioxane | 0.105 | 0.108 | -2.9 | 102 | 0.00 | 12.26 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 127 | 0.00 | 10.69 |
| 6 | | chlorodifluoromethane | 1.094 | 0.865 | 20.9# | 96 | 0.01 | 4.39 |
| 7 | | dichlorodifluoromethane | 1.281 | 1.128 | 11.9 | 104 | 0.00 | 4.36 |
| 8 | | chloromethane | 1.390 | 1.090 | 21.6# | 102 | 0.02 | 4.80 |
| 9 | | vinyl chloride | 1.233 | 1.055 | 14.4 | 105 | 0.01 | 5.07 |
| 10 | | 1,3-butadiene | 0.790 | 0.615 | 22.2# | 99 | 0.02 | 5.12 |
| 11 | | bromomethane | 0.985 | 0.834 | 15.3 | 99 | 0.02 | 5.79 |
| 12 | | chloroethane | 0.648 | 0.558 | 13.9 | 106 | 0.03 | 5.98 |
| 13 | | trichlorofluoromethane | 1.308 | 1.278 | 2.3 | 121 | 0.02 | 6.52 |
| 14 | | vinyl bromide | 0.754 | 0.796 | -5.6 | 136 | 0.02 | 6.37 |
| 15 | | ethyl ether | 0.274 | 0.291 | -6.2 | 131 | 0.00 | 6.95 |
| 16 | | 2-chloropropane | 1.093 | 0.967 | 11.5 | 115 | 0.01 | 7.20 |
| 17 | | acrolein | 0.145 | 0.133 | 8.3 | 111 | 0.00 | 7.21 |
| 18 | | freon 113 | 0.631 | 0.550 | 12.8 | 109 | 0.02 | 7.46 |
| 19 | | 1,1-dichloroethene | 0.594 | 0.564 | 5.1 | 124 | 0.00 | 7.44 |
| 20 | | acetone | 0.072 | 0.091 | -26.4# | 156 | 0.02 | 7.45 |
| 21 | | iodomethane | 1.074 | 1.092 | -1.7 | 124 | 0.01 | 7.73 |
| 22 | | acetonitrile | 0.124 | 0.094 | 24.2# | 90 | 0.01 | 7.95 |
| 23 | | carbon disulfide | 1.851 | 1.807 | 2.4 | 122 | 0.00 | 7.88 |
| 24 | | methylene chloride | 0.668 | 0.645 | 3.4 | 127 | 0.00 | 8.24 |
| 25 | | methyl acetate | 0.591 | 0.504 | 14.7 | 112 | 0.01 | 7.98 |
| 26 | | methyl tert butyl ether | 1.939 | 1.710 | 11.8 | 111 | 0.00 | 8.65 |
| 27 | | trans-1,2-dichloroethene | 0.544 | 0.552 | -1.5 | 131 | 0.00 | 8.68 |
| 28 | | hexane | 0.412 | 0.347 | 15.8 | 106 | 0.00 | 9.08 |
| 29 | | di-isopropyl ether | 1.991 | 1.719 | 13.7 | 109 | 0.00 | 9.32 |
| 30 | | 1,1-dichloroethane | 0.961 | 0.928 | 3.4 | 123 | 0.00 | 9.32 |
| 31 | | chloroprene | 0.788 | 0.750 | 4.8 | 117 | 0.00 | 9.43 |
| 32 | | acrylonitrile | 0.275 | 0.277 | -0.7 | 119 | 0.00 | 8.57 |
| 33 | | vinyl acetate | 0.106 | 0.097 | 8.5 | 111 | 0.00 | 9.26 |
| 34 | | ethyl tert-butyl ether | 1.945 | 1.739 | 10.6 | 109 | 0.00 | 9.83 |
| 35 | | 2-butanone | 0.086 | 0.083 | 3.5 | 114 | 0.00 | 10.03 |
| 36 | | ethyl acetate | 0.104 | 0.088 | 15.4 | 109 | 0.00 | 10.05 |
| 37 | | 2,2-dichloropropane | 0.904 | 0.870 | 3.8 | 124 | 0.00 | 10.14 |
| 38 | | cis-1,2-dichloroethene | 0.632 | 0.611 | 3.3 | 127 | 0.00 | 10.10 |
| 39 | | propionitrile | 0.124 | 0.104 | 16.1 | 104 | 0.00 | 10.11 |
| 40 | | bromochloromethane | 0.312 | 0.324 | -3.8 | 128 | 0.00 | 10.41 |
| 41 | | tetrahydrofuran | 0.098 | 0.091 | 7.1 | 116 | 0.00 | 10.44 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2C7521-CC7441
**Account:** BBLNYS Arcadis **Lab FileID:** 2C167675.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | 1.024 | 0.969 | 5.4 | 123 | 0.00 | 10.51 |
| 43 | | t-butyl formate | 0.511 | 0.477 | 6.7 | 111 | 0.00 | 10.55 |
| 44 | S | dibromofluoromethane (s) | 0.475 | 0.488 | -2.7 | 130 | 0.00 | 10.71 |
| 45 | | methacrylonitrile | 0.266 | 0.234 | 12.0 | 108 | 0.00 | 10.32 |
| 46 | | 1,1,1-trichloroethane | 0.982 | 0.951 | 3.2 | 117 | 0.00 | 10.79 |
| 47 | | cyclohexane | 0.918 | 0.901 | 1.9 | 123 | 0.00 | 10.90 |
| 48 | | 1,1-dichloropropene | 0.676 | 0.610 | 9.8 | 114 | 0.00 | 10.96 |
| 49 | | carbon tetrachloride | 0.758 | 0.812 | -7.1 | 128 | 0.00 | 10.99 |
| 50 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 51 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 119 | 0.00 | 11.63 |
| 52 | S | 1,2-dichloroethane-d4 (s) | 0.401 | 0.393 | 2.0 | 122 | 0.00 | 11.14 |
| 53 | | n-butyl alcohol | 0.023 | 0.023 | 0.0 | 110 | 0.00 | 11.69 |
| 54 | | tert-amyl alcohol | 0.033 | 0.033 | 0.0 | 113 | 0.00 | 11.11 |
| 55 | | iso-octane | 1.590 | 1.526 | 4.0 | 107 | 0.00 | 11.32 |
| 56 | | benzene | 1.416 | 1.393 | 1.6 | 115 | 0.00 | 11.21 |
| 57 | | tert-amyl methyl ether | 0.328 | 0.310 | 5.5 | 111 | 0.00 | 11.30 |
| 58 | | heptane | 0.270 | 0.242 | 10.4 | 104 | 0.00 | 11.47 |
| 59 | | isopropyl acetate | 0.095 | 0.092 | 3.2 | 106 | 0.00 | 11.13 |
| 60 | | 1,2-dichloroethane | 0.561 | 0.512 | 8.7 | 112 | 0.00 | 11.24 |
| 61 | | ethyl acrylate | 0.546 | 0.469 | 14.1 | 96 | 0.00 | 11.92 |
| 62 | | trichloroethene | 0.386 | 0.371 | 3.9 | 111 | 0.00 | 11.93 |
| 63 | | 2-nitropropane | 0.123 | 0.125 | -1.6 | 123 | 0.00 | 12.65 |
| 64 | | 2-chloroethyl vinyl ether | 0.232 | 0.216 | 6.9 | 105 | 0.00 | 12.69 |
| 65 | | methyl methacrylate | 0.105 | 0.099 | 5.7 | 102 | 0.00 | 12.18 |
| 66 | | 1,2-dichloropropane | 0.397 | 0.352 | 11.3 | 106 | 0.00 | 12.21 |
| 67 | | dibromomethane | 0.281 | 0.262 | 6.8 | 109 | 0.00 | 12.31 |
| 68 | | methylcyclohexane | 0.784 | 0.764 | 2.6 | 113 | 0.00 | 12.22 |
| 69 | | bromodichloromethane | 0.512 | 0.512 | 0.0 | 111 | 0.00 | 12.46 |
| 70 | | epichlorohydrin | 0.063 | 0.054 | 14.3 | 98 | 0.00 | 12.77 |
| 71 | | cis-1,3-dichloropropene | 0.622 | 0.560 | 10.0 | 102 | 0.00 | 12.90 |
| 72 | | 4-methyl-2-pentanone | 0.214 | 0.197 | 7.9 | 102 | 0.00 | 12.99 |
| 73 | | 3-methyl-1-butanol | 0.038 | 0.038 | 0.0 | 113 | 0.00 | 13.00 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 111 | 0.00 | 14.61 |
| 75 | S | toluene-d8 (s) | 1.184 | 1.169 | 1.3 | 108 | 0.00 | 13.19 |
| 76 | | toluene | 0.886 | 0.848 | 4.3 | 102 | 0.00 | 13.26 |
| 77 | | ethyl methacrylate | 0.513 | 0.477 | 7.0 | 97 | 0.00 | 13.42 |
| 78 | | trans-1,3-dichloropropene | 0.554 | 0.546 | 1.4 | 103 | 0.00 | 13.43 |
| 79 | | 1,1,2-trichloroethane | 0.317 | 0.295 | 6.9 | 99 | 0.00 | 13.64 |
| 80 | | 2-hexanone | 0.200 | 0.189 | 5.5 | 102 | 0.00 | 13.80 |
| 81 | | tetrachloroethene | 0.371 | 0.346 | 6.7 | 99 | 0.00 | 13.79 |
| 82 | | 1,3-dichloropropane | 0.552 | 0.505 | 8.5 | 100 | 0.00 | 13.81 |
| 83 | | butyl acetate | 0.287 | 0.266 | 7.3 | 99 | 0.00 | 13.87 |
| 84 | | dibromochloromethane | 0.398 | 0.438 | -10.1 | 109 | 0.00 | 14.05 |
| 85 | | 1,2-dibromoethane | 0.523 | 0.461 | 11.9 | 92 | 0.00 | 14.19 |
| 86 | | n-butyl ether | 1.599 | 1.432 | 10.4 | 96 | 0.00 | 14.60 |
| 87 | | chlorobenzene | 1.048 | 0.996 | 5.0 | 102 | 0.00 | 14.64 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.425 | 0.457 | -7.5 | 109 | 0.00 | 14.70 |
| 89 | | ethylbenzene | 1.794 | 1.643 | 8.4 | 100 | 0.00 | 14.70 |
| 90 | | m,p-xylene | 0.690 | 0.639 | 7.4 | 100 | 0.00 | 14.81 |
| 91 | | o-xylene | 0.777 | 0.726 | 6.6 | 100 | 0.00 | 15.19 |
| 92 | | styrene | 1.195 | 1.104 | 7.6 | 98 | 0.00 | 15.20 |
| 93 | | butyl acrylate | 0.959 | 0.840 | 12.4 | 97 | 0.00 | 15.02 |
| 94 | | bromoform | 0.314 | 0.378 | -20.4# | 117 | 0.00 | 15.41 |
| 95 | | isopropylbenzene | 2.065 | 1.978 | 4.2 | 100 | 0.00 | 15.51 |
| 96 | | cis-1,4-dichloro-2-butene | 0.209 | 0.220 | -5.3 | 105 | 0.00 | 15.54 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 16.79 |
| 98 | S | 4-bromofluorobenzene (s) | 0.755 | 0.784 | -3.8 | 106 | 0.00 | 15.70 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2C7521-CC7441
**Account:** BBLNYS Arcadis **Lab FileID:** 2C167675.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 99 | bromobenzene | 0.830 | 0.844 | -1.7 | 102 | 0.00 | 15.87 |
| 100 | 1,1,2,2-tetrachloroethane | 1.021 | 1.075 | -5.3 | 100 | 0.00 | 15.77 |
| 101 | trans-1,4-dichloro-2-bute | 0.119 | 0.129 | -8.4 | 105 | 0.00 | 15.80 |
| 102 | 1,2,3-trichloropropane | 0.256 | 0.256 | 0.0 | 100 | 0.00 | 15.85 |
| 103 | n-propylbenzene | 3.314 | 3.267 | 1.4 | 99 | 0.00 | 15.90 |
| 104 | 2-chlorotoluene | 0.768 | 0.779 | -1.4 | 101 | 0.00 | 16.02 |
| 105 | 4-chlorotoluene | 2.123 | 2.039 | 4.0 | 100 | 0.00 | 16.12 |
| 106 | 1,3,5-trimethylbenzene | 2.592 | 2.600 | -0.3 | 98 | 0.00 | 16.04 |
| 107 | tert-butylbenzene | 2.228 | 2.257 | -1.3 | 95 | 0.00 | 16.36 |
| 108 | 1,2,4-trimethylbenzene | 2.635 | 2.657 | -0.8 | 99 | 0.00 | 16.41 |
| 109 | sec-butylbenzene | 3.544 | 3.582 | -1.1 | 96 | 0.00 | 16.56 |
| 110 | 1,3-dichlorobenzene | 1.713 | 1.654 | 3.4 | 101 | 0.00 | 16.73 |
| 111 | p-isopropyltoluene | 3.000 | 3.047 | -1.6 | 97 | 0.00 | 16.69 |
| 112 | 1,4-dichlorobenzene | 1.720 | 1.656 | 3.7 | 101 | 0.00 | 16.82 |
| 113 | 1,2-dichlorobenzene | 1.898 | 1.838 | 3.2 | 101 | 0.00 | 17.17 |
| 114 | n-butylbenzene | 1.584 | 1.588 | -0.3 | 99 | 0.00 | 17.07 |
| 115 | 1,2-dibromo-3-chloropropa | 0.281 | 0.303 | -7.8 | 99 | 0.00 | 17.92 |
| 116 | 1,3,5-trichlorobenzene | 1.855 | 1.916 | -3.3 | 102 | 0.00 | 18.12 |
| 117 | Nitrobenzene | 0.031 | 0.085 | -174.2# | 254# | 0.00 | 18.12 |
| 118 | 1,2,4-trichlorobenzene | 1.663 | 1.813 | -9.0 | 102 | 0.00 | 18.77 |
| 119 | 2-ethylhexyl acrylate | 1.101 | 1.065 | 3.3 | 95 | 0.00 | 18.78 |
| 120 | hexachlorobutadiene | 0.876 | 0.851 | 2.9 | 95 | 0.00 | 18.89 |
| 121 | naphthalene | 4.004 | 4.388 | -9.6 | 102 | 0.00 | 19.07 |
| 122 | 1,2,3-trichlorobenzene | 1.541 | 1.688 | -9.5 | 102 | 0.00 | 19.30 |
| | | True | Calc. | % Drift | | | |
| 123 | hexachloroethane | 50.000 | 54.326 | -8.7 | 116 | 0.00 | 17.46 |
| | | AvgRF | CCRF | % Dev | | | |
| 124 | 2-methylnaphthalene | 2.280 | 2.354 | -3.2 | 99 | 0.00 | 20.23 |
| 125 | Ethylenimine | | NA | | | | |
| 126 | Bis(chloromethyl)ether | | NA | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2C166202.D M2C7441.M Thu May 16 11:28:05 2019 RPT1

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICC2392
**Lab FileID:** 2V58395.D

Response Factor Report MS2V

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
Last Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

Calibration Files
4 =2V58392.D 0.5 =2V58389.D 8 =2V58393.D 50 =2V58395.D
100 =2V58396.D 1 =2V58390.D 200 =2V58397.D 20 =2V58394.D
2 =2V58391.D 0.2 =2V58388.D = =

| Compound | 4 | 0.5 | 8 | 50 | 100 | 1 | 200 | 20 | 2 | 0.2 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) I tert butyl alcohol-d9 | ISTD | | | | | | | | | | | |
| 2) ethanol | 0.105 | 0.112 | 0.114 | 0.109 | 0.098 | 0.104 | 0.113 | 0.107 | | | 0.108 | 5.14 |
| 3) tertiary butyl alcohol | 2.821 | 3.083 | 3.439 | 3.253 | 2.470 | 3.120 | 3.178 | 2.657 | | | 3.003 | 10.82 |
| 4) 1,4-dioxane | 0.123 | 0.142 | 0.149 | 0.151 | | 0.157 | 0.145 | 0.115 | | | 0.140 | 11.15 |
| 5) I pentafluorobenzene | ISTD | | | | | | | | | | | |
| 6) chlorodifluoromethane | 0.470 | 0.425 | 0.479 | 0.467 | 0.473 | 0.435 | 0.470 | 0.475 | 0.468 | | 0.462 | 4.11 |
| 7) dichlorodifluoromethane | 0.633 | 0.458 | 0.647 | 0.643 | 0.637 | 0.573 | 0.653 | 0.647 | 0.636 | 0.618 | 0.615 | 9.69 |
| 8) chloromethane | 0.595 | 0.676 | 0.652 | 0.651 | 0.625 | 0.680 | 0.592 | 0.639 | 0.609 | | 0.635 | 5.13 |
| 9) vinyl chloride | 0.544 | 0.571 | 0.616 | 0.625 | 0.611 | 0.535 | 0.592 | 0.608 | 0.588 | 0.650 | 0.594 | 6.04 |
| 10) bromomethane | 0.480 | 0.533 | 0.490 | 0.520 | 0.543 | 0.506 | 0.522 | 0.481 | 0.486 | | 0.507 | 4.69 |
| 11) chloroethane | 0.328 | 0.292 | 0.326 | 0.365 | 0.377 | 0.348 | 0.406 | 0.347 | 0.349 | | 0.349 | 9.39 |
| 12) trichlorofluoromethane | 0.756 | 0.597 | 0.783 | 0.828 | 0.819 | 0.686 | 0.835 | 0.808 | 0.741 | 0.774 | 0.763 | 9.70 |
| 13) vinyl bromide | 0.382 | 0.352 | 0.430 | 0.447 | 0.446 | 0.378 | 0.452 | 0.423 | 0.414 | 0.472 | 0.420 | 9.09 |
| 14) 1,3-butadiene | 0.438 | 0.398 | 0.473 | 0.457 | 0.433 | 0.427 | 0.426 | 0.462 | 0.510 | 0.520 | 0.454 | 8.43 |
| 15) ethyl ether | 0.218 | 0.249 | 0.248 | 0.249 | 0.236 | 0.257 | 0.241 | 0.222 | | | 0.240 | 5.73 |
| 16) 2-chloropropane | 0.570 | 0.668 | 0.619 | 0.613 | 0.618 | 0.649 | 0.592 | 0.612 | 0.592 | | 0.615 | 4.82 |
| 17) acrolein | 0.089 | 0.100 | 0.104 | 0.101 | | 0.102 | 0.104 | 0.101 | | | 0.100 | 5.19 |
| 18) freon 113 | 0.309 | 0.359 | 0.351 | 0.357 | 0.278 | 0.386 | 0.350 | 0.368 | | | 0.345 | 10.05 |
| 19) 1,1-dichloroethene | 0.575 | 0.441 | 0.606 | 0.627 | 0.634 | 0.535 | 0.648 | 0.617 | 0.586 | 0.617 | 0.589 | 10.41 |
| 20) acetone | 0.051 | 0.056 | 0.053 | 0.052 | 0.050 | 0.048 | 0.048 | 0.053 | 0.053 | | 0.051 | 5.32 |
| 21) acetonitrile | 0.058 | 0.058 | 0.057 | 0.056 | | 0.056 | 0.058 | 0.062 | | | 0.058 | 3.35 |
| 22) iodomethane *This compound does not meet initial calibration criteria* | 0.214 | 0.259 | 0.386 | 0.447 | | 0.475 | 0.304 | 0.203 | | | 0.327 | 33.78 |

----- Linear regression ----- Coefficient = 0.9913

Response Ratio = -0.01881 + 0.45605 *A

23) carbon disulfide
0.952 0.959 1.015 1.024 1.028 0.946 1.057 1.017 1.004 1.000 3.87

24) methylene chloride
0.432 0.436 0.457 0.454 0.456 0.448 0.466 0.454 0.425 0.448 3.06

25) methyl acetate
0.346 0.356 0.367 0.378 0.397 0.342 0.369 0.365 5.24

26) methyl tert butyl ether
1.178 1.051 1.291 1.315 1.324 1.169 1.358 1.295 1.129 1.342 1.245 8.44

27) trans-1,2-dichloroethene
0.392 0.373 0.426 0.436 0.441 0.401 0.453 0.424 0.397 0.364 0.411 7.32

28) hexane
0.224 0.262 0.261 0.263 0.214 0.297 0.264 0.247 0.254 10.19

29) di-isopropyl ether
1.128 1.131 1.234 1.276 1.297 1.107 1.339 1.259 1.129 1.211 7.25

30) ethyl tert-butyl ether
1.139 1.085 1.232 1.316 1.340 1.080 1.377 1.299 1.103 1.225 1.220 9.18

31) 1,1-dichloroethane
0.707 0.620 0.750 0.769 0.784 0.684 0.798 0.757 0.719 0.817 0.741 8.00

32) chloroprene
0.509 0.456 0.561 0.585 0.598 0.510 0.609 0.571 0.530 0.497 0.542 9.18

33) acrylonitrile
0.170 0.167 0.181 0.181 0.149 0.180 0.176 0.151 0.169 7.69

34) vinyl acetate
*This compound does not meet initial calibration criteria*
0.027 0.039 0.053 0.065 0.024 0.042 41.35

35) ethyl acetate
0.061 0.071 0.067 0.076 0.080 0.069 0.070 9.51

36) 2-butanone
0.056 0.060 0.067 0.068 0.052 0.068 0.064 0.054 0.061 10.56

37) 2,2-dichloropropane
0.589 0.581 0.635 0.661 0.666 0.581 0.673 0.653 0.596 0.626 6.23

38) cis-1,2-dichloroethene
0.452 0.471 0.489 0.515 0.522 0.458 0.532 0.510 0.480 0.576 0.500 7.58

39) propionitrile
0.069 0.057 0.074 0.078 0.077 0.063 0.076 0.076 0.069 0.077 0.072 9.80

40) methyl acrylate
0.058 0.066 0.068 0.075 0.083 0.067 0.066 0.069 11.45

41) bromochloromethane
0.234 0.227 0.252 0.266 0.257 0.221 0.253 0.258 0.226 0.244 6.85

42) tetrahydrofuran
0.070 0.070 0.072 0.071 0.070 0.071 0.071 0.071 1.08

43) chloroform
0.774 0.864 0.839 0.841 0.848 0.816 0.858 0.845 0.779 0.829 3.98

44) dibromofluoromethane (s)
0.490 0.511 0.499 0.479 0.477 0.506 0.470 0.483 0.502 0.513 0.493 3.12

45) methacrylonitrile
0.196 0.202 0.216 0.216 0.186 0.219 0.207 0.186 0.204 6.47

46) 1,1,1-trichloroethane
0.690 0.653 0.728 0.745 0.756 0.725 0.762 0.728 0.692 0.720 4.89

47) cyclohexane
0.594 0.477 0.627 0.649 0.649 0.583 0.689 0.625 0.597 0.610 9.82

48) 1,1-dichloropropene
0.539 0.518 0.572 0.607 0.623 0.518 0.634 0.595 0.531 0.657 0.579 8.80

49) carbon tetrachloride
0.538 0.484 0.595 0.641 0.665 0.537 0.677 0.618 0.557 0.590 11.14

50) isobutyl alcohol
0.014 0.015 0.016 0.016 0.015 0.015 0.015 3.91

51) tert-amyl alcohol

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** V2V2392-ICC2392
**Account:** BBLNYS Arcadis **Lab FileID:** 2V58395.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
      0.022       0.025 0.025 0.024       0.023 0.025 0.024        0.024    4.28

52) I   1,4-difluorobenzene   ----------------ISTD---------------------
53)  1,2-dichloroethane-d4 (s)
      0.311 0.319 0.319 0.303 0.312 0.323 0.301 0.316 0.315 0.313  0.313    2.26
54)  n-butyl alcohol
      0.011       0.012 0.014 0.013       0.013 0.013 0.010        0.012   10.91
55)  benzene
      1.056 0.939 1.123 1.197 1.224 1.064 1.257 1.194 1.055 1.212  1.132    8.94
56)  tert-amyl methyl ether
      0.787       0.852 0.964 0.979 0.705 1.032 0.926 0.778        0.878   13.09
57)  iso-octane
      0.670       0.773 0.814 0.824 0.607 0.952 0.803 0.778        0.778   13.34
58)  heptane
     *This compound does not meet initial calibration criteria*
      0.136       0.157 0.167 0.168       0.193 0.157 0.150        0.161   10.90
59)  isopropyl acetate
      0.072       0.080 0.084 0.086       0.088 0.081 0.070        0.080    8.50
60)  1,2-dichloroethane
      0.402 0.490 0.428 0.434 0.438 0.460 0.453 0.437 0.428        0.441    5.53
61)  trichloroethene
      0.305 0.270 0.315 0.336 0.347 0.296 0.359 0.330 0.293 0.321  0.317    8.60
62)  ethyl acrylate
      0.368       0.391 0.407 0.411 0.334 0.419 0.409 0.353        0.387    8.12
63)  2-nitropropane
     *This compound does not meet initial calibration criteria*
                  0.039 0.052 0.062       0.073 0.043              0.054   26.01
            ----- Linear regression -----  Coefficient =  0.9941
              Response Ratio = -0.01542 + 0.07526 *A

64)  2-chloroethyl vinyl ether
      0.052       0.057 0.070 0.074             0.071 0.040        0.061   22.08
            ----- Linear regression -----  Coefficient =  0.9990
              Response Ratio = -0.00827 + 0.07377 *A

65)  methyl methacrylate
      0.073       0.078 0.083 0.085 0.068 0.090 0.082 0.073        0.079    9.06
66)  1,2-dichloropropane
      0.275 0.241 0.301 0.321 0.334 0.281 0.348 0.313 0.263 0.329  0.301   11.48
67)  methylcyclohexane
      0.376       0.434 0.469 0.486 0.367 0.547 0.455 0.415        0.444   13.35
68)  dibromomethane
      0.197       0.224 0.234 0.240 0.177 0.250 0.227 0.209        0.220   11.01
69)  bromodichloromethane
      0.400 0.355 0.430 0.459 0.469 0.386 0.492 0.449 0.401 0.445  0.429    9.88
70)  epichlorohydrin
      0.017       0.017 0.022 0.024       0.025 0.020              0.021   17.00
71)  cis-1,3-dichloropropene
      0.410 0.382 0.442 0.500 0.515 0.391 0.534 0.483 0.403 0.456  0.452   12.07
72)  4-methyl-2-pentanone
      0.125 0.097 0.134 0.148 0.150 0.111 0.155 0.141 0.115 0.127  0.130   14.46
73)  3-methyl-1-butanol
      0.010       0.011 0.013 0.013       0.013 0.012 0.009        0.012   14.97

74) I   chlorobenzene-d5      ----------------ISTD---------------------
75)  toluene-d8 (s)
      1.320 1.321 1.340 1.315 1.305 1.315 1.280 1.326 1.315 1.334  1.317    1.24
76)  toluene
      0.790 0.756 0.848 0.907 0.917 0.766 0.941 0.878 0.787 0.954  0.854    8.78
77)  ethyl methacrylate
```

```
      0.417       0.454 0.492 0.499 0.376 0.524 0.478 0.391        0.454   11.85
 78)  trans-1,3-dichloropropene
      0.437       0.476 0.530 0.544 0.357 0.566 0.506 0.420        0.479   14.76
 79)  1,1,2-trichloroethane
      0.270 0.241 0.296 0.309 0.312 0.253 0.321 0.301 0.282        0.287    9.62
 80)  2-hexanone
      0.139       0.154 0.172 0.172 0.130 0.176 0.162 0.130        0.154   12.50
 81)  tetrachloroethene
      0.312 0.313 0.353 0.359 0.364 0.328 0.374 0.355 0.344 0.361  0.346    6.26
 82)  1,3-dichloropropane
      0.495 0.434 0.531 0.562 0.568 0.470 0.576 0.552 0.504 0.556  0.525    9.04
 83)  butyl acetate
      0.227       0.244 0.268 0.271 0.197 0.274 0.254 0.225        0.245   11.03
 84)  dibromochloromethane
      0.373 0.316 0.409 0.453 0.463 0.336 0.480 0.422 0.366 0.378  0.400   13.81
 85)  1,2-dibromoethane
      0.373 0.308 0.429 0.438 0.444 0.319 0.455 0.418 0.359 0.407  0.395   13.28
 86)  n-butyl ether
      1.121 1.048 1.229 1.361 1.388 1.062 1.418 1.312 1.116 1.305  1.236   11.30
 87)  chlorobenzene
      0.889 0.804 0.971 1.032 1.059 0.886 1.082 1.001 0.872 1.023  0.962    9.68
 88)  1,1,1,2-tetrachloroethane
      0.336 0.290 0.377 0.405 0.413 0.298 0.430 0.389 0.314 0.367  0.362   13.73
 89)  ethylbenzene
      1.466 1.286 1.589 1.703 1.744 1.402 1.787 1.655 1.435 1.746  1.581   10.96
 90)  m,p-xylene
      0.570 0.521 0.615 0.670 0.680 0.531 0.700 0.648 0.571 0.569  0.608   10.53
 91)  o-xylene
      1.169 1.073 1.263 1.354 1.391 1.132 1.433 1.306 1.128 1.366  1.261   10.10
 92)  styrene
      0.874 0.783 0.967 1.101 1.139 0.784 1.179 1.034 0.824 0.917  0.960   15.35
 93)  butyl acrylate
      0.287       0.314 0.350 0.358       0.378 0.327 0.254        0.324   13.26
 94)  n-amyl acetate
      0.234       0.255 0.288 0.294 0.197 0.304 0.268 0.226        0.258   14.51
 95)  bromoform
     *This compound does not meet initial calibration criteria*
      0.251 0.232 0.287 0.329 0.338 0.229 0.359 0.293 0.234        0.284   17.62
 96)  isopropylbenzene
      1.361 1.196 1.497 1.660 1.665 1.311 1.692 1.573 1.356 1.542  1.485   11.51
 97)  cis-1,4-dichloro-2-butene
     *This compound does not meet initial calibration criteria*
      0.070       0.082 0.133 0.149       0.169 0.105              0.118   32.87
            ----- Linear regression -----  Coefficient =  0.9913
              Response Ratio = -0.01145 + 0.16195 *A


 98) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 99)  4-bromofluorobenzene (s)
      0.973 0.982 0.968 0.948 0.952 0.986 0.951 0.957 0.990 0.986  0.969    1.68
100)  bromobenzene
      0.822 0.685 0.907 0.947 0.962 0.773 1.017 0.917 0.828 0.906  0.876   11.31
101)  1,1,2,2-tetrachloroethane
      0.960 0.753 1.021 1.099 1.074 0.893 1.138 1.039 0.899 0.856  0.973   12.53
102)  trans-1,4-dichloro-2-butene
      0.101       0.124 0.169 0.189       0.218 0.141              0.157   27.62
            ----- Linear regression -----  Coefficient =  0.9907
              Response Ratio = -0.01308 + 0.20712 *A

103)  1,2,3-trichloropropane
```

```
       0.285 0.220 0.299 0.312 0.307 0.256 0.319 0.301 0.276        0.286   11.05
104)  n-propylbenzene
       3.382 2.926 3.624 3.933 3.960 3.177 4.052 3.812 3.361 3.834  3.606   10.47
105)  2-chlorotoluene
       0.756 0.642 0.804 0.877 0.872 0.730 0.906 0.852 0.786 0.827  0.805    9.93
106)  4-chlorotoluene
       0.752 0.642 0.809 0.873 0.870 0.709 0.907 0.824 0.724 0.842  0.795   10.73
107)  1,3,5-trimethylbenzene
       2.351 2.111 2.568 2.801 2.817 2.138 2.911 2.703 2.334 2.462  2.520   11.35
108)  tert-butylbenzene
       0.485       0.511 0.566 0.569       0.589 0.540 0.462        0.532    8.89
109)  1,2,4-trimethylbenzene
       2.394 2.148 2.622 2.843 2.866 2.262 2.944 2.736 2.414 2.488  2.572   10.59
110)  sec-butylbenzene
       2.871 2.512 3.111 3.453 3.479 2.648 3.583 3.252 2.855 3.255  3.102   11.82
111)  1,3-dichlorobenzene
       1.401 1.256 1.511 1.657 1.689 1.313 1.762 1.597 1.368 1.564  1.512   11.30
112)  p-isopropyltoluene
       2.332 2.048 2.574 2.920 2.938 2.212 3.016 2.741 2.338 2.635  2.575   12.95
113)  1,4-dichlorobenzene
       1.449 1.475 1.536 1.682 1.694 1.425 1.780 1.602 1.473 1.711  1.583    8.06
114)  1,2-dichlorobenzene
       1.315 1.167 1.463 1.600 1.624 1.277 1.702 1.514 1.359 1.325  1.435   12.09
115)  benzyl chloride
      *This compound does not meet initial calibration criteria*
       0.958       1.078 1.447 1.567 0.779 1.768 1.226 0.878        1.213   29.12
116)  n-butylbenzene
       1.112       1.189 1.365 1.395 1.032 1.474 1.280 1.040        1.236   13.63
117)  hexachloroethane
       0.323       0.350 0.454 0.476       0.508 0.386 0.321        0.403   19.03
118)  1,2-dibromo-3-chloropropane
       0.212       0.213 0.254 0.261       0.278 0.224 0.190        0.233   13.62
119)  nitrobenzene
       0.041       0.042 0.052 0.056       0.066 0.046              0.050   19.09
120)  1,3,5-trichlorobenzene
       1.015 0.904 1.036 1.155 1.171 0.898 1.237 1.089 0.971 0.865  1.034   12.32
121)  1,2,4-trichlorobenzene
       0.840 0.686 0.869 0.987 0.987 0.766 1.065 0.931 0.782 0.735  0.865   14.43
122)  hexachlorobutadiene
       0.336       0.363 0.395 0.393 0.347 0.443 0.364 0.334        0.372    9.97
123)  naphthalene
       2.142 1.830 2.302 2.595 2.608 1.953 2.740 2.417 2.066 2.122  2.278   13.38
124)  1,2,3-trichlorobenzene
       0.724 0.624 0.824 0.891 0.864 0.668 0.935 0.816 0.761 0.629  0.774   14.24
125)  2-ethylhexyl acrylate
                   0.395 0.480 0.493       0.569 0.364              0.460   17.78
126)  2-methylnaphthalene
       0.771       0.796 0.977 0.915       1.025 0.891 0.716        0.870   13.02
127)  bis(chloromethyl)ether
                                                                    0.000   -1.00
128)  ethylenimine
                                                                    0.000   -1.00
 ----------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M2V2392.M         Mon May 06 09:00:43 2019   RPT1
```

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICV2392
**Lab FileID:** 2V58401.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V2V2392\2V58401.D Vial: 15
Acq On : 2 May 2019 11:25 pm Operator: EddieH
Sample : icv2392-50 Inst : MS2V
Misc : MS34255,V2V2392,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
Last Update : Mon May 06 08:56:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | TrueValue | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 500.00 | 1.000 | 1.000 | 0.0 | 92 | 0.00 | 2.94 |
| 2 | | ethanol | | ----------NA---------- | | | | | |
| 3 | M | tertiary butyl alcohol | | ----------NA---------- | | | | | |
| 4 | | 1,4-dioxane | | ----------NA---------- | | | | | |
| 5 | I | pentafluorobenzene | 50.00 | 1.000 | 1.000 | 0.0 | 95 | 0.00 | 4.15 |
| 6 | | chlorodifluoromethane | | ----------NA---------- | | | | | |
| 7 | | dichlorodifluoromethane | | ----------NA---------- | | | | | |
| 8 | | chloromethane | | ----------NA---------- | | | | | |
| 9 | | vinyl chloride | | ----------NA---------- | | | | | |
| 10 | | bromomethane | | ----------NA---------- | | | | | |
| 11 | | chloroethane | | ----------NA---------- | | | | | |
| 12 | | trichlorofluoromethane | | ----------NA---------- | | | | | |
| 13 | | vinyl bromide | | ----------NA---------- | | | | | |
| 14 | | 1,3-butadiene | | ----------NA---------- | | | | | |
| 15 | | ethyl ether | | ----------NA---------- | | | | | |
| 16 | | 2-chloropropane | | ----------NA---------- | | | | | |
| 17 | | acrolein | | ----------NA---------- | | | | | |
| 18 | | freon 113 | | ----------NA---------- | | | | | |
| 19 | | 1,1-dichloroethene | | ----------NA---------- | | | | | |
| 20 | | acetone | | ----------NA---------- | | | | | |
| 21 | | acetonitrile | 500.00 | 0.058 | 0.063 | -8.6 | 105 | 0.00 | 2.84 |
| 22 | | iodomethane | | ----------NA---------- | | | | | |
| 23 | | carbon disulfide | | ----------NA---------- | | | | | |
| 24 | | methylene chloride | | ----------NA---------- | | | | | |
| 25 | | methyl acetate | | ----------NA---------- | | | | | |
| 26 | | methyl tert butyl ether | | ----------NA---------- | | | | | |
| 27 | | trans-1,2-dichloroethene | | ----------NA---------- | | | | | |
| 28 | | hexane | | ----------NA---------- | | | | | |
| 29 | | di-isopropyl ether | | ----------NA---------- | | | | | |
| 30 | | ethyl tert-butyl ether | | ----------NA---------- | | | | | |
| 31 | M | 1,1-dichloroethane | | ----------NA---------- | | | | | |
| 32 | | chloroprene | | ----------NA---------- | | | | | |
| 33 | | acrylonitrile | 50.00 | 0.169 | 0.182 | -7.7 | 96 | 0.00 | 3.11 |
| 34 | | vinyl acetate | | ----------NA---------- | | | | | |
| 35 | | ethyl acetate | | ----------NA---------- | | | | | |
| 36 | | 2-butanone | | ----------NA---------- | | | | | |
| 37 | | 2,2-dichloropropane | | ----------NA---------- | | | | | |
| 38 | | cis-1,2-dichloroethene | | ----------NA---------- | | | | | |
| 39 | | propionitrile | | ----------NA---------- | | | | | |
| 40 | | methyl acrylate | | ----------NA---------- | | | | | |
| 41 | | bromochloromethane | | ----------NA---------- | | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICV2392
**Lab FileID:** 2V58401.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | tetrahydrofuran | | ----------NA---------- | | | | | |
| 43 | | chloroform | | ----------NA---------- | | | | | |
| 44 | S | dibromofluoromethane (s) | 50.00 | 0.493 | 0.463 | 6.1 | 92 | 0.00 | 4.16 |
| 45 | | methacrylonitrile | | ----------NA---------- | | | | | |
| 46 | | 1,1,1-trichloroethane | | ----------NA---------- | | | | | |
| 47 | | cyclohexane | | ----------NA---------- | | | | | |
| 48 | | 1,1-dichloropropene | | ----------NA---------- | | | | | |
| 49 | | carbon tetrachloride | | ----------NA---------- | | | | | |
| 50 | | isobutyl alcohol | | ----------NA---------- | | | | | |
| 51 | | tert-amyl alcohol | | ----------NA---------- | | | | | |
| 52 | I | 1,4-difluorobenzene | 50.00 | 1.000 | 1.000 | 0.0 | 93 | 0.00 | 4.71 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 50.00 | 0.313 | 0.302 | 3.5 | 93 | 0.00 | 4.40 |
| 54 | | n-butyl alcohol | | ----------NA---------- | | | | | |
| 55 | M | benzene | | ----------NA---------- | | | | | |
| 56 | | tert-amyl methyl ether | | ----------NA---------- | | | | | |
| 57 | | iso-octane | | ----------NA---------- | | | | | |
| 58 | | heptane | | ----------NA---------- | | | | | |
| 59 | | isopropyl acetate | | ----------NA---------- | | | | | |
| 60 | | 1,2-dichloroethane | | ----------NA---------- | | | | | |
| 61 | | trichloroethene | | ----------NA---------- | | | | | |
| 62 | | ethyl acrylate | | ----------NA---------- | | | | | |
| 63 | | 2-nitropropane | | ----------NA---------- | | | | | |
| 64 | | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | | |
| 65 | | methyl methacrylate | | ----------NA---------- | | | | | |
| 66 | | 1,2-dichloropropane | | ----------NA---------- | | | | | |
| 67 | | methylcyclohexane | | ----------NA---------- | | | | | |
| 68 | | dibromomethane | | ----------NA---------- | | | | | |
| 69 | | bromodichloromethane | | ----------NA---------- | | | | | |
| 70 | | epichlorohydrin | | ----------NA---------- | | | | | |
| 71 | | cis-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 72 | | 4-methyl-2-pentanone | | ----------NA---------- | | | | | |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | | |
| 74 | I | chlorobenzene-d5 | 50.00 | 1.000 | 1.000 | 0.0 | 89 | 0.00 | 7.10 |
| 75 | S | toluene-d8 (s) | 50.00 | 1.317 | 1.325 | -0.6 | 90 | 0.00 | 5.85 |
| 76 | | toluene | | ----------NA---------- | | | | | |
| 77 | | ethyl methacrylate | | ----------NA---------- | | | | | |
| 78 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 79 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | | |
| 80 | | 2-hexanone | | ----------NA---------- | | | | | |
| 81 | | tetrachloroethene | 50.00 | 0.346 | 0.368 | -6.4 | 92 | 0.00 | 6.35 |
| 82 | | 1,3-dichloropropane | | ----------NA---------- | | | | | |
| 83 | | butyl acetate | | ----------NA---------- | | | | | |
| 84 | | dibromochloromethane | | ----------NA---------- | | | | | |
| 85 | | 1,2-dibromoethane | | ----------NA---------- | | | | | |
| 86 | | n-butyl ether | | ----------NA---------- | | | | | |
| 87 | | chlorobenzene | | ----------NA---------- | | | | | |
| 88 | | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | | |
| 89 | | ethylbenzene | | ----------NA---------- | | | | | |
| 90 | | m,p-xylene | | ----------NA---------- | | | | | |
| 91 | | o-xylene | | ----------NA---------- | | | | | |
| 92 | | styrene | | ----------NA---------- | | | | | |
| 93 | | butyl acrylate | | ----------NA---------- | | | | | |
| 94 | | n-amyl acetate | | ----------NA---------- | | | | | |
| 95 | | bromoform | | ----------NA---------- | | | | | |
| 96 | | isopropylbenzene | | ----------NA---------- | | | | | |
| 97 | | cis-1,4-dichloro-2-butene | | ----------NA---------- | | | | | |
| 98 | I | 1,4-dichlorobenzene-d4 | 50.00 | 1.000 | 1.000 | 0.0 | 84 | 0.00 | 9.30 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICV2392
**Lab FileID:** 2V58401.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 99 | S | 4-bromofluorobenzene (s) | 50.00 | 0.969 | 0.980 | -1.1 | 86 | 0.00 | 8.19 |
| 100 | | bromobenzene | ----------NA---------- | | | | | | |
| 101 | | 1,1,2,2-tetrachloroethane | ----------NA---------- | | | | | | |
| 102 | | trans-1,4-dichloro-2-bute | ----------NA---------- | | | | | | |
| 103 | | 1,2,3-trichloropropane | ----------NA---------- | | | | | | |
| 104 | | n-propylbenzene | ----------NA---------- | | | | | | |
| 105 | | 2-chlorotoluene | ----------NA---------- | | | | | | |
| 106 | | 4-chlorotoluene | ----------NA---------- | | | | | | |
| 107 | | 1,3,5-trimethylbenzene | ----------NA---------- | | | | | | |
| 108 | | tert-butylbenzene | ----------NA---------- | | | | | | |
| 109 | | 1,2,4-trimethylbenzene | ----------NA---------- | | | | | | |
| 110 | | sec-butylbenzene | ----------NA---------- | | | | | | |
| 111 | | 1,3-dichlorobenzene | ----------NA---------- | | | | | | |
| 112 | | p-isopropyltoluene | ----------NA---------- | | | | | | |
| 113 | | 1,4-dichlorobenzene | ----------NA---------- | | | | | | |
| 114 | | 1,2-dichlorobenzene | ----------NA---------- | | | | | | |
| 115 | | benzyl chloride | ----------NA---------- | | | | | | |
| 116 | | n-butylbenzene | ----------NA---------- | | | | | | |
| 117 | | hexachloroethane | ----------NA---------- | | | | | | |
| 118 | | 1,2-dibromo-3-chloropropa | ----------NA---------- | | | | | | |
| 119 | | nitrobenzene | ----------NA---------- | | | | | | |
| 120 | | 1,3,5-trichlorobenzene | ----------NA---------- | | | | | | |
| 121 | | 1,2,4-trichlorobenzene | ----------NA---------- | | | | | | |
| 122 | | hexachlorobutadiene | ----------NA---------- | | | | | | |
| 123 | | naphthalene | ----------NA---------- | | | | | | |
| 124 | | 1,2,3-trichlorobenzene | ----------NA---------- | | | | | | |
| 125 | | 2-ethylhexyl acrylate | ----------NA---------- | | | | | | |
| 126 | | 2-methylnaphthalene | ----------NA---------- | | | | | | |
| 127 | | bis(chloromethyl)ether | ----------NA---------- | | | | | | |
| 128 | | ethylenimine | ----------NA---------- | | | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

2V58395.D M2V2392.M Mon May 06 09:00:57 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICV2392
**Lab FileID:** 2V58405.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V2V2392\2V58405.D Vial: 3
Acq On : 3 May 2019 11:29 am Operator: EddieH
Sample : icv2392-50 Inst : MS2V
Misc : MS34255,V2V2392,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
Last Update : Mon May 06 08:56:47 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | TrueValue | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 500.00 | 1.000 | 1.000 | 0.0 | 94 | 0.00 | 2.94 |
| 2 | | ethanol | 5000.00 | 0.108 | 0.126 | -16.7 | 104 | 0.00 | 2.38 |
| 3 | M | tertiary butyl alcohol | 250.00 | 3.003 | 3.494 | -16.4 | 96 | 0.00 | 3.00 |
| 4 | | 1,4-dioxane | 1250.00 | 0.140 | 0.163 | -16.4 | 103 | 0.00 | 5.14 |
| 5 | I | pentafluorobenzene | 50.00 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 4.15 |
| 6 | | chlorodifluoromethane | 50.00 | 0.462 | 0.521 | -12.8 | 114 | 0.00 | 1.58 |
| 7 | | dichlorodifluoromethane | 50.00 | 0.615 | 0.663 | -7.8 | 105 | 0.00 | 1.57 |
| 8 | | chloromethane | 50.00 | 0.635 | 0.639 | -0.6 | 100 | 0.00 | 1.71 |
| 9 | | vinyl chloride | 50.00 | 0.594 | 0.572 | 3.7 | 94 | 0.00 | 1.80 |
| 10 | | bromomethane | 50.00 | 0.507 | 0.505 | 0.4 | 99 | 0.00 | 2.05 |
| 11 | | chloroethane | 50.00 | 0.349 | 0.351 | -0.6 | 98 | 0.00 | 2.12 |
| 12 | | trichlorofluoromethane | 50.00 | 0.763 | 0.797 | -4.5 | 98 | 0.00 | 2.30 |
| 13 | | vinyl bromide | 50.00 | 0.420 | 0.424 | -1.0 | 97 | 0.00 | 2.26 |
| 14 | | 1,3-butadiene | 50.00 | 0.454 | 0.511 | -12.6 | 114 | 0.00 | 1.83 |
| 15 | | ethyl ether | 50.00 | 0.240 | 0.248 | -3.3 | 102 | 0.00 | 2.48 |
| 16 | | 2-chloropropane | 50.00 | 0.615 | 0.646 | -5.0 | 108 | 0.00 | 2.57 |
| 17 | | acrolein | 50.00 | 0.100 | 0.104 | -4.0 | 101 | 0.00 | 2.57 |
| 18 | | freon 113 | 50.00 | 0.345 | 0.408 | -18.3 | 119 | 0.00 | 2.65 |
| 19 | | 1,1-dichloroethene | 50.00 | 0.589 | 0.605 | -2.7 | 99 | 0.00 | 2.65 |
| 20 | | acetone | 200.00 | 0.051 | 0.053 | -3.9 | 104 | 0.00 | 2.66 |
| 21 | | acetonitrile | | ----------NA---------- | | | | | |

| | | Compound | TrueValue | CC-RF | Calc. | % Drift | | | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 22 | | iodomethane | 50.00 | 0.050 | 56.403 | -12.8 | 131 | 0.00 | 2.76 |

| | | Compound | TrueValue | AvgRF | CCRF | % Dev | | | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 23 | | carbon disulfide | 50.00 | 1.000 | 1.158 | -15.8 | 116 | 0.00 | 2.82 |
| 24 | | methylene chloride | 50.00 | 0.448 | 0.466 | -4.0 | 105 | 0.00 | 2.97 |
| 25 | | methyl acetate | 50.00 | 0.365 | 0.344 | 5.8 | 96 | 0.00 | 2.86 |
| 26 | | methyl tert butyl ether | 50.00 | 1.245 | 1.330 | -6.8 | 104 | 0.00 | 3.14 |
| 27 | | trans-1,2-dichloroethene | 50.00 | 0.411 | 0.453 | -10.2 | 106 | 0.00 | 3.15 |
| 28 | | hexane | 50.00 | 0.254 | 0.307 | -20.9 | 120 | 0.00 | 3.33 |
| 29 | | di-isopropyl ether | 50.00 | 1.211 | 1.222 | -0.9 | 98 | 0.00 | 3.44 |
| 30 | | ethyl tert-butyl ether | 50.00 | 1.220 | 1.274 | -4.4 | 99 | 0.00 | 3.68 |
| 31 | M | 1,1-dichloroethane | 50.00 | 0.741 | 0.792 | -6.9 | 105 | 0.00 | 3.44 |
| 32 | | chloroprene | 50.00 | 0.542 | 0.616 | -13.7 | 108 | 0.00 | 3.49 |
| 33 | | acrylonitrile | | ----------NA---------- | | | | | |
| 34 | | vinyl acetate | 50.00 | 0.042 | 0.036 | 14.3 | 94 | 0.00 | 3.42 |
| 35 | | ethyl acetate | 50.00 | 0.070 | 0.069 | 1.4 | 106 | 0.00 | 3.81 |
| 36 | | 2-butanone | 200.00 | 0.061 | 0.067 | -9.8 | 102 | 0.00 | 3.80 |
| 37 | | 2,2-dichloropropane | 50.00 | 0.626 | 0.699 | -11.7 | 108 | 0.00 | 3.84 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICV2392
**Lab FileID:** 2V58405.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | 50.00 | 0.500 | 0.517 | -3.4 | 103 | 0.00 | 3.82 |
| 39 | | propionitrile | 500.00 | 0.072 | 0.077 | -6.9 | 101 | 0.00 | 3.84 |
| 40 | | methyl acrylate | 50.00 | 0.069 | 0.067 | 2.9 | 101 | 0.00 | 3.85 |
| 41 | | bromochloromethane | 50.00 | 0.244 | 0.278 | -13.9 | 107 | 0.00 | 3.99 |
| 42 | | tetrahydrofuran | 50.00 | 0.071 | 0.069 | 2.8 | 98 | 0.00 | 4.00 |
| 43 | | chloroform | 50.00 | 0.829 | 0.857 | -3.4 | 104 | 0.00 | 4.04 |
| 44 | S | dibromofluoromethane (s) | 50.00 | 0.493 | 0.459 | 6.9 | 98 | 0.00 | 4.16 |
| 45 | | methacrylonitrile | 50.00 | 0.204 | 0.213 | -4.4 | 101 | 0.00 | 3.95 |
| 46 | | 1,1,1-trichloroethane | 50.00 | 0.720 | 0.747 | -3.8 | 103 | 0.00 | 4.18 |
| 47 | | cyclohexane | 50.00 | 0.610 | 0.639 | -4.8 | 101 | 0.00 | 4.24 |
| 48 | | 1,1-dichloropropene | 50.00 | 0.579 | 0.618 | -6.7 | 104 | 0.00 | 4.29 |
| 49 | | carbon tetrachloride | 50.00 | 0.590 | 0.665 | -12.7 | 106 | 0.00 | 4.30 |
| 50 | | isobutyl alcohol | 500.00 | 0.015 | 0.016 | -6.7 | 99 | 0.00 | 4.29 |
| 51 | | tert-amyl alcohol | 250.00 | 0.024 | 0.024 | 0.0 | 99 | 0.00 | 4.38 |
| 52 | I | 1,4-difluorobenzene | 50.00 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 4.71 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 50.00 | 0.313 | 0.298 | 4.8 | 98 | 0.00 | 4.40 |
| 54 | | n-butyl alcohol | 2500.00 | 0.012 | 0.013 | -8.3 | 96 | 0.00 | 4.77 |
| 55 | M | benzene | 50.00 | 1.132 | 1.257 | -11.0 | 105 | 0.00 | 4.43 |
| 56 | | tert-amyl methyl ether | 50.00 | 0.878 | 0.947 | -7.9 | 98 | 0.00 | 4.50 |
| 57 | | iso-octane | 50.00 | 0.778 | 0.902 | -15.9 | 110 | 0.00 | 4.50 |
| 58 | | heptane | 50.00 | 0.161 | 0.228 | -41.6# | 136 | 0.00 | 4.61 |
| 59 | | isopropyl acetate | 50.00 | 0.080 | 0.082 | -2.5 | 97 | 0.00 | 4.41 |
| 60 | | 1,2-dichloroethane | 50.00 | 0.441 | 0.443 | -0.5 | 102 | 0.00 | 4.46 |
| 61 | | trichloroethene | 50.00 | 0.317 | 0.362 | -14.2 | 107 | 0.00 | 4.90 |
| 62 | | ethyl acrylate | 50.00 | 0.387 | 0.419 | -8.3 | 102 | 0.00 | 4.92 |

| | | | TrueValue | CC-RF | Calc. | % Drift | | | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 63 | | 2-nitropropane | 50.00 | 0.057 | 48.417 | 3.2 | 111 | 0.00 | 5.44 |

| | | | TrueValue | AvgRF | CCRF | % Dev | | | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 65 | | methyl methacrylate | 50.00 | 0.079 | 0.087 | -10.1 | 105 | 0.00 | 5.10 |
| 66 | | 1,2-dichloropropane | 50.00 | 0.301 | 0.340 | -13.0 | 106 | 0.00 | 5.10 |
| 67 | | methylcyclohexane | 50.00 | 0.444 | 0.516 | -16.2 | 110 | 0.00 | 5.09 |
| 68 | | dibromomethane | 50.00 | 0.220 | 0.242 | -10.0 | 103 | 0.00 | 5.17 |
| 69 | | bromodichloromethane | 50.00 | 0.429 | 0.475 | -10.7 | 103 | 0.00 | 5.29 |
| 70 | | epichlorohydrin | 250.00 | 0.021 | 0.022 | -4.8 | 99 | 0.00 | 5.53 |
| 71 | | cis-1,3-dichloropropene | 50.00 | 0.452 | 0.532 | -17.7 | 106 | 0.00 | 5.63 |
| 72 | | 4-methyl-2-pentanone | 200.00 | 0.130 | 0.148 | -13.8 | 99 | 0.00 | 5.73 |
| 73 | | 3-methyl-1-butanol | 1000.00 | 0.012 | 0.013 | -8.3 | 100 | 0.00 | 5.75 |
| 74 | I | chlorobenzene-d5 | 50.00 | 1.000 | 1.000 | 0.0 | 99 | 0.00 | 7.10 |
| 75 | S | toluene-d8 (s) | 50.00 | 1.317 | 1.321 | -0.3 | 99 | 0.00 | 5.85 |
| 76 | | toluene | 50.00 | 0.854 | 0.947 | -10.9 | 103 | 0.00 | 5.91 |
| 77 | | ethyl methacrylate | 50.00 | 0.454 | 0.516 | -13.7 | 104 | 0.00 | 6.11 |
| 78 | | trans-1,3-dichloropropene | 50.00 | 0.479 | 0.574 | -19.8 | 107 | 0.00 | 6.08 |
| 79 | | 1,1,2-trichloroethane | 50.00 | 0.287 | 0.320 | -11.5 | 102 | 0.00 | 6.25 |
| 80 | | 2-hexanone | 200.00 | 0.154 | 0.170 | -10.4 | 98 | 0.00 | 6.41 |
| 81 | | tetrachloroethene | ----------NA---------- | | | | | | |
| 82 | | 1,3-dichloropropane | 50.00 | 0.525 | 0.586 | -11.6 | 103 | 0.00 | 6.39 |
| 83 | | butyl acetate | 50.00 | 0.245 | 0.266 | -8.6 | 98 | 0.00 | 6.50 |
| 84 | | dibromochloromethane | 50.00 | 0.400 | 0.489 | -22.2 | 107 | 0.00 | 6.58 |
| 85 | | 1,2-dibromoethane | 50.00 | 0.395 | 0.456 | -15.4 | 103 | 0.00 | 6.70 |
| 86 | | n-butyl ether | 50.00 | 1.236 | 1.488 | -20.4 | 108 | 0.00 | 7.19 |
| 87 | | chlorobenzene | 50.00 | 0.962 | 1.116 | -16.0 | 107 | 0.00 | 7.13 |
| 88 | | 1,1,1,2-tetrachloroethane | 50.00 | 0.362 | 0.430 | -18.8 | 105 | 0.00 | 7.20 |
| 89 | | ethylbenzene | 50.00 | 1.581 | 1.802 | -14.0 | 105 | 0.00 | 7.21 |
| 90 | | m,p-xylene | 100.00 | 0.608 | 0.713 | -17.3 | 105 | 0.00 | 7.32 |
| 91 | | o-xylene | 50.00 | 1.261 | 1.432 | -13.6 | 105 | 0.00 | 7.68 |
| 92 | | styrene | 50.00 | 0.960 | 1.171 | -22.0 | 105 | 0.00 | 7.69 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2392-ICV2392
**Lab FileID:** 2V58405.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 93 | butyl acrylate | 50.00 | 0.324 | 0.347 | -7.1 | 98 | 0.00 | 7.61 |
| 94 | n-amyl acetate | 50.00 | 0.258 | 0.274 | -6.2 | 94 | 0.00 | 7.81 |
| 95 | bromoform | 50.00 | 0.284 | 0.371 | -30.6# | 112 | 0.00 | 7.87 |
| 96 | isopropylbenzene | 50.00 | 1.485 | 1.741 | -17.2 | 104 | 0.00 | 8.02 |

| | | TrueValue | CC-RF | Calc. | % Drift | | | R.T. |
|---|---|---|---|---|---|---|---|---|
| 97 | cis-1,4-dichloro-2-butene | 50.00 | 0.149 | 49.605 | 0.8 | 111 | 0.00 | 8.07 |

| | | TrueValue | AvgRF | CCRF | % Dev | | | R.T. |
|---|---|---|---|---|---|---|---|---|
| 98 I | 1,4-dichlorobenzene-d4 | 50.00 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 9.30 |
| 99 S | 4-bromofluorobenzene (s) | 50.00 | 0.969 | 0.946 | 2.4 | 98 | 0.00 | 8.19 |
| 100 | bromobenzene | 50.00 | 0.876 | 1.006 | -14.8 | 105 | 0.00 | 8.33 |
| 101 | 1,1,2,2-tetrachloroethane | 50.00 | 0.973 | 1.094 | -12.4 | 98 | 0.00 | 8.30 |

| | | TrueValue | CC-RF | Calc. | % Drift | | | R.T. |
|---|---|---|---|---|---|---|---|---|
| 102 | trans-1,4-dichloro-2-bute | 50.00 | 0.208 | 53.335 | -6.7 | 121 | 0.00 | 8.33 |

| | | TrueValue | AvgRF | CCRF | % Dev | | | R.T. |
|---|---|---|---|---|---|---|---|---|
| 103 | 1,2,3-trichloropropane | 50.00 | 0.286 | 0.312 | -9.1 | 98 | 0.00 | 8.36 |
| 104 | n-propylbenzene | 50.00 | 3.606 | 4.199 | -16.4 | 105 | 0.00 | 8.41 |
| 105 | 2-chlorotoluene | 50.00 | 0.805 | 0.909 | -12.9 | 102 | 0.00 | 8.51 |
| 106 | 4-chlorotoluene | 50.00 | 0.795 | 0.952 | -19.7 | 107 | 0.00 | 8.62 |
| 107 | 1,3,5-trimethylbenzene | 50.00 | 2.520 | 2.970 | -17.9 | 104 | 0.00 | 8.59 |
| 108 | tert-butylbenzene | 50.00 | 0.532 | 0.667 | -25.4 | 116 | 0.00 | 8.89 |
| 109 | 1,2,4-trimethylbenzene | 50.00 | 2.572 | 3.059 | -18.9 | 106 | 0.00 | 8.95 |
| 110 | sec-butylbenzene | 50.00 | 3.102 | 3.625 | -16.9 | 103 | 0.00 | 9.11 |
| 111 | 1,3-dichlorobenzene | 50.00 | 1.512 | 1.793 | -18.6 | 107 | 0.00 | 9.23 |
| 112 | p-isopropyltoluene | 50.00 | 2.575 | 3.146 | -22.2 | 106 | 0.00 | 9.26 |
| 113 | 1,4-dichlorobenzene | 50.00 | 1.583 | 1.808 | -14.2 | 106 | 0.00 | 9.33 |
| 114 | 1,2-dichlorobenzene | 50.00 | 1.435 | 1.712 | -19.3 | 105 | 0.00 | 9.68 |
| 115 | benzyl chloride | 50.00 | 1.213 | 2.202 | -81.5# | 150 | 0.00 | 9.43 |
| 116 | n-butylbenzene | 50.00 | 1.236 | 1.476 | -19.4 | 107 | 0.00 | 9.66 |
| 117 | hexachloroethane | 50.00 | 0.403 | 0.504 | -25.1 | 109 | 0.00 | 9.95 |
| 118 | 1,2-dibromo-3-chloropropa | 50.00 | 0.233 | 0.250 | -7.3 | 97 | 0.00 | 10.45 |
| 119 | nitrobenzene | 50.00 | 0.050 | 0.057 | -14.0 | 109 | 0.00 | 10.64 |
| 120 | 1,3,5-trichlorobenzene | 50.00 | 1.034 | 1.261 | -22.0 | 108 | 0.00 | 10.64 |
| 121 | 1,2,4-trichlorobenzene | 50.00 | 0.865 | 1.046 | -20.9 | 104 | 0.00 | 11.24 |
| 122 | hexachlorobutadiene | 50.00 | 0.372 | 0.426 | -14.5 | 106 | 0.00 | 11.38 |
| 123 | naphthalene | 50.00 | 2.278 | 2.630 | -15.5 | 100 | 0.00 | 11.49 |
| 124 | 1,2,3-trichlorobenzene | 50.00 | 0.774 | 0.916 | -18.3 | 101 | 0.00 | 11.70 |
| 125 | 2-ethylhexyl acrylate | 10.00 | 0.460 | 0.503 | -9.3 | 103 | 0.00 | 11.42 |
| 126 | 2-methylnaphthalene | 25.00 | 0.870 | 0.890 | -2.3 | 90 | 0.00 | 12.54 |
| 127 | bis(chloromethyl)ether | | ----------NA---------- | | | | | |
| 128 | ethylenimine | | ----------NA---------- | | | | | |

---

---

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2V58395.D M2V2392.M Mon May 06 09:00:59 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2399-CC2392
**Lab FileID:** 2V58520.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V2V2399\2V58520.D Vial: 2
Acq On : 13 May 2019 6:40 am Operator: EddieH
Sample : cc2392-20 Inst : MS2V
Misc : MS34633,V2V2399,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
Last Update : Mon May 06 09:05:05 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | TrueValue | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 I | tert butyl alcohol-d9 | 500.00 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 2.94 |
| 2 | ethanol | 2000.00 | 0.108 | 0.126 | -16.7 | 113 | 0.00 | 2.38 |
| 3 M | tertiary butyl alcohol | 100.00 | 3.003 | 3.638 | -21.1# | 116 | 0.00 | 3.00 |
| 4 | 1,4-dioxane | 500.00 | 0.140 | 0.157 | -12.1 | 110 | 0.00 | 5.14 |
| 5 I | pentafluorobenzene | 50.00 | 1.000 | 1.000 | 0.0 | 110 | 0.00 | 4.15 |
| 6 | chlorodifluoromethane | 20.00 | 0.462 | 0.510 | -10.4 | 118 | 0.00 | 1.59 |
| 7 | dichlorodifluoromethane | 20.00 | 0.615 | 0.659 | -7.2 | 113 | 0.00 | 1.57 |
| 8 | chloromethane | 20.00 | 0.635 | 0.642 | -1.1 | 111 | 0.00 | 1.72 |
| 9 | vinyl chloride | 20.00 | 0.594 | 0.628 | -5.7 | 114 | 0.00 | 1.80 |
| 10 | bromomethane | 20.00 | 0.507 | 0.515 | -1.6 | 118 | 0.00 | 2.05 |
| 11 | chloroethane | 20.00 | 0.349 | 0.347 | 0.6 | 110 | 0.00 | 2.12 |
| 12 | trichlorofluoromethane | 20.00 | 0.763 | 0.825 | -8.1 | 113 | 0.00 | 2.30 |
| 13 | vinyl bromide | 20.00 | 0.420 | 0.493 | -17.4 | 129 | 0.00 | 2.26 |
| 14 | 1,3-butadiene | 20.00 | 0.454 | 0.456 | -0.4 | 109 | 0.00 | 1.83 |
| 15 | ethyl ether | 20.00 | 0.240 | 0.246 | -2.5 | 113 | 0.00 | 2.48 |
| 16 | 2-chloropropane | 20.00 | 0.615 | 0.633 | -2.9 | 114 | 0.00 | 2.57 |
| 17 | acrolein | 20.00 | 0.100 | 0.100 | 0.0 | 107 | 0.00 | 2.57 |
| 18 | freon 113 | 20.00 | 0.345 | 0.389 | -12.8 | 123 | 0.00 | 2.65 |
| 19 | 1,1-dichloroethene | 20.00 | 0.589 | 0.657 | -11.5 | 117 | 0.00 | 2.65 |
| 20 | acetone | 80.00 | 0.051 | 0.059 | -15.7 | 123 | 0.00 | 2.66 |
| 21 | acetonitrile | 200.00 | 0.058 | 0.057 | 1.7 | 109 | 0.00 | 2.84 |

| | | TrueValue | CC-RF | Calc. | % Drift | | | R.T. |
|---|---|---|---|---|---|---|---|---|
| 22 | iodomethane | 20.00 | 0.036 | 17.710 | 11.4 | 130 | 0.00 | 2.76 |

| | | TrueValue | AvgRF | CCRF | % Dev | | | R.T. |
|---|---|---|---|---|---|---|---|---|
| 23 | carbon disulfide | 20.00 | 1.000 | 1.087 | -8.7 | 118 | 0.00 | 2.82 |
| 24 | methylene chloride | 20.00 | 0.448 | 0.480 | -7.1 | 117 | 0.00 | 2.97 |
| 25 | methyl acetate | 20.00 | 0.365 | 0.345 | 5.5 | 111 | 0.00 | 2.86 |
| 26 | methyl tert butyl ether | 20.00 | 1.245 | 1.331 | -6.9 | 113 | 0.00 | 3.14 |
| 27 | trans-1,2-dichloroethene | 20.00 | 0.411 | 0.462 | -12.4 | 120 | 0.00 | 3.15 |
| 28 | hexane | 20.00 | 0.254 | 0.292 | -15.0 | 122 | 0.00 | 3.33 |
| 29 | di-isopropyl ether | 20.00 | 1.211 | 1.269 | -4.8 | 111 | 0.00 | 3.44 |
| 30 | ethyl tert-butyl ether | 20.00 | 1.220 | 1.331 | -9.1 | 113 | 0.00 | 3.68 |
| 31 M | 1,1-dichloroethane | 20.00 | 0.741 | 0.795 | -7.3 | 116 | 0.00 | 3.44 |
| 32 | chloroprene | 20.00 | 0.542 | 0.599 | -10.5 | 116 | 0.00 | 3.49 |
| 33 | acrylonitrile | 20.00 | 0.169 | 0.178 | -5.3 | 112 | 0.00 | 3.11 |
| 34 | vinyl acetate | 20.00 | 0.042 | 0.025 | 40.5# | 113 | 0.00 | 3.42 |
| 35 | ethyl acetate | 20.00 | 0.070 | 0.067 | 4.3 | 106 | 0.00 | 3.80 |
| 36 | 2-butanone | 80.00 | 0.061 | 0.065 | -6.6 | 113 | 0.00 | 3.80 |
| 37 | 2,2-dichloropropane | 20.00 | 0.626 | 0.724 | -15.7 | 122 | 0.00 | 3.84 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2V2399-CC2392
**Account:** BBLNYS Arcadis **Lab FileID:** 2V58520.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | 20.00 | 0.500 | 0.532 | -6.4 | 115 | 0.00 | 3.82 |
| 39 | | propionitrile | 200.00 | 0.072 | 0.077 | -6.9 | 112 | 0.00 | 3.84 |
| 40 | | methyl acrylate | 20.00 | 0.069 | 0.069 | 0.0 | 114 | 0.00 | 3.85 |
| 41 | | bromochloromethane | 20.00 | 0.244 | 0.273 | -11.9 | 116 | 0.00 | 3.99 |
| 42 | | tetrahydrofuran | 20.00 | 0.071 | 0.073 | -2.8 | 114 | 0.00 | 4.00 |
| 43 | | chloroform | 20.00 | 0.829 | 0.872 | -5.2 | 114 | 0.00 | 4.04 |
| 44 | S | dibromofluoromethane (s) | 50.00 | 0.493 | 0.471 | 4.5 | 108 | 0.00 | 4.15 |
| 45 | | methacrylonitrile | 20.00 | 0.204 | 0.208 | -2.0 | 110 | 0.00 | 3.95 |
| 46 | | 1,1,1-trichloroethane | 20.00 | 0.720 | 0.771 | -7.1 | 117 | 0.00 | 4.18 |
| 47 | | cyclohexane | 20.00 | 0.610 | 0.604 | 1.0 | 107 | 0.00 | 4.24 |
| 48 | | 1,1-dichloropropene | 20.00 | 0.579 | 0.620 | -7.1 | 115 | 0.00 | 4.29 |
| 49 | | carbon tetrachloride | 20.00 | 0.590 | 0.676 | -14.6 | 121 | 0.00 | 4.30 |
| 50 | | isobutyl alcohol | 200.00 | 0.015 | 0.014 | 6.7 | 103 | 0.00 | 4.29 |
| 51 | | tert-amyl alcohol | 100.00 | 0.024 | 0.024 | 0.0 | 105 | 0.00 | 4.38 |
| 52 | I | 1,4-difluorobenzene | 50.00 | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 4.71 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 50.00 | 0.313 | 0.294 | 6.1 | 100 | 0.00 | 4.40 |
| 54 | | n-butyl alcohol | 1000.00 | 0.012 | 0.013 | -8.3 | 106 | 0.00 | 4.77 |
| 55 | M | benzene | 20.00 | 1.132 | 1.249 | -10.3 | 112 | 0.00 | 4.43 |
| 56 | | tert-amyl methyl ether | 20.00 | 0.878 | 0.979 | -11.5 | 113 | 0.00 | 4.50 |
| 57 | | iso-octane | 20.00 | 0.778 | 0.924 | -18.8 | 124 | 0.00 | 4.50 |
| 58 | | heptane | 20.00 | 0.161 | 0.189 | -17.4 | 129 | 0.00 | 4.62 |
| 59 | | isopropyl acetate | 20.00 | 0.080 | 0.086 | -7.5 | 114 | 0.00 | 4.41 |
| 60 | | 1,2-dichloroethane | 20.00 | 0.441 | 0.449 | -1.8 | 110 | 0.00 | 4.46 |
| 61 | | trichloroethene | 20.00 | 0.317 | 0.354 | -11.7 | 115 | 0.00 | 4.90 |
| 62 | | ethyl acrylate | 20.00 | 0.387 | 0.405 | -4.7 | 106 | 0.00 | 4.92 |

| | | | TrueValue | CC-RF | Calc. | % Drift | | | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 63 | | 2-nitropropane | 20.00 | 0.039 | 20.516 | -2.6 | 97 | 0.00 | 5.44 |

| | | | TrueValue | AvgRF | CCRF | % Dev | | | R.T. |
|---|---|---|---|---|---|---|---|---|---|
| 65 | | methyl methacrylate | 20.00 | 0.079 | 0.082 | -3.8 | 108 | 0.00 | 5.10 |
| 66 | | 1,2-dichloropropane | 20.00 | 0.301 | 0.332 | -10.3 | 114 | 0.00 | 5.10 |
| 67 | | methylcyclohexane | 20.00 | 0.444 | 0.515 | -16.0 | 122 | 0.00 | 5.09 |
| 68 | | dibromomethane | 20.00 | 0.220 | 0.237 | -7.7 | 112 | 0.00 | 5.17 |
| 69 | | bromodichloromethane | 20.00 | 0.429 | 0.488 | -13.8 | 117 | 0.00 | 5.29 |
| 70 | | epichlorohydrin | 100.00 | 0.021 | 0.021 | 0.0 | 115 | 0.00 | 5.53 |
| 71 | | cis-1,3-dichloropropene | 20.00 | 0.452 | 0.517 | -14.4 | 115 | 0.00 | 5.63 |
| 72 | | 4-methyl-2-pentanone | 80.00 | 0.130 | 0.146 | -12.3 | 111 | 0.00 | 5.73 |
| 73 | | 3-methyl-1-butanol | 400.00 | 0.012 | 0.012 | 0.0 | 109 | 0.00 | 5.75 |
| 74 | I | chlorobenzene-d5 | 50.00 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 7.10 |
| 75 | S | toluene-d8 (s) | 50.00 | 1.317 | 1.305 | 0.9 | 105 | 0.00 | 5.85 |
| 76 | | toluene | 20.00 | 0.854 | 0.947 | -10.9 | 115 | 0.00 | 5.91 |
| 77 | | ethyl methacrylate | 20.00 | 0.454 | 0.485 | -6.8 | 108 | 0.00 | 6.11 |
| 78 | | trans-1,3-dichloropropene | 20.00 | 0.479 | 0.553 | -15.4 | 116 | 0.00 | 6.08 |
| 79 | | 1,1,2-trichloroethane | 20.00 | 0.287 | 0.323 | -12.5 | 114 | 0.00 | 6.25 |
| 80 | | 2-hexanone | 80.00 | 0.154 | 0.168 | -9.1 | 110 | 0.00 | 6.41 |
| 81 | | tetrachloroethene | 20.00 | 0.346 | 0.395 | -14.2 | 118 | 0.00 | 6.35 |
| 82 | | 1,3-dichloropropane | 20.00 | 0.525 | 0.590 | -12.4 | 113 | 0.00 | 6.39 |
| 83 | | butyl acetate | 20.00 | 0.245 | 0.261 | -6.5 | 109 | 0.00 | 6.50 |
| 84 | | dibromochloromethane | 20.00 | 0.400 | 0.470 | -17.5 | 118 | 0.00 | 6.58 |
| 85 | | 1,2-dibromoethane | 20.00 | 0.395 | 0.453 | -14.7 | 115 | 0.00 | 6.70 |
| 86 | | n-butyl ether | 20.00 | 1.236 | 1.365 | -10.4 | 111 | 0.00 | 7.19 |
| 87 | | chlorobenzene | 20.00 | 0.962 | 1.078 | -12.1 | 115 | 0.00 | 7.13 |
| 88 | | 1,1,1,2-tetrachloroethane | 20.00 | 0.362 | 0.425 | -17.4 | 116 | 0.00 | 7.20 |
| 89 | | ethylbenzene | 20.00 | 1.581 | 1.770 | -12.0 | 114 | 0.00 | 7.21 |
| 90 | | m,p-xylene | 40.00 | 0.608 | 0.699 | -15.0 | 115 | 0.00 | 7.32 |
| 91 | | o-xylene | 20.00 | 1.261 | 1.399 | -10.9 | 114 | 0.00 | 7.68 |
| 92 | | styrene | 20.00 | 0.960 | 1.108 | -15.4 | 114 | 0.00 | 7.69 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2V2399-CC2392
**Account:** BBLNYS Arcadis **Lab FileID:** 2V58520.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | TrueValue | CC-RF | Calc. | % Drift | | R.T. |
|---|---|---|---|---|---|---|---|
| 93 | butyl acrylate | 20.00 | 0.324 | 0.331 | -2.2 | 108 0.00 | 7.60 |
| 94 | n-amyl acetate | 20.00 | 0.258 | 0.286 | -10.9 | 114 0.00 | 7.81 |
| 95 | bromoform | 20.00 | 0.284 | 0.340 | -19.7 | 123 0.00 | 7.87 |
| 96 | isopropylbenzene | 20.00 | 1.485 | 1.707 | -14.9 | 115 0.00 | 8.02 |
| | | TrueValue | CC-RF | Calc. | % Drift | | R.T. |
| 97 | cis-1,4-dichloro-2-butene | 20.00 | 0.134 | 20.082 | -0.4 | 136 0.00 | 8.07 |
| | | TrueValue | AvgRF | CCRF | % Dev | | R.T. |
| 98 I | 1,4-dichlorobenzene-d4 | 50.00 | 1.000 | 1.000 | 0.0 | 107 0.00 | 9.30 |
| 99 S | 4-bromofluorobenzene (s) | 50.00 | 0.969 | 0.929 | 4.1 | 104 0.00 | 8.19 |
| 100 | bromobenzene | 20.00 | 0.876 | 1.007 | -15.0 | 117 0.00 | 8.33 |
| 101 | 1,1,2,2-tetrachloroethane | 20.00 | 0.973 | 1.082 | -11.2 | 111 0.00 | 8.30 |
| | | TrueValue | CC-RF | Calc. | % Drift | | R.T. |
| 102 | trans-1,4-dichloro-2-bute | 20.00 | 0.183 | 20.830 | -4.1 | 138 0.00 | 8.33 |
| | | TrueValue | AvgRF | CCRF | % Dev | | R.T. |
| 103 | 1,2,3-trichloropropane | 20.00 | 0.286 | 0.314 | -9.8 | 111 0.00 | 8.36 |
| 104 | n-propylbenzene | 20.00 | 3.606 | 4.053 | -12.4 | 113 0.00 | 8.41 |
| 105 | 2-chlorotoluene | 20.00 | 0.805 | 0.914 | -13.5 | 114 0.00 | 8.51 |
| 106 | 4-chlorotoluene | 20.00 | 0.795 | 0.896 | -12.7 | 116 0.00 | 8.62 |
| 107 | 1,3,5-trimethylbenzene | 20.00 | 2.520 | 2.908 | -15.4 | 115 0.00 | 8.59 |
| 108 | tert-butylbenzene | 20.00 | 0.532 | 0.588 | -10.5 | 116 0.00 | 8.89 |
| 109 | 1,2,4-trimethylbenzene | 20.00 | 2.572 | 2.903 | -12.9 | 113 0.00 | 8.95 |
| 110 | sec-butylbenzene | 20.00 | 3.102 | 3.582 | -15.5 | 117 0.00 | 9.11 |
| 111 | 1,3-dichlorobenzene | 20.00 | 1.512 | 1.705 | -12.8 | 114 0.00 | 9.23 |
| 112 | p-isopropyltoluene | 20.00 | 2.575 | 2.985 | -15.9 | 116 0.00 | 9.26 |
| 113 | 1,4-dichlorobenzene | 20.00 | 1.583 | 1.744 | -10.2 | 116 0.00 | 9.33 |
| 114 | 1,2-dichlorobenzene | 20.00 | 1.435 | 1.641 | -14.4 | 116 0.00 | 9.68 |
| 115 | benzyl chloride | 20.00 | 1.213 | 1.606 | -32.4# | 140 0.00 | 9.43 |
| 116 | n-butylbenzene | 20.00 | 1.236 | 1.405 | -13.7 | 117 0.00 | 9.66 |
| 117 | hexachloroethane | 20.00 | 0.403 | 0.476 | -18.1 | 131 0.00 | 9.95 |
| 118 | 1,2-dibromo-3-chloropropa | 20.00 | 0.233 | 0.232 | 0.4 | 111 0.00 | 10.45 |
| 119 | nitrobenzene | 20.00 | 0.050 | 0.069 | -38.0# | 160 0.00 | 10.64 |
| 120 | 1,3,5-trichlorobenzene | 20.00 | 1.034 | 1.237 | -19.6 | 121 0.00 | 10.64 |
| 121 | 1,2,4-trichlorobenzene | 20.00 | 0.865 | 1.014 | -17.2 | 116 0.00 | 11.24 |
| 122 | hexachlorobutadiene | 20.00 | 0.372 | 0.447 | -20.2# | 131 0.00 | 11.38 |
| 123 | naphthalene | 20.00 | 2.278 | 2.535 | -11.3 | 112 0.00 | 11.49 |
| 124 | 1,2,3-trichlorobenzene | 20.00 | 0.774 | 0.908 | -17.3 | 119 0.00 | 11.70 |
| 125 | 2-ethylhexyl acrylate | 4.00 | 0.460 | 0.396 | 13.9 | 116 0.00 | 11.42 |
| 126 | 2-methylnaphthalene | 10.00 | 0.870 | 0.889 | -2.2 | 107 0.00 | 12.54 |
| 127 | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 128 | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2V58394.D M2V2392.M Mon May 13 11:53:30 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V2V2401-CC2392
**Lab FileID:** 2V58580.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ni...-19\v2v2401\2v58580.d Vial: 2
Acq On : 15 May 2019 6:38 am Operator: EddieH
Sample : cc2392-20 Inst : MS2V
Misc : MS34708,V2V2401,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
Last Update : Mon May 06 09:05:05 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 93 | 0.00 | 2.94 |
| 2 | | ethanol | 0.108 | 0.122 | -13.0 | 100 | 0.00 | 2.38 |
| 3 | M | tertiary butyl alcohol | 3.003 | 3.255 | -8.4 | 95 | 0.00 | 3.00 |
| 4 | | 1,4-dioxane | 0.140 | 0.155 | -10.7 | 99 | 0.00 | 5.14 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 4.15 |
| 6 | | chlorodifluoromethane | 0.462 | 0.416 | 10.0 | 85 | 0.00 | 1.58 |
| 7 | | dichlorodifluoromethane | 0.615 | 0.537 | 12.7 | 81 | 0.00 | 1.57 |
| 8 | | chloromethane | 0.635 | 0.605 | 4.7 | 93 | 0.00 | 1.72 |
| 9 | | vinyl chloride | 0.594 | 0.595 | -0.2 | 96 | 0.00 | 1.80 |
| 10 | | bromomethane | 0.507 | 0.536 | -5.7 | 109 | 0.00 | 2.05 |
| 11 | | chloroethane | 0.349 | 0.329 | 5.7 | 93 | 0.00 | 2.12 |
| 12 | | trichlorofluoromethane | 0.763 | 0.724 | 5.1 | 88 | 0.00 | 2.30 |
| 13 | | vinyl bromide | 0.420 | 0.400 | 4.8 | 92 | 0.00 | 2.26 |
| 14 | | 1,3-butadiene | 0.454 | 0.418 | 7.9 | 89 | 0.00 | 1.83 |
| 15 | | ethyl ether | 0.240 | 0.244 | -1.7 | 99 | 0.00 | 2.48 |
| 16 | | 2-chloropropane | 0.615 | 0.548 | 10.9 | 88 | 0.00 | 2.56 |
| 17 | | acrolein | 0.100 | 0.091 | 9.0 | 86 | 0.00 | 2.57 |
| 18 | | freon 113 | 0.345 | 0.323 | 6.4 | 90 | 0.00 | 2.65 |
| 19 | | 1,1-dichloroethene | 0.589 | 0.567 | 3.7 | 90 | 0.00 | 2.65 |
| 20 | | acetone | 0.051 | 0.061 | -19.6 | 113 | 0.00 | 2.66 |
| 21 | | acetonitrile | 0.058 | 0.058 | 0.0 | 98 | 0.00 | 2.84 |
| | | | True | Calc. | % Drift | | | |
| 22 | | iodomethane | 20.000 | 12.853 | 35.7# | 79 | 0.00 | 2.77 |
| | | | AvgRF | CCRF | % Dev | | | |
| 23 | | carbon disulfide | 1.000 | 0.930 | 7.0 | 89 | 0.00 | 2.82 |
| 24 | | methylene chloride | 0.448 | 0.458 | -2.2 | 98 | 0.00 | 2.97 |
| 25 | | methyl acetate | 0.365 | 0.354 | 3.0 | 101 | 0.00 | 2.86 |
| 26 | | methyl tert butyl ether | 1.245 | 1.283 | -3.1 | 97 | 0.00 | 3.14 |
| 27 | | trans-1,2-dichloroethene | 0.411 | 0.403 | 1.9 | 93 | 0.00 | 3.15 |
| 28 | | hexane | 0.254 | 0.247 | 2.8 | 92 | 0.00 | 3.33 |
| 29 | | di-isopropyl ether | 1.211 | 1.215 | -0.3 | 94 | 0.00 | 3.44 |
| 30 | | ethyl tert-butyl ether | 1.220 | 1.289 | -5.7 | 97 | 0.00 | 3.68 |
| 31 | M | 1,1-dichloroethane | 0.741 | 0.730 | 1.5 | 94 | 0.00 | 3.44 |
| 32 | | chloroprene | 0.542 | 0.514 | 5.2 | 88 | 0.00 | 3.49 |
| 33 | | acrylonitrile | 0.169 | 0.176 | -4.1 | 98 | 0.00 | 3.11 |
| 34 | | vinyl acetate | 0.042 | 0.022 | 47.6# | 88 | 0.00 | 3.42 |
| 35 | | ethyl acetate | 0.070 | 0.065 | 7.1 | 92 | 0.00 | 3.81 |
| 36 | | 2-butanone | 0.061 | 0.066 | -8.2 | 100 | 0.00 | 3.79 |
| 37 | | 2,2-dichloropropane | 0.626 | 0.643 | -2.7 | 96 | 0.00 | 3.84 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2V2401-CC2392
**Account:** BBLNYS Arcadis **Lab FileID:** 2V58580.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | 0.500 | 0.484 | 3.2 | 93 | 0.00 | 3.82 |
| 39 | | propionitrile | 0.072 | 0.075 | -4.2 | 97 | 0.00 | 3.84 |
| 40 | | methyl acrylate | 0.069 | 0.069 | 0.0 | 101 | 0.00 | 3.85 |
| 41 | | bromochloromethane | 0.244 | 0.265 | -8.6 | 100 | 0.00 | 3.99 |
| 42 | | tetrahydrofuran | 0.071 | 0.077 | -8.5 | 106 | 0.00 | 4.00 |
| 43 | | chloroform | 0.829 | 0.817 | 1.4 | 95 | 0.00 | 4.04 |
| 44 | S | dibromofluoromethane (s) | 0.493 | 0.467 | 5.3 | 95 | 0.00 | 4.16 |
| 45 | | methacrylonitrile | 0.204 | 0.213 | -4.4 | 100 | 0.00 | 3.95 |
| 46 | | 1,1,1-trichloroethane | 0.720 | 0.692 | 3.9 | 93 | 0.00 | 4.18 |
| 47 | | cyclohexane | 0.610 | 0.550 | 9.8 | 86 | 0.00 | 4.24 |
| 48 | | 1,1-dichloropropene | 0.579 | 0.562 | 2.9 | 92 | 0.00 | 4.29 |
| 49 | | carbon tetrachloride | 0.590 | 0.588 | 0.3 | 93 | 0.00 | 4.30 |
| 50 | | isobutyl alcohol | 0.015 | 0.014 | 6.7 | 88 | 0.00 | 4.29 |
| 51 | | tert-amyl alcohol | 0.024 | 0.023 | 4.2 | 92 | 0.00 | 4.38 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 4.71 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.313 | 0.303 | 3.2 | 92 | 0.00 | 4.40 |
| 54 | | n-butyl alcohol | 0.012 | 0.012 | 0.0 | 90 | 0.00 | 4.77 |
| 55 | M | benzene | 1.132 | 1.170 | -3.4 | 94 | 0.00 | 4.43 |
| 56 | | tert-amyl methyl ether | 0.878 | 0.955 | -8.8 | 99 | 0.00 | 4.50 |
| 57 | | iso-octane | 0.778 | 0.799 | -2.7 | 96 | 0.00 | 4.50 |
| 58 | | heptane | 0.161 | 0.165 | -2.5 | 101 | 0.00 | 4.61 |
| 59 | | isopropyl acetate | 0.080 | 0.087 | -8.7 | 104 | 0.00 | 4.41 |
| 60 | | 1,2-dichloroethane | 0.441 | 0.446 | -1.1 | 98 | 0.00 | 4.45 |
| 61 | | trichloroethene | 0.317 | 0.323 | -1.9 | 94 | 0.00 | 4.90 |
| 62 | | ethyl acrylate | 0.387 | 0.403 | -4.1 | 95 | 0.00 | 4.92 |
| | | | True | Calc. | % Drift | | | |
| 63 | | 2-nitropropane | 20.000 | 18.278 | 8.6 | 68 | 0.00 | 5.44 |
| 64 | | 2-chloroethyl vinyl ether | 100.000 | 173.046 | -73.0# | 168 | 0.00 | 5.48 |
| | | | AvgRF | CCRF | % Dev | | | |
| 65 | | methyl methacrylate | 0.079 | 0.084 | -6.3 | 99 | 0.00 | 5.10 |
| 66 | | 1,2-dichloropropane | 0.301 | 0.313 | -4.0 | 96 | 0.00 | 5.09 |
| 67 | | methylcyclohexane | 0.444 | 0.438 | 1.4 | 93 | 0.00 | 5.09 |
| 68 | | dibromomethane | 0.220 | 0.230 | -4.5 | 98 | 0.00 | 5.17 |
| 69 | | bromodichloromethane | 0.429 | 0.466 | -8.6 | 100 | 0.00 | 5.29 |
| 70 | | epichlorohydrin | 0.021 | 0.019 | 9.5 | 92 | 0.00 | 5.53 |
| 71 | | cis-1,3-dichloropropene | 0.452 | 0.492 | -8.8 | 98 | 0.00 | 5.63 |
| 72 | | 4-methyl-2-pentanone | 0.130 | 0.142 | -9.2 | 97 | 0.00 | 5.73 |
| 73 | | 3-methyl-1-butanol | 0.012 | 0.012 | 0.0 | 93 | 0.00 | 5.75 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 7.10 |
| 75 | S | toluene-d8 (s) | 1.317 | 1.296 | 1.6 | 95 | 0.00 | 5.85 |
| 76 | | toluene | 0.854 | 0.850 | 0.5 | 95 | 0.00 | 5.91 |
| 77 | | ethyl methacrylate | 0.454 | 0.476 | -4.8 | 97 | 0.00 | 6.11 |
| 78 | | trans-1,3-dichloropropene | 0.479 | 0.506 | -5.6 | 98 | 0.00 | 6.08 |
| 79 | | 1,1,2-trichloroethane | 0.287 | 0.308 | -7.3 | 100 | 0.00 | 6.25 |
| 80 | | 2-hexanone | 0.154 | 0.162 | -5.2 | 97 | 0.00 | 6.41 |
| 81 | | tetrachloroethene | 0.346 | 0.333 | 3.8 | 92 | 0.00 | 6.35 |
| 82 | | 1,3-dichloropropane | 0.525 | 0.555 | -5.7 | 98 | 0.00 | 6.39 |
| 83 | | butyl acetate | 0.245 | 0.258 | -5.3 | 99 | 0.00 | 6.50 |
| 84 | | dibromochloromethane | 0.400 | 0.452 | -13.0 | 105 | 0.00 | 6.58 |
| 85 | | 1,2-dibromoethane | 0.395 | 0.424 | -7.3 | 99 | 0.00 | 6.70 |
| 86 | | n-butyl ether | 1.236 | 1.246 | -0.8 | 93 | 0.00 | 7.18 |
| 87 | | chlorobenzene | 0.962 | 0.980 | -1.9 | 96 | 0.00 | 7.13 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.362 | 0.385 | -6.4 | 97 | 0.00 | 7.20 |
| 89 | | ethylbenzene | 1.581 | 1.605 | -1.5 | 95 | 0.00 | 7.21 |
| 90 | | m,p-xylene | 0.608 | 0.628 | -3.3 | 95 | 0.00 | 7.32 |
| 91 | | o-xylene | 1.261 | 1.272 | -0.9 | 95 | 0.00 | 7.68 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** V2V2401-CC2392
**Account:** BBLNYS Arcadis **Lab FileID:** 2V58580.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 92 | | styrene | 0.960 | 1.012 | -5.4 | 96 | 0.00 | 7.69 |
| 93 | | butyl acrylate | 0.324 | 0.321 | 0.9 | 96 | 0.00 | 7.60 |
| 94 | | n-amyl acetate | 0.258 | 0.267 | -3.5 | 97 | 0.00 | 7.81 |
| 95 | | bromoform | 0.284 | 0.318 | -12.0 | 106 | 0.00 | 7.87 |
| 96 | | isopropylbenzene | 1.485 | 1.530 | -3.0 | 95 | 0.00 | 8.02 |
| | | | True | Calc. | % Drift | | | |
| 97 | | cis-1,4-dichloro-2-butene | 20.000 | 19.271 | 3.6 | 119 | 0.00 | 8.07 |
| | | | AvgRF | CCRF | % Dev | | | |
| 98 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 9.30 |
| 99 | S | 4-bromofluorobenzene (s) | 0.969 | 0.931 | 3.9 | 97 | 0.00 | 8.19 |
| 100 | | bromobenzene | 0.876 | 0.919 | -4.9 | 100 | 0.00 | 8.33 |
| 101 | | 1,1,2,2-tetrachloroethane | 0.973 | 1.033 | -6.2 | 99 | 0.00 | 8.30 |
| | | | True | Calc. | % Drift | | | |
| 102 | | trans-1,4-dichloro-2-bute | 20.000 | 19.964 | 0.2 | 123 | 0.00 | 8.33 |
| | | | AvgRF | CCRF | % Dev | | | |
| 103 | | 1,2,3-trichloropropane | 0.286 | 0.305 | -6.6 | 101 | 0.00 | 8.36 |
| 104 | | n-propylbenzene | 3.606 | 3.586 | 0.6 | 94 | 0.00 | 8.41 |
| 105 | | 2-chlorotoluene | 0.805 | 0.814 | -1.1 | 95 | 0.00 | 8.51 |
| 106 | | 4-chlorotoluene | 0.795 | 0.814 | -2.4 | 98 | 0.00 | 8.62 |
| 107 | | 1,3,5-trimethylbenzene | 2.520 | 2.583 | -2.5 | 95 | 0.00 | 8.59 |
| 108 | | tert-butylbenzene | 0.532 | 0.517 | 2.8 | 95 | 0.00 | 8.89 |
| 109 | | 1,2,4-trimethylbenzene | 2.572 | 2.590 | -0.7 | 94 | 0.00 | 8.95 |
| 110 | | sec-butylbenzene | 3.102 | 3.108 | -0.2 | 95 | 0.00 | 9.11 |
| 111 | | 1,3-dichlorobenzene | 1.512 | 1.532 | -1.3 | 96 | 0.00 | 9.23 |
| 112 | | p-isopropyltoluene | 2.575 | 2.658 | -3.2 | 97 | 0.00 | 9.26 |
| 113 | | 1,4-dichlorobenzene | 1.583 | 1.570 | 0.8 | 98 | 0.00 | 9.32 |
| 114 | | 1,2-dichlorobenzene | 1.435 | 1.512 | -5.4 | 100 | 0.00 | 9.68 |
| 115 | | benzyl chloride | 1.213 | 1.500 | -23.7# | 122 | 0.00 | 9.43 |
| 116 | | n-butylbenzene | 1.236 | 1.218 | 1.5 | 95 | 0.00 | 9.65 |
| 117 | | hexachloroethane | 0.403 | 0.404 | -0.2 | 104 | 0.00 | 9.95 |
| 118 | | 1,2-dibromo-3-chloropropa | 0.233 | 0.240 | -3.0 | 107 | 0.00 | 10.45 |
| 119 | | nitrobenzene | 0.050 | 0.048 | 4.0 | 105 | 0.00 | 10.64 |
| 120 | | 1,3,5-trichlorobenzene | 1.034 | 1.097 | -6.1 | 100 | 0.00 | 10.64 |
| 121 | | 1,2,4-trichlorobenzene | 0.865 | 0.952 | -10.1 | 102 | 0.00 | 11.24 |
| 122 | | hexachlorobutadiene | 0.372 | 0.395 | -6.2 | 108 | 0.00 | 11.38 |
| 123 | | naphthalene | 2.278 | 2.386 | -4.7 | 98 | 0.00 | 11.49 |
| 124 | | 1,2,3-trichlorobenzene | 0.774 | 0.838 | -8.3 | 102 | 0.00 | 11.70 |
| 125 | | 2-ethylhexyl acrylate | 0.460 | 0.341 | 25.9# | 93 | 0.00 | 11.42 |
| 126 | | 2-methylnaphthalene | 0.870 | 0.834 | 4.1 | 93 | 0.00 | 12.54 |
| 127 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 128 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2V58394.D M2V2392.M Thu May 16 05:43:17 2019

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICC8014
**Lab FileID:** Y184719.D

Response Factor Report MSY

Method : C:\MSDCHEM\1\METHODS\MYS8014.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 25 07:35:51 2019
Response via : Initial Calibration

Calibration Files
4 =Y184716.D 8 =Y184717.D 0.5 =Y184713.D 50 =Y184719.D
100 =Y184720.D 1 =Y184714.D 200 =Y184721.D 20 =Y184718.D
2 =Y184715.D =

| Compound | 4 | 8 | 0.5 | 50 | 100 | 1 | 200 | 20 | 2 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) I tert butyl alcohol-d9 | ----------ISTD---------- | | | | | | | | | | |
| 2) ethanol | | | | | | | | | | 0.000 | -1.00 |
| 3) tertiary butyl alcohol | 1.642 | 1.613 | | 1.613 | 1.561 | | 1.620 | 1.603 | 1.256 | 1.558 | 8.70 |
| 4) 1,4-dioxane | 0.173 | 0.149 | | 0.164 | 0.147 | | 0.152 | 0.152 | 0.145 | 0.154 | 6.46 |
| 5) I pentafluorobenzene | ----------ISTD---------- | | | | | | | | | | |
| 6) chlorodifluoromethane | 0.830 | 0.779 | | 0.761 | 0.797 | 0.738 | 0.780 | 0.842 | 0.781 | 0.788 | 4.33 |
| 7) dichlorodifluoromethane | 0.973 | 0.960 | | 0.978 | 1.007 | 0.955 | 0.992 | 1.155 | 0.900 | 0.990 | 7.46 |
| 8) chloromethane | 1.056 | 1.017 | | 0.946 | 0.996 | 1.226 | 0.994 | 1.108 | 0.996 | 1.042 | 8.48 |
| 9) vinyl chloride | 0.853 | 0.862 | 0.772 | 0.816 | 0.883 | 0.946 | 0.877 | 0.940 | 0.766 | 0.857 | 7.51 |
| 10) 1,3-butadiene | 0.544 | 0.518 | | 0.509 | 0.538 | | 0.545 | 0.545 | 0.517 | 0.531 | 2.94 |
| 11) bromomethane | 0.743 | 0.700 | | 0.663 | 0.681 | 0.889 | 0.666 | 0.762 | 0.705 | 0.726 | 10.28 |
| 12) chloroethane | 0.458 | 0.470 | | 0.448 | 0.461 | 0.462 | 0.461 | 0.499 | 0.449 | 0.464 | 3.43 |
| 13) vinyl bromide | 0.429 | 0.398 | | 0.407 | 0.412 | 0.352 | 0.422 | 0.447 | 0.350 | 0.402 | 8.65 |
| 14) trichlorofluoromethane | 1.026 | 0.953 | | 0.925 | 0.948 | 1.129 | 0.943 | 1.050 | 0.927 | 0.988 | 7.43 |
| 15) ethyl ether | 0.238 | 0.241 | | 0.260 | 0.249 | 0.212 | 0.270 | 0.255 | 0.212 | 0.242 | 8.72 |
| 16) 2-chloropropane | 0.220 | 0.212 | | 0.216 | 0.221 | 0.219 | 0.215 | 0.211 | 0.198 | 0.214 | 3.47 |
| 17) acrolein | | 0.060 | | 0.067 | 0.069 | | 0.072 | 0.069 | | 0.067 | 7.05 |
| 18) freon 113 | 0.486 | 0.451 | | 0.478 | 0.485 | 0.395 | 0.463 | 0.484 | 0.463 | 0.463 | 6.60 |
| 19) 1,1-dichloroethene | 0.762 | 0.753 | 0.706 | 0.811 | 0.809 | 0.709 | 0.781 | 0.790 | 0.789 | 0.768 | 5.08 |
| 20) acetone | 0.137 | 0.120 | | 0.114 | 0.117 | 0.133 | 0.115 | 0.118 | 0.126 | 0.122 | 6.94 |
| 21) acetonitrile | 0.061 | 0.064 | | 0.057 | 0.058 | | 0.058 | 0.063 | | 0.060 | 5.23 |
| 22) iodomethane | 0.981 | 0.943 | 0.936 | 0.983 | 0.994 | 0.884 | 0.978 | 1.050 | 0.976 | 0.969 | 4.72 |
| 23) carbon disulfide | | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICC8014
**Lab FileID:** Y184719.D

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1.650 | 1.673 | 1.723 | 1.625 | 1.637 | 1.669 | 1.580 | 1.750 | 1.817 | 1.681 | 4.28 |
| 24) | methylene chloride | | | | | | | | | | |
| | 0.663 | 0.661 | | 0.627 | 0.638 | | 0.622 | 0.674 | 0.787 | 0.667 | 8.41 |
| 25) | methyl acetate | | | | | | | | | | |
| | 0.278 | 0.300 | | 0.272 | 0.272 | | 0.276 | 0.302 | | 0.283 | 4.91 |
| 26) | methyl tert butyl ether | | | | | | | | | | |
| | 1.493 | 1.578 | 1.590 | 1.514 | 1.571 | 1.449 | 1.612 | 1.615 | 1.446 | 1.541 | 4.33 |
| 27) | trans-1,2-dichloroethene | | | | | | | | | | |
| | 0.770 | 0.730 | 0.834 | 0.749 | 0.739 | 0.749 | 0.717 | 0.787 | 0.775 | 0.761 | 4.65 |
| 28) | hexane | | | | | | | | | | |
| | 0.706 | 0.660 | 0.625 | 0.680 | 0.679 | 0.673 | 0.670 | 0.702 | 0.651 | 0.672 | 3.71 |
| 29) | di-isopropyl ether | | | | | | | | | | |
| | 1.887 | 1.914 | 1.952 | 1.953 | 1.996 | 1.708 | 1.986 | 2.025 | 1.843 | 1.918 | 5.06 |
| 30) | ethyl tert-butyl ether | | | | | | | | | | |
| | 1.706 | 1.749 | 1.590 | 1.787 | 1.863 | 1.648 | 1.942 | 1.840 | 1.577 | 1.745 | 7.21 |
| 31) | 2-butanone | | | | | | | | | | |
| | 0.044 | 0.040 | | 0.039 | 0.040 | | 0.042 | 0.043 | 0.033 | 0.040 | 9.10 |
| 32) | 1,1-dichloroethane | | | | | | | | | | |
| | 0.965 | 0.950 | 0.921 | 0.948 | 0.944 | 0.965 | 0.914 | 0.989 | 0.995 | 0.955 | 2.86 |
| 33) | chloroprene | | | | | | | | | | |
| | 0.703 | 0.657 | 0.697 | 0.689 | 0.694 | 0.659 | 0.682 | 0.710 | 0.665 | 0.684 | 2.86 |
| 34) | acrylonitrile | | | | | | | | | | |
| | 0.140 | 0.167 | | 0.150 | 0.148 | | 0.152 | 0.162 | | 0.153 | 6.52 |
| 35) | vinyl acetate | | | | | | | | | | |
| | 0.069 | 0.073 | | 0.075 | 0.077 | | 0.082 | 0.081 | | 0.076 | 6.21 |
| 36) | ethyl acetate | | | | | | | | | | |
| | 0.048 | 0.058 | | 0.054 | 0.051 | | 0.055 | 0.059 | | 0.054 | 7.75 |
| 37) | 2,2-dichloropropane | | | | | | | | | | |
| | 0.840 | 0.822 | 0.801 | 0.801 | 0.819 | 0.854 | 0.814 | 0.853 | 0.818 | 0.825 | 2.44 |
| 38) | cis-1,2-dichloroethene | | | | | | | | | | |
| | 0.627 | 0.639 | 0.616 | 0.604 | 0.604 | 0.659 | 0.613 | 0.654 | 0.634 | 0.628 | 3.27 |
| 39) | propionitrile | | | | | | | | | | |
| | 0.057 | 0.058 | 0.056 | 0.052 | 0.052 | 0.050 | 0.056 | 0.057 | 0.049 | 0.054 | 6.63 |
| 40) | bromochloromethane | | | | | | | | | | |
| | 0.389 | 0.397 | 0.368 | 0.390 | 0.393 | 0.395 | 0.399 | 0.414 | 0.396 | 0.393 | 3.04 |
| 41) | tetrahydrofuran | | | | | | | | | | |
| | 0.045 | 0.045 | | 0.046 | 0.049 | | 0.054 | 0.050 | | 0.048 | 7.21 |
| 42) | chloroform | | | | | | | | | | |
| | 1.028 | 0.995 | | 0.955 | 0.963 | 1.191 | 0.959 | 1.013 | 1.014 | 1.015 | 7.55 |
| 43) | tert-butyl formate | | | | | | | | | | |
| | 0.380 | 0.372 | | 0.379 | 0.403 | | 0.427 | 0.400 | 0.320 | 0.383 | 8.77 |
| 44) | isobutyl alcohol | | | | | | | | | | |
| | | | | | | | | | | 0.000 | -1.00 |
| 45) | dibromofluoromethane (s) | | | | | | | | | | |
| | 0.460 | 0.454 | 0.455 | 0.450 | 0.454 | 0.442 | 0.460 | 0.453 | 0.454 | 0.454 | 1.16 |
| 46) | methacrylonitrile | | | | | | | | | | |
| | 0.137 | 0.150 | | 0.142 | 0.141 | | 0.151 | 0.150 | | 0.145 | 4.19 |
| 47) | 1,1,1-trichloroethane | | | | | | | | | | |
| | 0.865 | 0.850 | 0.902 | 0.847 | 0.870 | 0.917 | 0.866 | 0.892 | 0.864 | 0.875 | 2.73 |
| 48) | cyclohexane | | | | | | | | | | |
| | 0.908 | 0.855 | 0.840 | 0.851 | 0.863 | 0.872 | 0.861 | 0.991 | 0.786 | 0.870 | 6.38 |
| 49) | 1,1-dichloropropene | | | | | | | | | | |
| | 0.623 | 0.606 | 0.658 | 0.617 | 0.611 | 0.573 | 0.606 | 0.639 | 0.635 | 0.619 | 3.93 |
| 50) | tert-amyl alcohol | | | | | | | | | | |
| | 0.016 | 0.019 | | 0.017 | 0.017 | | 0.019 | 0.018 | | 0.018 | 5.84 |
| 51) | carbon tetrachloride | | | | | | | | | | |
| | 0.754 | 0.743 | 0.746 | 0.737 | 0.759 | 0.792 | 0.751 | 0.791 | 0.779 | 0.761 | 2.75 |
| 52) | I 1,4-difluorobenzene | ----------ISTD---------- | | | | | | | | | |
| 53) | 1,2-dichloroethane-d4 (s) | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** VY8014-ICC8014
**Account:** BBLNYS Arcadis **Lab FileID:** Y184719.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.290 | 0.291 | 0.282 | 0.272 | 0.274 | 0.276 | 0.269 | 0.283 | 0.277 | 0.279 | 2.75 |
| 54) | 2,2,4-trimethylpentane | | | | | | | | | | | |
| | | 1.365 | 1.364 | 1.092 | 1.456 | 1.491 | 1.305 | 1.528 | 1.475 | 1.264 | 1.371 | 10.01 |
| 55) | tert-amyl methyl ether | | | | | | | | | | | |
| | | 1.111 | 1.107 | 1.203 | 1.131 | 1.145 | 0.974 | 1.222 | 1.170 | 1.039 | 1.122 | 6.96 |
| 56) | n-butyl alcohol | | | | | | | | | | | |
| | | 0.006 | 0.006 | | 0.006 | 0.006 | 0.006 | 0.007 | 0.007 | 0.005 | 0.006 | 7.95 |
| 57) | benzene | | | | | | | | | | | |
| | | 1.469 | 1.441 | 1.566 | 1.391 | 1.368 | 1.466 | 1.373 | 1.457 | 1.462 | 1.444 | 4.25 |
| 58) | heptane | | | | | | | | | | | |
| | | 0.236 | 0.244 | | 0.247 | 0.240 | 0.247 | 0.241 | 0.267 | 0.249 | 0.246 | 3.77 |
| 59) | isopropyl acetate | | | | | | | | | | | |
| | | 0.055 | 0.060 | | 0.059 | 0.057 | | 0.060 | 0.060 | | 0.059 | 3.52 |
| 60) | 1,2-dichloroethane | | | | | | | | | | | |
| | | 0.488 | 0.475 | | 0.447 | 0.433 | 0.489 | 0.439 | 0.478 | 0.461 | 0.464 | 4.79 |
| 61) | trichloroethene | | | | | | | | | | | |
| | | 0.388 | 0.382 | 0.391 | 0.369 | 0.367 | 0.357 | 0.367 | 0.389 | 0.368 | 0.375 | 3.26 |
| 62) | ethyl acrylate | | | | | | | | | | | |
| | | 0.307 | 0.310 | | 0.299 | 0.297 | | 0.320 | 0.338 | 0.289 | 0.309 | 5.32 |
| 63) | 2-nitropropane | | | | | | | | | | | |
| | | 0.102 | 0.105 | | 0.096 | 0.095 | | 0.101 | 0.104 | | 0.100 | 4.13 |
| 64) | 2-chloroethyl vinyl ether | | | | | | | | | | | |
| | | 0.161 | 0.179 | 0.181 | 0.168 | 0.167 | 0.151 | 0.179 | 0.190 | 0.164 | 0.171 | 7.06 |
| 65) | methyl methacrylate | | | | | | | | | | | |
| | | 0.062 | 0.067 | | 0.065 | 0.066 | | 0.073 | 0.074 | | 0.068 | 6.46 |
| 66) | 1,2-dichloropropane | | | | | | | | | | | |
| | | 0.390 | 0.372 | 0.386 | 0.368 | 0.363 | 0.321 | 0.369 | 0.383 | 0.357 | 0.368 | 5.61 |
| 67) | methylcyclohexane | | | | | | | | | | | |
| | | 0.590 | 0.568 | | 0.600 | 0.603 | 0.589 | 0.612 | 0.617 | 0.590 | 0.596 | 2.58 |
| 68) | dibromomethane | | | | | | | | | | | |
| | | 0.222 | 0.224 | 0.222 | 0.210 | 0.209 | 0.196 | 0.216 | 0.226 | 0.205 | 0.215 | 4.73 |
| 69) | bromodichloromethane | | | | | | | | | | | |
| | | 0.523 | 0.504 | 0.534 | 0.508 | 0.508 | 0.498 | 0.522 | 0.526 | 0.505 | 0.514 | 2.38 |
| 70) | epichlorohydrin | | | | | | | | | | | |
| | | 0.026 | 0.027 | | 0.025 | 0.024 | | 0.026 | 0.027 | | 0.026 | 5.48 |
| 71) | cis-1,3-dichloropropene | | | | | | | | | | | |
| | | 0.572 | 0.571 | 0.505 | 0.570 | 0.565 | 0.527 | 0.587 | 0.596 | 0.543 | 0.559 | 5.21 |
| 72) | 4-methyl-2-pentanone | | | | | | | | | | | |
| | | 0.099 | 0.107 | 0.107 | 0.099 | 0.097 | 0.096 | 0.104 | 0.110 | 0.089 | 0.101 | 6.67 |
| 73) | 3-methyl-1-butanol | | | | | | | | | | | |
| | | 0.007 | 0.007 | | 0.008 | 0.008 | | 0.009 | 0.008 | 0.006 | 0.008 | 11.52 |
| 74) | I chlorobenzene-d5 | ---------- | | | | ISTD | | | | | | |
| 75) | toluene-d8 (s) | | | | | | | | | | | |
| | | 1.256 | 1.252 | 1.238 | 1.310 | 1.292 | 1.261 | 1.296 | 1.222 | 1.262 | 1.265 | 2.28 |
| 76) | toluene | | | | | | | | | | | |
| | | 0.958 | 0.924 | 1.069 | 0.966 | 0.951 | 0.958 | 0.941 | 0.935 | 0.964 | 0.963 | 4.38 |
| 77) | trans-1,3-dichloropropene | | | | | | | | | | | |
| | | 0.541 | 0.557 | 0.582 | 0.576 | 0.560 | 0.542 | 0.569 | 0.561 | 0.511 | 0.556 | 3.90 |
| 78) | ethyl methacrylate | | | | | | | | | | | |
| | | 0.387 | 0.389 | 0.400 | 0.399 | 0.397 | 0.354 | 0.414 | 0.399 | 0.364 | 0.389 | 4.87 |
| 79) | 1,1,2-trichloroethane | | | | | | | | | | | |
| | | 0.270 | 0.277 | 0.312 | 0.270 | 0.267 | 0.266 | 0.270 | 0.271 | 0.269 | 0.275 | 5.25 |
| 80) | 2-hexanone | | | | | | | | | | | |
| | | 0.106 | 0.111 | 0.104 | 0.104 | 0.102 | 0.092 | 0.106 | 0.108 | 0.092 | 0.103 | 6.28 |
| 81) | tetrachloroethene | | | | | | | | | | | |
| | | 0.430 | 0.430 | 0.451 | 0.437 | 0.433 | 0.443 | 0.424 | 0.422 | 0.460 | 0.437 | 2.88 |
| 82) | 1,3-dichloropropane | | | | | | | | | | | |
| | | 0.523 | 0.524 | 0.568 | 0.510 | 0.494 | 0.473 | 0.505 | 0.521 | 0.489 | 0.512 | 5.28 |
| 83) | butyl acetate | | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** VY8014-ICC8014
**Account:** BBLNYS Arcadis **Lab FileID:** Y184719.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.188 | 0.208 | 0.202 | 0.200 | 0.203 | 0.208 | 0.183 | 0.199 | 4.81 |
| 84) | dibromochloromethane | | | | | | | | | | |
| | 0.408 | 0.423 | 0.372 | 0.436 | 0.436 | 0.357 | 0.450 | 0.429 | 0.398 | 0.412 | 7.60 |
| 85) | 1,2-dibromoethane | | | | | | | | | | |
| | 0.427 | 0.444 | 0.455 | 0.429 | 0.434 | 0.396 | 0.446 | 0.449 | 0.416 | 0.433 | 4.26 |
| 86) | n-butyl ether | | | | | | | | | | |
| | 1.514 | 1.514 | 1.772 | 1.637 | 1.636 | 1.519 | 1.611 | 1.583 | 1.520 | 1.590 | 5.41 |
| 87) | chlorobenzene | | | | | | | | | | |
| | 1.156 | 1.121 | 1.373 | 1.123 | 1.104 | 1.155 | 1.088 | 1.146 | 1.157 | 1.158 | 7.27 |
| 88) | 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| | 0.461 | 0.444 | 0.494 | 0.470 | 0.474 | 0.428 | 0.475 | 0.457 | 0.408 | 0.457 | 5.74 |
| 89) | ethylbenzene | | | | | | | | | | |
| | 1.815 | 1.765 | 1.939 | 1.814 | 1.770 | 1.797 | 1.748 | 1.792 | 1.841 | 1.809 | 3.12 |
| 90) | m,p-xylene | | | | | | | | | | |
| | 0.686 | 0.678 | 0.770 | 0.701 | 0.691 | 0.736 | 0.699 | 0.700 | 0.680 | 0.705 | 4.24 |
| 91) | o-xylene | | | | | | | | | | |
| | 1.464 | 1.478 | 1.597 | 1.564 | 1.553 | 1.416 | 1.560 | 1.533 | 1.477 | 1.516 | 3.92 |
| 92) | styrene | | | | | | | | | | |
| | 1.172 | 1.194 | 1.229 | 1.249 | 1.208 | 1.180 | 1.230 | 1.238 | 1.093 | 1.199 | 3.99 |
| 93) | bromoform | | | | | | | | | | |
| | 0.264 | 0.281 | 0.288 | 0.284 | 0.283 | 0.275 | 0.300 | 0.283 | 0.263 | 0.280 | 4.12 |
| 94) | butyl acrylate | | | | | | | | | | |
| | 0.624 | 0.668 | 0.686 | 0.665 | 0.679 | 0.623 | 0.709 | 0.660 | 0.589 | 0.656 | 5.68 |
| 95) | isopropylbenzene | | | | | | | | | | |
| | 1.738 | 1.734 | 1.970 | 1.867 | 1.856 | 1.846 | 1.893 | 1.789 | 1.706 | 1.822 | 4.76 |
| 96) | cis-1,4-dichloro-2-butene | | | | | | | | | | |
| | 0.135 | 0.154 | 0.150 | 0.149 | 0.159 | 0.144 | 0.130 | 0.146 | 7.04 | | |
| 97) | I 1,4-dichlorobenzene-d ----------ISTD---------- | | | | | | | | | | |
| 98) | 4-bromofluorobenzene (s) | | | | | | | | | | |
| | 0.832 | 0.824 | 0.835 | 0.845 | 0.809 | 0.822 | 0.821 | 0.845 | 0.828 | 0.829 | 1.39 |
| 99) | bromobenzene | | | | | | | | | | |
| | 1.018 | 1.012 | 1.148 | 0.970 | 0.920 | 1.024 | 0.921 | 1.021 | 0.949 | 0.998 | 7.04 |
| 100) | 1,1,2,2-tetrachloroethane | | | | | | | | | | |
| | 0.784 | 0.798 | 0.855 | 0.731 | 0.709 | 0.746 | 0.736 | 0.808 | 0.721 | 0.765 | 6.33 |
| 101) | trans-1,4-dichloro-2-butene | | | | | | | | | | |
| | 0.170 | 0.183 | 0.171 | 0.169 | 0.176 | 0.181 | 0.142 | 0.170 | 7.89 | | |
| 102) | 1,2,3-trichloropropane | | | | | | | | | | |
| | 0.191 | 0.209 | 0.191 | 0.181 | 0.184 | 0.196 | 0.208 | 0.194 | 5.61 | | |
| 103) | n-propylbenzene | | | | | | | | | | |
| | 3.760 | 3.772 | 4.438 | 3.776 | 3.642 | 3.905 | 3.610 | 3.938 | 3.887 | 3.859 | 6.33 |
| 104) | 2-chlorotoluene | | | | | | | | | | |
| | 0.850 | 0.863 | 1.050 | 0.868 | 0.836 | 0.856 | 0.830 | 0.903 | 0.851 | 0.879 | 7.70 |
| 105) | 4-chlorotoluene | | | | | | | | | | |
| | 2.360 | 2.375 | 2.835 | 2.404 | 2.329 | 2.513 | 2.335 | 2.526 | 2.370 | 2.450 | 6.59 |
| 106) | 1,3,5-trimethylbenzene | | | | | | | | | | |
| | 2.763 | 2.807 | 3.113 | 2.852 | 2.794 | 2.762 | 2.805 | 2.920 | 2.747 | 2.840 | 4.05 |
| 107) | tert-butylbenzene | | | | | | | | | | |
| | 0.488 | 0.466 | 0.536 | 0.531 | 0.460 | 0.527 | 0.502 | 0.506 | 0.502 | 5.76 | |
| 108) | 1,2,4-trimethylbenzene | | | | | | | | | | |
| | 2.829 | 2.889 | 3.293 | 2.962 | 2.896 | 2.739 | 2.883 | 2.995 | 2.836 | 2.925 | 5.37 |
| 109) | sec-butylbenzene | | | | | | | | | | |
| | 3.413 | 3.382 | 3.678 | 3.585 | 3.589 | 3.591 | 3.553 | 3.584 | 3.512 | 3.543 | 2.64 |
| 110) | 1,3-dichlorobenzene | | | | | | | | | | |
| | 1.830 | 1.810 | 2.083 | 1.806 | 1.783 | 1.769 | 1.758 | 1.892 | 1.885 | 1.846 | 5.44 |
| 111) | p-isopropyltoluene | | | | | | | | | | |
| | 3.014 | 3.049 | 3.254 | 3.179 | 3.128 | 3.140 | 3.114 | 3.211 | 2.995 | 3.120 | 2.83 |
| 112) | 1,4-dichlorobenzene | | | | | | | | | | |
| | 1.905 | 1.862 | 2.244 | 1.805 | 1.780 | 1.902 | 1.789 | 1.873 | 1.950 | 1.901 | 7.40 |
| 113) | 1,2-dichlorobenzene | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC87535 **Sample:** VY8014-ICC8014
**Account:** BBLNYS Arcadis **Lab FileID:** Y184719.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
            1.841 1.831 2.240 1.817 1.782 2.010 1.775 1.886 1.835   1.891    7.85
114)  n-butylbenzene
            1.590 1.543 1.724 1.651 1.657 1.601 1.639 1.659 1.578   1.627    3.33
115)  1,2-dibromo-3-chloropropane
            0.168 0.174       0.173 0.184       0.191 0.187 0.169   0.178    5.28
116)  1,3,5-trichlorobenzene
            1.762 1.713 2.061 1.802 1.802 1.659 1.733 1.846 1.702   1.787    6.61
117)  1,2,4-trichlorobenzene
            1.429 1.473 1.713 1.539 1.560 1.391 1.512 1.603 1.349   1.508    7.46
118)  hexachlorobutadiene
            0.927 0.887 1.069 0.901 0.886 0.926 0.842 0.951 0.942   0.926    6.83
119)  naphthalene
            2.168 2.283       2.520 2.599 2.011 2.605 2.580 1.941   2.338   11.75
120)  1,2,3-trichlorobenzene
            1.231 1.322 1.295 1.370 1.402 1.138 1.350 1.458 1.189   1.306    7.95
121)  hexachloroethane
            0.486 0.514 0.644 0.584 0.591 0.485 0.601 0.533 0.560   0.555    9.87
122)  benzyl chloride
            1.341 1.375 1.591 1.360 1.396 1.276 1.450 1.406 1.312   1.390    6.59
123)  2-ethylhexyl acrylate
                  0.610       0.821 0.955       1.054 0.691         0.826   22.11
             ----- Linear regression -----  Coefficient =  0.9942
               Response Ratio = -0.01976 + 1.03359 *A

124)  2-methylnaphthalene
                  0.973       1.135 1.302       1.371 1.089         1.174   13.75
125)  bis(chloromethyl)ether
                                                                    0.000   -1.00
126)  ethylenimine
                                                                    0.000   -1.00
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MYS8014.M         Thu Apr 25 12:25:25 2019   RPT1
```

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICV8014
**Lab FileID:** Y184724.D

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\VY8014\Y184724.D Vial: 14
Acq On : 24 Apr 2019 8:27 pm Operator: ROBERTS
Sample : ICV8014-50 Inst : MSY
Misc : MS34134,VY8014,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8014.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 25 07:35:51 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 7.74 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.558 | 1.696 | -8.9 | 106 | 0.01 | 7.85 |
| 4 | | 1,4-dioxane | 0.154 | 0.162 | -5.2 | 100 | 0.00 | 11.54 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 92 | 0.00 | 9.97 |
| 6 | | chlorodifluoromethane | 0.782 | 0.892 | -14.1 | 107 | 0.00 | 4.38 |
| 7 | | dichlorodifluoromethane | 0.990 | 0.981 | 0.9 | 92 | 0.00 | 4.36 |
| 8 | | chloromethane | 1.042 | 1.127 | -8.2 | 109 | 0.00 | 4.74 |
| 9 | | vinyl chloride | 0.857 | 0.874 | -2.0 | 98 | 0.00 | 4.99 |
| 10 | | 1,3-butadiene | 0.531 | 0.671 | -26.4 | 121 | 0.01 | 5.04 |
| 11 | | bromomethane | 0.726 | 0.690 | 5.0 | 95 | 0.00 | 5.63 |
| 12 | | chloroethane | 0.464 | 0.439 | 5.4 | 90 | 0.00 | 5.81 |
| 13 | | vinyl bromide | 0.402 | 0.464 | -15.4 | 105 | 0.00 | 6.15 |
| 14 | | trichlorofluoromethane | 0.988 | 0.983 | 0.5 | 97 | 0.00 | 6.27 |
| 15 | | ethyl ether | 0.242 | 0.277 | -14.5 | 98 | 0.00 | 6.63 |
| 16 | | 2-chloropropane | 0.214 | 0.241 | -12.6 | 102 | 0.00 | 6.86 |
| 17 | | acrolein | 0.067 | 0.077 | -14.9 | 105 | -0.02 | 6.86 |
| 18 | | freon 113 | 0.463 | 0.554 | -19.7 | 106 | 0.00 | 7.10 |
| 19 | | 1,1-dichloroethene | 0.768 | 0.796 | -3.6 | 90 | 0.00 | 7.07 |
| 20 | | acetone | 0.122 | 0.123 | -0.8 | 99 | 0.00 | 7.08 |
| 21 | | acetonitrile | | ----------NA---------- | | | | |
| 22 | | iodomethane | 0.969 | 1.203 | -24.1 | 112 | 0.00 | 7.33 |
| 23 | | carbon disulfide | 1.681 | 1.922 | -14.3 | 108 | 0.01 | 7.48 |
| 24 | | methylene chloride | 0.667 | 0.693 | -3.9 | 101 | 0.00 | 7.78 |
| 25 | | methyl acetate | 0.279 | 0.283 | -1.4 | 95 | 0.00 | 7.52 |
| 26 | | methyl tert butyl ether | 1.541 | 1.670 | -8.4 | 101 | 0.00 | 8.15 |
| 27 | | trans-1,2-dichloroethene | 0.761 | 0.787 | -3.4 | 96 | 0.00 | 8.16 |
| 28 | | hexane | 0.672 | 0.776 | -15.5 | 105 | 0.00 | 8.51 |
| 29 | | di-isopropyl ether | 1.918 | 1.958 | -2.1 | 92 | 0.00 | 8.72 |
| 30 | | ethyl tert-butyl ether | 1.745 | 1.852 | -6.1 | 95 | 0.00 | 9.18 |
| 31 | | 2-butanone | 0.040 | 0.043 | -7.5 | 102 | 0.00 | 9.38 |
| 32 | | 1,1-dichloroethane | 0.955 | 1.009 | -5.7 | 97 | 0.00 | 8.73 |
| 33 | | chloroprene | 0.684 | 0.740 | -8.2 | 98 | 0.00 | 8.83 |
| 34 | | acrylonitrile | | ----------NA---------- | | | | |
| 35 | | vinyl acetate | 0.076 | 0.074 | 2.6 | 91 | 0.00 | 8.67 |
| 36 | | ethyl acetate | 0.054 | 0.052 | 3.7 | 88 | 0.01 | 9.39 |
| 37 | | 2,2-dichloropropane | 0.825 | 0.835 | -1.2 | 95 | 0.00 | 9.49 |
| 38 | | cis-1,2-dichloroethene | 0.628 | 0.636 | -1.3 | 97 | 0.00 | 9.45 |
| 39 | | propionitrile | 0.054 | 0.057 | -5.6 | 100 | 0.00 | 9.46 |
| 40 | | bromochloromethane | 0.393 | 0.424 | -7.9 | 100 | 0.00 | 9.74 |
| 41 | | tetrahydrofuran | 0.048 | 0.055 | -14.6 | 110 | 0.00 | 9.77 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICV8014
**Lab FileID:** Y184724.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | 1.015 | 1.015 | 0.0 | 97 | 0.00 | 9.83 |
| 43 | | tert-butyl formate | 0.383 | 0.371 | 3.1 | 90 | 0.00 | 9.86 |
| 44 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 45 | S | dibromofluoromethane (s) | 0.454 | 0.464 | -2.2 | 94 | 0.00 | 10.02 |
| 46 | | methacrylonitrile | 0.145 | 0.152 | -4.8 | 98 | 0.00 | 9.66 |
| 47 | | 1,1,1-trichloroethane | 0.875 | 0.893 | -2.1 | 97 | 0.00 | 10.10 |
| 48 | | cyclohexane | 0.870 | 0.856 | 1.6 | 92 | 0.00 | 10.20 |
| 49 | | 1,1-dichloropropene | 0.619 | 0.661 | -6.8 | 98 | 0.00 | 10.26 |
| 50 | | tert-amyl alcohol | 0.018 | 0.019 | -5.6 | 103 | 0.00 | 10.38 |
| 51 | | carbon tetrachloride | 0.761 | 0.805 | -5.8 | 100 | 0.00 | 10.28 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 93 | 0.00 | 10.91 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.279 | 0.278 | 0.4 | 94 | 0.00 | 10.43 |
| 54 | | 2,2,4-trimethylpentane | 1.371 | 1.508 | -10.0 | 96 | 0.00 | 10.60 |
| 55 | | tert-amyl methyl ether | 1.122 | 1.162 | -3.6 | 95 | 0.00 | 10.59 |
| 56 | | n-butyl alcohol | 0.006 | 0.007 | -16.7 | 103 | 0.00 | 10.95 |
| 57 | | benzene | 1.444 | 1.474 | -2.1 | 98 | 0.00 | 10.50 |
| 58 | | heptane | 0.243 | 0.311 | -28.0 | 117 | 0.00 | 10.75 |
| 59 | | isopropyl acetate | 0.059 | 0.059 | 0.0 | 92 | 0.00 | 10.40 |
| 60 | | 1,2-dichloroethane | 0.464 | 0.456 | 1.7 | 94 | 0.00 | 10.53 |
| 61 | | trichloroethene | 0.375 | 0.401 | -6.9 | 101 | 0.00 | 11.22 |
| 62 | | ethyl acrylate | 0.309 | 0.327 | -5.8 | 101 | 0.00 | 11.19 |
| 63 | | 2-nitropropane | 0.100 | 0.109 | -9.0 | 105 | 0.00 | 11.96 |
| 64 | | 2-chloroethyl vinyl ether | 0.171 | 0.192 | -12.3 | 106 | 0.00 | 11.98 |
| 65 | | methyl methacrylate | 0.068 | 0.073 | -7.4 | 104 | 0.00 | 11.45 |
| 66 | | 1,2-dichloropropane | 0.368 | 0.385 | -4.6 | 97 | 0.00 | 11.50 |
| 67 | | methylcyclohexane | 0.596 | 0.641 | -7.6 | 99 | 0.00 | 11.51 |
| 68 | | dibromomethane | 0.215 | 0.227 | -5.6 | 100 | 0.00 | 11.61 |
| 69 | | bromodichloromethane | 0.514 | 0.530 | -3.1 | 96 | 0.00 | 11.75 |
| 70 | | epichlorohydrin | 0.026 | 0.027 | -3.8 | 102 | 0.00 | 12.07 |
| 71 | | cis-1,3-dichloropropene | 0.559 | 0.612 | -9.5 | 99 | 0.00 | 12.20 |
| 72 | | 4-methyl-2-pentanone | 0.101 | 0.110 | -8.9 | 103 | 0.00 | 12.30 |
| 73 | | 3-methyl-1-butanol | 0.008 | 0.009 | -12.5 | 107 | 0.00 | 12.30 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 13.99 |
| 75 | S | toluene-d8 (s) | 1.265 | 1.237 | 2.2 | 95 | 0.00 | 12.51 |
| 76 | | toluene | 0.963 | 0.947 | 1.7 | 99 | 0.00 | 12.58 |
| 77 | | trans-1,3-dichloropropene | 0.556 | 0.583 | -4.9 | 102 | 0.00 | 12.76 |
| 78 | | ethyl methacrylate | 0.389 | 0.415 | -6.7 | 104 | 0.00 | 12.74 |
| 79 | | 1,1,2-trichloroethane | 0.275 | 0.274 | 0.4 | 102 | 0.00 | 12.98 |
| 80 | | 2-hexanone | 0.103 | 0.112 | -8.7 | 107 | 0.00 | 13.13 |
| 81 | | tetrachloroethene | | ----------NA---------- | | | | |
| 82 | | 1,3-dichloropropane | 0.512 | 0.518 | -1.2 | 102 | 0.00 | 13.15 |
| 83 | | butyl acetate | 0.199 | 0.215 | -8.0 | 107 | 0.00 | 13.20 |
| 84 | | dibromochloromethane | 0.412 | 0.464 | -12.6 | 107 | 0.00 | 13.40 |
| 85 | | 1,2-dibromoethane | 0.433 | 0.446 | -3.0 | 104 | 0.00 | 13.55 |
| 86 | | n-butyl ether | 1.590 | 1.747 | -9.9 | 107 | 0.00 | 13.97 |
| 87 | | chlorobenzene | 1.158 | 1.163 | -0.4 | 104 | 0.00 | 14.02 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.457 | 0.481 | -5.3 | 103 | 0.00 | 14.08 |
| 89 | | ethylbenzene | 1.809 | 1.827 | -1.0 | 101 | 0.00 | 14.07 |
| 90 | | m,p-xylene | 0.705 | 0.710 | -0.7 | 102 | 0.00 | 14.20 |
| 91 | | o-xylene | 1.516 | 1.570 | -3.6 | 101 | 0.00 | 14.59 |
| 92 | | styrene | 1.199 | 1.265 | -5.5 | 102 | 0.00 | 14.60 |
| 93 | | bromoform | 0.280 | 0.309 | -10.4 | 109 | 0.00 | 14.83 |
| 94 | | butyl acrylate | 0.656 | 0.698 | -6.4 | 106 | 0.00 | 14.41 |
| 95 | | isopropylbenzene | 1.822 | 1.891 | -3.8 | 102 | 0.00 | 14.93 |
| 96 | | cis-1,4-dichloro-2-butene | 0.146 | 0.154 | -5.5 | 103 | 0.00 | 14.97 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 16.29 |
| 98 | S | 4-bromofluorobenzene (s) | 0.829 | 0.787 | 5.1 | 97 | 0.00 | 15.13 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICV8014
**Lab FileID:** Y184724.D

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 99 | bromobenzene | 0.998 | 0.948 | 5.0 | 102 | 0.00 | 15.31 |
| 100 | 1,1,2,2-tetrachloroethane | 0.765 | 0.739 | 3.4 | 105 | 0.00 | 15.21 |
| 101 | trans-1,4-dichloro-2-bute | 0.170 | 0.194 | -14.1 | 118 | 0.00 | 15.24 |
| 102 | 1,2,3-trichloropropane | 0.194 | 0.192 | 1.0 | 105 | 0.00 | 15.29 |
| 103 | n-propylbenzene | 3.859 | 3.758 | 2.6 | 104 | 0.00 | 15.35 |
| 104 | 2-chlorotoluene | 0.879 | 0.835 | 5.0 | 100 | 0.00 | 15.48 |
| 105 | 4-chlorotoluene | 2.450 | 2.397 | 2.2 | 104 | 0.00 | 15.59 |
| 106 | 1,3,5-trimethylbenzene | 2.840 | 2.761 | 2.8 | 101 | 0.00 | 15.50 |
| 107 | tert-butylbenzene | 0.502 | 0.517 | -3.0 | 101 | 0.00 | 15.84 |
| 108 | 1,2,4-trimethylbenzene | 2.925 | 2.983 | -2.0 | 105 | 0.00 | 15.88 |
| 109 | sec-butylbenzene | 3.543 | 3.572 | -0.8 | 104 | 0.00 | 16.05 |
| 110 | 1,3-dichlorobenzene | 1.846 | 1.857 | -0.6 | 107 | 0.00 | 16.22 |
| 111 | p-isopropyltoluene | 3.120 | 3.207 | -2.8 | 105 | 0.00 | 16.18 |
| 112 | 1,4-dichlorobenzene | 1.901 | 1.868 | 1.7 | 108 | 0.00 | 16.31 |
| 113 | 1,2-dichlorobenzene | 1.891 | 1.851 | 2.1 | 106 | 0.00 | 16.68 |
| 114 | n-butylbenzene | 1.627 | 1.658 | -1.9 | 105 | 0.00 | 16.59 |
| 115 | 1,2-dibromo-3-chloropropa | 0.178 | 0.183 | -2.8 | 111 | 0.00 | 17.45 |
| 116 | 1,3,5-trichlorobenzene | 1.787 | 1.871 | -4.7 | 108 | 0.00 | 17.64 |
| 117 | 1,2,4-trichlorobenzene | 1.508 | 1.590 | -5.4 | 108 | 0.00 | 18.29 |
| 118 | hexachlorobutadiene | 0.926 | 0.902 | 2.6 | 104 | 0.00 | 18.41 |
| 119 | naphthalene | 2.338 | 2.710 | -15.9 | 112 | 0.00 | 18.59 |
| 120 | 1,2,3-trichlorobenzene | 1.306 | 1.443 | -10.5 | 110 | 0.00 | 18.83 |
| 121 | hexachloroethane | 0.555 | 0.582 | -4.9 | 104 | 0.00 | 16.98 |
| 122 | benzyl chloride | 1.390 | 1.768 | -27.2 | 136 | 0.00 | 16.41 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 123 | 2-ethylhexyl acrylate | 10.000 | 9.866 | 1.3 | 117 | 0.00 | 18.30 |
| | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 124 | 2-methylnaphthalene | 1.174 | 1.293 | -10.1 | 119 | 0.00 | 19.84 |
| 125 | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 126 | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y184719.D MYS8014.M Thu Apr 25 12:25:26 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICV8014
**Lab FileID:** Y184725.D

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\VY8014\Y184725.D Vial: 15
Acq On : 24 Apr 2019 8:55 pm Operator: ROBERTS
Sample : ICV8014-50 Inst : MSY
Misc : MS34134,VY8014,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8014.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 25 07:35:51 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 108 | 0.00 | 7.74 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | | ----------NA---------- | | | | |
| 4 | | 1,4-dioxane | | ----------NA---------- | | | | |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 9.97 |
| 6 | | chlorodifluoromethane | | ----------NA---------- | | | | |
| 7 | | dichlorodifluoromethane | | ----------NA---------- | | | | |
| 8 | | chloromethane | | ----------NA---------- | | | | |
| 9 | | vinyl chloride | | ----------NA---------- | | | | |
| 10 | | 1,3-butadiene | | ----------NA---------- | | | | |
| 11 | | bromomethane | | ----------NA---------- | | | | |
| 12 | | chloroethane | | ----------NA---------- | | | | |
| 13 | | vinyl bromide | | ----------NA---------- | | | | |
| 14 | | trichlorofluoromethane | | ----------NA---------- | | | | |
| 15 | | ethyl ether | | ----------NA---------- | | | | |
| 16 | | 2-chloropropane | | ----------NA---------- | | | | |
| 17 | | acrolein | | ----------NA---------- | | | | |
| 18 | | freon 113 | | ----------NA---------- | | | | |
| 19 | | 1,1-dichloroethene | | ----------NA---------- | | | | |
| 20 | | acetone | | ----------NA---------- | | | | |
| 21 | | acetonitrile | 0.060 | 0.054 | 10.0 | 98 | 0.00 | 7.50 |
| 22 | | iodomethane | | ----------NA---------- | | | | |
| 23 | | carbon disulfide | | ----------NA---------- | | | | |
| 24 | | methylene chloride | | ----------NA---------- | | | | |
| 25 | | methyl acetate | | ----------NA---------- | | | | |
| 26 | | methyl tert butyl ether | | ----------NA---------- | | | | |
| 27 | | trans-1,2-dichloroethene | | ----------NA---------- | | | | |
| 28 | | hexane | | ----------NA---------- | | | | |
| 29 | | di-isopropyl ether | | ----------NA---------- | | | | |
| 30 | | ethyl tert-butyl ether | | ----------NA---------- | | | | |
| 31 | | 2-butanone | | ----------NA---------- | | | | |
| 32 | | 1,1-dichloroethane | | ----------NA---------- | | | | |
| 33 | | chloroprene | | ----------NA---------- | | | | |
| 34 | | acrylonitrile | 0.153 | 0.127 | 17.0 | 87 | 0.00 | 8.07 |
| 35 | | vinyl acetate | | ----------NA---------- | | | | |
| 36 | | ethyl acetate | | ----------NA---------- | | | | |
| 37 | | 2,2-dichloropropane | | ----------NA---------- | | | | |
| 38 | | cis-1,2-dichloroethene | | ----------NA---------- | | | | |
| 39 | | propionitrile | | ----------NA---------- | | | | |
| 40 | | bromochloromethane | | ----------NA---------- | | | | |
| 41 | | tetrahydrofuran | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICV8014
**Lab FileID:** Y184725.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | | ----------NA---------- | | | | | |
| 43 | | tert-butyl formate | | ----------NA---------- | | | | | |
| 44 | | isobutyl alcohol | | ----------NA---------- | | | | | |
| 45 | S | dibromofluoromethane (s) | 0.454 | 0.458 | -0.9 | 104 | 0.00 | 10.01 | |
| 46 | | methacrylonitrile | | ----------NA---------- | | | | | |
| 47 | | 1,1,1-trichloroethane | | ----------NA---------- | | | | | |
| 48 | | cyclohexane | | ----------NA---------- | | | | | |
| 49 | | 1,1-dichloropropene | | ----------NA---------- | | | | | |
| 50 | | tert-amyl alcohol | | ----------NA---------- | | | | | |
| 51 | | carbon tetrachloride | | ----------NA---------- | | | | | |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 10.91 | |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.279 | 0.283 | -1.4 | 106 | 0.00 | 10.43 | |
| 54 | | 2,2,4-trimethylpentane | | ----------NA---------- | | | | | |
| 55 | | tert-amyl methyl ether | | ----------NA---------- | | | | | |
| 56 | | n-butyl alcohol | | ----------NA---------- | | | | | |
| 57 | | benzene | | ----------NA---------- | | | | | |
| 58 | | heptane | | ----------NA---------- | | | | | |
| 59 | | isopropyl acetate | | ----------NA---------- | | | | | |
| 60 | | 1,2-dichloroethane | | ----------NA---------- | | | | | |
| 61 | | trichloroethene | | ----------NA---------- | | | | | |
| 62 | | ethyl acrylate | | ----------NA---------- | | | | | |
| 63 | | 2-nitropropane | | ----------NA---------- | | | | | |
| 64 | | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | | |
| 65 | | methyl methacrylate | | ----------NA---------- | | | | | |
| 66 | | 1,2-dichloropropane | | ----------NA---------- | | | | | |
| 67 | | methylcyclohexane | | ----------NA---------- | | | | | |
| 68 | | dibromomethane | | ----------NA---------- | | | | | |
| 69 | | bromodichloromethane | | ----------NA---------- | | | | | |
| 70 | | epichlorohydrin | | ----------NA---------- | | | | | |
| 71 | | cis-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 72 | | 4-methyl-2-pentanone | | ----------NA---------- | | | | | |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 112 | 0.00 | 13.99 | |
| 75 | S | toluene-d8 (s) | 1.265 | 1.242 | 1.8 | 106 | 0.00 | 12.51 | |
| 76 | | toluene | | ----------NA---------- | | | | | |
| 77 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | | |
| 78 | | ethyl methacrylate | | ----------NA---------- | | | | | |
| 79 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | | |
| 80 | | 2-hexanone | | ----------NA---------- | | | | | |
| 81 | | tetrachloroethene | 0.437 | 0.402 | 8.0 | 103 | 0.00 | 13.12 | |
| 82 | | 1,3-dichloropropane | | ----------NA---------- | | | | | |
| 83 | | butyl acetate | | ----------NA---------- | | | | | |
| 84 | | dibromochloromethane | | ----------NA---------- | | | | | |
| 85 | | 1,2-dibromoethane | | ----------NA---------- | | | | | |
| 86 | | n-butyl ether | | ----------NA---------- | | | | | |
| 87 | | chlorobenzene | | ----------NA---------- | | | | | |
| 88 | | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | | |
| 89 | | ethylbenzene | | ----------NA---------- | | | | | |
| 90 | | m,p-xylene | | ----------NA---------- | | | | | |
| 91 | | o-xylene | | ----------NA---------- | | | | | |
| 92 | | styrene | | ----------NA---------- | | | | | |
| 93 | | bromoform | | ----------NA---------- | | | | | |
| 94 | | butyl acrylate | | ----------NA---------- | | | | | |
| 95 | | isopropylbenzene | | ----------NA---------- | | | | | |
| 96 | | cis-1,4-dichloro-2-butene | | ----------NA---------- | | | | | |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 110 | 0.00 | 16.29 | |
| 98 | S | 4-bromofluorobenzene (s) | 0.829 | 0.826 | 0.4 | 107 | 0.00 | 15.13 | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8014-ICV8014
**Lab FileID:** Y184725.D

| | | | |
|---|---|---|---|
| 99 | bromobenzene | ----------NA---------- | |
| 100 | 1,1,2,2-tetrachloroethane | ----------NA---------- | |
| 101 | trans-1,4-dichloro-2-bute | ----------NA---------- | |
| 102 | 1,2,3-trichloropropane | ----------NA---------- | |
| 103 | n-propylbenzene | ----------NA---------- | |
| 104 | 2-chlorotoluene | ----------NA---------- | |
| 105 | 4-chlorotoluene | ----------NA---------- | |
| 106 | 1,3,5-trimethylbenzene | ----------NA---------- | |
| 107 | tert-butylbenzene | ----------NA---------- | |
| 108 | 1,2,4-trimethylbenzene | ----------NA---------- | |
| 109 | sec-butylbenzene | ----------NA---------- | |
| 110 | 1,3-dichlorobenzene | ----------NA---------- | |
| 111 | p-isopropyltoluene | ----------NA---------- | |
| 112 | 1,4-dichlorobenzene | ----------NA---------- | |
| 113 | 1,2-dichlorobenzene | ----------NA---------- | |
| 114 | n-butylbenzene | ----------NA---------- | |
| 115 | 1,2-dibromo-3-chloropropa | ----------NA---------- | |
| 116 | 1,3,5-trichlorobenzene | ----------NA---------- | |
| 117 | 1,2,4-trichlorobenzene | ----------NA---------- | |
| 118 | hexachlorobutadiene | ----------NA---------- | |
| 119 | naphthalene | ----------NA---------- | |
| 120 | 1,2,3-trichlorobenzene | ----------NA---------- | |
| 121 | hexachloroethane | ----------NA---------- | |
| 122 | benzyl chloride | ----------NA---------- | |
| | ---------- True | Calc. | % Drift ---------- |
| 123 | 2-ethylhexyl acrylate | ----------NA---------- | |
| | ---------- AvgRF | CCRF | % Dev ---------- |
| 124 | 2-methylnaphthalene | ----------NA---------- | |
| 125 | bis(chloromethyl)ether | ----------NA---------- | |
| 126 | ethylenimine | ----------NA---------- | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y184719.D MYS8014.M Thu Apr 25 12:25:26 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VY8033-CC8014
**Lab FileID:** Y185114.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ja...4-19\vy8033\y185114.d Vial: 1
Acq On : 11 May 2019 10:31 am Operator: PrashanS
Sample : CC8014-50 Inst : MSY
Misc : MS34413,VY8033,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8014.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Mon Sep 13 11:48:20 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 97 | -0.01 | 7.73 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.558 | 1.566 | -0.5 | 94 | 0.01 | 7.85 |
| 4 | | 1,4-dioxane | 0.154 | 0.166 | -7.8 | 99 | 0.00 | 11.54 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 9.97 |
| 6 | | chlorodifluoromethane | 0.788 | 0.643 | 18.4 | 91 | 0.00 | 4.38 |
| 7 | | dichlorodifluoromethane | 0.990 | 0.723 | 27.0# | 79 | 0.00 | 4.35 |
| 8 | | chloromethane | 1.042 | 0.763 | 26.8# | 87 | 0.00 | 4.74 |
| 9 | | vinyl chloride | 0.857 | 0.684 | 20.2# | 90 | 0.00 | 5.00 |
| 10 | | 1,3-butadiene | 0.531 | 0.462 | 13.0 | 97 | 0.00 | 5.03 |
| 11 | | bromomethane | 0.726 | 0.641 | 11.7 | 104 | 0.00 | 5.63 |
| 12 | | chloroethane | 0.464 | 0.474 | -2.2 | 114 | 0.00 | 5.81 |
| 13 | | vinyl bromide | 0.402 | 0.661 | -64.4# | 175 | 0.00 | 6.15 |
| 14 | | trichlorofluoromethane | 0.988 | 0.998 | -1.0 | 116 | 0.00 | 6.27 |
| 15 | | ethyl ether | 0.242 | 0.236 | 2.5 | 98 | 0.00 | 6.63 |
| 16 | | 2-chloropropane | 0.214 | 0.220 | -2.8 | 109 | 0.00 | 6.86 |
| 17 | | acrolein | 0.067 | 0.066 | 1.5 | 105 | -0.01 | 6.87 |
| 18 | | freon 113 | 0.463 | 0.535 | -15.6 | 120 | 0.00 | 7.10 |
| 19 | | 1,1-dichloroethene | 0.768 | 0.803 | -4.6 | 106 | 0.00 | 7.07 |
| 20 | | acetone | 0.122 | 0.103 | 15.6 | 97 | -0.01 | 7.07 |
| 21 | | acetonitrile | 0.060 | 0.051 | 15.0 | 96 | 0.00 | 7.51 |
| 22 | | iodomethane | 0.969 | 0.992 | -2.4 | 108 | 0.00 | 7.32 |
| 23 | | carbon disulfide | 1.681 | 1.756 | -4.5 | 116 | 0.00 | 7.47 |
| 24 | | methylene chloride | 0.667 | 0.615 | 7.8 | 105 | 0.00 | 7.77 |
| 25 | | methyl acetate | 0.283 | 0.249 | 12.0 | 98 | 0.00 | 7.52 |
| 26 | | methyl tert butyl ether | 1.541 | 1.361 | 11.7 | 97 | 0.00 | 8.14 |
| 27 | | trans-1,2-dichloroethene | 0.761 | 0.725 | 4.7 | 104 | 0.00 | 8.16 |
| 28 | | hexane | 0.672 | 0.710 | -5.7 | 112 | 0.00 | 8.50 |
| 29 | | di-isopropyl ether | 1.918 | 1.710 | 10.8 | 94 | 0.00 | 8.72 |
| 30 | | ethyl tert-butyl ether | 1.745 | 1.580 | 9.5 | 95 | 0.00 | 9.18 |
| 31 | | 2-butanone | 0.040 | 0.038 | 5.0 | 106 | 0.00 | 9.37 |
| 32 | | 1,1-dichloroethane | 0.955 | 0.908 | 4.9 | 103 | 0.00 | 8.73 |
| 33 | | chloroprene | 0.684 | 0.650 | 5.0 | 101 | 0.00 | 8.83 |
| 34 | | acrylonitrile | 0.153 | 0.131 | 14.4 | 94 | 0.00 | 8.06 |
| 35 | | vinyl acetate | 0.076 | 0.072 | 5.3 | 103 | 0.00 | 8.66 |
| 36 | | ethyl acetate | 0.054 | 0.045 | 16.7 | 90 | 0.00 | 9.39 |
| 37 | | 2,2-dichloropropane | 0.825 | 0.802 | 2.8 | 108 | 0.00 | 9.49 |
| 38 | | cis-1,2-dichloroethene | 0.628 | 0.589 | 6.2 | 105 | 0.00 | 9.45 |
| 39 | | propionitrile | 0.054 | 0.048 | 11.1 | 98 | 0.00 | 9.46 |
| 40 | | bromochloromethane | 0.393 | 0.381 | 3.1 | 105 | 0.00 | 9.74 |
| 41 | | tetrahydrofuran | 0.048 | 0.045 | 6.3 | 106 | 0.00 | 9.76 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** VY8033-CC8014
**Account:** BBLNYS Arcadis **Lab FileID:** Y185114.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | | chloroform | 1.015 | 0.898 | 11.5 | 101 | 0.00 | 9.82 |
| 43 | | tert-butyl formate | 0.383 | 0.329 | 14.1 | 93 | 0.00 | 9.86 |
| 44 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 45 | S | dibromofluoromethane (s) | 0.454 | 0.447 | 1.5 | 107 | 0.00 | 10.02 |
| 46 | | methacrylonitrile | 0.145 | 0.130 | 10.3 | 99 | 0.00 | 9.65 |
| 47 | | 1,1,1-trichloroethane | 0.875 | 0.846 | 3.3 | 107 | 0.00 | 10.09 |
| 48 | | cyclohexane | 0.870 | 0.803 | 7.7 | 101 | 0.00 | 10.20 |
| 49 | | 1,1-dichloropropene | 0.619 | 0.633 | -2.3 | 110 | 0.00 | 10.25 |
| 50 | | tert-amyl alcohol | 0.018 | 0.015 | 16.7 | 96 | 0.00 | 10.37 |
| 51 | | carbon tetrachloride | 0.761 | 0.762 | -0.1 | 111 | 0.00 | 10.29 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 10.91 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.279 | 0.256 | 8.2 | 98 | 0.00 | 10.43 |
| 54 | | 2,2,4-trimethylpentane | 1.371 | 1.515 | -10.5 | 108 | 0.00 | 10.60 |
| 55 | | tert-amyl methyl ether | 1.122 | 1.034 | 7.8 | 95 | 0.00 | 10.58 |
| 56 | | n-butyl alcohol | 0.006 | 0.006 | 0.0 | 94 | 0.00 | 10.95 |
| 57 | | benzene | 1.444 | 1.408 | 2.5 | 105 | 0.00 | 10.50 |
| 58 | | heptane | 0.246 | 0.263 | -6.9 | 111 | 0.00 | 10.75 |
| 59 | | isopropyl acetate | 0.059 | 0.055 | 6.8 | 96 | 0.00 | 10.40 |
| 60 | | 1,2-dichloroethane | 0.464 | 0.393 | 15.3 | 91 | 0.00 | 10.53 |
| 61 | | trichloroethene | 0.375 | 0.400 | -6.7 | 113 | 0.00 | 11.21 |
| 62 | | ethyl acrylate | 0.309 | 0.265 | 14.2 | 92 | 0.00 | 11.19 |
| 63 | | 2-nitropropane | 0.100 | 0.077 | 23.0# | 83 | 0.00 | 11.96 |
| 64 | | 2-chloroethyl vinyl ether | 0.171 | 0.161 | 5.8 | 99 | 0.00 | 11.98 |
| 65 | | methyl methacrylate | 0.068 | 0.062 | 8.8 | 98 | 0.00 | 11.45 |
| 66 | | 1,2-dichloropropane | 0.368 | 0.362 | 1.6 | 102 | 0.00 | 11.50 |
| 67 | | methylcyclohexane | 0.596 | 0.686 | -15.1 | 119 | 0.00 | 11.51 |
| 68 | | dibromomethane | 0.215 | 0.204 | 5.1 | 101 | 0.00 | 11.61 |
| 69 | | bromodichloromethane | 0.514 | 0.477 | 7.2 | 97 | 0.00 | 11.75 |
| 70 | | epichlorohydrin | 0.026 | 0.023 | 11.5 | 96 | 0.00 | 12.07 |
| 71 | | cis-1,3-dichloropropene | 0.559 | 0.538 | 3.8 | 98 | 0.00 | 12.20 |
| 72 | | 4-methyl-2-pentanone | 0.101 | 0.094 | 6.9 | 99 | 0.00 | 12.30 |
| 73 | | 3-methyl-1-butanol | 0.008 | 0.007 | 12.5 | 102 | 0.00 | 12.29 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 13.99 |
| 75 | S | toluene-d8 (s) | 1.265 | 1.270 | -0.4 | 103 | 0.00 | 12.51 |
| 76 | | toluene | 0.963 | 0.957 | 0.6 | 106 | 0.00 | 12.58 |
| 77 | | trans-1,3-dichloropropene | 0.556 | 0.525 | 5.6 | 97 | 0.00 | 12.76 |
| 78 | | ethyl methacrylate | 0.389 | 0.361 | 7.2 | 96 | 0.00 | 12.74 |
| 79 | | 1,1,2-trichloroethane | 0.275 | 0.260 | 5.5 | 103 | 0.00 | 12.97 |
| 80 | | 2-hexanone | 0.103 | 0.097 | 5.8 | 99 | 0.00 | 13.13 |
| 81 | | tetrachloroethene | 0.437 | 0.477 | -9.2 | 116 | 0.00 | 13.12 |
| 82 | | 1,3-dichloropropane | 0.512 | 0.479 | 6.4 | 100 | 0.00 | 13.15 |
| 83 | | butyl acetate | 0.199 | 0.179 | 10.1 | 95 | 0.00 | 13.20 |
| 84 | | dibromochloromethane | 0.412 | 0.414 | -0.5 | 101 | 0.00 | 13.39 |
| 85 | | 1,2-dibromoethane | 0.433 | 0.351 | 18.9 | 87 | 0.00 | 13.55 |
| 86 | | n-butyl ether | 1.590 | 1.538 | 3.3 | 100 | 0.00 | 13.97 |
| 87 | | chlorobenzene | 1.158 | 1.104 | 4.7 | 105 | 0.00 | 14.02 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.457 | 0.458 | -0.2 | 104 | 0.00 | 14.08 |
| 89 | | ethylbenzene | 1.809 | 1.785 | 1.3 | 105 | 0.00 | 14.07 |
| 90 | | m,p-xylene | 0.705 | 0.711 | -0.9 | 108 | 0.00 | 14.20 |
| 91 | | o-xylene | 1.516 | 1.493 | 1.5 | 102 | 0.00 | 14.59 |
| 92 | | styrene | 1.199 | 1.221 | -1.8 | 104 | 0.00 | 14.60 |
| 93 | | bromoform | 0.280 | 0.286 | -2.1 | 107 | 0.00 | 14.83 |
| 94 | | butyl acrylate | 0.656 | 0.589 | 10.2 | 94 | 0.00 | 14.41 |
| 95 | | isopropylbenzene | 1.822 | 1.899 | -4.2 | 108 | 0.00 | 14.93 |
| 96 | | cis-1,4-dichloro-2-butene | 0.146 | 0.135 | 7.5 | 96 | 0.00 | 14.97 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 16.29 |
| 98 | S | 4-bromofluorobenzene (s) | 0.829 | 0.807 | 2.7 | 97 | 0.00 | 15.13 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** VY8033-CC8014
**Account:** BBLNYS Arcadis **Lab FileID:** Y185114.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 99 | bromobenzene | 0.998 | 1.012 | -1.4 | 106 | 0.00 | 15.31 |
| 100 | 1,1,2,2-tetrachloroethane | 0.765 | 0.739 | 3.4 | 103 | 0.00 | 15.20 |
| 101 | trans-1,4-dichloro-2-bute | 0.170 | 0.157 | 7.6 | 93 | 0.00 | 15.24 |
| 102 | 1,2,3-trichloropropane | 0.194 | 0.190 | 2.1 | 101 | 0.00 | 15.29 |
| 103 | n-propylbenzene | 3.859 | 4.006 | -3.8 | 108 | 0.00 | 15.35 |
| 104 | 2-chlorotoluene | 0.879 | 0.918 | -4.4 | 108 | 0.00 | 15.48 |
| 105 | 4-chlorotoluene | 2.450 | 2.383 | 2.7 | 101 | 0.00 | 15.59 |
| 106 | 1,3,5-trimethylbenzene | 2.840 | 2.905 | -2.3 | 104 | 0.00 | 15.50 |
| 107 | tert-butylbenzene | 0.502 | 0.546 | -8.8 | 104 | 0.00 | 15.84 |
| 108 | 1,2,4-trimethylbenzene | 2.925 | 2.869 | 1.9 | 99 | 0.00 | 15.88 |
| 109 | sec-butylbenzene | 3.543 | 3.660 | -3.3 | 104 | 0.00 | 16.05 |
| 110 | 1,3-dichlorobenzene | 1.846 | 1.862 | -0.9 | 105 | 0.00 | 16.22 |
| 111 | p-isopropyltoluene | 3.120 | 3.203 | -2.7 | 102 | 0.00 | 16.18 |
| 112 | 1,4-dichlorobenzene | 1.901 | 1.858 | 2.3 | 105 | 0.00 | 16.31 |
| 113 | 1,2-dichlorobenzene | 1.891 | 1.825 | 3.5 | 102 | 0.00 | 16.68 |
| 114 | n-butylbenzene | 1.627 | 1.713 | -5.3 | 106 | 0.00 | 16.59 |
| 115 | 1,2-dibromo-3-chloropropa | 0.178 | 0.175 | 1.7 | 103 | 0.00 | 17.45 |
| 116 | 1,3,5-trichlorobenzene | 1.787 | 1.901 | -6.4 | 107 | 0.00 | 17.64 |
| 117 | 1,2,4-trichlorobenzene | 1.508 | 1.619 | -7.4 | 107 | 0.00 | 18.29 |
| 118 | hexachlorobutadiene | 0.926 | 0.968 | -4.5 | 109 | 0.00 | 18.41 |
| 119 | naphthalene | 2.338 | 2.543 | -8.8 | 103 | 0.00 | 18.59 |
| 120 | 1,2,3-trichlorobenzene | 1.306 | 1.473 | -12.8 | 109 | 0.00 | 18.83 |
| 121 | hexachloroethane | 0.555 | 0.630 | -13.5 | 110 | 0.00 | 16.98 |
| 122 | benzyl chloride | 1.390 | 1.394 | -0.3 | 104 | 0.00 | 16.41 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 123 | 2-ethylhexyl acrylate | 10.000 | 8.541 | 14.6 | 97 | 0.00 | 18.30 |
| | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 124 | 2-methylnaphthalene | 1.174 | 1.149 | 2.1 | 103 | 0.00 | 19.84 |
| 125 | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 126 | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y184719.D MYS8014.M Mon May 13 23:07:22 2019

## MS Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
05/14/19 14:11

Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-14-2019\janellec\vy8033\
Data File : y185120.d
Acq On : 11 May 2019 1:43 pm
Operator : PrashanS
Sample : JC87535-1 Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 14 12:46:43 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

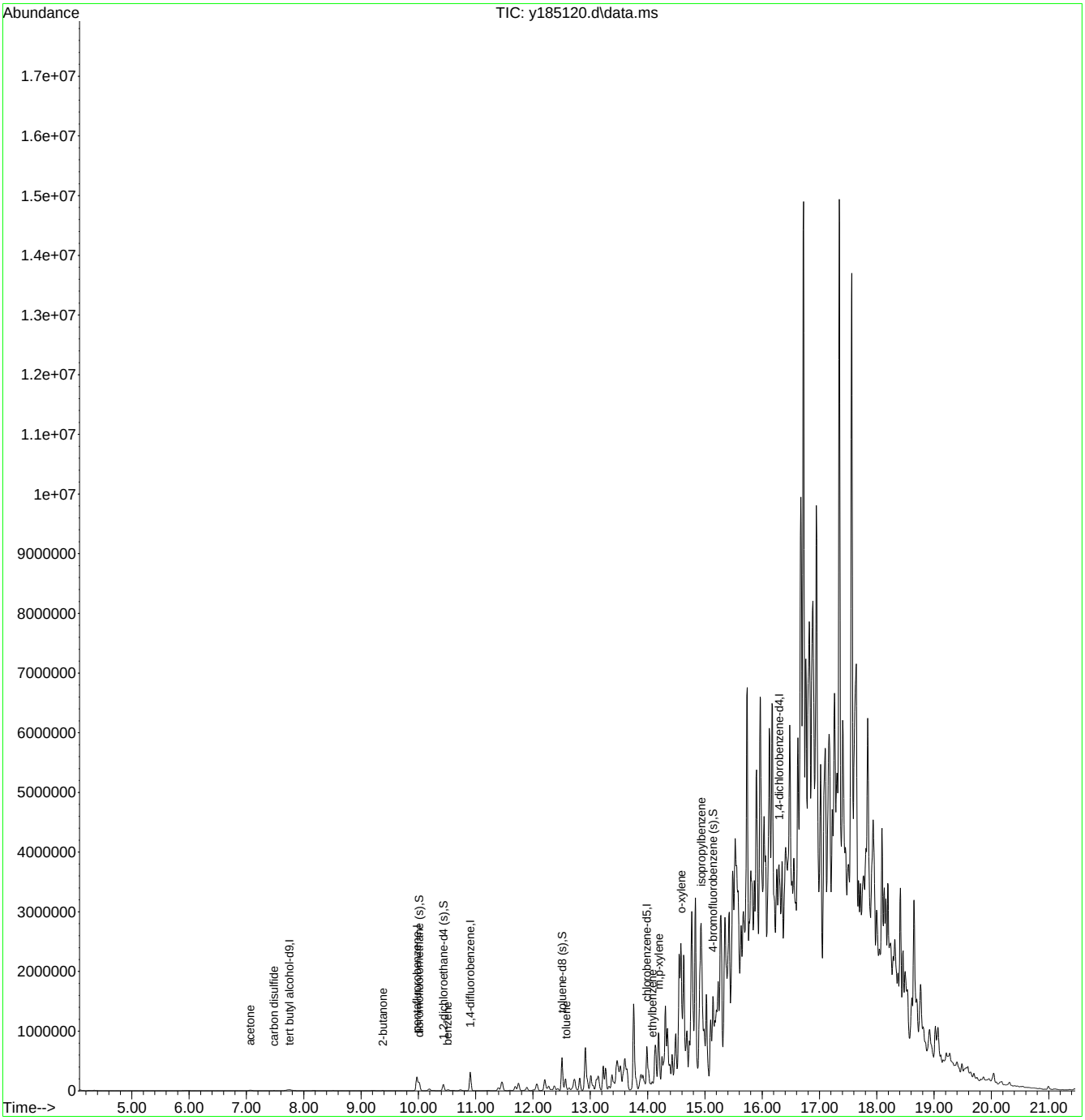
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.746 | 65 | 57636 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.974 | 168 | 202858 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 286461 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 252869 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.292 | 152 | 199750 | 50.00 | ug/L | # | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 45) dibromofluoromethane (s) | 10.011 | 113 | 92712 | 50.38 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.76% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 74428 | 46.51 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 93.02% | | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 330765 | 51.69 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 103.38% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.142 | 95 | 193476 | 58.41 | ug/L | | 0.01 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 116.82% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 20) acetone | 7.066 | 43 | 23968 | 48.23 | ug/L | | 94 |
| 23) carbon disulfide | 7.479 | 76 | 8872 | 1.30 | ug/L | | 91 |
| 31) 2-butanone | 9.378 | 72 | 1293 | 7.91 | ug/L | # | 45 |
| 57) benzene | 10.508 | 78 | 6293 | 0.76 | ug/L | | 92 |
| 76) toluene | 12.579 | 92 | 1431 | 0.29 | ug/L | # | 82 |
| 89) ethylbenzene | 14.080 | 91 | 4533 | 0.50 | ug/L | | 87 |
| 90) m,p-xylene | 14.195 | 106 | 1483 | 0.42 | ug/L | # | 5 |
| 91) o-xylene | 14.587 | 91 | 9498m | 1.24 | ug/L | | |
| 95) isopropylbenzene | 14.938 | 105 | 14834 | 1.61 | ug/L | # | 1 |

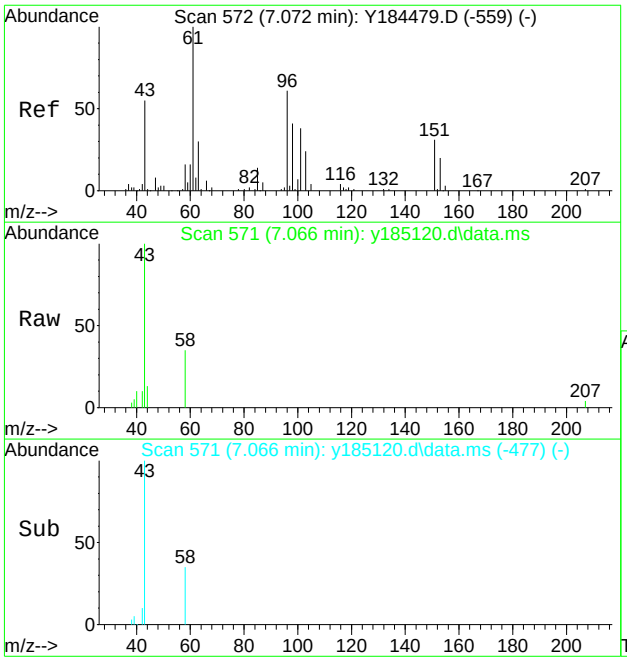
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-14-2019\janellec\vy8033\
Data File : y185120.d
Acq On : 11 May 2019 1:43 pm
Operator : PrashanS
Sample : JC87535-1 Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 14 12:46:43 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

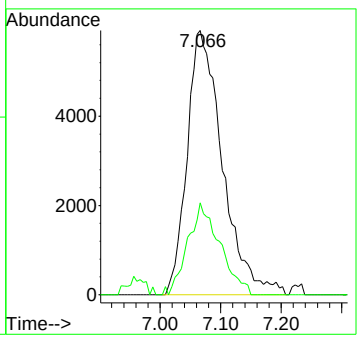


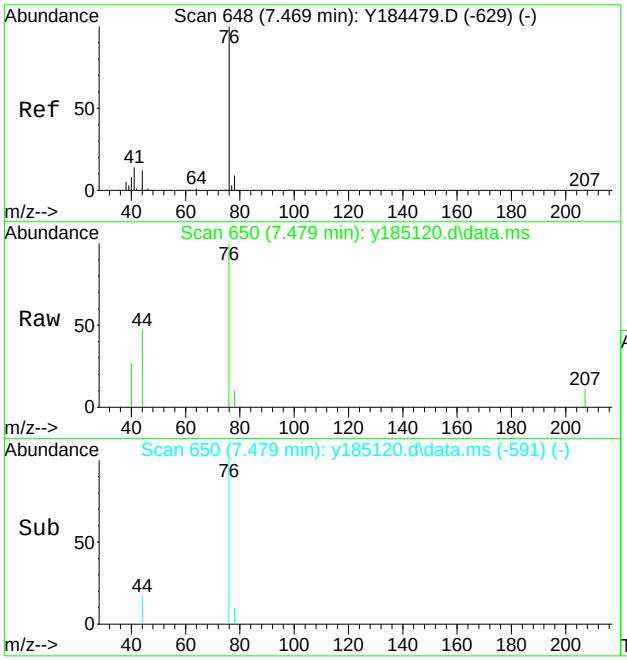



#20
acetone
Concen: 48.23 ug/L
RT: 7.066 min Scan# 571
Delta R.T. -0.011 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 43 Resp: 23968

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 34.8 | 1.4 | 61.4 |

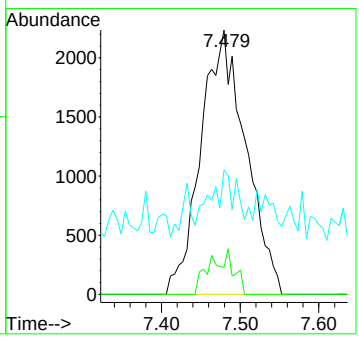


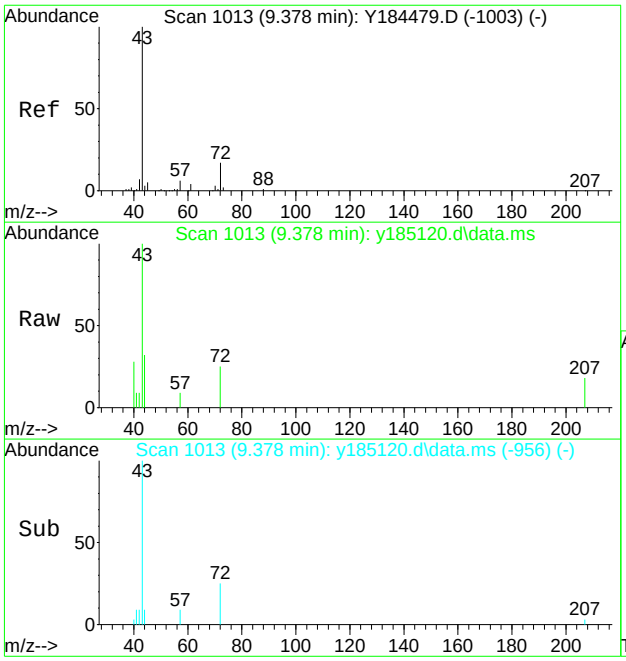




#23
carbon disulfide
Concen: 1.30 ug/L
RT: 7.479 min Scan# 650
Delta R.T. 0.010 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 76 Resp: 8872

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 10.3 | 0.0 | 38.7 |
| 44 | 17.5 | 0.0 | 42.6 |

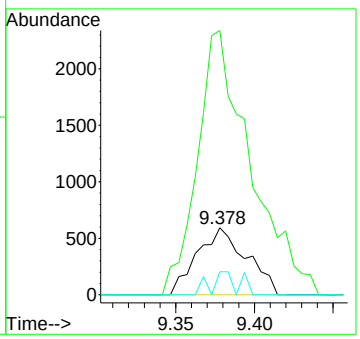


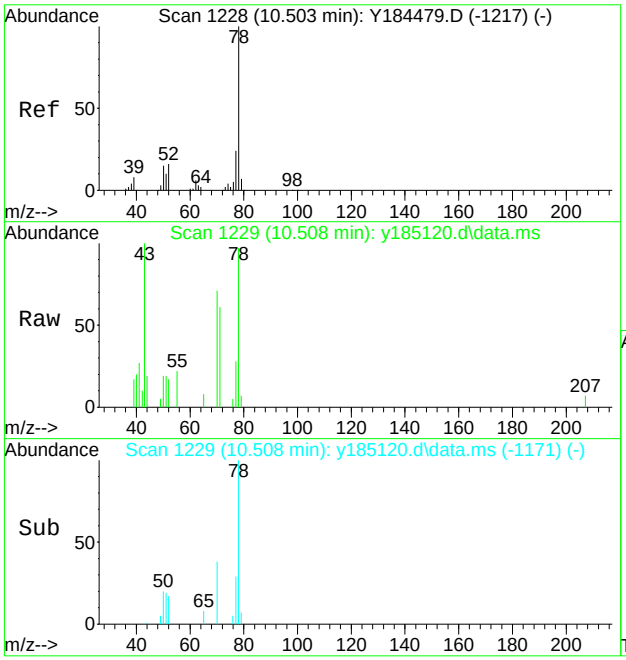



#31
2-butanone
Concen: 7.91 ug/L
RT: 9.378 min Scan# 1013
Delta R.T. -0.000 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 72 Resp: 1293

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 393.9 | 537.8 | 597.8# |
| 57 | 34.3 | 1.1 | 61.1 |

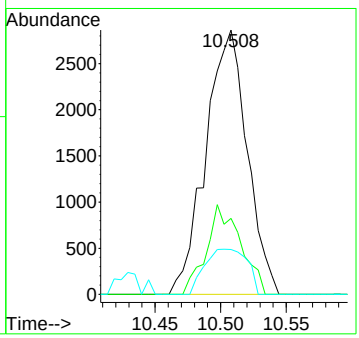


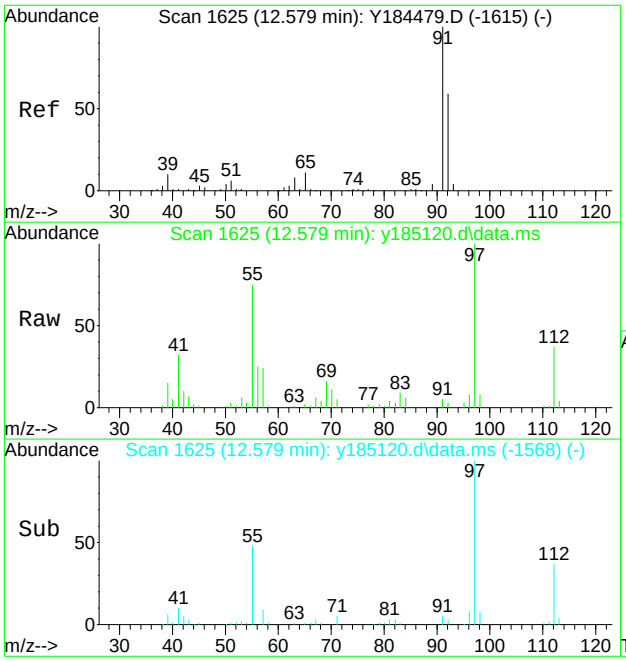




#57
benzene
Concen: 0.76 ug/L
RT: 10.508 min Scan# 1229
Delta R.T. 0.005 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 78 Resp: 6293

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 28.7 | 0.0 | 53.1 |
| 52 | 17.0 | 0.0 | 45.8 |

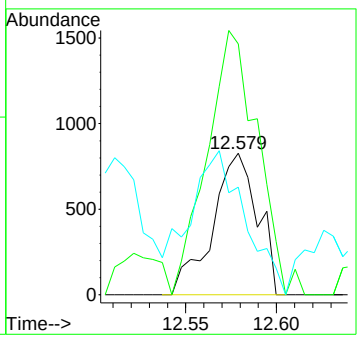


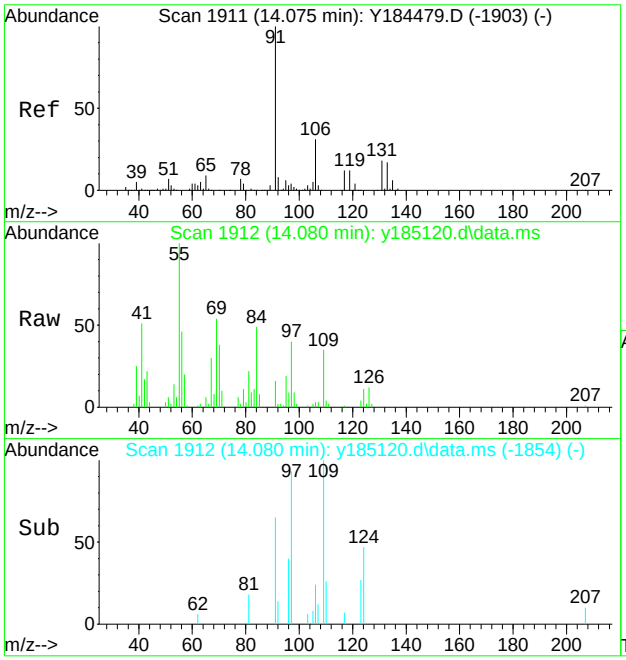



#76
toluene
Concen: 0.29 ug/L
RT: 12.579 min Scan# 1625
Delta R.T. -0.000 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 92 Resp: 1431

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 177.3 | 148.7 | 188.7 |
| 65 | 76.2 | 0.0 | 38.2# |

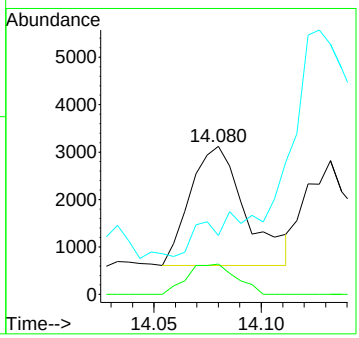


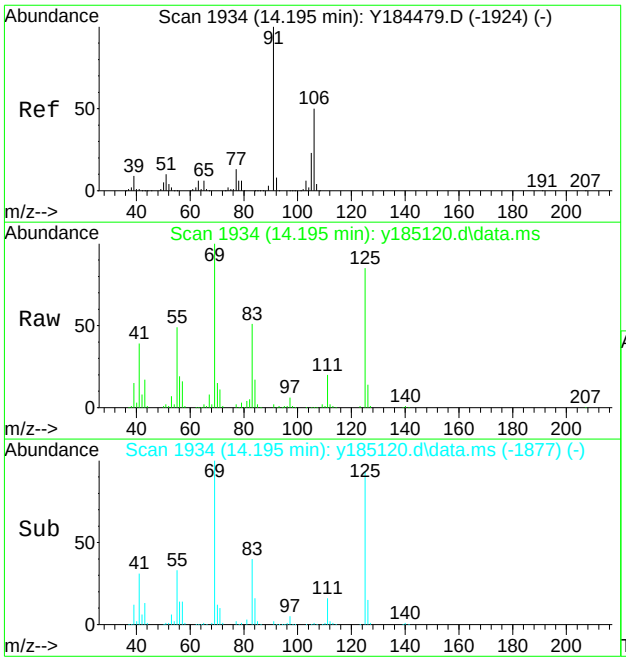




#89
ethylbenzene
Concen: 0.50 ug/L
RT: 14.080 min Scan# 1912
Delta R.T. 0.005 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 91 Resp: 4533

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 25.4 | 1.9 | 61.9 |
| 77 | 15.3 | 0.0 | 38.5 |

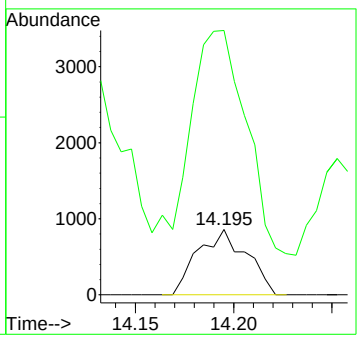


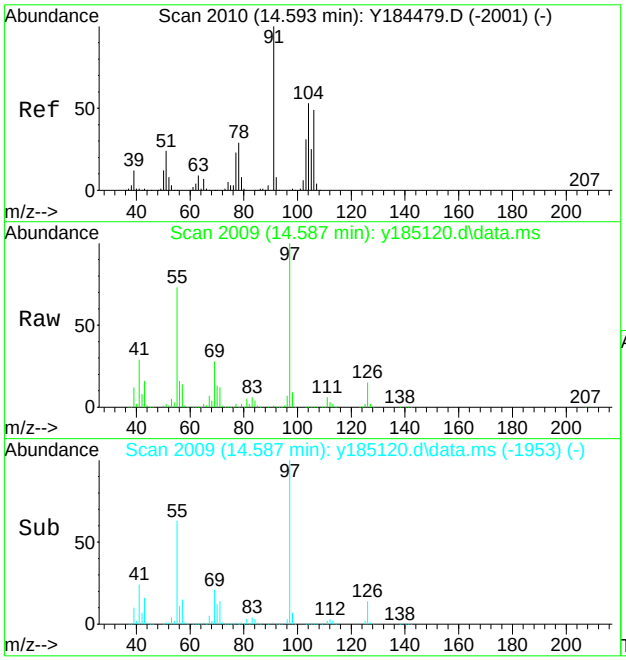



#90
m,p-xylene
Concen: 0.42 ug/L
RT: 14.195 min Scan# 1934
Delta R.T. -0.000 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion:106 Resp: 1483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 341.8 | 168.8 | 228.8# |

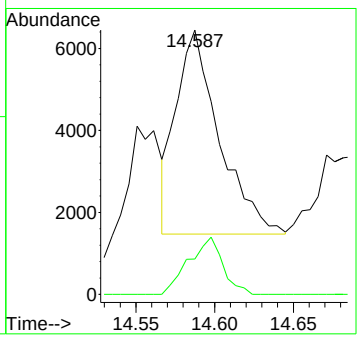


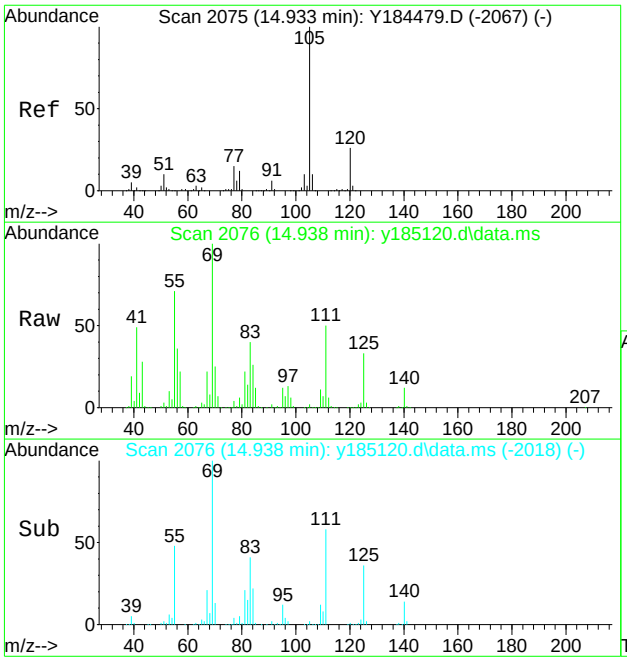




#91
o-xylene
Concen: 1.24 ug/L m
RT: 14.587 min Scan# 2009
Delta R.T. -0.005 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion: 91 Resp: 9498

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 13.3 | 18.0 | 78.0# |

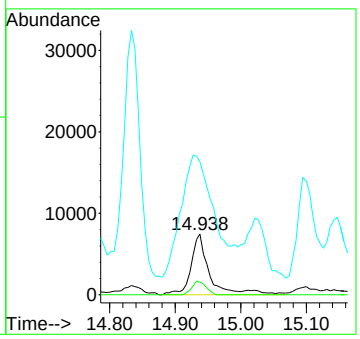





#95
isopropylbenzene
Concen: 1.61 ug/L
RT: 14.938 min Scan# 2076
Delta R.T. 0.005 min
Lab File: y185120.d
Acq: 11 May 2019 1:43 pm

Tgt Ion:105 Resp: 14834

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 20.8 | 6.9 | 46.9 |
| 77 | 191.5 | 0.0 | 35.0# |



# Manual Integration Approval Summary



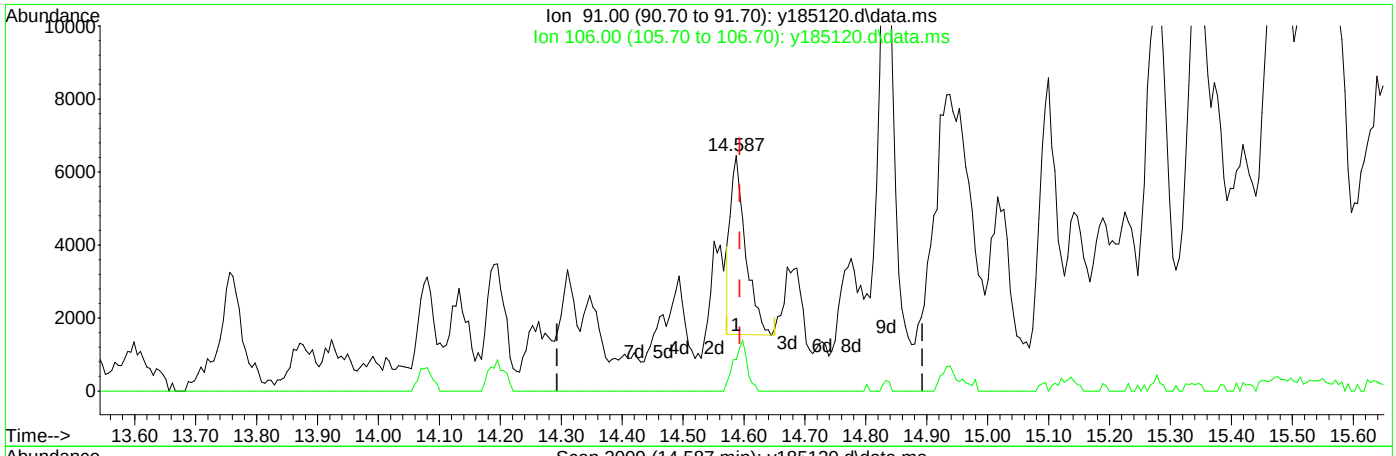
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-1 | **Method:** | SW846 8260C |
| **Lab FileID:** | Y185120.D | **Analyst approved:** | 05/14/19 13:03 Kenrick Basco |
| **Injection Time:** | 05/11/19 13:43 | **Supervisor approved:** | 05/14/19 14:11 Mei Chen |

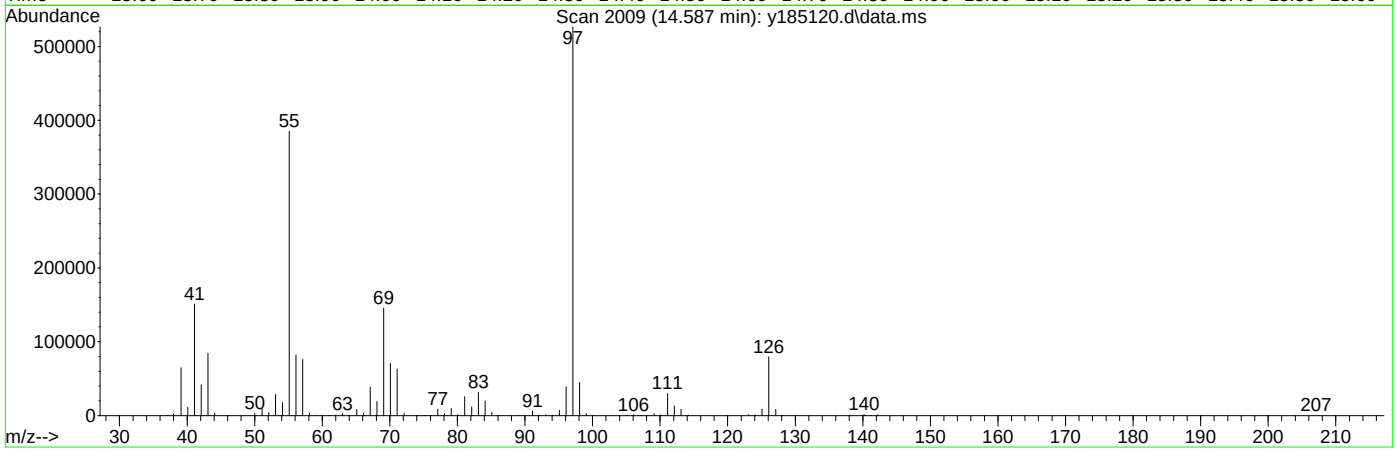
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| o-Xylene | 95-47-6 | | 14.59 | Poor instrument integration |

# Quantitation Report (Qedit)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-14-2019\janellec\vy8033\
Data File : y185120.d
Acq On : 11 May 2019 1:43 pm
Operator : PrashanS
Sample : JC87535-1 Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:43:11 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration




TIC: y185120.d\data.ms

(91) o-xylene

14.587min (-0.005) 1.10ug/L

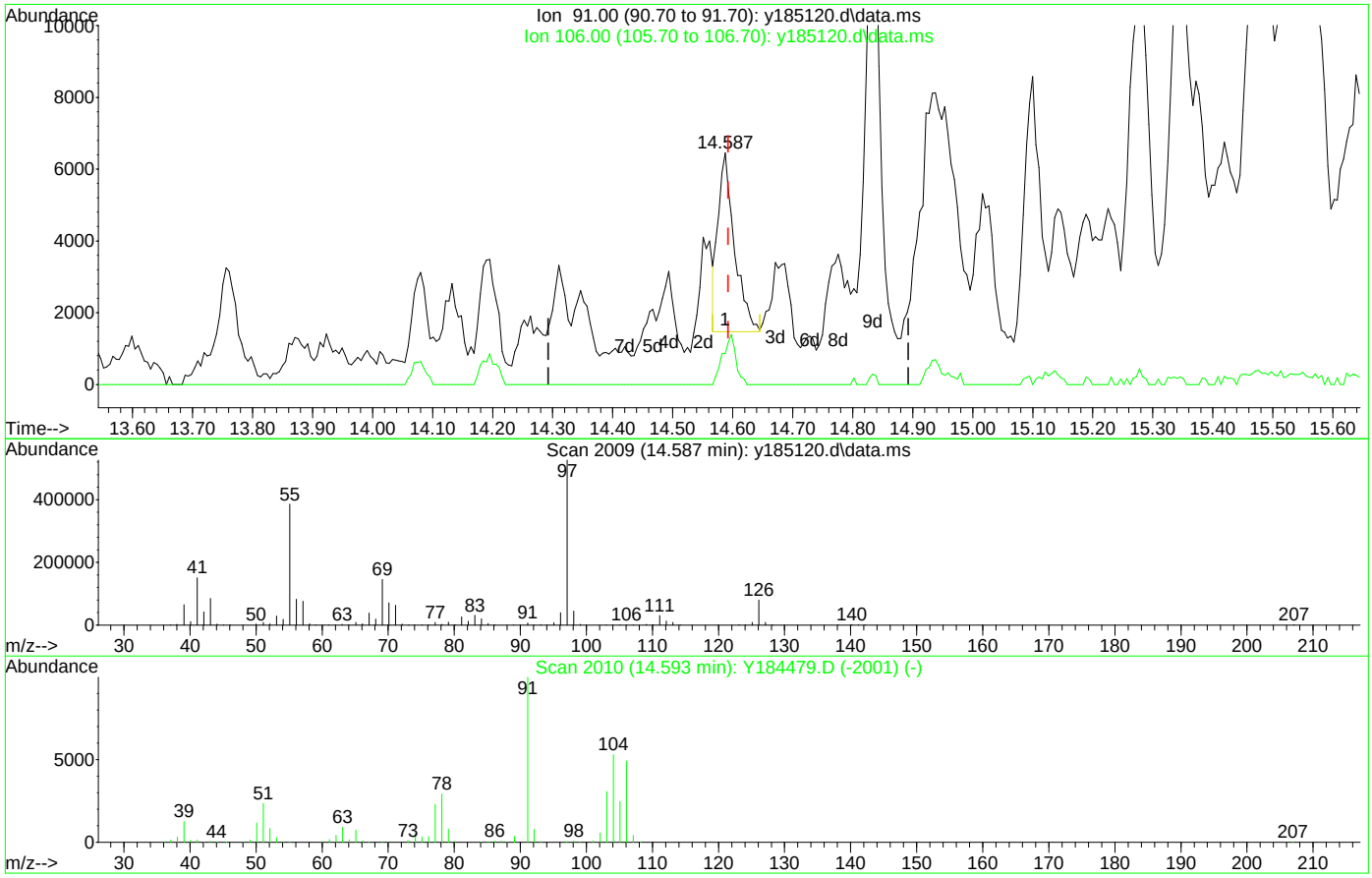
response 8460

| Ion | Exp% | Act% |
|---|---|---|
| 91.00 | 100 | 100 |
| 106.00 | 48.00 | 18.13 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-14-2019\janellec\vy8033\
Data File : y185120.d
Acq On : 11 May 2019 1:43 pm
Operator : PrashanS
Sample : JC87535-1 Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:43:11 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration




TIC: y185120.d\data.ms

(91) o-xylene

14.587min (-0.005) 1.24ug/L m

response 9498

| Ion | Exp% | Act% |
|---|---|---|
| 91.00 | 100 | 100 |
| 106.00 | 48.00 | 13.34# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164514.d
Acq On : 13 May 2019 8:14 pm
Operator : PrashanS
Sample : JC87535-2 Inst : GCMS1C
Misc : MS34539,V1C7218,5.2,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:47:47 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

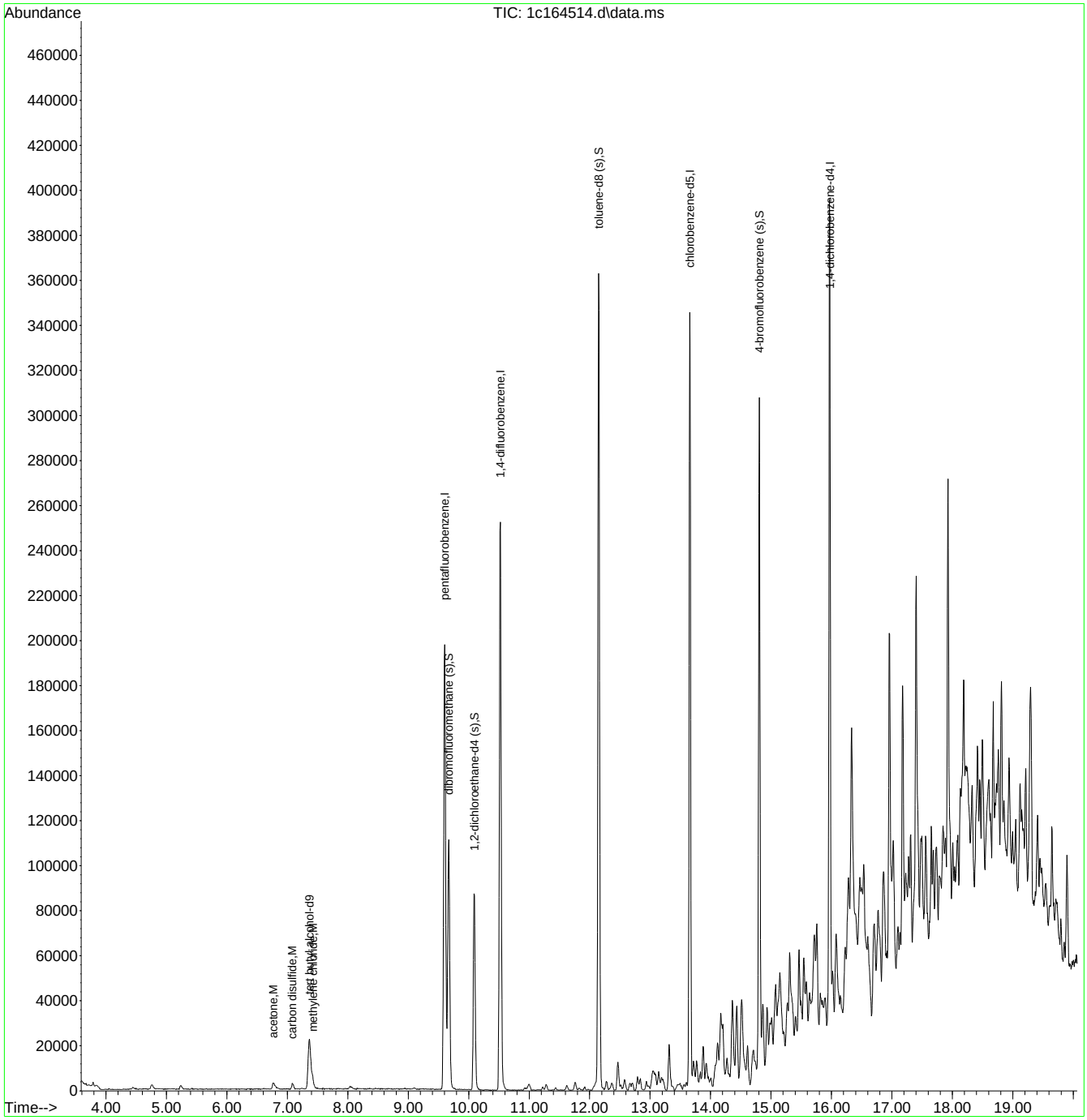
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 47606 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 177090 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 251661 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 205572 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 107615 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 77967 | 52.20 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 104.40% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 69931 | 44.23 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 88.46% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 278246 | 50.25 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.50% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93312 | 46.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 92.38% | | | |
| Target Compounds | | | | | | Qvalue |
| 19) acetone | 6.762 | 43 | 6316 | 17.53 | ug/L | 94 |
| 22) carbon disulfide | 7.081 | 76 | 4238 | 0.91 | ug/L | 93 |
| 23) methylene chloride | 7.421 | 84 | 1395 | 0.89 | ug/L | 90 |

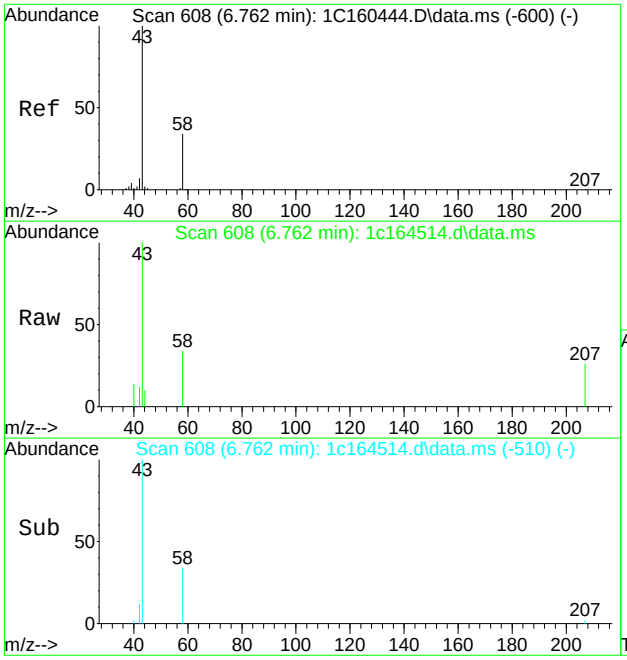
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164514.d
Acq On : 13 May 2019 8:14 pm
Operator : PrashanS
Sample : JC87535-2 Inst : GCMS1C
Misc : MS34539,V1C7218,5.2,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:47:47 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

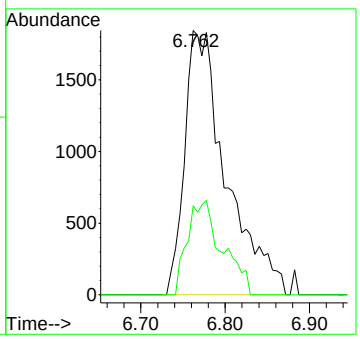


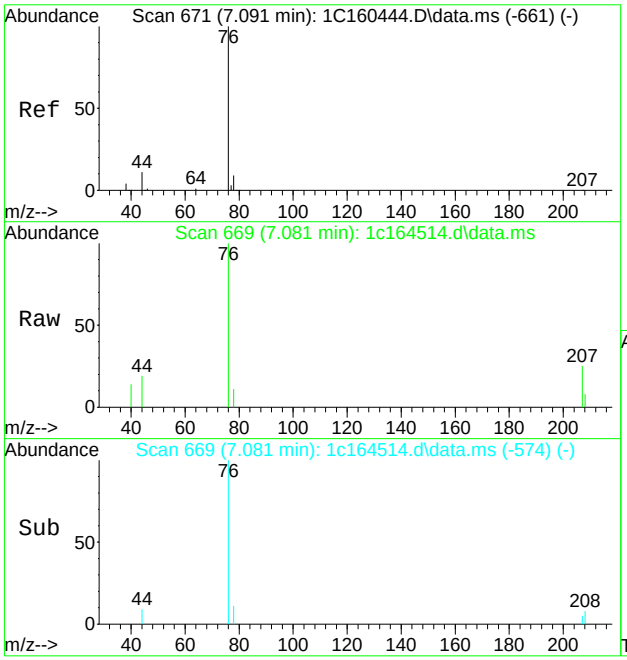



#19
acetone
Concen: 17.53 ug/L
RT: 6.762 min Scan# 608
Delta R.T. 0.010 min
Lab File: 1c164514.d
Acq: 13 May 2019 8:14 pm

Tgt Ion: 43 Resp: 6316

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 33.8 | 0.5 | 60.5 |

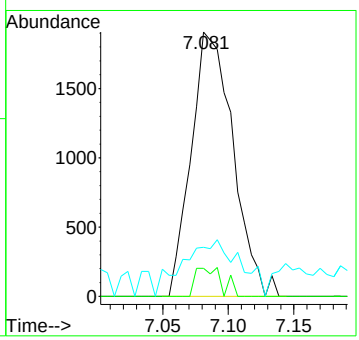


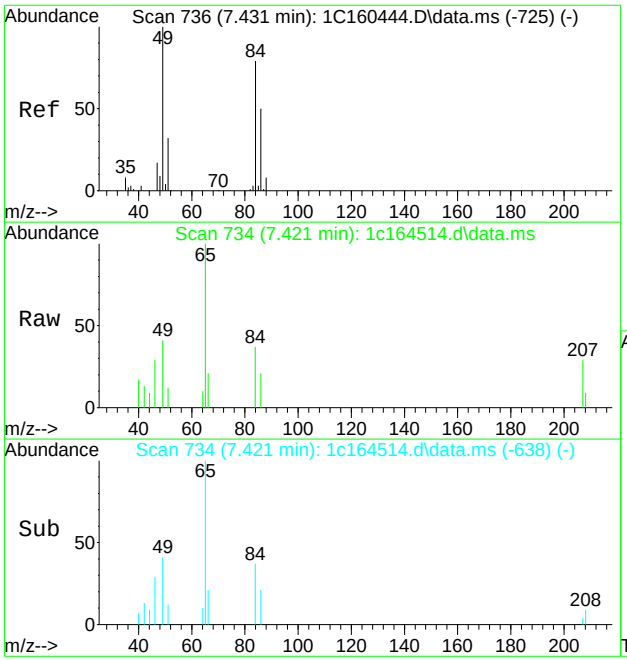




#22
carbon disulfide
Concen: 0.91 ug/L
RT: 7.081 min Scan# 669
Delta R.T. -0.005 min
Lab File: 1c164514.d
Acq: 13 May 2019 8:14 pm

Tgt Ion: 76 Resp: 4238

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 10.6 | 0.0 | 39.3 |
| 44 | 8.3 | 0.0 | 42.1 |

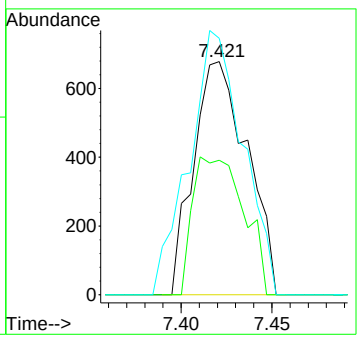





#23
methylene chloride
Concen: 0.89 ug/L
RT: 7.421 min Scan# 734
Delta R.T. -0.000 min
Lab File: 1c164514.d
Acq: 13 May 2019 8:14 pm

Tgt Ion: 84 Resp: 1395

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 86 | 57.7 | 33.8 | 93.8 |
| 49 | 110.0 | 91.8 | 151.8 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167684.d
Acq On : 16 May 2019 12:10 pm
Operator : thienn
Sample : jc87535-3 Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 01:57:30 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

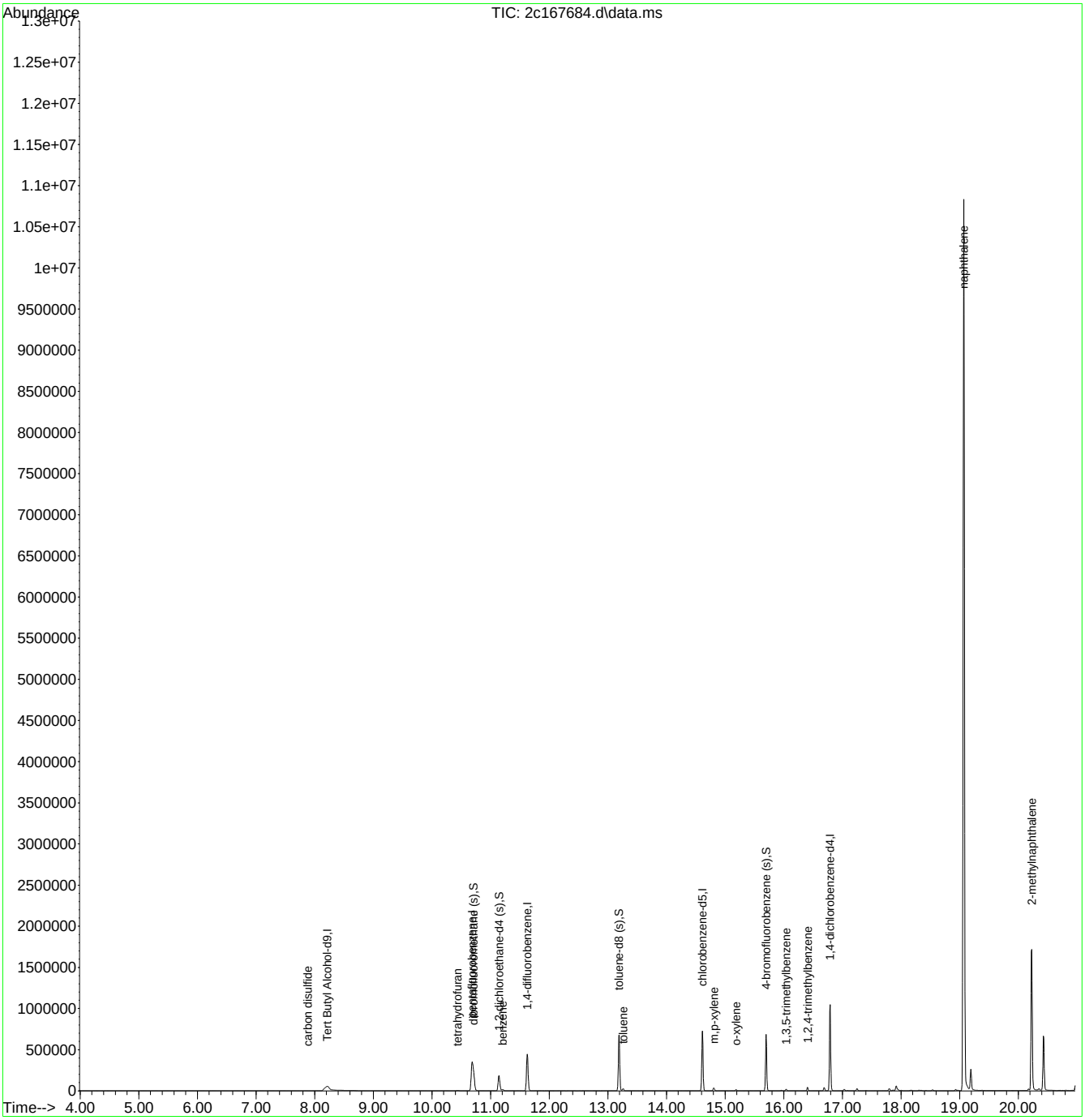
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.213 | 65 | 237496 | 500.00 | ug/L | -0.03 |
| 5) pentafluorobenzene | 10.682 | 168 | 274728 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 382280 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 373830 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 246801 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 126740 | 48.58 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.16% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 148267 | 48.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 96.70% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 434692 | 49.11 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.22% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 185908 | 49.89 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.78% | | | |
| Target Compounds | | | | | | Qvalue |
| 23) carbon disulfide | 7.882 | 76 | 2896 | 0.28 | ug/L | 74 |
| 41) tetrahydrofuran | 10.436 | 71 | 1490 | 2.77 | ug/L | 85 |
| 56) benzene | 11.206 | 78 | 14357 | 1.33 | ug/L | 98 |
| 76) toluene | 13.262 | 92 | 10116 | 1.53 | ug/L | 89 |
| 90) m,p-xylene | 14.808 | 106 | 10564 | 2.05 | ug/L | 96 |
| 91) o-xylene | 15.186 | 106 | 3340 | 0.58 | ug/L | 96 |
| 106) 1,3,5-trimethylbenzene | 16.040 | 105 | 9656 | 0.75 | ug/L | 95 |
| 108) 1,2,4-trimethylbenzene | 16.407 | 105 | 19563 | 1.50 | ug/L | 100 |
| 121) naphthalene | 19.071 | 128 | 8371883 | 423.57 | ug/L | 98 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 832745 | 73.99 | ug/L | 99 |

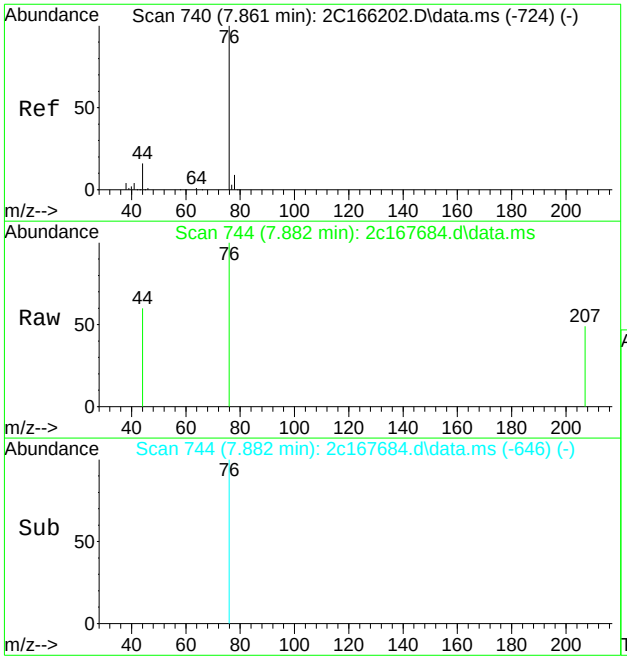
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167684.d
Acq On : 16 May 2019 12:10 pm
Operator : thienn
Sample : jc87535-3 Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 01:57:30 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

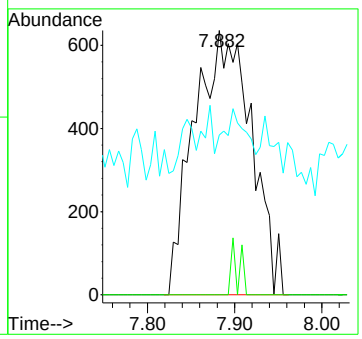


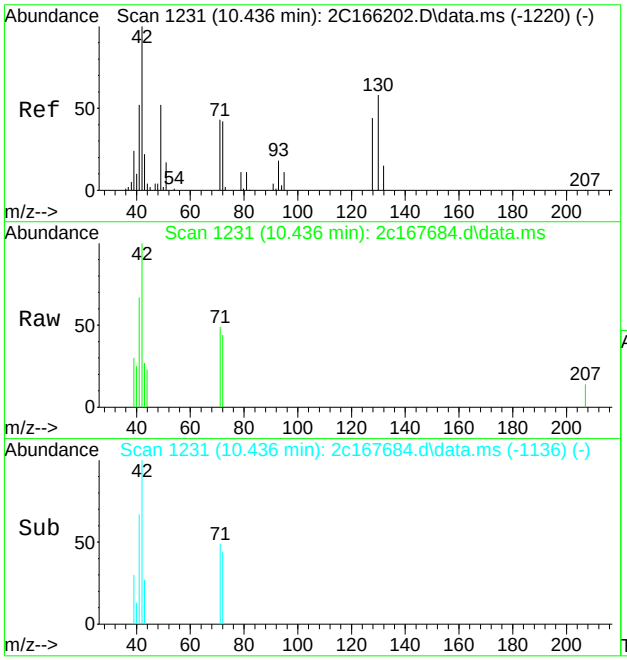



#23
carbon disulfide
Concen: 0.28 ug/L
RT: 7.882 min Scan# 744
Delta R.T. 0.011 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion: 76 Resp: 2896

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.3 |
| 44 | 5.5 | 0.0 | 46.6 |

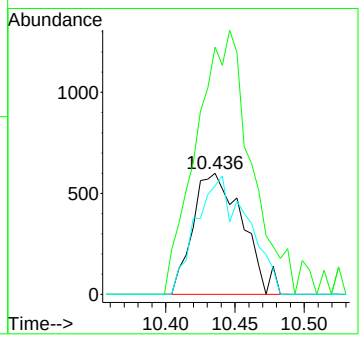


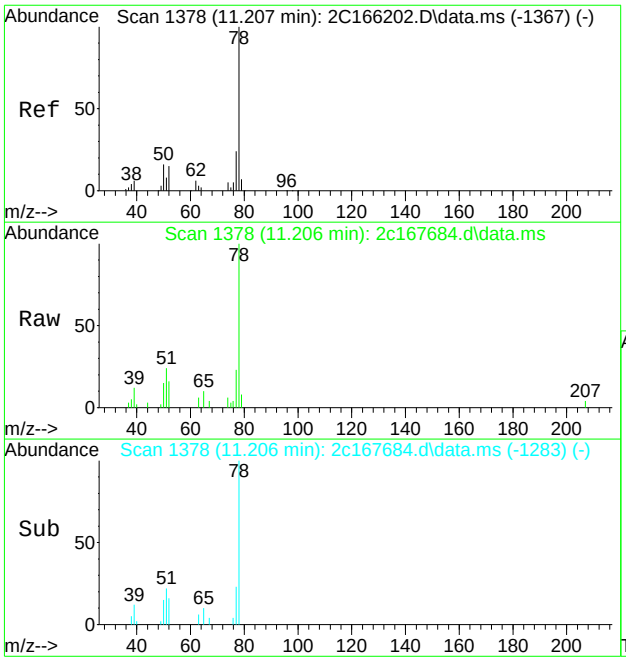




#41
tetrahydrofuran
Concen: 2.77 ug/L
RT: 10.436 min Scan# 1231
Delta R.T. 0.001 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion: 71 Resp: 1490

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 71 | 100 | | |
| 42 | 204.0 | 204.0 | 264.0 |
| 72 | 89.5 | 67.6 | 127.6 |

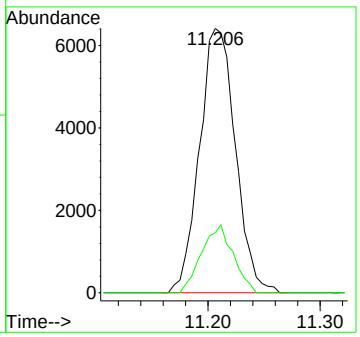


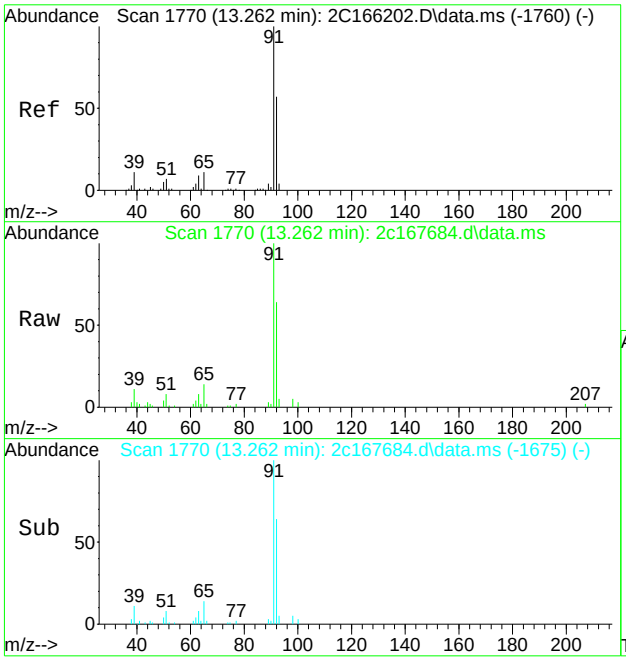



#56
benzene
Concen: 1.33 ug/L
RT: 11.206 min Scan# 1378
Delta R.T. -0.000 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion: 78 Resp: 14357

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 22.7 | 0.0 | 53.7 |

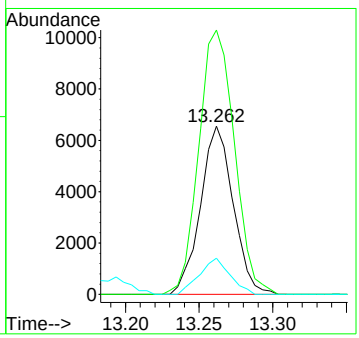


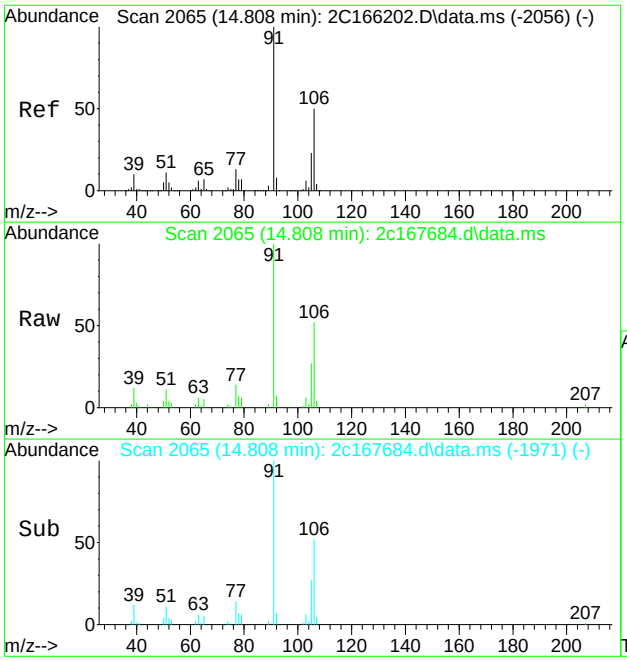




#76
toluene
Concen: 1.53 ug/L
RT: 13.262 min Scan# 1770
Delta R.T. -0.000 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion: 92 Resp: 10116

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 157.2 | 154.0 | 194.0 |
| 65 | 21.5 | 0.0 | 38.8 |

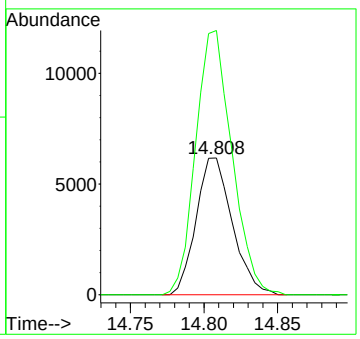


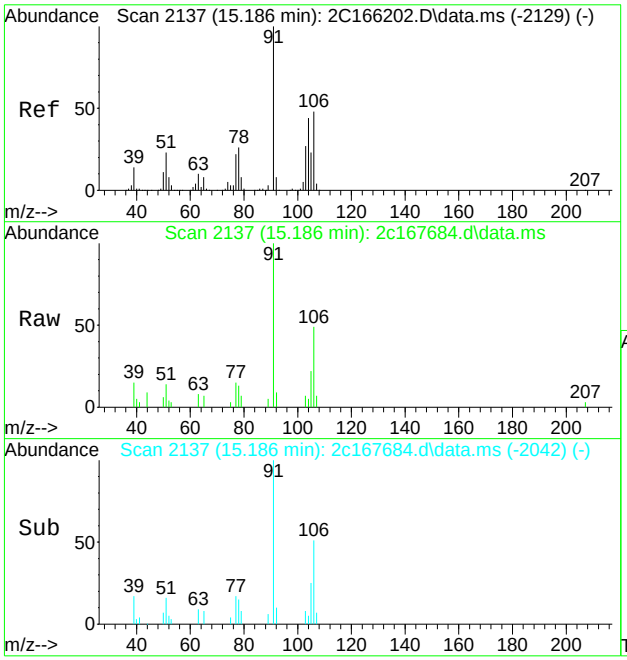



#90
m,p-xylene
Concen: 2.05 ug/L
RT: 14.808 min Scan# 2065
Delta R.T. -0.005 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion:106 Resp: 10564

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 193.4 | 169.9 | 229.9 |

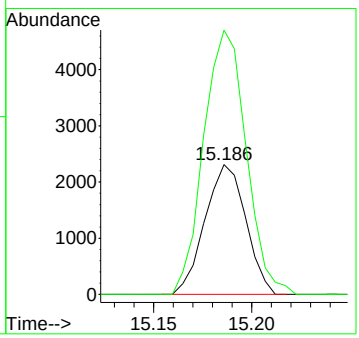


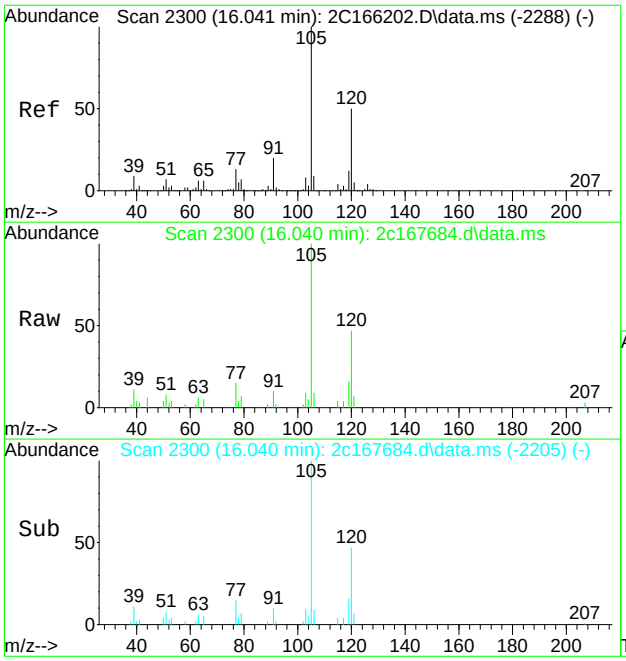




#91
o-xylene
Concen: 0.58 ug/L
RT: 15.186 min Scan# 2137
Delta R.T. -0.000 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion:106 Resp: 3340

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 203.6 | 179.1 | 239.1 |

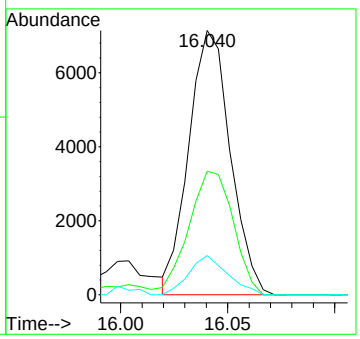


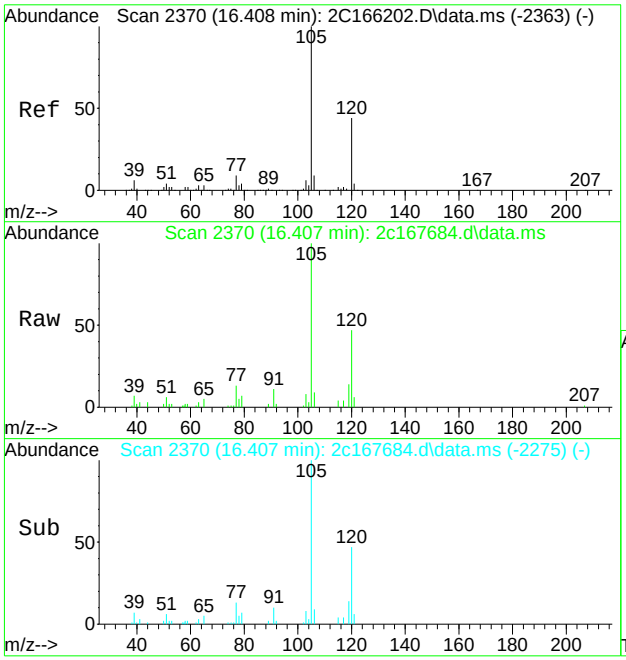



#106
1,3,5-trimethylbenzene
Concen: 0.75 ug/L
RT: 16.040 min Scan# 2300
Delta R.T. -0.000 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion:105 Resp: 9656

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 46.7 | 19.8 | 79.8 |
| 77 | 14.9 | 0.0 | 43.0 |

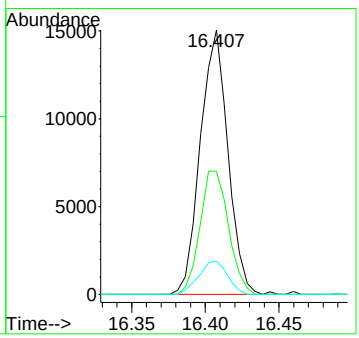


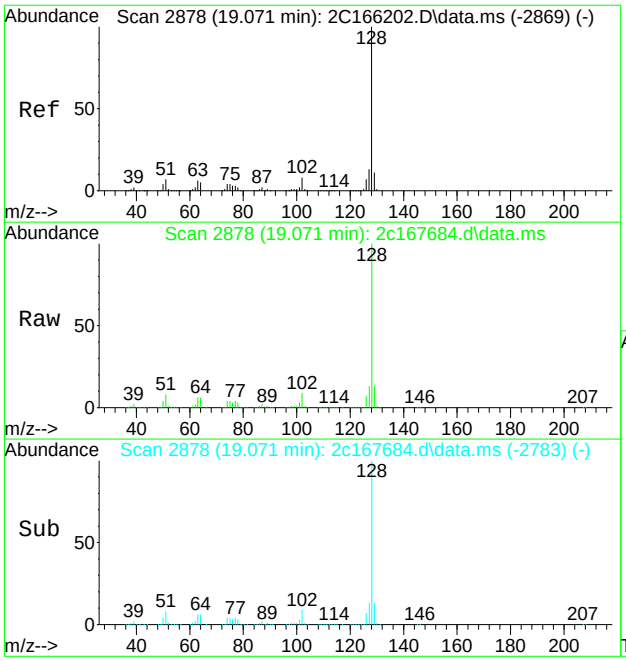




#108
1,2,4-trimethylbenzene
Concen: 1.50 ug/L
RT: 16.407 min Scan# 2370
Delta R.T. -0.000 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion:105 Resp: 19563

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 46.5 | 16.8 | 76.8 |
| 77 | 12.6 | 0.0 | 42.6 |

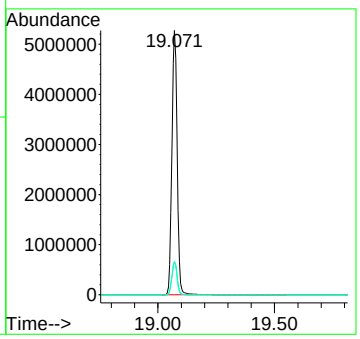


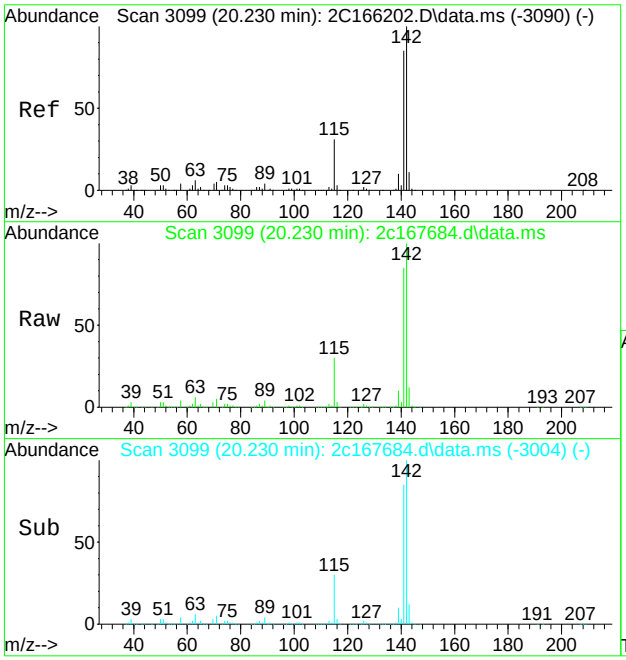



#121
naphthalene
Concen: 423.57 ug/L
RT: 19.071 min Scan# 2878
Delta R.T. -0.000 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion:128 Resp: 8371883

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 12.5 | 0.0 | 43.0 |
| 129 | 12.5 | 0.0 | 41.1 |

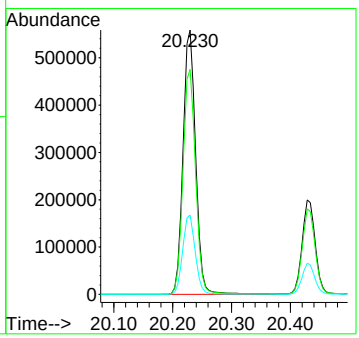



#124
2-methylnaphthalene
Concen: 73.99 ug/L
RT: 20.230 min Scan# 3099
Delta R.T. 0.001 min
Lab File: 2c167684.d
Acq: 16 May 2019 12:10 pm

Tgt Ion:142 Resp: 832745

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 85.1 | 64.8 | 104.8 |
| 115 | 29.9 | 0.6 | 60.6 |



Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-14-2019\janellec\vy8033\
Data File : y185126.d
Acq On : 11 May 2019 4:34 pm
Operator : PrashanS
Sample : JC87535-4 Inst : MSY
Misc : MS34539,VY8033,5.4,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 14 12:47:14 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

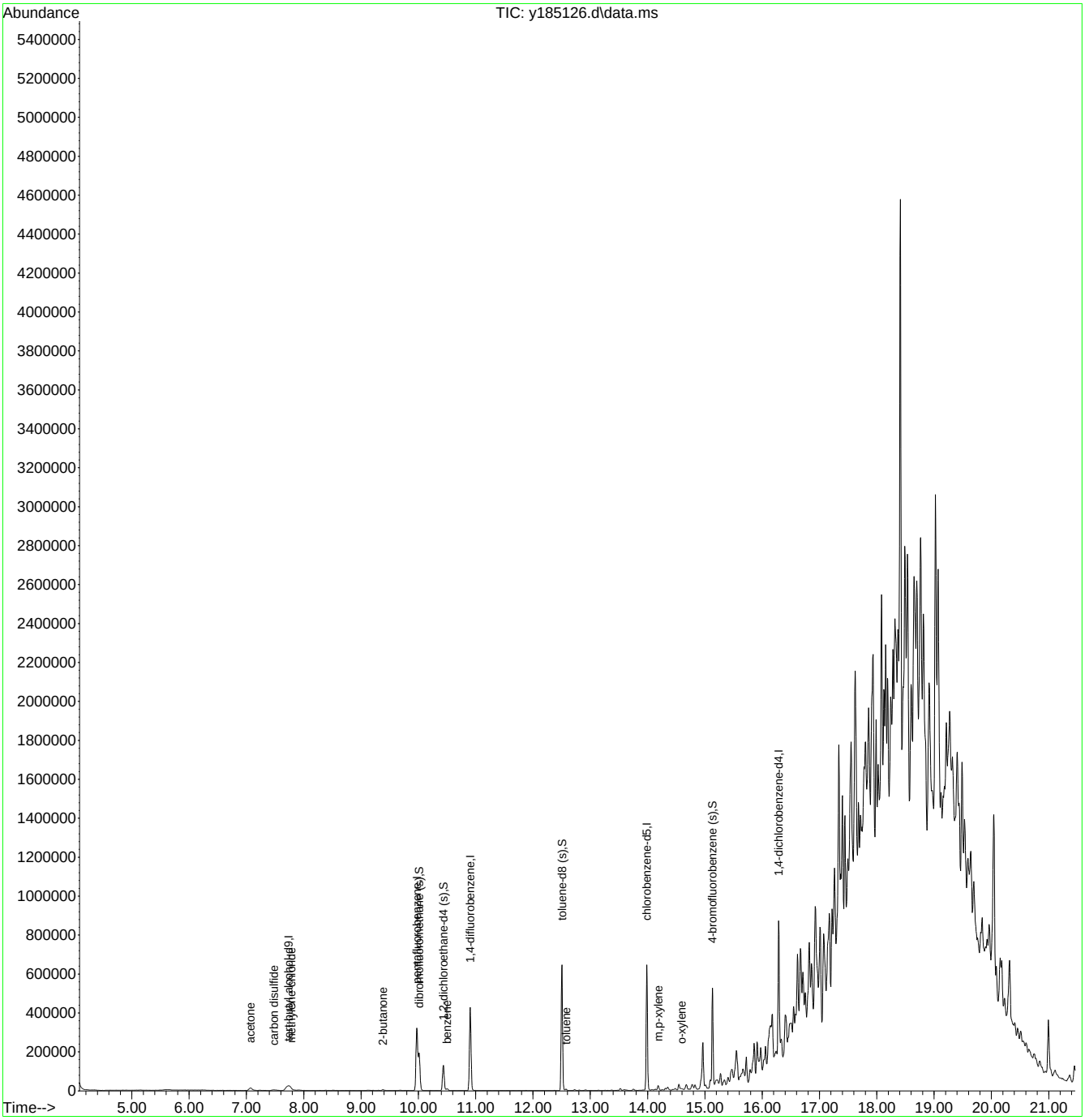
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.731 | 65 | 80556 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.974 | 168 | 280581 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 397130 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 354321 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 182507 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.011 | 113 | 123852 | 48.66 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.32% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 95972 | 43.26 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 86.52% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 442683 | 49.37 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.74% | | | |
| 98) 4-bromofluorobenzene (s) | 15.132 | 95 | 150760 | 49.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.64% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 7.072 | 43 | 32372 | 47.09 | ug/L | 91 |
| 23) carbon disulfide | 7.480 | 76 | 8918 | 0.95 | ug/L | 88 |
| 24) methylene chloride | 7.778 | 84 | 2361 | 0.63 | ug/L | 88 |
| 31) 2-butanone | 9.378 | 72 | 1480 | 6.55 | ug/L # | 9 |
| 57) benzene | 10.498 | 78 | 9182 | 0.80 | ug/L | 98 |
| 76) toluene | 12.579 | 92 | 3239 | 0.47 | ug/L | 98 |
| 90) m,p-xylene | 14.190 | 106 | 1187 | 0.24 | ug/L | 87 |
| 91) o-xylene | 14.593 | 91 | 2400 | 0.22 | ug/L | 86 |

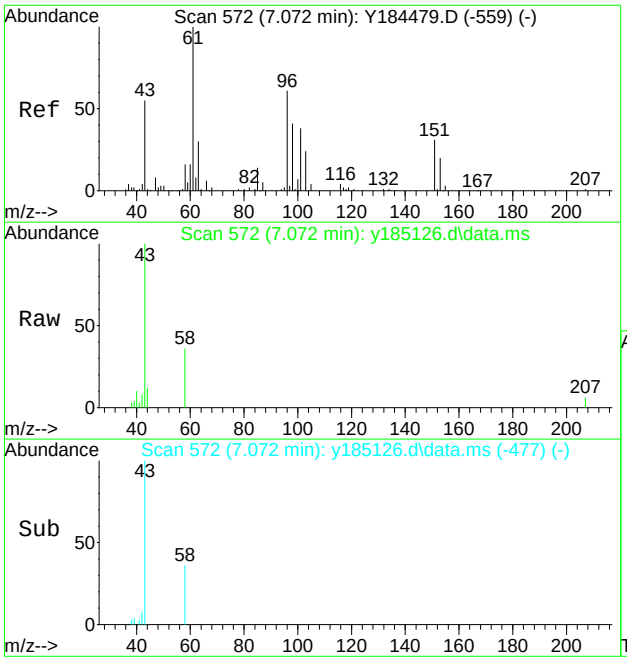
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-14-2019\janellec\vy8033\
Data File : y185126.d
Acq On : 11 May 2019 4:34 pm
Operator : PrashanS
Sample : JC87535-4 Inst : MSY
Misc : MS34539,VY8033,5.4,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 14 12:47:14 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

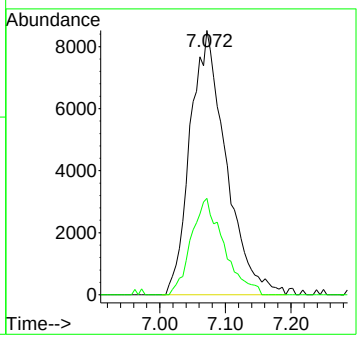


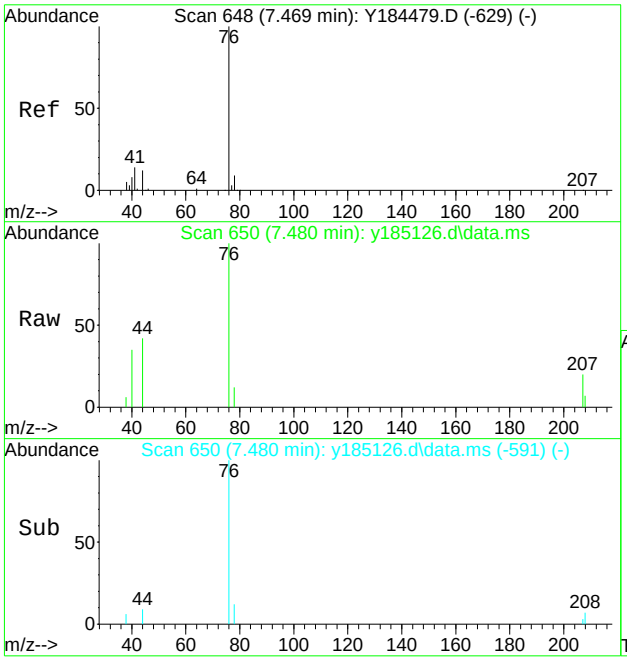



#20
acetone
Concen: 47.09 ug/L
RT: 7.072 min Scan# 572
Delta R.T. -0.005 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 43 Resp: 32372

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 36.5 | 1.4 | 61.4 |

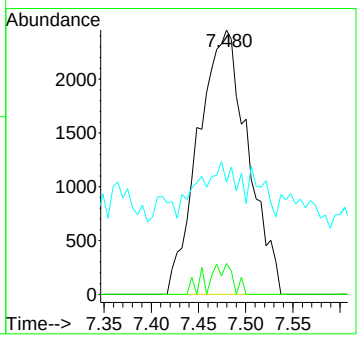


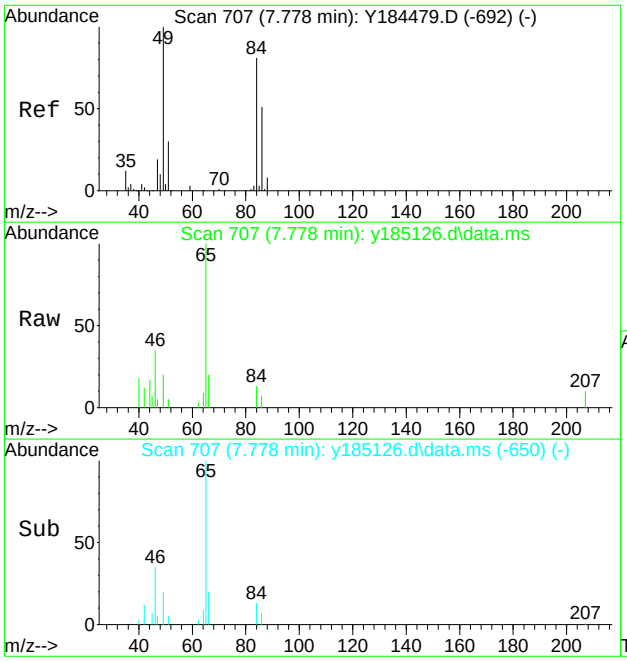




#23
carbon disulfide
Concen: 0.95 ug/L
RT: 7.480 min Scan# 650
Delta R.T. 0.010 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 76 Resp: 8918

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 11.7 | 0.0 | 38.7 |
| 44 | 6.7 | 0.0 | 42.6 |

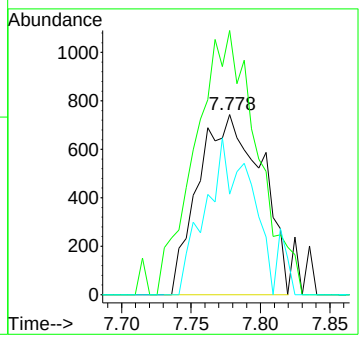


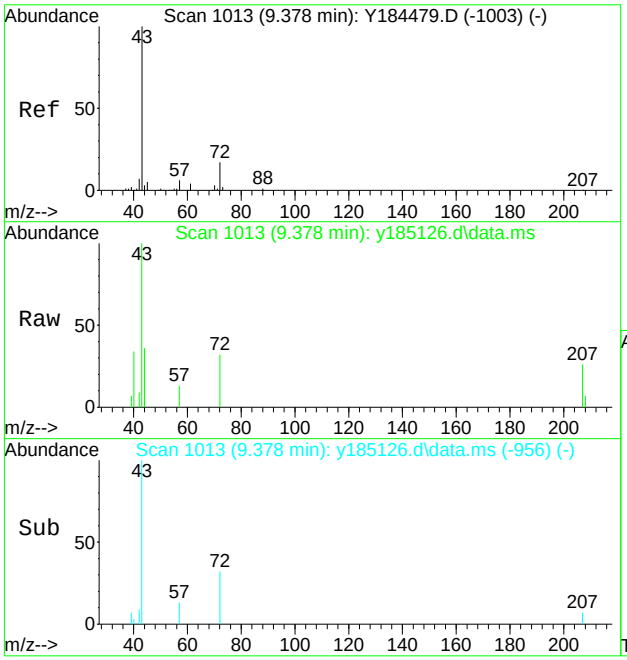



#24
methylene chloride
Concen: 0.63 ug/L
RT: 7.778 min Scan# 707
Delta R.T. 0.000 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 84 Resp: 2361

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 120.7 | 104.2 | 164.2 |
| 86 | 55.9 | 35.3 | 95.3 |

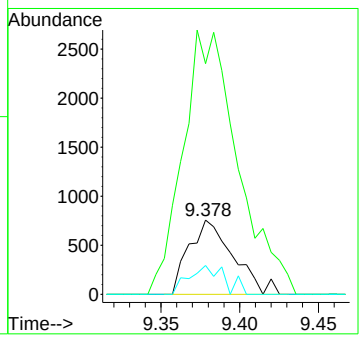


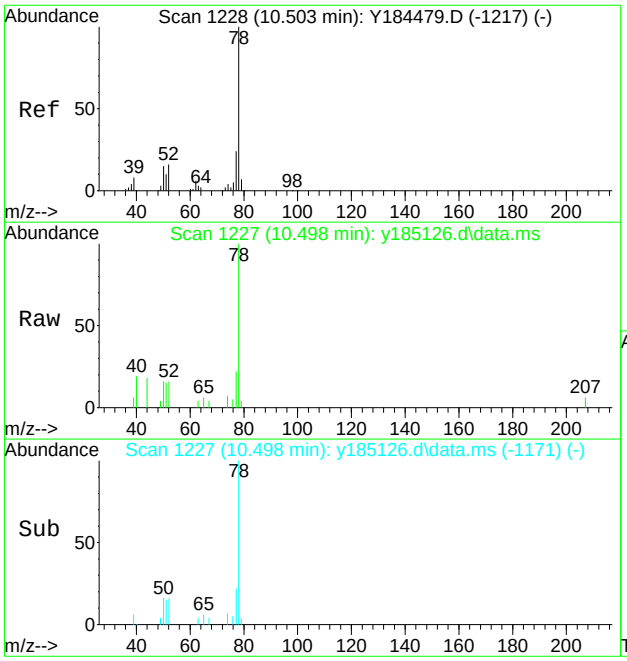




#31
2-butanone
Concen: 6.55 ug/L
RT: 9.378 min Scan# 1013
Delta R.T. 0.000 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 72 Resp: 1480

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 283.1 | 537.8 | 597.8# |
| 57 | 39.1 | 1.1 | 61.1 |

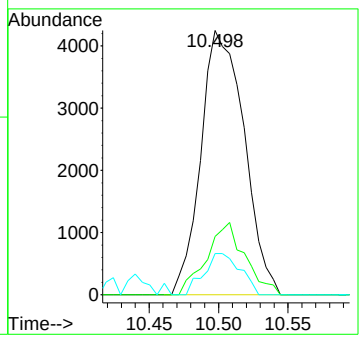


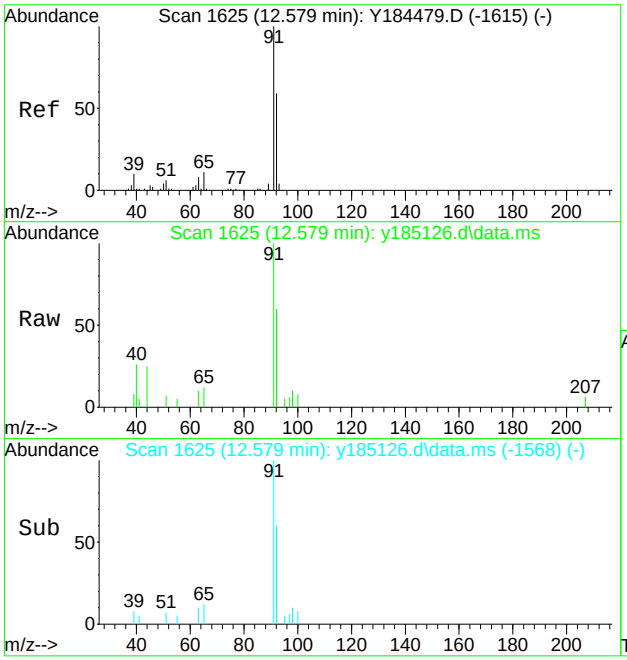



#57
benzene
Concen: 0.80 ug/L
RT: 10.498 min Scan# 1227
Delta R.T. -0.005 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 78 Resp: 9182

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 22.0 | 0.0 | 53.1 |
| 52 | 15.6 | 0.0 | 45.8 |

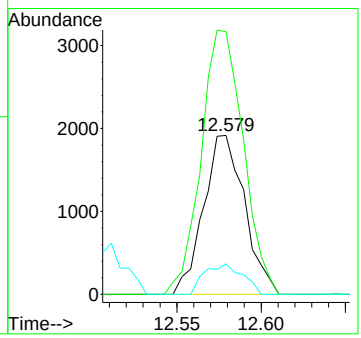


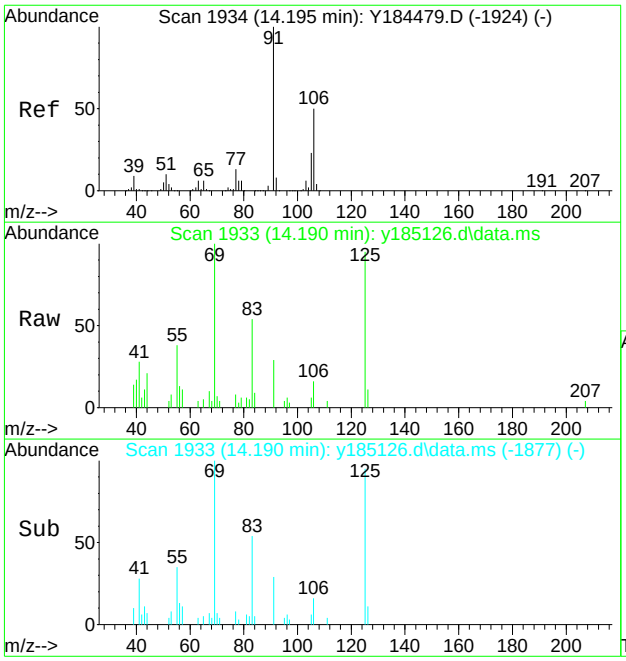




#76
toluene
Concen: 0.47 ug/L
RT: 12.579 min Scan# 1625
Delta R.T. 0.000 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 92 Resp: 3239

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 165.3 | 148.7 | 188.7 |
| 65 | 19.2 | 0.0 | 38.2 |

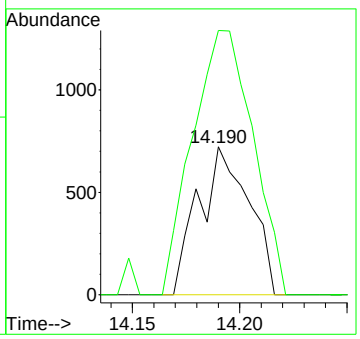


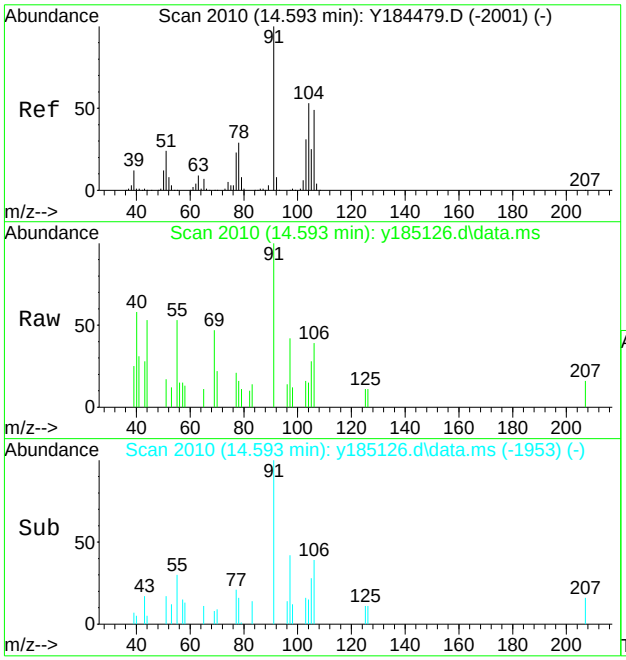



#90
m,p-xylene
Concen: 0.24 ug/L
RT: 14.190 min Scan# 1933
Delta R.T. -0.005 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion:106 Resp: 1187

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 178.6 | 168.8 | 228.8 |

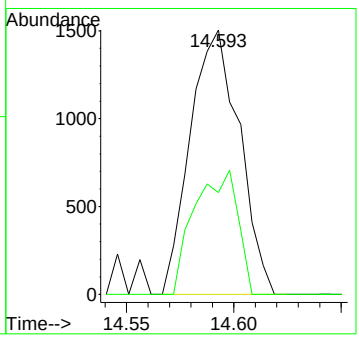



#91
o-xylene
Concen: 0.22 ug/L
RT: 14.593 min Scan# 2010
Delta R.T. 0.000 min
Lab File: y185126.d
Acq: 11 May 2019 4:34 pm

Tgt Ion: 91 Resp: 2400

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 38.5 | 18.0 | 78.0 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164513.d
Acq On : 13 May 2019 7:48 pm
Operator : PrashanS
Sample : JC87535-5 Inst : GCMS1C
Misc : MS34539,V1C7218,4.5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:45:48 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

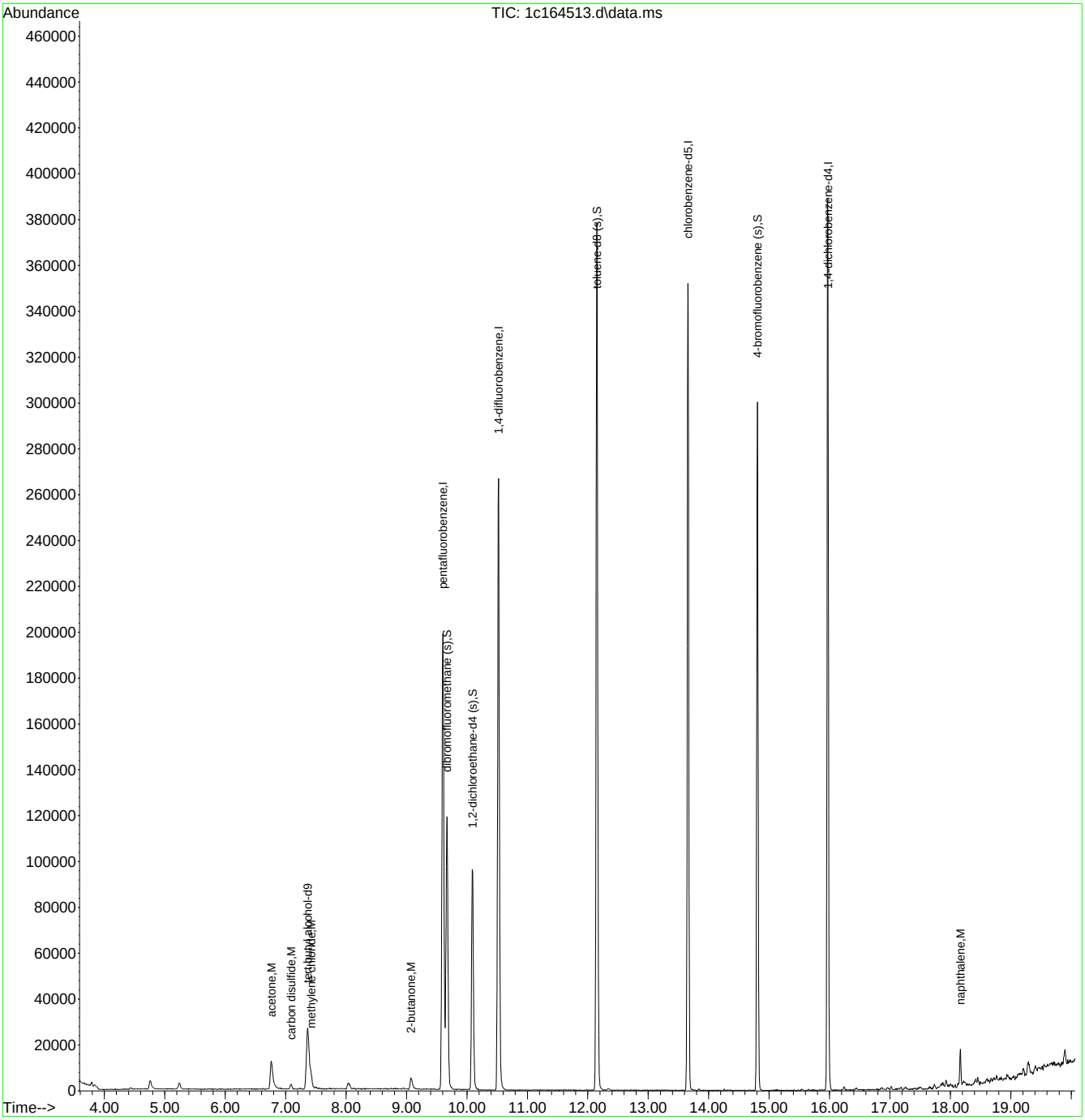
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 57199 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 178985 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 259163 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 212817 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 110465 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 82975 | 54.97 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 109.94% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 76233 | 46.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 93.64% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 282230 | 49.23 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.46% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 97848 | 47.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.38% | | | |
| Target Compounds | | | | | | Qvalue |
| 19) acetone | 6.762 | 43 | 26404 | 72.53 | ug/L | 94 |
| 22) carbon disulfide | 7.091 | 76 | 3198 | 0.68 | ug/L | 85 |
| 23) methylene chloride | 7.421 | 84 | 1846 | 1.16 | ug/L | 86 |
| 28) 2-butanone | 9.074 | 72 | 2488 | 18.18 | ug/L # | 28 |
| 124) naphthalene | 18.164 | 128 | 10736 | 2.69 | ug/L | 95 |

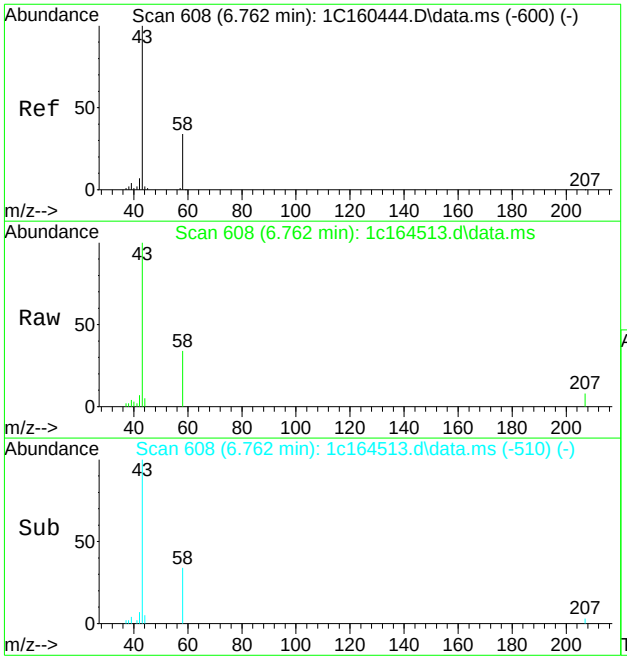
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164513.d
Acq On : 13 May 2019 7:48 pm
Operator : PrashanS
Sample : JC87535-5 Inst : GCMS1C
Misc : MS34539,V1C7218,4.5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:45:48 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

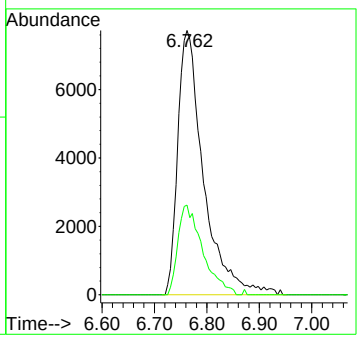


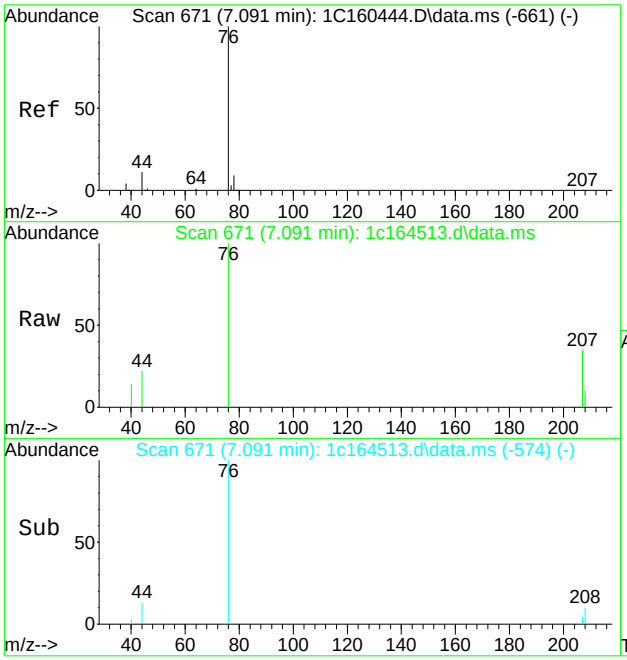



#19
acetone
Concen: 72.53 ug/L
RT: 6.762 min Scan# 608
Delta R.T. 0.010 min
Lab File: 1c164513.d
Acq: 13 May 2019 7:48 pm

Tgt Ion: 43 Resp: 26404

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 34.0 | 0.5 | 60.5 |

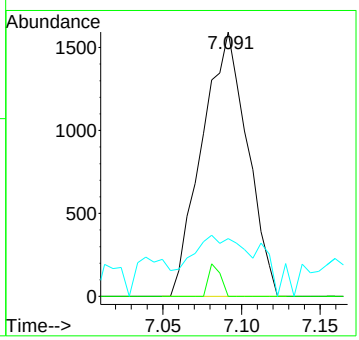


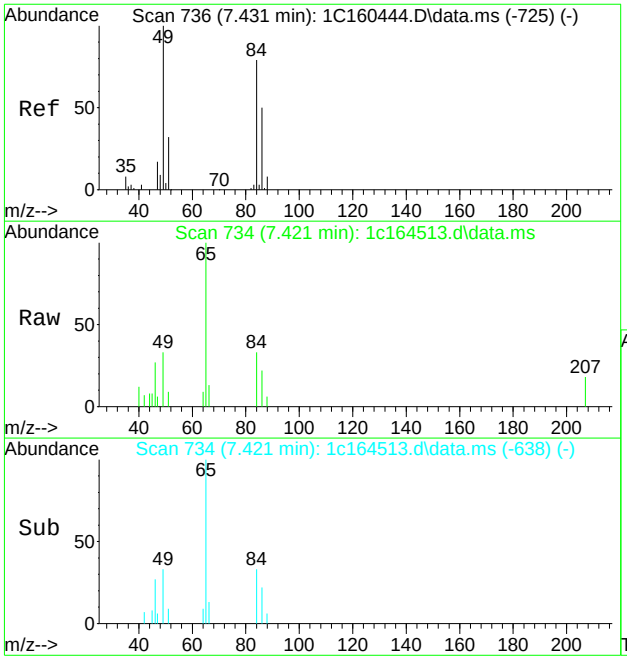




#22
carbon disulfide
Concen: 0.68 ug/L
RT: 7.091 min Scan# 671
Delta R.T. 0.005 min
Lab File: 1c164513.d
Acq: 13 May 2019 7:48 pm

Tgt Ion: 76 Resp: 3198

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.3 |
| 44 | 9.4 | 0.0 | 42.1 |

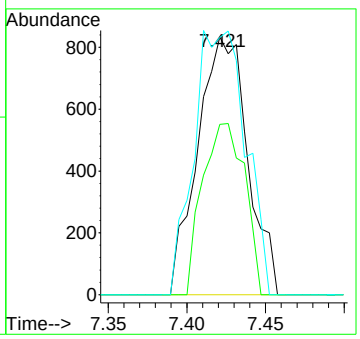


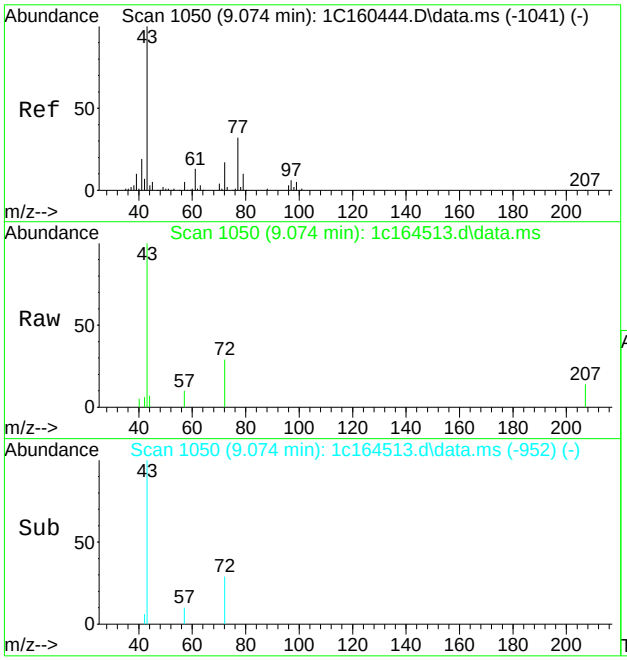



#23
methylene chloride
Concen: 1.16 ug/L
RT: 7.421 min Scan# 734
Delta R.T. -0.000 min
Lab File: 1c164513.d
Acq: 13 May 2019 7:48 pm

Tgt Ion: 84 Resp: 1846

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 86 | 66.1 | 33.8 | 93.8 |
| 49 | 99.8 | 91.8 | 151.8 |

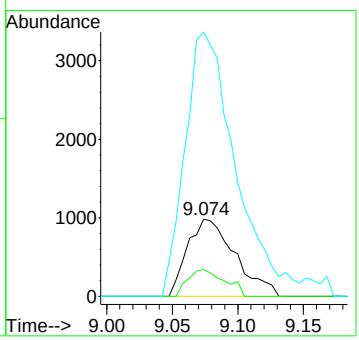


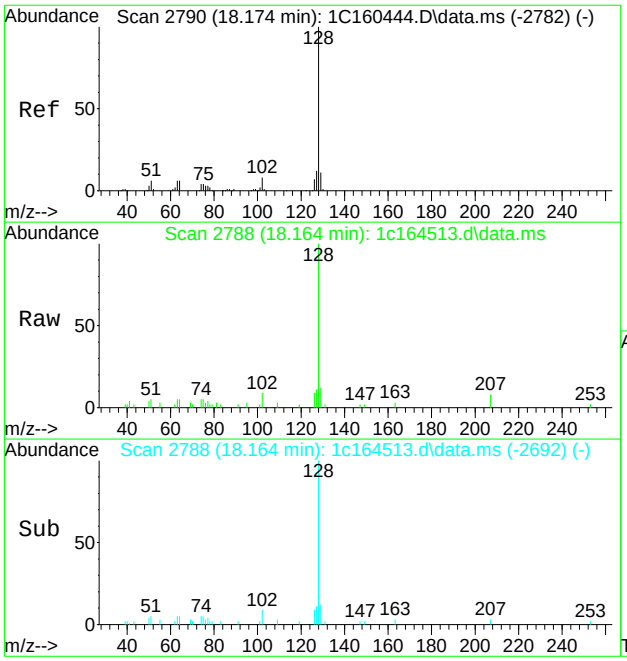




#28
2-butanone
Concen: 18.18 ug/L
RT: 9.074 min Scan# 1050
Delta R.T. 0.010 min
Lab File: 1c164513.d
Acq: 13 May 2019 7:48 pm

Tgt Ion: 72 Resp: 2488

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 57 | 35.0 | 2.9 | 62.9 |
| 43 | 342.9 | 541.8 | 601.8# |

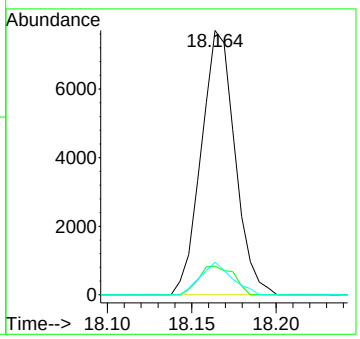





#124
naphthalene
Concen: 2.69 ug/L
RT: 18.164 min Scan# 2788
Delta R.T. -0.000 min
Lab File: 1c164513.d
Acq: 13 May 2019 7:48 pm

Tgt Ion:128 Resp: 10736

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 10.9 | 0.0 | 43.5 |
| 129 | 12.3 | 0.0 | 41.2 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185123.d
Acq On : 11 May 2019 3:08 pm
Operator : PrashanS
Sample : JC87535-6 Inst : MSY
Misc : MS34539,VY8033,3.8,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:44:18 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

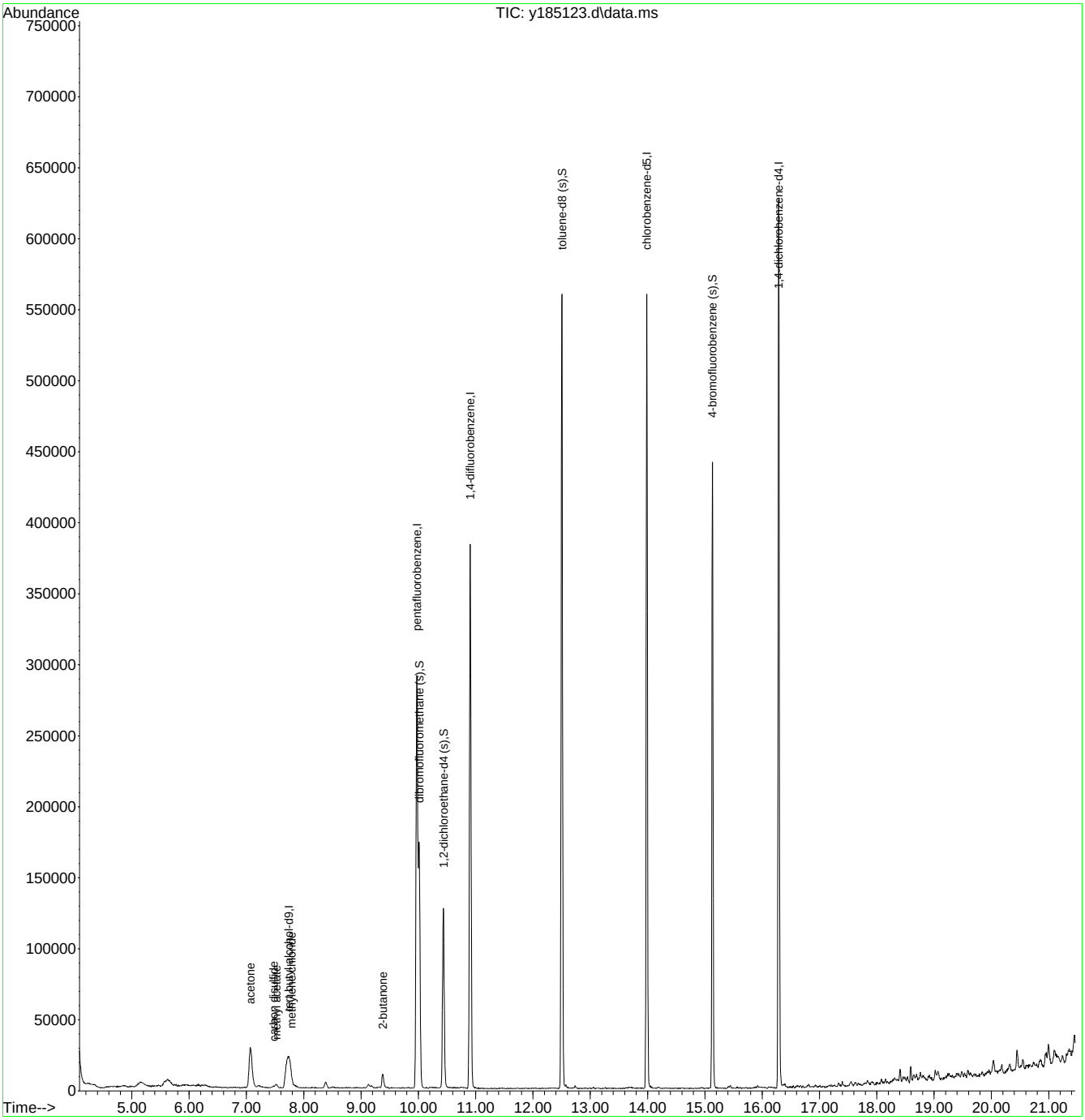
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.741 | 65 | 78809 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.974 | 168 | 246753 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 354520 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 308042 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 160883 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 45) dibromofluoromethane (s) | 10.016 | 113 | 113652 | 50.77 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.54% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.440 | 65 | 89699 | 45.29 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 90.58% | | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 381709 | 48.96 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.92% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 128574 | 48.20 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 96.40% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 20) acetone | 7.072 | 43 | 69829 | 115.51 | ug/L | | 98 |
| 23) carbon disulfide | 7.474 | 76 | 3537 | 0.43 | ug/L | | 71 |
| 24) methylene chloride | 7.783 | 84 | 953 | 0.29 | ug/L | # | 58 |
| 25) methyl acetate | 7.521 | 43 | 4351 | 3.11 | ug/L | | 83 |
| 31) 2-butanone | 9.383 | 72 | 3879 | 19.52 | ug/L | # | 42 |

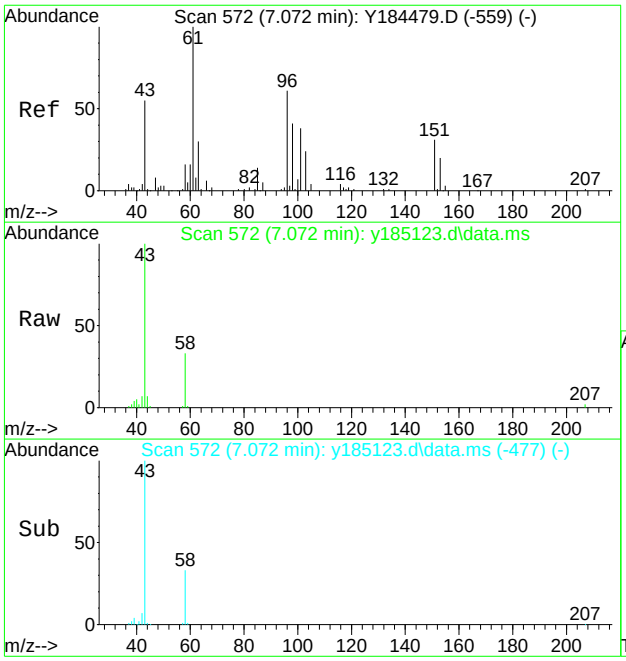
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185123.d
Acq On : 11 May 2019 3:08 pm
Operator : PrashanS
Sample : JC87535-6 Inst : MSY
Misc : MS34539,VY8033,3.8,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:44:18 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

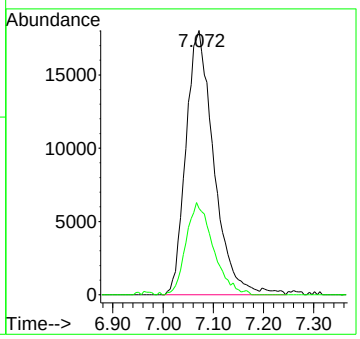


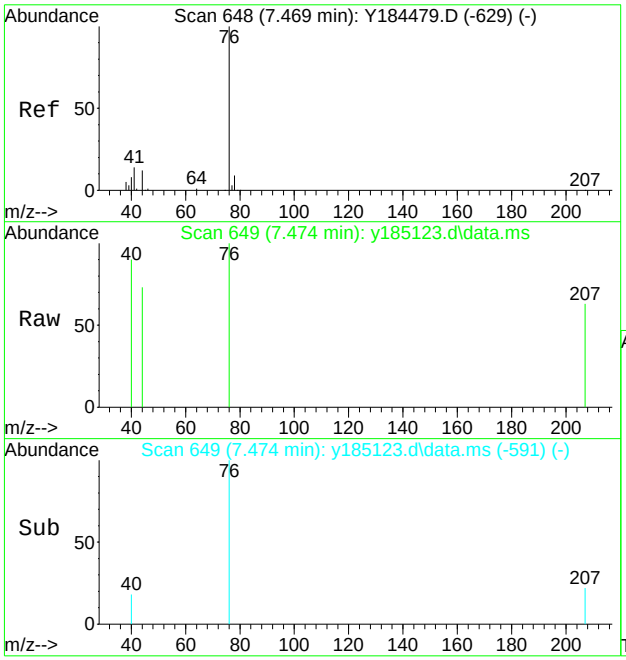



#20
acetone
Concen: 115.51 ug/L
RT: 7.072 min Scan# 572
Delta R.T. -0.005 min
Lab File: y185123.d
Acq: 11 May 2019 3:08 pm

Tgt Ion: 43 Resp: 69829

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 32.7 | 1.4 | 61.4 |

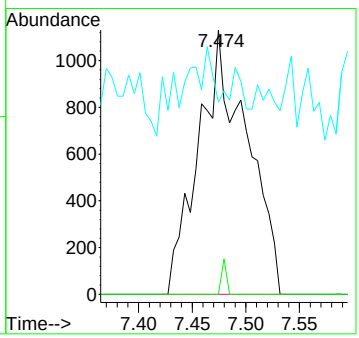


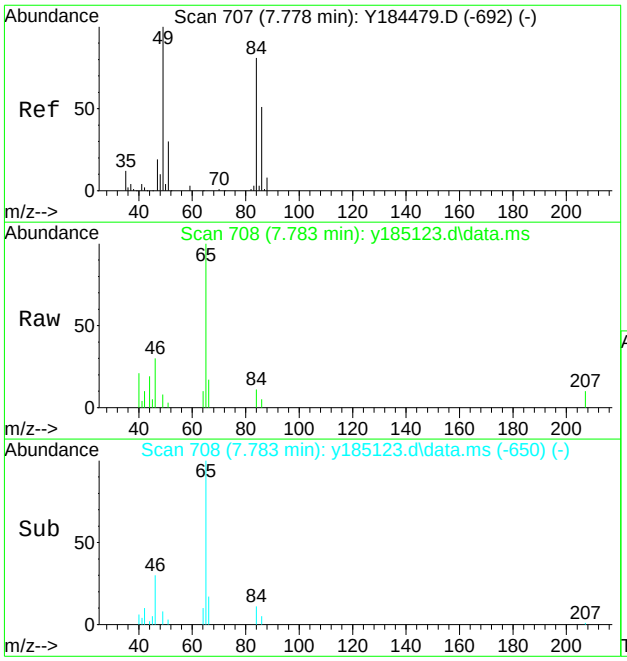




#23
carbon disulfide
Concen: 0.43 ug/L
RT: 7.474 min Scan# 649
Delta R.T. 0.005 min
Lab File: y185123.d
Acq: 11 May 2019 3:08 pm

Tgt Ion: 76 Resp: 3537

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 38.7 |
| 44 | 0.0 | 0.0 | 42.6 |

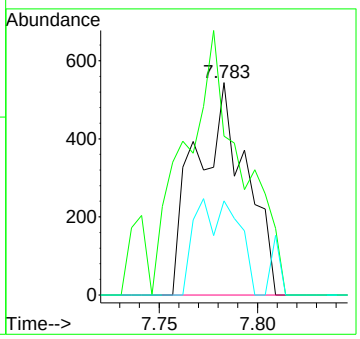


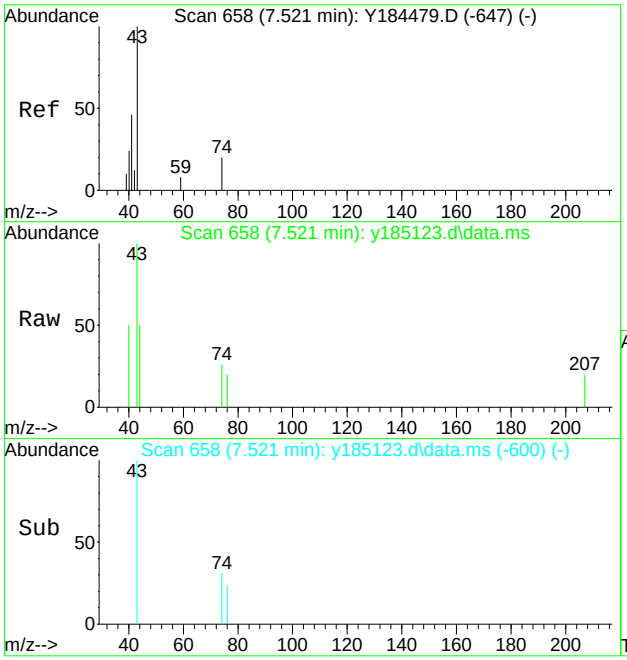



#24
methylene chloride
Concen: 0.29 ug/L
RT: 7.783 min Scan# 708
Delta R.T. 0.005 min
Lab File: y185123.d
Acq: 11 May 2019 3:08 pm

Tgt Ion: 84 Resp: 953

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 74.8 | 104.2 | 164.2# |
| 86 | 44.3 | 35.3 | 95.3 |

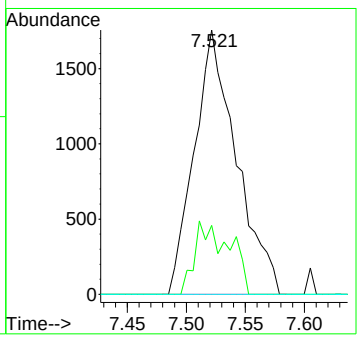


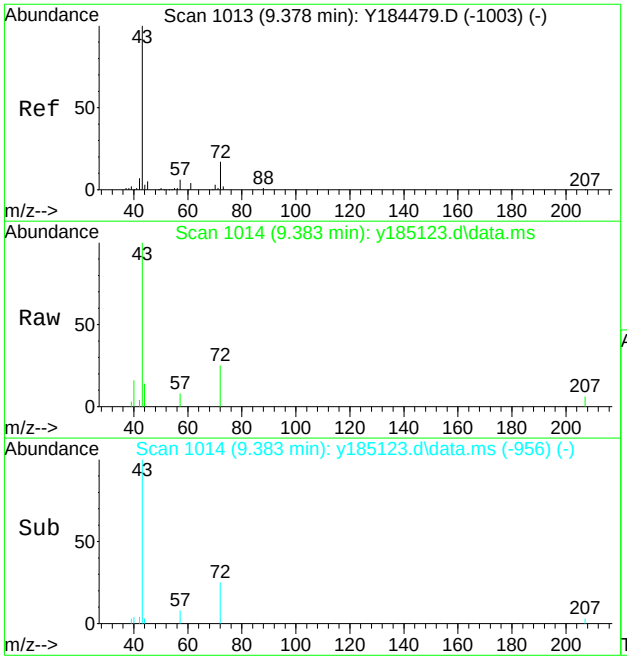




#25
methyl acetate
Concen: 3.11 ug/L
RT: 7.521 min Scan# 658
Delta R.T. 0.005 min
Lab File: y185123.d
Acq: 11 May 2019 3:08 pm

Tgt Ion: 43 Resp: 4351

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 74 | 26.1 | 0.0 | 49.1 |
| 59 | 0.0 | 0.0 | 37.4 |

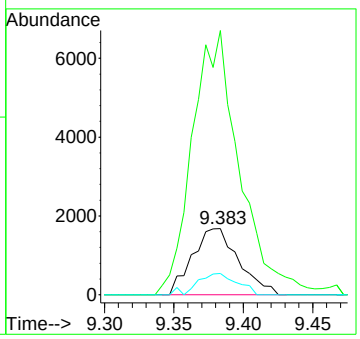





#31
2-butanone
Concen: 19.52 ug/L
RT: 9.383 min Scan# 1014
Delta R.T. 0.005 min
Lab File: y185123.d
Acq: 11 May 2019 3:08 pm

Tgt Ion: 72 Resp: 3879

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 384.1 | 537.8 | 597.8# |
| 57 | 32.4 | 1.1 | 61.1 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167664.d
Acq On : 15 May 2019 6:16 pm
Operator : thienn
Sample : JC87535-7 Inst : Instrument #1
Misc : MS34539,V2C7520,5.7,,1,10,1
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:24:55 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

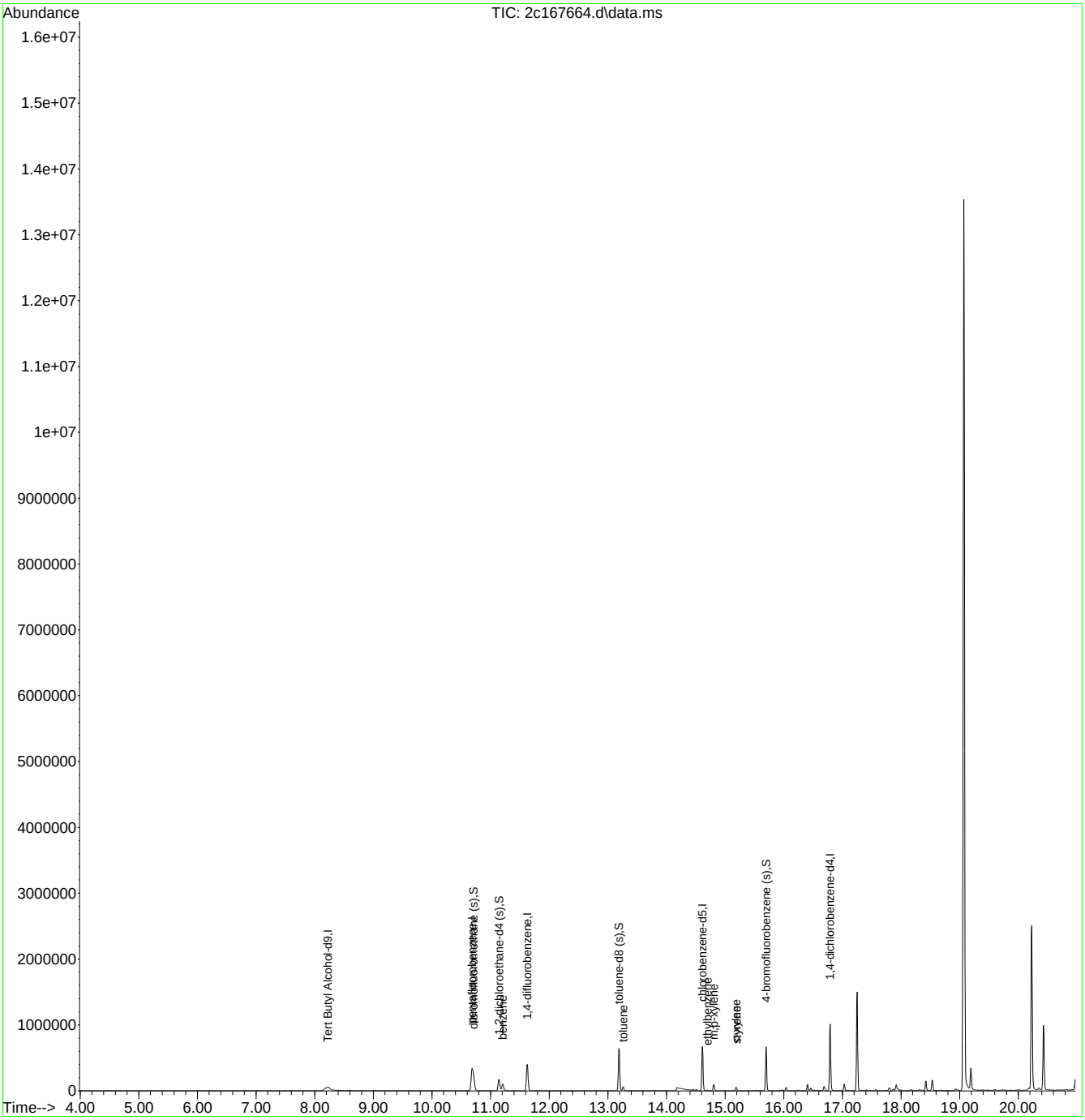
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.223 | 65 | 259052 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 10.682 | 168 | 279264 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 364136 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 350270 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 239731 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 128695 | 48.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.04% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 145187 | 49.70 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 99.40% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 413610 | 49.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.74% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 180398 | 49.84 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.68% | | | |
| Target Compounds | | | | | | Qvalue |
| 56) benzene | 11.207 | 78 | 103146 | 10.00 | ug/L | 98 |
| 76) toluene | 13.262 | 92 | 24673 | 3.98 | ug/L | 98 |
| 89) ethylbenzene | 14.698 | 91 | 7977 | 0.63 | ug/L | 96 |
| 90) m,p-xylene | 14.803 | 106 | 28204 | 5.84 | ug/L | 96 |
| 91) o-xylene | 15.186 | 106 | 10470 | 1.92 | ug/L | 92 |
| 92) styrene | 15.196 | 104 | 8944 | 1.07 | ug/L | 82 |

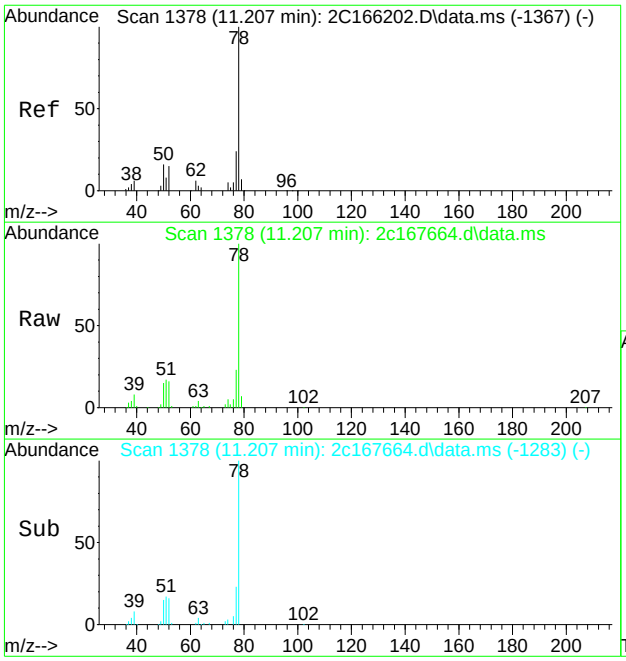
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167664.d
Acq On : 15 May 2019 6:16 pm
Operator : thienn
Sample : JC87535-7 Inst : Instrument #1
Misc : MS34539,V2C7520,5.7,,1,10,1
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:24:55 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

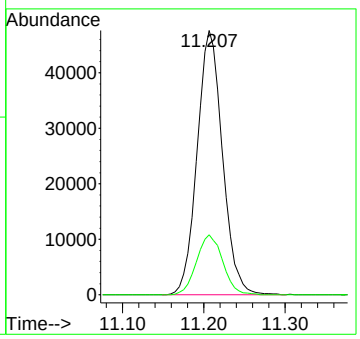


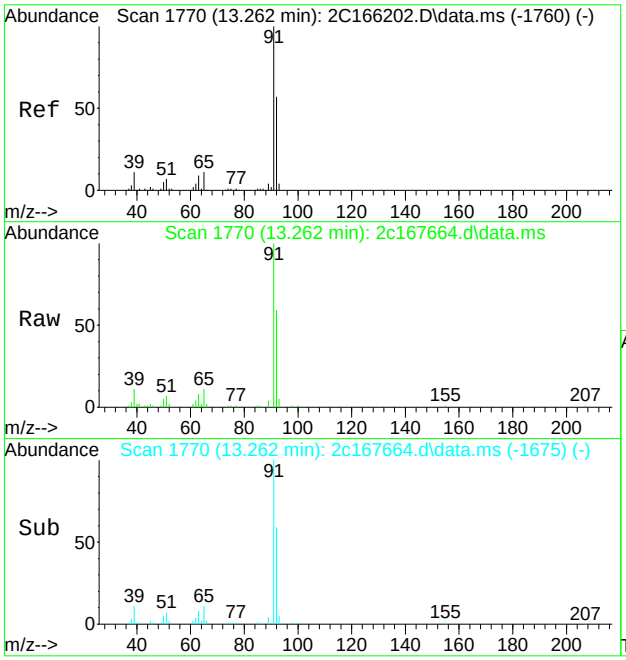



#56
benzene
Concen: 10.00 ug/L
RT: 11.207 min Scan# 1378
Delta R.T. 0.000 min
Lab File: 2c167664.d
Acq: 15 May 2019 6:16 pm

Tgt Ion: 78 Resp: 103146

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 22.7 | 0.0 | 53.7 |

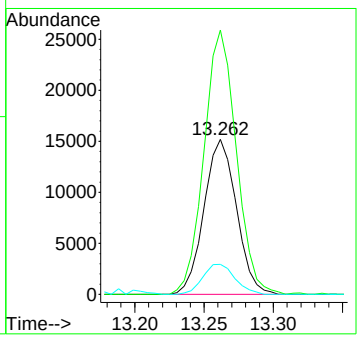


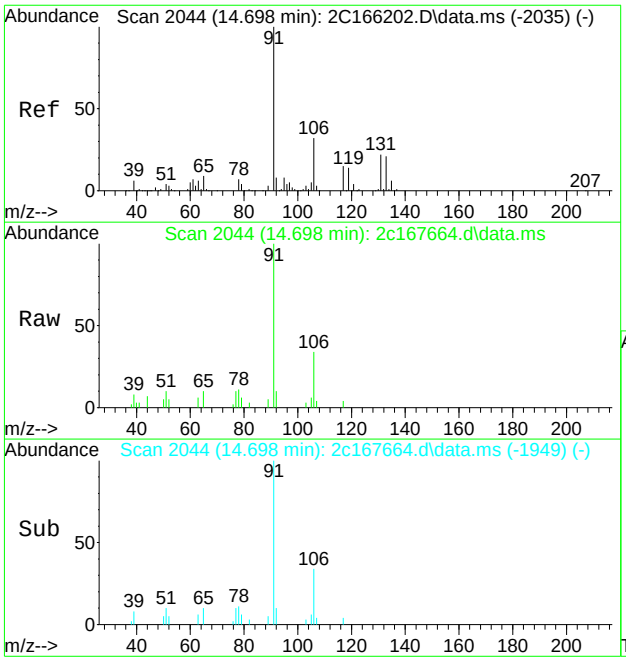




#76
toluene
Concen: 3.98 ug/L
RT: 13.262 min Scan# 1770
Delta R.T. 0.000 min
Lab File: 2c167664.d
Acq: 15 May 2019 6:16 pm

Tgt Ion: 92 Resp: 24673

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 170.5 | 154.0 | 194.0 |
| 65 | 19.3 | 0.0 | 38.8 |

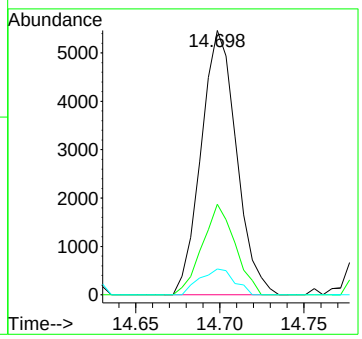


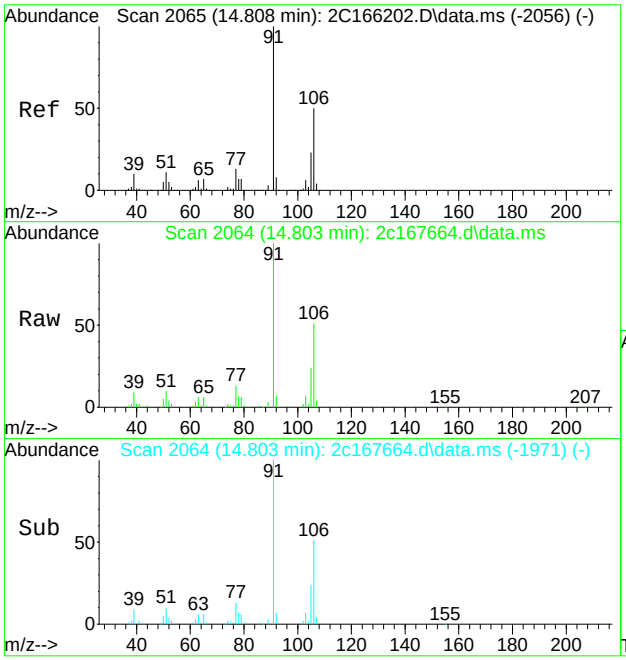



#89
ethylbenzene
Concen: 0.63 ug/L
RT: 14.698 min Scan# 2044
Delta R.T. 0.000 min
Lab File: 2c167664.d
Acq: 15 May 2019 6:16 pm

Tgt Ion: 91 Resp: 7977

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 34.2 | 2.0 | 62.0 |
| 65 | 9.7 | 0.0 | 39.0 |

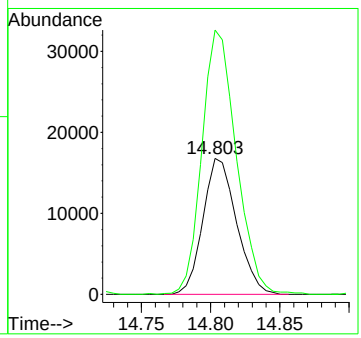


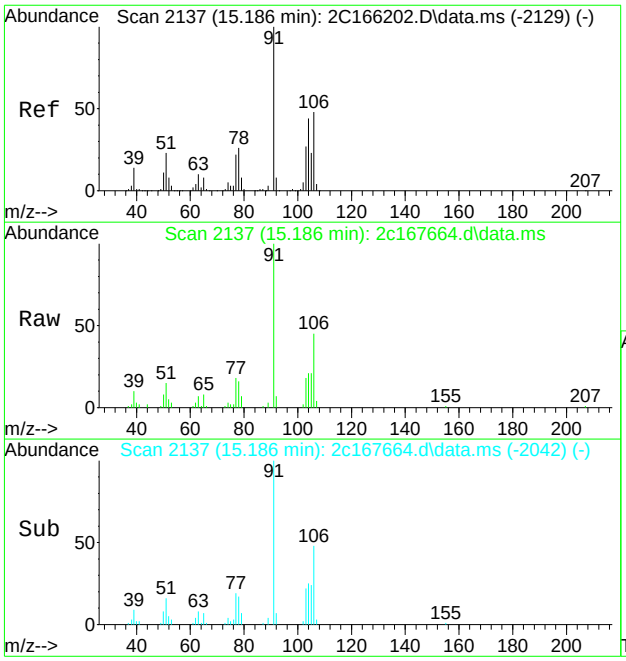




#90
m,p-xylene
Concen: 5.84 ug/L
RT: 14.803 min Scan# 2064
Delta R.T. -0.010 min
Lab File: 2c167664.d
Acq: 15 May 2019 6:16 pm

Tgt Ion:106 Resp: 28204

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 193.8 | 169.9 | 229.9 |

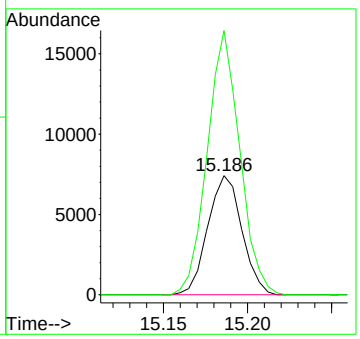


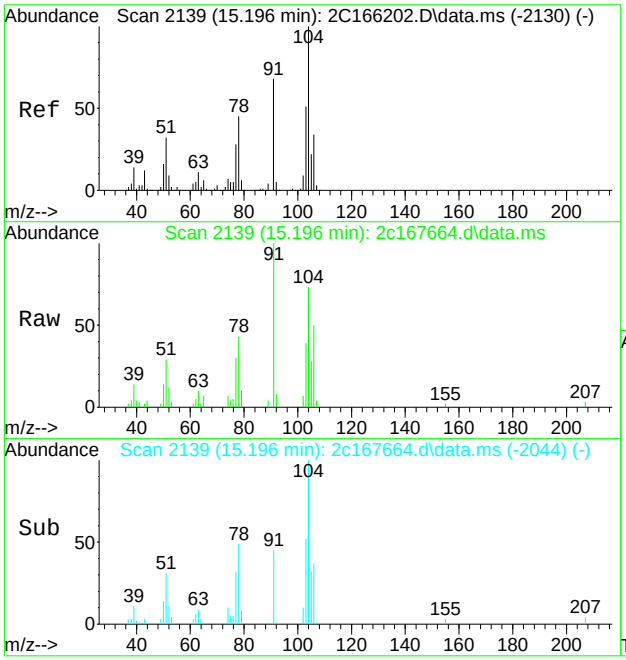



#91
o-xylene
Concen: 1.92 ug/L
RT: 15.186 min Scan# 2137
Delta R.T. 0.000 min
Lab File: 2c167664.d
Acq: 15 May 2019 6:16 pm

Tgt Ion:106 Resp: 10470

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 221.7 | 179.1 | 239.1 |

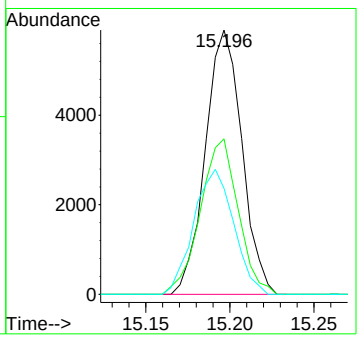



#92
styrene
Concen: 1.07 ug/L
RT: 15.196 min Scan# 2139
Delta R.T. 0.000 min
Lab File: 2c167664.d
Acq: 15 May 2019 6:16 pm

Tgt Ion:104 Resp: 8944

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 104 | 100 | | |
| 78 | 58.9 | 15.4 | 75.4 |
| 51 | 40.0 | 1.5 | 61.5 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185119.d
Acq On : 11 May 2019 1:14 pm
Operator : PrashanS
Sample : JC87535-8 Inst : MSY
Misc : MS34539,VY8033,5.4,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:40:25 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

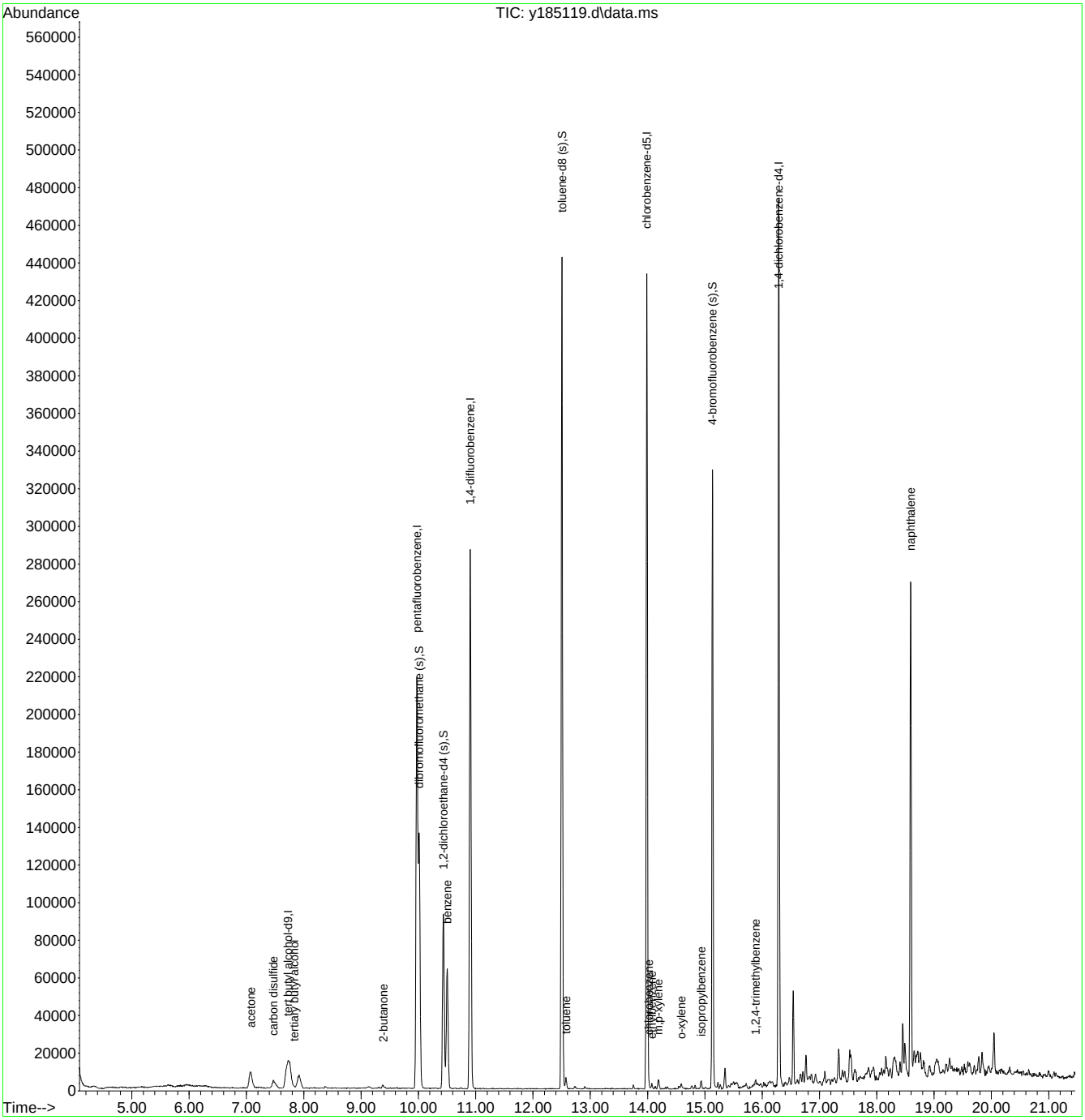
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.725 | 65 | 49808 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.974 | 168 | 183039 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 261622 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 233745 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 116456 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.011 | 113 | 86664 | 52.20 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 104.40% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 70351 | 48.14 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 96.28% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 286547 | 48.44 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.88% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 93249 | 48.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 96.58% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.830 | 59 | 1033 | 6.65 | ug/L | 54 |
| 20) acetone | 7.077 | 43 | 21716 | 48.43 | ug/L | 98 |
| 23) carbon disulfide | 7.469 | 76 | 11785 | 1.92 | ug/L | 96 |
| 31) 2-butanone | 9.389 | 72 | 513 | 3.48 | ug/L # | 1 |
| 57) benzene | 10.503 | 78 | 65228 | 8.63 | ug/L | 98 |
| 76) toluene | 12.579 | 92 | 2588 | 0.57 | ug/L | 100 |
| 87) chlorobenzene | 14.023 | 112 | 1057 | 0.20 | ug/L | 83 |
| 89) ethylbenzene | 14.075 | 91 | 2136 | 0.25 | ug/L | 97 |
| 90) m,p-xylene | 14.190 | 106 | 1582 | 0.48 | ug/L | 86 |
| 91) o-xylene | 14.587 | 91 | 1723 | 0.24 | ug/L | 94 |
| 95) isopropylbenzene | 14.938 | 105 | 2204 | 0.26 | ug/L | 92 |
| 108) 1,2,4-trimethylbenzene | 15.885 | 105 | 2494 | 0.37 | ug/L | 94 |
| 119) naphthalene | 18.594 | 128 | 206225 | 37.86 | ug/L | 99 |

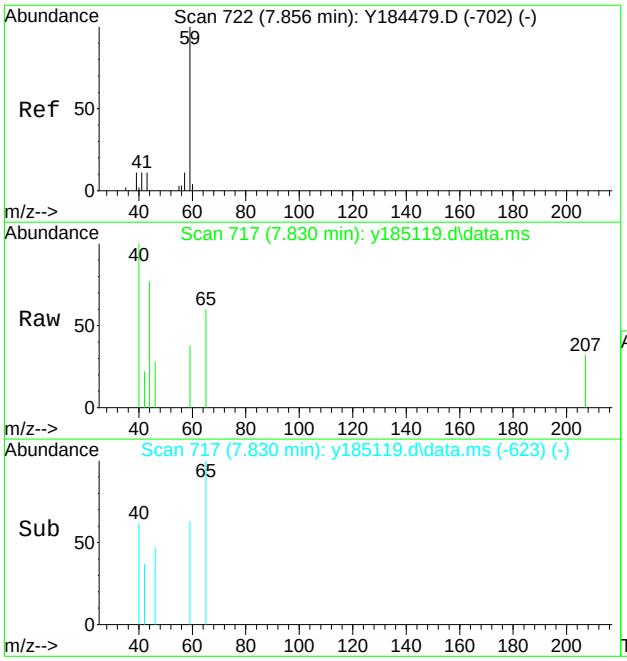
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185119.d
Acq On : 11 May 2019 1:14 pm
Operator : PrashanS
Sample : JC87535-8 Inst : MSY
Misc : MS34539,VY8033,5.4,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:40:25 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

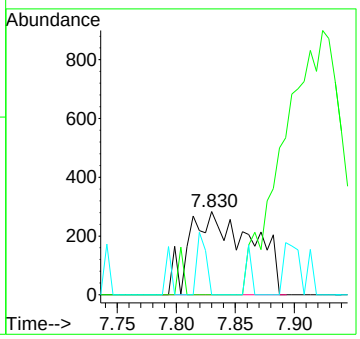


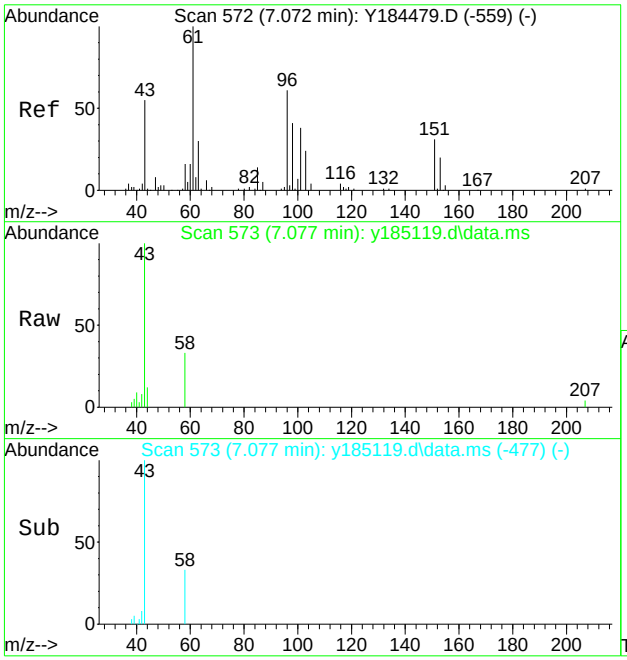



#3
tertiary butyl alcohol
Concen: 6.65 ug/L
RT: 7.830 min Scan# 717
Delta R.T. -0.011 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 59 Resp: 1033

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 41 | 0.0 | 0.0 | 54.6 |
| 43 | 0.0 | 0.0 | 48.5 |

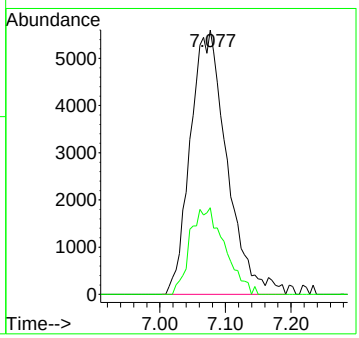


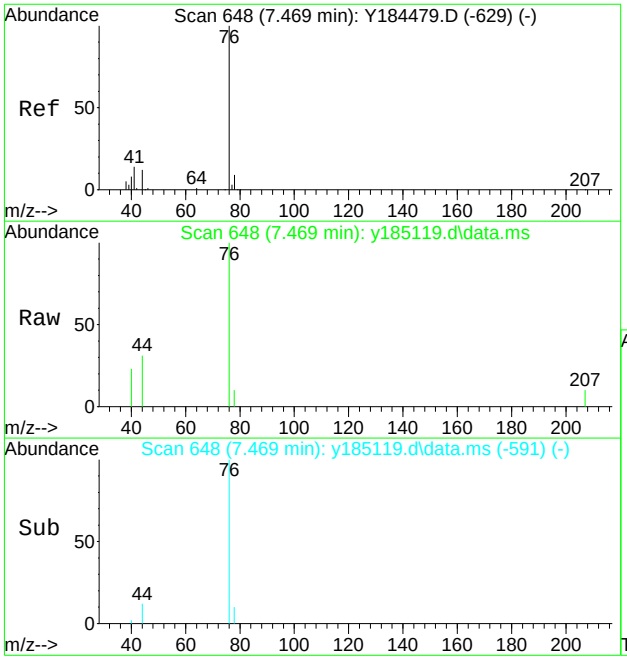




#20
acetone
Concen: 48.43 ug/L
RT: 7.077 min Scan# 573
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 43 Resp: 21716

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 32.7 | 1.4 | 61.4 |

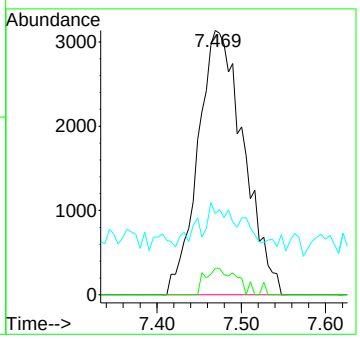


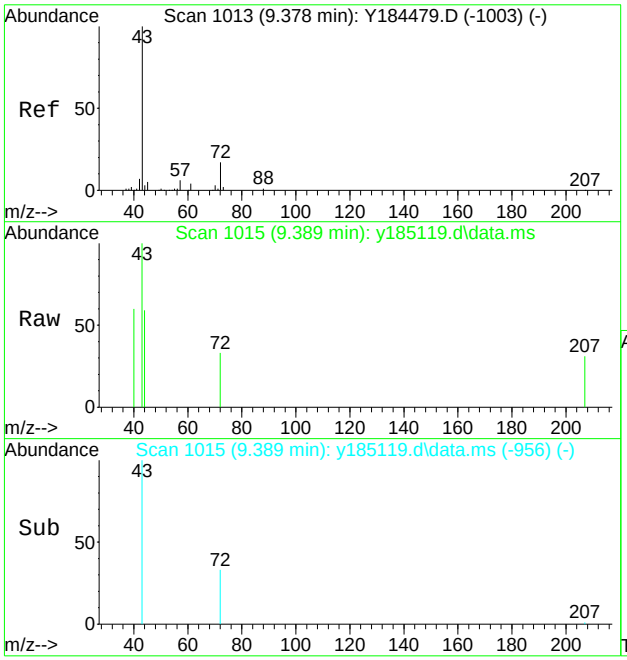



#23
carbon disulfide
Concen: 1.92 ug/L
RT: 7.469 min Scan# 648
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 76 Resp: 11785

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 10.1 | 0.0 | 38.7 |
| 44 | 14.1 | 0.0 | 42.6 |

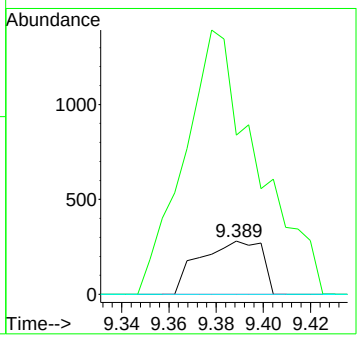


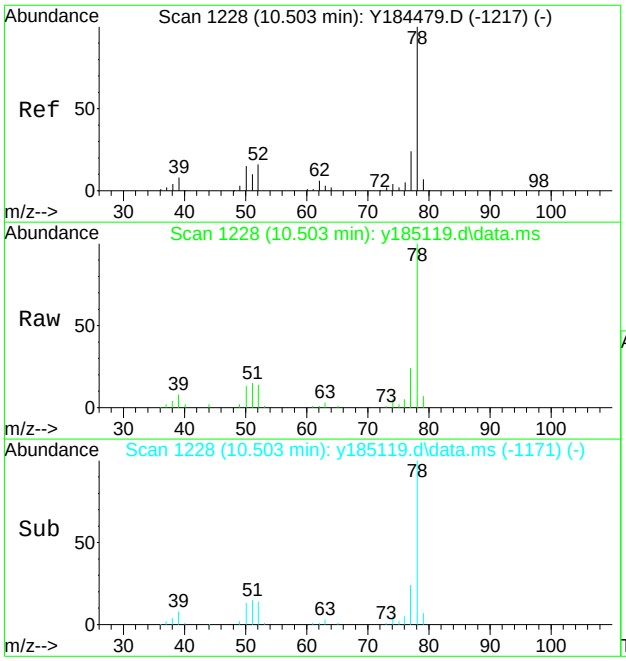




#31
2-butanone
Concen: 3.48 ug/L
RT: 9.389 min Scan# 1015
Delta R.T. 0.010 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 72 Resp: 513

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 173.6 | 537.8 | 597.8# |
| 57 | 0.0 | 1.1 | 61.1# |

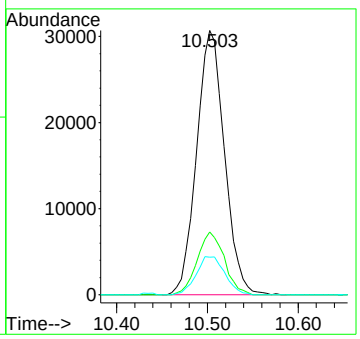


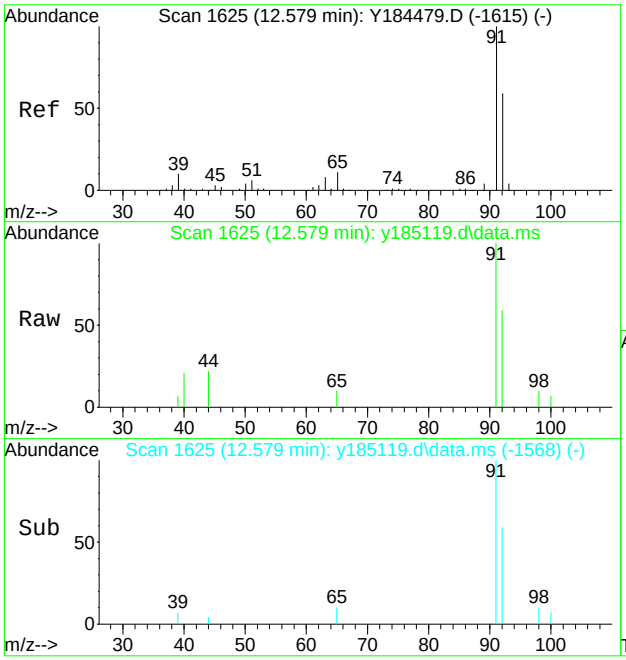



#57
benzene
Concen: 8.63 ug/L
RT: 10.503 min Scan# 1228
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 78 Resp: 65228

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 23.8 | 0.0 | 53.1 |
| 52 | 14.2 | 0.0 | 45.8 |

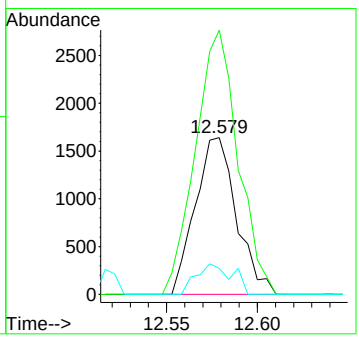


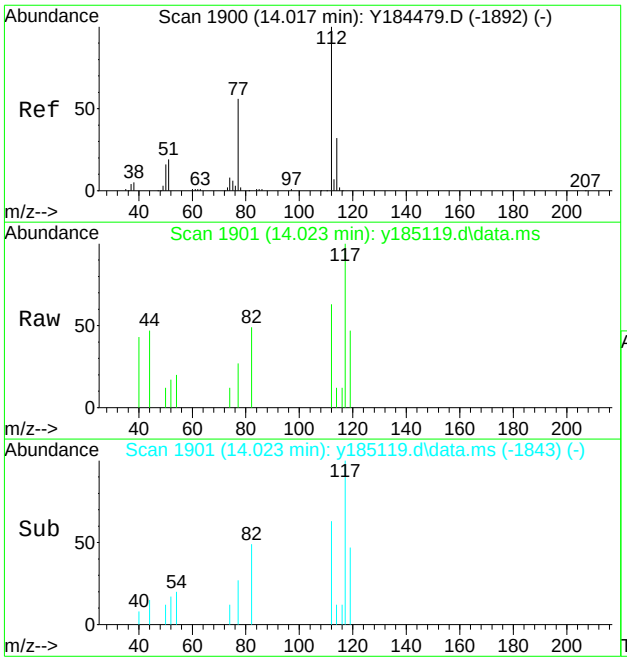




#76
toluene
Concen: 0.57 ug/L
RT: 12.579 min Scan# 1625
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 92 Resp: 2588

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 168.6 | 148.7 | 188.7 |
| 65 | 16.6 | 0.0 | 38.2 |

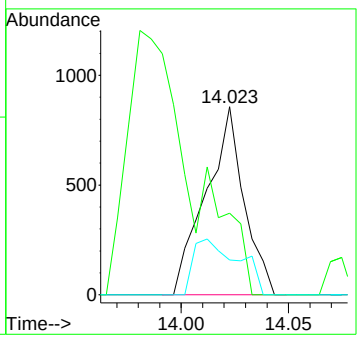


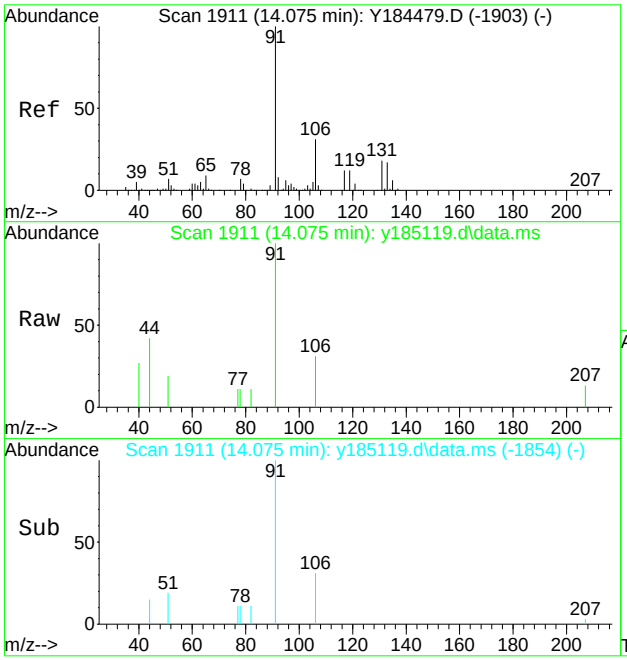



#87
chlorobenzene
Concen: 0.20 ug/L
RT: 14.023 min Scan# 1901
Delta R.T. 0.005 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion:112 Resp: 1057

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 112 | 100 | | |
| 77 | 43.4 | 23.5 | 83.5 |
| 114 | 18.6 | 1.0 | 61.0 |

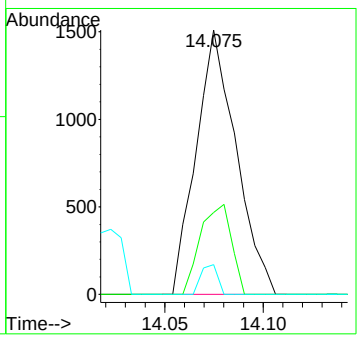


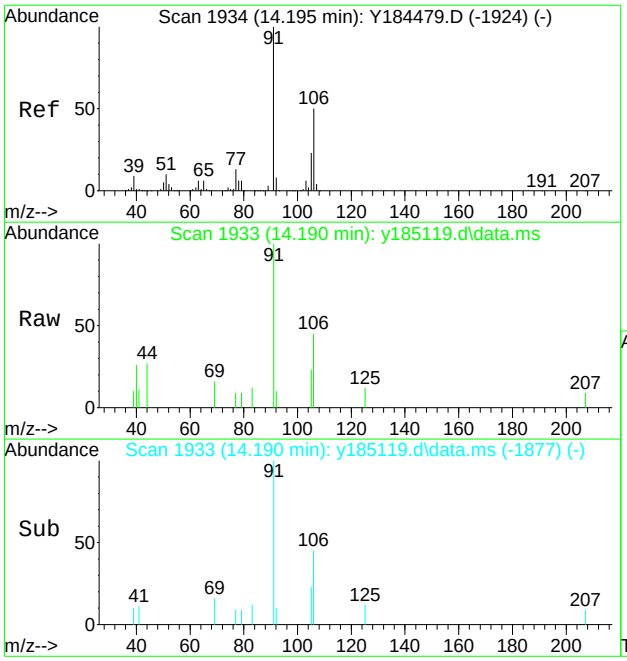




#89
ethylbenzene
Concen: 0.25 ug/L
RT: 14.075 min Scan# 1911
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 91 Resp: 2136

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 31.0 | 1.9 | 61.9 |
| 77 | 11.3 | 0.0 | 38.5 |

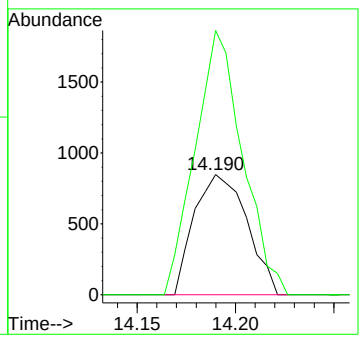


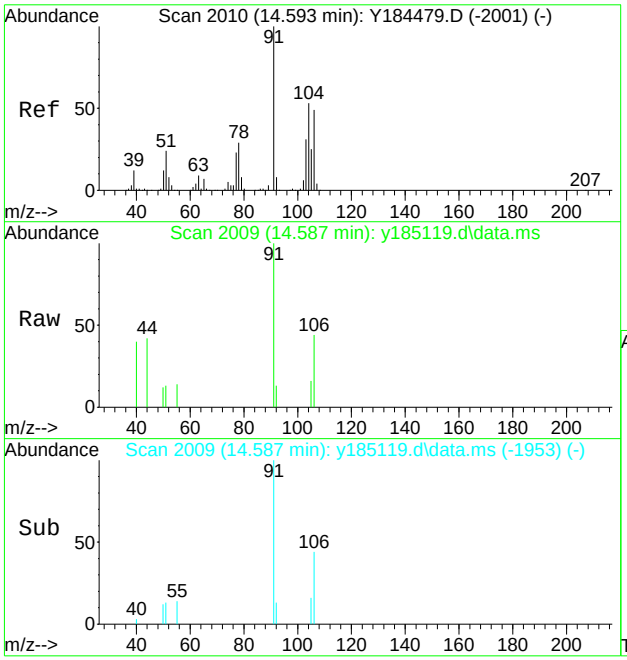



#90
m,p-xylene
Concen: 0.48 ug/L
RT: 14.190 min Scan# 1933
Delta R.T. -0.005 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion:106 Resp: 1582

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 219.9 | 168.8 | 228.8 |

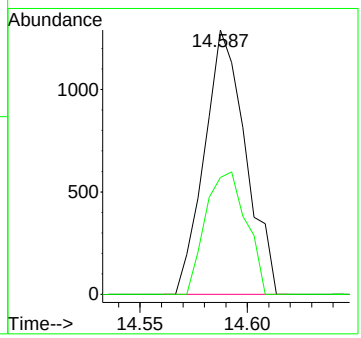


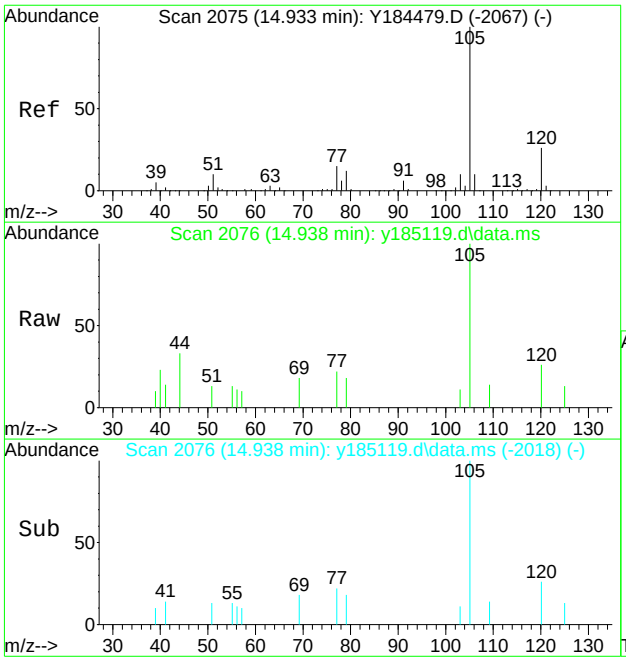




#91
o-xylene
Concen: 0.24 ug/L
RT: 14.587 min Scan# 2009
Delta R.T. -0.005 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion: 91 Resp: 1723

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 44.2 | 18.0 | 78.0 |

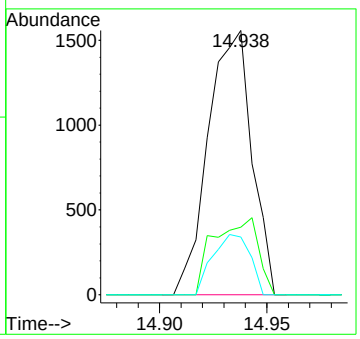


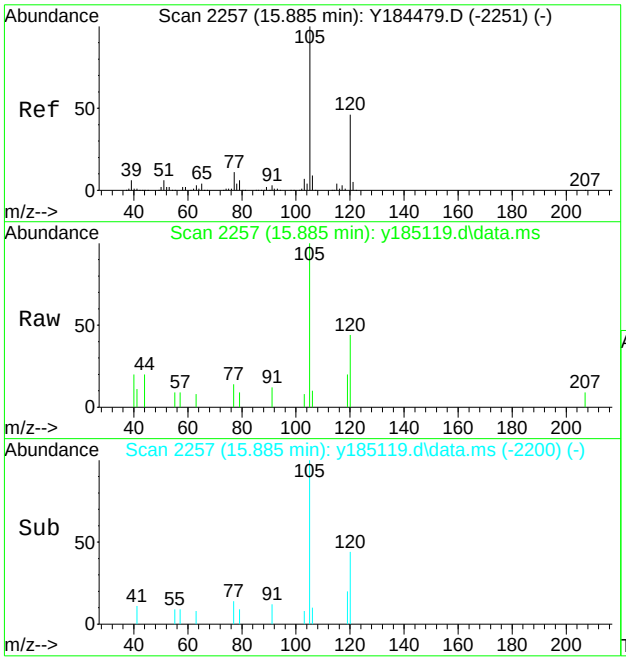



#95
isopropylbenzene
Concen: 0.26 ug/L
RT: 14.938 min Scan# 2076
Delta R.T. 0.005 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion:105 Resp: 2204

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 25.5 | 6.9 | 46.9 |
| 77 | 21.8 | 0.0 | 35.0 |

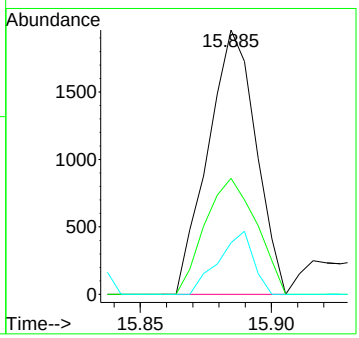


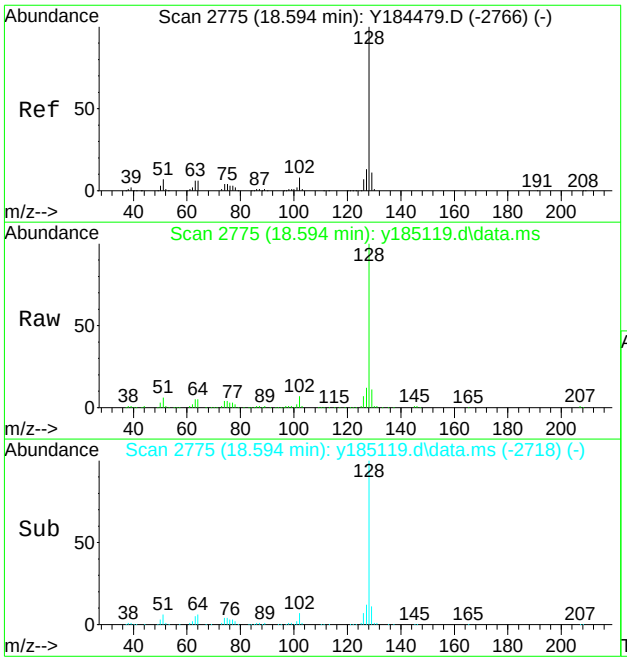




#108
1,2,4-trimethylbenzene
Concen: 0.37 ug/L
RT: 15.885 min Scan# 2257
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion:105 Resp: 2494

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 43.9 | 16.1 | 76.1 |
| 119 | 19.5 | 0.0 | 42.6 |

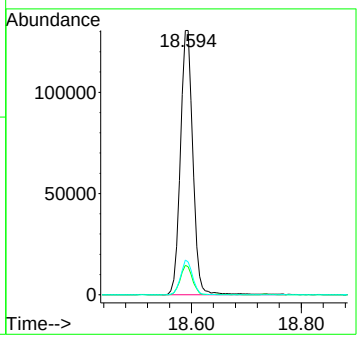





#119
naphthalene
Concen: 37.86 ug/L
RT: 18.594 min Scan# 2775
Delta R.T. -0.000 min
Lab File: y185119.d
Acq: 11 May 2019 1:14 pm

Tgt Ion:128 Resp: 206225

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 10.7 | 0.0 | 40.6 |
| 127 | 12.4 | 0.0 | 42.8 |




7.1.8

7

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
05/14/19 10:38

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185125.d
Acq On : 11 May 2019 4:05 pm
Operator : PrashanS
Sample : JC87535-9 Inst : MSY
Misc : MS34539,VY8033,5.7,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:48:26 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.736 | 65 | 89902 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.974 | 168 | 279144 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 399942 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 357032 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 191504 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.011 | 113 | 125758 | 49.66 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.32% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 99078 | 44.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 88.70% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 441542 | 48.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.74% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 151476 | 47.70 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.40% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 7.077 | 43 | 10305 | 15.07 | ug/L | 93 |
| 23) carbon disulfide | 7.485 | 76 | 10922 | 1.16 | ug/L | 90 |
| 48) cyclohexane | 10.215 | 84 | 1070 | 0.22 | ug/L # | 52 |
| 57) benzene | 10.503 | 78 | 64671 | 5.60 | ug/L | 97 |
| 67) methylcyclohexane | 11.507 | 83 | 3428 | 0.72 | ug/L | 91 |
| 76) toluene | 12.579 | 92 | 10551 | 1.53 | ug/L | 99 |
| 89) ethylbenzene | 14.075 | 91 | 9683 | 0.75 | ug/L | 96 |
| 90) m,p-xylene | 14.190 | 106 | 10358 | 2.06 | ug/L | 99 |
| 91) o-xylene | 14.593 | 91 | 22747 | 2.10 | ug/L | 99 |
| 92) styrene | 14.603 | 104 | 3591 | 0.42 | ug/L | 82 |
| 95) isopropylbenzene | 14.933 | 105 | 4842m | 0.37 | ug/L | |

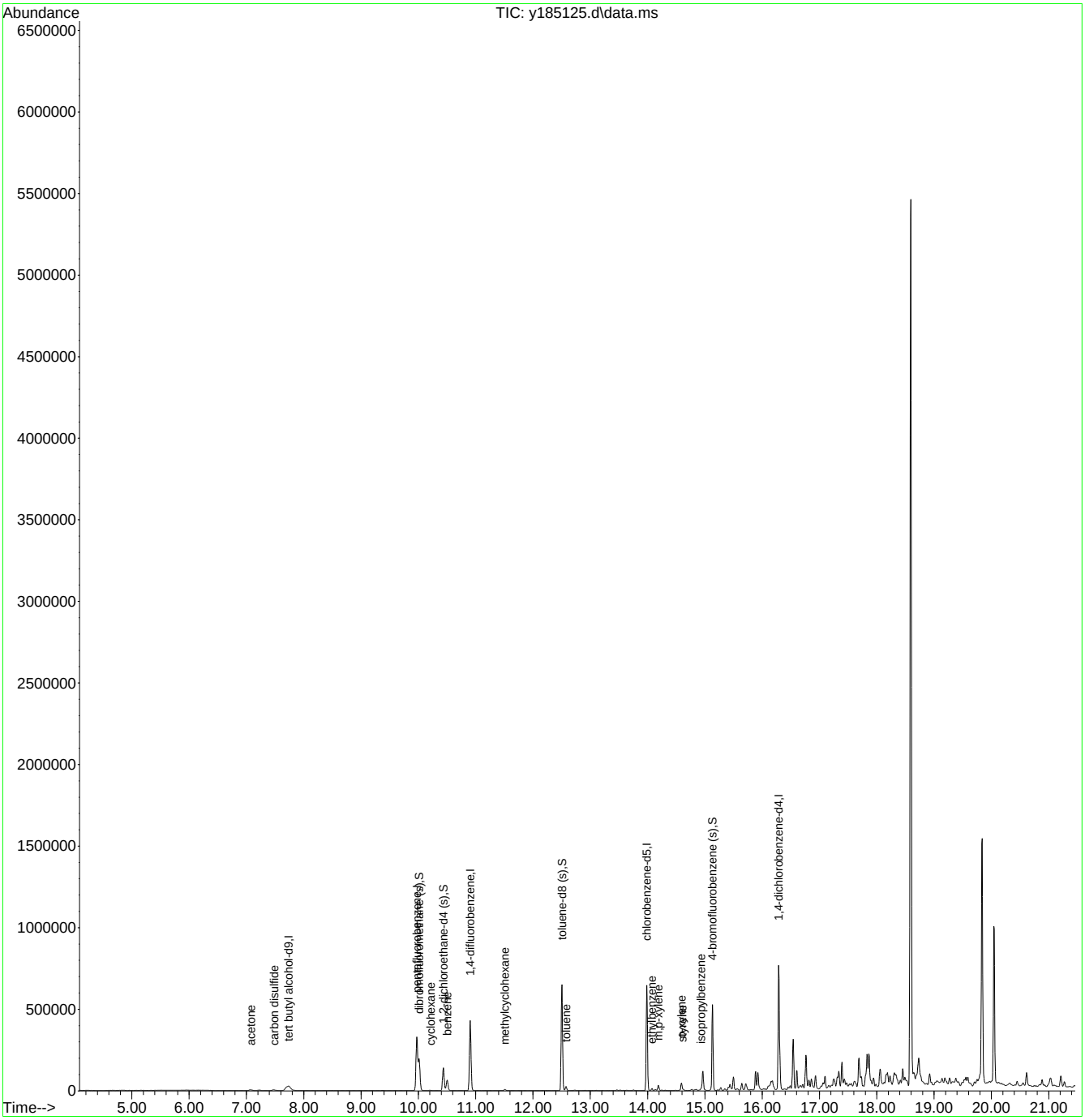
(#) = qualifier out of range (m) = manual integration (+) = signals summed

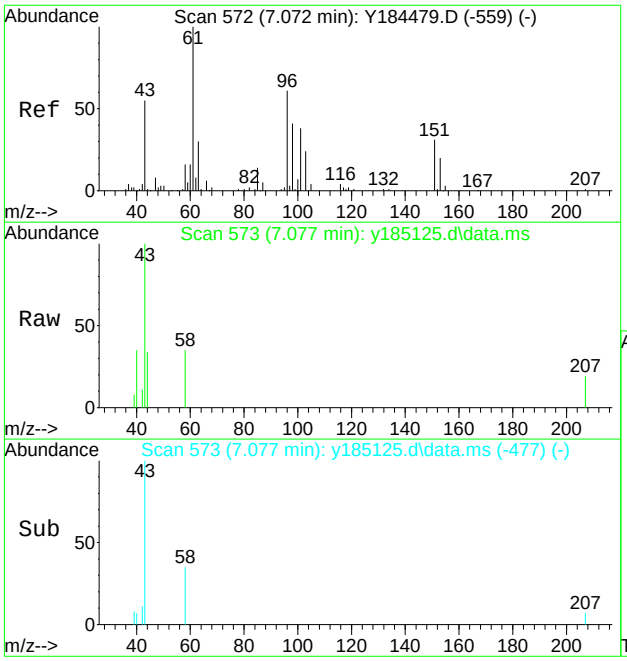
7.1.9
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185125.d
Acq On : 11 May 2019 4:05 pm
Operator : PrashanS
Sample : JC87535-9 Inst : MSY
Misc : MS34539,VY8033,5.7,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:48:26 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

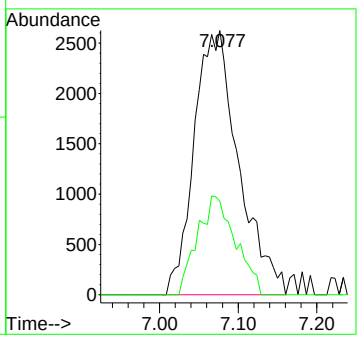


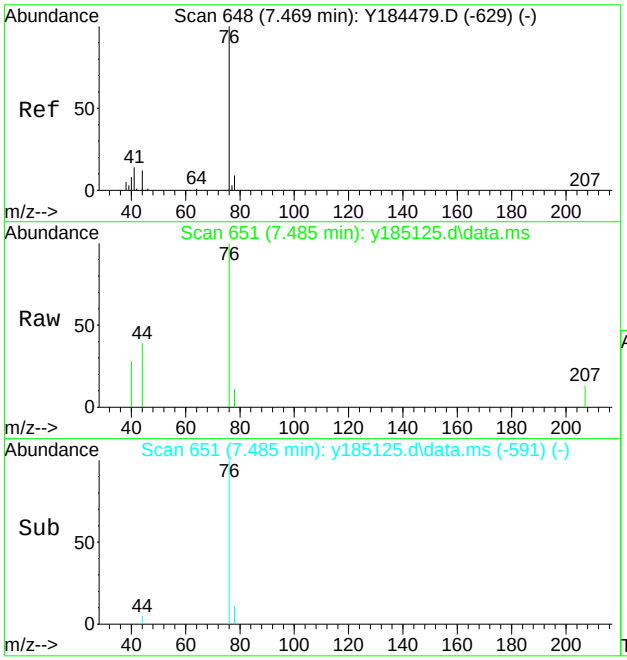



#20
acetone
Concen: 15.07 ug/L
RT: 7.077 min Scan# 573
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 43 Resp: 10305

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 35.4 | 1.4 | 61.4 |

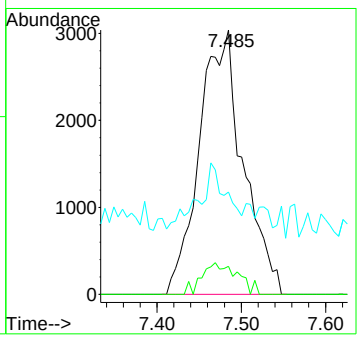


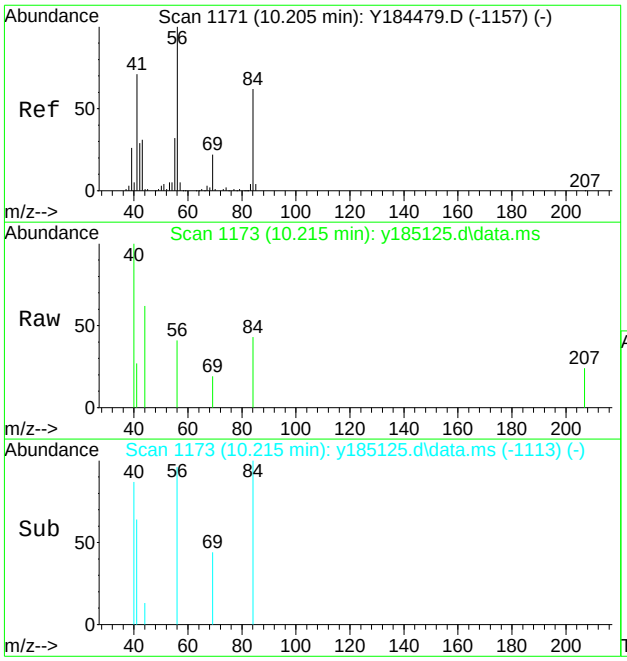




#23
carbon disulfide
Concen: 1.16 ug/L
RT: 7.485 min Scan# 651
Delta R.T. 0.016 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 76 Resp: 10922

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 10.7 | 0.0 | 38.7 |
| 44 | 17.6 | 0.0 | 42.6 |

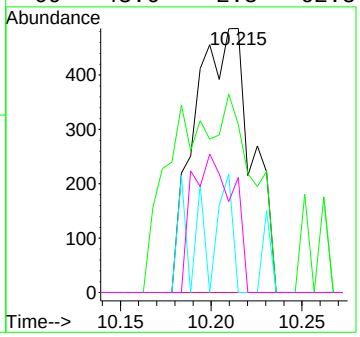


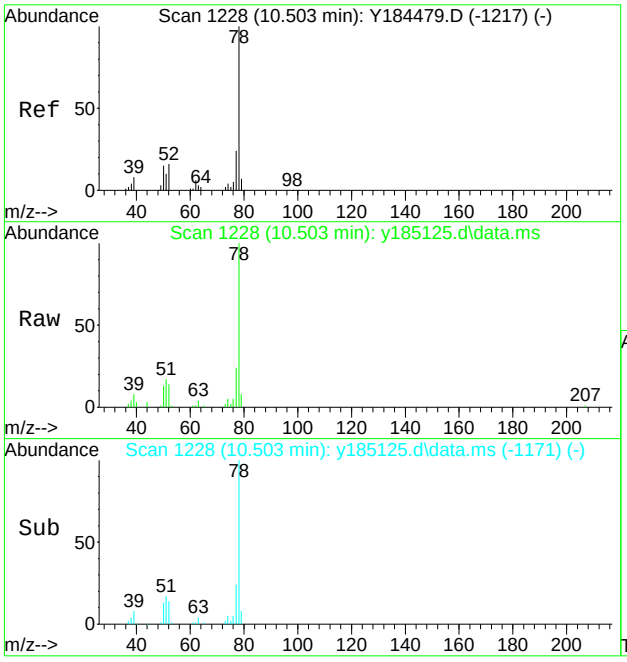



#48
cyclohexane
Concen: 0.22 ug/L
RT: 10.215 min Scan# 1173
Delta R.T. 0.016 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 84 Resp: 1070

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 41 | 63.6 | 84.2 | 144.2# |
| 55 | 0.0 | 17.2 | 77.2# |
| 69 | 43.6 | 2.5 | 62.5 |

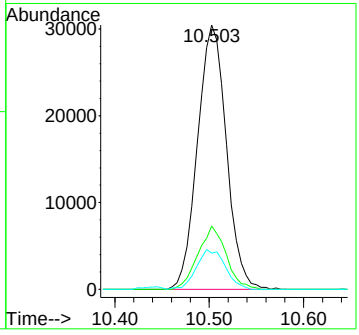


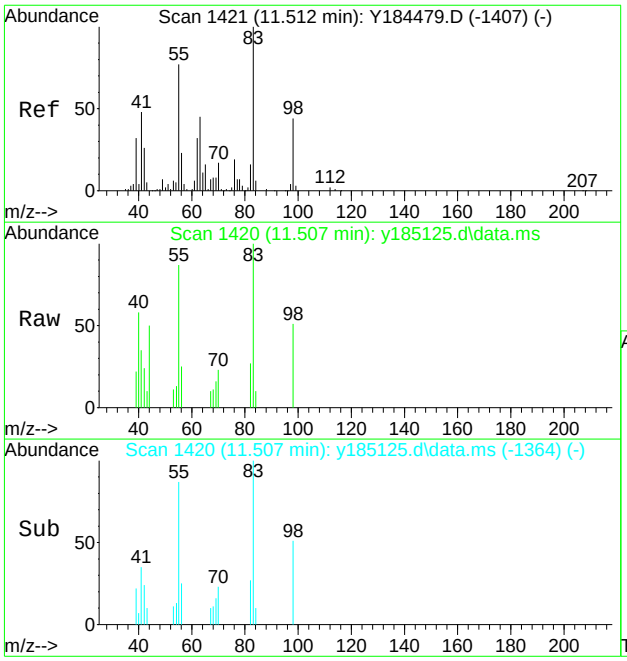




#57
benzene
Concen: 5.60 ug/L
RT: 10.503 min Scan# 1228
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 78 Resp: 64671

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 24.0 | 0.0 | 53.1 |
| 52 | 13.7 | 0.0 | 45.8 |

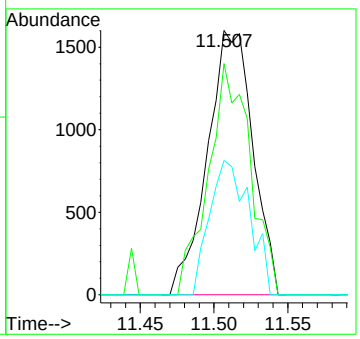


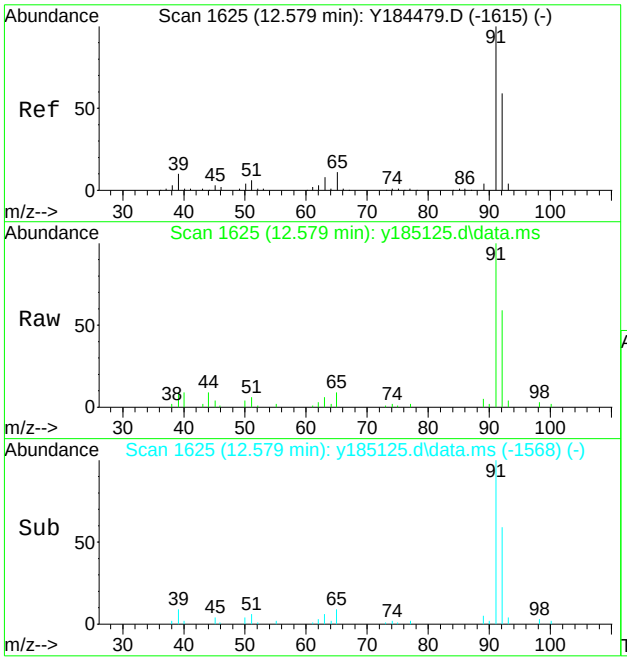



#67
methylcyclohexane
Concen: 0.72 ug/L
RT: 11.507 min Scan# 1420
Delta R.T. -0.005 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 83 Resp: 3428

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 55 | 87.5 | 49.0 | 109.0 |
| 98 | 50.8 | 15.7 | 75.7 |

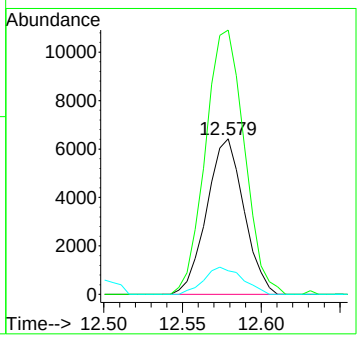


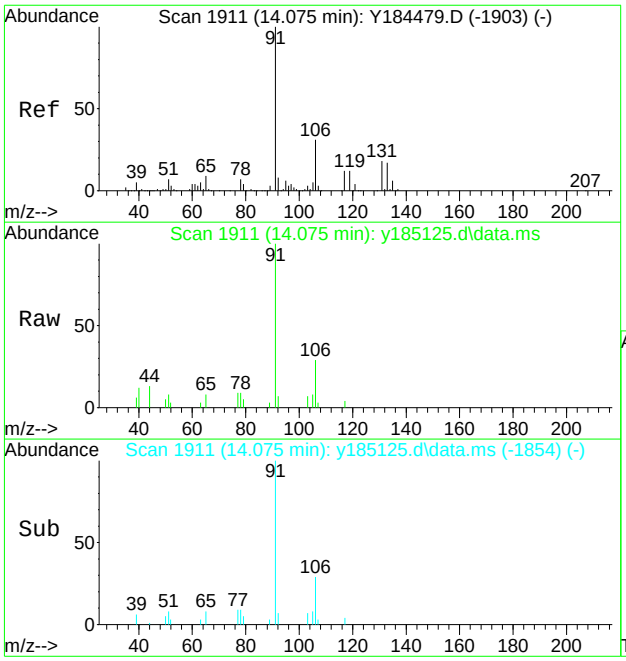




#76
toluene
Concen: 1.53 ug/L
RT: 12.579 min Scan# 1625
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 92 Resp: 10551

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 169.8 | 148.7 | 188.7 |
| 65 | 15.2 | 0.0 | 38.2 |

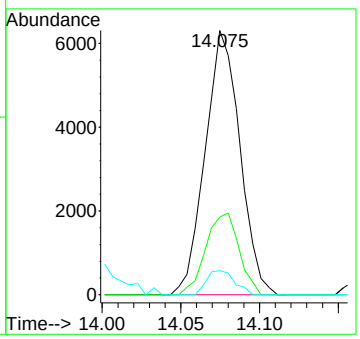


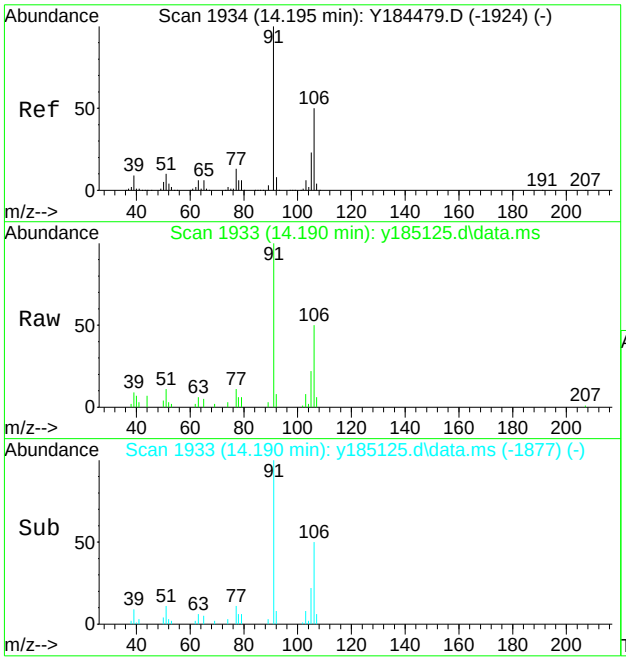



#89
ethylbenzene
Concen: 0.75 ug/L
RT: 14.075 min Scan# 1911
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 91 Resp: 9683

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 29.4 | 1.9 | 61.9 |
| 77 | 9.1 | 0.0 | 38.5 |

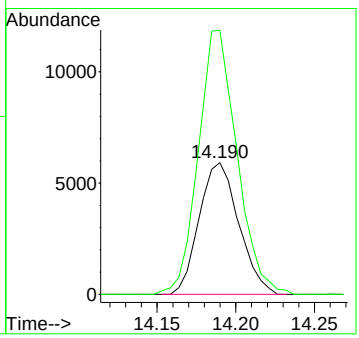


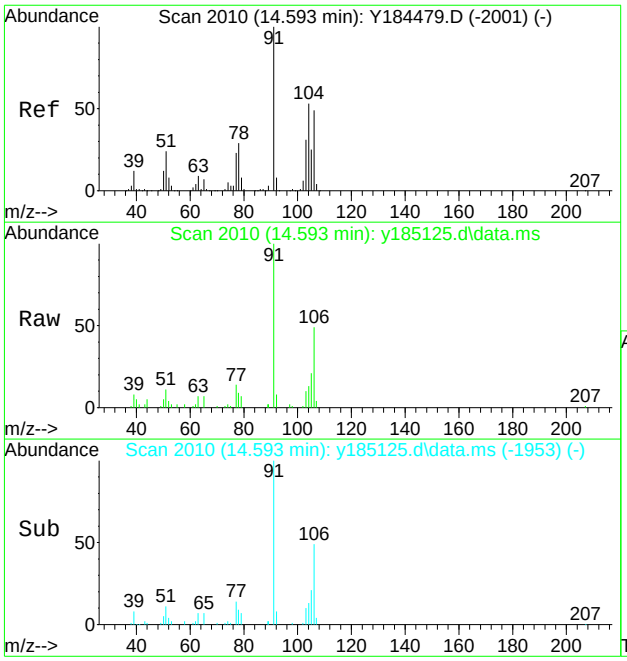




#90
m,p-xylene
Concen: 2.06 ug/L
RT: 14.190 min Scan# 1933
Delta R.T. -0.005 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion:106 Resp: 10358

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 197.9 | 168.8 | 228.8 |

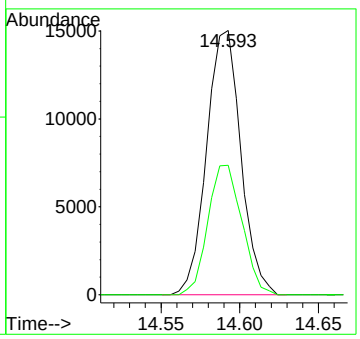


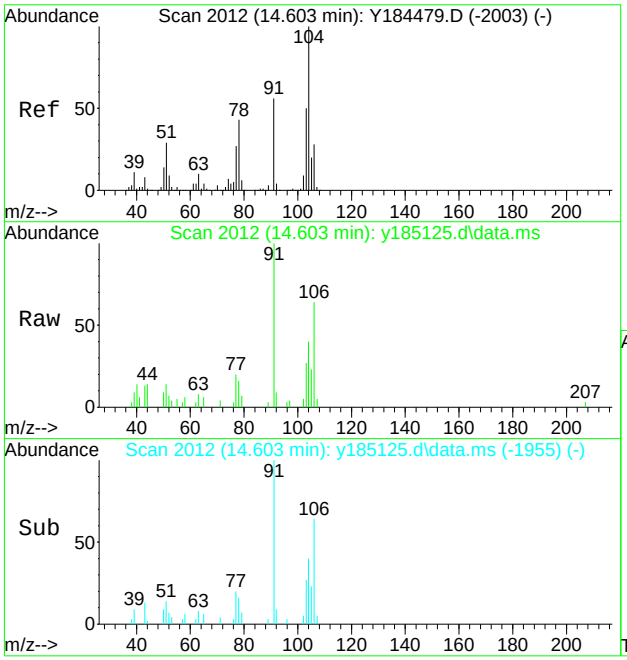



#91
o-xylene
Concen: 2.10 ug/L
RT: 14.593 min Scan# 2010
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion: 91 Resp: 22747

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 48.9 | 18.0 | 78.0 |

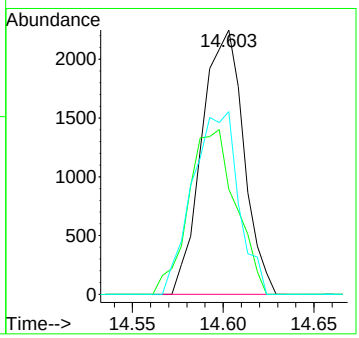


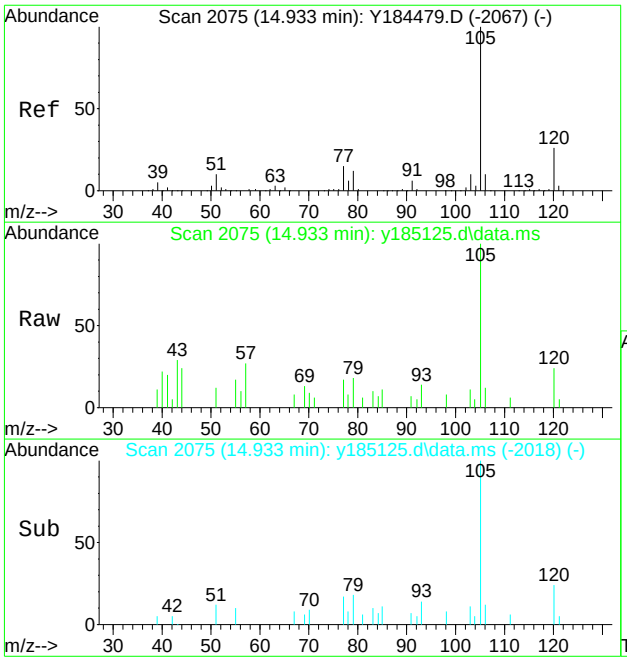




#92
styrene
Concen: 0.42 ug/L
RT: 14.603 min Scan# 2012
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion:104 Resp: 3591

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 104 | 100 | | |
| 78 | 39.8 | 15.1 | 75.1 |
| 103 | 69.1 | 20.8 | 80.8 |

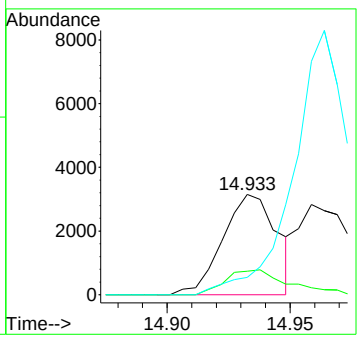





#95
isopropylbenzene
Concen: 0.37 ug/L m
RT: 14.933 min Scan# 2075
Delta R.T. -0.000 min
Lab File: y185125.d
Acq: 11 May 2019 4:05 pm

Tgt Ion:105 Resp: 4842

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 23.6 | 6.9 | 46.9 |
| 77 | 17.4 | 0.0 | 35.0 |




7.1.9

7

# Manual Integration Approval Summary



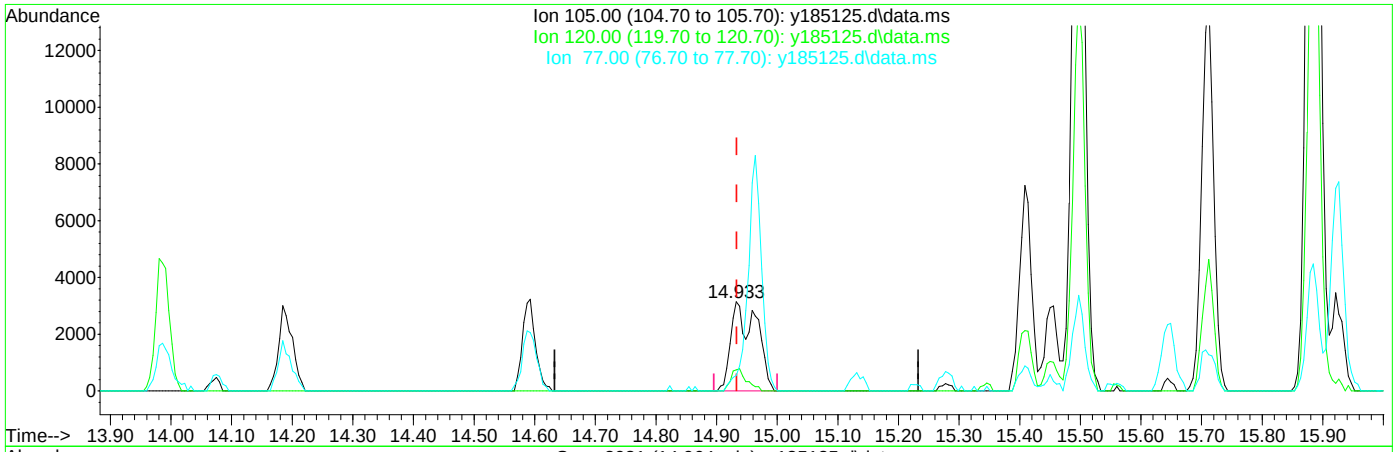
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-9 | **Method:** | SW846 8260C |
| **Lab FileID:** | Y185125.D | **Analyst approved:** | 05/14/19 10:19 Kenrick Basco |
| **Injection Time:** | 05/11/19 16:05 | **Supervisor approved:** | 05/14/19 10:38 Mei Chen |

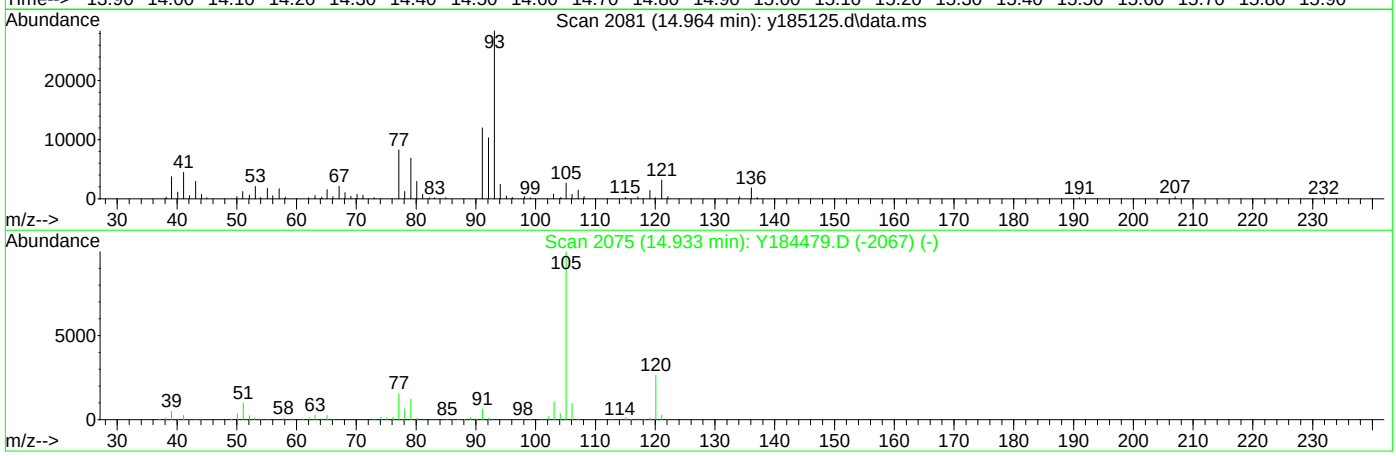
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Isopropylbenzene | 98-82-8 | | 14.93 | Poor instrument integration |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185125.d
Acq On : 11 May 2019 4:05 pm
Operator : PrashanS
Sample : JC87535-9 Inst : MSY
Misc : MS34539,VY8033,5.7,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 11 17:04:51 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration







TIC: y185125.d\data.ms

(95) isopropylbenzene

14.933min (-0.000) 0.70ug/L

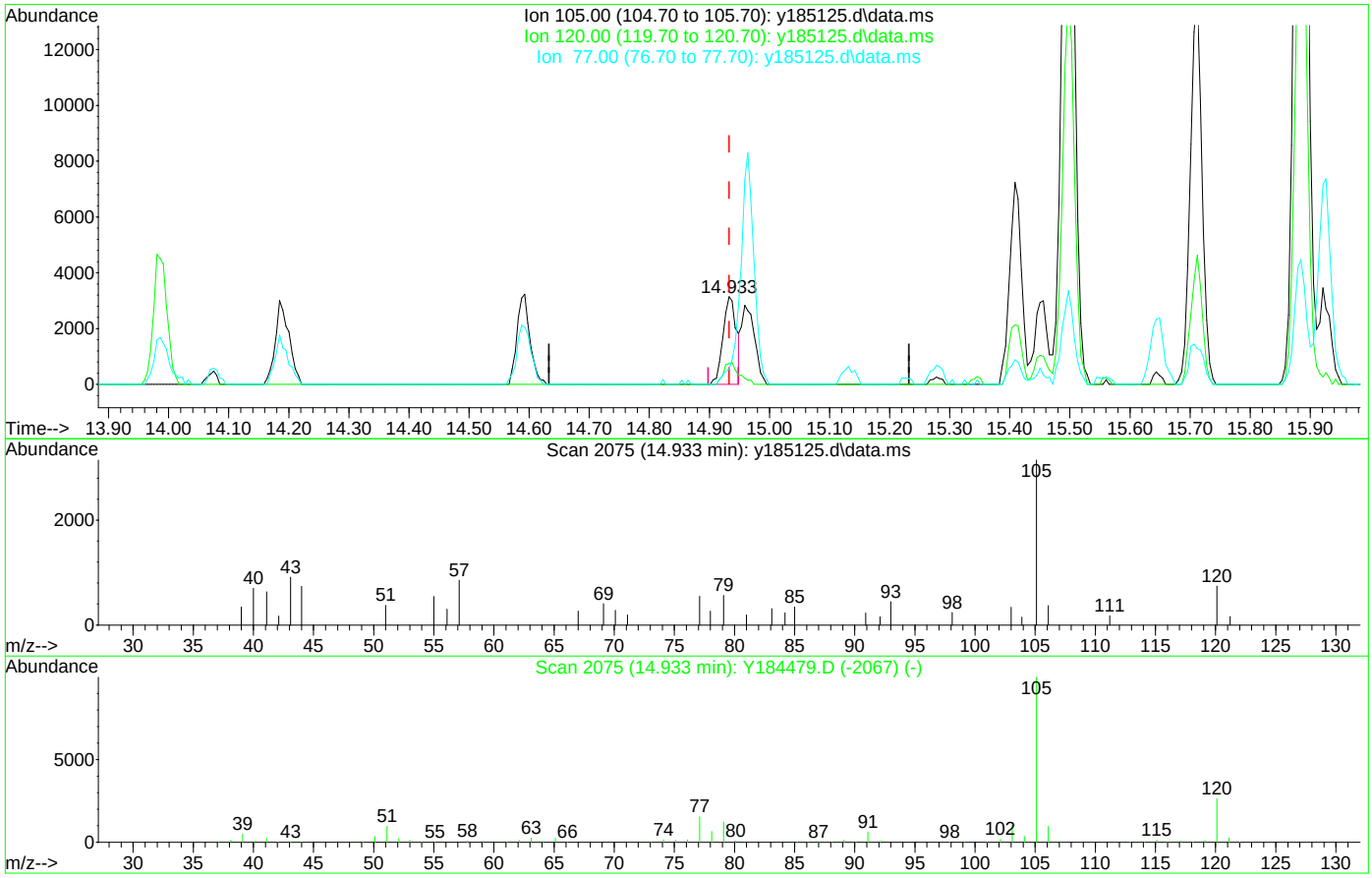
response 9131

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 120.00 | 26.90 | 23.60 |
| 77.00 | 15.00 | 17.38 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185125.d
Acq On : 11 May 2019 4:05 pm
Operator : PrashanS
Sample : JC87535-9 Inst : MSY
Misc : MS34539,VY8033,5.7,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 11 17:04:51 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration




TIC: y185125.d\data.ms

(95) isopropylbenzene

14.933min (-0.000) 0.37ug/L m

response 4842

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 120.00 | 26.90 | 23.60 |
| 77.00 | 15.00 | 17.38 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185124.d
Acq On : 11 May 2019 3:37 pm
Operator : PrashanS
Sample : JC87535-10 Inst : MSY
Misc : MS34539,VY8033,4.9,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:45:32 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

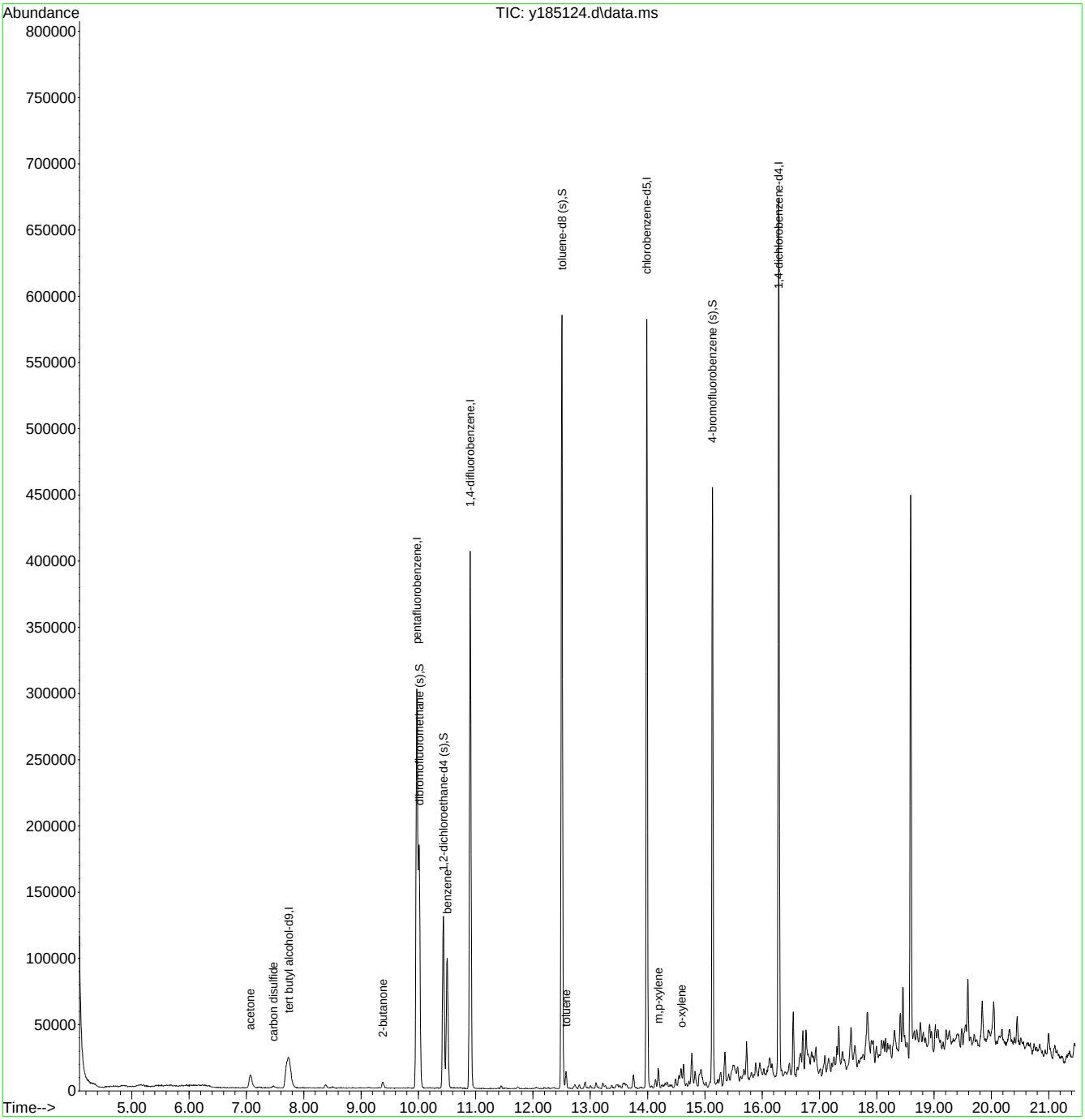
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.741 | 65 | 77733 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.974 | 168 | 256478 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 369256 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 317918 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 170680 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.016 | 113 | 118126 | 50.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.54% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 93945 | 45.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 91.08% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 396802 | 49.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.64% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 135327 | 47.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.64% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 7.066 | 43 | 24048 | 38.27 | ug/L | 95 |
| 23) carbon disulfide | 7.469 | 76 | 3453 | 0.40 | ug/L | 81 |
| 31) 2-butanone | 9.378 | 72 | 1919 | 9.29 | ug/L # | 24 |
| 57) benzene | 10.503 | 78 | 99366 | 9.32 | ug/L | 98 |
| 76) toluene | 12.579 | 92 | 5520 | 0.90 | ug/L | 93 |
| 90) m,p-xylene | 14.185 | 106 | 3654 | 0.82 | ug/L | 83 |
| 91) o-xylene | 14.593 | 91 | 3713 | 0.39 | ug/L | 98 |

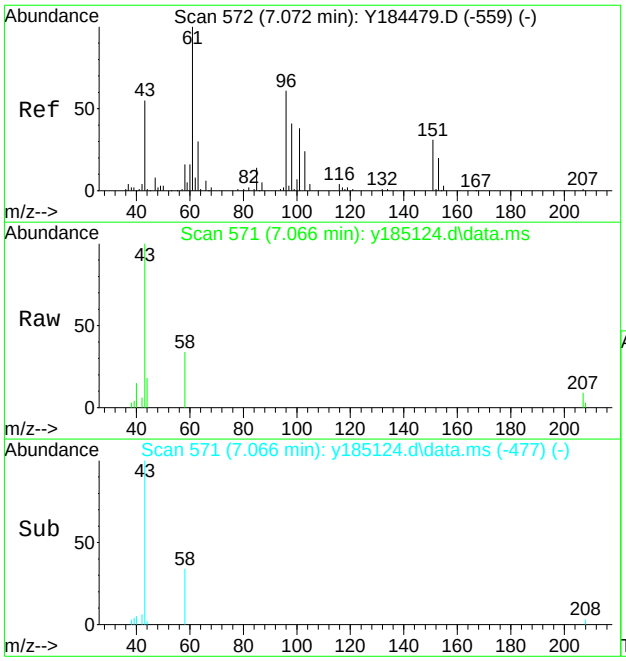
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185124.d
Acq On : 11 May 2019 3:37 pm
Operator : PrashanS
Sample : JC87535-10 Inst : MSY
Misc : MS34539,VY8033,4.9,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:45:32 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

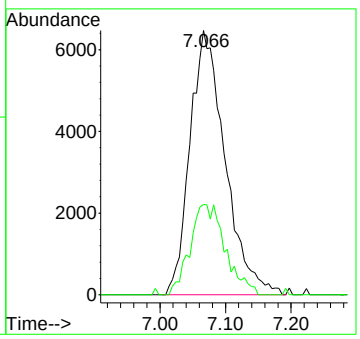


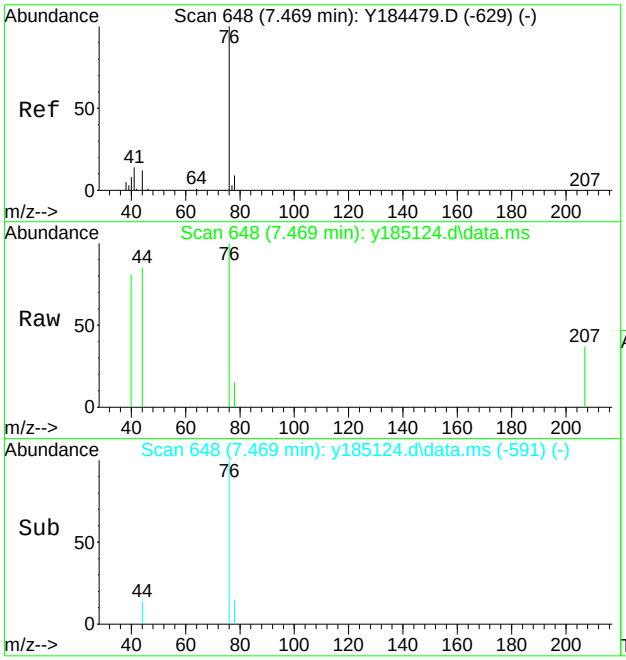



#20
acetone
Concen: 38.27 ug/L
RT: 7.066 min Scan# 571
Delta R.T. -0.011 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion: 43 Resp: 24048

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 34.2 | 1.4 | 61.4 |

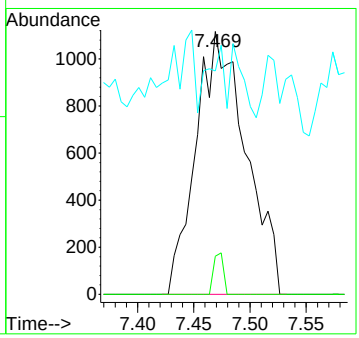


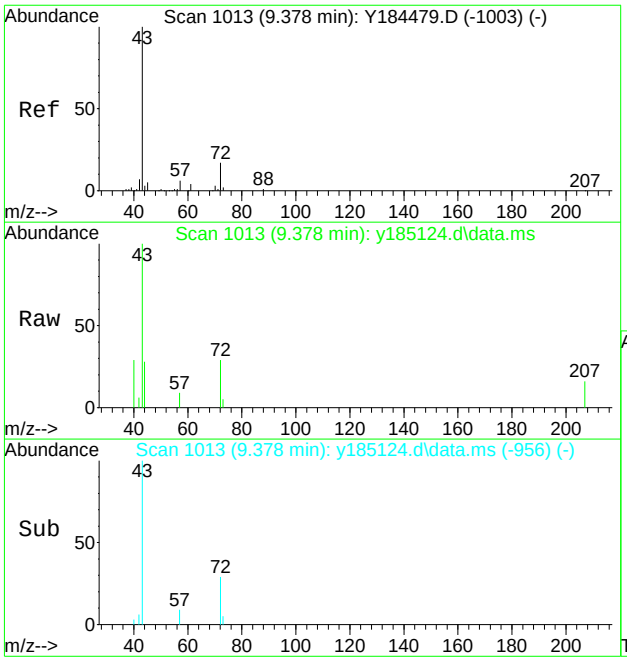




#23
carbon disulfide
Concen: 0.40 ug/L
RT: 7.469 min Scan# 648
Delta R.T. -0.000 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion: 76 Resp: 3453

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 14.5 | 0.0 | 38.7 |
| 44 | 4.6 | 0.0 | 42.6 |

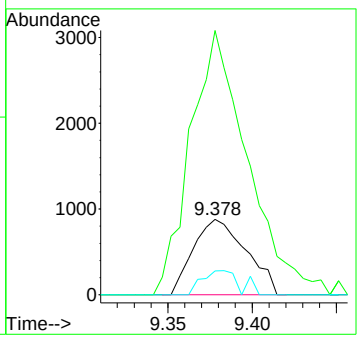


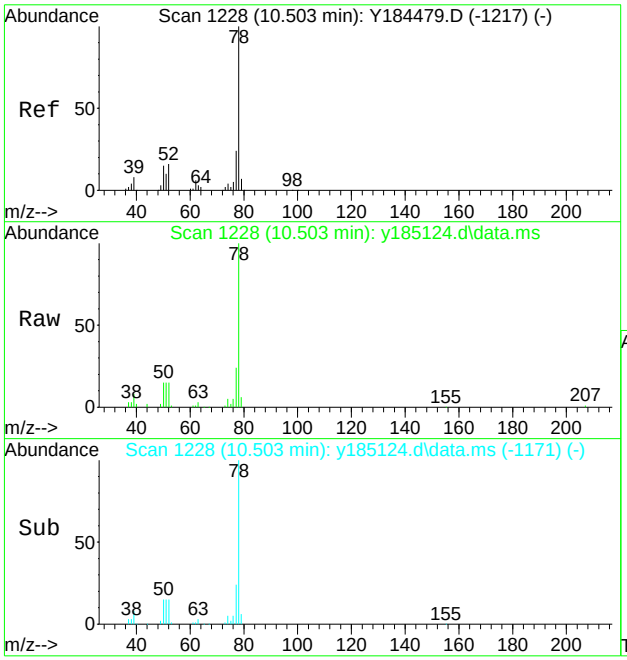



#31
2-butanone
Concen: 9.29 ug/L
RT: 9.378 min Scan# 1013
Delta R.T. -0.000 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion: 72 Resp: 1919

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 326.6 | 537.8 | 597.8# |
| 57 | 31.4 | 1.1 | 61.1 |

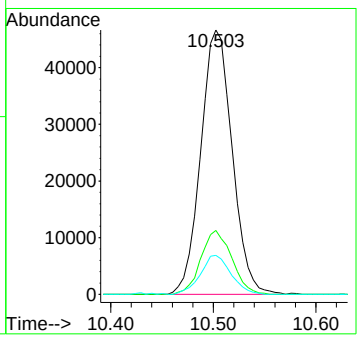


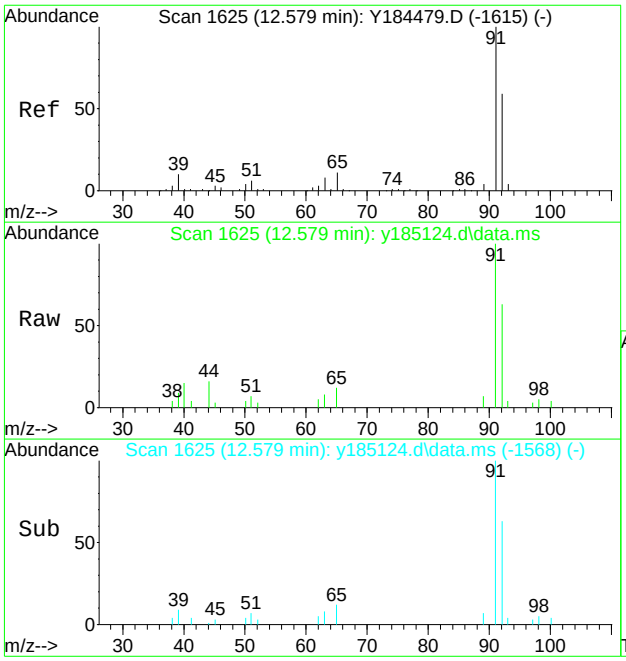




#57
benzene
Concen: 9.32 ug/L
RT: 10.503 min Scan# 1228
Delta R.T. -0.000 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion: 78 Resp: 99366

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 24.2 | 0.0 | 53.1 |
| 52 | 14.8 | 0.0 | 45.8 |

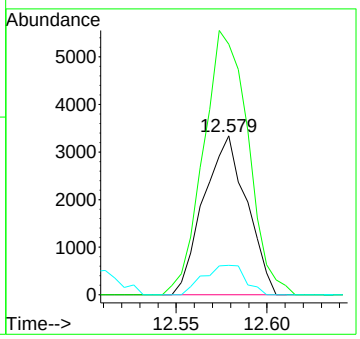


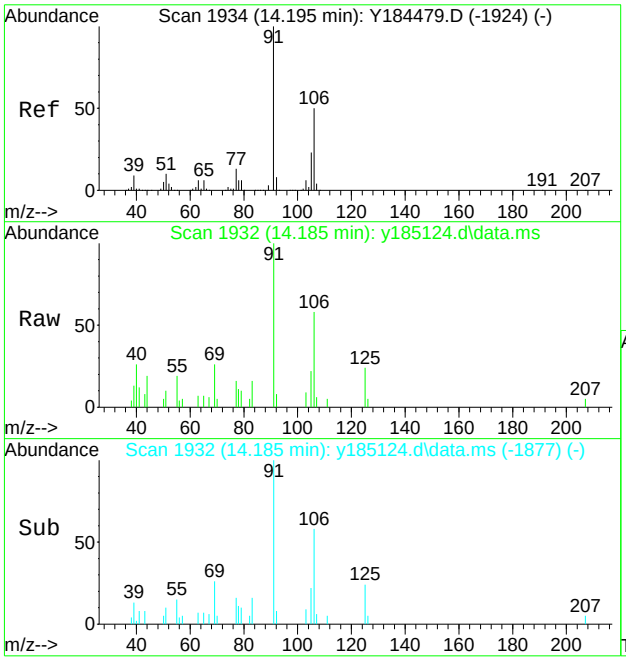



#76
toluene
Concen: 0.90 ug/L
RT: 12.579 min Scan# 1625
Delta R.T. -0.000 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion: 92 Resp: 5520

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 157.6 | 148.7 | 188.7 |
| 65 | 18.5 | 0.0 | 38.2 |

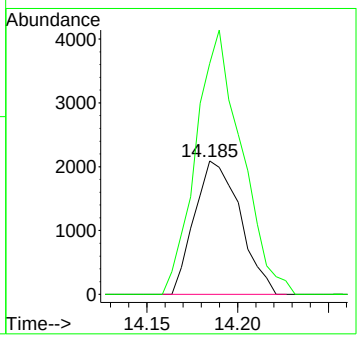


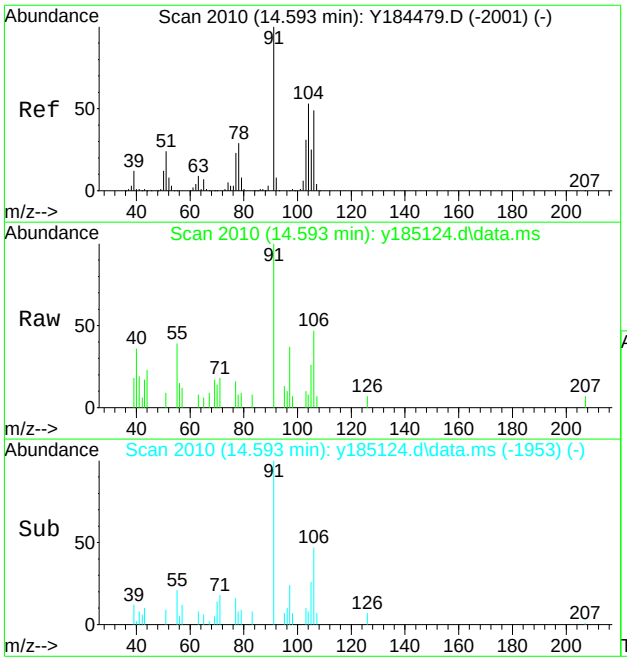




#90
m,p-xylene
Concen: 0.82 ug/L
RT: 14.185 min Scan# 1932
Delta R.T. -0.011 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion:106 Resp: 3654

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 173.1 | 168.8 | 228.8 |

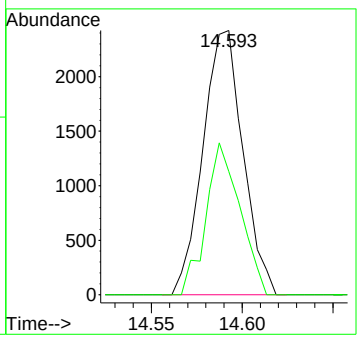





#91
o-xylene
Concen: 0.39 ug/L
RT: 14.593 min Scan# 2010
Delta R.T. -0.000 min
Lab File: y185124.d
Acq: 11 May 2019 3:37 pm

Tgt Ion: 91 Resp: 3713

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 46.6 | 18.0 | 78.0 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167663.d
Acq On : 15 May 2019 5:48 pm
Operator : thienn
Sample : JC87535-11 Inst : Instrument #1
Misc : MS34539,V2C7520,5.2,,1,10,1
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:23:51 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

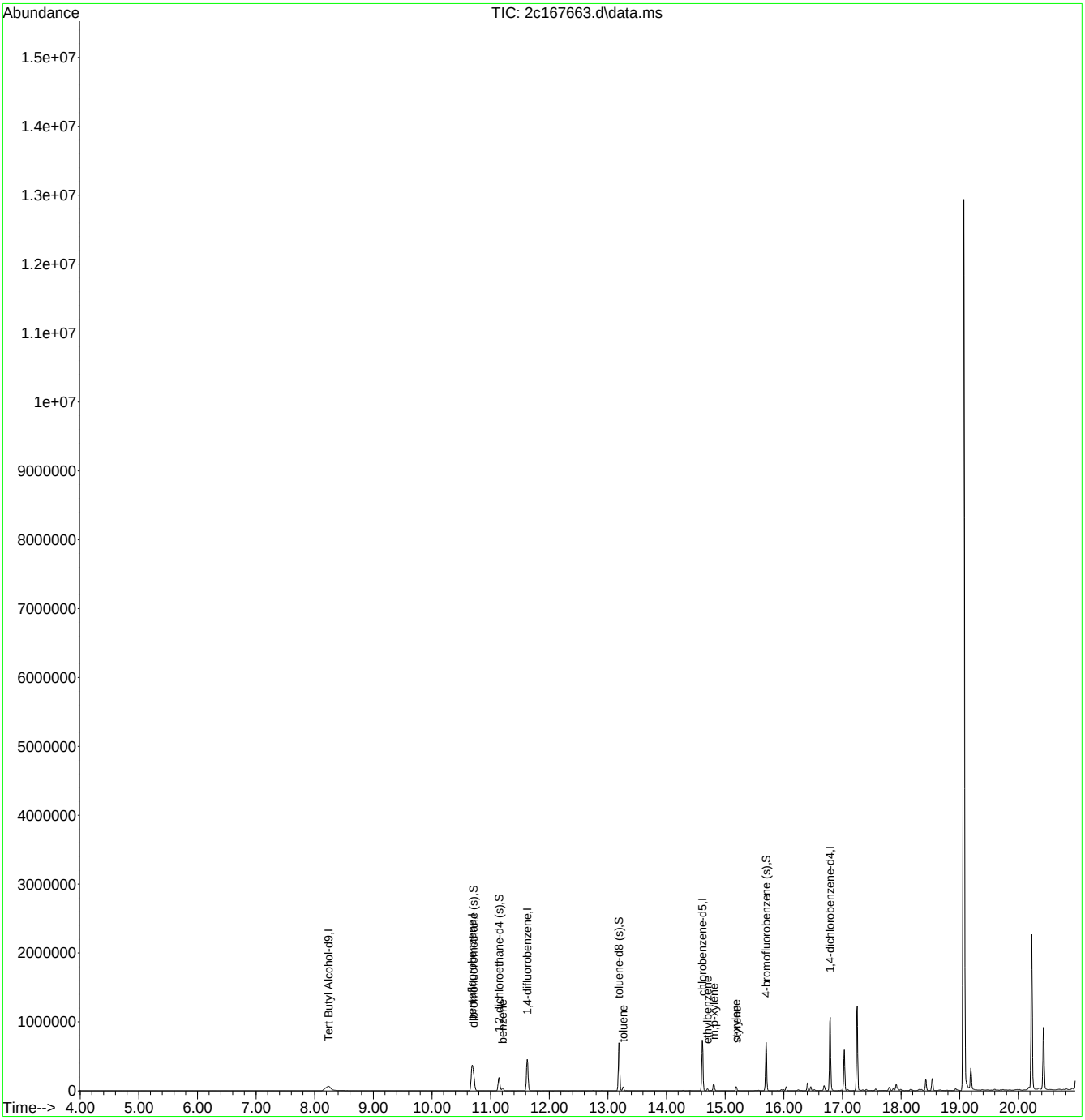
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.239 | 65 | 275081 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 298653 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 397288 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 381978 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 253371 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 137219 | 48.38 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.76% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 159282 | 49.98 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 99.96% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 445409 | 49.25 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.50% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 194291 | 50.78 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.56% | | | |
| Target Compounds | | | | | | Qvalue |
| 56) benzene | 11.207 | 78 | 37732 | 3.35 | ug/L | 97 |
| 76) toluene | 13.262 | 92 | 23232 | 3.43 | ug/L | 96 |
| 89) ethylbenzene | 14.698 | 91 | 18833 | 1.37 | ug/L | 98 |
| 90) m,p-xylene | 14.808 | 106 | 30814 | 5.85 | ug/L | 89 |
| 91) o-xylene | 15.186 | 106 | 11618 | 1.96 | ug/L | 100 |
| 92) styrene | 15.196 | 104 | 10160 | 1.11 | ug/L | 88 |

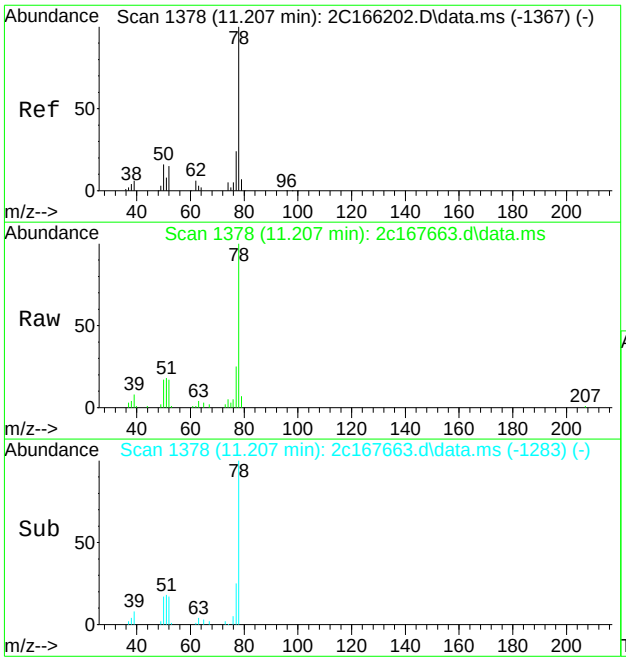
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167663.d
Acq On : 15 May 2019 5:48 pm
Operator : thienn
Sample : JC87535-11 Inst : Instrument #1
Misc : MS34539,V2C7520,5.2,,1,10,1
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:23:51 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

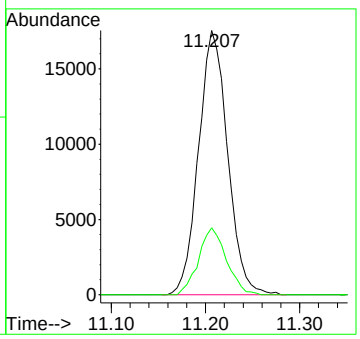


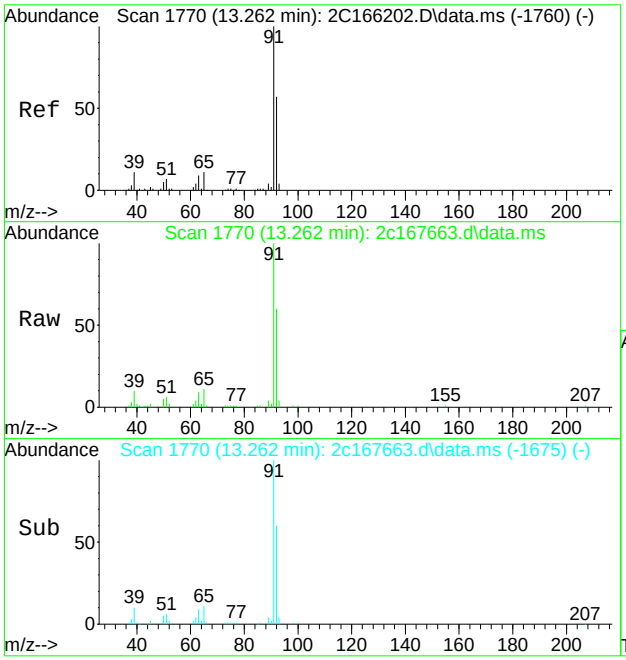



#56
benzene
Concen: 3.35 ug/L
RT: 11.207 min Scan# 1378
Delta R.T. 0.000 min
Lab File: 2c167663.d
Acq: 15 May 2019 5:48 pm

Tgt Ion: 78 Resp: 37732

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 25.4 | 0.0 | 53.7 |

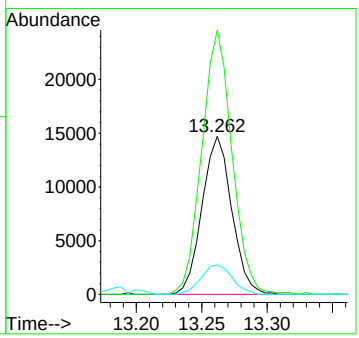


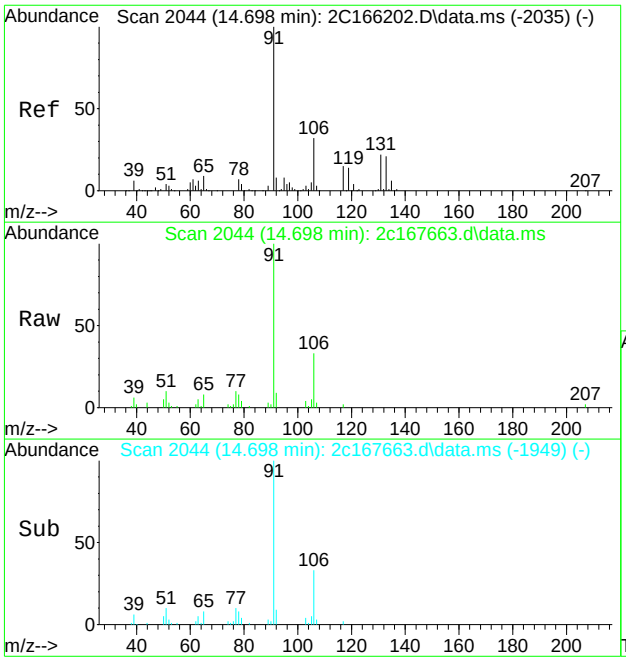




#76
toluene
Concen: 3.43 ug/L
RT: 13.262 min Scan# 1770
Delta R.T. 0.000 min
Lab File: 2c167663.d
Acq: 15 May 2019 5:48 pm

Tgt Ion: 92 Resp: 23232

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 167.3 | 154.0 | 194.0 |
| 65 | 18.7 | 0.0 | 38.8 |

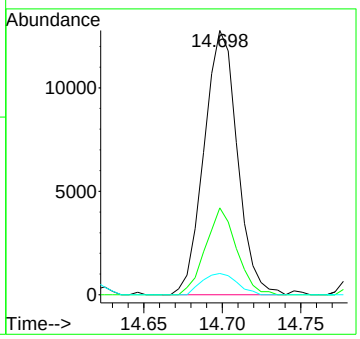


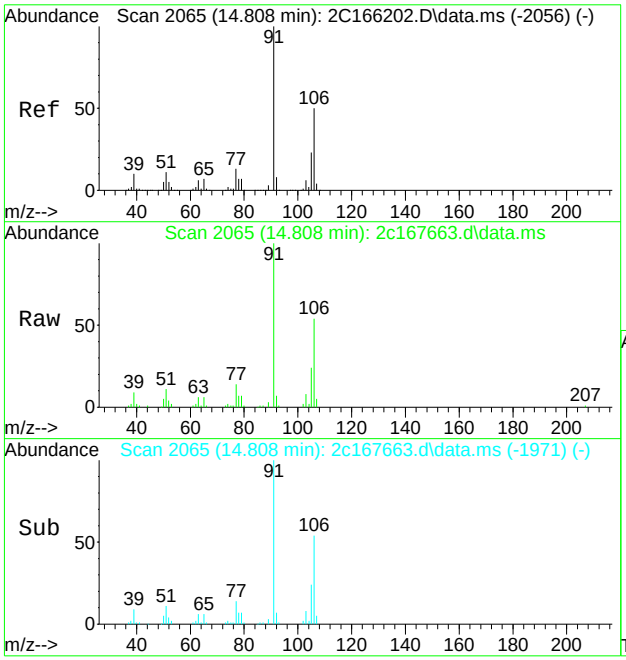



#89
ethylbenzene
Concen: 1.37 ug/L
RT: 14.698 min Scan# 2044
Delta R.T. 0.000 min
Lab File: 2c167663.d
Acq: 15 May 2019 5:48 pm

Tgt Ion: 91 Resp: 18833

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 32.9 | 2.0 | 62.0 |
| 65 | 8.1 | 0.0 | 39.0 |

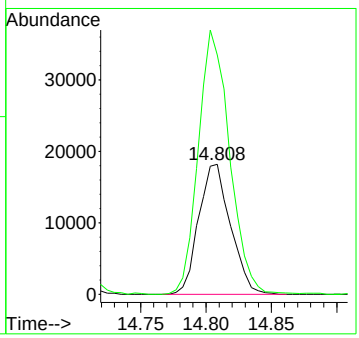


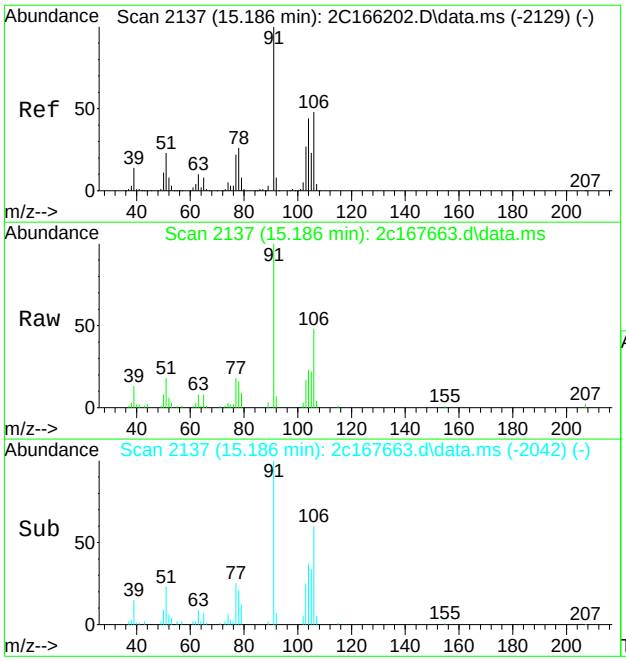




#90
m,p-xylene
Concen: 5.85 ug/L
RT: 14.808 min Scan# 2065
Delta R.T. -0.005 min
Lab File: 2c167663.d
Acq: 15 May 2019 5:48 pm

Tgt Ion:106 Resp: 30814

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 184.0 | 169.9 | 229.9 |

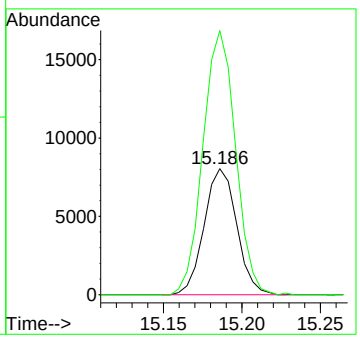


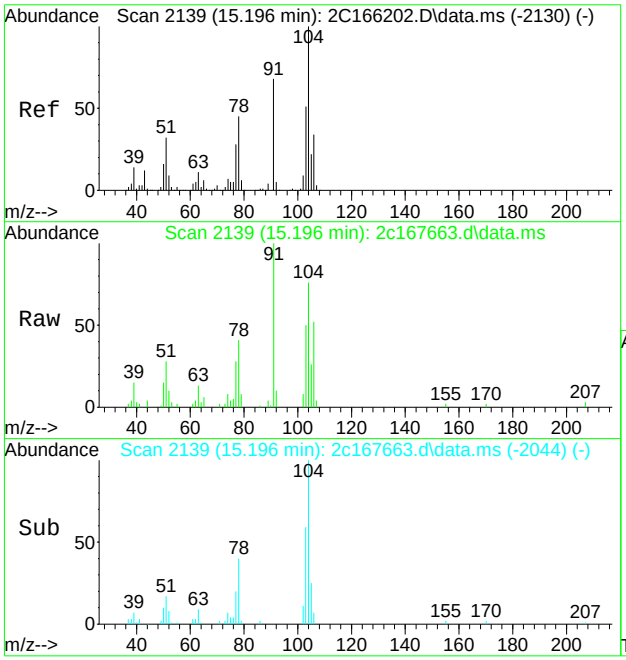



#91
o-xylene
Concen: 1.96 ug/L
RT: 15.186 min Scan# 2137
Delta R.T. 0.000 min
Lab File: 2c167663.d
Acq: 15 May 2019 5:48 pm

Tgt Ion:106 Resp: 11618

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 209.6 | 179.1 | 239.1 |

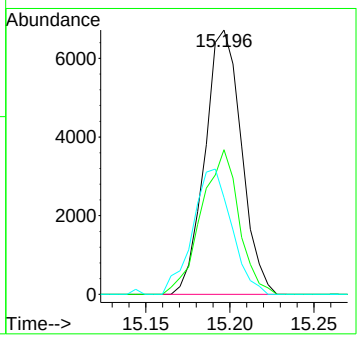



#92
styrene
Concen: 1.11 ug/L
RT: 15.196 min Scan# 2139
Delta R.T. 0.000 min
Lab File: 2c167663.d
Acq: 15 May 2019 5:48 pm

Tgt Ion:104 Resp: 10160

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 104 | 100 | | |
| 78 | 54.7 | 15.4 | 75.4 |
| 51 | 36.6 | 1.5 | 61.5 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185127.d
Acq On : 11 May 2019 5:02 pm
Operator : PrashanS
Sample : JC87535-12 Inst : MSY
Misc : MS34539,VY8033,4.8,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:51:41 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

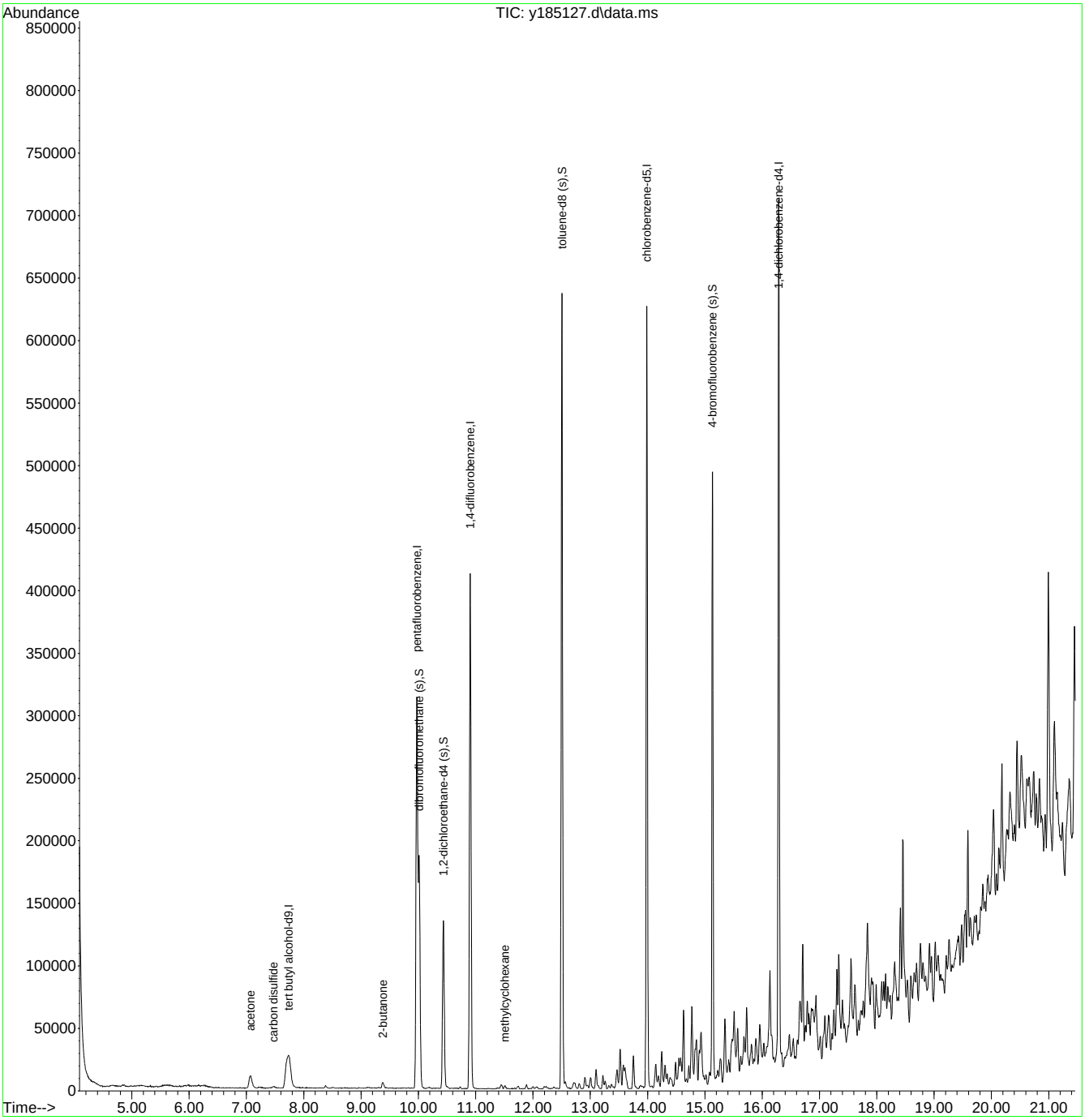
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.736 | 65 | 90774 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.974 | 168 | 267676 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 382266 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 342251 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 179137 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.011 | 113 | 120316 | 49.55 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.10% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.434 | 65 | 97556 | 45.68 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 91.36% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 421007 | 48.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.22% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 147364 | 49.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.22% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 7.071 | 43 | 24095 | 36.74 | ug/L | 97 |
| 23) carbon disulfide | 7.469 | 76 | 3415 | 0.38 | ug/L | 61 |
| 31) 2-butanone | 9.378 | 72 | 1879 | 8.72 | ug/L # | 40 |
| 67) methylcyclohexane | 11.507 | 83 | 1237 | 0.27 | ug/L # | 69 |

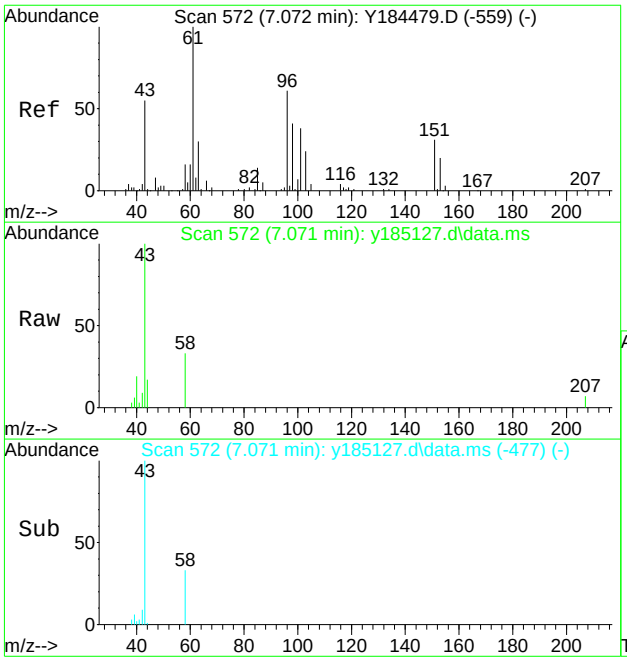
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185127.d
Acq On : 11 May 2019 5:02 pm
Operator : PrashanS
Sample : JC87535-12 Inst : MSY
Misc : MS34539,VY8033,4.8,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:51:41 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

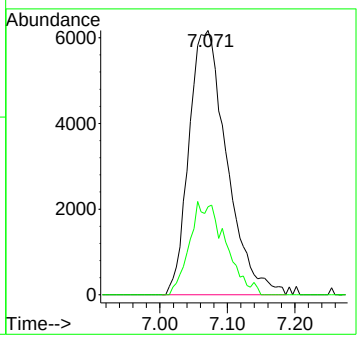


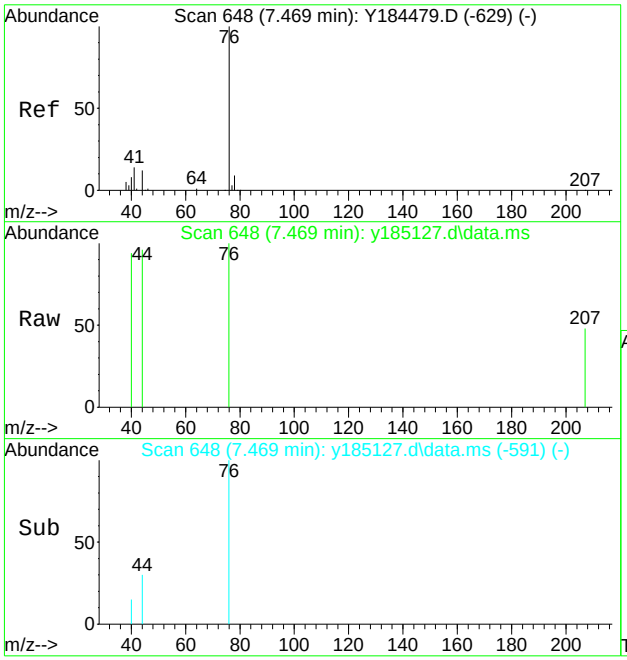



#20
acetone
Concen: 36.74 ug/L
RT: 7.071 min Scan# 572
Delta R.T. -0.005 min
Lab File: y185127.d
Acq: 11 May 2019 5:02 pm

Tgt Ion: 43 Resp: 24095

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 33.3 | 1.4 | 61.4 |

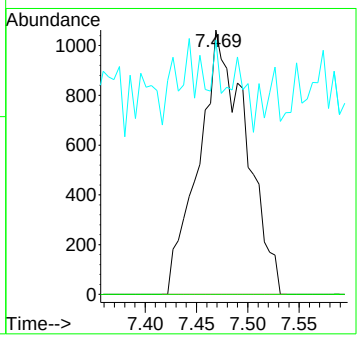


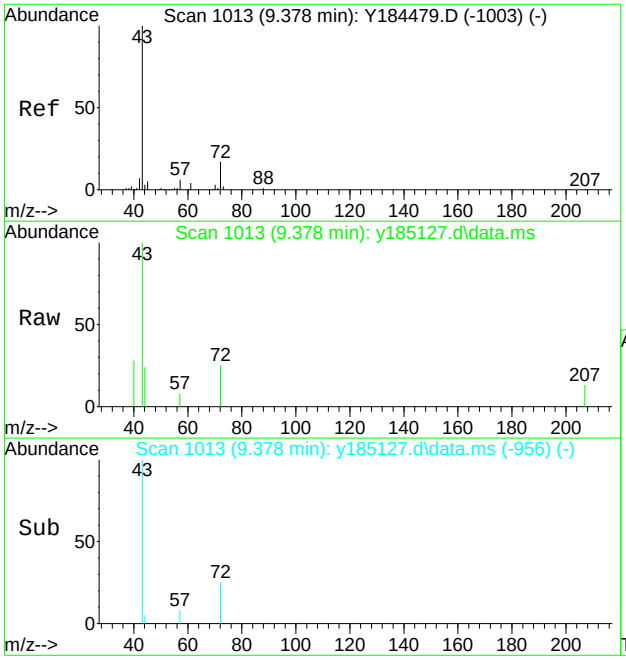




#23
carbon disulfide
Concen: 0.38 ug/L
RT: 7.469 min Scan# 648
Delta R.T. -0.000 min
Lab File: y185127.d
Acq: 11 May 2019 5:02 pm

Tgt Ion: 76 Resp: 3415

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 38.7 |
| 44 | 32.1 | 0.0 | 42.6 |

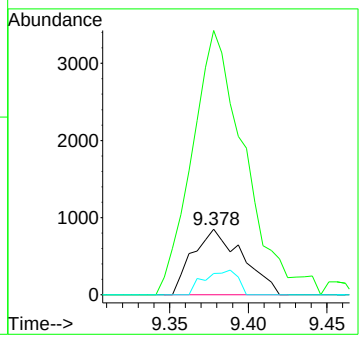


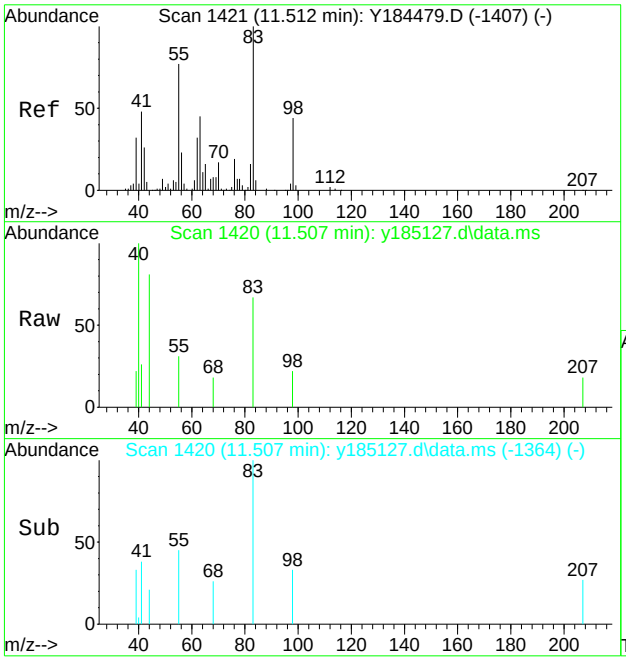



#31
2-butanone
Concen: 8.72 ug/L
RT: 9.378 min Scan# 1013
Delta R.T. -0.000 min
Lab File: y185127.d
Acq: 11 May 2019 5:02 pm

Tgt Ion: 72 Resp: 1879

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 376.7 | 537.8 | 597.8# |
| 57 | 32.7 | 1.1 | 61.1 |

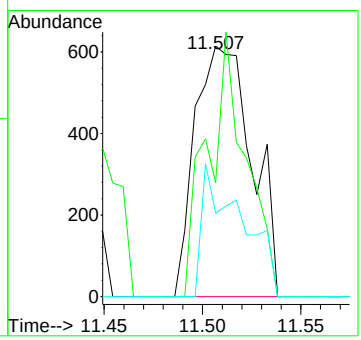



#67
methylcyclohexane
Concen: 0.27 ug/L
RT: 11.507 min Scan# 1420
Delta R.T. -0.005 min
Lab File: y185127.d
Acq: 11 May 2019 5:02 pm

Tgt Ion: 83 Resp: 1237

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 55 | 45.4 | 49.0 | 109.0# |
| 98 | 33.4 | 15.7 | 75.7 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58530.d
Acq On : 13 May 2019 12:54 pm
Operator : EddieH
Sample : JC87535-13 Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 14 01:45:04 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

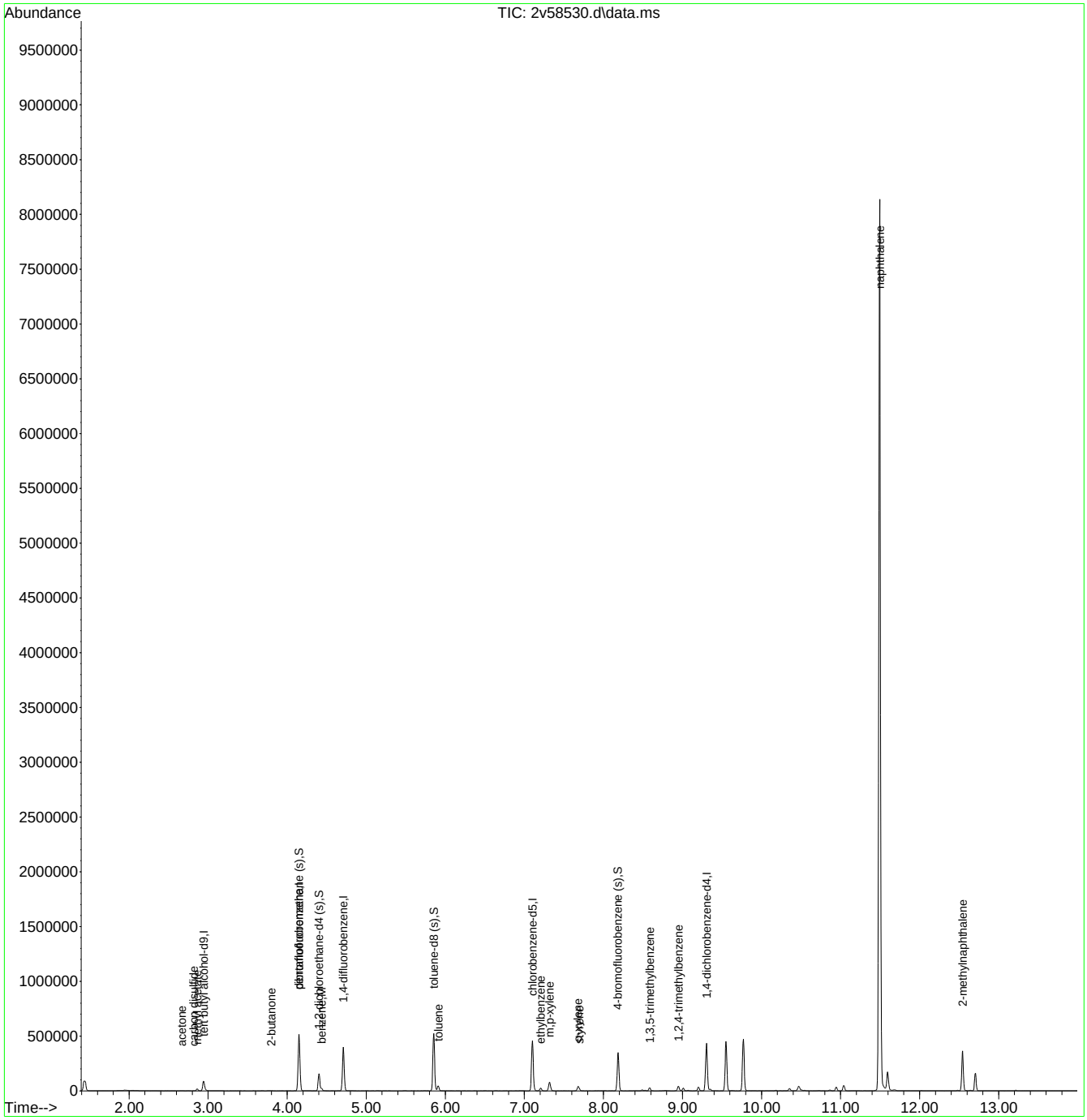
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 95228 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 194014 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 287972 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 251104 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 117944 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 97766 | 51.11 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 102.22% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 87381 | 48.42 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 96.84% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 323266 | 48.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 97.74% | | | |
| 99) 4-bromofluorobenzene (s) | 8.182 | 95 | 111549 | 48.78 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 97.56% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.666 | 58 | 361 | 1.81 | ug/L # | 11 |
| 23) carbon disulfide | 2.818 | 76 | 1777 | 0.46 | ug/L | 88 |
| 25) methyl acetate | 2.860 | 43 | 16582 | 11.71 | ug/L | 97 |
| 36) 2-butanone | 3.799 | 72 | 198 | 0.83 | ug/L # | 1 |
| 55) benzene | 4.433 | 78 | 13500 | 2.07 | ug/L | 96 |
| 76) toluene | 5.912 | 92 | 17063 | 3.98 | ug/L | 95 |
| 89) ethylbenzene | 7.207 | 91 | 18256 | 2.30 | ug/L | 96 |
| 90) m,p-xylene | 7.317 | 106 | 25761 | 8.44 | ug/L | 97 |
| 91) o-xylene | 7.678 | 91 | 20748 | 3.28 | ug/L | 97 |
| 92) styrene | 7.694 | 104 | 6757 | 1.40 | ug/L | 94 |
| 107) 1,3,5-trimethylbenzene | 8.586 | 105 | 15374 | 2.59 | ug/L | 99 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 24974 | 4.12 | ug/L | 98 |
| 123) naphthalene | 11.495 | 128 | 5980116 | 1113.11 | ug/L | 100 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 161654 | 78.75 | ug/L | 97 |

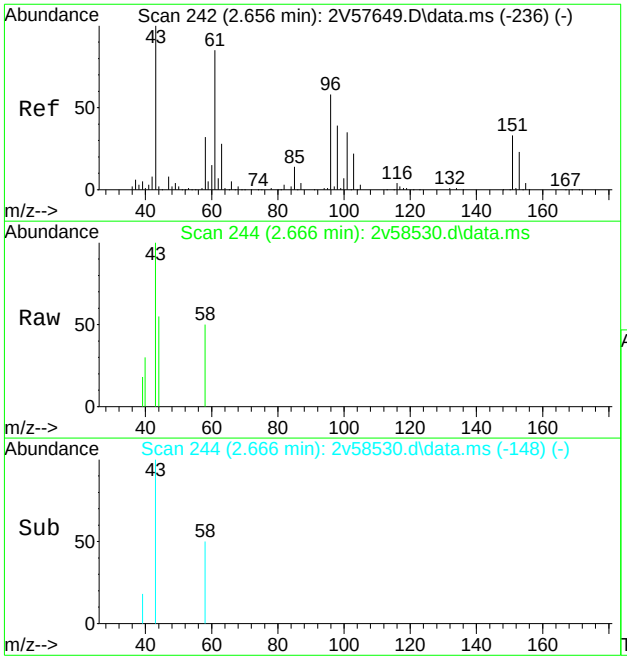
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58530.d
Acq On : 13 May 2019 12:54 pm
Operator : EddieH
Sample : JC87535-13 Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 14 01:45:04 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

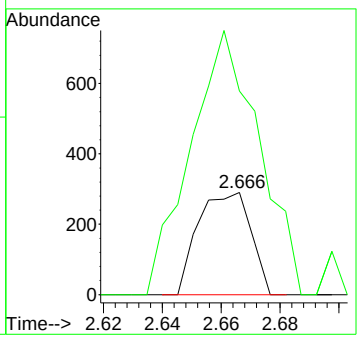


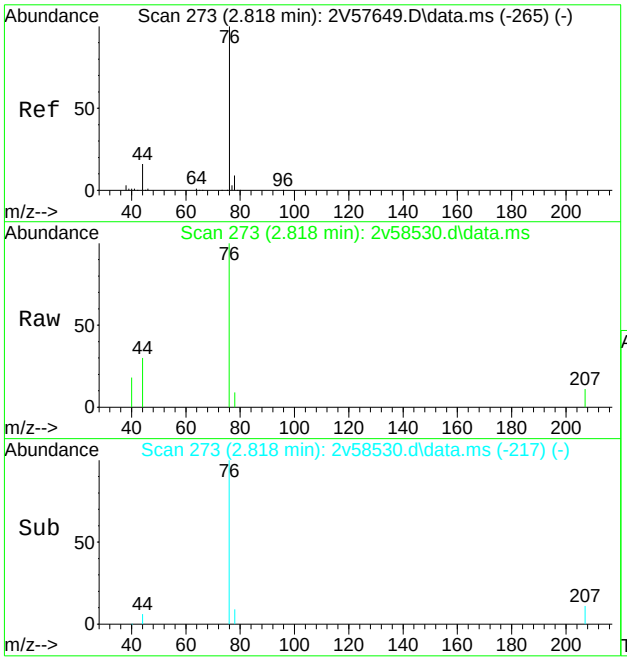



#20
acetone
Concen: 1.81 ug/L
RT: 2.666 min Scan# 244
Delta R.T. 0.005 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 58 Resp: 361

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 131.4 | 279.7 | 339.7# |

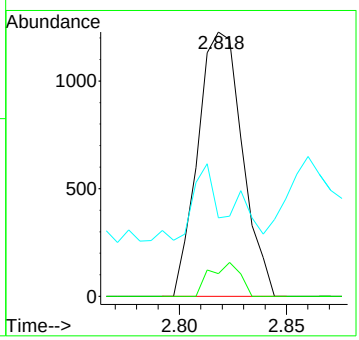


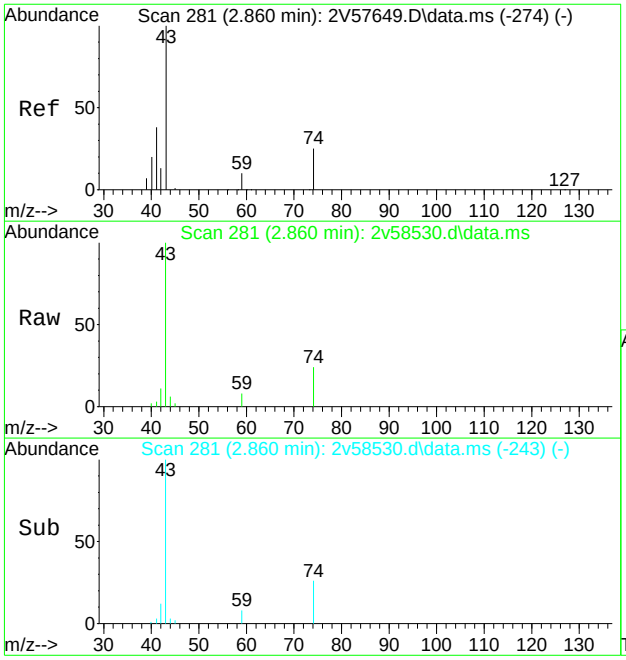




#23
carbon disulfide
Concen: 0.46 ug/L
RT: 2.818 min Scan# 273
Delta R.T. -0.005 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 76 Resp: 1777

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 8.6 | 0.0 | 39.2 |
| 44 | 4.8 | 0.0 | 42.5 |

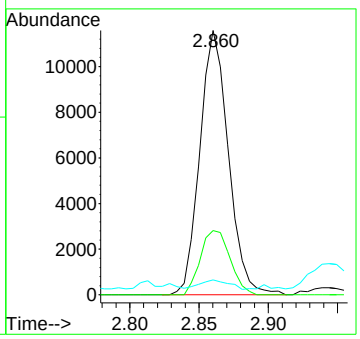


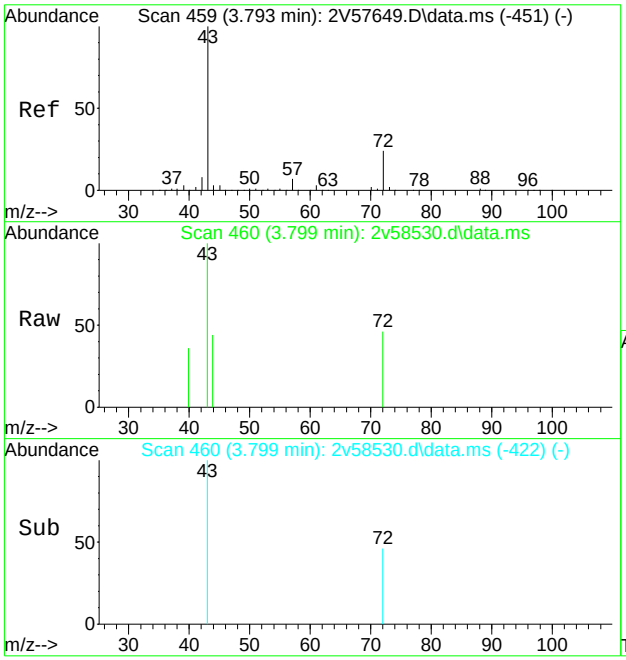



#25
methyl acetate
Concen: 11.71 ug/L
RT: 2.860 min Scan# 281
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 43 Resp: 16582

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 74 | 24.3 | 0.0 | 56.0 |
| 44 | 3.3 | 0.0 | 33.4 |

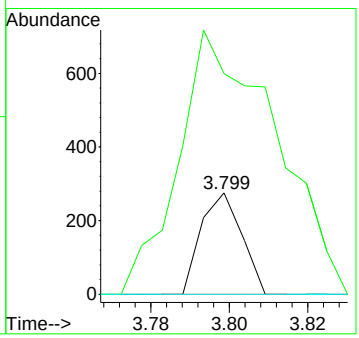


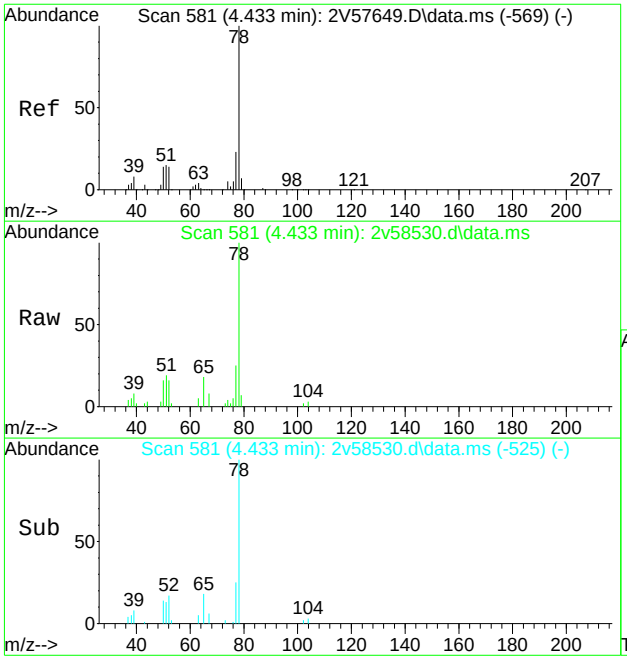




#36
2-butanone
Concen: 0.83 ug/L
RT: 3.799 min Scan# 460
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 72 Resp: 198

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 154.9 | 416.3 | 456.3# |
| 57 | 0.0 | 7.8 | 47.8# |

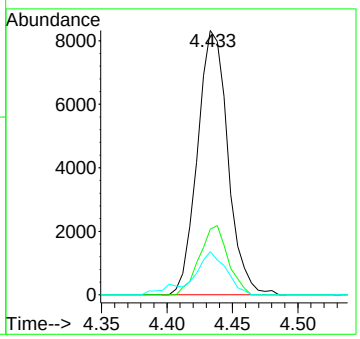


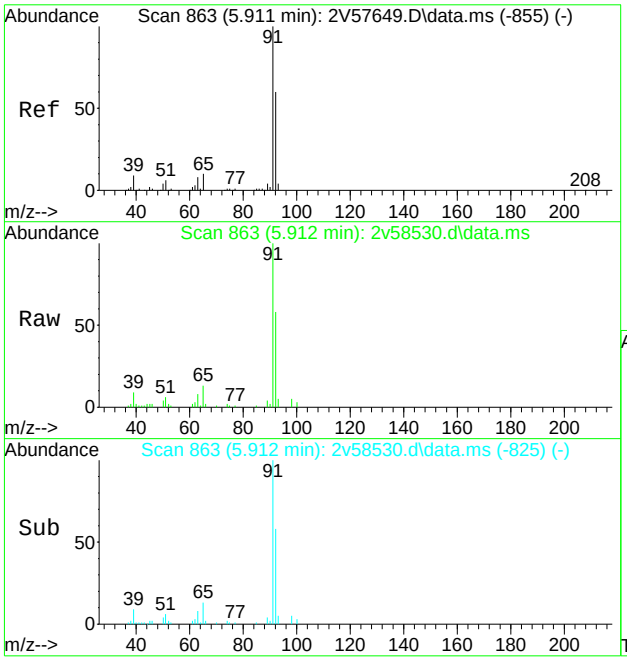



#55
benzene
Concen: 2.07 ug/L
RT: 4.433 min Scan# 581
Delta R.T. -0.005 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 78 Resp: 13500

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 24.9 | 0.0 | 54.0 |
| 52 | 16.4 | 0.0 | 43.7 |

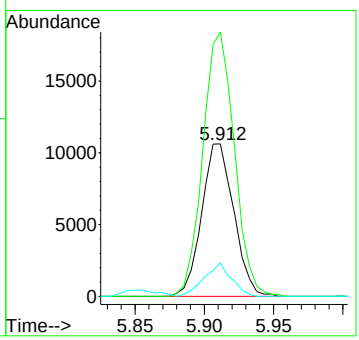


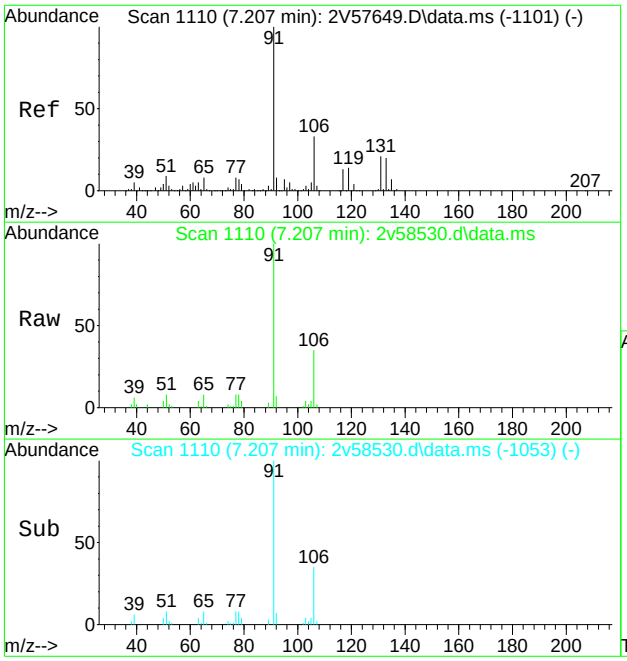




#76
toluene
Concen: 3.98 ug/L
RT: 5.912 min Scan# 863
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 92 Resp: 17063

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 173.6 | 147.6 | 187.6 |
| 65 | 22.1 | 0.0 | 38.3 |

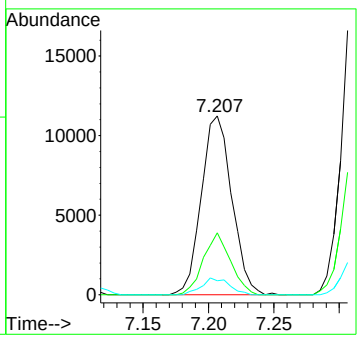


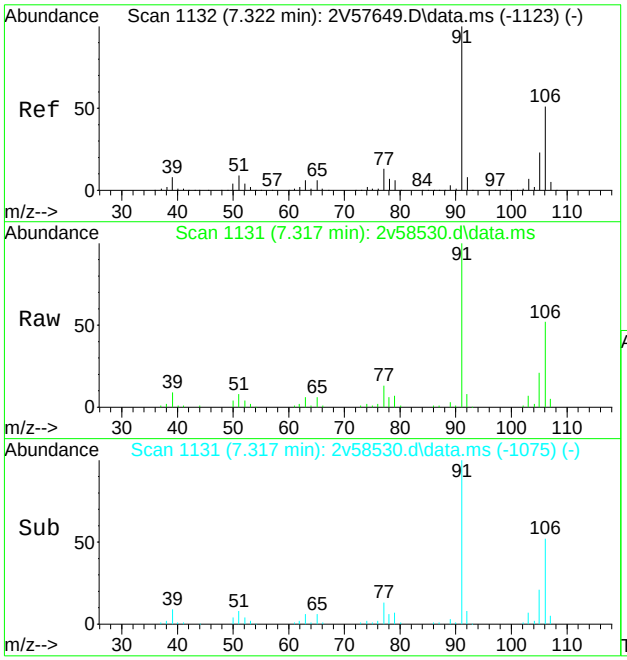



#89
ethylbenzene
Concen: 2.30 ug/L
RT: 7.207 min Scan# 1110
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 91 Resp: 18256

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 34.6 | 2.0 | 62.0 |
| 77 | 7.9 | 0.0 | 38.6 |

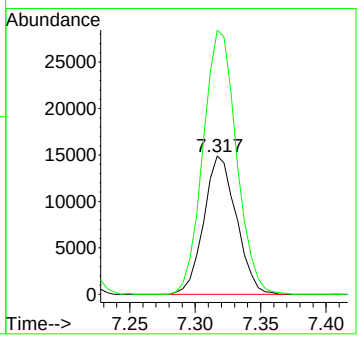


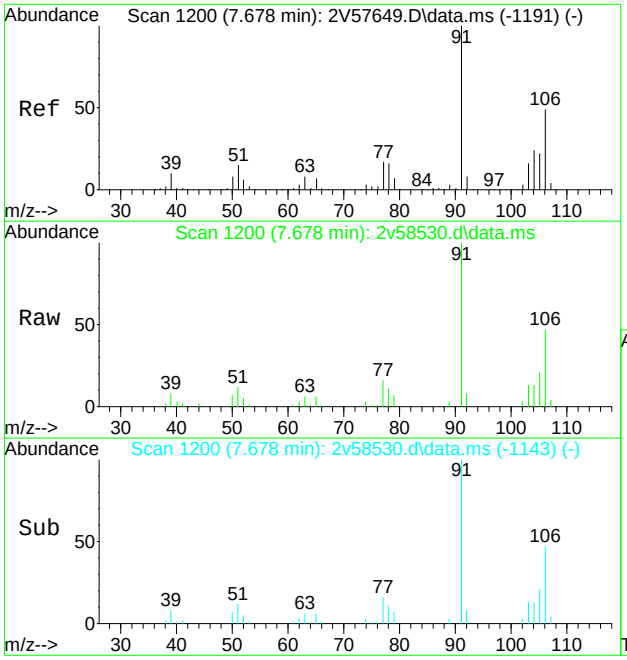




#90
m,p-xylene
Concen: 8.44 ug/L
RT: 7.317 min Scan# 1131
Delta R.T. -0.005 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion:106 Resp: 25761

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 191.0 | 165.0 | 225.0 |

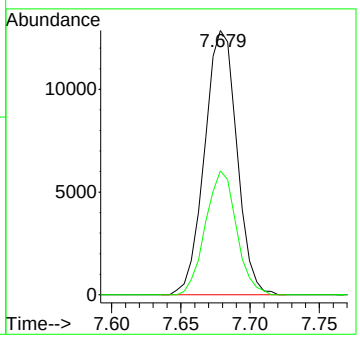


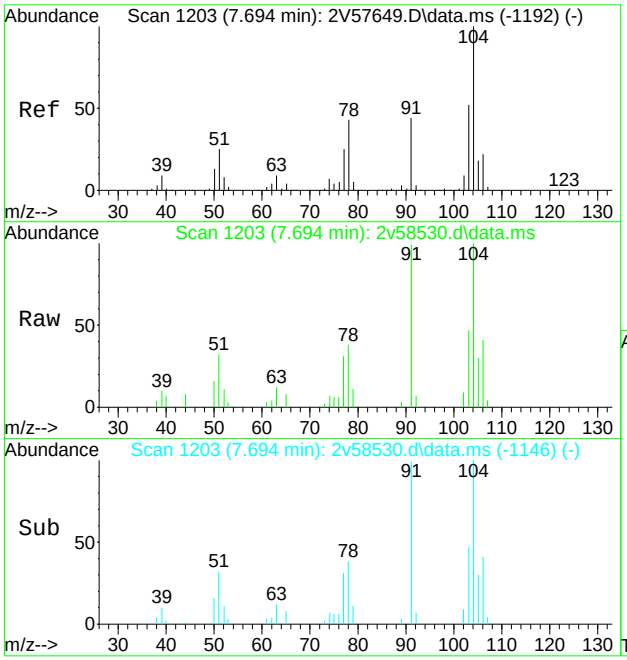



#91
o-xylene
Concen: 3.28 ug/L
RT: 7.678 min Scan# 1200
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion: 91 Resp: 20748

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 46.9 | 18.6 | 78.6 |

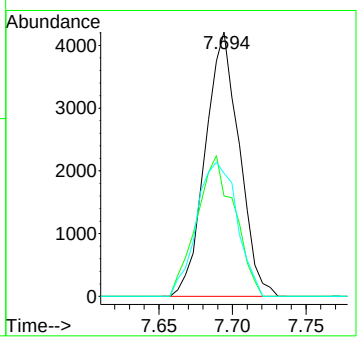


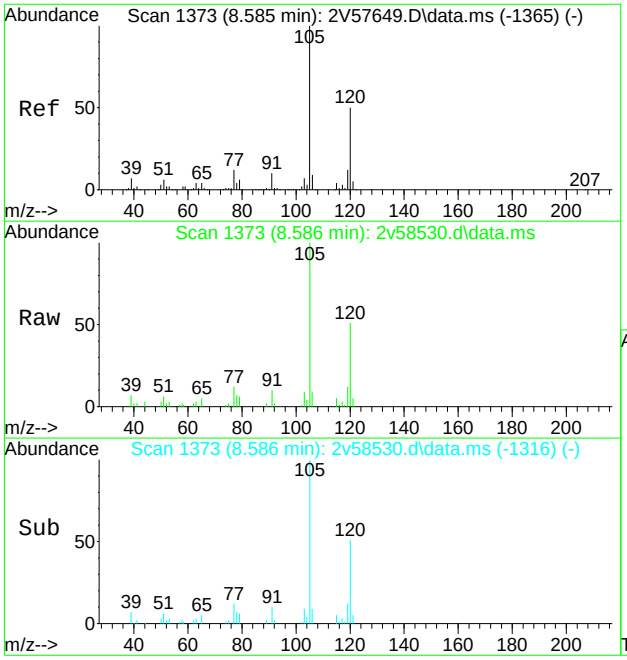




#92
styrene
Concen: 1.40 ug/L
RT: 7.694 min Scan# 1203
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion:104 Resp: 6757

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 104 | 100 | | |
| 78 | 38.0 | 12.8 | 72.8 |
| 103 | 46.6 | 19.9 | 79.9 |

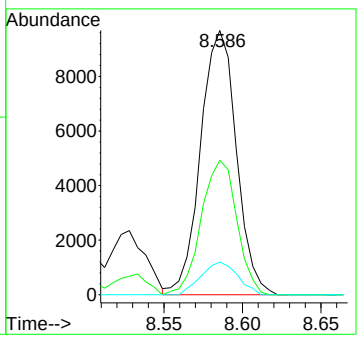


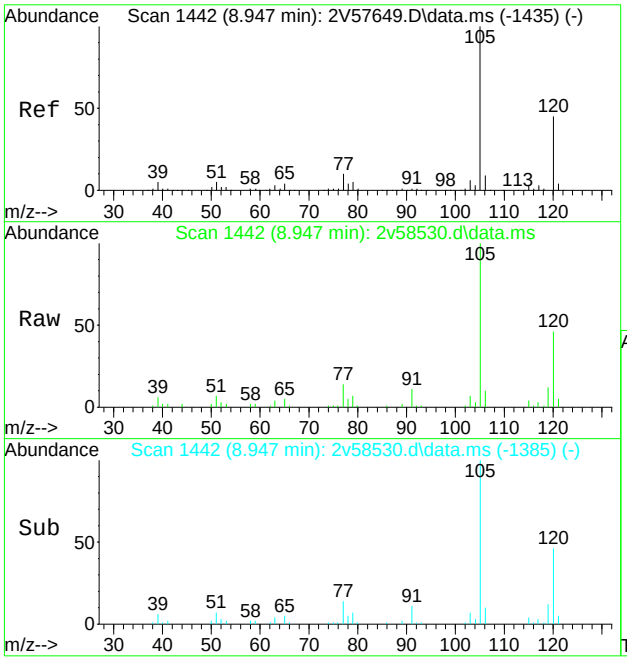



#107
1,3,5-trimethylbenzene
Concen: 2.59 ug/L
RT: 8.586 min Scan# 1373
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion:105 Resp: 15374

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 50.9 | 20.4 | 80.4 |
| 119 | 12.4 | 0.0 | 42.4 |

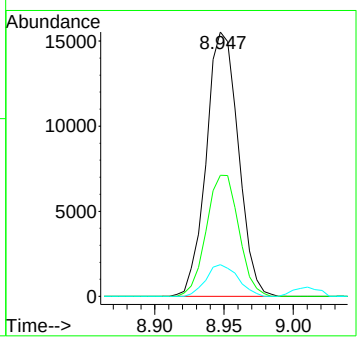


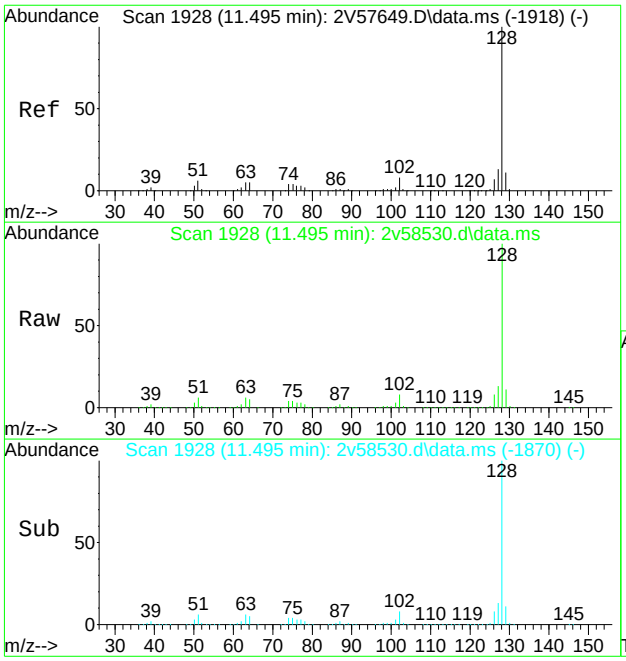




#109
1,2,4-trimethylbenzene
Concen: 4.12 ug/L
RT: 8.947 min Scan# 1442
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion:105 Resp: 24974

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 45.8 | 17.0 | 77.0 |
| 119 | 12.0 | 0.0 | 41.8 |

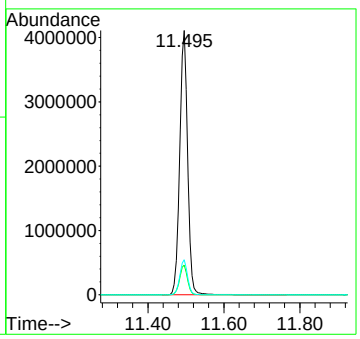


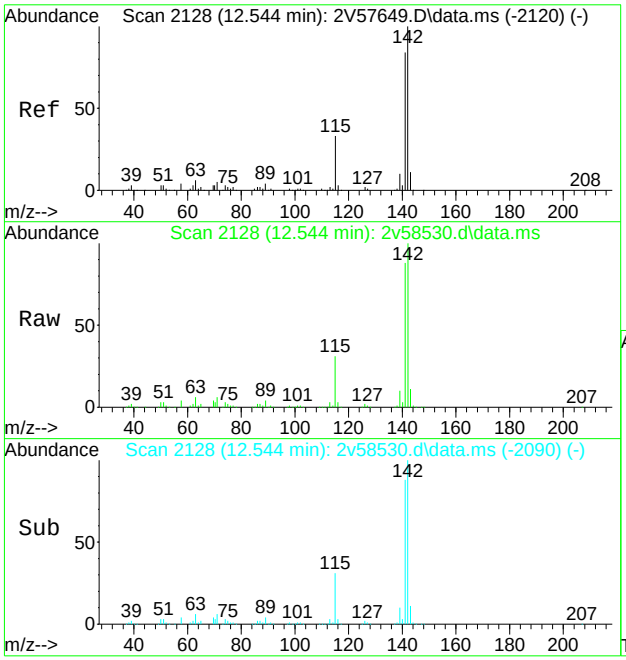



#123
naphthalene
Concen: 1113.11 ug/L
RT: 11.495 min Scan# 1928
Delta R.T. 0.005 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion:128 Resp: 5980116

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.3 | 0.0 | 41.3 |
| 127 | 13.2 | 0.0 | 43.2 |

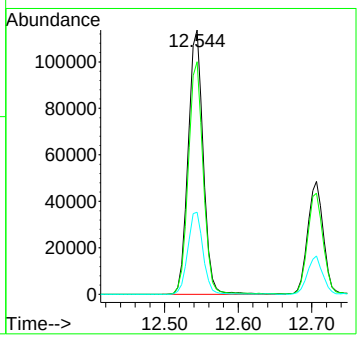



#126
2-methylnaphthalene
Concen: 78.75 ug/L
RT: 12.544 min Scan# 2128
Delta R.T. 0.000 min
Lab File: 2v58530.d
Acq: 13 May 2019 12:54 pm

Tgt Ion:142 Resp: 161654

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 88.0 | 63.8 | 103.8 |
| 115 | 31.1 | 11.3 | 51.3 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58540.d
Acq On : 13 May 2019 6:24 pm
Operator : EddieH
Sample : JC87535-14 Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 14 01:55:03 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

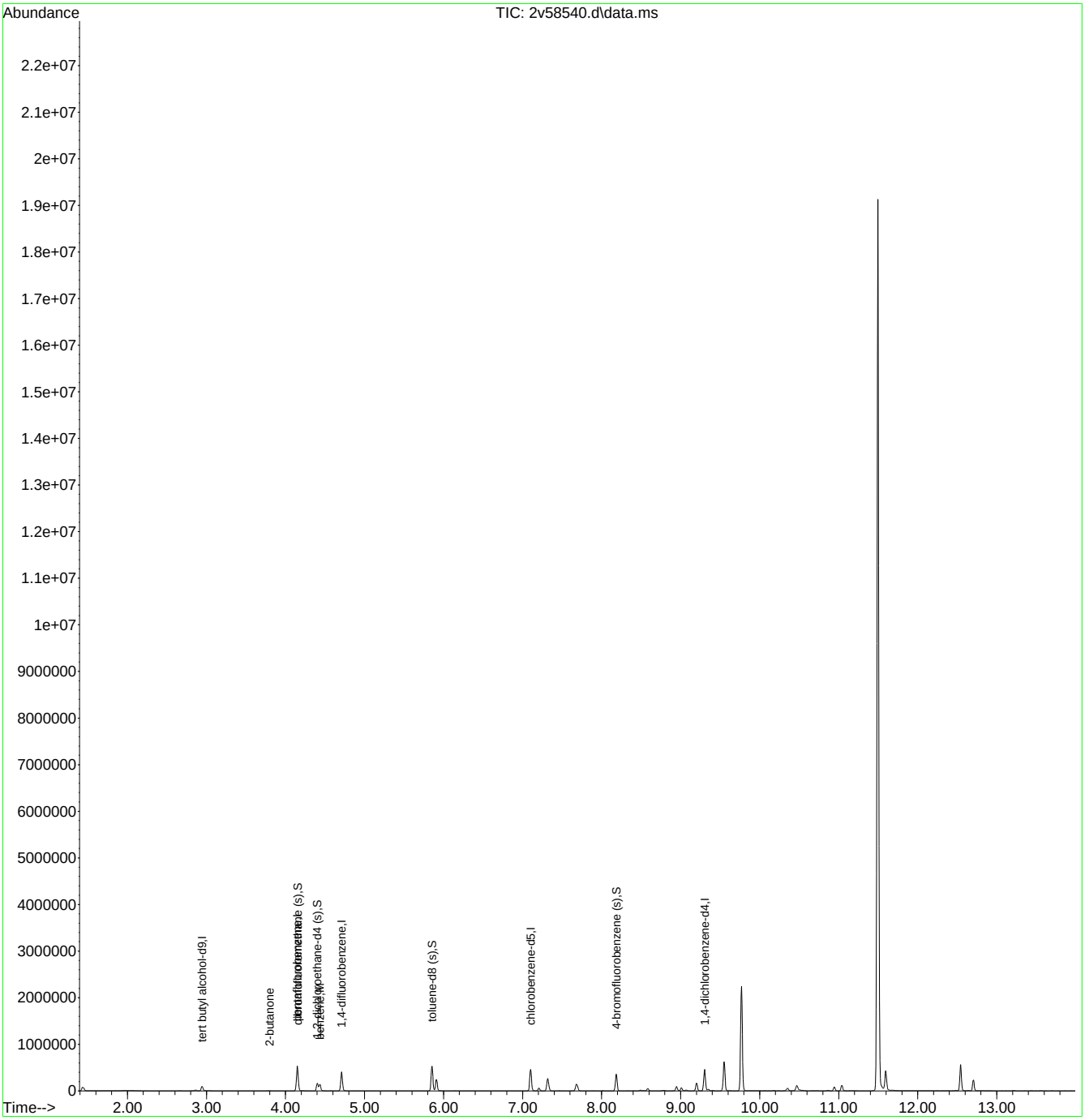
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 100163 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 195441 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 290072 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 255070 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 122844 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 98033 | 50.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 101.76% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 91342 | 50.25 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 100.50% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 328223 | 48.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 97.70% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 114637 | 48.13 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 96.26% | | | |
| Target Compounds | | | | | | Qvalue |
| 36) 2-butanone | 3.799 | 72 | 204 | 0.85 | ug/L # | 1 |
| 55) benzene | 4.433 | 78 | 103676 | 15.79 | ug/L | 98 |

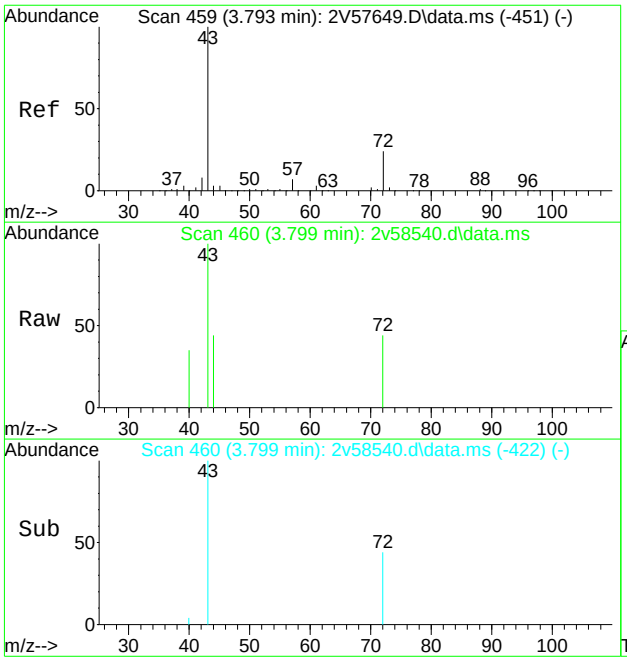
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58540.d
Acq On : 13 May 2019 6:24 pm
Operator : EddieH
Sample : JC87535-14 Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 14 01:55:03 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

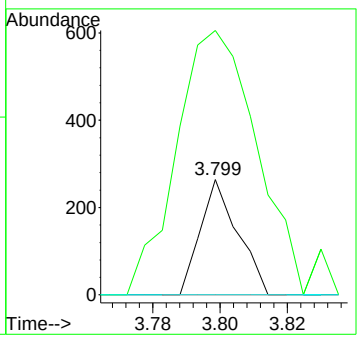


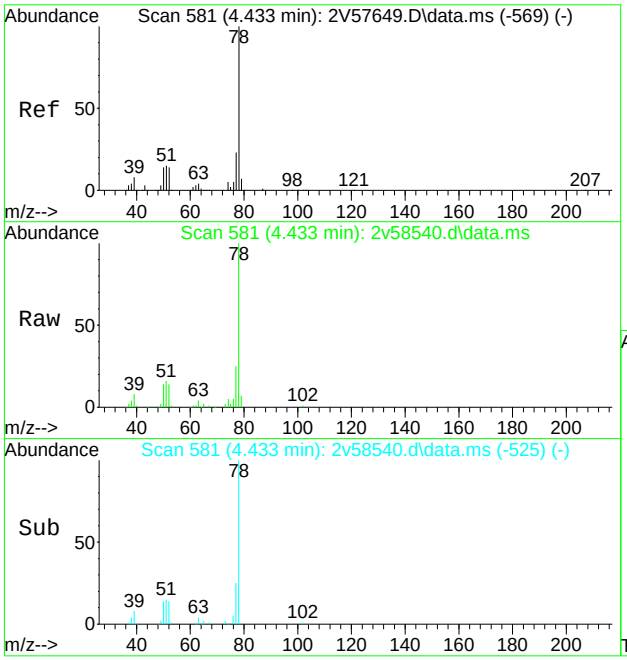



#36
2-butanone
Concen: 0.85 ug/L
RT: 3.799 min Scan# 460
Delta R.T. 0.000 min
Lab File: 2v58540.d
Acq: 13 May 2019 6:24 pm

Tgt Ion: 72 Resp: 204

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 173.5 | 416.3 | 456.3# |
| 57 | 0.0 | 7.8 | 47.8# |

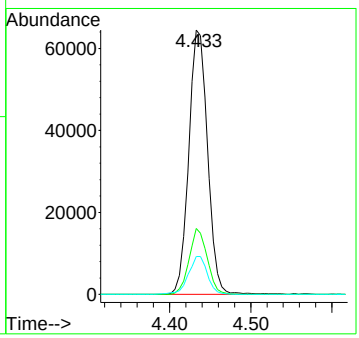



#55
benzene
Concen: 15.79 ug/L
RT: 4.433 min Scan# 581
Delta R.T. -0.005 min
Lab File: 2v58540.d
Acq: 13 May 2019 6:24 pm

Tgt Ion: 78 Resp: 103676

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 24.9 | 0.0 | 54.0 |
| 52 | 14.3 | 0.0 | 43.7 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58593.d
Acq On : 15 May 2019 1:02 pm
Operator : EddieH
Sample : JC87535-15 Inst : MS2V
Misc : MS34708,V2V2402,5,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 16 10:59:06 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

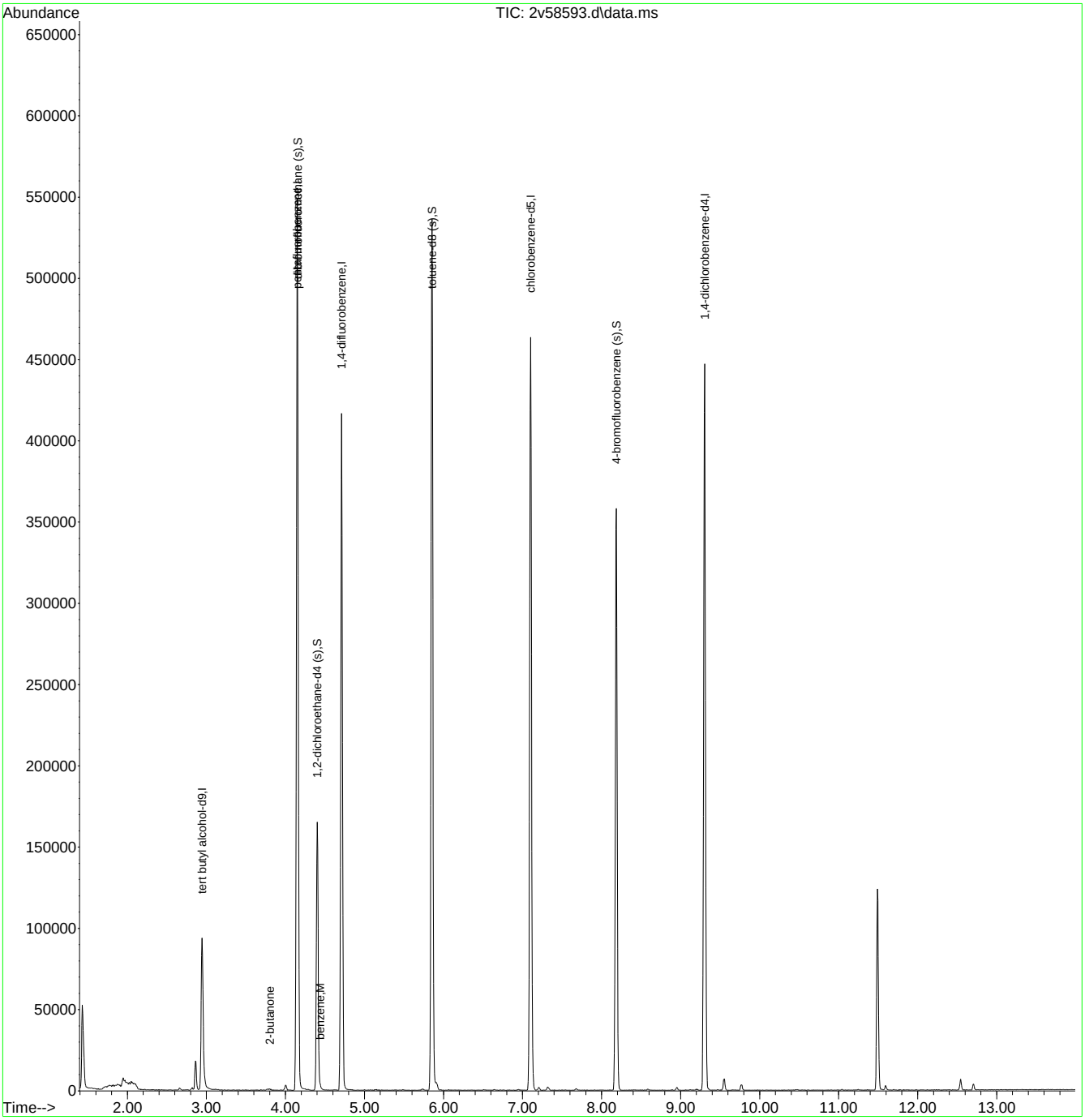
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 100754 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 208999 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 296236 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 258415 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 121036 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 99616 | 48.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 96.70% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 91683 | 49.39 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 98.78% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 329919 | 48.47 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 96.94% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 113728 | 48.46 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 96.92% | | | |
| Target Compounds | | | | | | Qvalue |
| 36) 2-butanone | 3.804 | 72 | 255 | 1.00 | ug/L # | 52 |
| 55) benzene | 4.438 | 78 | 1661 | 0.25 | ug/L | 86 |

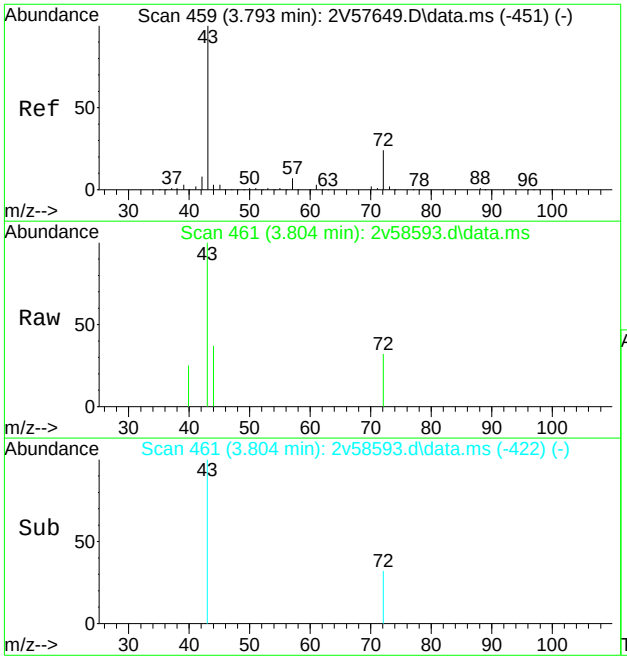
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58593.d
Acq On : 15 May 2019 1:02 pm
Operator : EddieH
Sample : JC87535-15 Inst : MS2V
Misc : MS34708,V2V2402,5,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 16 10:59:06 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

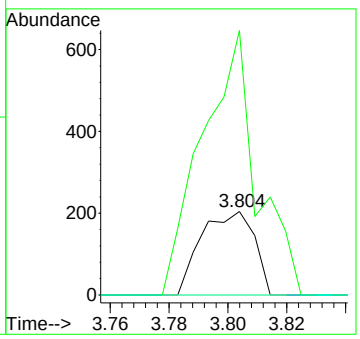


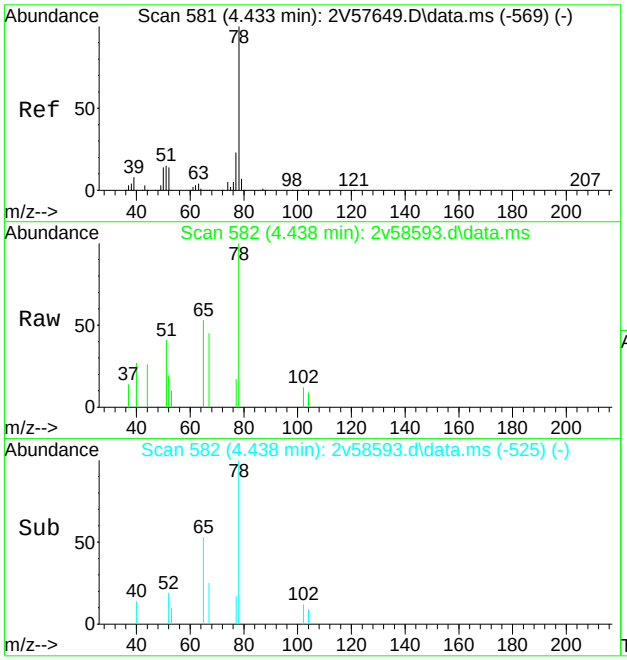



#36
2-butanone
Concen: 1.00 ug/L
RT: 3.804 min Scan# 461
Delta R.T. 0.005 min
Lab File: 2v58593.d
Acq: 15 May 2019 1:02 pm

Tgt Ion: 72 Resp: 255

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 317.2 | 416.3 | 456.3# |
| 57 | 0.0 | 7.8 | 47.8# |

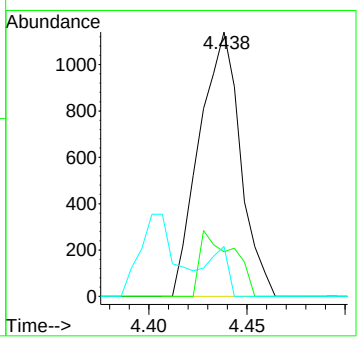



#55
benzene
Concen: 0.25 ug/L
RT: 4.438 min Scan# 582
Delta R.T. 0.000 min
Lab File: 2v58593.d
Acq: 15 May 2019 1:02 pm

Tgt Ion: 78 Resp: 1661

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 16.9 | 0.0 | 54.0 |
| 52 | 18.9 | 0.0 | 43.7 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185118.d
Acq On : 11 May 2019 12:45 pm
Operator : PrashanS
Sample : MB Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:39:13 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

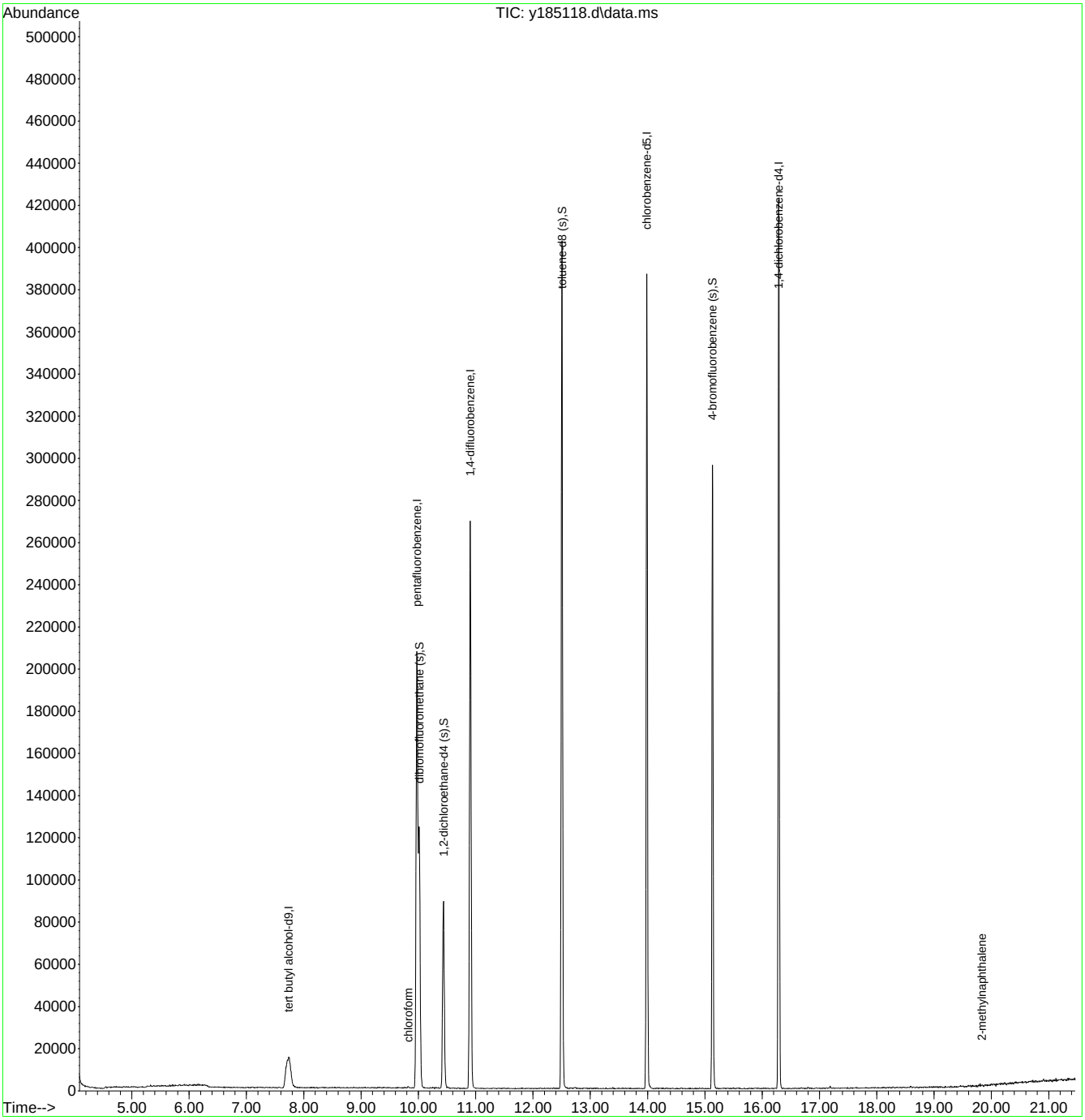
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.736 | 65 | 48056 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.974 | 168 | 172932 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 243594 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 207408 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 106573 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.016 | 113 | 80645 | 51.41 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.82% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.440 | 65 | 64686 | 47.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 95.08% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 264260 | 50.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.70% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 83229 | 47.10 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.20% | | | |
| Target Compounds | | | | | | Qvalue |
| 42) chloroform | 9.823 | 83 | 661 | 0.19 | ug/L | 75 |
| 124) 2-methylnaphthalene | 19.833 | 142 | 335 | 0.13 | ug/L # | 72 |

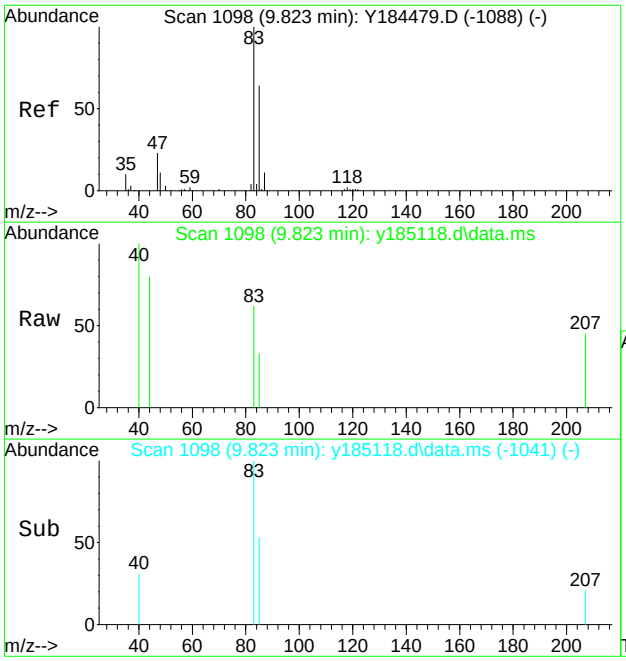
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185118.d
Acq On : 11 May 2019 12:45 pm
Operator : PrashanS
Sample : MB Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:39:13 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

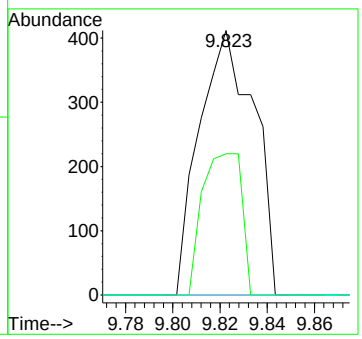


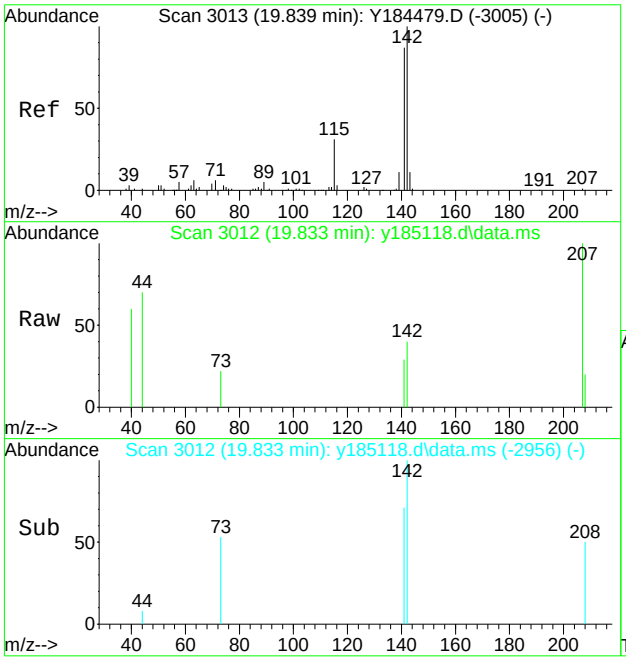



#42
chloroform
Concen: 0.19 ug/L
RT: 9.823 min Scan# 1098
Delta R.T. -0.000 min
Lab File: y185118.d
Acq: 11 May 2019 12:45 pm

Tgt Ion: 83 Resp: 661

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 53.4 | 35.9 | 95.9 |
| 47 | 0.0 | 0.0 | 54.0 |

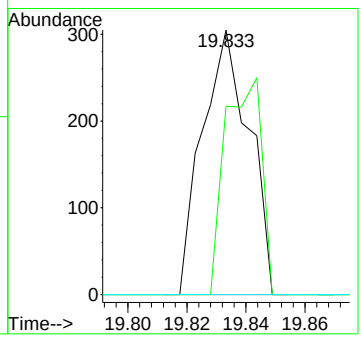



#124
2-methylnaphthalene
Concen: 0.13 ug/L
RT: 19.833 min Scan# 3012
Delta R.T. -0.005 min
Lab File: y185118.d
Acq: 11 May 2019 12:45 pm

Tgt Ion:142 Resp: 335

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 71.1 | 67.8 | 107.8 |
| 115 | 0.0 | 10.1 | 50.1# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58523.D
Acq On : 13 May 2019 9:18 am
Operator : EddieH
Sample : mb
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 14 08:49:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

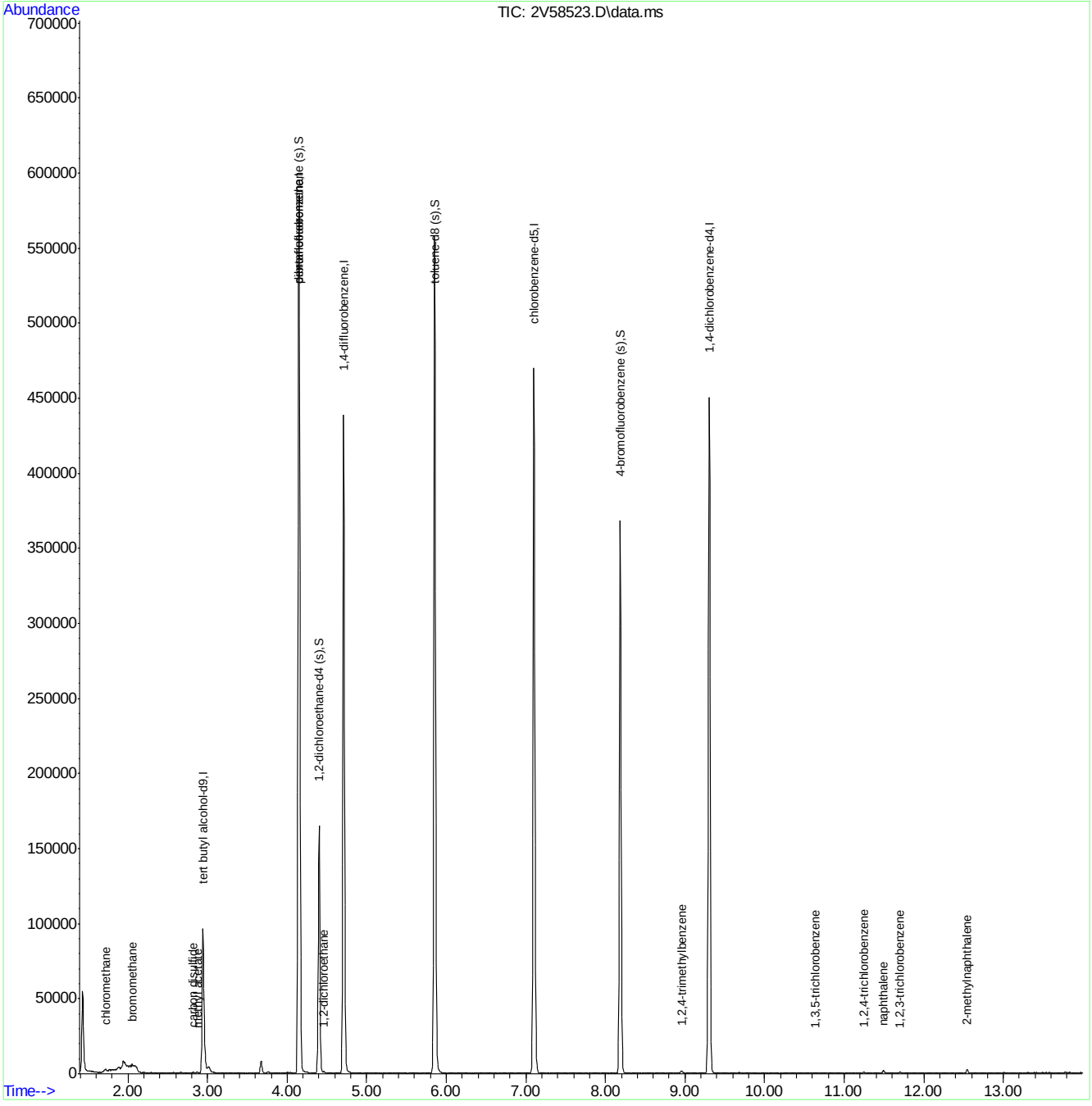
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 106777 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 220433 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 312189 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 263574 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 122396 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 104391 | 48.04 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 96.08% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 90606 | 46.31 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 92.62% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 346596 | 49.92 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 99.84% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 116550 | 49.11 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 98.22% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 8) chloromethane | 1.722 | 50 | 346 | 0.12 | ug/L | # | 50 |
| 10) bromomethane | 2.058 | 96 | 520 | 0.23 | ug/L | # | 37 |
| 23) carbon disulfide | 2.818 | 76 | 623 | 0.14 | ug/L | | 70 |
| 25) methyl acetate | 2.871 | 43 | 579 | 0.36 | ug/L | # | 39 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 315 | 0.11 | ug/L | # | 49 |
| 109) 1,2,4-trimethylbenzene | 8.958 | 105 | 869 | 0.14 | ug/L | # | 38 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 290 | 0.11 | ug/L | # | 85 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 409 | 0.19 | ug/L | # | 70 |
| 123) naphthalene | 11.495 | 128 | 2086 | 0.37 | ug/L | | 94 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 405 | 0.21 | ug/L | | 91 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 1237 | 0.58 | ug/L | # | 78 |

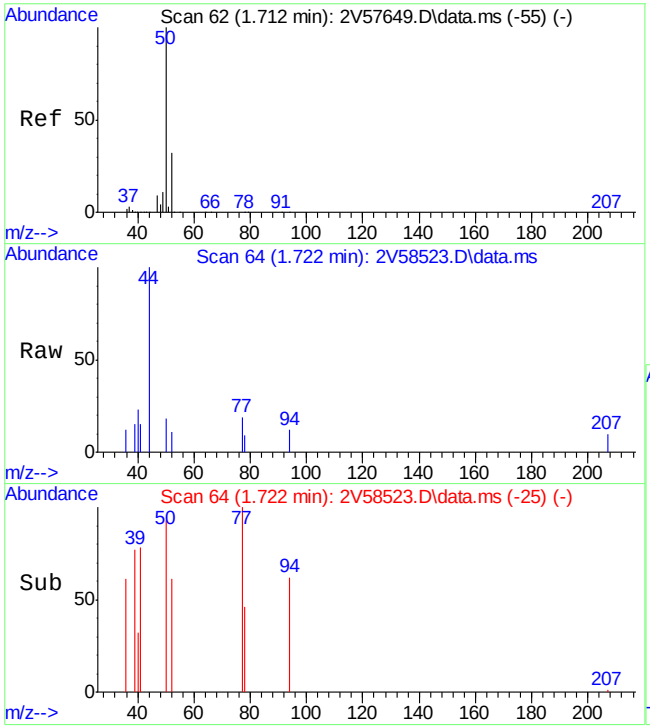
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58523.D
Acq On : 13 May 2019 9:18 am
Operator : EddieH
Sample : mb
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 14 08:49:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

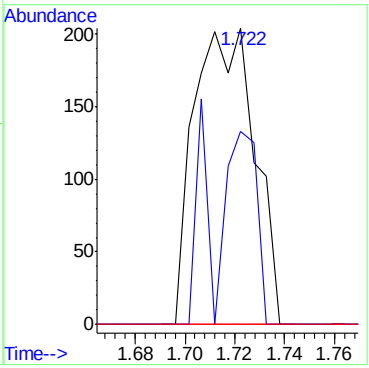


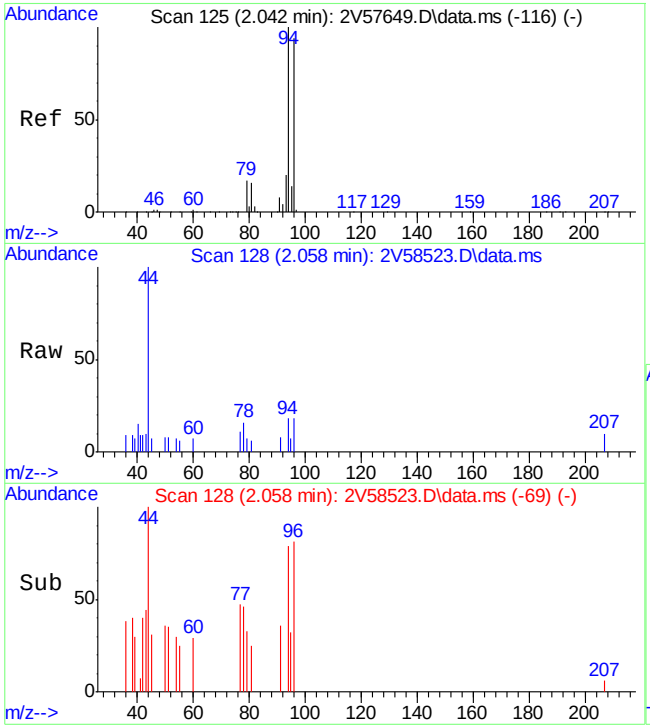



#8
chloromethane
Concen: 0.12 ug/L
RT: 1.722 min Scan# 64
Delta R.T. 0.005 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion: 50 Resp: 346

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 50 | 100 | | |
| 52 | 65.2 | 2.9 | 62.9# |
| 49 | 0.0 | 0.0 | 40.1 |

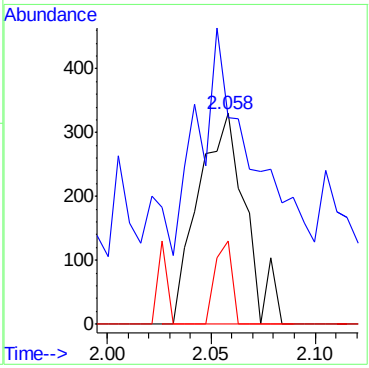


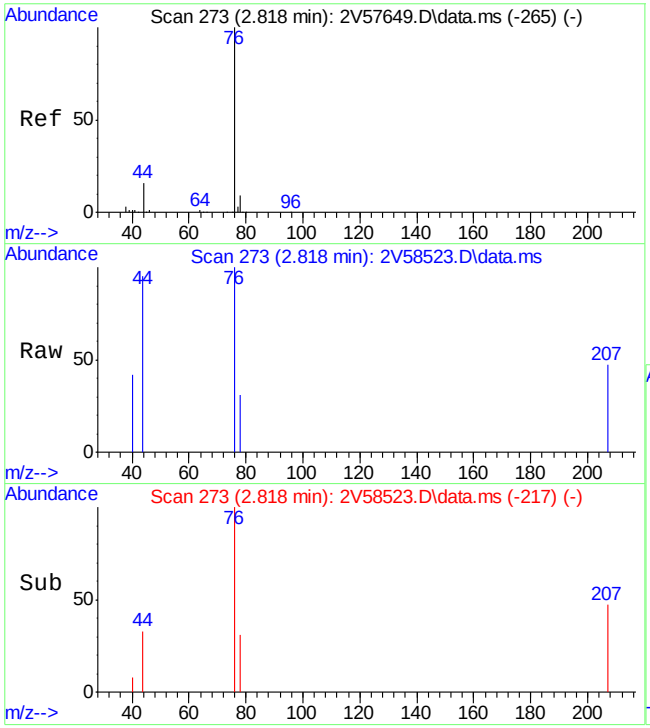




#10
bromomethane
Concen: 0.23 ug/L
RT: 2.058 min Scan# 128
Delta R.T. 0.011 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion: 96 Resp: 520

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 94 | 42.4 | 78.8 | 138.8# |
| 95 | 39.7 | 0.0 | 45.2 |

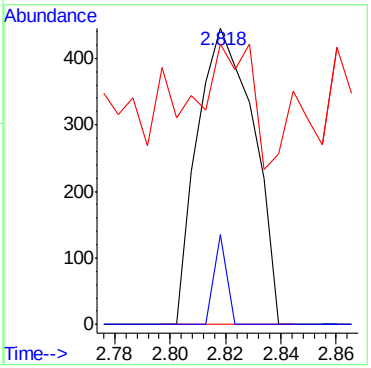


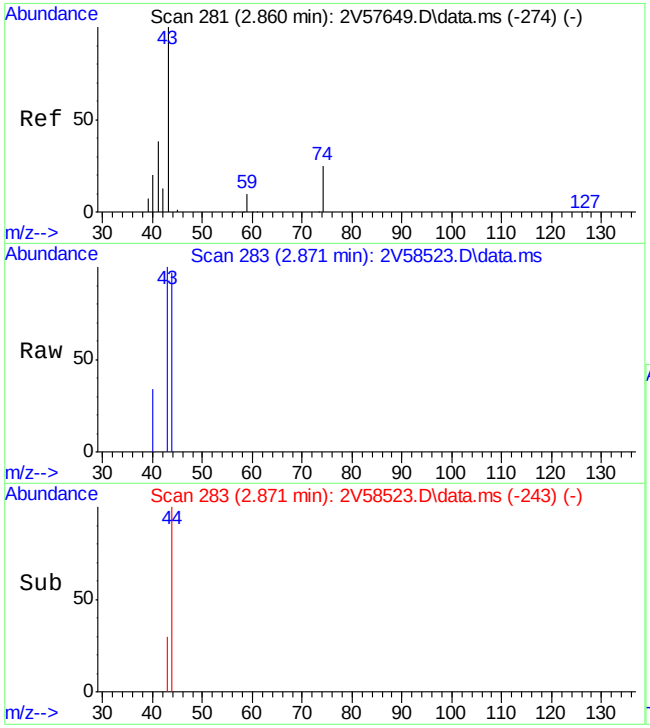



#23
carbon disulfide
Concen: 0.14 ug/L
RT: 2.818 min Scan# 273
Delta R.T. -0.005 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion: 76 Resp: 623

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 30.6 | 0.0 | 39.2 |
| 44 | 16.2 | 0.0 | 42.5 |

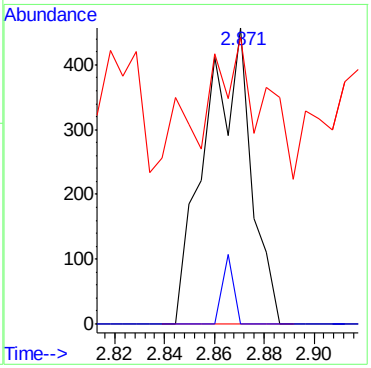


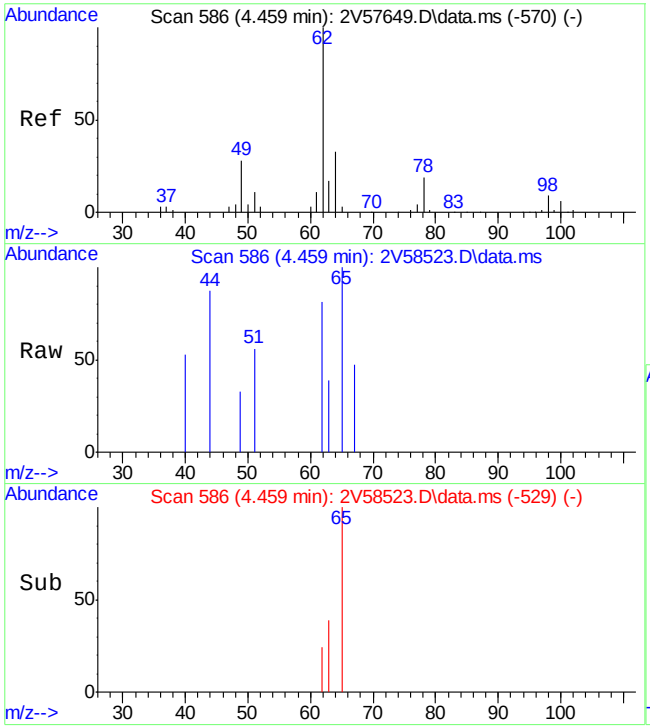




#25
methyl acetate
Concen: 0.36 ug/L
RT: 2.871 min Scan# 283
Delta R.T. 0.011 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion: 43 Resp: 579

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 74 | 0.0 | 0.0 | 56.0 |
| 44 | 48.1 | 0.0 | 33.4# |

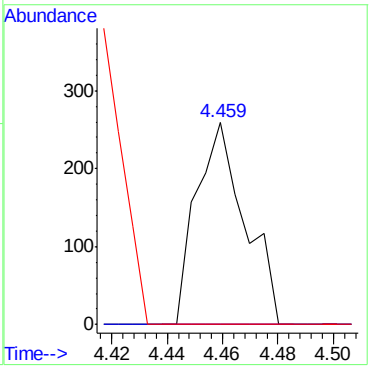


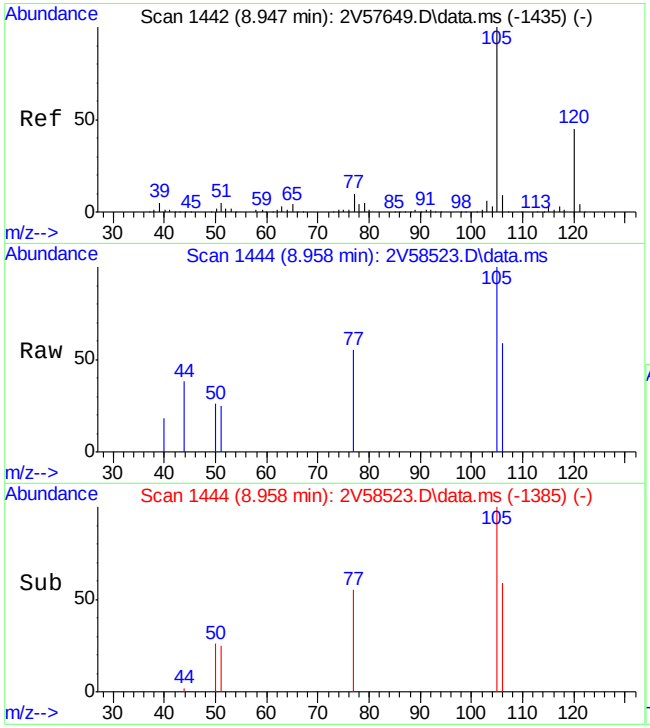



#60
1,2-dichloroethane
Concen: 0.11 ug/L
RT: 4.459 min Scan# 586
Delta R.T. 0.000 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion: 62 Resp: 315

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 98 | 0.0 | 0.0 | 39.1 |
| 64 | 0.0 | 3.3 | 63.3# |

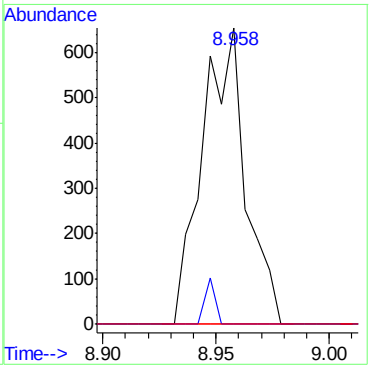


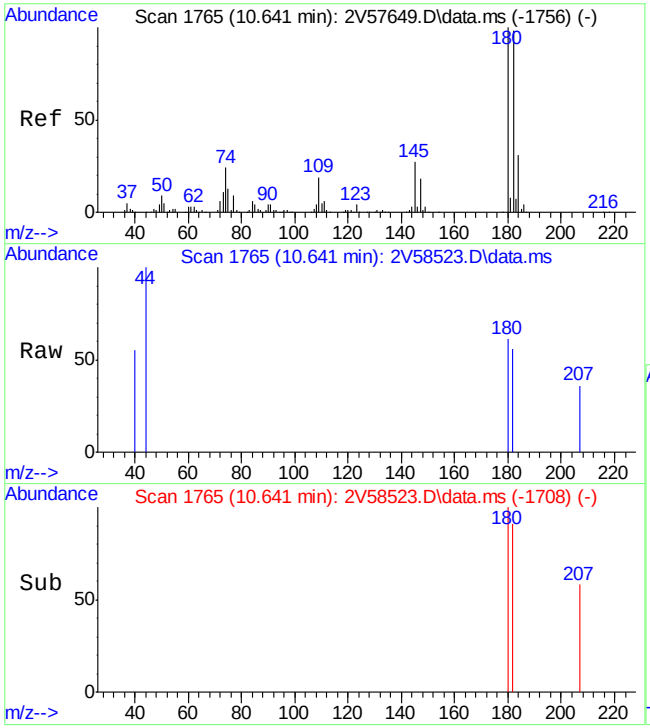




#109
1,2,4-trimethylbenzene
Concen: 0.14 ug/L
RT: 8.958 min Scan# 1444
Delta R.T. 0.011 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion:105 Resp: 869

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 0.0 | 17.0 | 77.0# |
| 119 | 0.0 | 0.0 | 41.8 |

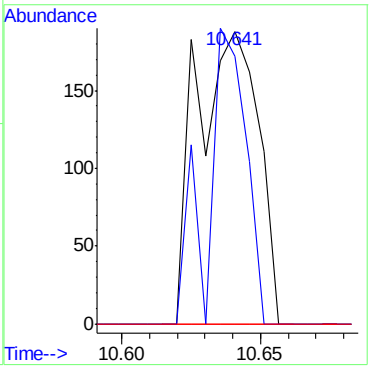


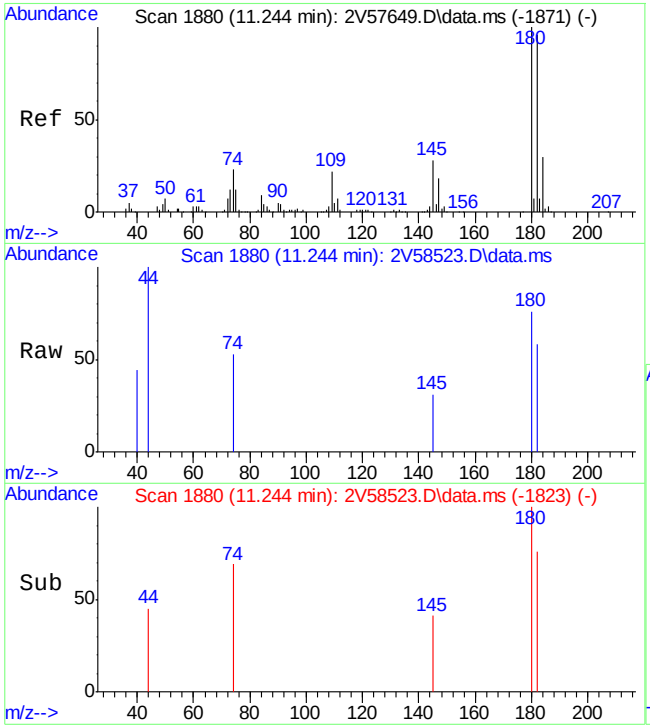



#120
1,3,5-trichlorobenzene
Concen: 0.11 ug/L
RT: 10.641 min Scan# 1765
Delta R.T. 0.000 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion:180 Resp: 290

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 91.5 | 75.1 | 115.1 |
| 145 | 0.0 | 7.9 | 47.9# |

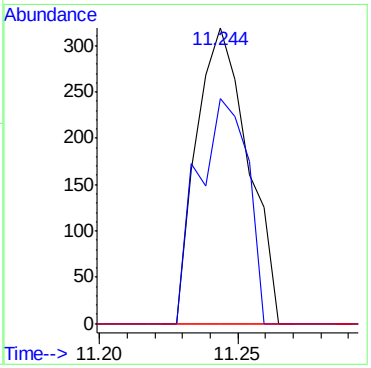


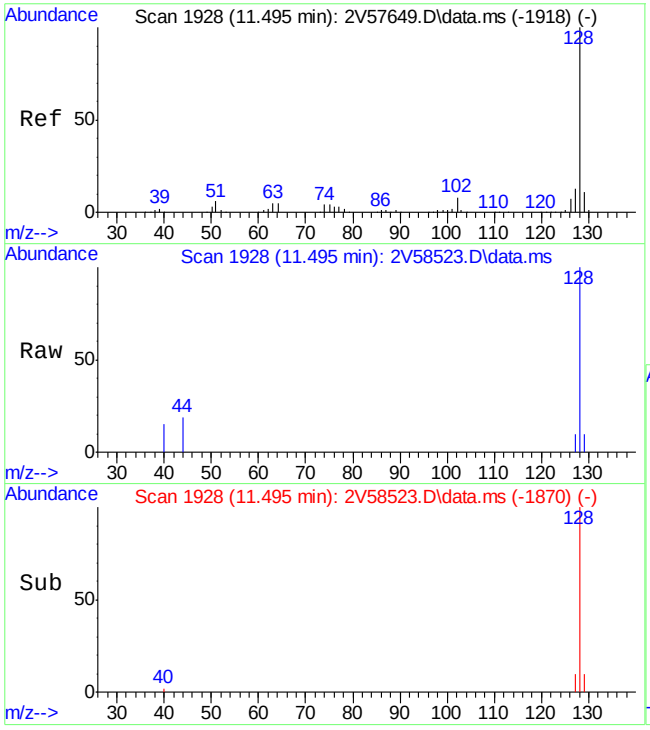




#121
1,2,4-trichlorobenzene
Concen: 0.19 ug/L
RT: 11.244 min Scan# 1880
Delta R.T. 0.000 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion:180 Resp: 409

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 76.2 | 68.4 | 128.4 |
| 184 | 0.0 | 0.6 | 60.6# |

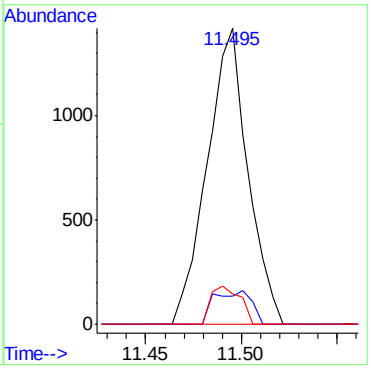


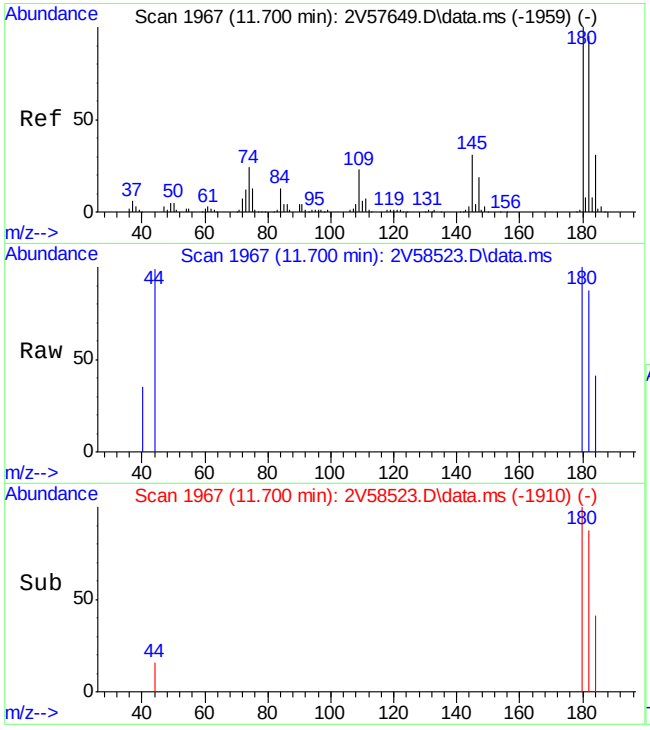



#123
naphthalene
Concen: 0.37 ug/L
RT: 11.495 min Scan# 1928
Delta R.T. 0.005 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion:128 Resp: 2086

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 9.7 | 0.0 | 41.3 |
| 127 | 10.1 | 0.0 | 43.2 |

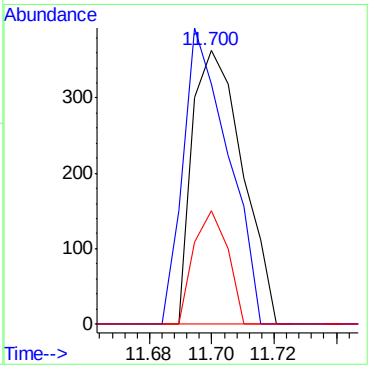


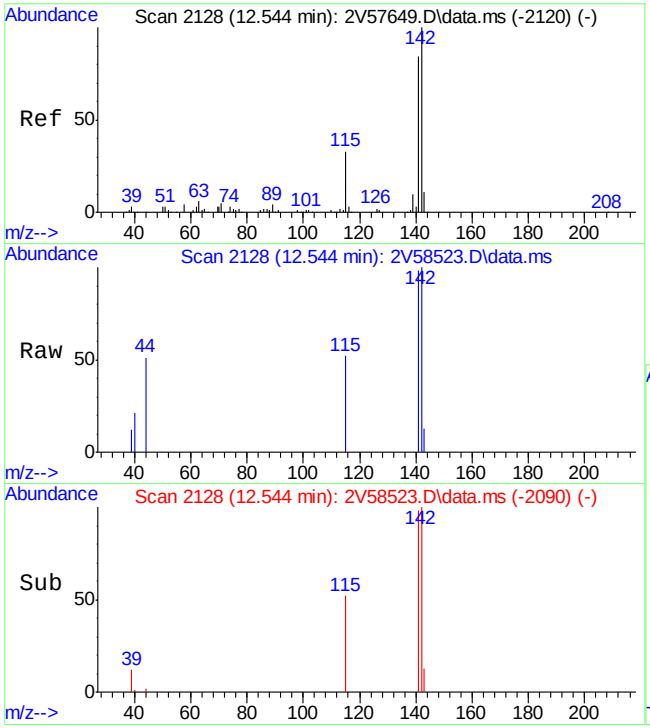




#124
1,2,3-trichlorobenzene
Concen: 0.21 ug/L
RT: 11.700 min Scan# 1967
Delta R.T. 0.000 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion:180 Resp: 405

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 87.4 | 63.2 | 123.2 |
| 184 | 41.5 | 1.1 | 61.1 |

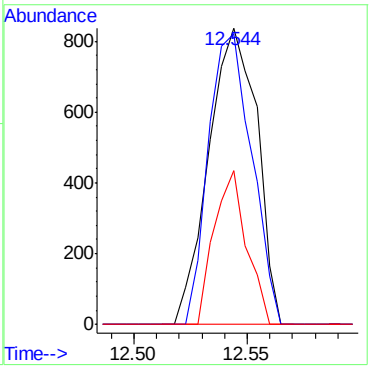





#126
2-methylnaphthalene
Concen: 0.58 ug/L
RT: 12.544 min Scan# 2128
Delta R.T. 0.000 min
Lab File: 2V58523.D
Acq: 13 May 2019 9:18 am

Tgt Ion:142 Resp: 1237

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 98.2 | 63.8 | 103.8 |
| 115 | 52.1 | 11.3 | 51.3# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164494.d
Acq On : 13 May 2019 11:23 am
Operator : PrashanS
Sample : MB Inst : GCMS1C
Misc : MS34603,V1C7218,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:18:05 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

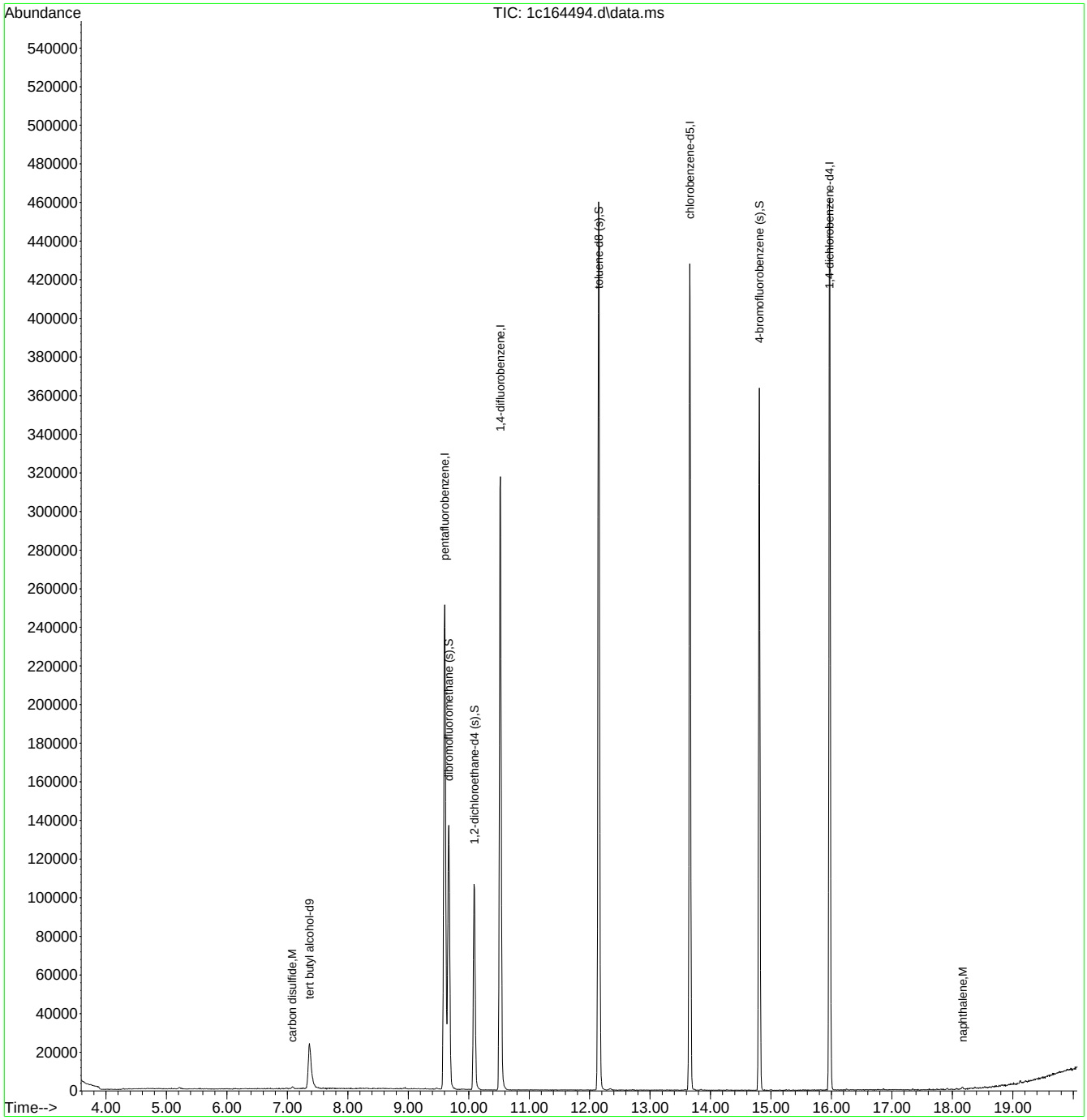
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 52977 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 232681 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 318110 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 259763 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.967 | 152 | 135768 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 96821 | 49.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.68% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 81275 | 40.67 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 81.34% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 346615 | 49.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.08% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 119611 | 46.93 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 93.86% | | | |
| Target Compounds | | | | | | Qvalue |
| 22) carbon disulfide | 7.081 | 76 | 1793 | 0.29 | ug/L | 84 |
| 124) naphthalene | 18.169 | 128 | 1032 | 0.21 | ug/L | 68 |

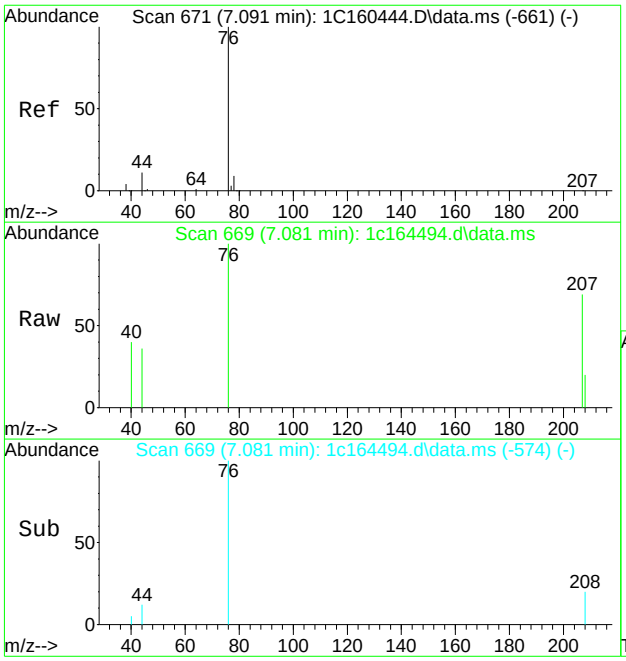
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164494.d
Acq On : 13 May 2019 11:23 am
Operator : PrashanS
Sample : MB Inst : GCMS1C
Misc : MS34603,V1C7218,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:18:05 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

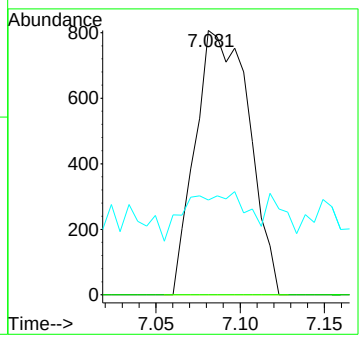


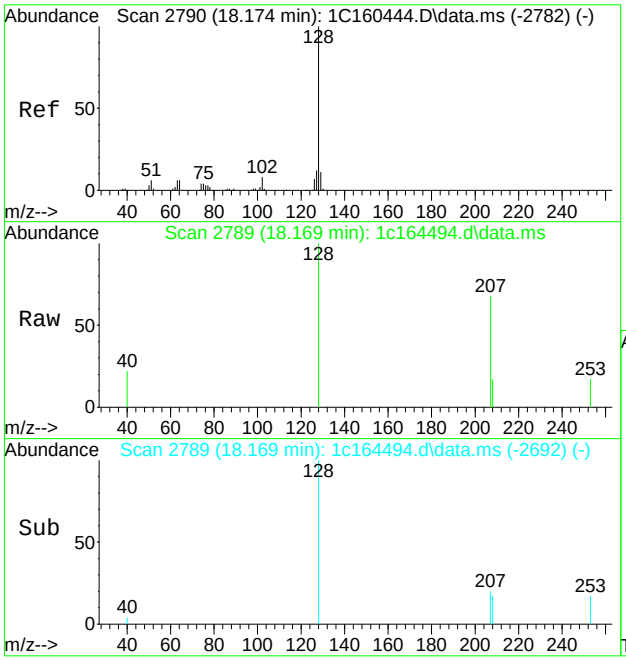



#22
carbon disulfide
Concen: 0.29 ug/L
RT: 7.081 min Scan# 669
Delta R.T. -0.005 min
Lab File: 1c164494.d
Acq: 13 May 2019 11:23 am

Tgt Ion: 76 Resp: 1793

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.3 |
| 44 | 15.5 | 0.0 | 42.1 |

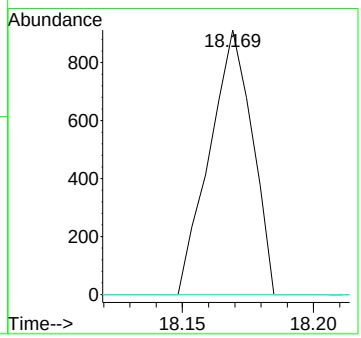



#124
naphthalene
Concen: 0.21 ug/L
RT: 18.169 min Scan# 2789
Delta R.T. 0.005 min
Lab File: 1c164494.d
Acq: 13 May 2019 11:23 am

Tgt Ion:128 Resp: 1032

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 0.0 | 0.0 | 43.5 |
| 129 | 0.0 | 0.0 | 41.2 |



Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167644.d
Acq On : 15 May 2019 8:33 am
Operator : thienn
Sample : MB Inst : Instrument #1
Misc : MS34655,V2C7520,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:47:10 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

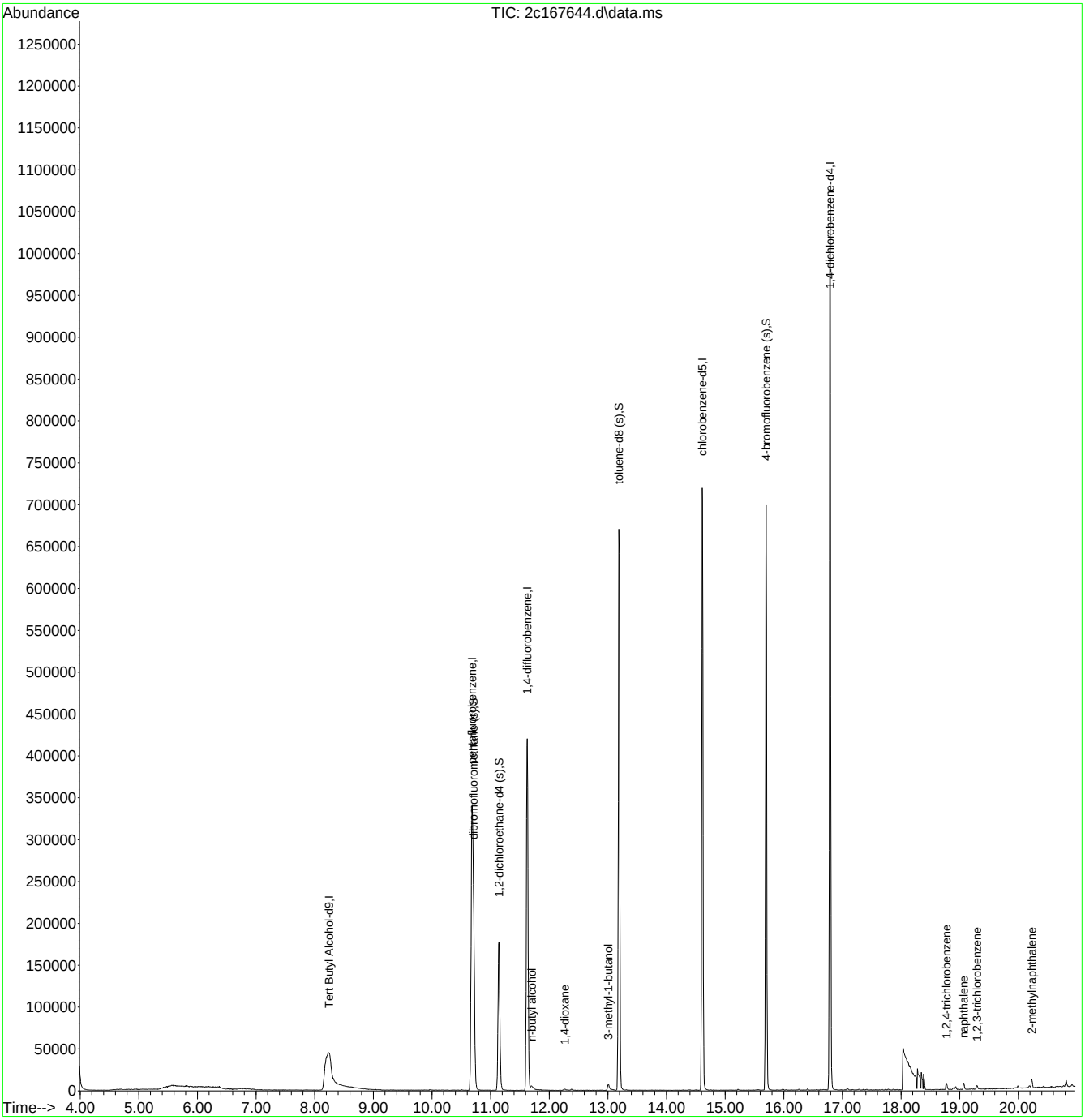
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.244 | 65 | 250786 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 269004 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 364819 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 368927 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 252490 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 124176 | 48.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.22% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 144060 | 49.23 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 98.46% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 421957 | 48.30 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.60% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 188449 | 49.43 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.86% | | | |
| Target Compounds | | | | | | Qvalue |
| 4) 1,4-dioxane | 12.265 | 88 | 1989 | 37.76 | ug/L | 77 |
| 53) n-butyl alcohol | 11.704 | 56 | 5462 | 32.40 | ug/L | 94 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 3960 | 14.21 | ug/L | 85 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 1162 | 0.14 | ug/L | 93 |
| 121) naphthalene | 19.071 | 128 | 5805 | 0.29 | ug/L | 91 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 1614 | 0.21 | ug/L | 77 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 4933 | 0.43 | ug/L | 90 |

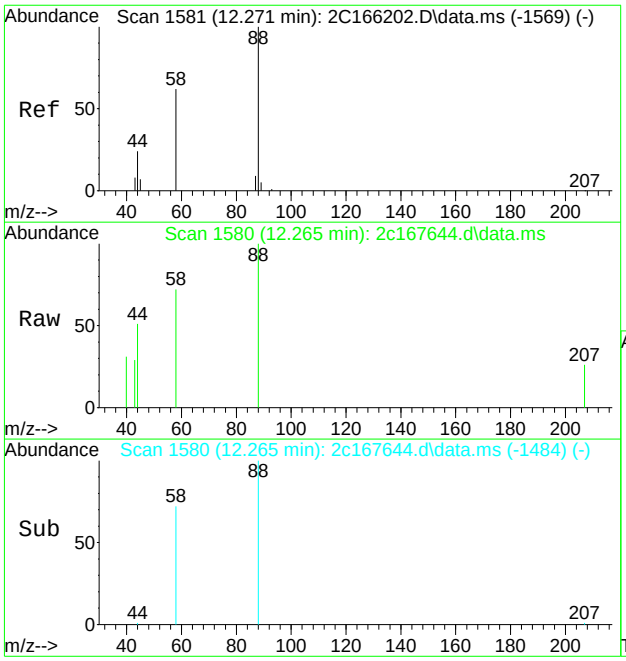
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167644.d
Acq On : 15 May 2019 8:33 am
Operator : thienn
Sample : MB Inst : Instrument #1
Misc : MS34655,V2C7520,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:47:10 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

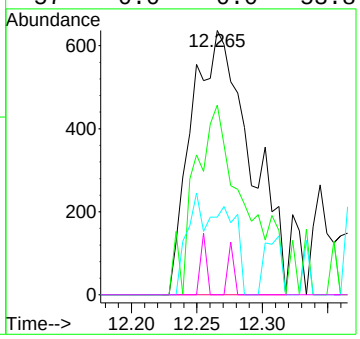


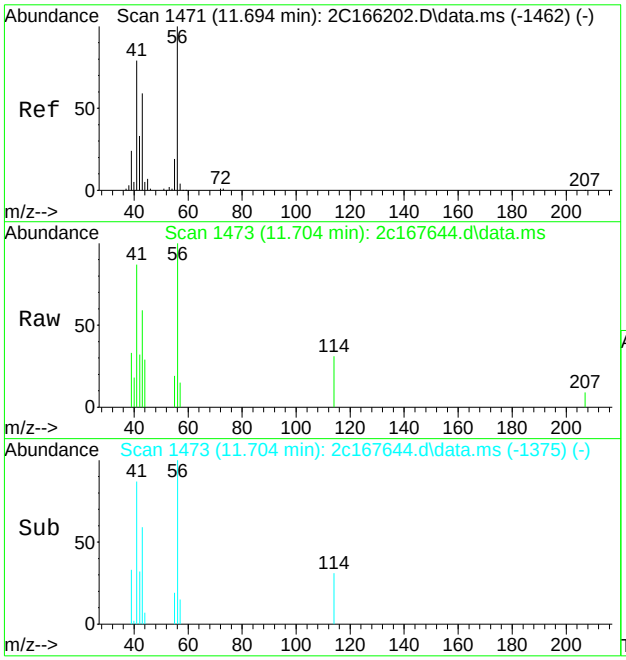



#4
1,4-dioxane
Concen: 37.76 ug/L
RT: 12.265 min Scan# 1580
Delta R.T. 0.005 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion: 88 Resp: 1989

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 88 | 100 | | |
| 58 | 71.7 | 34.2 | 94.2 |
| 43 | 29.4 | 18.3 | 78.3 |
| 57 | 0.0 | 0.0 | 53.8 |

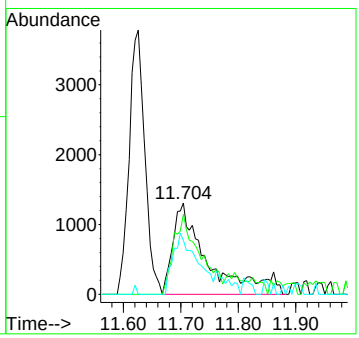


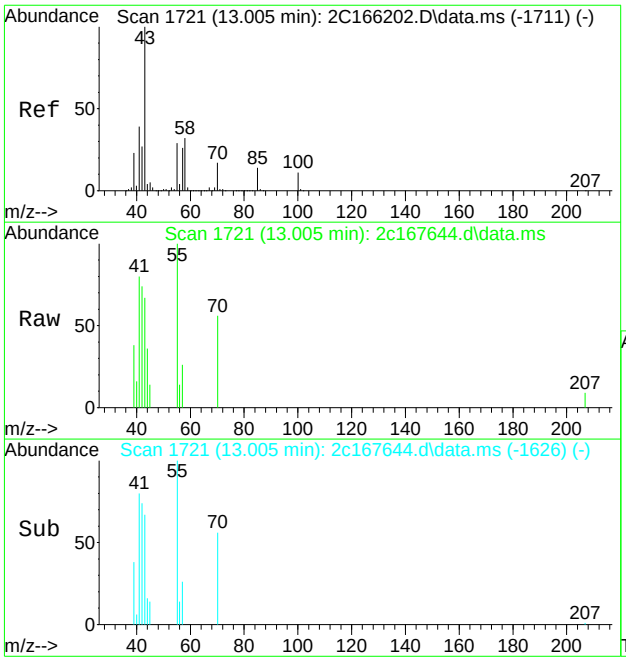




#53
n-butyl alcohol
Concen: 32.40 ug/L
RT: 11.704 min Scan# 1473
Delta R.T. 0.016 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion: 56 Resp: 5462

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 56 | 100 | | |
| 41 | 87.4 | 48.6 | 108.6 |
| 43 | 59.1 | 28.7 | 88.7 |

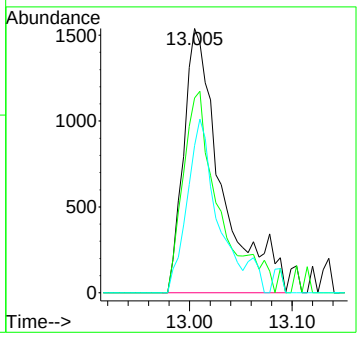


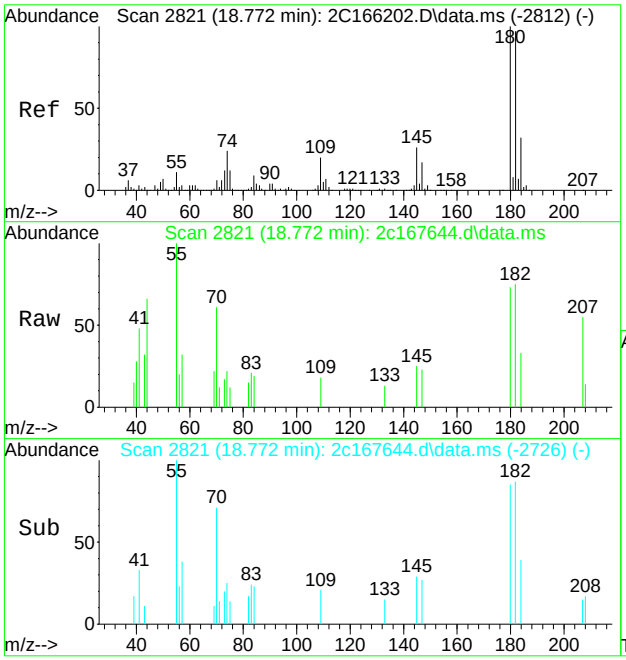



#73
3-methyl-1-butanol
Concen: 14.21 ug/L
RT: 13.005 min Scan# 1721
Delta R.T. -0.000 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion: 55 Resp: 3960

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 42 | 73.7 | 64.5 | 124.5 |
| 70 | 55.6 | 28.2 | 88.2 |

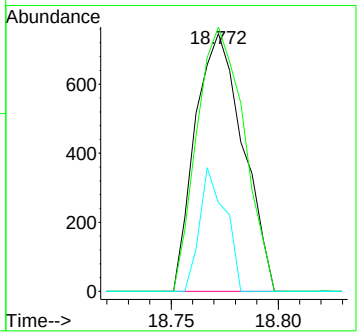


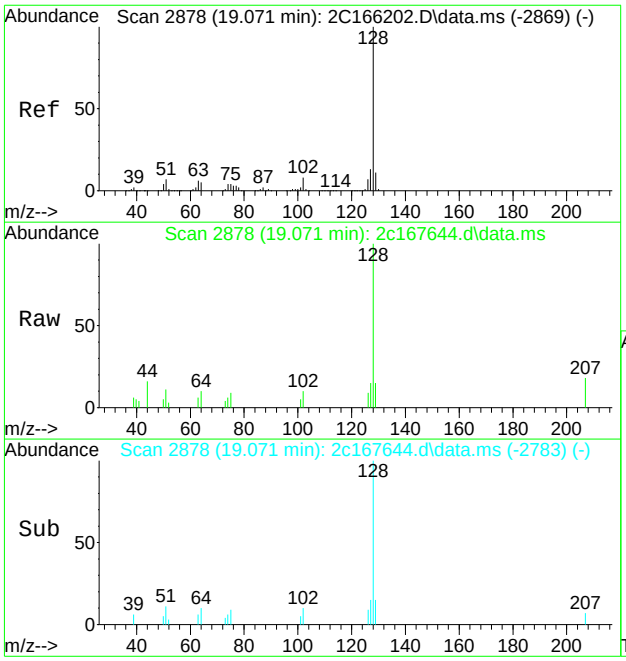




#118
1,2,4-trichlorobenzene
Concen: 0.14 ug/L
RT: 18.772 min Scan# 2821
Delta R.T. -0.000 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion:180 Resp: 1162

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 102.5 | 67.4 | 127.4 |
| 145 | 34.4 | 0.0 | 56.5 |

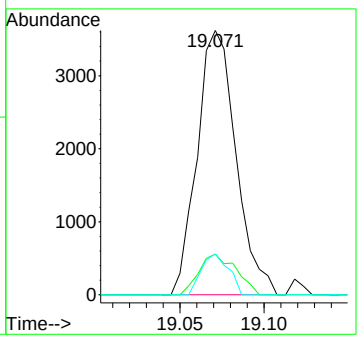


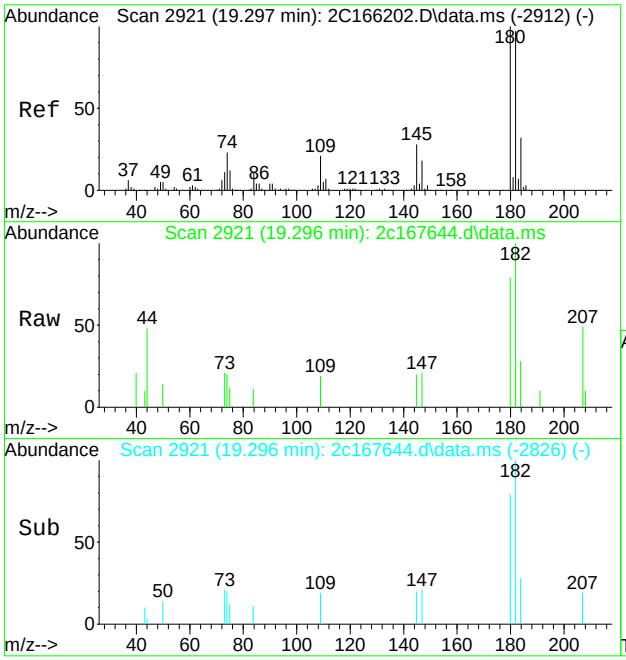



#121
naphthalene
Concen: 0.29 ug/L
RT: 19.071 min Scan# 2878
Delta R.T. -0.000 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion:128 Resp: 5805

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 15.4 | 0.0 | 43.0 |
| 129 | 15.5 | 0.0 | 41.1 |

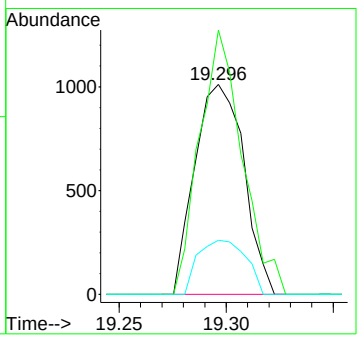


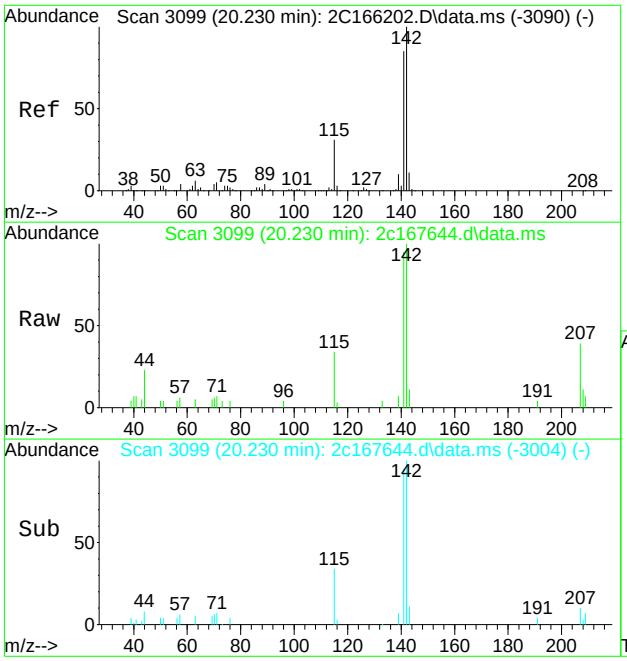




#122
1,2,3-trichlorobenzene
Concen: 0.21 ug/L
RT: 19.296 min Scan# 2921
Delta R.T. -0.000 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion:180 Resp: 1614

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 125.9 | 67.4 | 127.4 |
| 145 | 25.8 | 0.0 | 58.3 |

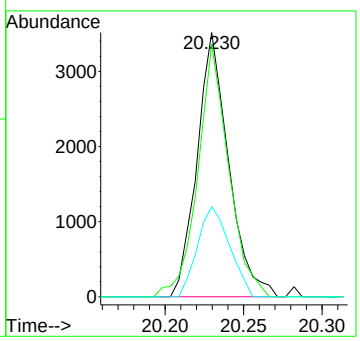





#124
2-methylnaphthalene
Concen: 0.43 ug/L
RT: 20.230 min Scan# 3099
Delta R.T. 0.001 min
Lab File: 2c167644.d
Acq: 15 May 2019 8:33 am

Tgt Ion:142 Resp: 4933

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 95.5 | 64.8 | 104.8 |
| 115 | 34.2 | 0.6 | 60.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2402\
Data File : 2V58591.D
Acq On : 15 May 2019 12:06 pm
Operator : EddieH
Sample : mb
Misc : MS34710,V2V2402,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 15 16:58:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

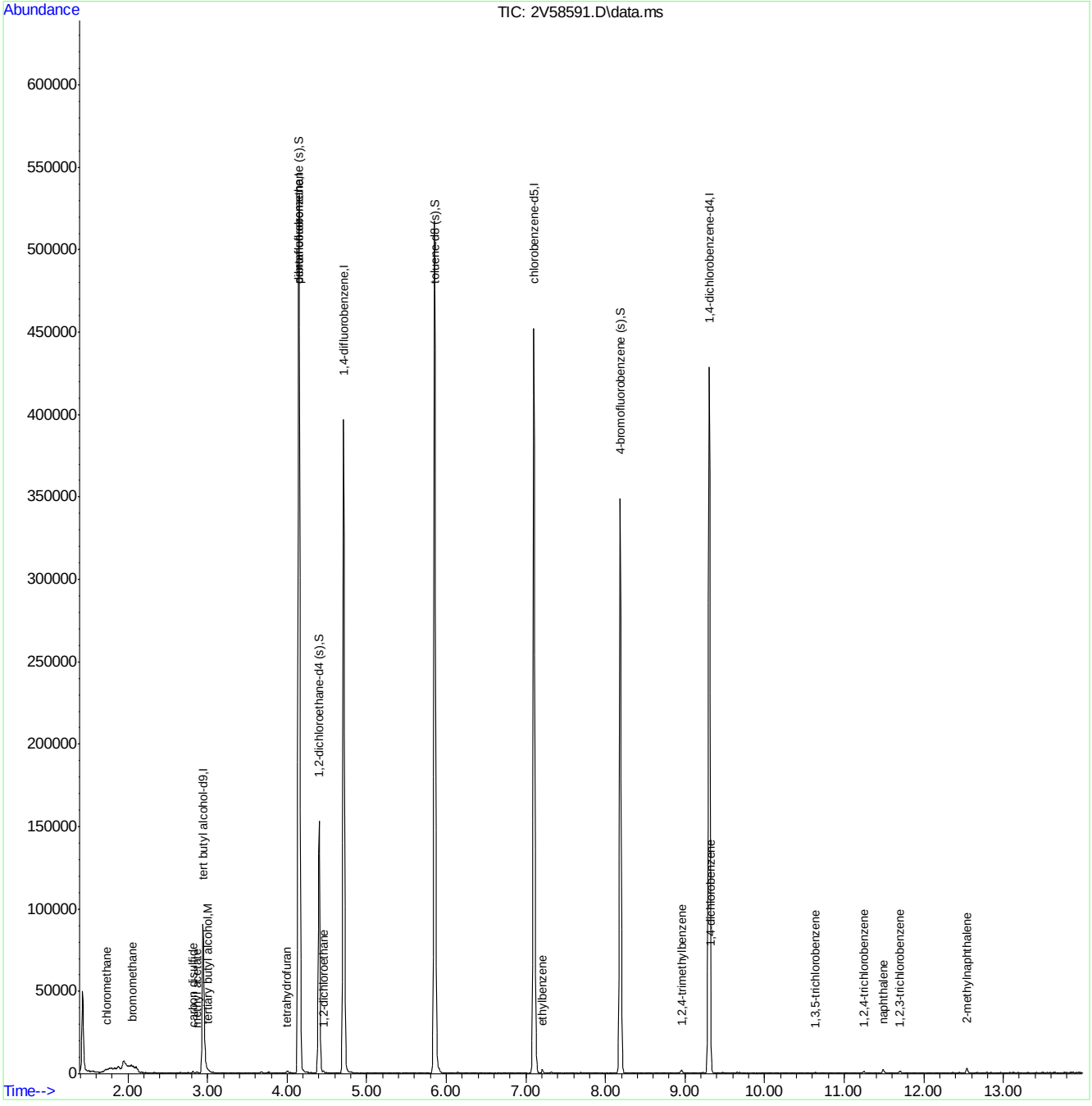
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 99861 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 204594 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 288181 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 248625 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 114401 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 95791 | 47.49 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 94.98% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 85521 | 47.36 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 94.72% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 322172 | 49.19 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 98.38% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 109539 | 49.38 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 98.76% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 3.002 | 59 | 392 | 0.65 | ug/L | | 64 |
| 8) chloromethane | 1.728 | 50 | 362 | 0.14 | ug/L | # | 49 |
| 10) bromomethane | 2.053 | 96 | 628 | 0.30 | ug/L | | 82 |
| 23) carbon disulfide | 2.818 | 76 | 926 | 0.23 | ug/L | | 79 |
| 25) methyl acetate | 2.865 | 43 | 941 | 0.63 | ug/L | | 94 |
| 42) tetrahydrofuran | 3.998 | 71 | 262 | 0.91 | ug/L | | 90 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 395 | 0.16 | ug/L | # | 49 |
| 89) ethylbenzene | 7.212 | 91 | 1800 | 0.23 | ug/L | | 87 |
| 109) 1,2,4-trimethylbenzene | 8.958 | 105 | 859 | 0.15 | ug/L | # | 38 |
| 113) 1,4-dichlorobenzene | 9.325 | 146 | 446 | 0.12 | ug/L | # | 67 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 255 | 0.11 | ug/L | # | 66 |
| 121) 1,2,4-trichlorobenzene | 11.249 | 180 | 585 | 0.30 | ug/L | # | 56 |
| 123) naphthalene | 11.490 | 128 | 2349 | 0.45 | ug/L | | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 612 | 0.35 | ug/L | # | 81 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 1616 | 0.81 | ug/L | | 91 |

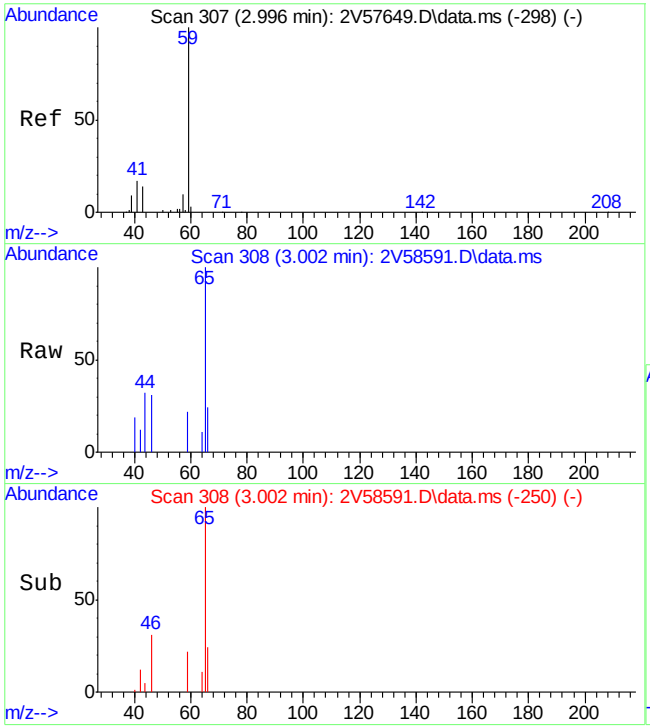
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2402\
Data File : 2V58591.D
Acq On : 15 May 2019 12:06 pm
Operator : EddieH
Sample : mb
Misc : MS34710,V2V2402,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 15 16:58:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

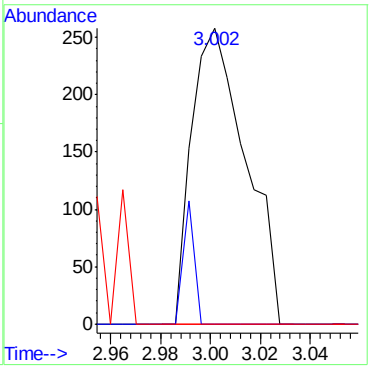


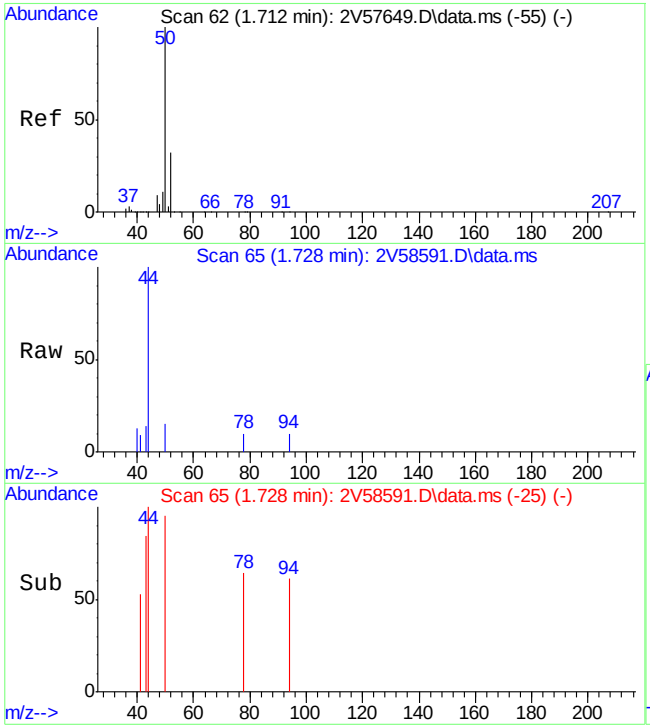



#3
tertiary butyl alcohol
Concen: 0.65 ug/L
RT: 3.002 min Scan# 308
Delta R.T. 0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 59 Resp: 392

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 41 | 0.0 | 0.0 | 46.8 |
| 43 | 0.0 | 0.0 | 42.5 |

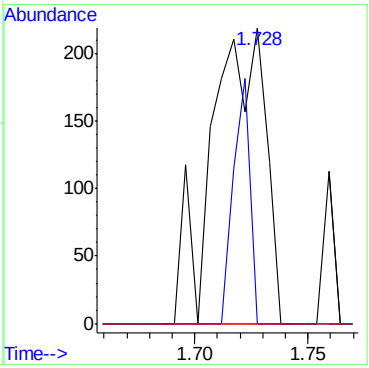


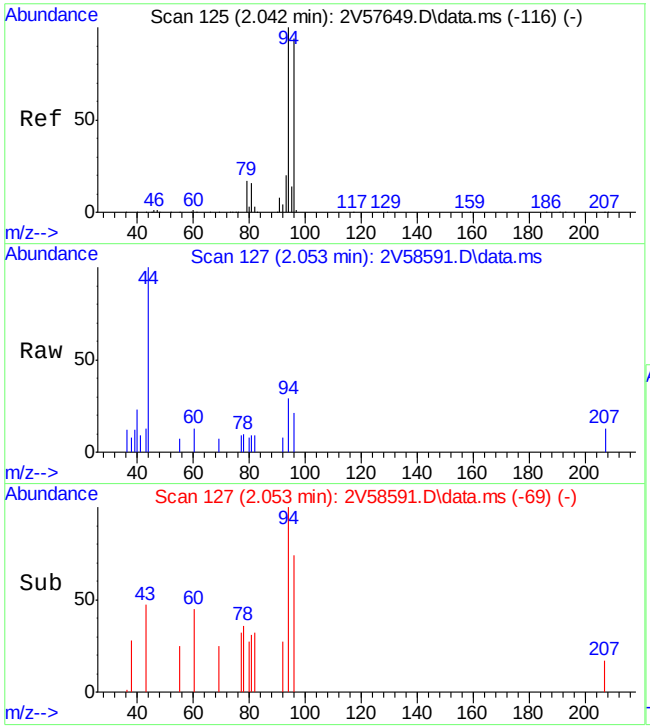




#8
chloromethane
Concen: 0.14 ug/L
RT: 1.728 min Scan# 65
Delta R.T. 0.011 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 50 Resp: 362

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 50 | 100 | | |
| 52 | 0.0 | 2.9 | 62.9# |
| 49 | 0.0 | 0.0 | 40.1 |

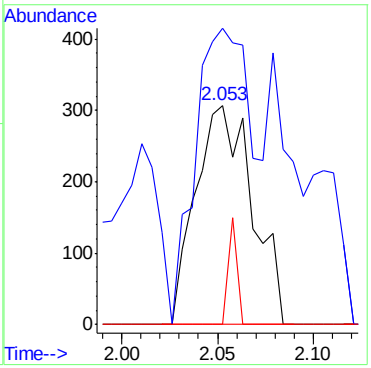


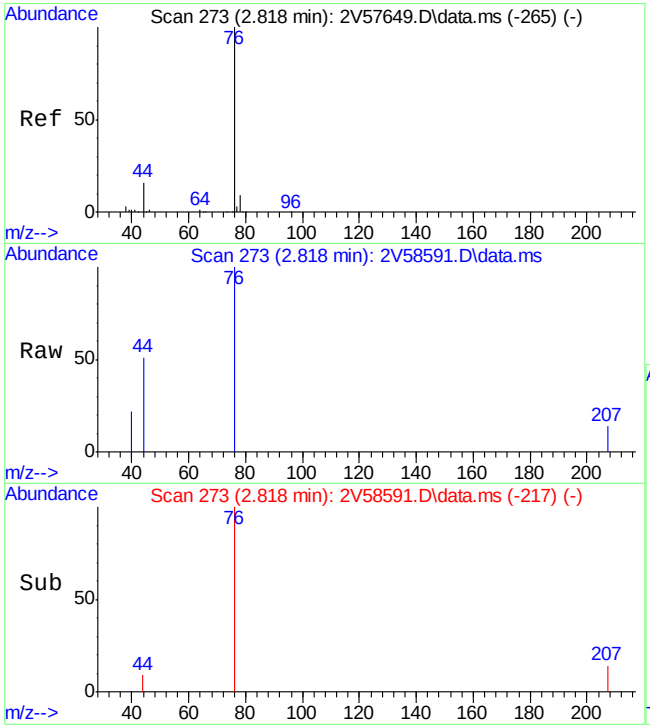



#10
bromomethane
Concen: 0.30 ug/L
RT: 2.053 min Scan# 127
Delta R.T. 0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 96 Resp: 628

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 96 | 100 | | |
| 94 | 93.2 | 78.8 | 138.8 |
| 95 | 0.0 | 0.0 | 45.2 |

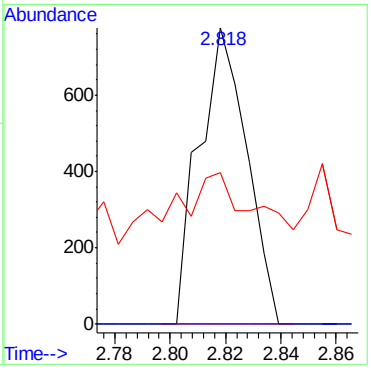


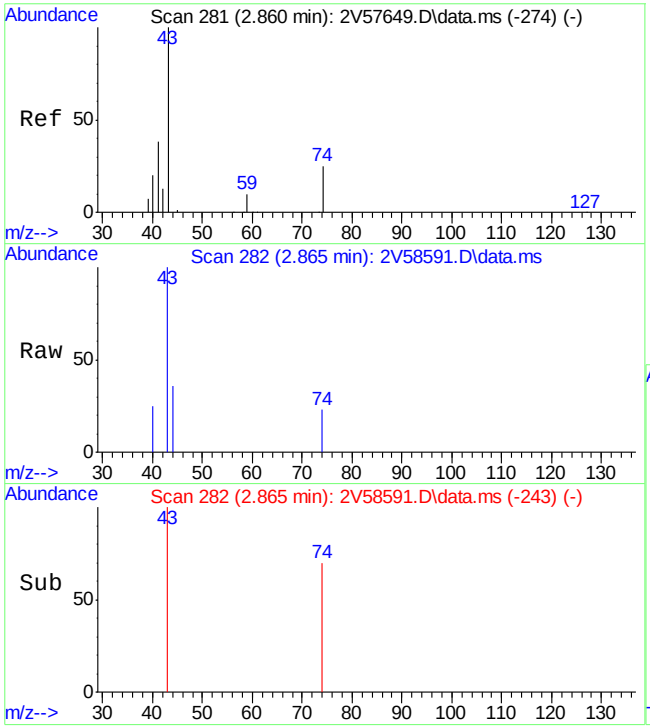




#23
carbon disulfide
Concen: 0.23 ug/L
RT: 2.818 min Scan# 273
Delta R.T. -0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 76 Resp: 926

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.2 |
| 44 | 19.3 | 0.0 | 42.5 |

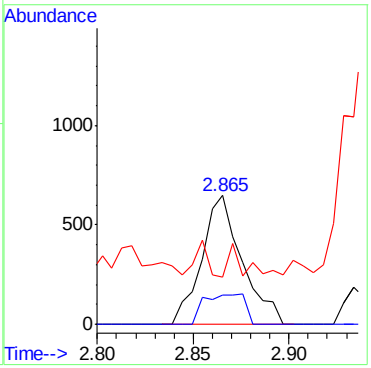


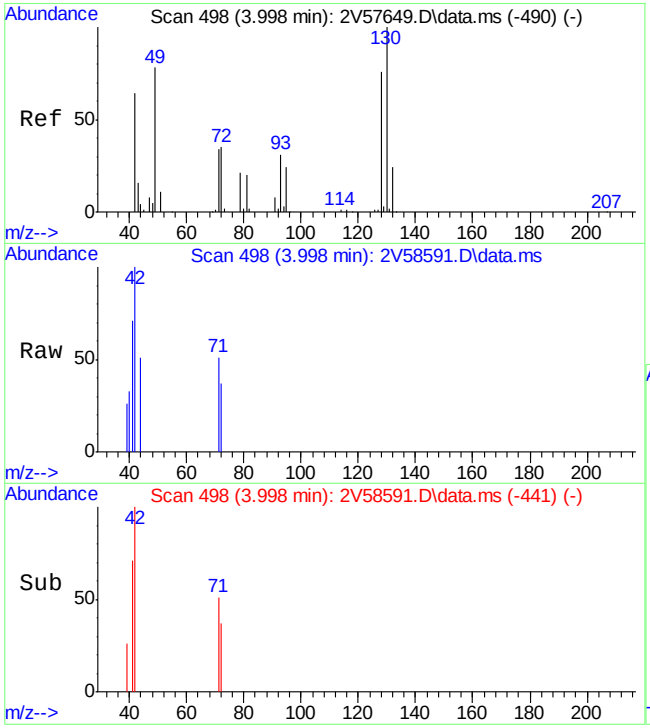



#25
methyl acetate
Concen: 0.63 ug/L
RT: 2.865 min Scan# 282
Delta R.T. 0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 43 Resp: 941

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 74 | 23.0 | 0.0 | 56.0 |
| 44 | 0.0 | 0.0 | 33.4 |

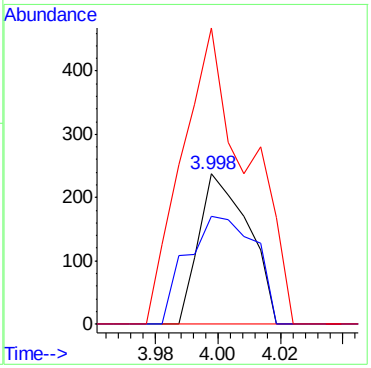


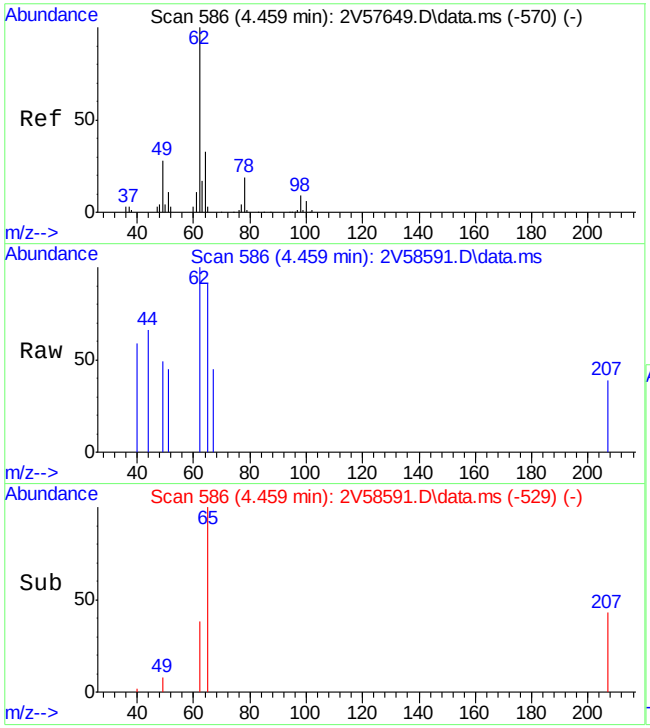




#42
tetrahydrofuran
Concen: 0.91 ug/L
RT: 3.998 min Scan# 498
Delta R.T. 0.000 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 71 Resp: 262

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 71 | 100 | | |
| 72 | 72.2 | 69.4 | 129.4 |
| 42 | 197.5 | 169.6 | 229.6 |

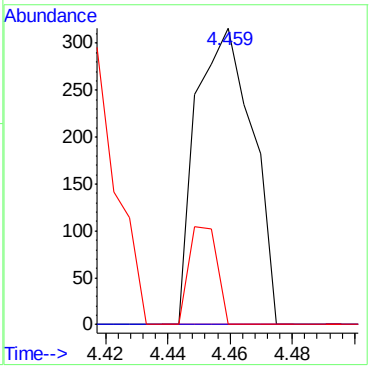


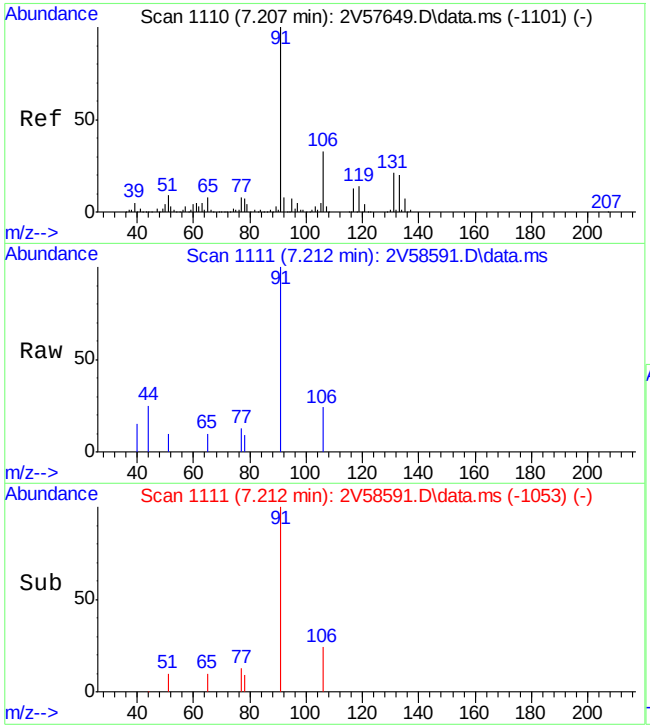



#60
1,2-dichloroethane
Concen: 0.16 ug/L
RT: 4.459 min Scan# 586
Delta R.T. 0.000 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 62 Resp: 395

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 98 | 0.0 | 0.0 | 39.1 |
| 64 | 0.0 | 3.3 | 63.3# |

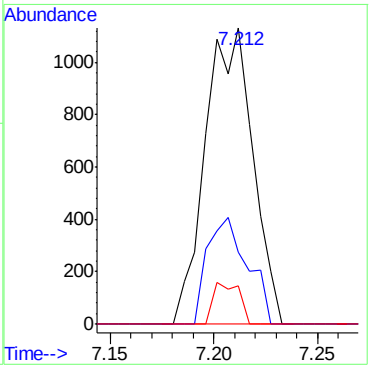


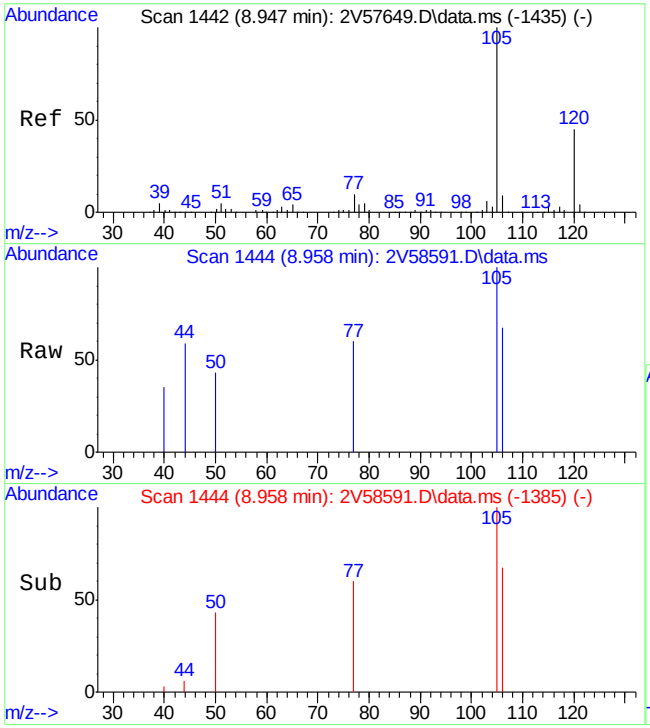




#89
ethylbenzene
Concen: 0.23 ug/L
RT: 7.212 min Scan# 1111
Delta R.T. 0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion: 91 Resp: 1800

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 24.3 | 2.0 | 62.0 |
| 77 | 13.0 | 0.0 | 38.6 |

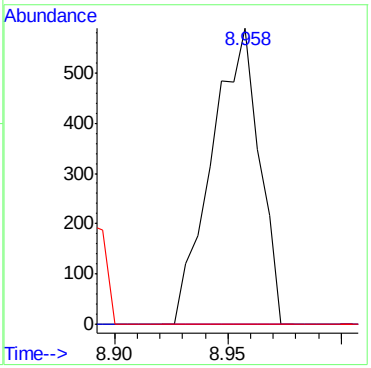


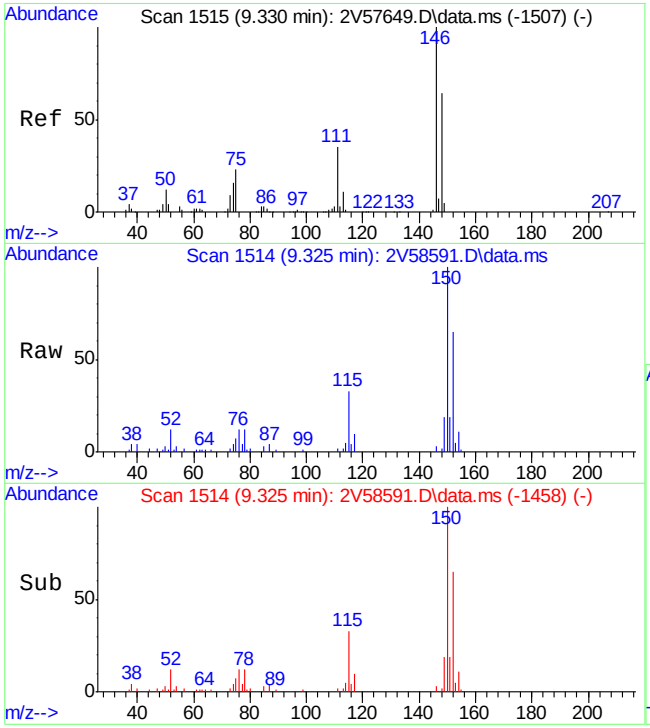



#109
1,2,4-trimethylbenzene
Concen: 0.15 ug/L
RT: 8.958 min Scan# 1444
Delta R.T. 0.011 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:105 Resp: 859

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 0.0 | 17.0 | 77.0# |
| 119 | 0.0 | 0.0 | 41.8 |

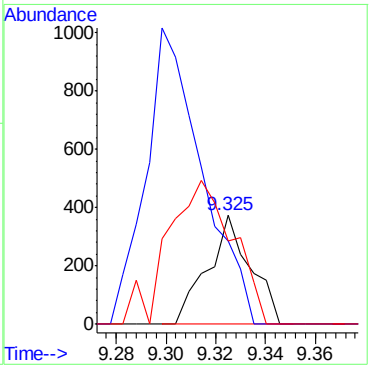


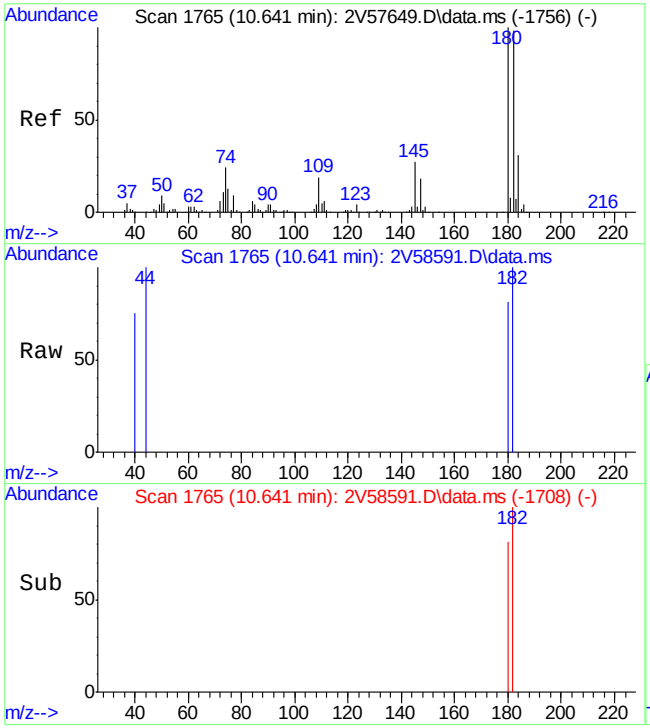




#113
1,4-dichlorobenzene
Concen: 0.12 ug/L
RT: 9.325 min Scan# 1514
Delta R.T. -0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:146 Resp: 446

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 146 | 100 | | |
| 111 | 75.9 | 6.3 | 66.3# |
| 148 | 75.9 | 35.2 | 95.2 |

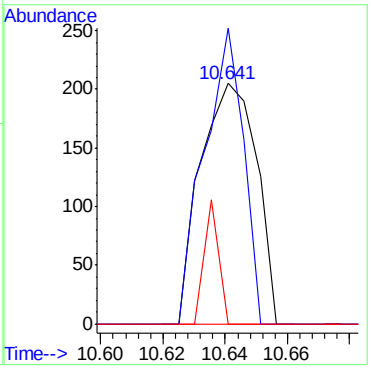


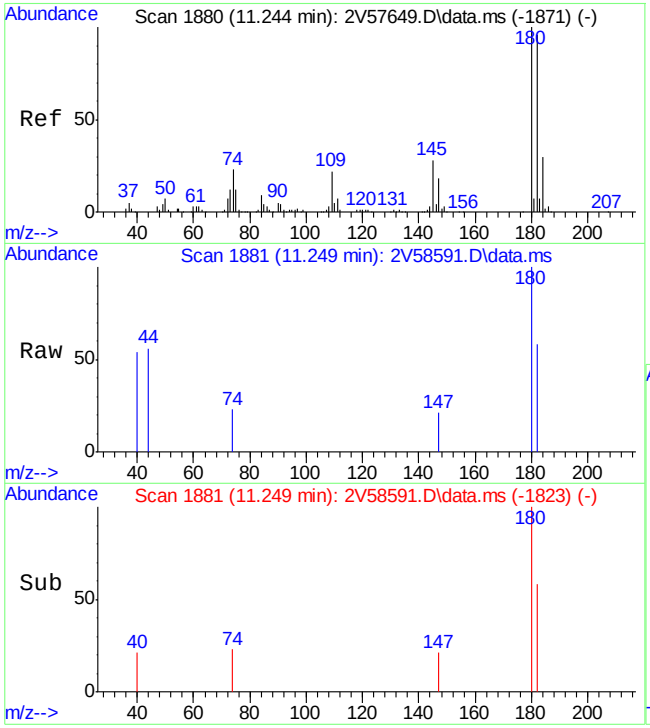



#120
1,3,5-trichlorobenzene
Concen: 0.11 ug/L
RT: 10.641 min Scan# 1765
Delta R.T. 0.000 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:180 Resp: 255

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 122.9 | 75.1 | 115.1# |
| 145 | 0.0 | 7.9 | 47.9# |

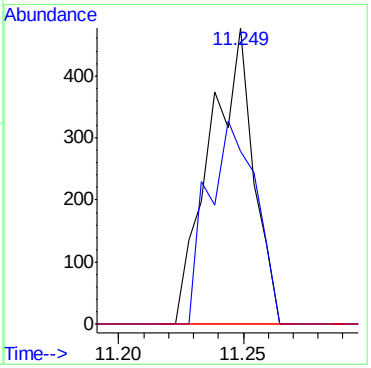


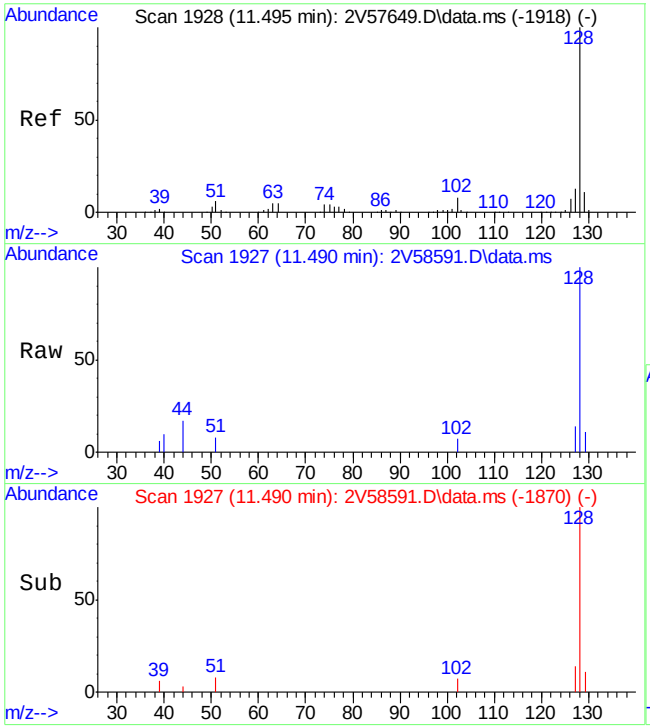




#121
1,2,4-trichlorobenzene
Concen: 0.30 ug/L
RT: 11.249 min Scan# 1881
Delta R.T. 0.005 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:180 Resp: 585

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 58.3 | 68.4 | 128.4# |
| 184 | 0.0 | 0.6 | 60.6# |

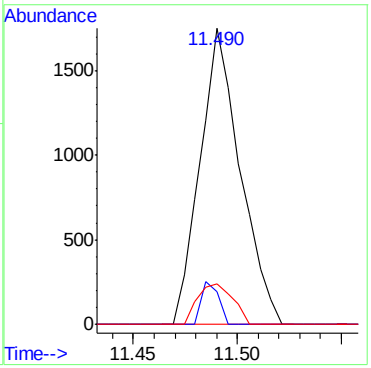


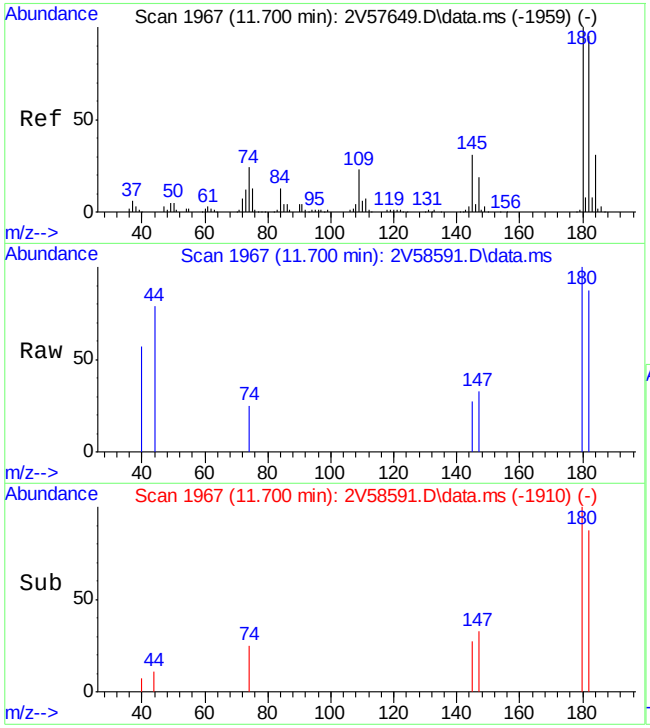



#123
naphthalene
Concen: 0.45 ug/L
RT: 11.490 min Scan# 1927
Delta R.T. 0.000 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:128 Resp: 2349

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.1 | 0.0 | 41.3 |
| 127 | 13.7 | 0.0 | 43.2 |

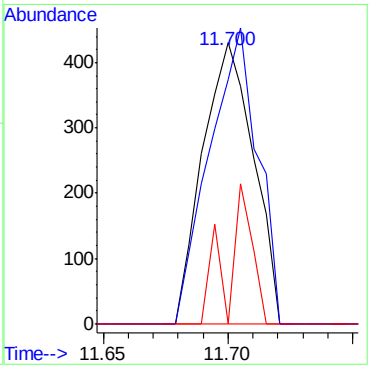


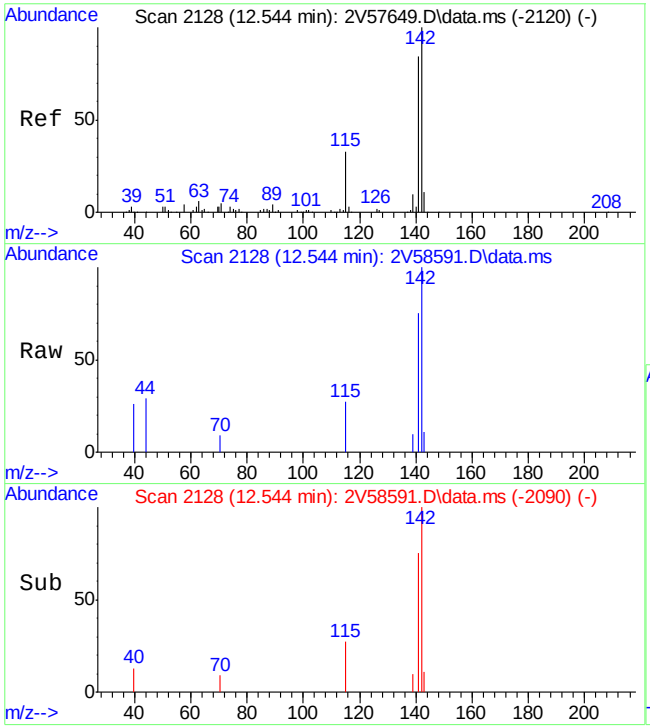




#124
1,2,3-trichlorobenzene
Concen: 0.35 ug/L
RT: 11.700 min Scan# 1967
Delta R.T. 0.000 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:180 Resp: 612

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 87.0 | 63.2 | 123.2 |
| 184 | 0.0 | 1.1 | 61.1# |

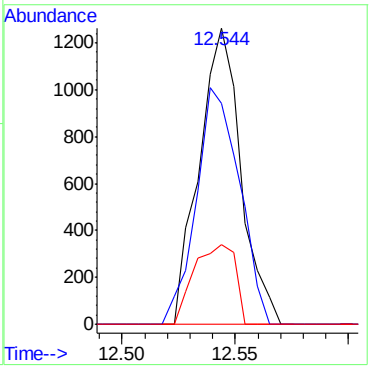





#126
2-methylnaphthalene
Concen: 0.81 ug/L
RT: 12.544 min Scan# 2128
Delta R.T. 0.000 min
Lab File: 2V58591.D
Acq: 15 May 2019 12:06 pm

Tgt Ion:142 Resp: 1616

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 74.6 | 63.8 | 103.8 |
| 115 | 27.0 | 11.3 | 51.3 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167679.D
Acq On : 16 May 2019 9:47 am
Operator : thienn
Sample : MB
Misc : MS34655,V2C7521,5,,100,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 11:41:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

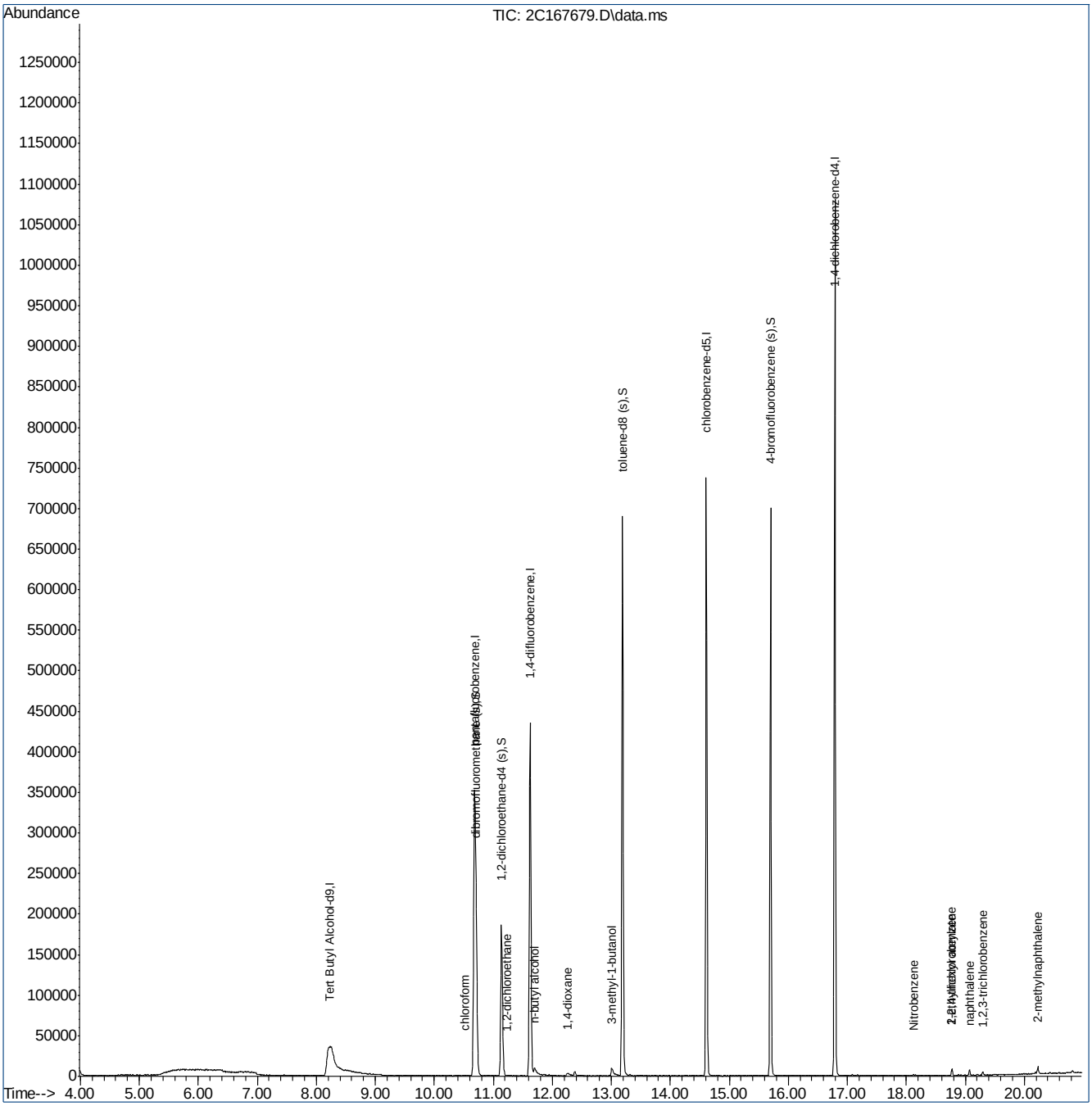
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.234 | 65 | 240248 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 276132 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 382402 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.609 | 117 | 378042 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 255440 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 126369 | 48.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.38% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.138 | 65 | 148322 | 48.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 96.70% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 435058 | 48.60 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.20% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 192173 | 49.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.64% | | | |
| Target Compounds | | | | | | Qvalue |
| 4) 1,4-dioxane | 12.255 | 88 | 6789 | 134.52 | ug/L | 84 |
| 42) chloroform | 10.509 | 83 | 569 | 0.10 | ug/L | 81 |
| 53) n-butyl alcohol | 11.704 | 56 | 11493 | 65.03 | ug/L | 93 |
| 60) 1,2-dichloroethane | 11.238 | 62 | 460 | 0.11 | ug/L | 65 |
| 73) 3-methyl-1-butanol | 13.010 | 55 | 6569 | 22.49 | ug/L | 86 |
| 117) Nitrobenzene | 18.127 | 77 | 142 | 0.90 | ug/L | 79 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 1261 | 0.15 | ug/L | 91 |
| 119) 2-ethylhexyl acrylate | 18.772 | 55 | 1967 | 0.35 | ug/L | 79 |
| 121) naphthalene | 19.071 | 128 | 5490 | 0.27 | ug/L | 97 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 1547 | 0.20 | ug/L | 100 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 4853 | 0.42 | ug/L | 96 |

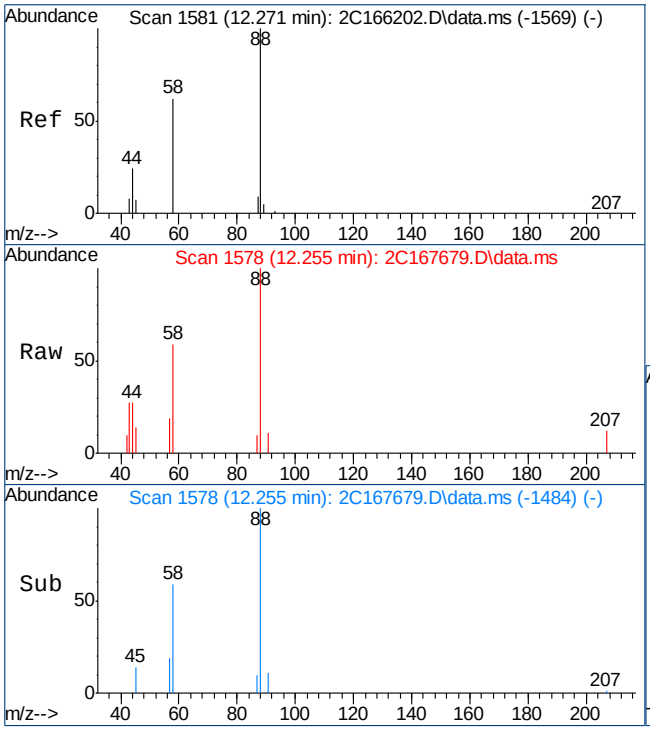
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167679.D
Acq On : 16 May 2019 9:47 am
Operator : thienn
Sample : MB
Misc : MS34655,V2C7521,5,,100,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 16 11:41:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

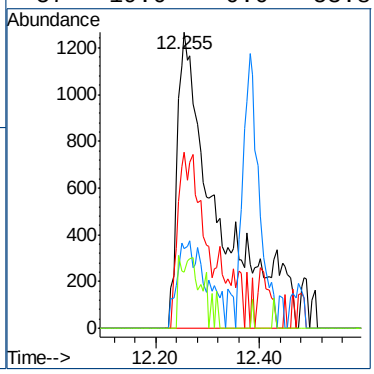


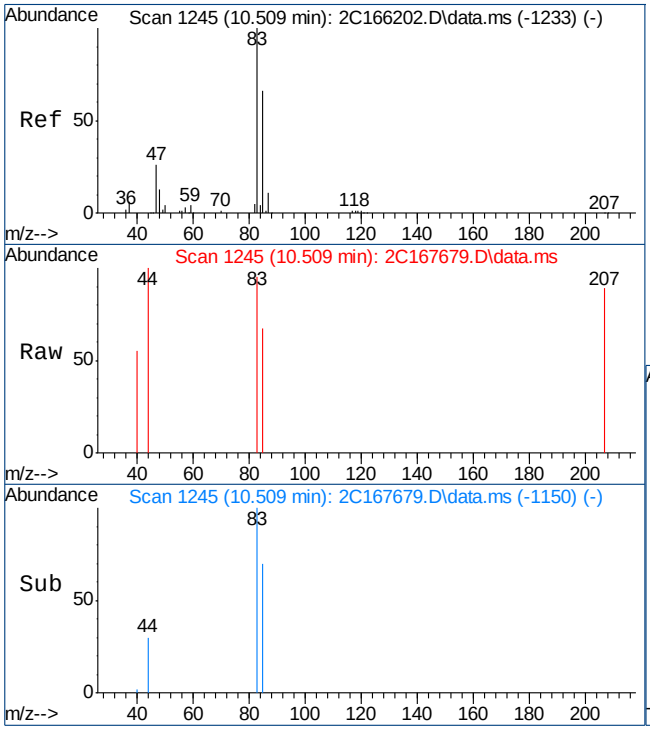



#4
1,4-dioxane
Concen: 134.52 ug/L
RT: 12.255 min Scan# 1578
Delta R.T. -0.005 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 88 Resp: 6789

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 88 | 100 | | |
| 58 | 59.5 | 34.2 | 94.2 |
| 43 | 26.9 | 18.3 | 78.3 |
| 57 | 19.0 | 0.0 | 53.8 |

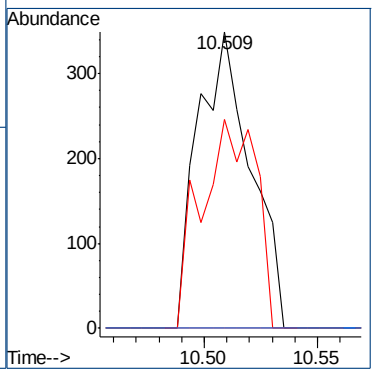


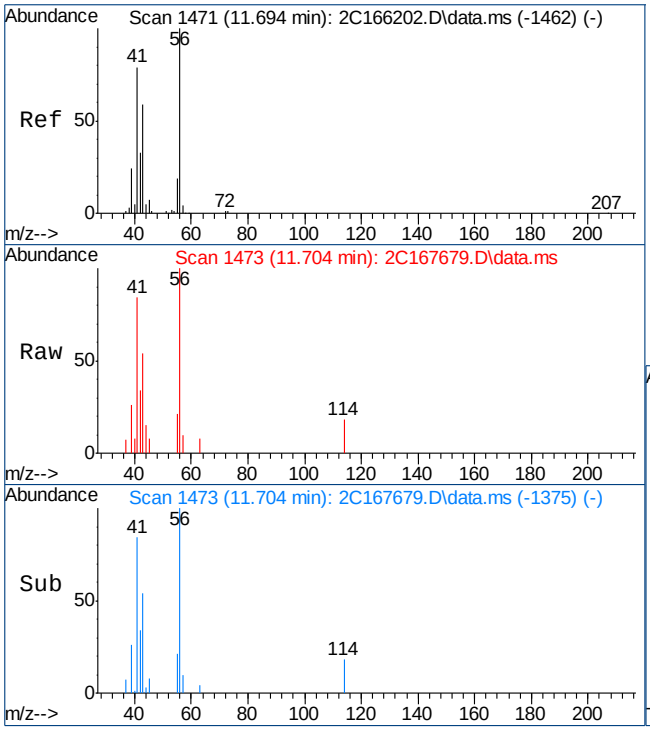




#42
chloroform
Concen: 0.10 ug/L
RT: 10.509 min Scan# 1245
Delta R.T. -0.000 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 83 Resp: 569

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 70.5 | 36.0 | 96.0 |
| 47 | 0.0 | 0.0 | 56.5 |

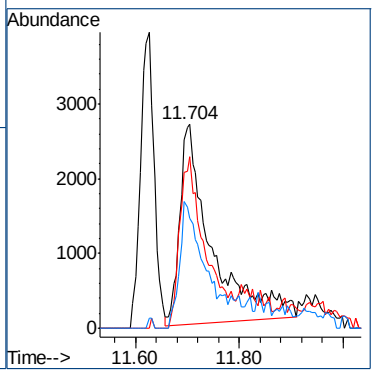


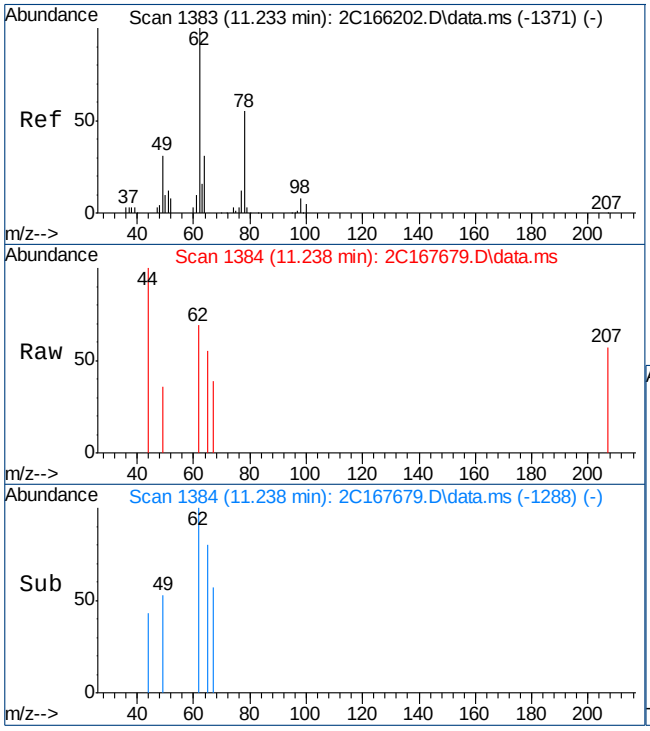



#53
n-butyl alcohol
Concen: 65.03 ug/L
RT: 11.704 min Scan# 1473
Delta R.T. 0.016 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 56 Resp: 11493

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 56 | 100 | | |
| 41 | 88.5 | 48.6 | 108.6 |
| 43 | 57.0 | 28.7 | 88.7 |

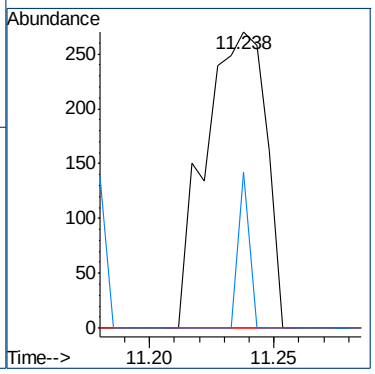


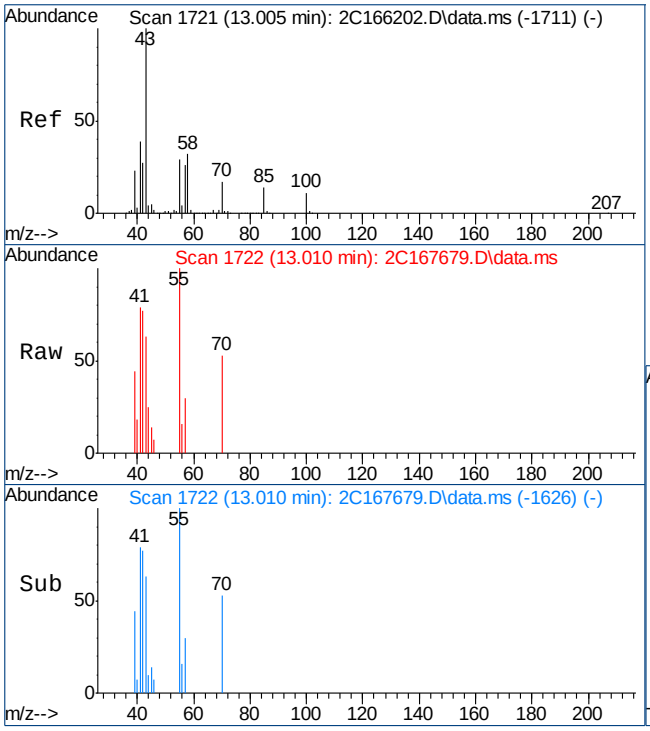




#60
1,2-dichloroethane
Concen: 0.11 ug/L
RT: 11.238 min Scan# 1384
Delta R.T. 0.001 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 62 Resp: 460

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 62 | 100 | | |
| 98 | 0.0 | 0.0 | 37.6 |
| 49 | 52.6 | 1.7 | 61.7 |

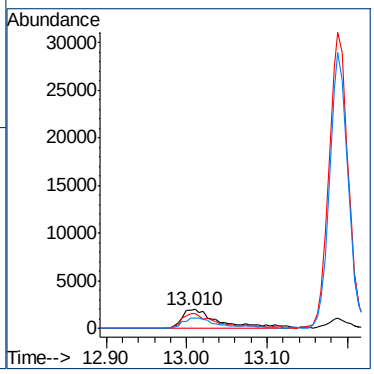


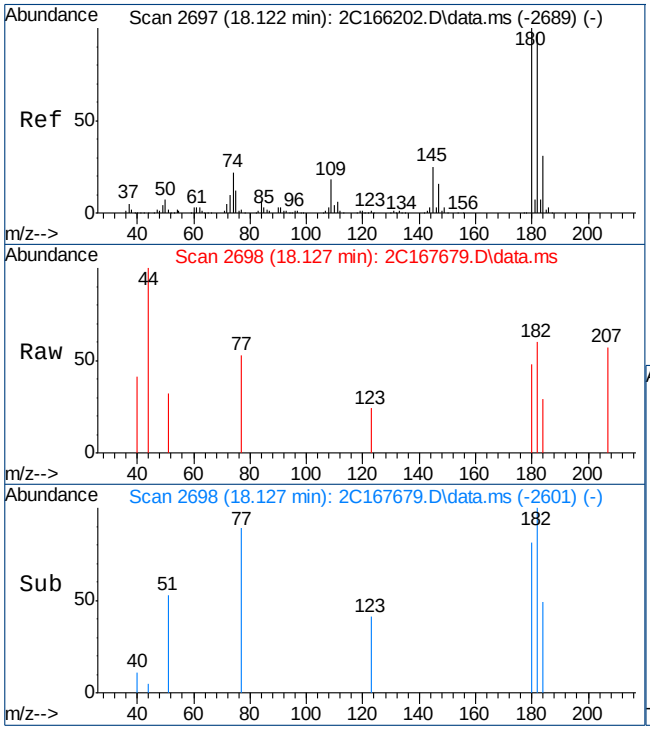



#73
3-methyl-1-butanol
Concen: 22.49 ug/L
RT: 13.010 min Scan# 1722
Delta R.T. 0.005 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 55 Resp: 6569

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 42 | 76.7 | 64.5 | 124.5 |
| 70 | 52.8 | 28.2 | 88.2 |

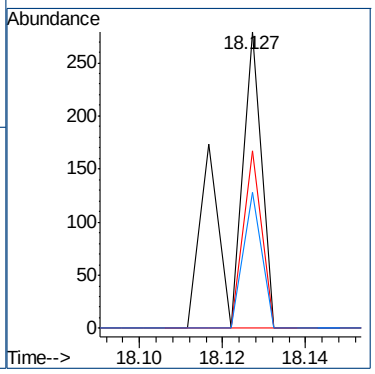


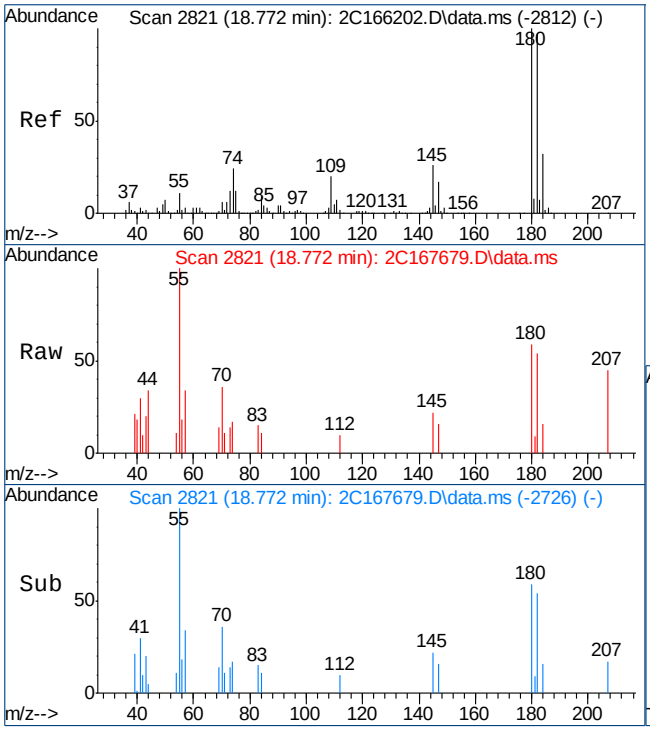




#117
Nitrobenzene
Concen: 0.90 ug/L
RT: 18.127 min Scan# 2698
Delta R.T. 0.006 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 77 Resp: 142

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 77 | 100 | | |
| 51 | 59.9 | 57.0 | 117.0 |
| 123 | 45.9 | 19.6 | 79.6 |

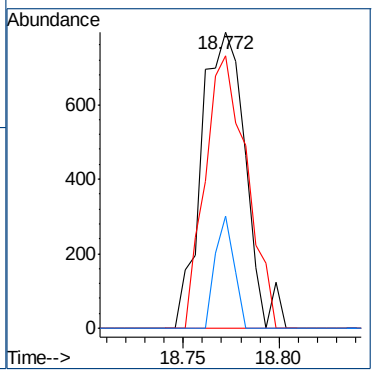


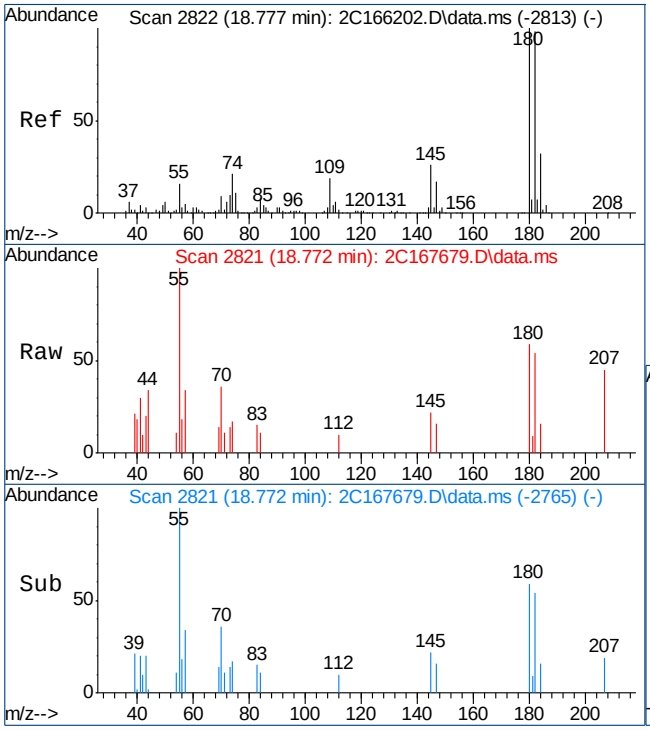



#118
1,2,4-trichlorobenzene
Concen: 0.15 ug/L
RT: 18.772 min Scan# 2821
Delta R.T. -0.000 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion:180 Resp: 1261

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 92.1 | 67.4 | 127.4 |
| 145 | 37.8 | 0.0 | 56.5 |

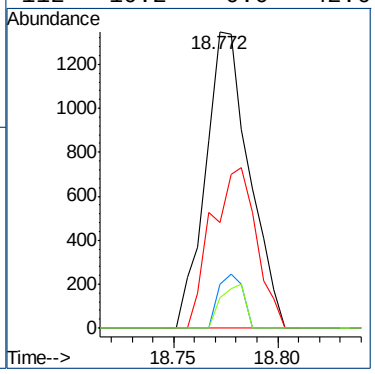


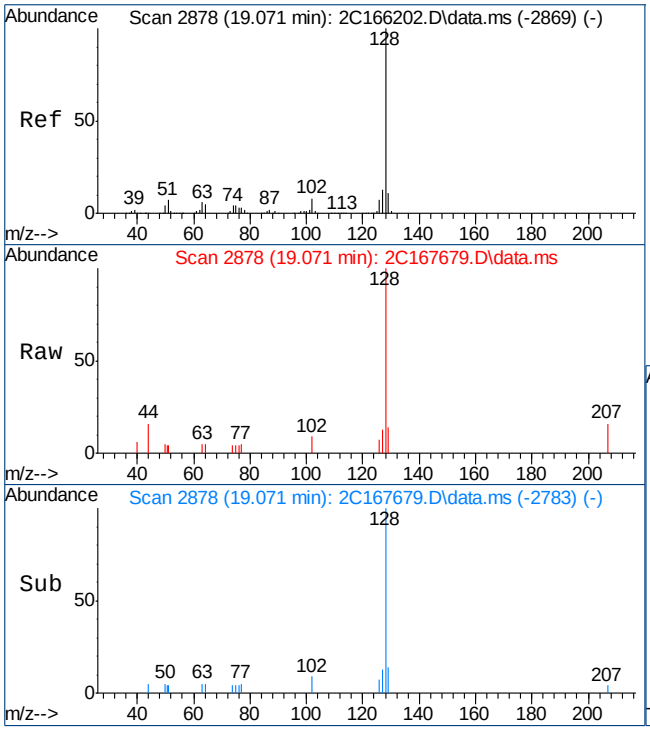




#119
2-ethylhexyl acrylate
Concen: 0.35 ug/L
RT: 18.772 min Scan# 2821
Delta R.T. -0.005 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion: 55 Resp: 1967

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 70 | 35.6 | 26.0 | 86.0 |
| 83 | 15.0 | 0.0 | 50.3 |
| 112 | 10.2 | 0.0 | 42.6 |

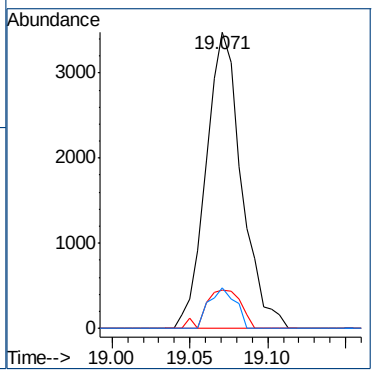


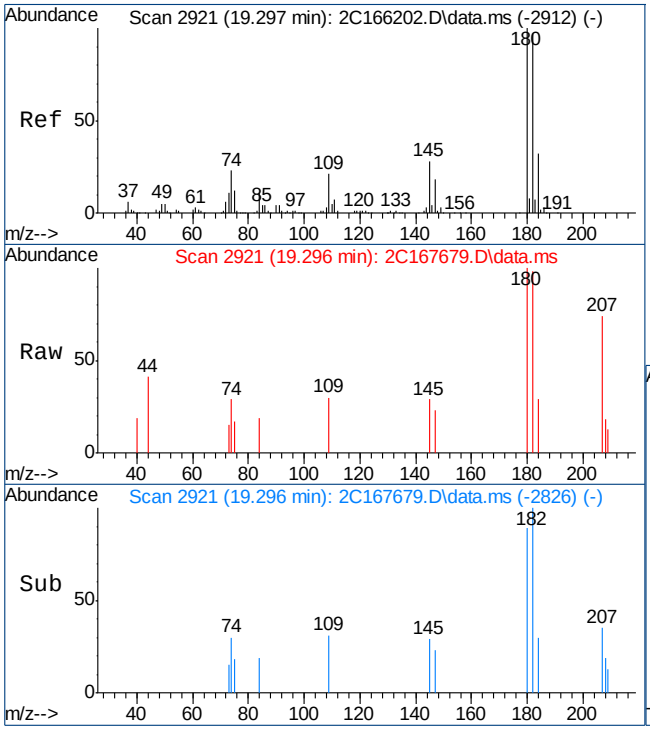



#121
naphthalene
Concen: 0.27 ug/L
RT: 19.071 min Scan# 2878
Delta R.T. -0.000 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion:128 Resp: 5490

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 13.0 | 0.0 | 43.0 |
| 129 | 13.5 | 0.0 | 41.1 |

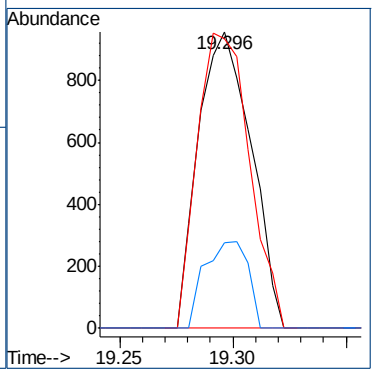


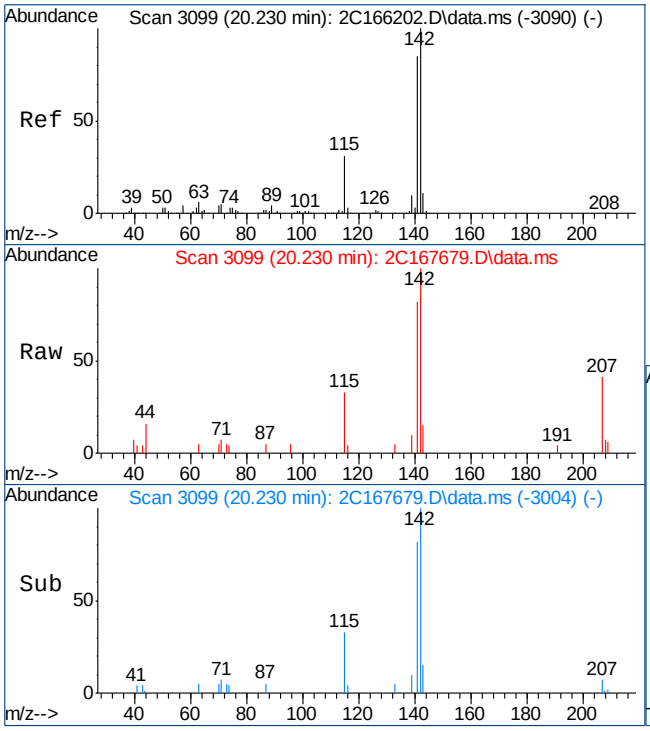




#122
1,2,3-trichlorobenzene
Concen: 0.20 ug/L
RT: 19.296 min Scan# 2921
Delta R.T. -0.000 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion:180 Resp: 1547

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 97.6 | 67.4 | 127.4 |
| 145 | 28.6 | 0.0 | 58.3 |

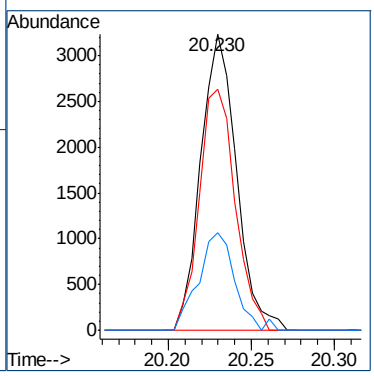





#124
2-methylnaphthalene
Concen: 0.42 ug/L
RT: 20.230 min Scan# 3099
Delta R.T. 0.001 min
Lab File: 2C167679.D
Acq: 16 May 2019 9:47 am

Tgt Ion:142 Resp: 4853

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 81.6 | 64.8 | 104.8 |
| 115 | 32.9 | 0.6 | 60.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58525.D
Acq On : 13 May 2019 10:43 am
Operator : EddieH
Sample : gp21185-22lb
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 13 12:02:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

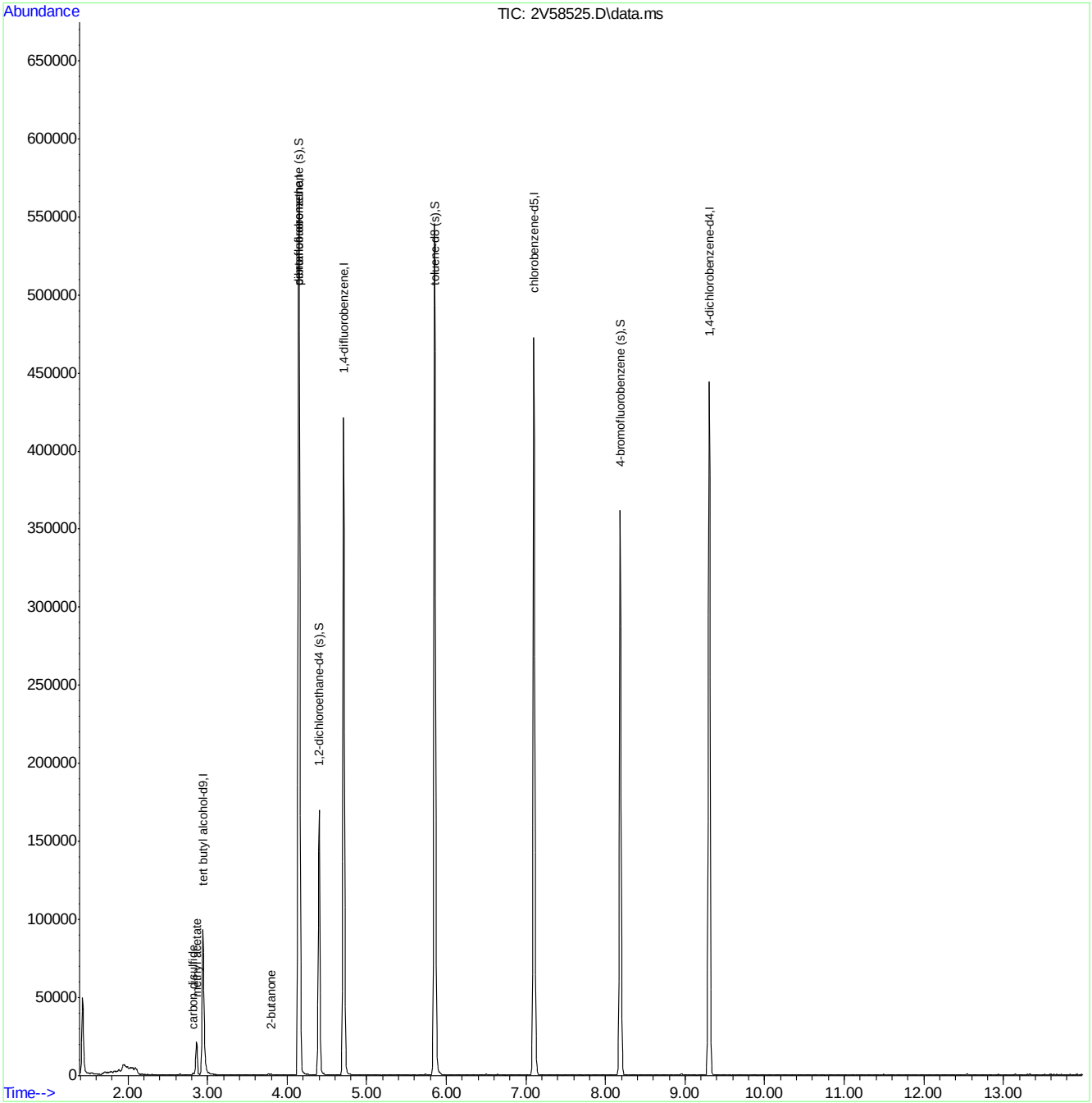
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 101665 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 209879 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 300752 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 259284 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 121042 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 102310 | 49.44 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 98.88% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 93817 | 49.78 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 99.56% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 336851 | 49.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 98.64% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 113942 | 48.55 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 97.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 23) carbon disulfide | 2.818 | 76 | 1488 | 0.35 | ug/L | 92 |
| 25) methyl acetate | 2.860 | 43 | 20113 | 13.13 | ug/L | 95 |
| 36) 2-butanone | 3.799 | 72 | 222 | 0.87 | ug/L # | 14 |

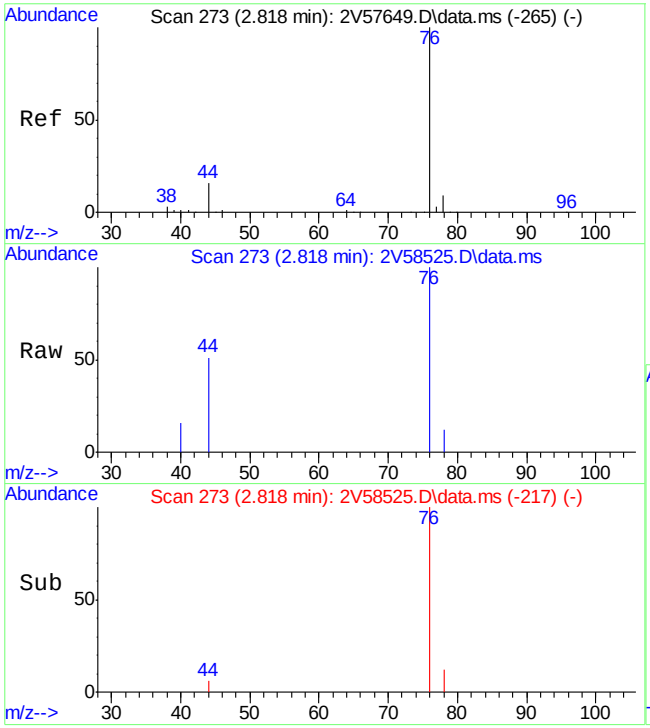
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58525.D
Acq On : 13 May 2019 10:43 am
Operator : EddieH
Sample : gp21185-22lb
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 13 12:02:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

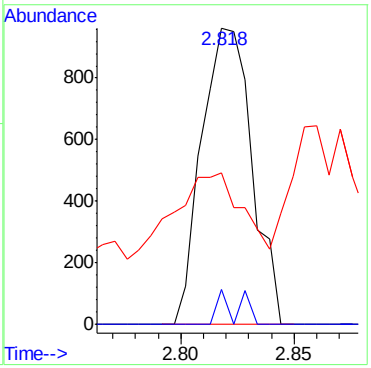


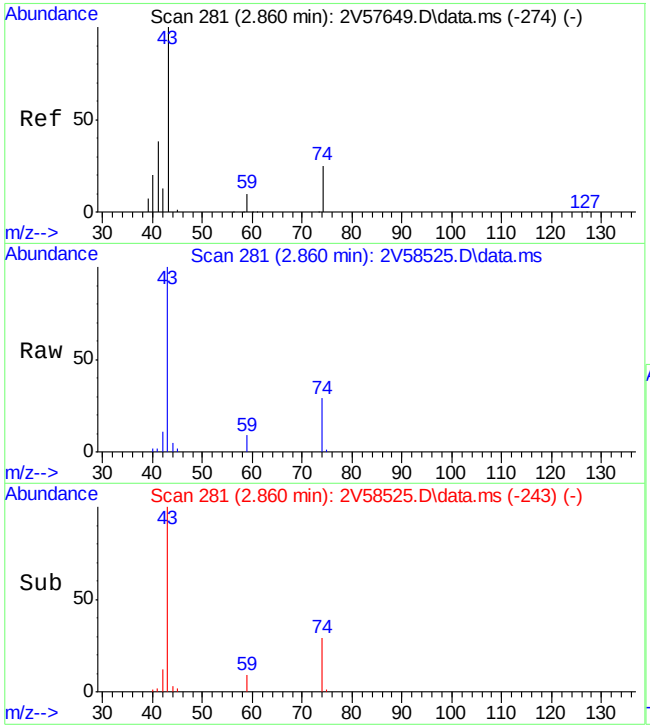



#23
carbon disulfide
Concen: 0.35 ug/L
RT: 2.818 min Scan# 273
Delta R.T. -0.005 min
Lab File: 2V58525.D
Acq: 13 May 2019 10:43 am

Tgt Ion: 76 Resp: 1488

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 12.0 | 0.0 | 39.2 |
| 44 | 15.5 | 0.0 | 42.5 |

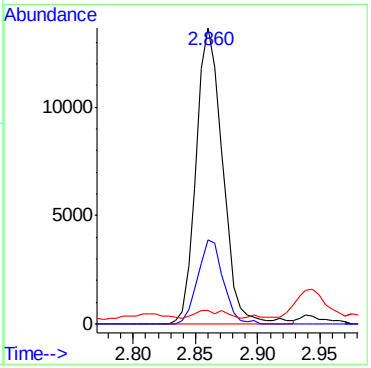


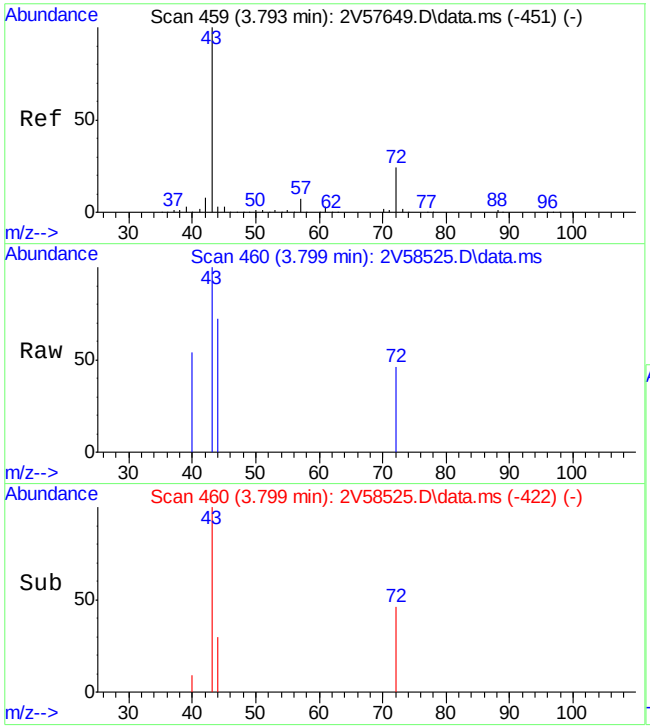




#25
methyl acetate
Concen: 13.13 ug/L
RT: 2.860 min Scan# 281
Delta R.T. 0.000 min
Lab File: 2V58525.D
Acq: 13 May 2019 10:43 am

Tgt Ion: 43 Resp: 20113

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 74 | 28.5 | 0.0 | 56.0 |
| 44 | 1.9 | 0.0 | 33.4 |

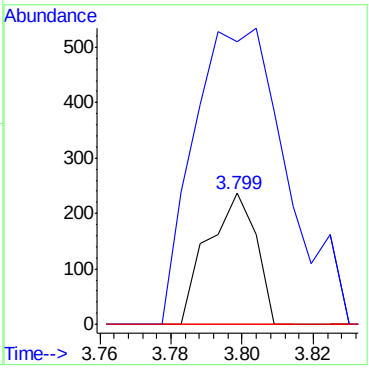





#36
2-butanone
Concen: 0.87 ug/L
RT: 3.799 min Scan# 460
Delta R.T. 0.000 min
Lab File: 2V58525.D
Acq: 13 May 2019 10:43 am

Tgt Ion: 72 Resp: 222

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 216.1 | 416.3 | 456.3# |
| 57 | 0.0 | 7.8 | 47.8# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185116.d
Acq On : 11 May 2019 11:39 am
Operator : PrashanS
Sample : BS Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:38:35 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.731 | 65 | 52337 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.974 | 168 | 194416 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 270631 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 234592 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 126899 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.016 | 113 | 85341 | 48.39 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 96.78% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 69919 | 46.25 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 92.50% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 292691 | 49.30 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.60% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 104929 | 49.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.846 | 59 | 42708 | 261.82 | ug/L | 92 |
| 4) 1,4-dioxane | 11.543 | 88 | 22578 | 1396.16 | ug/L | 94 |
| 6) chlorodifluoromethane | 4.383 | 51 | 125553 | 40.95 | ug/L | 97 |
| 7) dichlorodifluoromethane | 4.352 | 85 | 140932 | 36.61 | ug/L | 95 |
| 8) chloromethane | 4.749 | 50 | 150094 | 37.04 | ug/L | 99 |
| 9) vinyl chloride | 4.995 | 62 | 136591 | 40.97 | ug/L | 97 |
| 10) 1,3-butadiene | 5.032 | 54 | 91875 | 44.50 | ug/L | 99 |
| 11) bromomethane | 5.633 | 94 | 124023 | 43.94 | ug/L | 98 |
| 12) chloroethane | 5.806 | 64 | 94150 | 52.22 | ug/L | 97 |
| 13) vinyl bromide | 6.151 | 106 | 128675 | 82.29 | ug/L | 93 |
| 14) trichlorofluoromethane | 6.266 | 101 | 193065 | 50.27 | ug/L | 99 |
| 15) ethyl ether | 6.632 | 74 | 50288 | 53.45 | ug/L | 89 |
| 16) 2-chloropropane | 6.857 | 63 | 44274 | 53.17 | ug/L | 97 |
| 17) acrolein | 6.873 | 56 | 13418 | 51.21 | ug/L | 97 |
| 18) freon 113 | 7.098 | 151 | 105132 | 58.38 | ug/L | 97 |
| 19) 1,1-dichloroethene | 7.066 | 61 | 160943 | 53.91 | ug/L | 96 |
| 20) acetone | 7.066 | 43 | 88682 | 186.19 | ug/L | 99 |
| 21) acetonitrile | 7.500 | 41 | 105707 | 452.28 | ug/L | 93 |
| 22) iodomethane | 7.328 | 142 | 200253 | 53.12 | ug/L | 96 |
| 23) carbon disulfide | 7.469 | 76 | 345266 | 52.84 | ug/L | 97 |
| 24) methylene chloride | 7.778 | 84 | 125390 | 48.32 | ug/L | 88 |
| 25) methyl acetate | 7.521 | 43 | 51367 | 46.61 | ug/L | 94 |
| 26) methyl tert butyl ether | 8.149 | 73 | 274583 | 45.82 | ug/L | 95 |
| 27) trans-1,2-dichloroethene | 8.159 | 61 | 143384 | 48.45 | ug/L | 98 |
| 28) hexane | 8.505 | 57 | 139943 | 53.58 | ug/L | 98 |
| 29) di-isopropyl ether | 8.724 | 45 | 350503 | 46.99 | ug/L | 96 |
| 30) ethyl tert-butyl ether | 9.185 | 59 | 319101 | 47.04 | ug/L | 95 |
| 31) 2-butanone | 9.373 | 72 | 32364 | 206.69 | ug/L # | 81 |
| 32) 1,1-dichloroethane | 8.735 | 63 | 181605 | 48.92 | ug/L | 99 |
| 33) chloroprene | 8.834 | 53 | 130928 | 49.23 | ug/L | 94 |
| 34) acrylonitrile | 8.060 | 53 | 27456 | 46.13 | ug/L | 94 |
| 35) vinyl acetate | 8.667 | 86 | 14321 | 48.42 | ug/L | 95 |
| 36) ethyl acetate | 9.383 | 45 | 9522 | 45.25 | ug/L # | 75 |
| 37) 2,2-dichloropropane | 9.488 | 77 | 155808 | 48.59 | ug/L | 96 |
| 38) cis-1,2-dichloroethene | 9.446 | 96 | 119267 | 48.87 | ug/L | 95 |
| 39) propionitrile | 9.456 | 54 | 98012 | 466.66 | ug/L | 90 |
| 40) bromochloromethane | 9.744 | 130 | 77620 | 50.74 | ug/L | 91 |
| 41) tetrahydrofuran | 9.765 | 72 | 9403 | 50.22 | ug/L | 88 |
| 42) chloroform | 9.823 | 83 | 180545 | 45.75 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185116.d
Acq On : 11 May 2019 11:39 am
Operator : PrashanS
Sample : BS Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:38:35 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) tert-butyl formate | 9.864 | 59 | 66749 | 44.82 | ug/L | | 98 |
| 46) methacrylonitrile | 9.655 | 67 | 27120 | 48.05 | ug/L | | 100 |
| 47) 1,1,1-trichloroethane | 10.089 | 97 | 168701 | 49.60 | ug/L | | 96 |
| 48) cyclohexane | 10.210 | 84 | 154709 | 45.75 | ug/L | | 83 |
| 49) 1,1-dichloropropene | 10.251 | 75 | 125079 | 51.99 | ug/L | | 96 |
| 50) tert-amyl alcohol | 10.377 | 55 | 15910 | 230.60 | ug/L | | 88 |
| 51) carbon tetrachloride | 10.288 | 117 | 149612 | 50.53 | ug/L | | 99 |
| 54) 2,2,4-trimethylpentane | 10.597 | 57 | 412438 | 55.57 | ug/L | | 96 |
| 55) tert-amyl methyl ether | 10.581 | 73 | 296389 | 48.79 | ug/L | | 98 |
| 56) n-butyl alcohol | 10.947 | 41 | 79338 | 2363.86 | ug/L | | 94 |
| 57) benzene | 10.503 | 78 | 394040 | 50.43 | ug/L | | 99 |
| 58) heptane | 10.748 | 57 | 72688 | 54.51 | ug/L | | 98 |
| 59) isopropyl acetate | 10.403 | 87 | 16701 | 52.45 | ug/L | | 98 |
| 60) 1,2-dichloroethane | 10.529 | 62 | 112273 | 44.72 | ug/L | | 98 |
| 61) trichloroethene | 11.214 | 130 | 111088 | 54.68 | ug/L | | 97 |
| 62) ethyl acrylate | 11.193 | 55 | 78787 | 47.18 | ug/L | | 98 |
| 63) 2-nitropropane | 11.957 | 41 | 23017 | 42.34 | ug/L | | 86 |
| 64) 2-chloroethyl vinyl ether | 11.983 | 63 | 238270 | 257.42 | ug/L | | 99 |
| 65) methyl methacrylate | 11.454 | 100 | 17818 | 48.45 | ug/L | # | 87 |
| 66) 1,2-dichloropropane | 11.502 | 63 | 101724 | 51.11 | ug/L | | 98 |
| 67) methylcyclohexane | 11.512 | 83 | 182726 | 56.64 | ug/L | | 95 |
| 68) dibromomethane | 11.606 | 93 | 58735 | 50.58 | ug/L | | 99 |
| 69) bromodichloromethane | 11.753 | 83 | 135289 | 48.60 | ug/L | | 99 |
| 70) epichlorohydrin | 12.072 | 57 | 32527 | 231.52 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 12.202 | 75 | 154518 | 51.03 | ug/L | | 94 |
| 72) 4-methyl-2-pentanone | 12.302 | 58 | 108489 | 198.72 | ug/L | | 92 |
| 73) 3-methyl-1-butanol | 12.291 | 70 | 42895 | 1050.38 | ug/L | | 94 |
| 76) toluene | 12.574 | 92 | 228685 | 50.62 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.752 | 75 | 128995 | 49.49 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.741 | 69 | 89972 | 49.25 | ug/L | | 93 |
| 79) 1,1,2-trichloroethane | 12.971 | 83 | 63573 | 49.32 | ug/L | | 96 |
| 80) 2-hexanone | 13.128 | 58 | 101091 | 209.40 | ug/L | | 94 |
| 81) tetrachloroethene | 13.123 | 166 | 112165 | 54.73 | ug/L | | 93 |
| 82) 1,3-dichloropropane | 13.149 | 76 | 117382 | 48.88 | ug/L | | 97 |
| 83) butyl acetate | 13.201 | 56 | 45710 | 48.99 | ug/L | | 92 |
| 84) dibromochloromethane | 13.390 | 129 | 102504 | 53.01 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 13.547 | 107 | 87779 | 43.21 | ug/L | | 97 |
| 86) n-butyl ether | 13.965 | 57 | 374208 | 50.18 | ug/L | | 99 |
| 87) chlorobenzene | 14.017 | 112 | 270243 | 49.73 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.080 | 131 | 111490 | 52.03 | ug/L | | 98 |
| 89) ethylbenzene | 14.075 | 91 | 431810 | 50.87 | ug/L | | 100 |
| 90) m,p-xylene | 14.195 | 106 | 345257 | 104.45 | ug/L | | 94 |
| 91) o-xylene | 14.593 | 91 | 361987 | 50.90 | ug/L | | 98 |
| 92) styrene | 14.598 | 104 | 296654 | 52.72 | ug/L | | 99 |
| 93) bromoform | 14.828 | 173 | 70941 | 54.00 | ug/L | | 97 |
| 94) butyl acrylate | 14.415 | 55 | 151299 | 49.18 | ug/L | | 96 |
| 95) isopropylbenzene | 14.933 | 105 | 444819 | 52.03 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.969 | 88 | 32908 | 48.05 | ug/L | | 93 |
| 99) bromobenzene | 15.314 | 156 | 135442 | 53.46 | ug/L | | 91 |
| 100) 1,1,2,2-tetrachloroethane | 15.205 | 83 | 100832 | 51.92 | ug/L | | 97 |
| 101) trans-1,4-dichloro-2-b... | 15.236 | 53 | 21263 | 49.17 | ug/L | | 94 |
| 102) 1,2,3-trichloropropane | 15.293 | 110 | 25249 | 51.18 | ug/L | | 97 |
| 103) n-propylbenzene | 15.341 | 91 | 526877 | 53.80 | ug/L | | 99 |
| 104) 2-chlorotoluene | 15.477 | 126 | 121537 | 54.51 | ug/L | | 88 |
| 105) 4-chlorotoluene | 15.586 | 91 | 312109 | 50.20 | ug/L | | 96 |
| 106) 1,3,5-trimethylbenzene | 15.497 | 105 | 380079 | 52.73 | ug/L | | 98 |
| 107) tert-butylbenzene | 15.832 | 134 | 70424 | 55.28 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185116.d
Acq On : 11 May 2019 11:39 am
Operator : PrashanS
Sample : BS Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:38:35 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

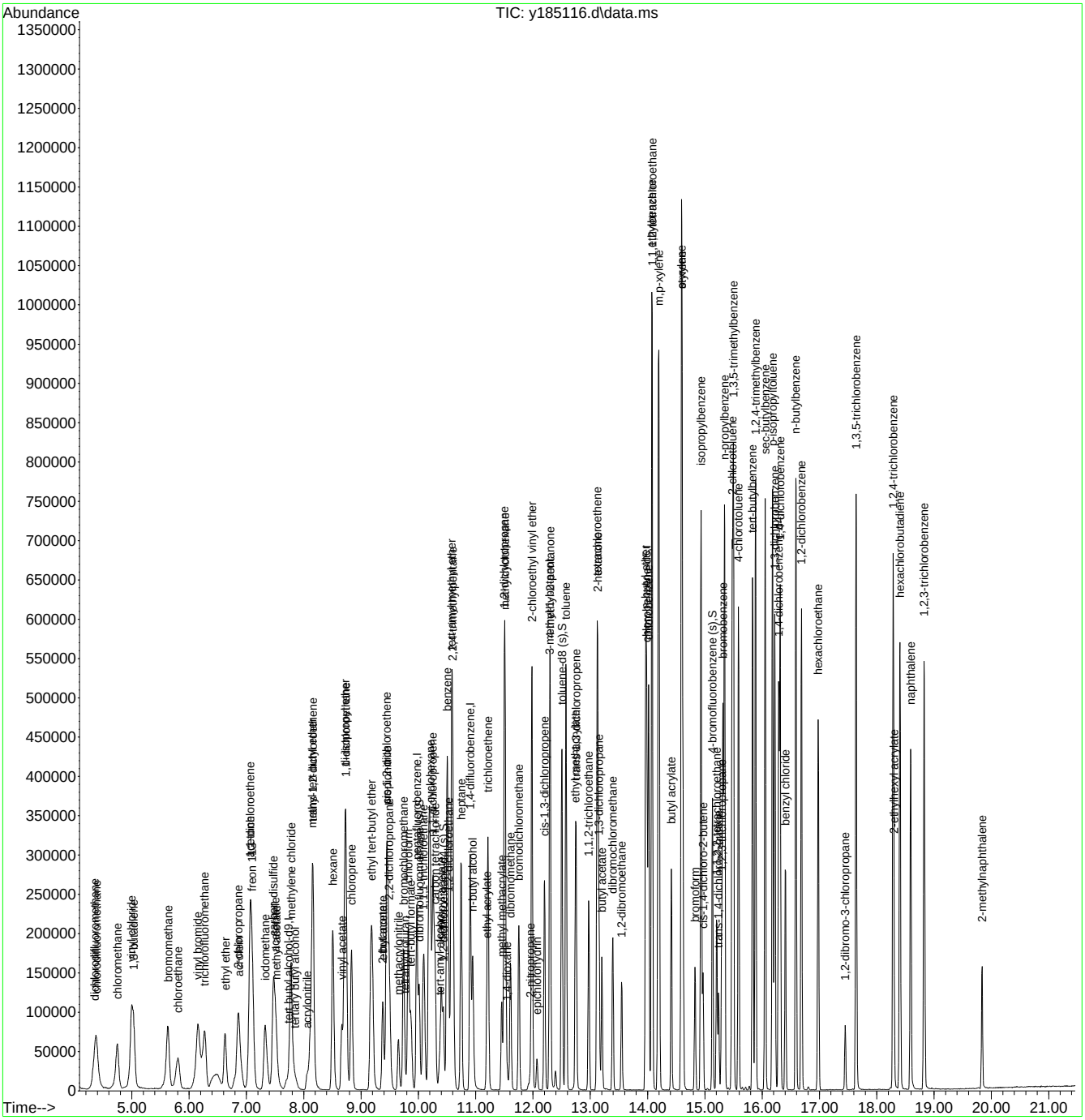
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 15.884 | 105 | 376695 | 50.75 | ug/L | 98 |
| 109) sec-butylbenzene | 16.052 | 105 | 479894 | 53.37 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.219 | 146 | 243546 | 51.98 | ug/L | 98 |
| 111) p-isopropyltoluene | 16.183 | 119 | 420869 | 53.15 | ug/L | 97 |
| 112) 1,4-dichlorobenzene | 16.313 | 146 | 245623 | 50.91 | ug/L | 100 |
| 113) 1,2-dichlorobenzene | 16.685 | 146 | 242267 | 50.48 | ug/L | 99 |
| 114) n-butylbenzene | 16.585 | 92 | 218631 | 52.95 | ug/L | 99 |
| 115) 1,2-dibromo-3-chloropr... | 17.448 | 157 | 23921 | 53.04 | ug/L | 93 |
| 116) 1,3,5-trichlorobenzene | 17.637 | 180 | 241044 | 53.16 | ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 18.285 | 180 | 208286 | 54.43 | ug/L | 99 |
| 118) hexachlorobutadiene | 18.405 | 225 | 125666 | 53.49 | ug/L | 98 |
| 119) naphthalene | 18.588 | 128 | 335064 | 56.46 | ug/L | 100 |
| 120) 1,2,3-trichlorobenzene | 18.824 | 180 | 185165 | 55.85 | ug/L | 98 |
| 121) hexachloroethane | 16.978 | 201 | 80916 | 57.40 | ug/L | 99 |
| 122) benzyl chloride | 16.402 | 91 | 184369 | 52.27 | ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 18.301 | 70 | 20275 | 8.68 | ug/L | 95 |
| 124) 2-methylnaphthalene | 19.839 | 142 | 72955 | 24.48 | ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185116.d
Acq On : 11 May 2019 11:39 am
Operator : PrashanS
Sample : BS Inst : MSY
Misc : MS34539,VY8033,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:38:35 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58521.D
Acq On : 13 May 2019 7:18 am
Operator : EddieH
Sample : bs
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 11:51:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 108116 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 235054 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 332947 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 293233 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 147797 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 111593 | 48.15 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 96.30% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 98439 | 47.18 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 94.36% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 377220 | 48.83 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 97.66% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 132653 | 46.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 92.58% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 134861 | 5784.69 | ug/L | 97 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 200638 | 309.02 | ug/L | 98 |
| 4) 1,4-dioxane | 5.141 | 88 | 45063 | 1485.79 | ug/L | 99 |
| 6) chlorodifluoromethane | 1.581 | 51 | 102801 | 47.29 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 182327 | 63.11 | ug/L | 100 |
| 8) chloromethane | 1.717 | 50 | 161712 | 54.14 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 159738 | 57.21 | ug/L | 97 |
| 10) bromomethane | 2.047 | 96 | 133238 | 55.94 | ug/L | 97 |
| 11) chloroethane | 2.121 | 64 | 89927 | 54.86 | ug/L | 99 |
| 12) trichlorofluoromethane | 2.299 | 101 | 216736 | 60.46 | ug/L | 97 |
| 13) vinyl bromide | 2.257 | 106 | 117974 | 59.80 | ug/L | 99 |
| 14) 1,3-butadiene | 1.832 | 54 | 95980 | 44.94 | ug/L | 98 |
| 15) ethyl ether | 2.472 | 74 | 60159 | 53.33 | ug/L | 97 |
| 16) 2-chloropropane | 2.566 | 43 | 145549 | 50.36 | ug/L | 99 |
| 17) acrolein | 2.572 | 56 | 23214 | 49.29 | ug/L | 98 |
| 18) freon 113 | 2.645 | 151 | 94108 | 58.07 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 151479 | 54.73 | ug/L | 96 |
| 20) acetone | 2.655 | 58 | 52890 | 218.49 | ug/L | 99 |
| 21) acetonitrile | 2.844 | 41 | 136550 | 501.57 | ug/L | 98 |
| 22) iodomethane | 2.760 | 142 | 111563 | 54.10 | ug/L | 95 |
| 23) carbon disulfide | 2.818 | 76 | 240288 | 51.10 | ug/L | 99 |
| 24) methylene chloride | 2.970 | 84 | 113433 | 53.90 | ug/L | 97 |
| 25) methyl acetate | 2.860 | 43 | 87179 | 50.80 | ug/L | 98 |
| 26) methyl tert butyl ether | 3.133 | 73 | 323580 | 55.28 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 110573 | 57.28 | ug/L | 98 |
| 28) hexane | 3.332 | 56 | 69447 | 58.17 | ug/L | 97 |
| 29) di-isopropyl ether | 3.437 | 45 | 312989 | 54.97 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.678 | 59 | 323594 | 56.44 | ug/L | 100 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 191693 | 55.06 | ug/L | 100 |
| 32) chloroprene | 3.494 | 53 | 146488 | 57.44 | ug/L | 98 |
| 33) acrylonitrile | 3.112 | 53 | 43029 | 54.00 | ug/L | 95 |
| 34) vinyl acetate | 3.416 | 86 | 9113 | 46.36 | ug/L # | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58521.D
Acq On : 13 May 2019 7:18 am
Operator : EddieH
Sample : bs
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 11:51:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 17110 | 51.64 | ug/L | # | 71 |
| 36) 2-butanone | 3.793 | 72 | 65356 | 227.48 | ug/L | # | 86 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 176313 | 59.91 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 128946 | 54.81 | ug/L | | 99 |
| 39) propionitrile | 3.840 | 54 | 185855 | 551.49 | ug/L | | 96 |
| 40) methyl acrylate | 3.851 | 85 | 16434 | 50.67 | ug/L | # | 82 |
| 41) bromochloromethane | 3.987 | 128 | 68260 | 59.55 | ug/L | | 95 |
| 42) tetrahydrofuran | 3.998 | 71 | 17268 | 52.06 | ug/L | | 98 |
| 43) chloroform | 4.040 | 83 | 210560 | 54.01 | ug/L | | 98 |
| 45) methacrylonitrile | 3.945 | 67 | 51887 | 54.22 | ug/L | | 95 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 186246 | 55.03 | ug/L | | 100 |
| 47) cyclohexane | 4.244 | 84 | 163192 | 56.91 | ug/L | | 98 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 153452 | 56.34 | ug/L | | 97 |
| 49) carbon tetrachloride | 4.297 | 119 | 168065 | 60.59 | ug/L | | 100 |
| 50) isobutyl alcohol | 4.291 | 42 | 36983 | 510.02 | ug/L | | 93 |
| 51) tert-amyl alcohol | 4.380 | 55 | 28966 | 257.90 | ug/L | | 99 |
| 54) n-butyl alcohol | 4.768 | 56 | 228197 | 2790.04 | ug/L | | 100 |
| 55) benzene | 4.433 | 78 | 430411 | 57.10 | ug/L | | 99 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 343299 | 58.73 | ug/L | | 98 |
| 57) iso-octane | 4.501 | 57 | 331157 | 63.95 | ug/L | | 98 |
| 58) heptane | 4.611 | 57 | 67396 | 62.78 | ug/L | | 99 |
| 59) isopropyl acetate | 4.412 | 87 | 29877 | 56.09 | ug/L | # | 91 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 154199 | 52.49 | ug/L | | 99 |
| 61) trichloroethene | 4.900 | 95 | 123559 | 58.49 | ug/L | | 99 |
| 62) ethyl acrylate | 4.920 | 55 | 137938 | 53.59 | ug/L | | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 16471 | 43.11 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 5.481 | 63 | 208064 | 429.17 | ug/L | | 99 |
| 65) methyl methacrylate | 5.099 | 100 | 28944 | 55.06 | ug/L | # | 83 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 115611 | 57.77 | ug/L | | 98 |
| 67) methylcyclohexane | 5.093 | 83 | 180657 | 61.15 | ug/L | | 98 |
| 68) dibromomethane | 5.167 | 93 | 83748 | 57.25 | ug/L | | 96 |
| 69) bromodichloromethane | 5.287 | 83 | 168649 | 59.08 | ug/L | | 97 |
| 70) epichlorohydrin | 5.534 | 57 | 39885 | 288.95 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 5.623 | 75 | 184243 | 61.27 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 203663 | 234.45 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 90082 | 1156.62 | ug/L | | 97 |
| 76) toluene | 5.911 | 92 | 285770 | 57.03 | ug/L | | 97 |
| 77) ethyl methacrylate | 6.105 | 69 | 149258 | 56.07 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 169369 | 60.24 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 96160 | 57.08 | ug/L | | 98 |
| 80) 2-hexanone | 6.415 | 58 | 204996 | 226.50 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 117916 | 58.06 | ug/L | | 100 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 174425 | 56.66 | ug/L | | 97 |
| 83) butyl acetate | 6.504 | 56 | 80360 | 55.89 | ug/L | | 96 |
| 84) dibromochloromethane | 6.583 | 129 | 145604 | 62.12 | ug/L | | 96 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 136855 | 59.10 | ug/L | | 99 |
| 86) n-butyl ether | 7.185 | 57 | 421392 | 58.14 | ug/L | | 98 |
| 87) chlorobenzene | 7.128 | 112 | 328531 | 58.23 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 129176 | 60.83 | ug/L | | 99 |
| 89) ethylbenzene | 7.206 | 91 | 544178 | 58.68 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58521.D
Acq On : 13 May 2019 7:18 am
Operator : EddieH
Sample : bs
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 11:51:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

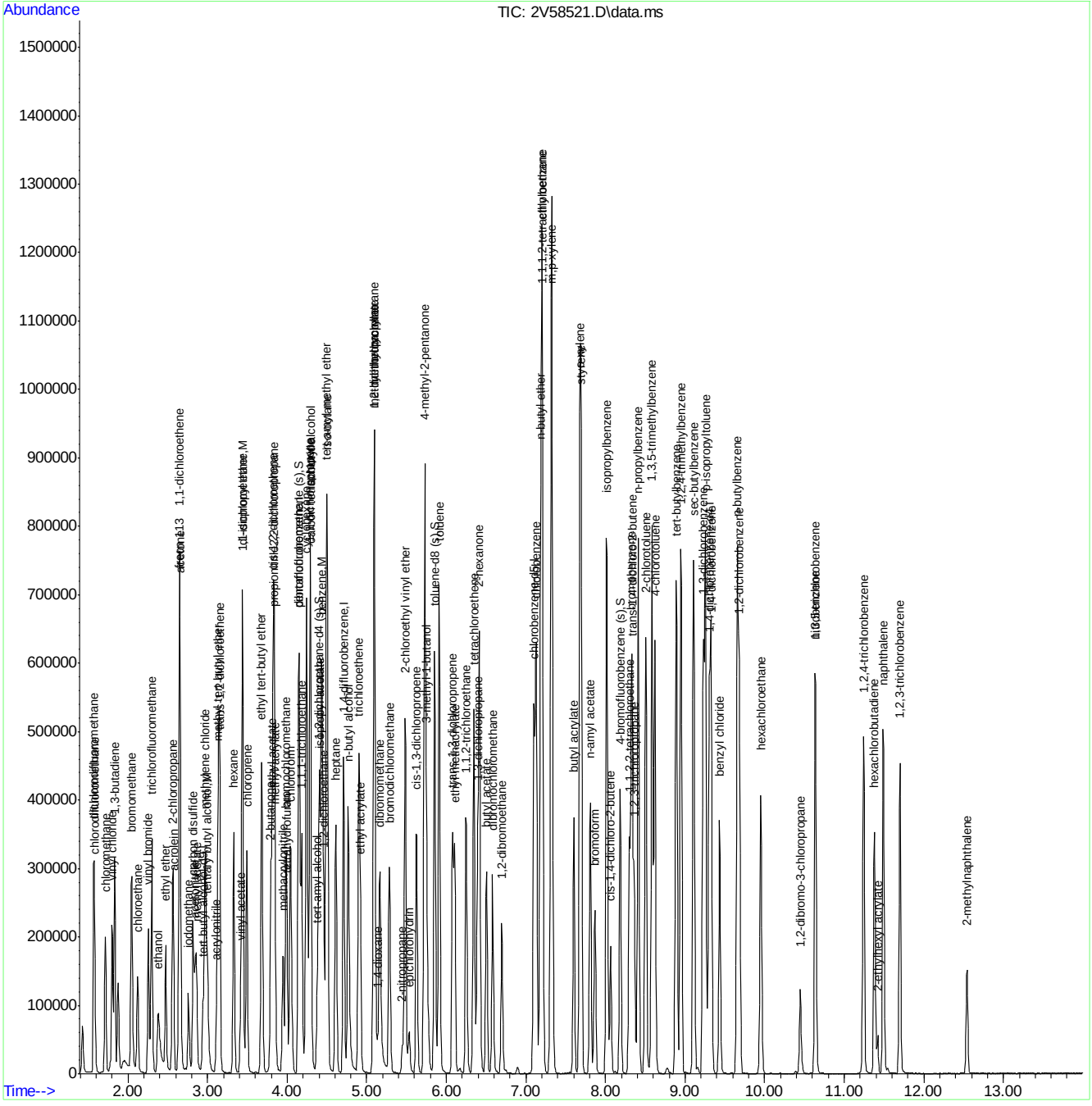
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 90) m,p-xylene | 7.322 | 106 | 429600 | 120.53 | ug/L | 99 |
| 91) o-xylene | 7.678 | 91 | 429384 | 58.05 | ug/L | 99 |
| 92) styrene | 7.694 | 104 | 352283 | 62.57 | ug/L | 100 |
| 93) butyl acrylate | 7.600 | 56 | 103948 | 54.72 | ug/L | 95 |
| 94) n-amyl acetate | 7.809 | 70 | 87492 | 57.74 | ug/L | 95 |
| 95) bromoform | 7.867 | 173 | 109234 | 65.66 | ug/L | 98 |
| 96) isopropylbenzene | 8.014 | 105 | 529049 | 60.74 | ug/L | 99 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 46125 | 52.10 | ug/L | 97 |
| 100) bromobenzene | 8.328 | 156 | 148192 | 57.20 | ug/L | 96 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 156993 | 54.58 | ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 27857 | 48.66 | ug/L | 98 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 45663 | 53.99 | ug/L | 95 |
| 104) n-propylbenzene | 8.412 | 91 | 607670 | 57.01 | ug/L | 100 |
| 105) 2-chlorotoluene | 8.507 | 126 | 135989 | 57.13 | ug/L | 97 |
| 106) 4-chlorotoluene | 8.622 | 126 | 135102 | 57.46 | ug/L | 98 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 432856 | 58.12 | ug/L | 99 |
| 108) tert-butylbenzene | 8.889 | 134 | 89935 | 57.19 | ug/L | 96 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 433849 | 57.07 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 541246 | 59.03 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 258437 | 57.83 | ug/L | 99 |
| 112) p-isopropyltoluene | 9.256 | 119 | 458703 | 60.26 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 262256 | 56.06 | ug/L | 97 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 248766 | 58.66 | ug/L | 98 |
| 115) benzyl chloride | 9.435 | 91 | 256244 | 71.49 | ug/L | 99 |
| 116) n-butylbenzene | 9.655 | 92 | 217984 | 59.68 | ug/L | 98 |
| 117) hexachloroethane | 9.954 | 201 | 74074 | 62.23 | ug/L | 95 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 38297 | 55.57 | ug/L | 97 |
| 119) nitrobenzene | 10.641 | 77 | 10504 | 70.62 | ug/L | 96 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 188720 | 61.73 | ug/L | 99 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 157512 | 61.62 | ug/L | 98 |
| 122) hexachlorobutadiene | 11.380 | 225 | 69492 | 63.21 | ug/L | 98 |
| 123) naphthalene | 11.490 | 128 | 390003 | 57.93 | ug/L | 100 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 140884 | 61.61 | ug/L | 98 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 13575 | 9.98 | ug/L | 91 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 70237 | 27.30 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58521.D
Acq On : 13 May 2019 7:18 am
Operator : EddieH
Sample : bs
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 13 11:51:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164492.d
Acq On : 13 May 2019 10:20 am
Operator : PrashanS
Sample : BS Inst : GCMS1C
Misc : MS34561,V1C7218,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:17:08 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 72090 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 231696 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 332376 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 261300 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 138267 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.665 | 113 | 98184 | 50.25 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.50% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 87985 | 42.14 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 84.28% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 353249 | 50.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.38% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 119069 | 45.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 91.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 46135 | 240.94 | ug/L | 97 |
| 4) 1,4-dioxane | 11.255 | 88 | 22794 | 1303.80 | ug/L | 94 |
| 6) chlorodifluoromethane | 3.891 | 51 | 106337 | 44.05 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 138924 | 40.56 | ug/L | 97 |
| 8) chloromethane | 4.278 | 50 | 106686 | 42.47 | ug/L | 100 |
| 9) vinyl chloride | 4.508 | 62 | 106408 | 45.00 | ug/L | 96 |
| 10) 1,3-butadiene | 4.581 | 54 | 72319 | 48.73 | ug/L | 98 |
| 11) bromomethane | 5.193 | 94 | 80816 | 44.85 | ug/L | 97 |
| 12) chloroethane | 5.376 | 64 | 66588 | 47.02 | ug/L | 95 |
| 13) trichlorofluoromethane | 5.810 | 101 | 163788 | 46.46 | ug/L | 100 |
| 14) vinyl bromide | 5.721 | 106 | 100920 | 72.97 | ug/L | 98 |
| 15) ethyl ether | 6.250 | 74 | 48264 | 51.25 | ug/L | 92 |
| 16) acrolein | 6.537 | 56 | 12142 | 50.18 | ug/L | 97 |
| 17) freon 113 | 6.610 | 151 | 85241 | 54.68 | ug/L | 99 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 95896 | 50.56 | ug/L | 88 |
| 19) acetone | 6.752 | 43 | 85713 | 181.88 | ug/L | 89 |
| 20) acetonitrile | 7.212 | 41 | 86940 | 442.36 | ug/L | 97 |
| 21) iodomethane | 6.966 | 142 | 104824 | 49.23 | ug/L | 91 |
| 22) carbon disulfide | 7.086 | 76 | 295373 | 48.21 | ug/L | 97 |
| 23) methylene chloride | 7.416 | 84 | 101524 | 49.34 | ug/L | 94 |
| 24) methyl acetate | 7.207 | 43 | 52811 | 45.95 | ug/L | 95 |
| 25) methyl tert butyl ether | 7.709 | 73 | 242342 | 47.14 | ug/L | 98 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 102210 | 48.55 | ug/L | 92 |
| 27) di-isopropyl ether | 8.300 | 45 | 279187 | 44.12 | ug/L | 97 |
| 28) 2-butanone | 9.058 | 72 | 37351 | 210.84 | ug/L # | 72 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 162594 | 45.52 | ug/L | 98 |
| 30) chloroprene | 8.457 | 53 | 138748 | 45.05 | ug/L | 91 |
| 31) acrylonitrile | 7.766 | 53 | 24583 | 47.79 | ug/L | 93 |
| 32) hexane | 8.059 | 57 | 161293 | 49.30 | ug/L | 94 |
| 33) vinyl acetate | 8.342 | 86 | 15378 | 51.63 | ug/L # | 55 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 281086 | 46.09 | ug/L | 97 |
| 35) ethyl acetate | 9.069 | 45 | 10417 | 46.58 | ug/L # | 72 |
| 36) 2,2-dichloropropane | 9.079 | 77 | 146371 | 45.96 | ug/L | 94 |
| 37) cis-1,2-dichloroethene | 9.095 | 96 | 110814 | 48.77 | ug/L | 94 |
| 38) methyl acrylate | 9.152 | 85 | 12685 | 54.37 | ug/L | 96 |
| 39) propionitrile | 9.184 | 54 | 107166 | 477.46 | ug/L | 94 |
| 40) bromochloromethane | 9.414 | 128 | 52120 | 52.81 | ug/L | 89 |
| 41) tetrahydrofuran | 9.445 | 72 | 10776 | 50.92 | ug/L # | 80 |
| 42) chloroform | 9.466 | 85 | 110664 | 43.76 | ug/L | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164492.d
Acq On : 13 May 2019 10:20 am
Operator : PrashanS
Sample : BS Inst : GCMS1C
Misc : MS34561,V1C7218,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:17:08 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 9.477 | 59 | 68516 | 50.38 | ug/L | | 97 |
| 45) methacrylonitrile | 9.351 | 67 | 32340 | 49.92 | ug/L | | 83 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 154474 | 47.21 | ug/L | | 98 |
| 47) cyclohexane | 9.759 | 84 | 145112 | 44.92 | ug/L | | 95 |
| 48) 1,1-dichloropropene | 9.879 | 75 | 135331 | 48.82 | ug/L | | 96 |
| 49) iso-butyl alcohol | 9.900 | 43 | 31533 | 431.34 | ug/L | | 95 |
| 50) carbon tetrachloride | 9.900 | 117 | 137492 | 48.11 | ug/L | | 97 |
| 51) tert amyl alcohol | 10.015 | 55 | 15541 | 227.55 | ug/L | | 93 |
| 54) n-butyl alcohol | 10.648 | 56 | 119722 | 2468.44 | ug/L | | 95 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 372518 | 46.68 | ug/L | | 96 |
| 56) benzene | 10.146 | 78 | 381134 | 45.80 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 10.151 | 87 | 60973 | 47.01 | ug/L | | 97 |
| 58) heptane | 10.287 | 71 | 89279 | 49.72 | ug/L | | 94 |
| 59) isopropyl acetate | 10.057 | 87 | 17698 | 51.41 | ug/L | # | 83 |
| 60) 1,2-dichloroethane | 10.177 | 62 | 106916 | 39.51 | ug/L | | 96 |
| 61) trichloroethene | 10.857 | 130 | 111981 | 52.28 | ug/L | | 97 |
| 62) ethyl acrylate | 10.857 | 55 | 93061 | 46.29 | ug/L | | 99 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 254579 | 257.72 | ug/L | | 96 |
| 65) methyl methacrylate | 11.119 | 100 | 20978 | 50.44 | ug/L | # | 67 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 90208 | 45.52 | ug/L | | 98 |
| 67) dibromomethane | 11.297 | 93 | 55033 | 47.44 | ug/L | | 95 |
| 68) methylcyclohexane | 11.061 | 83 | 177427 | 48.03 | ug/L | | 93 |
| 69) bromodichloromethane | 11.422 | 83 | 128405 | 45.74 | ug/L | | 100 |
| 70) epichlorohydrin | 11.788 | 57 | 38071 | 239.02 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 150076 | 46.57 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 11.956 | 58 | 105924 | 184.07 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 68034 | 932.49 | ug/L | | 91 |
| 76) toluene | 12.222 | 92 | 222710 | 46.57 | ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 124211 | 46.16 | ug/L | | 96 |
| 78) ethyl methacrylate | 12.406 | 69 | 89578 | 47.09 | ug/L | | 91 |
| 79) 1,1,2-trichloroethane | 12.646 | 83 | 62388 | 49.51 | ug/L | | 95 |
| 80) tetrachloroethene | 12.798 | 164 | 88528 | 53.24 | ug/L | | 95 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 108068 | 46.77 | ug/L | | 90 |
| 82) 2-hexanone | 12.803 | 58 | 98423 | 189.33 | ug/L | | 90 |
| 83) butyl acetate | 12.866 | 56 | 42592 | 44.95 | ug/L | | 88 |
| 84) dibromochloromethane | 13.091 | 129 | 96821 | 51.10 | ug/L | | 100 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 86408 | 43.17 | ug/L | | 99 |
| 86) n-butyl ether | 13.572 | 57 | 317208 | 44.09 | ug/L | | 97 |
| 87) chlorobenzene | 13.687 | 112 | 233047 | 48.03 | ug/L | | 94 |
| 88) 1,1,1,2-tetrachloroethane | 13.744 | 131 | 87394 | 49.53 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 393065 | 44.71 | ug/L | | 97 |
| 90) m,p-xylene | 13.833 | 106 | 305493 | 93.53 | ug/L | | 93 |
| 91) o-xylene | 14.252 | 106 | 147380 | 47.26 | ug/L | | 92 |
| 92) styrene | 14.268 | 104 | 244212 | 47.23 | ug/L | | 95 |
| 93) bromoform | 14.550 | 173 | 63125 | 54.91 | ug/L | | 99 |
| 94) butyl acrylate | 14.074 | 55 | 132209 | 43.65 | ug/L | | 98 |
| 95) isopropylbenzene | 14.587 | 105 | 385041 | 45.90 | ug/L | | 97 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 32066 | 45.03 | ug/L | | 94 |
| 99) bromobenzene | 15.000 | 156 | 104643 | 48.20 | ug/L | | 88 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 83462 | 49.01 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 19546 | 42.18 | ug/L | # | 79 |
| 102) 1,2,3-trichloropropane | 14.989 | 110 | 21182 | 48.22 | ug/L | | 98 |
| 103) n-propylbenzene | 14.995 | 91 | 449208 | 44.99 | ug/L | | 97 |
| 105) 2-chlorotoluene | 15.151 | 126 | 93103 | 47.90 | ug/L | | 91 |
| 106) 4-chlorotoluene | 15.251 | 91 | 263074 | 42.81 | ug/L | | 94 |
| 107) 1,3,5-trimethylbenzene | 15.141 | 105 | 317455 | 44.07 | ug/L | | 97 |
| 108) tert-butylbenzene | 15.491 | 134 | 61096 | 50.61 | ug/L | # | 84 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164492.d
Acq On : 13 May 2019 10:20 am
Operator : PrashanS
Sample : BS Inst : GCMS1C
Misc : MS34561,V1C7218,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:17:08 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

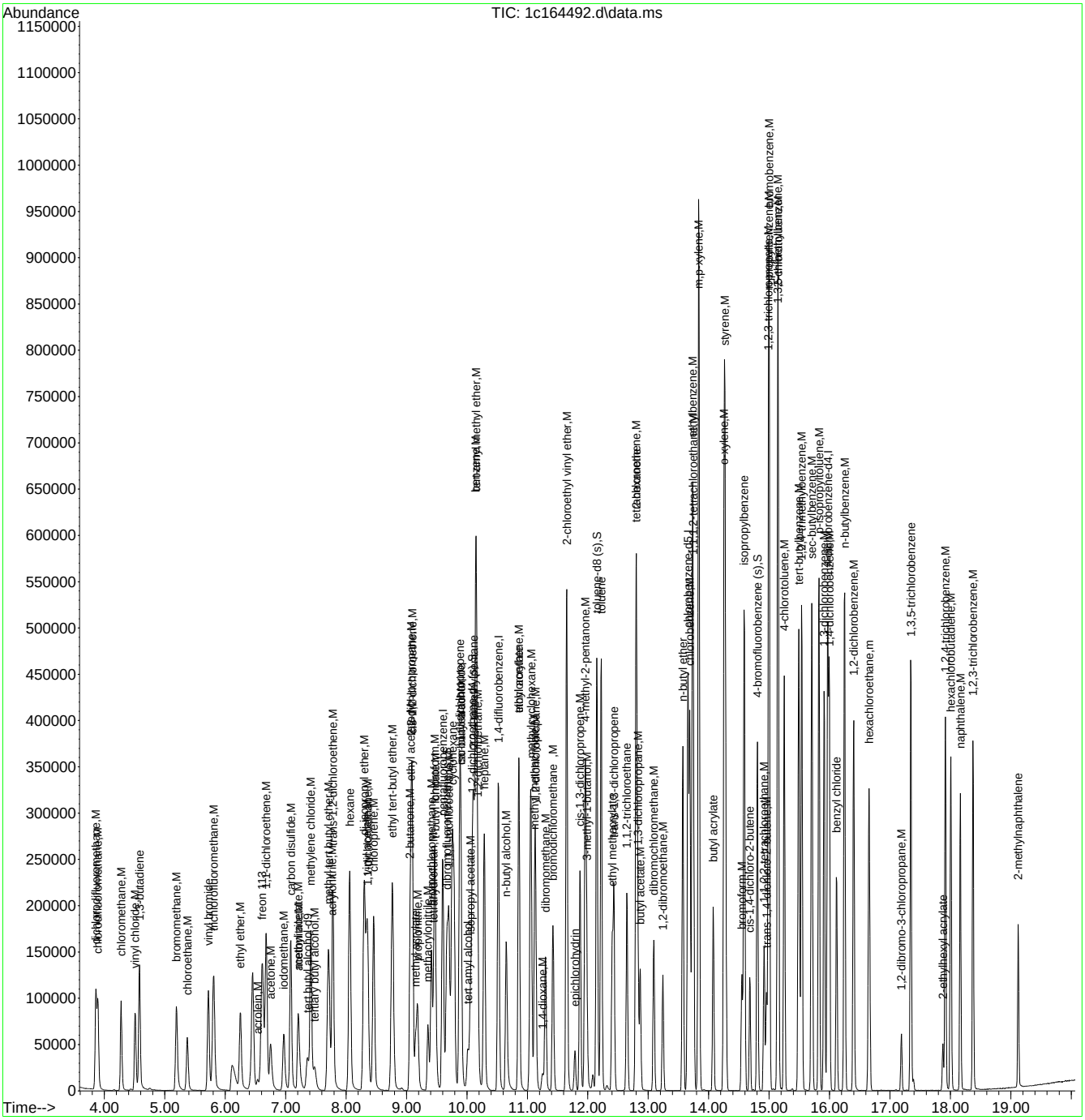
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 316045 | 43.80 | ug/L | | 93 |
| 110) sec-butylbenzene | 15.706 | 105 | 414701 | 46.31 | ug/L | | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 195987 | 47.67 | ug/L | | 98 |
| 112) p-isopropyltoluene | 15.826 | 119 | 355917 | 46.21 | ug/L | | 97 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 194958 | 47.47 | ug/L | | 96 |
| 114) benzyl chloride | 16.114 | 91 | 176144 | 49.82 | ug/L | | 99 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 186781 | 48.69 | ug/L | | 97 |
| 117) n-butylbenzene | 16.250 | 92 | 182609 | 46.65 | ug/L | | 99 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 14866 | 43.62 | ug/L | | 94 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 155888 | 49.37 | ug/L | | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 12569 | 7.96 | ug/L | # | 86 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 127632 | 49.63 | ug/L | | 95 |
| 123) hexachlorobutadiene | 18.007 | 225 | 86638 | 47.99 | ug/L | | 96 |
| 124) naphthalene | 18.164 | 128 | 233031 | 46.58 | ug/L | | 99 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 115730 | 47.64 | ug/L | | 99 |
| 126) hexachloroethane | 16.652 | 201 | 73362 | 53.32 | ug/L | | 97 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 77210 | 24.24 | ug/L | | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164492.d
Acq On : 13 May 2019 10:20 am
Operator : PrashanS
Sample : BS Inst : GCMS1C
Misc : MS34561,V1C7218,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:17:08 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167642.d
Acq On : 15 May 2019 7:36 am
Operator : thienn
Sample : BS Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:46:06 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.234 | 65 | 237023 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 276684 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 379198 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 369728 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 235194 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 127617 | 48.57 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.14% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 141104 | 46.39 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 92.78% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 434557 | 49.64 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.28% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 186868 | 52.62 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 105.24% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.354 | 59 | 135326 | 221.27 | ug/L | | 91 |
| 4) 1,4-dioxane | 12.255 | 88 | 47062 | 945.23 | ug/L | | 94 |
| 6) chlorodifluoromethane | 4.391 | 51 | 235080 | 38.84 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 4.364 | 85 | 285855 | 40.34 | ug/L | | 99 |
| 8) chloromethane | 4.805 | 50 | 278683 | 36.23 | ug/L | | 98 |
| 9) vinyl chloride | 5.072 | 62 | 265846 | 38.97 | ug/L | | 99 |
| 10) 1,3-butadiene | 5.114 | 54 | 172134 | 39.35 | ug/L | | 98 |
| 11) bromomethane | 5.785 | 94 | 204335 | 37.49 | ug/L | | 97 |
| 12) chloroethane | 5.979 | 64 | 138438 | 38.59 | ug/L | | 98 |
| 13) trichlorofluoromethane | 6.519 | 101 | 311227 | 43.01 | ug/L | | 98 |
| 14) vinyl bromide | 6.378 | 106 | 196960 | 47.22 | ug/L | | 96 |
| 15) ethyl ether | 6.949 | 74 | 78487 | 51.71 | ug/L | # | 79 |
| 16) 2-chloropropane | 7.190 | 43 | 253362 | 41.89 | ug/L | | 97 |
| 17) acrolein | 7.206 | 56 | 40808 | 50.88 | ug/L | | 91 |
| 18) freon 113 | 7.458 | 151 | 145469 | 41.67 | ug/L | | 96 |
| 19) 1,1-dichloroethene | 7.426 | 96 | 150828 | 45.91 | ug/L | | 96 |
| 20) acetone | 7.452 | 58 | 75078 | 188.57 | ug/L | | 90 |
| 21) iodomethane | 7.720 | 142 | 287770 | 48.42 | ug/L | | 99 |
| 22) acetonitrile | 7.940 | 41 | 242026 | 352.50 | ug/L | | 97 |
| 23) carbon disulfide | 7.872 | 76 | 481198 | 46.97 | ug/L | | 95 |
| 24) methylene chloride | 8.244 | 84 | 170041 | 45.97 | ug/L | | 91 |
| 25) methyl acetate | 7.966 | 43 | 133540 | 40.87 | ug/L | | 96 |
| 26) methyl tert butyl ether | 8.648 | 73 | 465957 | 43.43 | ug/L | | 98 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 146100 | 48.50 | ug/L | | 94 |
| 28) hexane | 9.083 | 56 | 97434 | 42.70 | ug/L | | 93 |
| 29) di-isopropyl ether | 9.324 | 45 | 466032 | 42.30 | ug/L | | 98 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 250087 | 47.01 | ug/L | | 99 |
| 31) chloroprene | 9.429 | 53 | 202611 | 46.46 | ug/L | | 96 |
| 32) acrylonitrile | 8.564 | 53 | 73728 | 48.51 | ug/L | | 98 |
| 33) vinyl acetate | 9.256 | 86 | 27838 | 47.68 | ug/L | # | 89 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 474507 | 44.08 | ug/L | | 98 |
| 35) 2-butanone | 10.027 | 72 | 89050 | 187.70 | ug/L | # | 89 |
| 36) ethyl acetate | 10.048 | 45 | 23378 | 40.70 | ug/L | # | 79 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 228547 | 45.66 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 162151 | 46.37 | ug/L | | 96 |
| 39) propionitrile | 10.111 | 54 | 288069 | 419.44 | ug/L | | 97 |
| 40) bromochloromethane | 10.415 | 128 | 86186 | 49.85 | ug/L | | 93 |
| 41) tetrahydrofuran | 10.436 | 71 | 24118 | 44.45 | ug/L | | 94 |
| 42) chloroform | 10.509 | 83 | 259819 | 45.84 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167642.d
Acq On : 15 May 2019 7:36 am
Operator : thienn
Sample : BS Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:46:06 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 10.551 | 59 | 122076 | 43.15 | ug/L | | 98 |
| 45) methacrylonitrile | 10.320 | 67 | 67809 | 46.01 | ug/L | | 92 |
| 46) 1,1,1-trichloroethane | 10.787 | 97 | 255351 | 47.00 | ug/L | | 99 |
| 47) cyclohexane | 10.902 | 84 | 229865 | 45.23 | ug/L | | 84 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 170928 | 45.66 | ug/L | | 98 |
| 49) carbon tetrachloride | 10.986 | 117 | 214791 | 51.23 | ug/L | | 99 |
| 53) n-butyl alcohol | 11.684 | 56 | 304699 | 1738.64 | ug/L | | 97 |
| 54) tert-amyl alcohol | 11.107 | 55 | 50568 | 204.10 | ug/L | # | 83 |
| 55) iso-octane | 11.317 | 57 | 575966 | 47.78 | ug/L | | 97 |
| 56) benzene | 11.206 | 78 | 514829 | 47.93 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 111741 | 44.88 | ug/L | | 97 |
| 58) heptane | 11.474 | 57 | 92762 | 45.33 | ug/L | | 96 |
| 59) isopropyl acetate | 11.128 | 87 | 35170 | 49.05 | ug/L | # | 74 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 189759 | 44.63 | ug/L | | 97 |
| 61) ethyl acrylate | 11.919 | 55 | 191949 | 46.31 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 143062 | 48.93 | ug/L | | 96 |
| 63) 2-nitropropane | 12.654 | 41 | 47954 | 51.34 | ug/L | | 91 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 435141 | 247.14 | ug/L | | 98 |
| 65) methyl methacrylate | 12.176 | 100 | 39259 | 49.26 | ug/L | # | 83 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 133337 | 44.33 | ug/L | | 98 |
| 67) dibromomethane | 12.313 | 93 | 99896 | 46.90 | ug/L | | 99 |
| 68) methylcyclohexane | 12.224 | 83 | 272526 | 45.84 | ug/L | | 99 |
| 69) bromodichloromethane | 12.460 | 83 | 197168 | 50.74 | ug/L | | 98 |
| 70) epichlorohydrin | 12.769 | 57 | 104880 | 220.25 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 224520 | 47.57 | ug/L | | 94 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 295664 | 182.17 | ug/L | | 92 |
| 73) 3-methyl-1-butanol | 13.000 | 55 | 213095 | 735.68 | ug/L | | 99 |
| 76) toluene | 13.262 | 92 | 319485 | 48.78 | ug/L | | 98 |
| 77) ethyl methacrylate | 13.424 | 69 | 182826 | 48.18 | ug/L | | 95 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 208053 | 50.76 | ug/L | | 91 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 113813 | 48.53 | ug/L | | 99 |
| 80) 2-hexanone | 13.797 | 58 | 274968 | 186.27 | ug/L | | 96 |
| 81) tetrachloroethene | 13.786 | 164 | 130116 | 47.45 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 193570 | 47.44 | ug/L | | 94 |
| 83) butyl acetate | 13.870 | 56 | 101939 | 47.95 | ug/L | | 89 |
| 84) dibromochloromethane | 14.048 | 129 | 164419 | 55.91 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 174633 | 45.18 | ug/L | | 99 |
| 86) n-butyl ether | 14.599 | 57 | 533078 | 45.08 | ug/L | | 100 |
| 87) chlorobenzene | 14.641 | 112 | 376763 | 48.64 | ug/L | | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 156074 | 49.63 | ug/L | | 98 |
| 89) ethylbenzene | 14.698 | 91 | 613367 | 46.24 | ug/L | | 99 |
| 90) m,p-xylene | 14.808 | 106 | 481979 | 94.49 | ug/L | | 99 |
| 91) o-xylene | 15.186 | 106 | 266350 | 46.37 | ug/L | | 100 |
| 92) styrene | 15.196 | 104 | 417303 | 47.23 | ug/L | | 98 |
| 93) butyl acrylate | 15.018 | 55 | 317104 | 44.73 | ug/L | | 98 |
| 94) bromoform | 15.411 | 173 | 141045 | 60.69 | ug/L | | 98 |
| 95) isopropylbenzene | 15.511 | 105 | 711048 | 46.56 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 83941 | 54.41 | ug/L | | 94 |
| 99) bromobenzene | 15.873 | 156 | 202569 | 51.90 | ug/L | | 98 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 252016 | 52.46 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 15.794 | 88 | 31286 | 55.89 | ug/L | | 95 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 61341 | 51.04 | ug/L | | 98 |
| 103) n-propylbenzene | 15.899 | 91 | 776198 | 49.80 | ug/L | | 99 |
| 104) 2-chlorotoluene | 16.020 | 126 | 183543 | 50.83 | ug/L | | 98 |
| 105) 4-chlorotoluene | 16.124 | 91 | 493039 | 49.37 | ug/L | | 98 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 597272 | 48.99 | ug/L | | 100 |
| 107) tert-butylbenzene | 16.360 | 119 | 528426 | 50.42 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167642.d
Acq On : 15 May 2019 7:36 am
Operator : thienn
Sample : BS Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:46:06 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

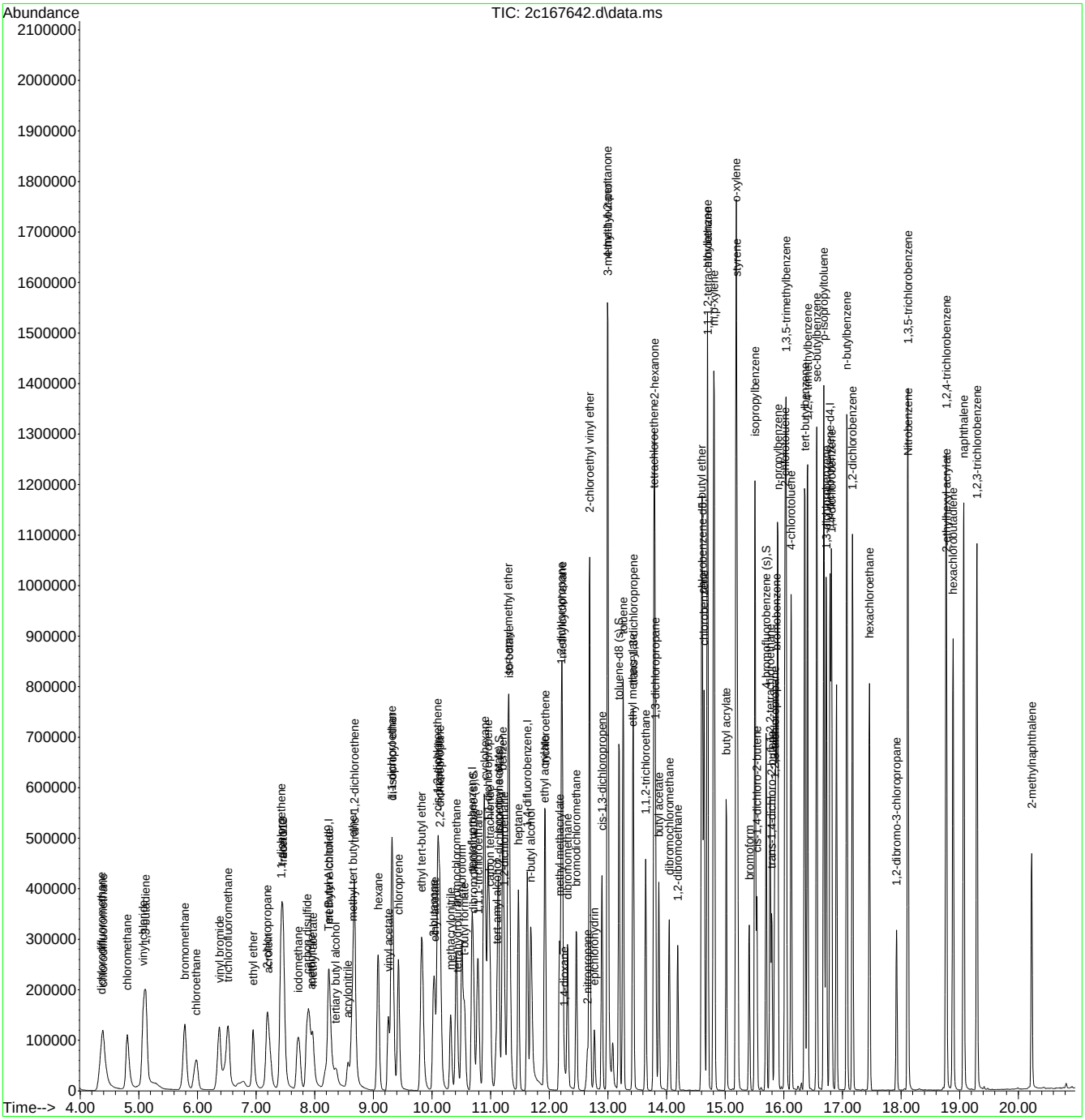
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 619595 | 49.99 | ug/L | 100 |
| 109) sec-butylbenzene | 16.565 | 105 | 830435 | 49.82 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 391827 | 48.62 | ug/L | 99 |
| 111) p-isopropyltoluene | 16.685 | 119 | 703210 | 49.83 | ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 390057 | 48.21 | ug/L | 98 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 426399 | 47.76 | ug/L | 99 |
| 114) n-butylbenzene | 17.073 | 92 | 372993 | 50.05 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 66927 | 50.56 | ug/L | 93 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 431951 | 49.49 | ug/L | 99 |
| 117) Nitrobenzene | 18.122 | 77 | 14885 | 102.41 | ug/L | 84 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 387486 | 49.52 | ug/L | 99 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 36699 | 7.09 | ug/L | 96 |
| 120) hexachlorobutadiene | 18.887 | 225 | 199319 | 48.37 | ug/L | 99 |
| 121) naphthalene | 19.071 | 128 | 901770 | 47.88 | ug/L | 100 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 354479 | 48.89 | ug/L | 99 |
| 123) hexachloroethane | 17.461 | 201 | 136841 | 53.64 | ug/L | 94 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 217742 | 20.30 | ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167642.d
Acq On : 15 May 2019 7:36 am
Operator : thienn
Sample : BS Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:46:06 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2402\
Data File : 2V58589.D
Acq On : 15 May 2019 11:10 am
Operator : EddieH
Sample : bs
Misc : MS34710,V2V2402,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 15 16:54:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 103252 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.145 | 168 | 223845 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 313491 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 277591 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 137721 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 102256 | 46.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 92.68% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 92608 | 47.14 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 94.28% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 359977 | 49.23 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 98.46% | | | |
| 99) 4-bromofluorobenzene (s) | 8.182 | 95 | 125663 | 47.06 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 94.12% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 128996 | 5793.77 | ug/L | 99 |
| 3) tertiary butyl alcohol | 2.997 | 59 | 174149 | 280.86 | ug/L | 99 |
| 4) 1,4-dioxane | 5.136 | 88 | 43708 | 1509.00 | ug/L | 100 |
| 6) chlorodifluoromethane | 1.581 | 51 | 87937 | 42.48 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 122853 | 44.65 | ug/L | 99 |
| 8) chloromethane | 1.717 | 50 | 128810 | 45.29 | ug/L | 98 |
| 9) vinyl chloride | 1.801 | 62 | 133998 | 50.39 | ug/L | 99 |
| 10) bromomethane | 2.042 | 96 | 113866 | 50.20 | ug/L | 95 |
| 11) chloroethane | 2.121 | 64 | 74085 | 47.46 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 171843 | 50.34 | ug/L | 100 |
| 13) vinyl bromide | 2.257 | 106 | 100413 | 53.45 | ug/L | 100 |
| 14) 1,3-butadiene | 1.833 | 54 | 87104 | 42.83 | ug/L | 97 |
| 15) ethyl ether | 2.477 | 74 | 54228 | 50.48 | ug/L | 95 |
| 16) 2-chloropropane | 2.561 | 43 | 124599 | 45.27 | ug/L | 100 |
| 17) acrolein | 2.572 | 56 | 20385 | 45.45 | ug/L | 98 |
| 18) freon 113 | 2.645 | 151 | 77918 | 50.49 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 129905 | 49.29 | ug/L | 97 |
| 20) acetone | 2.661 | 58 | 46541 | 201.89 | ug/L | 97 |
| 21) acetonitrile | 2.844 | 41 | 131884 | 508.69 | ug/L | 98 |
| 22) iodomethane | 2.761 | 142 | 96260 | 49.21 | ug/L | 97 |
| 23) carbon disulfide | 2.818 | 76 | 208726 | 46.61 | ug/L | 99 |
| 24) methylene chloride | 2.970 | 84 | 101748 | 50.77 | ug/L | 98 |
| 25) methyl acetate | 2.860 | 43 | 85142 | 52.10 | ug/L | 99 |
| 26) methyl tert butyl ether | 3.138 | 73 | 295686 | 53.05 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 94634 | 51.48 | ug/L | 97 |
| 28) hexane | 3.332 | 56 | 56790 | 49.95 | ug/L | 100 |
| 29) di-isopropyl ether | 3.437 | 45 | 278878 | 51.43 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 296187 | 54.25 | ug/L | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 167303 | 50.46 | ug/L | 98 |
| 32) chloroprene | 3.495 | 53 | 124073 | 51.09 | ug/L | 98 |
| 33) acrylonitrile | 3.112 | 53 | 41369 | 54.52 | ug/L | 93 |
| 34) vinyl acetate | 3.416 | 86 | 10854 | 57.98 | ug/L # | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2402\
Data File : 2V58589.D
Acq On : 15 May 2019 11:10 am
Operator : EddieH
Sample : bs
Misc : MS34710,V2V2402,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 15 16:54:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 16698 | 52.92 | ug/L | | 92 |
| 36) 2-butanone | 3.793 | 72 | 63576 | 232.37 | ug/L | # | 84 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 141645 | 50.54 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 113207 | 50.53 | ug/L | | 97 |
| 39) propionitrile | 3.841 | 54 | 181526 | 565.61 | ug/L | | 94 |
| 40) methyl acrylate | 3.851 | 85 | 17564 | 56.86 | ug/L | # | 85 |
| 41) bromochloromethane | 3.987 | 128 | 60597 | 55.51 | ug/L | | 96 |
| 42) tetrahydrofuran | 3.998 | 71 | 16712 | 52.91 | ug/L | | 95 |
| 43) chloroform | 4.040 | 83 | 187251 | 50.43 | ug/L | | 98 |
| 45) methacrylonitrile | 3.951 | 67 | 49132 | 53.91 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 160979 | 49.95 | ug/L | | 99 |
| 47) cyclohexane | 4.244 | 84 | 131578 | 48.18 | ug/L | | 93 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 131146 | 50.56 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 139278 | 52.73 | ug/L | | 99 |
| 50) isobutyl alcohol | 4.292 | 42 | 36657 | 530.84 | ug/L | | 95 |
| 51) tert-amyl alcohol | 4.386 | 55 | 27807 | 259.97 | ug/L | | 93 |
| 54) n-butyl alcohol | 4.769 | 56 | 216663 | 2813.42 | ug/L | | 98 |
| 55) benzene | 4.433 | 78 | 379062 | 53.41 | ug/L | | 100 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 314113 | 57.07 | ug/L | | 99 |
| 57) iso-octane | 4.501 | 57 | 264057 | 54.16 | ug/L | | 98 |
| 58) heptane | 4.611 | 57 | 53394 | 52.82 | ug/L | | 97 |
| 59) isopropyl acetate | 4.407 | 87 | 28354 | 56.53 | ug/L | | 96 |
| 60) 1,2-dichloroethane | 4.454 | 62 | 138871 | 50.21 | ug/L | | 100 |
| 61) trichloroethene | 4.900 | 95 | 105609 | 53.09 | ug/L | | 98 |
| 62) ethyl acrylate | 4.921 | 55 | 138081 | 56.98 | ug/L | | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 18020 | 48.43 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 246187 | 537.88 | ug/L | | 98 |
| 65) methyl methacrylate | 5.104 | 100 | 29170 | 58.94 | ug/L | # | 73 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 102379 | 54.33 | ug/L | | 99 |
| 67) methylcyclohexane | 5.088 | 83 | 153002 | 55.00 | ug/L | | 99 |
| 68) dibromomethane | 5.167 | 93 | 76546 | 55.57 | ug/L | | 97 |
| 69) bromodichloromethane | 5.282 | 83 | 148253 | 55.16 | ug/L | | 98 |
| 70) epichlorohydrin | 5.534 | 57 | 37124 | 285.64 | ug/L | | 94 |
| 71) cis-1,3-dichloropropene | 5.623 | 75 | 161590 | 57.07 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 5.723 | 58 | 197260 | 241.17 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 87025 | 1186.71 | ug/L | | 98 |
| 76) toluene | 5.912 | 92 | 249297 | 52.56 | ug/L | | 97 |
| 77) ethyl methacrylate | 6.106 | 69 | 142333 | 56.49 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 151971 | 57.10 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 88856 | 55.72 | ug/L | | 97 |
| 80) 2-hexanone | 6.415 | 58 | 200897 | 234.48 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 98146 | 51.05 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 159190 | 54.62 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 78200 | 57.45 | ug/L | | 90 |
| 84) dibromochloromethane | 6.583 | 129 | 130694 | 58.90 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 128892 | 58.79 | ug/L | | 99 |
| 86) n-butyl ether | 7.180 | 57 | 373321 | 54.41 | ug/L | | 99 |
| 87) chlorobenzene | 7.128 | 112 | 289946 | 54.29 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.196 | 131 | 113991 | 56.71 | ug/L | | 97 |
| 89) ethylbenzene | 7.207 | 91 | 478388 | 54.49 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2402\
Data File : 2V58589.D
Acq On : 15 May 2019 11:10 am
Operator : EddieH
Sample : bs
Misc : MS34710,V2V2402,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 15 16:54:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

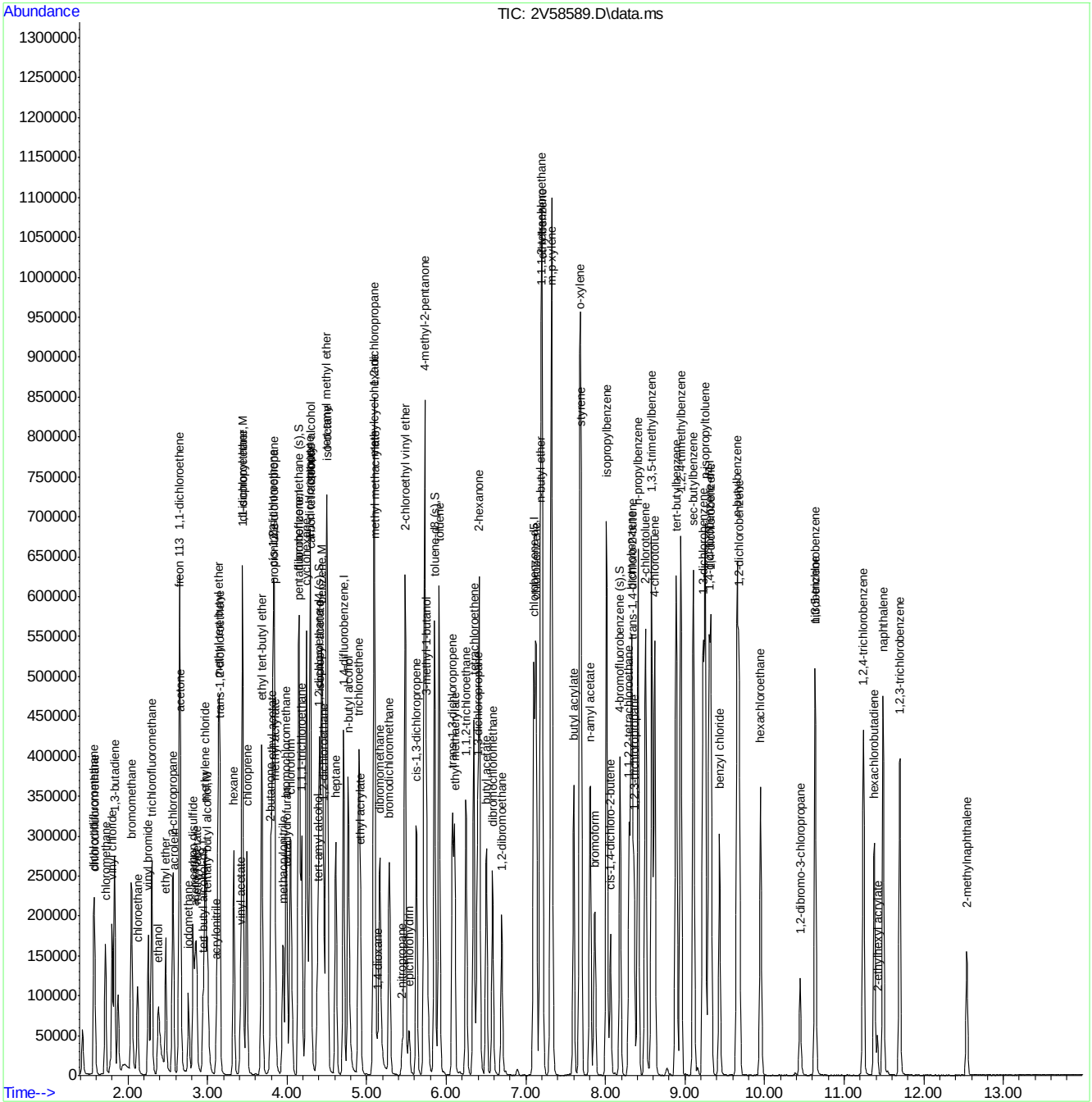
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 90) m,p-xylene | 7.322 | 106 | 371019 | 109.96 | ug/L | | 99 |
| 91) o-xylene | 7.679 | 91 | 376564 | 53.78 | ug/L | | 99 |
| 92) styrene | 7.694 | 104 | 310519 | 58.26 | ug/L | | 98 |
| 93) butyl acrylate | 7.600 | 56 | 99089 | 55.11 | ug/L | | 98 |
| 94) n-amyl acetate | 7.810 | 70 | 84052 | 58.60 | ug/L | | 93 |
| 95) bromoform | 7.867 | 173 | 97845 | 62.13 | ug/L | | 98 |
| 96) isopropylbenzene | 8.014 | 105 | 456887 | 55.41 | ug/L | | 100 |
| 97) cis-1,4-dichloro-2-butene | 8.061 | 88 | 42463 | 50.76 | ug/L | | 90 |
| 100) bromobenzene | 8.329 | 156 | 130989 | 54.26 | ug/L | | 96 |
| 101) 1,1,2,2-tetrachloroethane | 8.297 | 83 | 150487 | 56.15 | ug/L | | 95 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 27545 | 51.44 | ug/L | | 96 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 43312 | 54.95 | ug/L | | 98 |
| 104) n-propylbenzene | 8.413 | 91 | 520311 | 52.38 | ug/L | | 100 |
| 105) 2-chlorotoluene | 8.502 | 126 | 117153 | 52.82 | ug/L | | 98 |
| 106) 4-chlorotoluene | 8.617 | 126 | 116508 | 53.18 | ug/L | | 95 |
| 107) 1,3,5-trimethylbenzene | 8.580 | 105 | 374095 | 53.90 | ug/L | | 99 |
| 108) tert-butylbenzene | 8.890 | 134 | 77147 | 52.65 | ug/L | | 96 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 373951 | 52.79 | ug/L | | 98 |
| 110) sec-butylbenzene | 9.105 | 105 | 455191 | 53.28 | ug/L | | 99 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 225328 | 54.11 | ug/L | | 95 |
| 112) p-isopropyltoluene | 9.251 | 119 | 391430 | 55.18 | ug/L | | 99 |
| 113) 1,4-dichlorobenzene | 9.325 | 146 | 229176 | 52.57 | ug/L | | 99 |
| 114) 1,2-dichlorobenzene | 9.676 | 146 | 221527 | 56.06 | ug/L | | 97 |
| 115) benzyl chloride | 9.435 | 91 | 215473 | 64.52 | ug/L | | 99 |
| 116) n-butylbenzene | 9.655 | 92 | 179361 | 52.69 | ug/L | | 97 |
| 117) hexachloroethane | 9.949 | 201 | 61391 | 55.35 | ug/L | | 97 |
| 118) 1,2-dibromo-3-chloropr... | 10.447 | 157 | 36504 | 56.85 | ug/L | | 98 |
| 119) nitrobenzene | 10.636 | 77 | 7598 | 54.82 | ug/L | | 89 |
| 120) 1,3,5-trichlorobenzene | 10.636 | 180 | 165027 | 57.93 | ug/L | | 96 |
| 121) 1,2,4-trichlorobenzene | 11.239 | 180 | 139264 | 58.46 | ug/L | | 99 |
| 122) hexachlorobutadiene | 11.380 | 225 | 58052 | 56.67 | ug/L | | 95 |
| 123) naphthalene | 11.490 | 128 | 371073 | 59.15 | ug/L | | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 127496 | 59.83 | ug/L | | 98 |
| 125) 2-ethylhexyl acrylate | 11.417 | 70 | 11850 | 9.35 | ug/L | # | 84 |
| 126) 2-methylnaphthalene | 12.539 | 142 | 69573 | 29.02 | ug/L | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2402\
Data File : 2V58589.D
Acq On : 15 May 2019 11:10 am
Operator : EddieH
Sample : bs
Misc : MS34710,V2V2402,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 15 16:54:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167677.D
Acq On : 16 May 2019 8:49 am
Operator : thienn
Sample : BS
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 16 11:28:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.213 | 65 | 227679 | 500.00 | ug/L | | -0.03 |
| 5) pentafluorobenzene | 10.682 | 168 | 271863 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 376862 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 368140 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 232063 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.713 | 113 | 127233 | 49.28 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.56% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 140838 | 46.59 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 93.18% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 431803 | 49.54 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.08% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 185684 | 52.99 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 105.98% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.354 | 59 | 123124 | 209.58 | ug/L | | 84 |
| 4) 1,4-dioxane | 12.255 | 88 | 47409 | 991.27 | ug/L | | 94 |
| 6) chlorodifluoromethane | 4.390 | 51 | 221479 | 37.24 | ug/L | | 96 |
| 7) dichlorodifluoromethane | 4.359 | 85 | 289200 | 41.53 | ug/L | | 98 |
| 8) chloromethane | 4.805 | 50 | 280458 | 37.10 | ug/L | | 97 |
| 9) vinyl chloride | 5.072 | 62 | 270838 | 40.41 | ug/L | | 95 |
| 10) 1,3-butadiene | 5.119 | 54 | 160774 | 37.41 | ug/L | | 97 |
| 11) bromomethane | 5.785 | 94 | 210933 | 39.39 | ug/L | | 98 |
| 12) chloroethane | 5.974 | 64 | 143417 | 40.69 | ug/L | | 98 |
| 13) trichlorofluoromethane | 6.519 | 101 | 325627 | 45.80 | ug/L | | 99 |
| 14) vinyl bromide | 6.372 | 106 | 205113 | 50.04 | ug/L | | 94 |
| 15) ethyl ether | 6.949 | 74 | 73953 | 49.59 | ug/L | # | 78 |
| 16) 2-chloropropane | 7.190 | 43 | 250053 | 42.08 | ug/L | | 97 |
| 17) acrolein | 7.201 | 56 | 34350 | 43.59 | ug/L | | 98 |
| 18) freon 113 | 7.452 | 151 | 141150 | 41.15 | ug/L | | 99 |
| 19) 1,1-dichloroethene | 7.437 | 96 | 150524 | 46.63 | ug/L | | 96 |
| 20) acetone | 7.437 | 58 | 69501 | 177.66 | ug/L | | 100 |
| 21) iodomethane | 7.730 | 142 | 284356 | 48.70 | ug/L | | 98 |
| 22) acetonitrile | 7.935 | 41 | 221942 | 328.98 | ug/L | | 98 |
| 23) carbon disulfide | 7.893 | 76 | 471562 | 46.84 | ug/L | | 95 |
| 24) methylene chloride | 8.239 | 84 | 169255 | 46.57 | ug/L | | 90 |
| 25) methyl acetate | 7.966 | 43 | 128475 | 40.01 | ug/L | | 96 |
| 26) methyl tert butyl ether | 8.653 | 73 | 441511 | 41.88 | ug/L | | 98 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 144394 | 48.78 | ug/L | | 93 |
| 28) hexane | 9.083 | 56 | 92044 | 41.06 | ug/L | | 95 |
| 29) di-isopropyl ether | 9.319 | 45 | 447853 | 41.37 | ug/L | | 98 |
| 30) 1,1-dichloroethane | 9.319 | 63 | 241617 | 46.22 | ug/L | | 99 |
| 31) chloroprene | 9.429 | 53 | 195658 | 45.66 | ug/L | | 96 |
| 32) acrylonitrile | 8.569 | 53 | 71296 | 47.74 | ug/L | | 97 |
| 33) vinyl acetate | 9.256 | 86 | 25950 | 45.23 | ug/L | # | 85 |
| 34) ethyl tert-butyl ether | 9.827 | 59 | 451958 | 42.73 | ug/L | | 99 |
| 35) 2-butanone | 10.027 | 72 | 84731 | 181.76 | ug/L | # | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167677.D
Acq On : 16 May 2019 8:49 am
Operator : thienn
Sample : BS
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 16 11:28:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.053 | 45 | 24551 | 43.50 | ug/L | # | 64 |
| 37) 2,2-dichloropropane | 10.137 | 77 | 218843 | 44.50 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 158447 | 46.12 | ug/L | | 95 |
| 39) propionitrile | 10.105 | 54 | 273298 | 404.99 | ug/L | | 90 |
| 40) bromochloromethane | 10.415 | 128 | 83646 | 49.24 | ug/L | | 94 |
| 41) tetrahydrofuran | 10.430 | 71 | 23556 | 44.18 | ug/L | | 88 |
| 42) chloroform | 10.509 | 83 | 250718 | 45.02 | ug/L | | 98 |
| 43) t-butyl formate | 10.556 | 59 | 118911 | 42.78 | ug/L | | 97 |
| 45) methacrylonitrile | 10.320 | 67 | 64426 | 44.49 | ug/L | | 90 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 247322 | 46.33 | ug/L | | 99 |
| 47) cyclohexane | 10.897 | 84 | 235980 | 47.26 | ug/L | | 94 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 165259 | 44.93 | ug/L | | 96 |
| 49) carbon tetrachloride | 10.986 | 117 | 208885 | 50.70 | ug/L | | 100 |
| 53) n-butyl alcohol | 11.683 | 56 | 291579 | 1674.09 | ug/L | | 98 |
| 54) tert-amyl alcohol | 11.107 | 55 | 47738 | 193.87 | ug/L | # | 87 |
| 55) iso-octane | 11.316 | 57 | 531416 | 44.36 | ug/L | | 97 |
| 56) benzene | 11.206 | 78 | 497490 | 46.60 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 104809 | 42.35 | ug/L | | 97 |
| 58) heptane | 11.474 | 57 | 86069 | 42.32 | ug/L | | 96 |
| 59) isopropyl acetate | 11.133 | 87 | 33878 | 47.54 | ug/L | # | 69 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 183938 | 43.53 | ug/L | | 96 |
| 61) ethyl acrylate | 11.919 | 55 | 184821 | 44.87 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 136637 | 47.02 | ug/L | | 97 |
| 63) 2-nitropropane | 12.653 | 41 | 47296 | 50.95 | ug/L | | 88 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 417997 | 238.87 | ug/L | | 99 |
| 65) methyl methacrylate | 12.176 | 100 | 37515 | 47.37 | ug/L | | 90 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 129054 | 43.17 | ug/L | | 98 |
| 67) dibromomethane | 12.313 | 93 | 96959 | 45.81 | ug/L | | 99 |
| 68) methylcyclohexane | 12.223 | 83 | 259334 | 43.89 | ug/L | | 97 |
| 69) bromodichloromethane | 12.459 | 83 | 191357 | 49.55 | ug/L | | 99 |
| 70) epichlorohydrin | 12.769 | 57 | 98565 | 208.27 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 216528 | 46.16 | ug/L | | 94 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 282614 | 175.21 | ug/L | | 92 |
| 73) 3-methyl-1-butanol | 12.999 | 55 | 205872 | 715.15 | ug/L | | 96 |
| 76) toluene | 13.262 | 92 | 308326 | 47.28 | ug/L | | 99 |
| 77) ethyl methacrylate | 13.424 | 69 | 175573 | 46.47 | ug/L | | 96 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 203271 | 49.80 | ug/L | | 89 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 110880 | 47.48 | ug/L | | 98 |
| 80) 2-hexanone | 13.796 | 58 | 260631 | 177.32 | ug/L | | 98 |
| 81) tetrachloroethene | 13.786 | 164 | 125898 | 46.11 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 186924 | 46.00 | ug/L | | 94 |
| 83) butyl acetate | 13.870 | 56 | 97161 | 45.90 | ug/L | | 93 |
| 84) dibromochloromethane | 14.048 | 129 | 161258 | 55.08 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 170405 | 44.28 | ug/L | | 99 |
| 86) n-butyl ether | 14.599 | 57 | 506872 | 43.05 | ug/L | | 99 |
| 87) chlorobenzene | 14.640 | 112 | 362555 | 47.01 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.703 | 131 | 153414 | 49.00 | ug/L | | 99 |
| 89) ethylbenzene | 14.698 | 91 | 589302 | 44.61 | ug/L | | 99 |
| 90) m,p-xylene | 14.808 | 106 | 461996 | 90.96 | ug/L | | 99 |
| 91) o-xylene | 15.186 | 106 | 254775 | 44.55 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167677.D
Acq On : 16 May 2019 8:49 am
Operator : thienn
Sample : BS
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 16 11:28:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

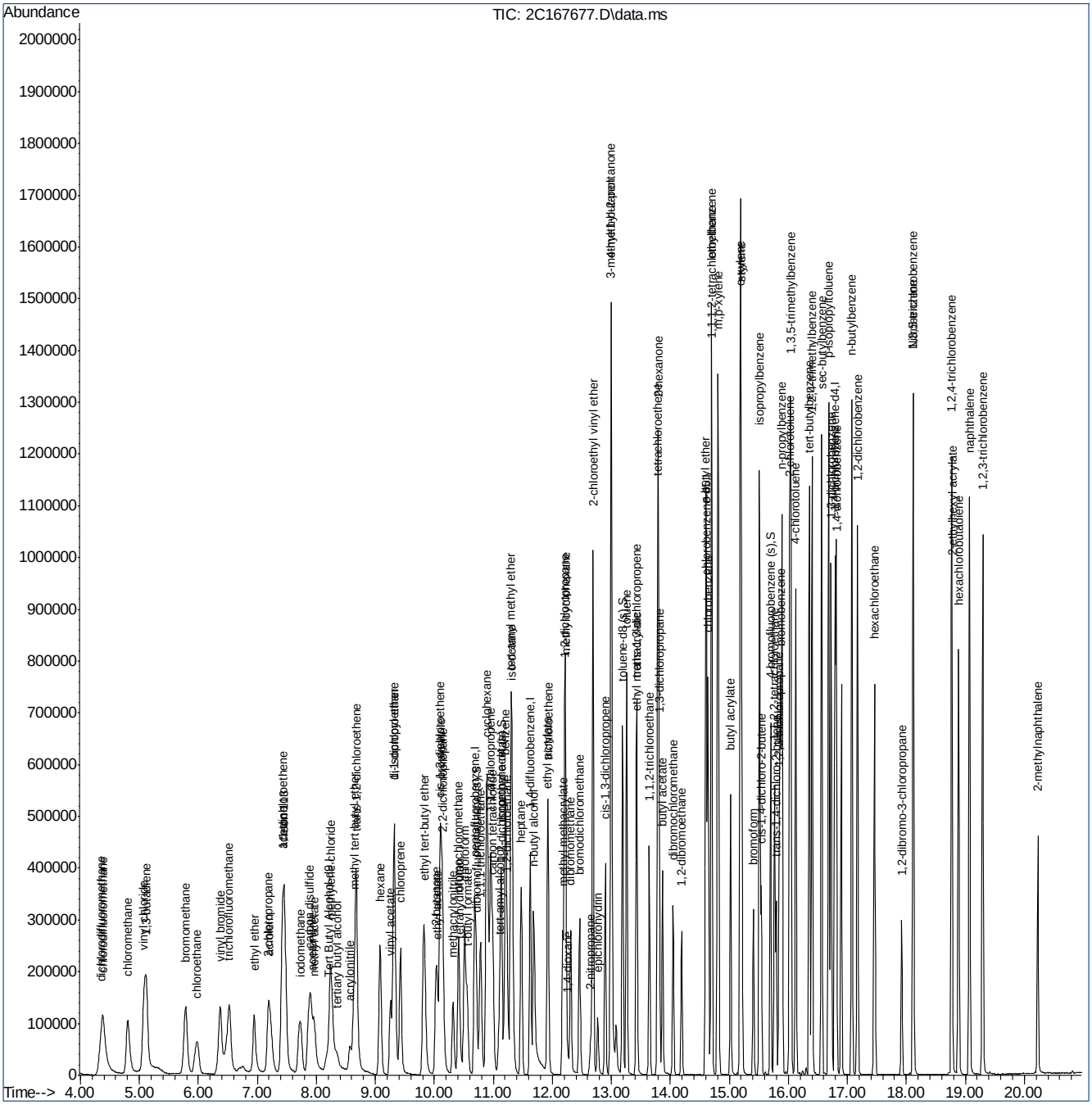
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 15.196 | 104 | 402251 | 45.73 | ug/L | 98 |
| 93) butyl acrylate | 15.018 | 55 | 305468 | 43.27 | ug/L | 97 |
| 94) bromoform | 15.411 | 173 | 136976 | 59.19 | ug/L | 97 |
| 95) isopropylbenzene | 15.511 | 105 | 684694 | 45.03 | ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 79728 | 51.90 | ug/L | 97 |
| 99) bromobenzene | 15.873 | 156 | 194832 | 50.59 | ug/L | 99 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 241600 | 50.97 | ug/L | 97 |
| 101) trans-1,4-dichloro-2-b... | 15.794 | 88 | 29721 | 53.81 | ug/L | 98 |
| 102) 1,2,3-trichloropropane | 15.846 | 110 | 58942 | 49.70 | ug/L | 100 |
| 103) n-propylbenzene | 15.894 | 91 | 739627 | 48.09 | ug/L | 98 |
| 104) 2-chlorotoluene | 16.019 | 126 | 175921 | 49.37 | ug/L | 97 |
| 105) 4-chlorotoluene | 16.124 | 91 | 470835 | 47.78 | ug/L | 99 |
| 106) 1,3,5-trimethylbenzene | 16.040 | 105 | 575123 | 47.81 | ug/L | 98 |
| 107) tert-butylbenzene | 16.360 | 119 | 504423 | 48.78 | ug/L | 96 |
| 108) 1,2,4-trimethylbenzene | 16.407 | 105 | 594407 | 48.60 | ug/L | 98 |
| 109) sec-butylbenzene | 16.565 | 105 | 793811 | 48.26 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 16.722 | 146 | 374359 | 47.08 | ug/L | 98 |
| 111) p-isopropyltoluene | 16.685 | 119 | 671494 | 48.22 | ug/L | 99 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 377137 | 47.24 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 409537 | 46.49 | ug/L | 99 |
| 114) n-butylbenzene | 17.073 | 92 | 353833 | 48.12 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 64590 | 49.45 | ug/L | 99 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 410733 | 47.70 | ug/L | 98 |
| 117) Nitrobenzene | 18.117 | 77 | 14760 | 102.92 | ug/L | 85 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 377526 | 48.90 | ug/L | 99 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 37523 | 7.34 | ug/L | 91 |
| 120) hexachlorobutadiene | 18.887 | 225 | 185279 | 45.57 | ug/L | 99 |
| 121) naphthalene | 19.071 | 128 | 879947 | 47.35 | ug/L | 100 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 341509 | 47.73 | ug/L | 99 |
| 123) hexachloroethane | 17.461 | 201 | 129799 | 51.69 | ug/L | 94 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 212879 | 20.12 | ug/L | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167677.D
Acq On : 16 May 2019 8:49 am
Operator : thienn
Sample : BS
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 16 11:28:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185128.d
Acq On : 11 May 2019 5:31 pm
Operator : PrashanS
Sample : JC87535-8MS Inst : MSY
Misc : MS34539,VY8033,6.3,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:01 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.730 | 65 | 80760 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.974 | 168 | 294742 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 415835 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 349784 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 186038 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.011 | 113 | 125343 | 46.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 93.76% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.434 | 65 | 93915 | 40.43 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 80.86% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 453507 | 51.23 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.46% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 149113 | 48.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 96.68% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.835 | 59 | 58816 | 233.67 | ug/L | 95 |
| 4) 1,4-dioxane | 11.543 | 88 | 28747 | 1152.01 | ug/L | 97 |
| 6) chlorodifluoromethane | 4.378 | 51 | 155254 | 33.40 | ug/L | 96 |
| 7) dichlorodifluoromethane | 4.346 | 85 | 191514 | 32.81 | ug/L | 94 |
| 8) chloromethane | 4.744 | 50 | 225198 | 36.65 | ug/L | 95 |
| 9) vinyl chloride | 4.990 | 62 | 178701 | 35.36 | ug/L | 98 |
| 10) 1,3-butadiene | 5.026 | 54 | 91377 | 29.20 | ug/L | 95 |
| 11) bromomethane | 5.628 | 94 | 144464 | 33.76 | ug/L | 99 |
| 12) chloroethane | 5.800 | 64 | 123240 | 45.09 | ug/L | 96 |
| 13) vinyl bromide | 6.146 | 106 | 155641 | 65.66 | ug/L | 93 |
| 14) trichlorofluoromethane | 6.271 | 101 | 232004 | 39.85 | ug/L | 94 |
| 15) ethyl ether | 6.632 | 74 | 66818 | 46.84 | ug/L | 86 |
| 16) 2-chloropropane | 6.862 | 63 | 56611 | 44.84 | ug/L | 88 |
| 17) acrolein | 6.878 | 56 | 4058 | 10.21 | ug/L | 81 |
| 18) freon 113 | 7.103 | 151 | 112795 | 41.32 | ug/L | 92 |
| 19) 1,1-dichloroethene | 7.066 | 61 | 194811 | 43.04 | ug/L | 93 |
| 20) acetone | 7.061 | 43 | 98717 | 136.71 | ug/L | 96 |
| 21) acetonitrile | 7.500 | 41 | 126789 | 357.83 | ug/L | 97 |
| 22) iodomethane | 7.328 | 142 | 198425 | 34.72 | ug/L | 95 |
| 23) carbon disulfide | 7.469 | 76 | 334113 | 33.73 | ug/L | 96 |
| 24) methylene chloride | 7.777 | 84 | 158990 | 40.41 | ug/L | 89 |
| 25) methyl acetate | 7.516 | 43 | 66676 | 39.91 | ug/L | 93 |
| 26) methyl tert butyl ether | 8.138 | 73 | 367150 | 40.42 | ug/L | 95 |
| 27) trans-1,2-dichloroethene | 8.159 | 61 | 165533 | 36.89 | ug/L | 97 |
| 28) hexane | 8.504 | 57 | 93663 | 23.65 | ug/L | 94 |
| 29) di-isopropyl ether | 8.719 | 45 | 476448 | 42.14 | ug/L | 97 |
| 30) ethyl tert-butyl ether | 9.184 | 59 | 438814 | 42.67 | ug/L | 97 |
| 31) 2-butanone | 9.378 | 72 | 39514 | 166.45 | ug/L # | 80 |
| 32) 1,1-dichloroethane | 8.735 | 63 | 232356 | 41.29 | ug/L | 100 |
| 33) chloroprene | 8.834 | 53 | 127903 | 31.72 | ug/L | 92 |
| 34) acrylonitrile | 8.065 | 53 | 32968 | 36.54 | ug/L | 92 |
| 35) vinyl acetate | 8.667 | 86 | 14889 | 33.20 | ug/L | 99 |
| 36) ethyl acetate | 9.388 | 45 | 12501 | 39.19 | ug/L | 87 |
| 37) 2,2-dichloropropane | 9.482 | 77 | 177904 | 36.60 | ug/L | 95 |
| 38) cis-1,2-dichloroethene | 9.446 | 96 | 150456 | 40.66 | ug/L | 93 |
| 39) propionitrile | 9.456 | 54 | 122465 | 384.61 | ug/L | 94 |
| 40) bromochloromethane | 9.739 | 130 | 95505 | 41.18 | ug/L | 93 |
| 41) tetrahydrofuran | 9.760 | 72 | 12745 | 44.90 | ug/L | 80 |
| 42) chloroform | 9.822 | 83 | 227289 | 37.99 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185128.d
Acq On : 11 May 2019 5:31 pm
Operator : PrashanS
Sample : JC87535-8MS Inst : MSY
Misc : MS34539,VY8033,6.3,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:01 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) tert-butyl formate | 9.870 | 59 | 81743 | 36.21 | ug/L | | 94 |
| 46) methacrylonitrile | 9.650 | 67 | 35144 | 41.07 | ug/L | | 87 |
| 47) 1,1,1-trichloroethane | 10.094 | 97 | 199629 | 38.71 | ug/L | | 97 |
| 48) cyclohexane | 10.204 | 84 | 181022 | 35.31 | ug/L | | 90 |
| 49) 1,1-dichloropropene | 10.251 | 75 | 150411 | 41.24 | ug/L | | 97 |
| 50) tert-amyl alcohol | 10.372 | 55 | 20740 | 198.28 | ug/L | | 84 |
| 51) carbon tetrachloride | 10.288 | 117 | 161416 | 35.96 | ug/L | | 99 |
| 54) 2,2,4-trimethylpentane | 10.597 | 57 | 152186 | 13.35 | ug/L | | 95 |
| 55) tert-amyl methyl ether | 10.576 | 73 | 396490 | 42.47 | ug/L | | 93 |
| 56) n-butyl alcohol | 10.947 | 41 | 103659 | 2010.04 | ug/L | | 96 |
| 57) benzene | 10.502 | 78 | 623410 | 51.92 | ug/L | | 99 |
| 58) heptane | 10.748 | 57 | 29494 | 14.40 | ug/L | | 96 |
| 59) isopropyl acetate | 10.403 | 87 | 21670 | 44.29 | ug/L | | 97 |
| 60) 1,2-dichloroethane | 10.529 | 62 | 131655 | 34.13 | ug/L | | 97 |
| 61) trichloroethene | 11.214 | 130 | 136277 | 43.66 | ug/L | | 97 |
| 62) ethyl acrylate | 11.193 | 55 | 99678 | 38.85 | ug/L | | 96 |
| 63) 2-nitropropane | 11.956 | 41 | 27422 | 32.83 | ug/L | # | 81 |
| 64) 2-chloroethyl vinyl ether | 11.983 | 63 | 295037 | 207.44 | ug/L | | 99 |
| 65) methyl methacrylate | 11.454 | 100 | 23308 | 41.25 | ug/L | # | 87 |
| 66) 1,2-dichloropropane | 11.501 | 63 | 129760 | 42.43 | ug/L | | 92 |
| 67) methylcyclohexane | 11.512 | 83 | 136082 | 27.45 | ug/L | | 95 |
| 68) dibromomethane | 11.606 | 93 | 68841 | 38.58 | ug/L | | 94 |
| 69) bromodichloromethane | 11.752 | 83 | 163378 | 38.20 | ug/L | | 98 |
| 70) epichlorohydrin | 12.071 | 57 | 37572 | 174.05 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.202 | 75 | 159372 | 34.25 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 12.302 | 58 | 140749 | 167.79 | ug/L | | 89 |
| 73) 3-methyl-1-butanol | 12.291 | 70 | 54635 | 870.70 | ug/L | | 92 |
| 76) toluene | 12.579 | 92 | 291216 | 43.24 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.751 | 75 | 132985 | 34.22 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.741 | 69 | 119554 | 43.89 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 12.971 | 83 | 78688 | 40.94 | ug/L | | 94 |
| 80) 2-hexanone | 13.128 | 58 | 124181 | 172.52 | ug/L | | 95 |
| 81) tetrachloroethene | 13.118 | 166 | 122533 | 40.10 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 13.154 | 76 | 145832 | 40.72 | ug/L | | 98 |
| 83) butyl acetate | 13.201 | 56 | 53773 | 38.65 | ug/L | | 90 |
| 84) dibromochloromethane | 13.395 | 129 | 120180 | 41.69 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 13.546 | 107 | 104899 | 34.63 | ug/L | | 96 |
| 86) n-butyl ether | 13.965 | 57 | 471520 | 42.40 | ug/L | | 98 |
| 87) chlorobenzene | 14.017 | 112 | 316111 | 39.02 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.080 | 131 | 127938 | 40.04 | ug/L | | 96 |
| 89) ethylbenzene | 14.075 | 91 | 491801 | 38.86 | ug/L | | 99 |
| 90) m,p-xylene | 14.195 | 106 | 387436 | 78.61 | ug/L | | 93 |
| 91) o-xylene | 14.587 | 91 | 399100 | 37.64 | ug/L | | 96 |
| 92) styrene | 14.598 | 104 | 310095 | 36.96 | ug/L | | 97 |
| 93) bromoform | 14.828 | 173 | 71848 | 36.68 | ug/L | | 97 |
| 94) butyl acrylate | 14.415 | 55 | 172705 | 37.65 | ug/L | | 96 |
| 95) isopropylbenzene | 14.932 | 105 | 435809 | 34.19 | ug/L | | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.969 | 88 | 24897 | 24.38 | ug/L | | 90 |
| 99) bromobenzene | 15.314 | 156 | 138848 | 37.38 | ug/L | | 91 |
| 100) 1,1,2,2-tetrachloroethane | 15.204 | 83 | 113035 | 39.70 | ug/L | | 96 |
| 101) trans-1,4-dichloro-2-b... | 15.236 | 53 | 18647 | 29.41 | ug/L | | 90 |
| 102) 1,2,3-trichloropropane | 15.293 | 110 | 27587 | 38.14 | ug/L | | 97 |
| 103) n-propylbenzene | 15.340 | 91 | 469583 | 32.71 | ug/L | | 98 |
| 104) 2-chlorotoluene | 15.476 | 126 | 116423 | 35.61 | ug/L | | 94 |
| 105) 4-chlorotoluene | 15.586 | 91 | 301024 | 33.03 | ug/L | | 96 |
| 106) 1,3,5-trimethylbenzene | 15.497 | 105 | 353670 | 33.47 | ug/L | | 98 |
| 107) tert-butylbenzene | 15.832 | 134 | 62085 | 33.24 | ug/L | | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185128.d
Acq On : 11 May 2019 5:31 pm
Operator : PrashanS
Sample : JC87535-8MS Inst : MSY
Misc : MS34539,VY8033,6.3,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:01 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

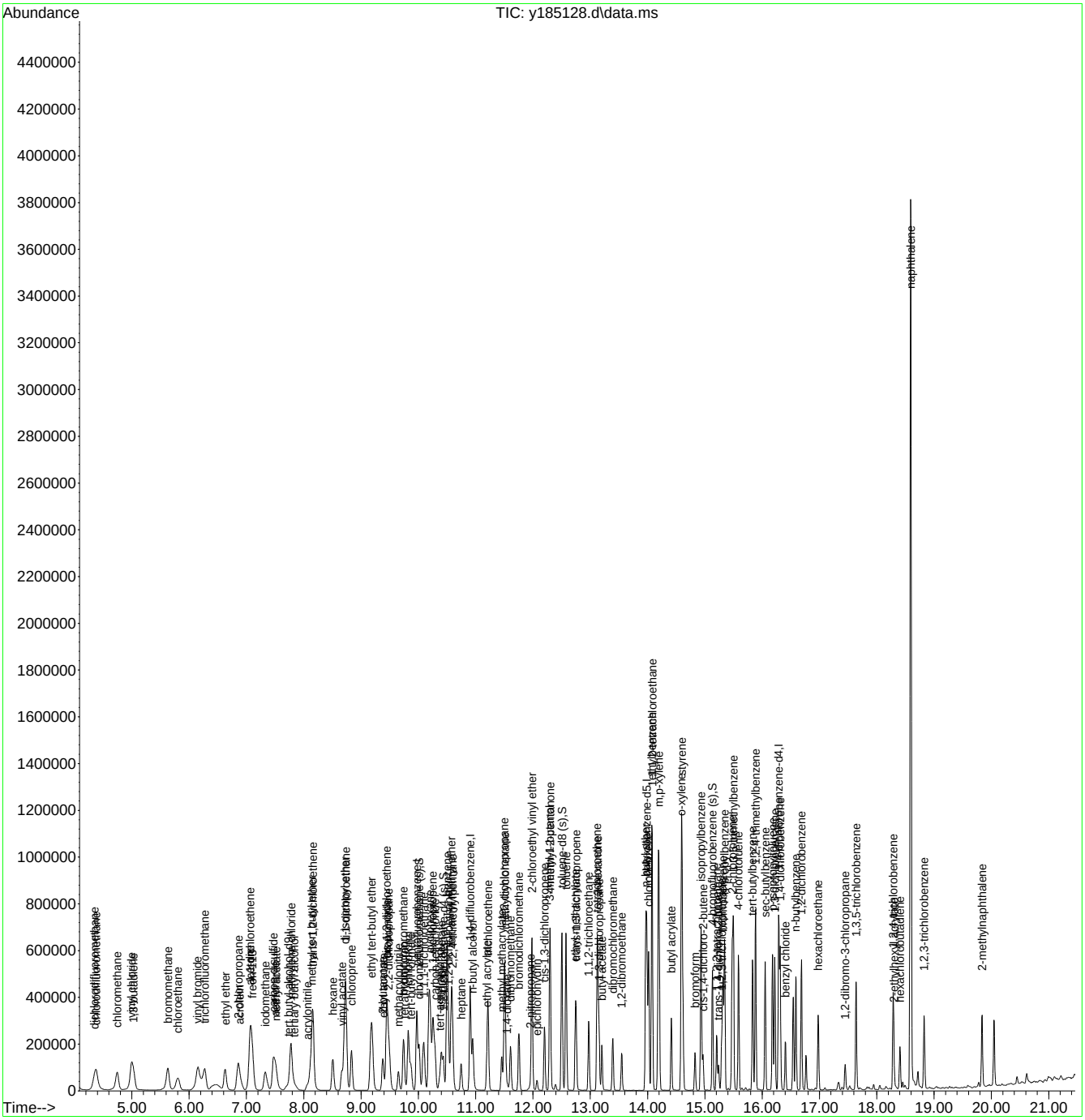
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 15.884 | 105 | 382773 | 35.17 | ug/L | 96 |
| 109) sec-butylbenzene | 16.052 | 105 | 361324 | 27.41 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.219 | 146 | 225227 | 32.79 | ug/L | 99 |
| 111) p-isopropyltoluene | 16.182 | 119 | 323113 | 27.83 | ug/L | 96 |
| 112) 1,4-dichlorobenzene | 16.313 | 146 | 226352 | 32.00 | ug/L | 98 |
| 113) 1,2-dichlorobenzene | 16.685 | 146 | 223597 | 31.78 | ug/L | 99 |
| 114) n-butylbenzene | 16.585 | 92 | 137760 | 22.76 | ug/L | 99 |
| 115) 1,2-dibromo-3-chloropr... | 17.448 | 157 | 26337 | 39.83 | ug/L | 89 |
| 116) 1,3,5-trichlorobenzene | 17.636 | 180 | 145931 | 21.95 | ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 18.285 | 180 | 125468 | 22.37 | ug/L | 99 |
| 118) hexachlorobutadiene | 18.405 | 225 | 40007 | 11.62 | ug/L | 96 |
| 119) naphthalene | 18.588 | 128 | 3093941 | 355.59 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 18.824 | 180 | 106803 | 21.98 | ug/L | 99 |
| 121) hexachloroethane | 16.977 | 201 | 56200 | 27.20 | ug/L | 95 |
| 122) benzyl chloride | 16.402 | 91 | 138562 | 26.80 | ug/L | 99 |
| 123) 2-ethylhexyl acrylate | 18.301 | 70 | 15103 | 4.88 | ug/L | 93 |
| 124) 2-methylnaphthalene | 19.838 | 142 | 151910 | 34.78 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185128.d
Acq On : 11 May 2019 5:31 pm
Operator : PrashanS
Sample : JC87535-8MS Inst : MSY
Misc : MS34539,VY8033,6.3,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:01 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185129.d
Acq On : 11 May 2019 5:59 pm
Operator : PrashanS
Sample : JC87535-8MSD Inst : MSY
Misc : MS34539,VY8033,5.2,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:20 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.720 | 65 | 70653 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 9.974 | 168 | 293341 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 416231 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 348756 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 184662 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 45) dibromofluoromethane (s) | 10.016 | 113 | 123007 | 46.23 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 92.46% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.434 | 65 | 92924 | 39.96 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 79.92% | | | | |
| 75) toluene-d8 (s) | 12.505 | 98 | 453146 | 51.34 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.68% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 145845 | 47.63 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.26% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.845 | 59 | 51624 | 234.44 | ug/L | | 93 |
| 4) 1,4-dioxane | 11.543 | 88 | 27763 | 1271.73 | ug/L | | 88 |
| 6) chlorodifluoromethane | 4.383 | 51 | 157066 | 33.95 | ug/L | | 95 |
| 7) dichlorodifluoromethane | 4.346 | 85 | 189159 | 32.56 | ug/L | | 95 |
| 8) chloromethane | 4.744 | 50 | 234380 | 38.33 | ug/L | | 97 |
| 9) vinyl chloride | 4.990 | 62 | 187910 | 37.36 | ug/L | | 100 |
| 10) 1,3-butadiene | 5.026 | 54 | 92160 | 29.59 | ug/L | | 95 |
| 11) bromomethane | 5.628 | 94 | 146234 | 34.34 | ug/L | | 99 |
| 12) chloroethane | 5.806 | 64 | 124583 | 45.80 | ug/L | | 96 |
| 13) vinyl bromide | 6.146 | 106 | 159315 | 67.53 | ug/L | | 91 |
| 14) trichlorofluoromethane | 6.271 | 101 | 226734 | 39.13 | ug/L | | 96 |
| 15) ethyl ether | 6.627 | 74 | 64305 | 45.30 | ug/L | | 91 |
| 16) 2-chloropropane | 6.857 | 63 | 55739 | 44.36 | ug/L | | 90 |
| 17) acrolein | 6.867 | 56 | 3372 | 8.53 | ug/L | | 91 |
| 18) freon 113 | 7.092 | 151 | 108976 | 40.11 | ug/L | | 97 |
| 19) 1,1-dichloroethene | 7.066 | 61 | 188432 | 41.83 | ug/L | | 92 |
| 20) acetone | 7.061 | 43 | 96336 | 134.05 | ug/L | | 96 |
| 21) acetonitrile | 7.500 | 41 | 120308 | 341.16 | ug/L | | 95 |
| 22) iodomethane | 7.328 | 142 | 190483 | 33.49 | ug/L | | 93 |
| 23) carbon disulfide | 7.474 | 76 | 342051 | 34.69 | ug/L | | 96 |
| 24) methylene chloride | 7.777 | 84 | 156129 | 39.87 | ug/L | | 89 |
| 25) methyl acetate | 7.516 | 43 | 62960 | 37.87 | ug/L | | 92 |
| 26) methyl tert butyl ether | 8.138 | 73 | 344219 | 38.07 | ug/L | | 97 |
| 27) trans-1,2-dichloroethene | 8.159 | 61 | 168295 | 37.69 | ug/L | | 96 |
| 28) hexane | 8.510 | 57 | 92523 | 23.48 | ug/L | | 98 |
| 29) di-isopropyl ether | 8.719 | 45 | 460270 | 40.90 | ug/L | | 95 |
| 30) ethyl tert-butyl ether | 9.179 | 59 | 420189 | 41.05 | ug/L | | 97 |
| 31) 2-butanone | 9.378 | 72 | 35803 | 151.54 | ug/L | # | 89 |
| 32) 1,1-dichloroethane | 8.734 | 63 | 229314 | 40.94 | ug/L | | 99 |
| 33) chloroprene | 8.834 | 53 | 127544 | 31.78 | ug/L | | 92 |
| 34) acrylonitrile | 8.060 | 53 | 31088 | 34.62 | ug/L | | 97 |
| 35) vinyl acetate | 8.666 | 86 | 13031 | 29.20 | ug/L | # | 93 |
| 36) ethyl acetate | 9.383 | 45 | 11491 | 36.19 | ug/L | | 83 |
| 37) 2,2-dichloropropane | 9.482 | 77 | 174996 | 36.17 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 9.446 | 96 | 150806 | 40.95 | ug/L | | 94 |
| 39) propionitrile | 9.456 | 54 | 114252 | 360.53 | ug/L | | 96 |
| 40) bromochloromethane | 9.739 | 130 | 94694 | 41.03 | ug/L | | 93 |
| 41) tetrahydrofuran | 9.760 | 72 | 12172 | 43.09 | ug/L | | 91 |
| 42) chloroform | 9.822 | 83 | 223224 | 37.49 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185129.d
Acq On : 11 May 2019 5:59 pm
Operator : PrashanS
Sample : JC87535-8MSD Inst : MSY
Misc : MS34539,VY8033,5.2,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:20 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) tert-butyl formate | 9.869 | 59 | 79613 | 35.43 | ug/L | | 95 |
| 46) methacrylonitrile | 9.650 | 67 | 31873 | 37.43 | ug/L | | 91 |
| 47) 1,1,1-trichloroethane | 10.094 | 97 | 194245 | 37.85 | ug/L | | 97 |
| 48) cyclohexane | 10.204 | 84 | 174546 | 34.21 | ug/L | | 90 |
| 49) 1,1-dichloropropene | 10.251 | 75 | 146551 | 40.38 | ug/L | | 98 |
| 50) tert-amyl alcohol | 10.377 | 55 | 18328 | 176.06 | ug/L | | 85 |
| 51) carbon tetrachloride | 10.288 | 117 | 148820 | 33.31 | ug/L | | 99 |
| 54) 2,2,4-trimethylpentane | 10.591 | 57 | 157515 | 13.80 | ug/L | | 93 |
| 55) tert-amyl methyl ether | 10.581 | 73 | 375605 | 40.20 | ug/L | | 96 |
| 56) n-butyl alcohol | 10.947 | 41 | 94453 | 1829.78 | ug/L | | 91 |
| 57) benzene | 10.502 | 78 | 531389 | 44.22 | ug/L | | 98 |
| 58) heptane | 10.743 | 57 | 29762 | 14.51 | ug/L | | 94 |
| 59) isopropyl acetate | 10.403 | 87 | 19585 | 39.99 | ug/L | | 93 |
| 60) 1,2-dichloroethane | 10.523 | 62 | 126713 | 32.82 | ug/L | | 97 |
| 61) trichloroethene | 11.214 | 130 | 132249 | 42.33 | ug/L | | 99 |
| 62) ethyl acrylate | 11.193 | 55 | 93469 | 36.39 | ug/L | | 97 |
| 63) 2-nitropropane | 11.956 | 41 | 24712 | 29.56 | ug/L | | 86 |
| 64) 2-chloroethyl vinyl ether | 11.982 | 63 | 267869 | 188.16 | ug/L | | 99 |
| 65) methyl methacrylate | 11.454 | 100 | 21961 | 38.83 | ug/L | # | 75 |
| 66) 1,2-dichloropropane | 11.501 | 63 | 125382 | 40.96 | ug/L | | 93 |
| 67) methylcyclohexane | 11.512 | 83 | 133110 | 26.83 | ug/L | | 96 |
| 68) dibromomethane | 11.606 | 93 | 66452 | 37.21 | ug/L | | 95 |
| 69) bromodichloromethane | 11.752 | 83 | 158540 | 37.03 | ug/L | | 100 |
| 70) epichlorohydrin | 12.071 | 57 | 33877 | 156.78 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.202 | 75 | 151024 | 32.43 | ug/L | | 92 |
| 72) 4-methyl-2-pentanone | 12.302 | 58 | 129779 | 154.56 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 12.291 | 70 | 49184 | 783.08 | ug/L | | 93 |
| 76) toluene | 12.579 | 92 | 274917 | 40.94 | ug/L | | 100 |
| 77) trans-1,3-dichloropropene | 12.757 | 75 | 126473 | 32.64 | ug/L | | 96 |
| 78) ethyl methacrylate | 12.741 | 69 | 110777 | 40.79 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 12.971 | 83 | 75138 | 39.21 | ug/L | | 95 |
| 80) 2-hexanone | 13.128 | 58 | 112754 | 157.11 | ug/L | | 94 |
| 81) tetrachloroethene | 13.117 | 166 | 120015 | 39.39 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 13.149 | 76 | 137558 | 38.53 | ug/L | | 98 |
| 83) butyl acetate | 13.201 | 56 | 46503 | 33.53 | ug/L | | 90 |
| 84) dibromochloromethane | 13.395 | 129 | 111991 | 38.96 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 13.546 | 107 | 98090 | 32.48 | ug/L | | 99 |
| 86) n-butyl ether | 13.965 | 57 | 455827 | 41.11 | ug/L | | 98 |
| 87) chlorobenzene | 14.017 | 112 | 296227 | 36.67 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 14.080 | 131 | 118518 | 37.20 | ug/L | | 92 |
| 89) ethylbenzene | 14.075 | 91 | 460593 | 36.50 | ug/L | | 99 |
| 90) m,p-xylene | 14.195 | 106 | 353898 | 72.02 | ug/L | | 92 |
| 91) o-xylene | 14.587 | 91 | 372013 | 35.19 | ug/L | | 97 |
| 92) styrene | 14.603 | 104 | 277721 | 33.20 | ug/L | | 95 |
| 93) bromoform | 14.828 | 173 | 65938 | 33.76 | ug/L | | 98 |
| 94) butyl acrylate | 14.415 | 55 | 156810 | 34.28 | ug/L | | 95 |
| 95) isopropylbenzene | 14.932 | 105 | 411160 | 32.35 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.969 | 88 | 20873 | 20.50 | ug/L | # | 87 |
| 99) bromobenzene | 15.314 | 156 | 123582 | 33.52 | ug/L | | 90 |
| 100) 1,1,2,2-tetrachloroethane | 15.204 | 83 | 100490 | 35.56 | ug/L | | 96 |
| 101) trans-1,4-dichloro-2-b... | 15.241 | 53 | 15359 | 24.41 | ug/L | | 83 |
| 102) 1,2,3-trichloropropane | 15.293 | 110 | 25568 | 35.61 | ug/L | | 98 |
| 103) n-propylbenzene | 15.340 | 91 | 436558 | 30.63 | ug/L | | 99 |
| 104) 2-chlorotoluene | 15.476 | 126 | 105449 | 32.50 | ug/L | | 93 |
| 105) 4-chlorotoluene | 15.586 | 91 | 267983 | 29.62 | ug/L | | 95 |
| 106) 1,3,5-trimethylbenzene | 15.497 | 105 | 318301 | 30.34 | ug/L | | 96 |
| 107) tert-butylbenzene | 15.832 | 134 | 59201 | 31.93 | ug/L | | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185129.d
Acq On : 11 May 2019 5:59 pm
Operator : PrashanS
Sample : JC87535-8MSD Inst : MSY
Misc : MS34539,VY8033,5.2,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:20 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

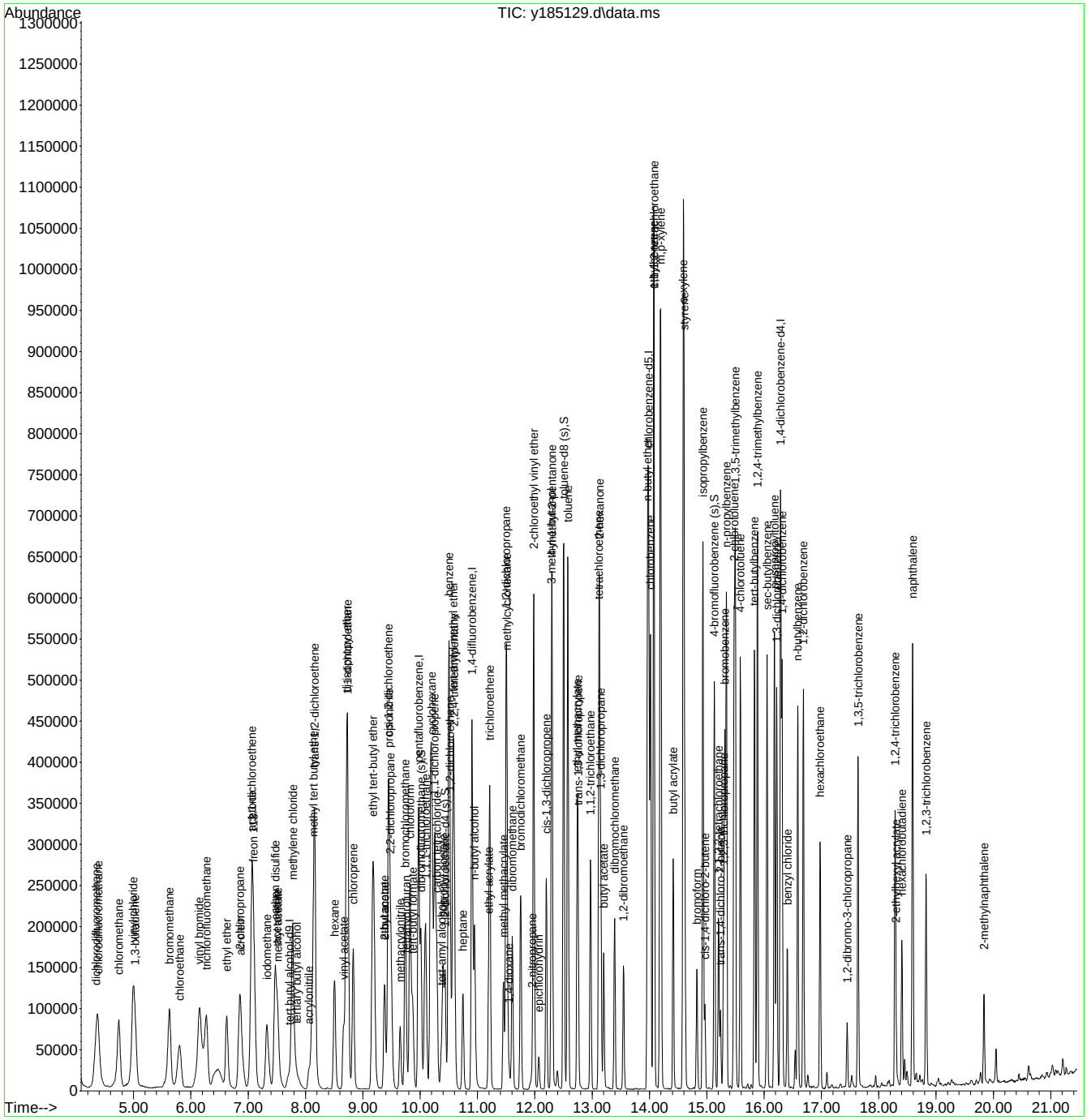
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 15.884 | 105 | 335209 | 31.03 | ug/L | 97 |
| 109) sec-butylbenzene | 16.052 | 105 | 346963 | 26.52 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.219 | 146 | 200056 | 29.34 | ug/L | 98 |
| 111) p-isopropyltoluene | 16.182 | 119 | 307868 | 26.72 | ug/L | 95 |
| 112) 1,4-dichlorobenzene | 16.313 | 146 | 196717 | 28.02 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 16.684 | 146 | 195892 | 28.05 | ug/L | 98 |
| 114) n-butylbenzene | 16.585 | 92 | 132557 | 22.06 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.453 | 157 | 22577 | 34.40 | ug/L | 82 |
| 116) 1,3,5-trichlorobenzene | 17.642 | 180 | 128650 | 19.50 | ug/L | 96 |
| 117) 1,2,4-trichlorobenzene | 18.285 | 180 | 104396 | 18.75 | ug/L | 96 |
| 118) hexachlorobutadiene | 18.405 | 225 | 39436 | 11.54 | ug/L | 96 |
| 119) naphthalene | 18.588 | 128 | 424078 | 49.10 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 18.829 | 180 | 89233 | 18.50 | ug/L | 99 |
| 121) hexachloroethane | 16.977 | 201 | 51398 | 25.06 | ug/L | 96 |
| 122) benzyl chloride | 16.407 | 91 | 115696 | 22.54 | ug/L | 95 |
| 123) 2-ethylhexyl acrylate | 18.301 | 70 | 13435 | 4.48 | ug/L | 93 |
| 124) 2-methylnaphthalene | 19.838 | 142 | 53624 | 12.37 | ug/L | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185129.d
Acq On : 11 May 2019 5:59 pm
Operator : PrashanS
Sample : JC87535-8MSD Inst : MSY
Misc : MS34539,VY8033,5.2,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:52:20 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : JC87535-13ms Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 102651 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.144 | 168 | 211651 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 311475 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 274323 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 137711 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 103510 | 49.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 99.22% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 92981 | 47.64 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 95.28% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 355350 | 49.17 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 98.34% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 124198 | 46.51 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 93.02% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 119099 | 5380.57 | ug/L | 100 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 179221 | 290.73 | ug/L | 99 |
| 4) 1,4-dioxane | 5.141 | 88 | 39925 | 1386.46 | ug/L | 97 |
| 6) chlorodifluoromethane | 1.581 | 51 | 105744 | 54.02 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 153561 | 59.03 | ug/L | 98 |
| 8) chloromethane | 1.717 | 50 | 132359 | 49.22 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 132844 | 52.83 | ug/L | 99 |
| 10) bromomethane | 2.047 | 96 | 113109 | 52.74 | ug/L | 97 |
| 11) chloroethane | 2.121 | 64 | 76389 | 51.75 | ug/L | 99 |
| 12) trichlorofluoromethane | 2.299 | 101 | 184071 | 57.03 | ug/L | 98 |
| 13) vinyl bromide | 2.257 | 106 | 97376 | 54.82 | ug/L | 99 |
| 14) 1,3-butadiene | 1.832 | 54 | 100687 | 52.36 | ug/L | 99 |
| 15) ethyl ether | 2.477 | 74 | 55341 | 54.48 | ug/L | 96 |
| 16) 2-chloropropane | 2.566 | 43 | 135088 | 51.91 | ug/L | 98 |
| 17) acrolein | 2.572 | 56 | 20998 | 49.52 | ug/L | 96 |
| 18) freon 113 | 2.645 | 151 | 89838 | 61.56 | ug/L | 96 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 141591 | 56.82 | ug/L | 98 |
| 20) acetone | 2.655 | 58 | 48258 | 221.40 | ug/L | 97 |
| 21) acetonitrile | 2.844 | 41 | 122730 | 500.65 | ug/L | 100 |
| 22) iodomethane | 2.760 | 142 | 91880 | 49.66 | ug/L | 97 |
| 23) carbon disulfide | 2.818 | 76 | 234646 | 55.42 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 101843 | 53.75 | ug/L | 97 |
| 25) methyl acetate | 2.860 | 43 | 95377 | 61.73 | ug/L | 99 |
| 26) methyl tert butyl ether | 3.138 | 73 | 290868 | 55.19 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 98405 | 56.61 | ug/L | 97 |
| 28) hexane | 3.332 | 56 | 69947 | 65.06 | ug/L | 95 |
| 29) di-isopropyl ether | 3.437 | 45 | 273068 | 53.26 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 289240 | 56.03 | ug/L | 99 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 170260 | 54.31 | ug/L | 100 |
| 32) chloroprene | 3.494 | 53 | 131555 | 57.29 | ug/L | 99 |
| 33) acrylonitrile | 3.112 | 53 | 38726 | 53.97 | ug/L | 99 |
| 34) vinyl acetate | 3.416 | 86 | 8677 | 49.02 | ug/L # | 89 |
| 35) ethyl acetate | 3.809 | 45 | 14177 | 47.52 | ug/L # | 75 |
| 36) 2-butanone | 3.798 | 72 | 60497 | 233.85 | ug/L # | 90 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 158551 | 59.83 | ug/L | 99 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 116461 | 54.98 | ug/L | 98 |
| 39) propionitrile | 3.840 | 54 | 166629 | 549.11 | ug/L | 96 |
| 40) methyl acrylate | 3.851 | 85 | 15294 | 52.37 | ug/L # | 75 |
| 41) bromochloromethane | 3.987 | 128 | 59227 | 57.39 | ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : JC87535-13ms Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 42) tetrahydrofuran | 3.998 | 71 | 15727 | 52.66 | ug/L | 96 |
| 43) chloroform | 4.040 | 83 | 186666 | 53.17 | ug/L | 98 |
| 45) methacrylonitrile | 3.945 | 67 | 46474 | 53.93 | ug/L | 95 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 167236 | 54.88 | ug/L | 98 |
| 47) cyclohexane | 4.244 | 84 | 138779 | 53.75 | ug/L | 95 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 138318 | 56.40 | ug/L | 98 |
| 49) carbon tetrachloride | 4.296 | 119 | 148636 | 59.51 | ug/L | 99 |
| 50) isobutyl alcohol | 4.291 | 42 | 32506 | 497.85 | ug/L | 94 |
| 51) tert-amyl alcohol | 4.380 | 55 | 26065 | 257.73 | ug/L | 95 |
| 54) n-butyl alcohol | 4.768 | 56 | 197162 | 2576.77 | ug/L | 99 |
| 55) benzene | 4.433 | 78 | 395026 | 56.02 | ug/L | 99 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 305810 | 55.92 | ug/L | 98 |
| 57) iso-octane | 4.501 | 57 | 313529 | 64.72 | ug/L | 97 |
| 58) heptane | 4.611 | 57 | 64363 | 64.09 | ug/L | 98 |
| 59) isopropyl acetate | 4.407 | 87 | 26362 | 52.90 | ug/L | 99 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 136741 | 49.76 | ug/L | 98 |
| 61) trichloroethene | 4.905 | 95 | 108092 | 54.69 | ug/L | 97 |
| 62) ethyl acrylate | 4.920 | 55 | 122769 | 50.99 | ug/L | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 15718 | 43.77 | ug/L | 98 |
| 64) 2-chloroethyl vinyl ether | 5.481 | 63 | 190965 | 421.16 | ug/L | 99 |
| 65) methyl methacrylate | 5.104 | 100 | 24688 | 50.20 | ug/L | 94 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 101617 | 54.27 | ug/L | 98 |
| 67) methylcyclohexane | 5.093 | 83 | 169867 | 61.46 | ug/L | 98 |
| 68) dibromomethane | 5.167 | 93 | 74771 | 54.64 | ug/L | 96 |
| 69) bromodichloromethane | 5.287 | 83 | 146680 | 54.93 | ug/L | 99 |
| 70) epichlorohydrin | 5.534 | 57 | 36719 | 284.35 | ug/L | 97 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 159118 | 56.56 | ug/L | 98 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 183938 | 226.34 | ug/L | 97 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 79158 | 1086.42 | ug/L | 97 |
| 76) toluene | 5.911 | 92 | 265040 | 56.54 | ug/L | 97 |
| 77) ethyl methacrylate | 6.105 | 69 | 131079 | 52.64 | ug/L | 98 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 148832 | 56.59 | ug/L | 99 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 85406 | 54.19 | ug/L | 95 |
| 80) 2-hexanone | 6.415 | 58 | 185219 | 218.76 | ug/L | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 103232 | 54.33 | ug/L | 98 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 154268 | 53.56 | ug/L | 98 |
| 83) butyl acetate | 6.504 | 56 | 71725 | 53.32 | ug/L | 93 |
| 84) dibromochloromethane | 6.582 | 129 | 126584 | 57.73 | ug/L | 97 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 120435 | 55.59 | ug/L | 100 |
| 86) n-butyl ether | 7.185 | 57 | 367699 | 54.22 | ug/L | 99 |
| 87) chlorobenzene | 7.128 | 112 | 287181 | 54.41 | ug/L | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 113198 | 56.98 | ug/L | 99 |
| 89) ethylbenzene | 7.206 | 91 | 494705 | 57.02 | ug/L | 100 |
| 90) m,p-xylene | 7.322 | 106 | 396411 | 118.89 | ug/L | 100 |
| 91) o-xylene | 7.678 | 91 | 393961 | 56.93 | ug/L | 99 |
| 92) styrene | 7.694 | 104 | 314684 | 59.74 | ug/L | 99 |
| 93) butyl acrylate | 7.605 | 56 | 91630 | 51.56 | ug/L | 97 |
| 94) n-amyl acetate | 7.809 | 70 | 76996 | 54.32 | ug/L | 95 |
| 95) bromoform | 7.867 | 173 | 94629 | 60.80 | ug/L | 99 |
| 96) isopropylbenzene | 8.019 | 105 | 466758 | 57.28 | ug/L | 99 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 39619 | 48.13 | ug/L | 98 |
| 100) bromobenzene | 8.328 | 156 | 127310 | 52.74 | ug/L | 96 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 142485 | 53.17 | ug/L | 98 |
| 102) trans-1,4-dichloro-2-b... | 8.339 | 53 | 24550 | 46.19 | ug/L | 92 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 40287 | 51.12 | ug/L | 97 |
| 104) n-propylbenzene | 8.412 | 91 | 537972 | 54.17 | ug/L | 99 |
| 105) 2-chlorotoluene | 8.507 | 126 | 121159 | 54.63 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : JC87535-13ms Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

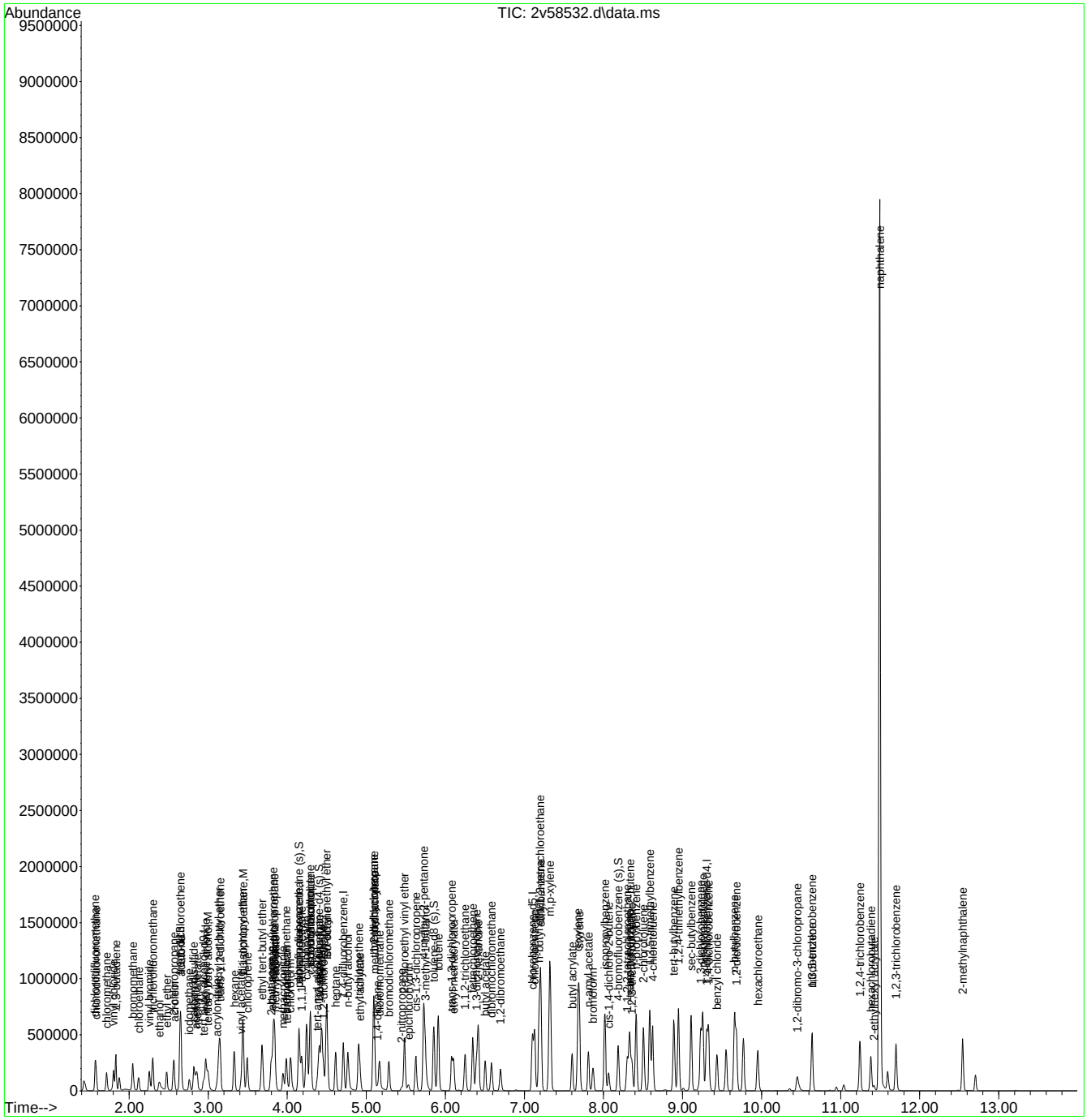
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 106) 4-chlorotoluene | 8.622 | 126 | 118940 | 54.29 | ug/L | 97 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 393440 | 56.69 | ug/L | 99 |
| 108) tert-butylbenzene | 8.889 | 134 | 77484 | 52.88 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 405463 | 57.24 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 479403 | 56.11 | ug/L | 100 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 228610 | 54.90 | ug/L | 97 |
| 112) p-isopropyltoluene | 9.256 | 119 | 404940 | 57.09 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 230025 | 52.77 | ug/L | 99 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 221397 | 56.03 | ug/L | 98 |
| 115) benzyl chloride | 9.435 | 91 | 230750 | 69.10 | ug/L | 100 |
| 116) n-butylbenzene | 9.655 | 92 | 197576 | 58.05 | ug/L | 96 |
| 117) hexachloroethane | 9.954 | 201 | 64413 | 58.08 | ug/L | 95 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 34142 | 53.17 | ug/L | 97 |
| 119) nitrobenzene | 10.641 | 77 | 7643 | 55.15 | ug/L | 91 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 167023 | 58.64 | ug/L | 99 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 141598 | 59.45 | ug/L | 95 |
| 122) hexachlorobutadiene | 11.385 | 225 | 62363 | 60.88 | ug/L | 99 |
| 123) naphthalene | 11.495 | 128 | 5843041 | 931.48 | ug/L | 100 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 131028 | 61.50 | ug/L | 98 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 12172 | 9.60 | ug/L | 89 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 209574 | 87.44 | ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : JC87535-13ms Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58533.d
Acq On : 13 May 2019 2:28 pm
Operator : EddieH
Sample : JC87535-13msd Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:12:02 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 107585 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 217439 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 315281 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 281213 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 139652 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 105967 | 49.43 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 98.86% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 95088 | 48.13 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 96.26% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 359455 | 48.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 97.04% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 125721 | 46.43 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 92.86% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 126526 | 5453.95 | ug/L | 99 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 182056 | 281.78 | ug/L | 98 |
| 4) 1,4-dioxane | 5.141 | 88 | 41957 | 1390.21 | ug/L | 98 |
| 6) chlorodifluoromethane | 1.581 | 51 | 109128 | 54.27 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 165098 | 61.77 | ug/L | 99 |
| 8) chloromethane | 1.717 | 50 | 141976 | 51.39 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 143519 | 55.56 | ug/L | 97 |
| 10) bromomethane | 2.047 | 96 | 120086 | 54.50 | ug/L | 98 |
| 11) chloroethane | 2.121 | 64 | 79712 | 52.56 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 193678 | 58.41 | ug/L | 98 |
| 13) vinyl bromide | 2.257 | 106 | 103020 | 56.45 | ug/L | 99 |
| 14) 1,3-butadiene | 1.832 | 54 | 104628 | 52.96 | ug/L | 98 |
| 15) ethyl ether | 2.477 | 74 | 56456 | 54.10 | ug/L | 97 |
| 16) 2-chloropropane | 2.566 | 43 | 135563 | 50.71 | ug/L | 98 |
| 17) acrolein | 2.572 | 56 | 22260 | 51.10 | ug/L | 98 |
| 18) freon 113 | 2.645 | 151 | 91547 | 61.06 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 144363 | 56.39 | ug/L | 97 |
| 20) acetone | 2.661 | 58 | 47114 | 210.40 | ug/L | 90 |
| 21) acetonitrile | 2.844 | 41 | 127301 | 505.48 | ug/L | 99 |
| 22) iodomethane | 2.760 | 142 | 107077 | 56.05 | ug/L | 96 |
| 23) carbon disulfide | 2.818 | 76 | 236031 | 54.26 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 105050 | 53.96 | ug/L | 99 |
| 25) methyl acetate | 2.860 | 43 | 101157 | 63.72 | ug/L | 98 |
| 26) methyl tert butyl ether | 3.138 | 73 | 295431 | 54.56 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 101768 | 56.99 | ug/L | 97 |
| 28) hexane | 3.327 | 56 | 69116 | 62.58 | ug/L | 100 |
| 29) di-isopropyl ether | 3.437 | 45 | 283551 | 53.84 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 297000 | 56.00 | ug/L | 99 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 172112 | 53.44 | ug/L | 99 |
| 32) chloroprene | 3.494 | 53 | 132502 | 56.16 | ug/L | 97 |
| 33) acrylonitrile | 3.112 | 53 | 40610 | 55.09 | ug/L | 96 |
| 34) vinyl acetate | 3.416 | 86 | 9627 | 52.94 | ug/L # | 89 |
| 35) ethyl acetate | 3.809 | 45 | 16096 | 52.52 | ug/L # | 86 |
| 36) 2-butanone | 3.793 | 72 | 61620 | 231.85 | ug/L # | 79 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 158822 | 58.34 | ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 118199 | 54.32 | ug/L | 99 |
| 39) propionitrile | 3.841 | 54 | 175401 | 562.63 | ug/L | 95 |
| 40) methyl acrylate | 3.851 | 85 | 16254 | 54.17 | ug/L # | 80 |
| 41) bromochloromethane | 3.987 | 128 | 61089 | 57.61 | ug/L | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58533.d
Acq On : 13 May 2019 2:28 pm
Operator : EddieH
Sample : JC87535-13msd Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:12:02 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 42) | tetrahydrofuran | 3.998 | 71 | 16346 | 53.28 | ug/L | | 95 |
| 43) | chloroform | 4.040 | 83 | 189548 | 52.56 | ug/L | | 98 |
| 45) | methacrylonitrile | 3.951 | 67 | 48222 | 54.47 | ug/L | | 96 |
| 46) | 1,1,1-trichloroethane | 4.181 | 97 | 169269 | 54.07 | ug/L | | 99 |
| 47) | cyclohexane | 4.244 | 84 | 146751 | 55.32 | ug/L | | 97 |
| 48) | 1,1-dichloropropene | 4.291 | 75 | 138389 | 54.93 | ug/L | | 97 |
| 49) | carbon tetrachloride | 4.297 | 119 | 150376 | 58.60 | ug/L | | 99 |
| 50) | isobutyl alcohol | 4.291 | 42 | 33754 | 503.20 | ug/L | | 92 |
| 51) | tert-amyl alcohol | 4.381 | 55 | 27152 | 261.33 | ug/L | | 90 |
| 54) | n-butyl alcohol | 4.769 | 56 | 209783 | 2708.62 | ug/L | | 99 |
| 55) | benzene | 4.433 | 78 | 396908 | 55.60 | ug/L | | 99 |
| 56) | tert-amyl methyl ether | 4.496 | 73 | 313921 | 56.71 | ug/L | | 98 |
| 57) | iso-octane | 4.501 | 57 | 312922 | 63.82 | ug/L | | 96 |
| 58) | heptane | 4.611 | 57 | 64357 | 63.31 | ug/L | | 97 |
| 59) | isopropyl acetate | 4.412 | 87 | 27675 | 54.86 | ug/L | # | 87 |
| 60) | 1,2-dichloroethane | 4.459 | 62 | 139769 | 50.24 | ug/L | | 99 |
| 61) | trichloroethene | 4.900 | 95 | 110512 | 55.24 | ug/L | | 96 |
| 62) | ethyl acrylate | 4.921 | 55 | 129001 | 52.93 | ug/L | | 98 |
| 63) | 2-nitropropane | 5.445 | 41 | 16740 | 45.52 | ug/L | | 96 |
| 64) | 2-chloroethyl vinyl ether | 5.482 | 63 | 201777 | 439.38 | ug/L | | 96 |
| 65) | methyl methacrylate | 5.099 | 100 | 26890 | 54.02 | ug/L | # | 72 |
| 66) | 1,2-dichloropropane | 5.099 | 63 | 103460 | 54.59 | ug/L | | 99 |
| 67) | methylcyclohexane | 5.094 | 83 | 169235 | 60.49 | ug/L | | 99 |
| 68) | dibromomethane | 5.167 | 93 | 77246 | 55.76 | ug/L | | 97 |
| 69) | bromodichloromethane | 5.288 | 83 | 151229 | 55.95 | ug/L | | 97 |
| 70) | epichlorohydrin | 5.534 | 57 | 39104 | 299.16 | ug/L | | 91 |
| 71) | cis-1,3-dichloropropene | 5.628 | 75 | 164323 | 57.71 | ug/L | | 98 |
| 72) | 4-methyl-2-pentanone | 5.728 | 58 | 190963 | 232.14 | ug/L | | 99 |
| 73) | 3-methyl-1-butanol | 5.749 | 70 | 83114 | 1126.95 | ug/L | | 97 |
| 76) | toluene | 5.912 | 92 | 267610 | 55.69 | ug/L | | 97 |
| 77) | ethyl methacrylate | 6.106 | 69 | 136442 | 53.45 | ug/L | | 98 |
| 78) | trans-1,3-dichloropropene | 6.079 | 75 | 150721 | 55.90 | ug/L | | 98 |
| 79) | 1,1,2-trichloroethane | 6.252 | 83 | 86862 | 53.77 | ug/L | | 96 |
| 80) | 2-hexanone | 6.415 | 58 | 192936 | 222.29 | ug/L | | 99 |
| 81) | tetrachloroethene | 6.347 | 164 | 104688 | 53.75 | ug/L | | 99 |
| 82) | 1,3-dichloropropane | 6.394 | 76 | 157400 | 53.31 | ug/L | | 99 |
| 83) | butyl acetate | 6.504 | 56 | 73922 | 53.61 | ug/L | | 95 |
| 84) | dibromochloromethane | 6.583 | 129 | 130500 | 58.06 | ug/L | | 99 |
| 85) | 1,2-dibromoethane | 6.698 | 107 | 124729 | 56.16 | ug/L | | 98 |
| 86) | n-butyl ether | 7.186 | 57 | 372157 | 53.54 | ug/L | | 98 |
| 87) | chlorobenzene | 7.128 | 112 | 296029 | 54.72 | ug/L | | 98 |
| 88) | 1,1,1,2-tetrachloroethane | 7.201 | 131 | 115105 | 56.52 | ug/L | | 99 |
| 89) | ethylbenzene | 7.207 | 91 | 500079 | 56.23 | ug/L | | 99 |
| 90) | m,p-xylene | 7.322 | 106 | 403813 | 118.14 | ug/L | | 99 |
| 91) | o-xylene | 7.678 | 91 | 401497 | 56.60 | ug/L | | 100 |
| 92) | styrene | 7.694 | 104 | 321199 | 59.48 | ug/L | | 100 |
| 93) | butyl acrylate | 7.600 | 56 | 95077 | 52.19 | ug/L | | 94 |
| 94) | n-amyl acetate | 7.809 | 70 | 81077 | 55.80 | ug/L | | 95 |
| 95) | bromoform | 7.867 | 173 | 97766 | 61.28 | ug/L | | 98 |
| 96) | isopropylbenzene | 8.019 | 105 | 474491 | 56.81 | ug/L | | 100 |
| 97) | cis-1,4-dichloro-2-butene | 8.066 | 88 | 42782 | 50.51 | ug/L | | 100 |
| 100) | bromobenzene | 8.329 | 156 | 132744 | 54.23 | ug/L | | 98 |
| 101) | 1,1,2,2-tetrachloroethane | 8.297 | 83 | 146671 | 53.97 | ug/L | | 95 |
| 102) | trans-1,4-dichloro-2-b... | 8.334 | 53 | 26643 | 49.21 | ug/L | | 96 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 42003 | 52.55 | ug/L | | 94 |
| 104) | n-propylbenzene | 8.412 | 91 | 541296 | 53.74 | ug/L | | 100 |
| 105) | 2-chlorotoluene | 8.507 | 126 | 120512 | 53.58 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58533.d
Acq On : 13 May 2019 2:28 pm
Operator : EddieH
Sample : JC87535-13msd Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:12:02 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

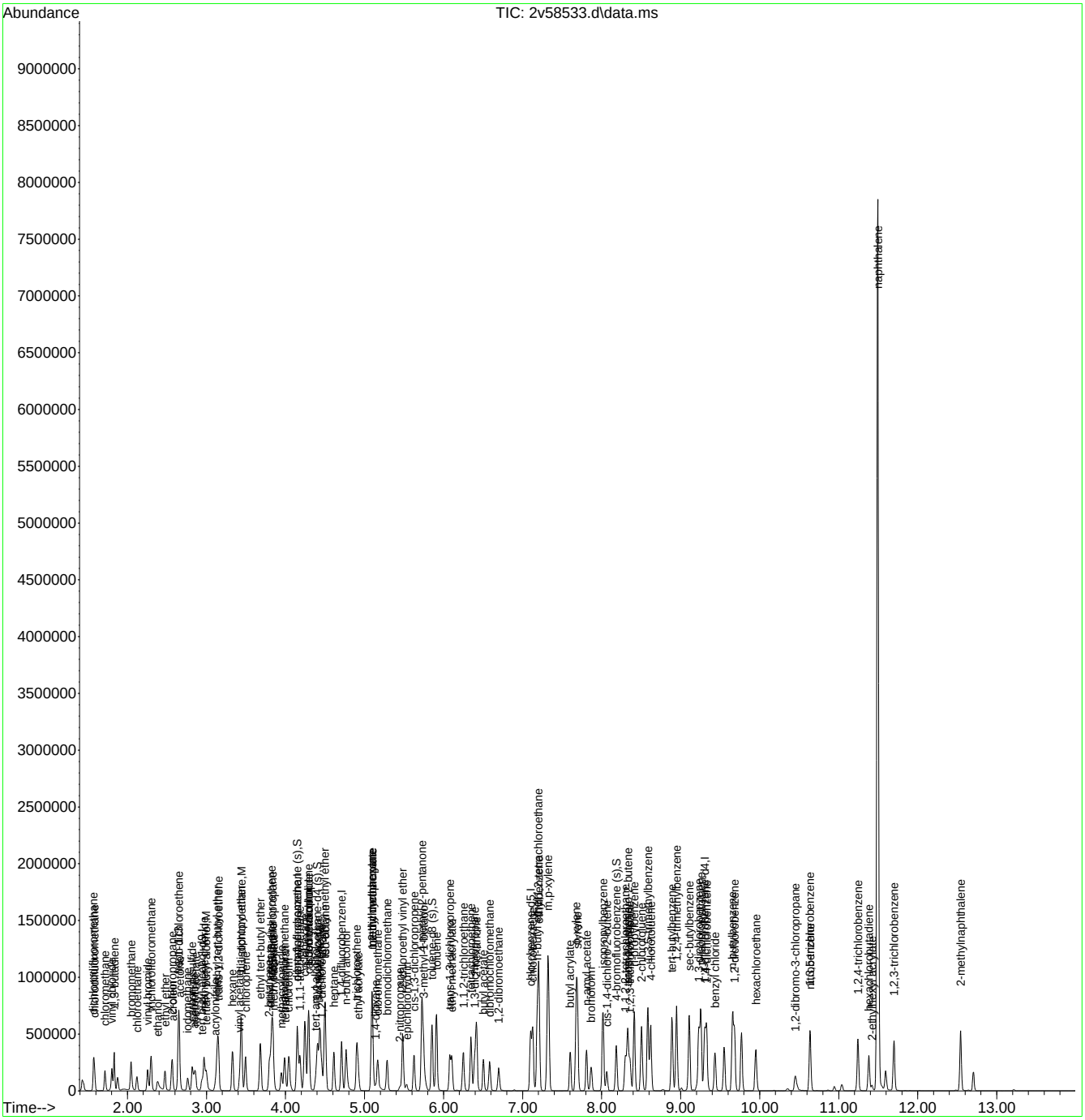
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 106) 4-chlorotoluene | 8.622 | 126 | 120362 | 54.18 | ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 395442 | 56.19 | ug/L | 99 |
| 108) tert-butylbenzene | 8.890 | 134 | 79271 | 53.35 | ug/L | 96 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 410791 | 57.19 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 483879 | 55.85 | ug/L | 100 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 234175 | 55.46 | ug/L | 98 |
| 112) p-isopropyltoluene | 9.257 | 119 | 410638 | 57.09 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 236602 | 53.53 | ug/L | 99 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 226832 | 56.61 | ug/L | 97 |
| 115) benzyl chloride | 9.435 | 91 | 242629 | 71.64 | ug/L | 99 |
| 116) n-butylbenzene | 9.655 | 92 | 196858 | 57.03 | ug/L | 98 |
| 117) hexachloroethane | 9.954 | 201 | 65930 | 58.62 | ug/L | 99 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 36624 | 56.25 | ug/L | 96 |
| 119) nitrobenzene | 10.641 | 77 | 8633 | 61.42 | ug/L | 92 |
| 120) 1,3,5-trichlorobenzene | 10.635 | 180 | 171665 | 59.43 | ug/L | 98 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 144205 | 59.70 | ug/L | 98 |
| 122) hexachlorobutadiene | 11.380 | 225 | 62234 | 59.91 | ug/L | 98 |
| 123) naphthalene | 11.495 | 128 | 6051052 | 951.23 | ug/L | 100 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 135396 | 62.66 | ug/L | 98 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 11779 | 9.16 | ug/L | 96 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 243551 | 100.20 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58533.d
Acq On : 13 May 2019 2:28 pm
Operator : EddieH
Sample : JC87535-13msd Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:12:02 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164505.d
Acq On : 13 May 2019 4:15 pm
Operator : PrashanS
Sample : JC87563-7MS Inst : GCMS1C
Misc : MS34561,V1C7218,5.8,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:25 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.369 | 65 | 45892 | 500.00 | ug/L | | -0.01 |
| 5) pentafluorobenzene | 9.602 | 168 | 175081 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 256022 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 206025 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 108558 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 79444 | 53.80 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 107.60% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 69274 | 43.07 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 86.14% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 272042 | 49.02 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.04% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 95123 | 46.68 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 93.36% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 30842 | 253.02 | ug/L | | 94 |
| 4) 1,4-dioxane | 11.249 | 88 | 15053 | 1352.54 | ug/L | | 97 |
| 6) chlorodifluoromethane | 3.896 | 51 | 77836 | 42.67 | ug/L | | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 115560 | 44.65 | ug/L | | 97 |
| 8) chloromethane | 4.278 | 50 | 81255 | 42.81 | ug/L | | 100 |
| 9) vinyl chloride | 4.513 | 62 | 90231 | 50.50 | ug/L | | 97 |
| 10) 1,3-butadiene | 4.586 | 54 | 51931 | 46.30 | ug/L | | 94 |
| 11) bromomethane | 5.198 | 94 | 64646 | 47.48 | ug/L | | 98 |
| 12) chloroethane | 5.376 | 64 | 52336 | 48.90 | ug/L | | 99 |
| 13) trichlorofluoromethane | 5.810 | 101 | 132230 | 49.63 | ug/L | | 98 |
| 14) vinyl bromide | 5.721 | 106 | 76651 | 73.35 | ug/L | | 96 |
| 15) ethyl ether | 6.255 | 74 | 34257 | 48.14 | ug/L | | 90 |
| 16) acrolein | 6.542 | 56 | 837 | 4.58 | ug/L | | 73 |
| 17) freon 113 | 6.616 | 151 | 57806 | 49.07 | ug/L | | 96 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 71212 | 49.69 | ug/L | | 87 |
| 19) acetone | 6.752 | 43 | 46335 | 130.11 | ug/L | | 96 |
| 20) acetonitrile | 7.212 | 41 | 53304 | 358.91 | ug/L | | 97 |
| 21) iodomethane | 6.971 | 142 | 69900 | 43.80 | ug/L | | 96 |
| 22) carbon disulfide | 7.086 | 76 | 207207 | 44.76 | ug/L | | 97 |
| 23) methylene chloride | 7.421 | 84 | 79788 | 51.32 | ug/L | | 91 |
| 24) methyl acetate | 7.207 | 43 | 59022 | 67.95 | ug/L | | 91 |
| 25) methyl tert butyl ether | 7.709 | 73 | 175958 | 45.30 | ug/L | | 97 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 78322 | 49.23 | ug/L | | 94 |
| 27) di-isopropyl ether | 8.305 | 45 | 205504 | 42.98 | ug/L | | 94 |
| 28) 2-butanone | 9.063 | 72 | 22886 | 170.97 | ug/L | # | 41 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 124835 | 46.25 | ug/L | | 99 |
| 30) chloroprene | 8.457 | 53 | 102925 | 44.23 | ug/L | | 93 |
| 31) acrylonitrile | 7.766 | 53 | 15131 | 38.92 | ug/L | | 96 |
| 32) hexane | 8.064 | 57 | 73562 | 29.76 | ug/L | | 95 |
| 33) vinyl acetate | 8.341 | 86 | 2181 | 9.69 | ug/L | # | 64 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 210134 | 45.59 | ug/L | | 97 |
| 35) ethyl acetate | 9.068 | 45 | 3297 | 19.51 | ug/L | # | 1 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 99184 | 41.21 | ug/L | | 94 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 85865 | 50.01 | ug/L | | 92 |
| 38) methyl acrylate | 9.157 | 85 | 11161 | 63.31 | ug/L | | 96 |
| 39) propionitrile | 9.184 | 54 | 66506 | 392.12 | ug/L | | 98 |
| 40) bromochloromethane | 9.414 | 128 | 39254 | 52.64 | ug/L | | 88 |
| 41) tetrahydrofuran | 9.450 | 72 | 7085 | 44.30 | ug/L | # | 82 |
| 42) chloroform | 9.466 | 85 | 88138 | 46.13 | ug/L | | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164505.d
Acq On : 13 May 2019 4:15 pm
Operator : PrashanS
Sample : JC87563-7MS Inst : GCMS1C
Misc : MS34561,V1C7218,5.8,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:25 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 9.476 | 59 | 21077 | 20.51 | ug/L | | 93 |
| 45) methacrylonitrile | 9.356 | 67 | 21006 | 42.91 | ug/L | | 85 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 121448 | 49.12 | ug/L | | 97 |
| 47) cyclohexane | 9.759 | 84 | 106364 | 43.57 | ug/L | | 90 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 97752 | 46.67 | ug/L | | 96 |
| 49) iso-butyl alcohol | 9.900 | 43 | 19489 | 352.79 | ug/L | | 97 |
| 50) carbon tetrachloride | 9.900 | 117 | 106205 | 49.18 | ug/L | | 98 |
| 51) tert amyl alcohol | 10.015 | 55 | 10173 | 197.12 | ug/L | | 96 |
| 54) n-butyl alcohol | 10.653 | 56 | 69411 | 1857.93 | ug/L | | 96 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 142342 | 23.16 | ug/L | | 97 |
| 56) benzene | 10.151 | 78 | 292588 | 45.65 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 45946 | 45.99 | ug/L | | 95 |
| 58) heptane | 10.287 | 71 | 32143 | 23.24 | ug/L | | 98 |
| 59) isopropyl acetate | 10.062 | 87 | 7241 | 27.31 | ug/L | # | 81 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 82065 | 39.38 | ug/L | | 99 |
| 61) trichloroethene | 10.862 | 130 | 82470 | 49.98 | ug/L | | 97 |
| 62) ethyl acrylate | 11.056 | 55 | 76961 | 49.70 | ug/L | | 70 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 176418 | 231.86 | ug/L | | 97 |
| 65) methyl methacrylate | 11.124 | 100 | 16240 | 50.70 | ug/L | # | 73 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 68936 | 45.16 | ug/L | | 97 |
| 67) dibromomethane | 11.302 | 93 | 40898 | 45.77 | ug/L | | 90 |
| 68) methylcyclohexane | 11.056 | 83 | 99918 | 35.12 | ug/L | | 93 |
| 69) bromodichloromethane | 11.427 | 83 | 99336 | 45.93 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 20061 | 163.51 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 107963 | 43.49 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 66900 | 150.92 | ug/L | | 91 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 41317 | 735.19 | ug/L | | 93 |
| 76) toluene | 12.222 | 92 | 165620 | 43.92 | ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 89786 | 42.32 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 41716 | 27.82 | ug/L | | 91 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 45900 | 46.20 | ug/L | | 93 |
| 80) tetrachloroethene | 12.803 | 164 | 59256 | 45.20 | ug/L | | 97 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 80557 | 44.22 | ug/L | | 91 |
| 82) 2-hexanone | 12.803 | 58 | 60082 | 146.58 | ug/L | | 93 |
| 83) butyl acetate | 12.871 | 56 | 13468 | 18.03 | ug/L | | 86 |
| 84) dibromochloromethane | 13.096 | 129 | 72575 | 48.58 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 61628 | 39.05 | ug/L | | 96 |
| 86) n-butyl ether | 13.572 | 57 | 224138 | 39.51 | ug/L | | 96 |
| 87) chlorobenzene | 13.687 | 112 | 169210 | 44.23 | ug/L | | 95 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 66192 | 47.58 | ug/L | | 99 |
| 89) ethylbenzene | 13.734 | 91 | 284923 | 41.10 | ug/L | | 97 |
| 90) m,p-xylene | 13.838 | 106 | 219547 | 85.25 | ug/L | | 91 |
| 91) o-xylene | 14.257 | 106 | 109165 | 44.40 | ug/L | | 91 |
| 92) styrene | 14.267 | 104 | 177697 | 43.58 | ug/L | | 96 |
| 93) bromoform | 14.550 | 173 | 43884 | 48.41 | ug/L | | 98 |
| 94) butyl acrylate | 14.079 | 55 | 49268 | 20.63 | ug/L | | 98 |
| 95) isopropylbenzene | 14.592 | 105 | 270372 | 40.88 | ug/L | | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 19634 | 34.97 | ug/L | | 94 |
| 99) bromobenzene | 15.000 | 156 | 75551 | 44.33 | ug/L | | 87 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 56133 | 41.99 | ug/L | | 99 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 12104 | 33.27 | ug/L | | 84 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 14430 | 41.84 | ug/L | | 97 |
| 103) n-propylbenzene | 14.994 | 91 | 299060 | 38.15 | ug/L | | 98 |
| 105) 2-chlorotoluene | 15.151 | 126 | 63510 | 41.62 | ug/L | | 98 |
| 106) 4-chlorotoluene | 15.251 | 91 | 179667 | 37.24 | ug/L | | 95 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 213932 | 37.83 | ug/L | | 97 |
| 108) tert-butylbenzene | 15.491 | 134 | 39321 | 41.48 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164505.d
Acq On : 13 May 2019 4:15 pm
Operator : PrashanS
Sample : JC87563-7MS Inst : GCMS1C
Misc : MS34561,V1C7218,5.8,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:25 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

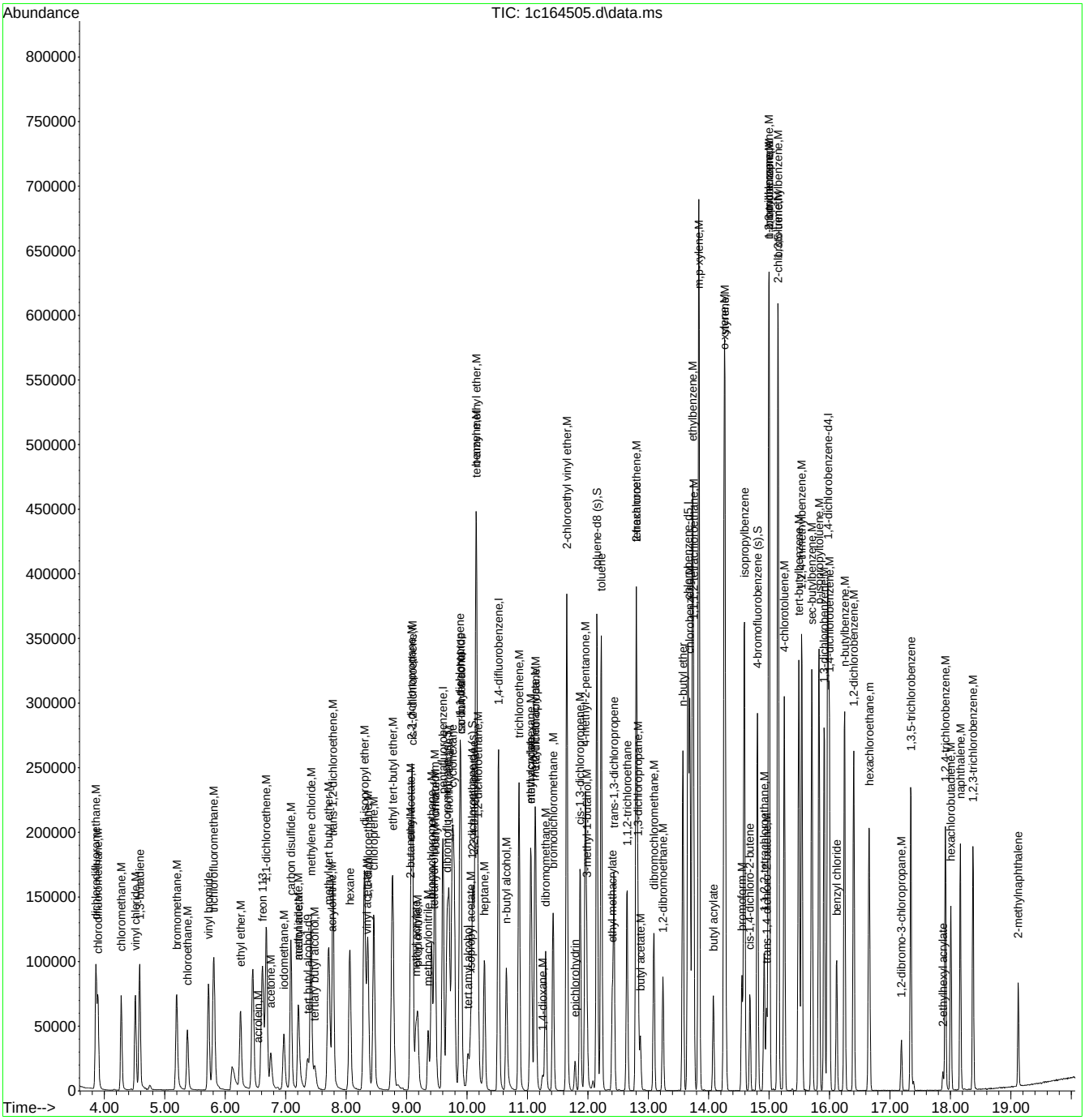
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 212451 | 37.50 | ug/L | 95 |
| 110) sec-butylbenzene | 15.706 | 105 | 254519 | 36.20 | ug/L | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 128849 | 39.91 | ug/L | 97 |
| 112) p-isopropyltoluene | 15.826 | 119 | 215592 | 35.65 | ug/L | 97 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 126628 | 39.27 | ug/L | 96 |
| 114) benzyl chloride | 16.119 | 91 | 77722 | 28.00 | ug/L | 98 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 122821 | 40.78 | ug/L | 98 |
| 117) n-butylbenzene | 16.250 | 92 | 97758 | 31.81 | ug/L | 99 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 9637 | 36.01 | ug/L | 91 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 80216 | 32.36 | ug/L | 98 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 3837 | 3.09 | ug/L | 89 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 63694 | 31.55 | ug/L | 96 |
| 123) hexachlorobutadiene | 18.007 | 225 | 33134 | 23.38 | ug/L | 95 |
| 124) naphthalene | 18.164 | 128 | 136251 | 34.69 | ug/L | 98 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 58234 | 30.53 | ug/L | 100 |
| 126) hexachloroethane | 16.658 | 201 | 46141 | 42.71 | ug/L | 96 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 34711 | 13.88 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164505.d
Acq On : 13 May 2019 4:15 pm
Operator : PrashanS
Sample : JC87563-7MS Inst : GCMS1C
Misc : MS34561,V1C7218,5.8,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:25 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164506.d
Acq On : 13 May 2019 4:42 pm
Operator : PrashanS
Sample : JC87563-7MSD Inst : GCMS1C
Misc : MS34561,V1C7218,5.5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:59 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 49011 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 174747 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 254925 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 202533 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 104623 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 77986 | 52.92 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 105.84% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 69126 | 43.17 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 86.34% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 270940 | 49.66 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.32% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93555 | 47.63 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.26% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 32090 | 246.51 | ug/L | 99 |
| 4) 1,4-dioxane | 11.250 | 88 | 15971 | 1343.70 | ug/L | 93 |
| 6) chlorodifluoromethane | 3.891 | 51 | 77555 | 42.59 | ug/L | 100 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 112700 | 43.62 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 90265 | 47.65 | ug/L | 100 |
| 9) vinyl chloride | 4.513 | 62 | 91482 | 51.30 | ug/L | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 51898 | 46.36 | ug/L | 94 |
| 11) bromomethane | 5.198 | 94 | 65998 | 48.56 | ug/L | 96 |
| 12) chloroethane | 5.376 | 64 | 52657 | 49.30 | ug/L | 97 |
| 13) trichlorofluoromethane | 5.810 | 101 | 128902 | 48.48 | ug/L | 98 |
| 14) vinyl bromide | 5.721 | 106 | 77702 | 74.50 | ug/L | 98 |
| 15) ethyl ether | 6.255 | 74 | 34536 | 48.62 | ug/L | 95 |
| 16) acrolein | 6.548 | 56 | 767 | 4.20 | ug/L | 76 |
| 17) freon 113 | 6.621 | 151 | 55243 | 46.98 | ug/L | 96 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 70798 | 49.49 | ug/L | 88 |
| 19) acetone | 6.757 | 43 | 45969 | 129.33 | ug/L | 97 |
| 20) acetonitrile | 7.207 | 41 | 50426 | 340.19 | ug/L | 98 |
| 21) iodomethane | 6.971 | 142 | 70939 | 44.48 | ug/L | 97 |
| 22) carbon disulfide | 7.086 | 76 | 203590 | 44.06 | ug/L | 98 |
| 23) methylene chloride | 7.421 | 84 | 77300 | 49.82 | ug/L | 89 |
| 24) methyl acetate | 7.212 | 43 | 54208 | 62.53 | ug/L | 90 |
| 25) methyl tert butyl ether | 7.714 | 73 | 177274 | 45.73 | ug/L | 95 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 76748 | 48.33 | ug/L | 91 |
| 27) di-isopropyl ether | 8.305 | 45 | 203033 | 42.54 | ug/L | 96 |
| 28) 2-butanone | 9.063 | 72 | 22549 | 168.77 | ug/L # | 43 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 123855 | 45.97 | ug/L | 99 |
| 30) chloroprene | 8.462 | 53 | 100529 | 43.28 | ug/L | 90 |
| 31) acrylonitrile | 7.772 | 53 | 14687 | 37.85 | ug/L | 97 |
| 32) hexane | 8.064 | 57 | 69895 | 28.33 | ug/L | 96 |
| 33) vinyl acetate | 8.352 | 86 | 1683 | 7.49 | ug/L # | 33 |
| 34) ethyl tert-butyl ether | 8.771 | 59 | 205945 | 44.77 | ug/L | 99 |
| 35) ethyl acetate | 9.069 | 45 | 3263 | 19.35 | ug/L # | 11 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 97693 | 40.67 | ug/L | 93 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 83368 | 48.65 | ug/L | 92 |
| 38) methyl acrylate | 9.158 | 85 | 10656 | 60.56 | ug/L # | 89 |
| 39) propionitrile | 9.184 | 54 | 63946 | 377.75 | ug/L | 95 |
| 40) bromochloromethane | 9.419 | 128 | 38082 | 51.16 | ug/L | 87 |
| 41) tetrahydrofuran | 9.445 | 72 | 7399 | 46.35 | ug/L # | 70 |
| 42) chloroform | 9.466 | 85 | 86196 | 45.20 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164506.d
Acq On : 13 May 2019 4:42 pm
Operator : PrashanS
Sample : JC87563-7MSD Inst : GCMS1C
Misc : MS34561,V1C7218,5.5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:59 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 9.482 | 59 | 16526 | 16.11 | ug/L | | 90 |
| 45) methacrylonitrile | 9.356 | 67 | 19985 | 40.90 | ug/L | | 81 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 119660 | 48.49 | ug/L | | 98 |
| 47) cyclohexane | 9.759 | 84 | 102861 | 42.21 | ug/L | | 94 |
| 48) 1,1-dichloropropene | 9.885 | 75 | 95759 | 45.80 | ug/L | | 97 |
| 49) iso-butyl alcohol | 9.905 | 43 | 19810 | 359.29 | ug/L | | 94 |
| 50) carbon tetrachloride | 9.900 | 117 | 103620 | 48.07 | ug/L | | 98 |
| 51) tert amyl alcohol | 10.010 | 55 | 10352 | 200.97 | ug/L | | 98 |
| 54) n-butyl alcohol | 10.653 | 56 | 68875 | 1851.52 | ug/L | | 95 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 125565 | 20.52 | ug/L | | 97 |
| 56) benzene | 10.151 | 78 | 289127 | 45.30 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 45277 | 45.52 | ug/L | | 94 |
| 58) heptane | 10.287 | 71 | 28423 | 20.64 | ug/L | | 95 |
| 59) isopropyl acetate | 10.062 | 87 | 6905 | 26.15 | ug/L | # | 72 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 81950 | 39.49 | ug/L | | 98 |
| 61) trichloroethene | 10.863 | 130 | 80377 | 48.92 | ug/L | | 97 |
| 62) ethyl acrylate | 10.863 | 55 | 31264 | 20.28 | ug/L | | 78 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 159739 | 210.84 | ug/L | | 95 |
| 65) methyl methacrylate | 11.119 | 100 | 16164 | 50.68 | ug/L | # | 63 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 67830 | 44.63 | ug/L | | 99 |
| 67) dibromomethane | 11.297 | 93 | 40262 | 45.25 | ug/L | | 98 |
| 68) methylcyclohexane | 11.056 | 83 | 93457 | 32.99 | ug/L | | 92 |
| 69) bromodichloromethane | 11.427 | 83 | 97939 | 45.48 | ug/L | | 100 |
| 70) epichlorohydrin | 11.788 | 57 | 19313 | 158.09 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 105499 | 42.68 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 69334 | 157.09 | ug/L | | 87 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 40168 | 717.82 | ug/L | | 92 |
| 76) toluene | 12.222 | 92 | 161772 | 43.64 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 87206 | 41.81 | ug/L | | 94 |
| 78) ethyl methacrylate | 12.406 | 69 | 40623 | 27.55 | ug/L | | 91 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 45226 | 46.31 | ug/L | | 91 |
| 80) tetrachloroethene | 12.803 | 164 | 57995 | 45.00 | ug/L | | 94 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 78907 | 44.06 | ug/L | | 87 |
| 82) 2-hexanone | 12.803 | 58 | 60101 | 149.16 | ug/L | | 89 |
| 83) butyl acetate | 12.871 | 56 | 11981 | 16.31 | ug/L | | 90 |
| 84) dibromochloromethane | 13.091 | 129 | 70676 | 48.13 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 61368 | 39.55 | ug/L | | 97 |
| 86) n-butyl ether | 13.572 | 57 | 217487 | 39.00 | ug/L | | 97 |
| 87) chlorobenzene | 13.687 | 112 | 164605 | 43.77 | ug/L | | 95 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 63544 | 46.46 | ug/L | | 94 |
| 89) ethylbenzene | 13.734 | 91 | 274677 | 40.31 | ug/L | | 97 |
| 90) m,p-xylene | 13.839 | 106 | 210770 | 83.25 | ug/L | | 92 |
| 91) o-xylene | 14.257 | 106 | 104712 | 43.32 | ug/L | | 93 |
| 92) styrene | 14.267 | 104 | 168895 | 42.14 | ug/L | | 98 |
| 93) bromoform | 14.550 | 173 | 43518 | 48.83 | ug/L | | 99 |
| 94) butyl acrylate | 14.079 | 55 | 44952 | 19.15 | ug/L | | 97 |
| 95) isopropylbenzene | 14.592 | 105 | 257203 | 39.56 | ug/L | | 97 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 19573 | 35.46 | ug/L | | 94 |
| 99) bromobenzene | 15.000 | 156 | 72047 | 43.86 | ug/L | | 89 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 56043 | 43.50 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 11854 | 33.81 | ug/L | | 87 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 14765 | 44.42 | ug/L | | 99 |
| 103) n-propylbenzene | 15.000 | 91 | 283242 | 37.49 | ug/L | | 97 |
| 105) 2-chlorotoluene | 15.151 | 126 | 60443 | 41.10 | ug/L | | 93 |
| 106) 4-chlorotoluene | 15.251 | 91 | 167045 | 35.93 | ug/L | | 95 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 203003 | 37.24 | ug/L | | 97 |
| 108) tert-butylbenzene | 15.491 | 134 | 37322 | 40.85 | ug/L | # | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164506.d
Acq On : 13 May 2019 4:42 pm
Operator : PrashanS
Sample : JC87563-7MSD Inst : GCMS1C
Misc : MS34561,V1C7218,5.5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:59 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

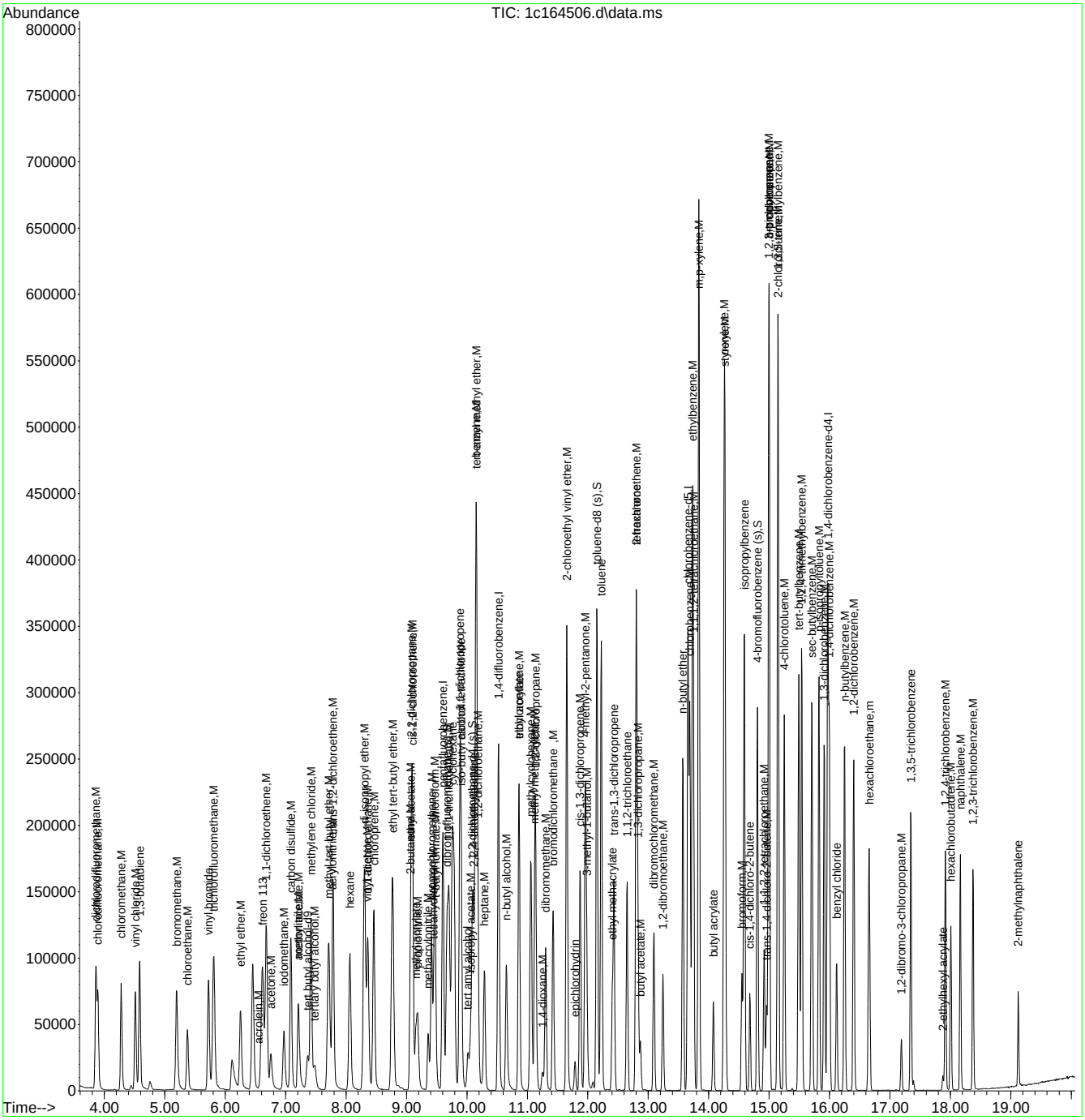
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 198351 | 36.33 | ug/L | | 95 |
| 110) sec-butylbenzene | 15.706 | 105 | 233951 | 34.53 | ug/L | | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 118976 | 38.24 | ug/L | | 97 |
| 112) p-isopropyltoluene | 15.826 | 119 | 198692 | 34.09 | ug/L | | 98 |
| 113) 1,4-dichlorobenzene | 15.993 | 146 | 118825 | 38.23 | ug/L | | 95 |
| 114) benzyl chloride | 16.119 | 91 | 73331 | 27.41 | ug/L | | 100 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 116021 | 39.97 | ug/L | | 98 |
| 117) n-butylbenzene | 16.250 | 92 | 86252 | 29.12 | ug/L | | 97 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 9518 | 36.91 | ug/L | | 87 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 69727 | 29.19 | ug/L | | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 2886 | 2.41 | ug/L | # | 84 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 56379 | 28.97 | ug/L | | 99 |
| 123) hexachlorobutadiene | 18.007 | 225 | 28909 | 21.16 | ug/L | | 96 |
| 124) naphthalene | 18.164 | 128 | 129454 | 34.20 | ug/L | | 98 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 51642 | 28.09 | ug/L | | 99 |
| 126) hexachloroethane | 16.658 | 201 | 42294 | 40.63 | ug/L | | 96 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 30493 | 12.65 | ug/L | | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164506.d
Acq On : 13 May 2019 4:42 pm
Operator : PrashanS
Sample : JC87563-7MSD Inst : GCMS1C
Misc : MS34561,V1C7218,5.5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:13:59 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167649.d
Acq On : 15 May 2019 11:08 am
Operator : thienn
Sample : jc87569-2ms Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:01:51 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.228 | 65 | 304544 | 500.00 | ug/L | | -0.01 |
| 5) pentafluorobenzene | 10.682 | 168 | 289581 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 390000 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 374725 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 254040 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 133365 | 48.49 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.98% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.138 | 65 | 152600 | 48.78 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 97.56% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 451633 | 50.90 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.80% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 208396 | 54.33 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 108.66% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.386 | 59 | 158224 | 201.35 | ug/L | # | 35 |
| 4) 1,4-dioxane | 12.255 | 88 | 67399 | 1053.56 | ug/L | | 91 |
| 6) chlorodifluoromethane | 4.385 | 51 | 253047 | 39.95 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 4.359 | 85 | 290788 | 39.21 | ug/L | | 99 |
| 8) chloromethane | 4.805 | 50 | 293470 | 36.45 | ug/L | | 98 |
| 9) vinyl chloride | 5.072 | 62 | 273124 | 38.26 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.104 | 54 | 163338 | 35.68 | ug/L | | 96 |
| 11) bromomethane | 5.759 | 94 | 171548 | 30.07 | ug/L | | 97 |
| 12) chloroethane | 5.942 | 64 | 124906 | 33.27 | ug/L | | 98 |
| 13) trichlorofluoromethane | 6.498 | 101 | 343365 | 45.34 | ug/L | | 99 |
| 14) vinyl bromide | 6.351 | 106 | 214402 | 49.11 | ug/L | | 93 |
| 15) ethyl ether | 6.944 | 74 | 96821 | 60.95 | ug/L | # | 82 |
| 16) 2-chloropropane | 7.180 | 43 | 279637 | 44.18 | ug/L | | 96 |
| 17) acrolein | 7.201 | 56 | 38688 | 46.09 | ug/L | # | 44 |
| 18) freon 113 | 7.437 | 151 | 137592 | 37.66 | ug/L | | 95 |
| 19) 1,1-dichloroethene | 7.431 | 96 | 164238 | 47.77 | ug/L | | 95 |
| 20) acetone | 7.447 | 58 | 88505 | 212.39 | ug/L | | 97 |
| 21) iodomethane | 7.715 | 142 | 308086 | 49.53 | ug/L | | 97 |
| 22) acetonitrile | 7.924 | 41 | 263299 | 366.40 | ug/L | | 98 |
| 23) carbon disulfide | 7.888 | 76 | 510961 | 47.65 | ug/L | | 96 |
| 24) methylene chloride | 8.239 | 84 | 283388 | 73.20 | ug/L | | 92 |
| 25) methyl acetate | 7.971 | 43 | 174787 | 51.11 | ug/L | | 97 |
| 26) methyl tert butyl ether | 8.653 | 73 | 515333 | 45.89 | ug/L | | 72 |
| 27) trans-1,2-dichloroethene | 8.669 | 96 | 152306 | 48.31 | ug/L | | 99 |
| 28) hexane | 9.073 | 56 | 138087 | 57.83 | ug/L | | 96 |
| 29) di-isopropyl ether | 9.329 | 45 | 509319 | 44.17 | ug/L | | 96 |
| 30) 1,1-dichloroethane | 9.308 | 63 | 269184 | 48.35 | ug/L | | 100 |
| 31) chloroprene | 9.424 | 53 | 214241 | 46.94 | ug/L | | 96 |
| 32) acrylonitrile | 8.574 | 53 | 89264 | 56.11 | ug/L | | 98 |
| 33) vinyl acetate | 9.256 | 86 | 29486 | 48.25 | ug/L | | 97 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 533671 | 47.37 | ug/L | | 96 |
| 35) 2-butanone | 10.037 | 72 | 100581 | 202.56 | ug/L | | 94 |
| 36) ethyl acetate | 10.053 | 45 | 29064 | 48.34 | ug/L | # | 79 |
| 37) 2,2-dichloropropane | 10.137 | 77 | 195997 | 37.42 | ug/L | | 92 |
| 38) cis-1,2-dichloroethene | 10.090 | 96 | 169753 | 46.38 | ug/L | | 95 |
| 39) propionitrile | 10.116 | 54 | 337013 | 468.85 | ug/L | | 98 |
| 40) bromochloromethane | 10.409 | 128 | 90602 | 50.07 | ug/L | | 96 |
| 41) tetrahydrofuran | 10.441 | 71 | 28327 | 49.88 | ug/L | | 93 |
| 42) chloroform | 10.509 | 83 | 305134 | 51.43 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167649.d
Acq On : 15 May 2019 11:08 am
Operator : thienn
Sample : jc87569-2ms Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:01:51 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 10.556 | 59 | 136941 | 46.25 | ug/L | | 97 |
| 45) methacrylonitrile | 10.320 | 67 | 75653 | 49.05 | ug/L | | 98 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 279645 | 49.18 | ug/L | | 99 |
| 47) cyclohexane | 10.897 | 84 | 310890 | 58.45 | ug/L | | 97 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 174688 | 44.59 | ug/L | | 96 |
| 49) carbon tetrachloride | 10.981 | 117 | 211663 | 48.23 | ug/L | | 97 |
| 53) n-butyl alcohol | 11.694 | 56 | 411742 | 2284.37 | ug/L | | 96 |
| 54) tert-amyl alcohol | 11.117 | 55 | 89073 | 349.56 | ug/L | # | 54 |
| 55) iso-octane | 11.317 | 57 | 676692 | 54.58 | ug/L | | 92 |
| 56) benzene | 11.201 | 78 | 704209 | 63.74 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 120815 | 47.18 | ug/L | # | 86 |
| 58) heptane | 11.469 | 57 | 154539 | 73.43 | ug/L | | 91 |
| 59) isopropyl acetate | 11.133 | 87 | 38677 | 52.44 | ug/L | # | 87 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 204877 | 46.85 | ug/L | | 96 |
| 61) ethyl acrylate | 11.919 | 55 | 214168 | 50.24 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 146771 | 48.80 | ug/L | | 97 |
| 63) 2-nitropropane | 12.654 | 41 | 35139 | 36.58 | ug/L | | 93 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 463259 | 255.82 | ug/L | | 98 |
| 65) methyl methacrylate | 12.176 | 100 | 40355 | 49.23 | ug/L | # | 77 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 138257 | 44.69 | ug/L | | 99 |
| 67) dibromomethane | 12.313 | 93 | 101921 | 46.53 | ug/L | | 99 |
| 68) methylcyclohexane | 12.218 | 83 | 484872 | 79.29 | ug/L | | 98 |
| 69) bromodichloromethane | 12.460 | 83 | 198676 | 49.71 | ug/L | | 99 |
| 70) epichlorohydrin | 12.895 | 57 | 138391 | 282.58 | ug/L | | 80 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 211434 | 43.56 | ug/L | | 93 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 345556 | 207.01 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 327409 | 1099.03 | ug/L | | 99 |
| 76) toluene | 13.262 | 92 | 1763848 | 265.73 | ug/L | | 92 |
| 77) ethyl methacrylate | 13.424 | 69 | 193359 | 50.28 | ug/L | | 97 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 201460 | 48.49 | ug/L | | 93 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 121431 | 51.09 | ug/L | | 95 |
| 80) 2-hexanone | 13.797 | 58 | 309968 | 207.19 | ug/L | | 99 |
| 81) tetrachloroethene | 13.786 | 164 | 189158 | 68.07 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 193613 | 46.81 | ug/L | | 94 |
| 83) butyl acetate | 13.870 | 56 | 142639 | 66.20 | ug/L | | 91 |
| 84) dibromochloromethane | 14.048 | 129 | 161232 | 54.10 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 174286 | 44.49 | ug/L | | 92 |
| 86) n-butyl ether | 14.599 | 57 | 591245 | 49.33 | ug/L | | 98 |
| 87) chlorobenzene | 14.641 | 112 | 381064 | 48.54 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 160501 | 50.36 | ug/L | | 98 |
| 89) ethylbenzene | 14.698 | 91 | 1842254 | 137.02 | ug/L | | 99 |
| 90) m,p-xylene | 14.808 | 106 | 2514486 | 486.38 | ug/L | | 89 |
| 91) o-xylene | 15.186 | 106 | 1398082 | 240.16 | ug/L | | 91 |
| 92) styrene | 15.196 | 104 | 467147 | 52.17 | ug/L | | 72 |
| 93) butyl acrylate | 15.018 | 55 | 356384 | 49.60 | ug/L | | 97 |
| 94) bromoform | 15.411 | 173 | 141085 | 59.89 | ug/L | | 97 |
| 95) isopropylbenzene | 15.511 | 105 | 959725 | 62.01 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 83400 | 53.34 | ug/L | | 95 |
| 99) bromobenzene | 15.873 | 156 | 210957 | 50.03 | ug/L | | 97 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 268972 | 51.83 | ug/L | | 100 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 30067 | 49.73 | ug/L | | 93 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 65906 | 50.77 | ug/L | | 98 |
| 103) n-propylbenzene | 15.899 | 91 | 1774183 | 105.38 | ug/L | | 98 |
| 104) 2-chlorotoluene | 16.025 | 126 | 178767 | 45.83 | ug/L | | 94 |
| 105) 4-chlorotoluene | 16.124 | 91 | 502614 | 46.60 | ug/L | | 99 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 2318734 | 176.08 | ug/L | | 96 |
| 107) tert-butylbenzene | 16.360 | 119 | 563928 | 49.82 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167649.d
Acq On : 15 May 2019 11:08 am
Operator : thienn
Sample : jc87569-2ms Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:01:51 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

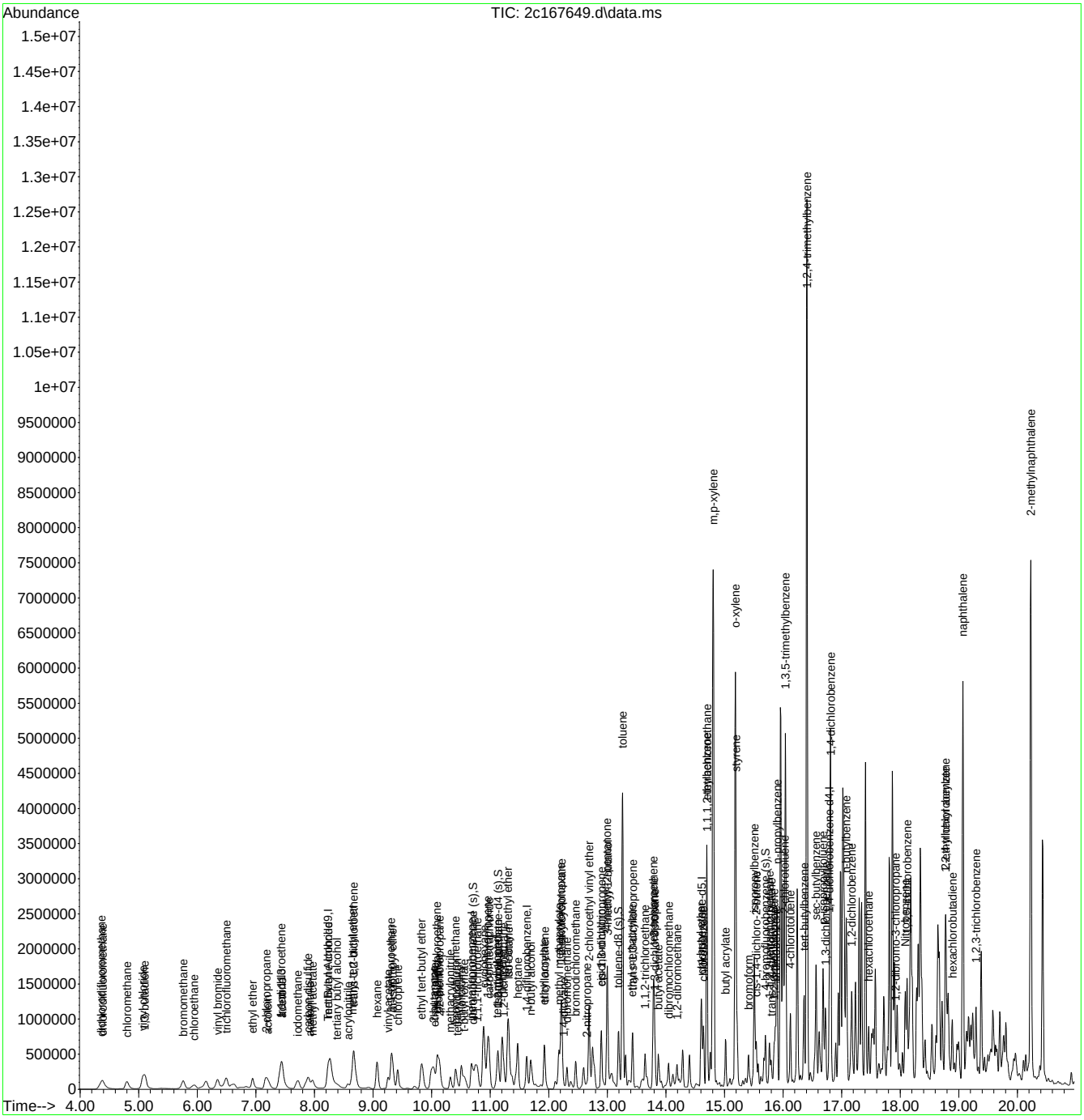
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 6133392 | 458.13 | ug/L | | 91 |
| 109) sec-butylbenzene | 16.565 | 105 | 1009424 | 56.06 | ug/L | | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 399619 | 45.91 | ug/L | | 100 |
| 111) p-isopropyltoluene | 16.685 | 119 | 802804 | 52.66 | ug/L | | 99 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 389994 | 44.63 | ug/L | | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 457520 | 47.45 | ug/L | | 99 |
| 114) n-butylbenzene | 17.079 | 92 | 575225 | 71.46 | ug/L | | 96 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 66481 | 46.49 | ug/L | | 94 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 367519 | 38.99 | ug/L | | 98 |
| 117) Nitrobenzene | 18.085 | 77 | 93023 | 592.54 | ug/L | # | 32 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 336242 | 39.79 | ug/L | | 97 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 53201 | 9.51 | ug/L | | 96 |
| 120) hexachlorobutadiene | 18.893 | 225 | 168857 | 37.94 | ug/L | | 100 |
| 121) naphthalene | 19.071 | 128 | 4410598 | 216.79 | ug/L | | 99 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 315850 | 40.33 | ug/L | | 98 |
| 123) hexachloroethane | 17.461 | 201 | 136528 | 49.79 | ug/L | | 94 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 3817073 | 329.50 | ug/L | | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167649.d
Acq On : 15 May 2019 11:08 am
Operator : thienn
Sample : jc87569-2ms Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:01:51 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167650.d
Acq On : 15 May 2019 11:36 am
Operator : thienn
Sample : jc87569-2msd Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:02:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.218 | 65 | 311547 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 10.682 | 168 | 291913 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 404809 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 393230 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 261635 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 133476 | 48.15 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.30% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.138 | 65 | 154567 | 47.60 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 95.20% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 467570 | 50.22 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.44% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 216410 | 54.78 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 109.56% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.380 | 59 | 175375 | 218.16 | ug/L | # | 32 |
| 4) 1,4-dioxane | 12.260 | 88 | 88292 | 1349.13 | ug/L | | 89 |
| 6) chlorodifluoromethane | 4.380 | 51 | 264252 | 41.38 | ug/L | | 99 |
| 7) dichlorodifluoromethane | 4.343 | 85 | 304412 | 40.72 | ug/L | | 98 |
| 8) chloromethane | 4.789 | 50 | 318859 | 39.29 | ug/L | | 99 |
| 9) vinyl chloride | 5.067 | 62 | 289262 | 40.19 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.109 | 54 | 172746 | 37.43 | ug/L | | 96 |
| 11) bromomethane | 5.754 | 94 | 183446 | 31.90 | ug/L | | 97 |
| 12) chloroethane | 5.948 | 64 | 132458 | 35.00 | ug/L | | 98 |
| 13) trichlorofluoromethane | 6.493 | 101 | 339620 | 44.49 | ug/L | | 98 |
| 14) vinyl bromide | 6.346 | 106 | 217620 | 49.45 | ug/L | | 97 |
| 15) ethyl ether | 6.944 | 74 | 92681 | 57.88 | ug/L | # | 85 |
| 16) 2-chloropropane | 7.180 | 43 | 283417 | 44.42 | ug/L | | 97 |
| 17) acrolein | 7.201 | 56 | 39179 | 46.30 | ug/L | # | 31 |
| 18) freon 113 | 7.437 | 151 | 135519 | 36.80 | ug/L | | 97 |
| 19) 1,1-dichloroethene | 7.442 | 96 | 166576 | 48.06 | ug/L | | 97 |
| 20) acetone | 7.447 | 58 | 95050 | 226.28 | ug/L | | 95 |
| 21) iodomethane | 7.720 | 142 | 312638 | 49.86 | ug/L | | 100 |
| 22) acetonitrile | 7.935 | 41 | 288457 | 398.21 | ug/L | | 98 |
| 23) carbon disulfide | 7.888 | 76 | 520951 | 48.20 | ug/L | | 96 |
| 24) methylene chloride | 8.244 | 84 | 289196 | 74.10 | ug/L | | 92 |
| 25) methyl acetate | 7.966 | 43 | 176996 | 51.34 | ug/L | | 99 |
| 26) methyl tert butyl ether | 8.653 | 73 | 518130 | 45.77 | ug/L | | 77 |
| 27) trans-1,2-dichloroethene | 8.669 | 96 | 152551 | 48.00 | ug/L | | 96 |
| 28) hexane | 9.067 | 56 | 115815 | 48.11 | ug/L | | 95 |
| 29) di-isopropyl ether | 9.324 | 45 | 517371 | 44.51 | ug/L | | 97 |
| 30) 1,1-dichloroethane | 9.308 | 63 | 268860 | 47.90 | ug/L | | 99 |
| 31) chloroprene | 9.424 | 53 | 211682 | 46.01 | ug/L | | 97 |
| 32) acrylonitrile | 8.569 | 53 | 89746 | 55.96 | ug/L | | 98 |
| 33) vinyl acetate | 9.261 | 86 | 31075 | 50.44 | ug/L | # | 83 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 535517 | 47.15 | ug/L | | 98 |
| 35) 2-butanone | 10.032 | 72 | 110530 | 220.82 | ug/L | | 94 |
| 36) ethyl acetate | 10.053 | 45 | 31708 | 52.32 | ug/L | # | 74 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 197132 | 37.33 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 10.090 | 96 | 165986 | 44.99 | ug/L | | 99 |
| 39) propionitrile | 10.116 | 54 | 367375 | 507.01 | ug/L | | 97 |
| 40) bromochloromethane | 10.409 | 128 | 89617 | 49.13 | ug/L | | 94 |
| 41) tetrahydrofuran | 10.436 | 71 | 30315 | 52.95 | ug/L | | 97 |
| 42) chloroform | 10.509 | 83 | 304294 | 50.88 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167650.d
Acq On : 15 May 2019 11:36 am
Operator : thienn
Sample : jc87569-2msd Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:02:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 10.556 | 59 | 137051 | 45.92 | ug/L | | 98 |
| 45) methacrylonitrile | 10.320 | 67 | 78545 | 50.52 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 279469 | 48.75 | ug/L | | 99 |
| 47) cyclohexane | 10.897 | 84 | 284620 | 53.08 | ug/L | | 97 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 173908 | 44.04 | ug/L | | 95 |
| 49) carbon tetrachloride | 10.981 | 117 | 210543 | 47.60 | ug/L | | 100 |
| 53) n-butyl alcohol | 11.694 | 56 | 468725 | 2505.38 | ug/L | | 96 |
| 54) tert-amyl alcohol | 11.112 | 55 | 90718 | 342.99 | ug/L | # | 58 |
| 55) iso-octane | 11.317 | 57 | 574662 | 44.65 | ug/L | | 94 |
| 56) benzene | 11.201 | 78 | 708552 | 61.79 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 11.306 | 87 | 120106 | 45.19 | ug/L | # | 90 |
| 58) heptane | 11.469 | 57 | 130764 | 59.86 | ug/L | | 91 |
| 59) isopropyl acetate | 11.128 | 87 | 40505 | 52.91 | ug/L | # | 84 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 207527 | 45.72 | ug/L | | 94 |
| 61) ethyl acrylate | 11.919 | 55 | 228310 | 51.60 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 148705 | 47.64 | ug/L | | 97 |
| 63) 2-nitropropane | 12.653 | 41 | 40482 | 40.60 | ug/L | | 93 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 487351 | 259.28 | ug/L | | 100 |
| 65) methyl methacrylate | 12.176 | 100 | 43133 | 50.70 | ug/L | # | 87 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 140926 | 43.89 | ug/L | | 99 |
| 67) dibromomethane | 12.313 | 93 | 104523 | 45.97 | ug/L | | 99 |
| 68) methylcyclohexane | 12.218 | 83 | 404176 | 63.68 | ug/L | | 98 |
| 69) bromodichloromethane | 12.460 | 83 | 206891 | 49.88 | ug/L | | 97 |
| 70) epichlorohydrin | 12.895 | 57 | 119098 | 234.29 | ug/L | | 71 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 223849 | 44.43 | ug/L | | 95 |
| 72) 4-methyl-2-pentanone | 13.000 | 58 | 360007 | 207.78 | ug/L | | 93 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 380031 | 1229.00 | ug/L | | 97 |
| 76) toluene | 13.262 | 92 | 1824207 | 261.89 | ug/L | | 92 |
| 77) ethyl methacrylate | 13.424 | 69 | 201644 | 49.96 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 211556 | 48.53 | ug/L | | 93 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 125374 | 50.26 | ug/L | | 98 |
| 80) 2-hexanone | 13.796 | 58 | 336173 | 214.13 | ug/L | | 98 |
| 81) tetrachloroethene | 13.786 | 164 | 184513 | 63.27 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 202466 | 46.65 | ug/L | | 96 |
| 83) butyl acetate | 13.870 | 56 | 142566 | 63.05 | ug/L | | 90 |
| 84) dibromochloromethane | 14.048 | 129 | 170289 | 54.45 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 183212 | 44.57 | ug/L | | 96 |
| 86) n-butyl ether | 14.599 | 57 | 581952 | 46.27 | ug/L | | 99 |
| 87) chlorobenzene | 14.641 | 112 | 388048 | 47.10 | ug/L | | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 161234 | 48.21 | ug/L | | 98 |
| 89) ethylbenzene | 14.698 | 91 | 1830786 | 129.76 | ug/L | | 98 |
| 90) m,p-xylene | 14.808 | 106 | 2475837 | 456.37 | ug/L | | 89 |
| 91) o-xylene | 15.186 | 106 | 1378147 | 225.60 | ug/L | | 92 |
| 92) styrene | 15.196 | 104 | 466358 | 49.63 | ug/L | | 73 |
| 93) butyl acrylate | 15.018 | 55 | 369193 | 48.96 | ug/L | | 96 |
| 94) bromoform | 15.411 | 173 | 148049 | 59.89 | ug/L | | 99 |
| 95) isopropylbenzene | 15.511 | 105 | 878938 | 54.11 | ug/L | | 98 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 85481 | 52.09 | ug/L | | 96 |
| 99) bromobenzene | 15.873 | 156 | 210812 | 48.55 | ug/L | | 100 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 276280 | 51.70 | ug/L | | 100 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 31695 | 50.90 | ug/L | | 95 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 68515 | 51.24 | ug/L | | 98 |
| 103) n-propylbenzene | 15.899 | 91 | 1609923 | 92.85 | ug/L | | 98 |
| 104) 2-chlorotoluene | 16.025 | 126 | 168430 | 41.93 | ug/L | | 96 |
| 105) 4-chlorotoluene | 16.124 | 91 | 480188 | 43.23 | ug/L | | 98 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 2094779 | 154.45 | ug/L | | 97 |
| 107) tert-butylbenzene | 16.360 | 119 | 491006 | 42.12 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167650.d
Acq On : 15 May 2019 11:36 am
Operator : thienn
Sample : jc87569-2msd Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:02:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

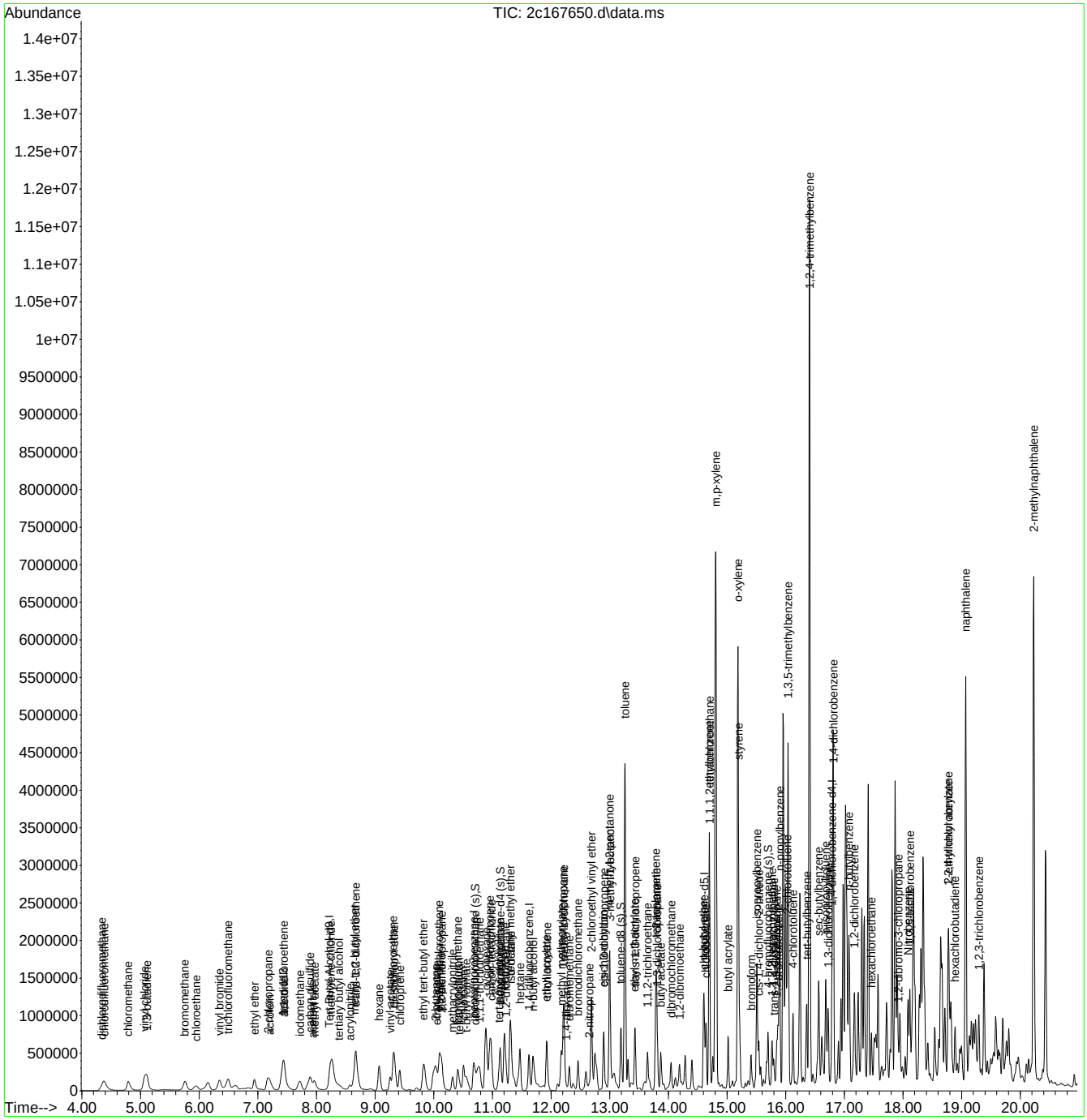
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 5719698 | 414.83 | ug/L | | 92 |
| 109) sec-butylbenzene | 16.565 | 105 | 851936 | 45.94 | ug/L | | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 372937 | 41.60 | ug/L | | 99 |
| 111) p-isopropyltoluene | 16.685 | 119 | 685079 | 43.64 | ug/L | | 99 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 367395 | 40.82 | ug/L | | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 434895 | 43.79 | ug/L | | 99 |
| 114) n-butylbenzene | 17.079 | 92 | 481207 | 58.05 | ug/L | | 95 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 67600 | 45.90 | ug/L | | 98 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 307553 | 31.68 | ug/L | | 97 |
| 117) Nitrobenzene | 18.085 | 77 | 88163 | 545.28 | ug/L | # | 32 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 285099 | 32.75 | ug/L | | 96 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 53904 | 9.36 | ug/L | | 96 |
| 120) hexachlorobutadiene | 18.887 | 225 | 143789 | 31.37 | ug/L | | 99 |
| 121) naphthalene | 19.071 | 128 | 4174916 | 199.25 | ug/L | | 99 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 274866 | 34.08 | ug/L | | 98 |
| 123) hexachloroethane | 17.461 | 201 | 117362 | 42.01 | ug/L | | 93 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 3398251 | 284.83 | ug/L | | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167650.d
Acq On : 15 May 2019 11:36 am
Operator : thienn
Sample : jc87569-2msd Inst : Instrument #1
Misc : MS34562,V2C7520,3.6,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 23:02:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58597.d
Acq On : 15 May 2019 2:46 pm
Operator : EddieH
Sample : JC87626-1ms Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:01 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 102582 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 223635 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 315511 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 280915 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 140475 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 104684 | 47.48 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 94.96% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 92790 | 46.93 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 93.86% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 362350 | 48.97 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 97.94% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 126709 | 46.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 93.04% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 118027 | 5335.73 | ug/L | 96 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 167256 | 271.50 | ug/L | 100 |
| 4) 1,4-dioxane | 5.136 | 88 | 40886 | 1420.79 | ug/L | 90 |
| 6) chlorodifluoromethane | 1.581 | 51 | 99076 | 47.90 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 150879 | 54.89 | ug/L | 97 |
| 8) chloromethane | 1.712 | 50 | 137820 | 48.50 | ug/L | 98 |
| 9) vinyl chloride | 1.801 | 62 | 143056 | 53.85 | ug/L | 99 |
| 10) bromomethane | 2.042 | 96 | 118562 | 52.32 | ug/L | 99 |
| 11) chloroethane | 2.116 | 64 | 76387 | 48.98 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 183574 | 53.83 | ug/L | 98 |
| 13) vinyl bromide | 2.252 | 106 | 95898 | 51.09 | ug/L | 98 |
| 14) 1,3-butadiene | 1.833 | 54 | 98889 | 48.67 | ug/L | 98 |
| 15) ethyl ether | 2.472 | 74 | 53590 | 49.93 | ug/L | 95 |
| 16) 2-chloropropane | 2.561 | 43 | 127027 | 46.20 | ug/L | 98 |
| 17) acrolein | 2.572 | 56 | 20069 | 44.79 | ug/L | 99 |
| 18) freon 113 | 2.645 | 151 | 86547 | 56.13 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 136559 | 51.86 | ug/L | 97 |
| 20) acetone | 2.656 | 58 | 75086 | 326.02 | ug/L | 91 |
| 21) acetonitrile | 2.844 | 41 | 121361 | 468.54 | ug/L | 100 |
| 22) iodomethane | 2.761 | 142 | 87816 | 45.11 | ug/L | 95 |
| 23) carbon disulfide | 2.818 | 76 | 217855 | 48.70 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 99952 | 49.92 | ug/L | 98 |
| 25) methyl acetate | 2.860 | 43 | 77147 | 47.25 | ug/L | 99 |
| 26) methyl tert butyl ether | 3.138 | 73 | 281642 | 50.58 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.148 | 96 | 94680 | 51.55 | ug/L | 99 |
| 28) hexane | 3.327 | 56 | 65330 | 57.51 | ug/L | 96 |
| 29) di-isopropyl ether | 3.437 | 45 | 272662 | 50.34 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 283046 | 51.89 | ug/L | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 170515 | 51.48 | ug/L | 98 |
| 32) chloroprene | 3.495 | 53 | 126325 | 52.06 | ug/L | 96 |
| 33) acrylonitrile | 3.112 | 53 | 38045 | 50.18 | ug/L | 99 |
| 34) vinyl acetate | 3.416 | 86 | 8455 | 45.21 | ug/L | 99 |
| 35) ethyl acetate | 3.804 | 45 | 16050 | 50.92 | ug/L # | 49 |
| 36) 2-butanone | 3.793 | 72 | 73970 | 270.61 | ug/L # | 78 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 150280 | 53.67 | ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 115038 | 51.40 | ug/L | 98 |
| 39) propionitrile | 3.841 | 54 | 163327 | 509.39 | ug/L | 96 |
| 40) methyl acrylate | 3.851 | 85 | 15563 | 50.43 | ug/L # | 83 |
| 41) bromochloromethane | 3.987 | 128 | 59350 | 54.42 | ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58597.d
Acq On : 15 May 2019 2:46 pm
Operator : EddieH
Sample : JC87626-1ms Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:01 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 42) tetrahydrofuran | 3.998 | 71 | 15781 | 50.01 | ug/L | | 90 |
| 43) chloroform | 4.040 | 83 | 183467 | 49.46 | ug/L | | 96 |
| 45) methacrylonitrile | 3.951 | 67 | 45402 | 49.86 | ug/L | | 98 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 161101 | 50.03 | ug/L | | 98 |
| 47) cyclohexane | 4.239 | 84 | 140875 | 51.64 | ug/L | # | 86 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 134051 | 51.73 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 143685 | 54.44 | ug/L | | 96 |
| 50) isobutyl alcohol | 4.291 | 42 | 31217 | 452.49 | ug/L | | 95 |
| 51) tert-amyl alcohol | 4.386 | 55 | 26185 | 245.04 | ug/L | | 84 |
| 54) n-butyl alcohol | 4.769 | 56 | 193164 | 2492.22 | ug/L | | 99 |
| 55) benzene | 4.433 | 78 | 379251 | 53.09 | ug/L | | 99 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 300136 | 54.18 | ug/L | | 98 |
| 57) iso-octane | 4.501 | 57 | 300129 | 61.16 | ug/L | | 97 |
| 58) heptane | 4.611 | 57 | 61359 | 60.32 | ug/L | | 94 |
| 59) isopropyl acetate | 4.412 | 87 | 25836 | 51.18 | ug/L | # | 83 |
| 60) 1,2-dichloroethane | 4.454 | 62 | 134135 | 48.18 | ug/L | | 98 |
| 61) trichloroethene | 4.900 | 95 | 106182 | 53.04 | ug/L | | 99 |
| 62) ethyl acrylate | 4.921 | 55 | 122103 | 50.06 | ug/L | | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 13662 | 39.01 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 217797 | 473.48 | ug/L | | 99 |
| 65) methyl methacrylate | 5.104 | 100 | 26032 | 52.26 | ug/L | # | 84 |
| 66) 1,2-dichloropropane | 5.094 | 63 | 100964 | 53.24 | ug/L | | 98 |
| 67) methylcyclohexane | 5.088 | 83 | 164334 | 58.70 | ug/L | | 99 |
| 68) dibromomethane | 5.167 | 93 | 72942 | 52.62 | ug/L | | 92 |
| 69) bromodichloromethane | 5.288 | 83 | 146450 | 54.14 | ug/L | | 96 |
| 70) epichlorohydrin | 5.534 | 57 | 32765 | 250.48 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 156416 | 54.89 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 181823 | 220.87 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 75843 | 1027.61 | ug/L | | 96 |
| 76) toluene | 5.912 | 92 | 246520 | 51.36 | ug/L | | 96 |
| 77) ethyl methacrylate | 6.106 | 69 | 130507 | 51.18 | ug/L | | 100 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 141753 | 52.63 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 83510 | 51.75 | ug/L | | 93 |
| 80) 2-hexanone | 6.415 | 58 | 208387 | 240.34 | ug/L | | 98 |
| 81) tetrachloroethene | 6.347 | 164 | 99310 | 51.04 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 152810 | 51.81 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 71192 | 51.69 | ug/L | | 93 |
| 84) dibromochloromethane | 6.583 | 129 | 122968 | 54.76 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 118856 | 53.57 | ug/L | | 98 |
| 86) n-butyl ether | 7.186 | 57 | 361805 | 52.10 | ug/L | | 99 |
| 87) chlorobenzene | 7.128 | 112 | 284225 | 52.59 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 110826 | 54.48 | ug/L | | 99 |
| 89) ethylbenzene | 7.207 | 91 | 473538 | 53.30 | ug/L | | 99 |
| 90) m,p-xylene | 7.322 | 106 | 370743 | 108.58 | ug/L | | 99 |
| 91) o-xylene | 7.678 | 91 | 369484 | 52.14 | ug/L | | 98 |
| 92) styrene | 7.694 | 104 | 303861 | 56.33 | ug/L | | 99 |
| 93) butyl acrylate | 7.600 | 56 | 91193 | 50.11 | ug/L | | 95 |
| 94) n-amyl acetate | 7.810 | 70 | 75641 | 52.11 | ug/L | | 97 |
| 95) bromoform | 7.867 | 173 | 91132 | 57.18 | ug/L | | 96 |
| 96) isopropylbenzene | 8.014 | 105 | 455648 | 54.61 | ug/L | | 100 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 38534 | 45.89 | ug/L | | 94 |
| 100) bromobenzene | 8.329 | 156 | 127857 | 51.93 | ug/L | | 96 |
| 101) 1,1,2,2-tetrachloroethane | 8.297 | 83 | 138953 | 50.83 | ug/L | | 96 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 25262 | 46.57 | ug/L | | 98 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 40482 | 50.35 | ug/L | | 97 |
| 104) n-propylbenzene | 8.413 | 91 | 524475 | 51.77 | ug/L | | 99 |
| 105) 2-chlorotoluene | 8.507 | 126 | 116874 | 51.66 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58597.d
Acq On : 15 May 2019 2:46 pm
Operator : EddieH
Sample : JC87626-1ms Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:01 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

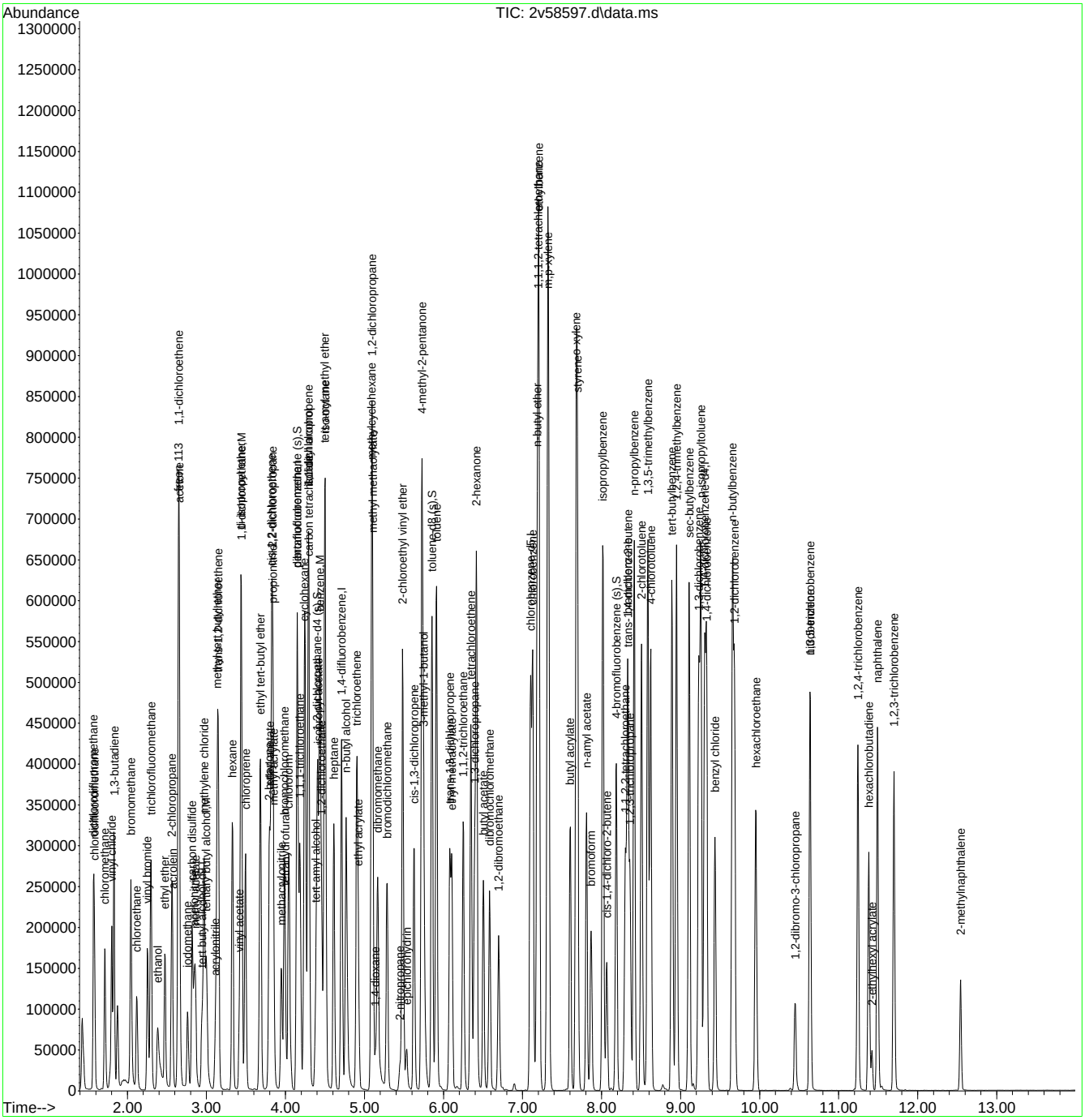
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 106) 4-chlorotoluene | 8.622 | 126 | 115247 | 51.57 | ug/L | | 99 |
| 107) 1,3,5-trimethylbenzene | 8.586 | 105 | 369311 | 52.17 | ug/L | | 99 |
| 108) tert-butylbenzene | 8.890 | 134 | 75601 | 50.58 | ug/L | | 96 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 372552 | 51.56 | ug/L | | 100 |
| 110) sec-butylbenzene | 9.110 | 105 | 463583 | 53.19 | ug/L | | 99 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 224096 | 52.76 | ug/L | | 95 |
| 112) p-isopropyltoluene | 9.257 | 119 | 392852 | 54.30 | ug/L | | 100 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 224592 | 50.51 | ug/L | | 97 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 214805 | 53.29 | ug/L | | 97 |
| 115) benzyl chloride | 9.435 | 91 | 215327 | 63.21 | ug/L | | 98 |
| 116) n-butylbenzene | 9.655 | 92 | 184943 | 53.27 | ug/L | | 98 |
| 117) hexachloroethane | 9.954 | 201 | 60094 | 53.12 | ug/L | | 98 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 32563 | 49.72 | ug/L | | 98 |
| 119) nitrobenzene | 10.641 | 77 | 6737 | 47.65 | ug/L | | 99 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 161863 | 55.71 | ug/L | | 98 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 133519 | 54.95 | ug/L | | 97 |
| 122) hexachlorobutadiene | 11.380 | 225 | 57956 | 55.47 | ug/L | | 93 |
| 123) naphthalene | 11.490 | 128 | 338501 | 52.90 | ug/L | | 100 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 118981 | 54.74 | ug/L | | 96 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 11700 | 9.05 | ug/L | # | 85 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 60714 | 24.83 | ug/L | | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58597.d
Acq On : 15 May 2019 2:46 pm
Operator : EddieH
Sample : JC87626-1ms Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:01 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58598.d
Acq On : 15 May 2019 3:12 pm
Operator : EddieH
Sample : JC87626-1msd Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:03 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 106457 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 230388 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 320518 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 284681 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 137111 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 105888 | 46.62 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 93.24% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 91975 | 45.79 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 91.58% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 362654 | 48.36 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 96.72% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 127078 | 47.80 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 95.60% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 122882 | 5353.00 | ug/L | 99 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 168394 | 263.40 | ug/L | 98 |
| 4) 1,4-dioxane | 5.141 | 88 | 41100 | 1376.24 | ug/L | 99 |
| 6) chlorodifluoromethane | 1.586 | 51 | 105078 | 49.32 | ug/L | 96 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 160767 | 56.77 | ug/L | 99 |
| 8) chloromethane | 1.717 | 50 | 144002 | 49.19 | ug/L | 98 |
| 9) vinyl chloride | 1.801 | 62 | 148728 | 54.34 | ug/L | 98 |
| 10) bromomethane | 2.042 | 96 | 123519 | 52.91 | ug/L | 98 |
| 11) chloroethane | 2.121 | 64 | 76272 | 47.47 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 190337 | 54.17 | ug/L | 99 |
| 13) vinyl bromide | 2.252 | 106 | 100494 | 51.97 | ug/L | 98 |
| 14) 1,3-butadiene | 1.832 | 54 | 102225 | 48.84 | ug/L | 98 |
| 15) ethyl ether | 2.477 | 74 | 54087 | 48.92 | ug/L | 96 |
| 16) 2-chloropropane | 2.561 | 43 | 131237 | 46.33 | ug/L | 100 |
| 17) acrolein | 2.572 | 56 | 20725 | 44.90 | ug/L | 98 |
| 18) freon 113 | 2.645 | 151 | 87235 | 54.92 | ug/L | 96 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 139659 | 51.48 | ug/L | 95 |
| 20) acetone | 2.656 | 58 | 75416 | 317.86 | ug/L | 99 |
| 21) acetonitrile | 2.844 | 41 | 125841 | 471.59 | ug/L | 98 |
| 22) iodomethane | 2.760 | 142 | 101314 | 50.28 | ug/L | 94 |
| 23) carbon disulfide | 2.818 | 76 | 220851 | 47.92 | ug/L | 99 |
| 24) methylene chloride | 2.970 | 84 | 102327 | 49.61 | ug/L | 97 |
| 25) methyl acetate | 2.860 | 43 | 82264 | 48.91 | ug/L | 99 |
| 26) methyl tert butyl ether | 3.138 | 73 | 289345 | 50.44 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 97169 | 51.36 | ug/L | 98 |
| 28) hexane | 3.332 | 56 | 65609 | 56.06 | ug/L | 98 |
| 29) di-isopropyl ether | 3.437 | 45 | 274572 | 49.20 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 291088 | 51.80 | ug/L | 99 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 173306 | 50.79 | ug/L | 99 |
| 32) chloroprene | 3.494 | 53 | 128651 | 51.47 | ug/L | 96 |
| 33) acrylonitrile | 3.112 | 53 | 39759 | 50.91 | ug/L | 97 |
| 34) vinyl acetate | 3.416 | 86 | 9243 | 47.97 | ug/L # | 86 |
| 35) ethyl acetate | 3.809 | 45 | 16339 | 50.31 | ug/L # | 76 |
| 36) 2-butanone | 3.793 | 72 | 75916 | 269.59 | ug/L # | 79 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 151214 | 52.42 | ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 117230 | 50.84 | ug/L | 98 |
| 39) propionitrile | 3.841 | 54 | 167834 | 508.10 | ug/L | 94 |
| 40) methyl acrylate | 3.851 | 85 | 16492 | 51.88 | ug/L # | 81 |
| 41) bromochloromethane | 3.987 | 128 | 60259 | 53.64 | ug/L | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58598.d
Acq On : 15 May 2019 3:12 pm
Operator : EddieH
Sample : JC87626-1msd Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:03 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 42) tetrahydrofuran | 3.998 | 71 | 15777 | 48.53 | ug/L | | 93 |
| 43) chloroform | 4.040 | 83 | 184876 | 48.38 | ug/L | | 99 |
| 45) methacrylonitrile | 3.951 | 67 | 46769 | 49.86 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 164855 | 49.70 | ug/L | | 99 |
| 47) cyclohexane | 4.239 | 84 | 143677 | 51.12 | ug/L | # | 83 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 134828 | 50.51 | ug/L | | 99 |
| 49) carbon tetrachloride | 4.297 | 119 | 144798 | 53.26 | ug/L | | 97 |
| 50) isobutyl alcohol | 4.291 | 42 | 32802 | 461.53 | ug/L | | 92 |
| 51) tert-amyl alcohol | 4.386 | 55 | 26890 | 244.26 | ug/L | | 91 |
| 54) n-butyl alcohol | 4.769 | 56 | 204319 | 2594.97 | ug/L | | 100 |
| 55) benzene | 4.433 | 78 | 382473 | 52.71 | ug/L | | 99 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 304431 | 54.10 | ug/L | | 98 |
| 57) iso-octane | 4.501 | 57 | 300417 | 60.27 | ug/L | | 98 |
| 58) heptane | 4.611 | 57 | 61811 | 59.81 | ug/L | | 98 |
| 59) isopropyl acetate | 4.412 | 87 | 26849 | 52.36 | ug/L | # | 90 |
| 60) 1,2-dichloroethane | 4.454 | 62 | 134749 | 47.65 | ug/L | | 98 |
| 61) trichloroethene | 4.900 | 95 | 106890 | 52.56 | ug/L | | 99 |
| 62) ethyl acrylate | 4.921 | 55 | 125891 | 50.81 | ug/L | | 99 |
| 63) 2-nitropropane | 5.450 | 41 | 15279 | 41.91 | ug/L | | 86 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 231099 | 494.30 | ug/L | | 97 |
| 65) methyl methacrylate | 5.104 | 100 | 26922 | 53.20 | ug/L | | 94 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 101870 | 52.87 | ug/L | | 100 |
| 67) methylcyclohexane | 5.094 | 83 | 165301 | 58.12 | ug/L | | 99 |
| 68) dibromomethane | 5.167 | 93 | 73690 | 52.33 | ug/L | | 96 |
| 69) bromodichloromethane | 5.288 | 83 | 146165 | 53.19 | ug/L | | 96 |
| 70) epichlorohydrin | 5.534 | 57 | 35075 | 263.96 | ug/L | | 95 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 160822 | 55.55 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 186252 | 222.72 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 80305 | 1071.07 | ug/L | | 98 |
| 76) toluene | 5.912 | 92 | 250990 | 51.60 | ug/L | | 99 |
| 77) ethyl methacrylate | 6.106 | 69 | 134068 | 51.88 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 145325 | 53.24 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 84729 | 51.81 | ug/L | | 96 |
| 80) 2-hexanone | 6.415 | 58 | 212914 | 242.32 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 102471 | 51.97 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 153959 | 51.51 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 72170 | 51.70 | ug/L | | 93 |
| 84) dibromochloromethane | 6.583 | 129 | 127035 | 55.83 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 121969 | 54.25 | ug/L | | 97 |
| 86) n-butyl ether | 7.180 | 57 | 366268 | 52.05 | ug/L | | 100 |
| 87) chlorobenzene | 7.128 | 112 | 288507 | 52.68 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 111506 | 54.09 | ug/L | | 99 |
| 89) ethylbenzene | 7.207 | 91 | 473156 | 52.56 | ug/L | | 99 |
| 90) m,p-xylene | 7.322 | 106 | 378305 | 109.33 | ug/L | | 96 |
| 91) o-xylene | 7.678 | 91 | 374761 | 52.19 | ug/L | | 98 |
| 92) styrene | 7.694 | 104 | 308060 | 56.36 | ug/L | | 98 |
| 93) butyl acrylate | 7.605 | 56 | 93851 | 50.89 | ug/L | | 95 |
| 94) n-amyl acetate | 7.809 | 70 | 79234 | 53.86 | ug/L | | 96 |
| 95) bromoform | 7.867 | 173 | 92486 | 57.26 | ug/L | | 98 |
| 96) isopropylbenzene | 8.019 | 105 | 463718 | 54.84 | ug/L | | 99 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 40400 | 47.35 | ug/L | | 98 |
| 100) bromobenzene | 8.329 | 156 | 129186 | 53.75 | ug/L | | 97 |
| 101) 1,1,2,2-tetrachloroethane | 8.297 | 83 | 142574 | 53.43 | ug/L | | 98 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 25311 | 47.72 | ug/L | | 96 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 40736 | 51.91 | ug/L | | 97 |
| 104) n-propylbenzene | 8.412 | 91 | 529885 | 53.59 | ug/L | | 99 |
| 105) 2-chlorotoluene | 8.507 | 126 | 117307 | 53.12 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58598.d
Acq On : 15 May 2019 3:12 pm
Operator : EddieH
Sample : JC87626-1msd Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:03 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

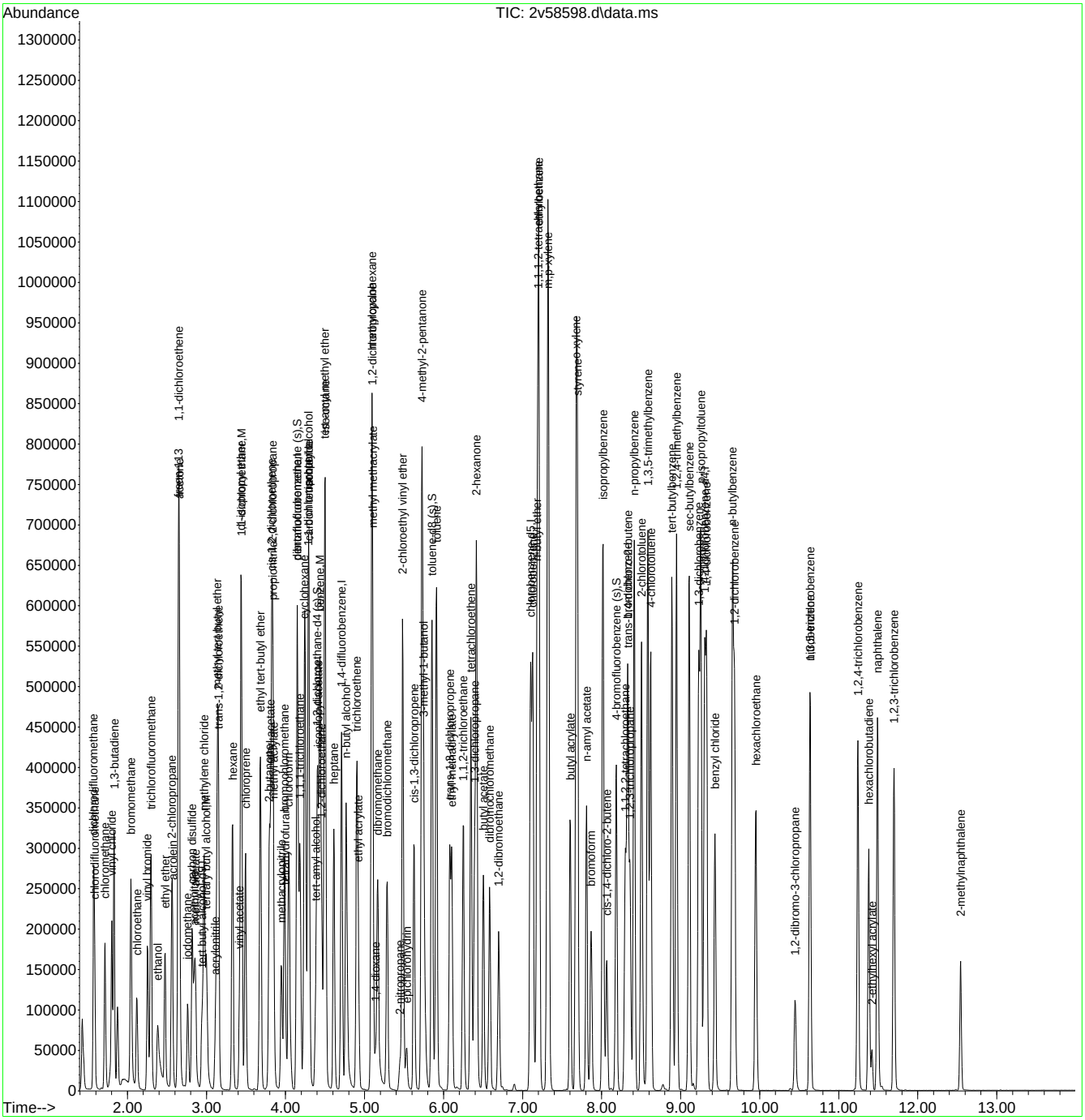
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 106) 4-chlorotoluene | 8.622 | 126 | 115871 | 53.12 | ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 375011 | 54.27 | ug/L | 99 |
| 108) tert-butylbenzene | 8.890 | 134 | 76628 | 52.53 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 379810 | 53.85 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 469819 | 55.23 | ug/L | 100 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 223075 | 53.81 | ug/L | 98 |
| 112) p-isopropyltoluene | 9.257 | 119 | 396957 | 56.21 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.325 | 146 | 225982 | 52.07 | ug/L | 99 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 214448 | 54.51 | ug/L | 98 |
| 115) benzyl chloride | 9.435 | 91 | 222209 | 66.83 | ug/L | 99 |
| 116) n-butylbenzene | 9.655 | 92 | 185339 | 54.69 | ug/L | 99 |
| 117) hexachloroethane | 9.954 | 201 | 61556 | 55.75 | ug/L | 94 |
| 118) 1,2-dibromo-3-chloropr... | 10.447 | 157 | 34195 | 53.49 | ug/L | 98 |
| 119) nitrobenzene | 10.641 | 77 | 6763 | 49.01 | ug/L | 92 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 161134 | 56.82 | ug/L | 98 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 136804 | 57.69 | ug/L | 98 |
| 122) hexachlorobutadiene | 11.380 | 225 | 58766 | 57.62 | ug/L | 98 |
| 123) naphthalene | 11.490 | 128 | 361040 | 57.81 | ug/L | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 124919 | 58.89 | ug/L | 98 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 11808 | 9.36 | ug/L | 87 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 73515 | 30.80 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\v2v2402\
Data File : 2v58598.d
Acq On : 15 May 2019 3:12 pm
Operator : EddieH
Sample : JC87626-1msd Inst : MS2V
Misc : MS34686,V2V2402,5,,,,5
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 20:17:03 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167685.d
Acq On : 16 May 2019 12:39 pm
Operator : thienn
Sample : jc87535-3ms Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 01:58:36 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.234 | 65 | 234178 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 268874 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 370637 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.615 | 117 | 364746 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 228321 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 126715 | 49.62 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.24% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 139198 | 46.82 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 93.64% | | | | |
| 75) toluene-d8 (s) | 13.194 | 98 | 426630 | 49.40 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.80% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 183999 | 53.37 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 106.74% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.354 | 59 | 117647 | 194.70 | ug/L | | 87 |
| 4) 1,4-dioxane | 12.255 | 88 | 36635 | 744.74 | ug/L | | 99 |
| 6) chlorodifluoromethane | 4.391 | 51 | 213815 | 36.35 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 4.364 | 85 | 257787 | 37.43 | ug/L | | 99 |
| 8) chloromethane | 4.800 | 50 | 252422 | 33.77 | ug/L | | 98 |
| 9) vinyl chloride | 5.077 | 62 | 244113 | 36.83 | ug/L | | 99 |
| 10) 1,3-butadiene | 5.109 | 54 | 151585 | 35.66 | ug/L | | 96 |
| 11) bromomethane | 5.785 | 94 | 188010 | 35.50 | ug/L | | 99 |
| 12) chloroethane | 5.974 | 64 | 128917 | 36.98 | ug/L | | 96 |
| 13) trichlorofluoromethane | 6.519 | 101 | 290725 | 41.34 | ug/L | | 99 |
| 14) vinyl bromide | 6.372 | 106 | 181527 | 44.78 | ug/L | | 97 |
| 15) ethyl ether | 6.949 | 74 | 75846 | 51.42 | ug/L | # | 81 |
| 16) 2-chloropropane | 7.190 | 43 | 239250 | 40.71 | ug/L | | 97 |
| 17) acrolein | 7.206 | 56 | 32956 | 42.29 | ug/L | | 95 |
| 18) freon 113 | 7.458 | 151 | 129878 | 38.29 | ug/L | | 97 |
| 19) 1,1-dichloroethene | 7.432 | 96 | 140328 | 43.95 | ug/L | | 96 |
| 20) acetone | 7.442 | 58 | 65890 | 170.30 | ug/L | | 97 |
| 21) iodomethane | 7.720 | 142 | 269418 | 46.65 | ug/L | | 98 |
| 22) acetonitrile | 7.935 | 41 | 213578 | 320.10 | ug/L | | 96 |
| 23) carbon disulfide | 7.877 | 76 | 446683 | 44.87 | ug/L | | 96 |
| 24) methylene chloride | 8.244 | 84 | 161823 | 45.02 | ug/L | | 91 |
| 25) methyl acetate | 7.977 | 43 | 132901 | 41.85 | ug/L | | 96 |
| 26) methyl tert butyl ether | 8.653 | 73 | 432100 | 41.45 | ug/L | | 100 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 141192 | 48.23 | ug/L | | 92 |
| 28) hexane | 9.083 | 56 | 83117 | 37.49 | ug/L | | 99 |
| 29) di-isopropyl ether | 9.319 | 45 | 442589 | 41.34 | ug/L | | 99 |
| 30) 1,1-dichloroethane | 9.319 | 63 | 241358 | 46.69 | ug/L | | 100 |
| 31) chloroprene | 9.429 | 53 | 188888 | 44.57 | ug/L | | 95 |
| 32) acrylonitrile | 8.569 | 53 | 68540 | 46.40 | ug/L | | 97 |
| 33) vinyl acetate | 9.261 | 86 | 24957 | 43.98 | ug/L | # | 76 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 443346 | 42.38 | ug/L | | 99 |
| 35) 2-butanone | 10.027 | 72 | 79732 | 172.94 | ug/L | | 94 |
| 36) ethyl acetate | 10.053 | 45 | 22096 | 39.58 | ug/L | # | 48 |
| 37) 2,2-dichloropropane | 10.137 | 77 | 197889 | 40.69 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 156418 | 46.03 | ug/L | | 97 |
| 39) propionitrile | 10.111 | 54 | 263313 | 394.53 | ug/L | | 96 |
| 40) bromochloromethane | 10.415 | 128 | 82135 | 48.89 | ug/L | | 95 |
| 41) tetrahydrofuran | 10.431 | 71 | 22872 | 43.38 | ug/L | | 94 |
| 42) chloroform | 10.514 | 83 | 247209 | 44.88 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167685.d
Acq On : 16 May 2019 12:39 pm
Operator : thienn
Sample : jc87535-3ms Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 01:58:36 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 10.551 | 59 | 115117 | 41.88 | ug/L | | 95 |
| 45) methacrylonitrile | 10.320 | 67 | 62229 | 43.45 | ug/L | | 94 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 235650 | 44.63 | ug/L | | 98 |
| 47) cyclohexane | 10.902 | 84 | 213756 | 43.28 | ug/L | | 82 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 157257 | 43.23 | ug/L | | 97 |
| 49) carbon tetrachloride | 10.986 | 117 | 200956 | 49.32 | ug/L | | 100 |
| 53) n-butyl alcohol | 11.684 | 56 | 256066 | 1494.89 | ug/L | | 96 |
| 54) tert-amyl alcohol | 11.107 | 55 | 45459 | 187.72 | ug/L | # | 81 |
| 55) iso-octane | 11.317 | 57 | 490344 | 41.61 | ug/L | | 98 |
| 56) benzene | 11.207 | 78 | 499586 | 47.58 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 102324 | 42.04 | ug/L | | 91 |
| 58) heptane | 11.474 | 57 | 78376 | 39.19 | ug/L | | 95 |
| 59) isopropyl acetate | 11.128 | 87 | 32973 | 47.04 | ug/L | # | 81 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 179555 | 43.20 | ug/L | | 97 |
| 61) ethyl acrylate | 11.920 | 55 | 180459 | 44.55 | ug/L | | 100 |
| 62) trichloroethene | 11.930 | 95 | 131965 | 46.17 | ug/L | | 97 |
| 63) 2-nitropropane | 12.654 | 41 | 44906 | 49.18 | ug/L | | 92 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 412947 | 239.95 | ug/L | | 99 |
| 65) methyl methacrylate | 12.177 | 100 | 36514 | 46.88 | ug/L | # | 89 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 126678 | 43.09 | ug/L | | 98 |
| 67) dibromomethane | 12.313 | 93 | 94789 | 45.53 | ug/L | | 99 |
| 68) methylcyclohexane | 12.224 | 83 | 243844 | 41.96 | ug/L | | 97 |
| 69) bromodichloromethane | 12.465 | 83 | 183890 | 48.42 | ug/L | | 98 |
| 70) epichlorohydrin | 12.769 | 57 | 93808 | 201.55 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 208339 | 45.16 | ug/L | | 95 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 281724 | 177.59 | ug/L | | 91 |
| 73) 3-methyl-1-butanol | 13.000 | 55 | 185941 | 656.77 | ug/L | | 94 |
| 76) toluene | 13.262 | 92 | 311189 | 48.16 | ug/L | | 97 |
| 77) ethyl methacrylate | 13.424 | 69 | 174798 | 46.69 | ug/L | | 96 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 195667 | 48.39 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 13.645 | 83 | 108500 | 46.90 | ug/L | | 99 |
| 80) 2-hexanone | 13.797 | 58 | 260611 | 178.96 | ug/L | | 96 |
| 81) tetrachloroethene | 13.786 | 164 | 119957 | 44.35 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 183454 | 45.57 | ug/L | | 94 |
| 83) butyl acetate | 13.870 | 56 | 97649 | 46.56 | ug/L | | 90 |
| 84) dibromochloromethane | 14.048 | 129 | 154420 | 53.23 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 164846 | 43.23 | ug/L | | 97 |
| 86) n-butyl ether | 14.599 | 57 | 498807 | 42.76 | ug/L | | 100 |
| 87) chlorobenzene | 14.641 | 112 | 355748 | 46.55 | ug/L | | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 149845 | 48.30 | ug/L | | 97 |
| 89) ethylbenzene | 14.698 | 91 | 580215 | 44.33 | ug/L | | 99 |
| 90) m,p-xylene | 14.809 | 106 | 462236 | 91.86 | ug/L | | 100 |
| 91) o-xylene | 15.186 | 106 | 253690 | 44.77 | ug/L | | 100 |
| 92) styrene | 15.197 | 104 | 390825 | 44.84 | ug/L | | 98 |
| 93) butyl acrylate | 15.018 | 55 | 300244 | 42.93 | ug/L | | 98 |
| 94) bromoform | 15.411 | 173 | 130750 | 57.03 | ug/L | | 97 |
| 95) isopropylbenzene | 15.511 | 105 | 668066 | 44.34 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 15.543 | 75 | 76468 | 50.24 | ug/L | | 95 |
| 99) bromobenzene | 15.873 | 156 | 189398 | 49.98 | ug/L | | 100 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 236201 | 50.65 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 15.794 | 88 | 28288 | 52.06 | ug/L | | 97 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 57061 | 48.90 | ug/L | | 98 |
| 103) n-propylbenzene | 15.894 | 91 | 712332 | 47.08 | ug/L | | 98 |
| 104) 2-chlorotoluene | 16.020 | 126 | 170320 | 48.58 | ug/L | | 94 |
| 105) 4-chlorotoluene | 16.125 | 91 | 455634 | 47.00 | ug/L | | 98 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 572180 | 48.34 | ug/L | | 100 |
| 107) tert-butylbenzene | 16.355 | 119 | 487719 | 47.94 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167685.d
Acq On : 16 May 2019 12:39 pm
Operator : thienn
Sample : jc87535-3ms Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 01:58:36 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

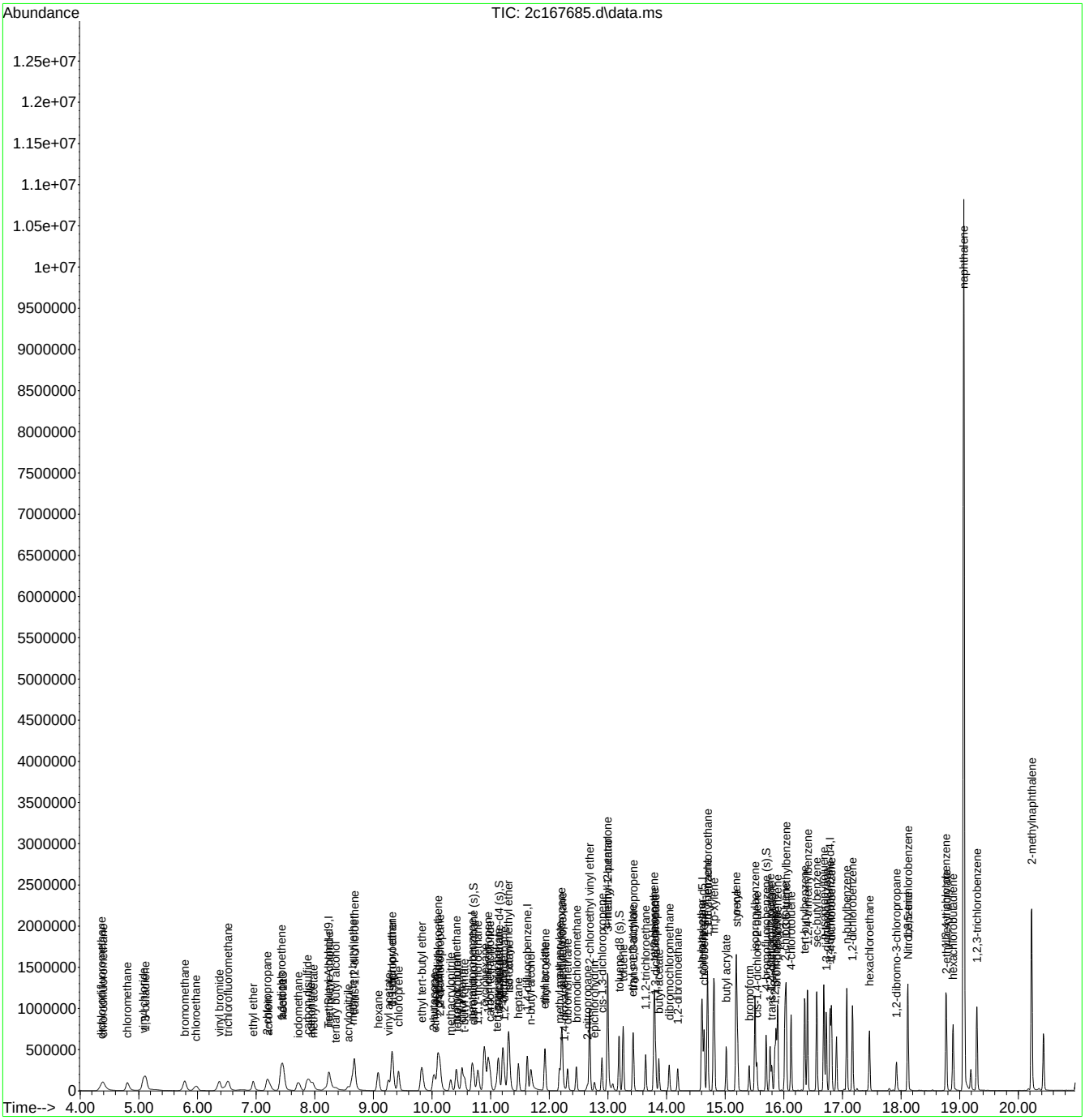
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 597325 | 49.64 | ug/L | 100 |
| 109) sec-butylbenzene | 16.565 | 105 | 764833 | 47.26 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 362463 | 46.33 | ug/L | 99 |
| 111) p-isopropyltoluene | 16.686 | 119 | 653754 | 47.72 | ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.811 | 146 | 366930 | 46.72 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 398173 | 45.94 | ug/L | 99 |
| 114) n-butylbenzene | 17.074 | 92 | 338249 | 46.75 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 63560 | 49.46 | ug/L | 99 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 399858 | 47.20 | ug/L | 98 |
| 117) Nitrobenzene | 18.122 | 77 | 14498 | 102.75 | ug/L | 81 |
| 118) 1,2,4-trichlorobenzene | 18.767 | 180 | 365666 | 48.14 | ug/L | 98 |
| 119) 2-ethylhexyl acrylate | 18.778 | 55 | 36344 | 7.23 | ug/L | 96 |
| 120) hexachlorobutadiene | 18.888 | 225 | 181142 | 45.28 | ug/L | 99 |
| 121) naphthalene | 19.071 | 128 | 8572988 | 468.85 | ug/L | 98 |
| 122) 1,2,3-trichlorobenzene | 19.297 | 180 | 331956 | 47.16 | ug/L | 99 |
| 123) hexachloroethane | 17.462 | 201 | 124684 | 50.54 | ug/L | 95 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 1066867 | 102.47 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167685.d
Acq On : 16 May 2019 12:39 pm
Operator : thienn
Sample : jc87535-3ms Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 01:58:36 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167686.d
Acq On : 16 May 2019 1:07 pm
Operator : thienn
Sample : jc87535-3msd Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 02:00:08 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.234 | 65 | 245799 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 266670 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 363312 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 357137 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 221476 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 44) dibromofluoromethane (s) | 10.714 | 113 | 124373 | 49.11 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.22% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 138011 | 47.36 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 94.72% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 420797 | 49.76 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.52% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 177807 | 53.17 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 106.34% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.365 | 59 | 151214 | 238.42 | ug/L | | 90 |
| 4) 1,4-dioxane | 12.260 | 88 | 65747 | 1273.36 | ug/L | | 87 |
| 6) chlorodifluoromethane | 4.391 | 51 | 219845 | 37.69 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 4.359 | 85 | 267009 | 39.09 | ug/L | | 98 |
| 8) chloromethane | 4.799 | 50 | 256271 | 34.56 | ug/L | | 99 |
| 9) vinyl chloride | 5.072 | 62 | 245342 | 37.32 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.114 | 54 | 151913 | 36.03 | ug/L | | 99 |
| 11) bromomethane | 5.780 | 94 | 190530 | 36.27 | ug/L | | 99 |
| 12) chloroethane | 5.979 | 64 | 131553 | 38.05 | ug/L | | 99 |
| 13) trichlorofluoromethane | 6.514 | 101 | 293834 | 42.13 | ug/L | | 99 |
| 14) vinyl bromide | 6.367 | 106 | 184235 | 45.82 | ug/L | | 93 |
| 15) ethyl ether | 6.949 | 74 | 73879 | 50.50 | ug/L | # | 80 |
| 16) 2-chloropropane | 7.190 | 43 | 239544 | 41.10 | ug/L | | 97 |
| 17) acrolein | 7.211 | 56 | 33005 | 42.70 | ug/L | | 98 |
| 18) freon 113 | 7.452 | 151 | 130640 | 38.83 | ug/L | | 98 |
| 19) 1,1-dichloroethene | 7.431 | 96 | 141914 | 44.82 | ug/L | | 99 |
| 20) acetone | 7.442 | 58 | 66271 | 172.70 | ug/L | | 100 |
| 21) iodomethane | 7.720 | 142 | 271412 | 47.39 | ug/L | | 96 |
| 22) acetonitrile | 7.940 | 41 | 234517 | 354.39 | ug/L | | 98 |
| 23) carbon disulfide | 7.882 | 76 | 455709 | 46.15 | ug/L | | 96 |
| 24) methylene chloride | 8.244 | 84 | 161185 | 45.21 | ug/L | | 89 |
| 25) methyl acetate | 7.971 | 43 | 122939 | 39.03 | ug/L | | 95 |
| 26) methyl tert butyl ether | 8.648 | 73 | 433194 | 41.89 | ug/L | | 99 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 139482 | 48.04 | ug/L | | 95 |
| 28) hexane | 9.083 | 56 | 82183 | 37.37 | ug/L | | 93 |
| 29) di-isopropyl ether | 9.319 | 45 | 440131 | 41.45 | ug/L | | 97 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 235975 | 46.02 | ug/L | | 99 |
| 31) chloroprene | 9.429 | 53 | 188917 | 44.95 | ug/L | | 97 |
| 32) acrylonitrile | 8.569 | 53 | 68440 | 46.72 | ug/L | | 99 |
| 33) vinyl acetate | 9.256 | 86 | 25423 | 45.18 | ug/L | # | 86 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 440192 | 42.43 | ug/L | | 99 |
| 35) 2-butanone | 10.027 | 72 | 79966 | 174.88 | ug/L | # | 85 |
| 36) ethyl acetate | 10.048 | 45 | 22371 | 40.41 | ug/L | # | 56 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 195072 | 40.44 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 154023 | 45.70 | ug/L | | 99 |
| 39) propionitrile | 10.111 | 54 | 265197 | 400.64 | ug/L | | 97 |
| 40) bromochloromethane | 10.415 | 128 | 81127 | 48.69 | ug/L | | 94 |
| 41) tetrahydrofuran | 10.436 | 71 | 23342 | 44.63 | ug/L | | 94 |
| 42) chloroform | 10.509 | 83 | 242235 | 44.34 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167686.d
Acq On : 16 May 2019 1:07 pm
Operator : thienn
Sample : jc87535-3msd Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 02:00:08 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 10.551 | 59 | 115145 | 42.23 | ug/L | | 97 |
| 45) methacrylonitrile | 10.315 | 67 | 62568 | 44.05 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 236064 | 45.08 | ug/L | | 99 |
| 47) cyclohexane | 10.902 | 84 | 211613 | 43.20 | ug/L | | 83 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 158444 | 43.92 | ug/L | | 98 |
| 49) carbon tetrachloride | 10.986 | 117 | 198120 | 49.03 | ug/L | | 99 |
| 53) n-butyl alcohol | 11.689 | 56 | 394971 | 2352.29 | ug/L | | 95 |
| 54) tert-amyl alcohol | 11.107 | 55 | 55459 | 233.63 | ug/L | # | 82 |
| 55) iso-octane | 11.317 | 57 | 485978 | 42.08 | ug/L | | 98 |
| 56) benzene | 11.206 | 78 | 494596 | 48.06 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 101293 | 42.46 | ug/L | | 97 |
| 58) heptane | 11.474 | 57 | 77633 | 39.60 | ug/L | | 93 |
| 59) isopropyl acetate | 11.128 | 87 | 32464 | 47.25 | ug/L | | 94 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 176643 | 43.36 | ug/L | | 94 |
| 61) ethyl acrylate | 11.919 | 55 | 179206 | 45.13 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 130281 | 46.50 | ug/L | | 96 |
| 63) 2-nitropropane | 12.654 | 41 | 45752 | 51.12 | ug/L | | 88 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 405091 | 240.13 | ug/L | | 99 |
| 65) methyl methacrylate | 12.176 | 100 | 35960 | 47.10 | ug/L | | 91 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 124922 | 43.35 | ug/L | | 99 |
| 67) dibromomethane | 12.313 | 93 | 92411 | 45.29 | ug/L | | 95 |
| 68) methylcyclohexane | 12.218 | 83 | 241994 | 42.48 | ug/L | | 98 |
| 69) bromodichloromethane | 12.460 | 83 | 182735 | 49.08 | ug/L | | 98 |
| 70) epichlorohydrin | 12.769 | 57 | 94829 | 207.85 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 203302 | 44.96 | ug/L | | 96 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 275385 | 177.09 | ug/L | | 95 |
| 73) 3-methyl-1-butanol | 13.000 | 55 | 253503 | 913.46 | ug/L | | 97 |
| 76) toluene | 13.262 | 92 | 301631 | 47.68 | ug/L | | 100 |
| 77) ethyl methacrylate | 13.424 | 69 | 170321 | 46.47 | ug/L | | 96 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 189948 | 47.97 | ug/L | | 91 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 106516 | 47.02 | ug/L | | 97 |
| 80) 2-hexanone | 13.797 | 58 | 255643 | 179.29 | ug/L | | 96 |
| 81) tetrachloroethene | 13.786 | 164 | 117699 | 44.44 | ug/L | | 100 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 179395 | 45.51 | ug/L | | 93 |
| 83) butyl acetate | 13.870 | 56 | 94261 | 45.90 | ug/L | | 91 |
| 84) dibromochloromethane | 14.048 | 129 | 150731 | 53.07 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 160017 | 42.86 | ug/L | | 99 |
| 86) n-butyl ether | 14.599 | 57 | 487411 | 42.67 | ug/L | | 100 |
| 87) chlorobenzene | 14.641 | 112 | 347138 | 46.39 | ug/L | | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 147051 | 48.41 | ug/L | | 98 |
| 89) ethylbenzene | 14.698 | 91 | 562606 | 43.90 | ug/L | | 100 |
| 90) m,p-xylene | 14.808 | 106 | 447709 | 90.87 | ug/L | | 100 |
| 91) o-xylene | 15.186 | 106 | 249306 | 44.93 | ug/L | | 99 |
| 92) styrene | 15.196 | 104 | 383170 | 44.90 | ug/L | | 98 |
| 93) butyl acrylate | 15.018 | 55 | 291299 | 42.53 | ug/L | | 98 |
| 94) bromoform | 15.411 | 173 | 127788 | 56.92 | ug/L | | 99 |
| 95) isopropylbenzene | 15.511 | 105 | 650124 | 44.07 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 74372 | 49.90 | ug/L | | 95 |
| 99) bromobenzene | 15.873 | 156 | 184714 | 50.25 | ug/L | | 99 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 230641 | 50.98 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 27190 | 51.58 | ug/L | | 93 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 55288 | 48.85 | ug/L | | 99 |
| 103) n-propylbenzene | 15.894 | 91 | 699132 | 47.63 | ug/L | | 98 |
| 104) 2-chlorotoluene | 16.020 | 126 | 165719 | 48.73 | ug/L | | 98 |
| 105) 4-chlorotoluene | 16.124 | 91 | 444319 | 47.25 | ug/L | | 99 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 562676 | 49.01 | ug/L | | 99 |
| 107) tert-butylbenzene | 16.355 | 119 | 481012 | 48.74 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167686.d
Acq On : 16 May 2019 1:07 pm
Operator : thienn
Sample : jc87535-3msd Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 02:00:08 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

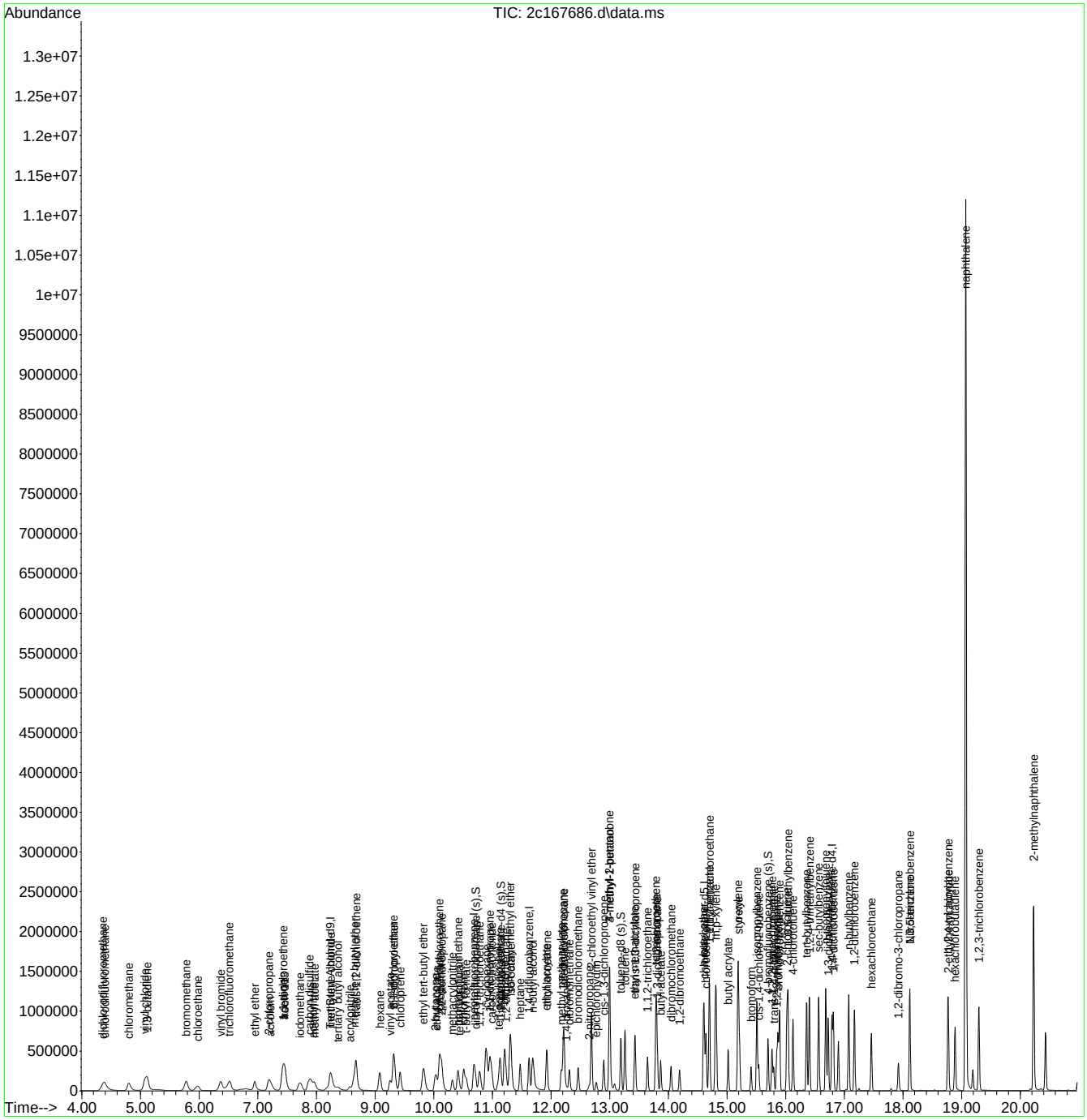
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 583646 | 50.01 | ug/L | 99 |
| 109) sec-butylbenzene | 16.565 | 105 | 754270 | 48.05 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 352181 | 46.41 | ug/L | 99 |
| 111) p-isopropyltoluene | 16.685 | 119 | 638006 | 48.01 | ug/L | 99 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 354582 | 46.54 | ug/L | 100 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 386788 | 46.01 | ug/L | 99 |
| 114) n-butylbenzene | 17.073 | 92 | 331371 | 47.22 | ug/L | 97 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 64129 | 51.44 | ug/L | 100 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 394034 | 47.95 | ug/L | 98 |
| 117) Nitrobenzene | 18.117 | 77 | 16957 | 123.89 | ug/L | 79 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 370836 | 50.33 | ug/L | 100 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 39722 | 8.15 | ug/L | 96 |
| 120) hexachlorobutadiene | 18.887 | 225 | 179917 | 46.36 | ug/L | 99 |
| 121) naphthalene | 19.071 | 128 | 8766496 | 494.25 | ug/L | 98 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 339278 | 49.69 | ug/L | 100 |
| 123) hexachloroethane | 17.461 | 201 | 122286 | 51.07 | ug/L | 94 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 1117807 | 110.68 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-17\v2c7521\
Data File : 2c167686.d
Acq On : 16 May 2019 1:07 pm
Operator : thienn
Sample : jc87535-3msd Inst : Instrument #1
Misc : MS34539,V2C7521,2.3,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 17 02:00:08 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532a.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : GP21185-20LS Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 102651 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.144 | 168 | 211651 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 311475 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 274323 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 137711 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 103510 | 49.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 99.22% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 92981 | 47.64 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 95.28% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 355350 | 49.17 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 98.34% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 124198 | 46.51 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 93.02% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 119099 | 5380.57 | ug/L | 100 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 179221 | 290.73 | ug/L | 99 |
| 4) 1,4-dioxane | 5.141 | 88 | 39925 | 1386.46 | ug/L | 97 |
| 6) chlorodifluoromethane | 1.581 | 51 | 105744 | 54.02 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 153561 | 59.03 | ug/L | 98 |
| 8) chloromethane | 1.717 | 50 | 132359 | 49.22 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 132844 | 52.83 | ug/L | 99 |
| 10) bromomethane | 2.047 | 96 | 113109 | 52.74 | ug/L | 97 |
| 11) chloroethane | 2.121 | 64 | 76389 | 51.75 | ug/L | 99 |
| 12) trichlorofluoromethane | 2.299 | 101 | 184071 | 57.03 | ug/L | 98 |
| 13) vinyl bromide | 2.257 | 106 | 97376 | 54.82 | ug/L | 99 |
| 14) 1,3-butadiene | 1.832 | 54 | 100687 | 52.36 | ug/L | 99 |
| 15) ethyl ether | 2.477 | 74 | 55341 | 54.48 | ug/L | 96 |
| 16) 2-chloropropane | 2.566 | 43 | 135088 | 51.91 | ug/L | 98 |
| 17) acrolein | 2.572 | 56 | 20998 | 49.52 | ug/L | 96 |
| 18) freon 113 | 2.645 | 151 | 89838 | 61.56 | ug/L | 96 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 141591 | 56.82 | ug/L | 98 |
| 20) acetone | 2.655 | 58 | 48258 | 221.40 | ug/L | 97 |
| 21) acetonitrile | 2.844 | 41 | 122730 | 500.65 | ug/L | 100 |
| 22) iodomethane | 2.760 | 142 | 91880 | 49.66 | ug/L | 97 |
| 23) carbon disulfide | 2.818 | 76 | 234646 | 55.42 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 101843 | 53.75 | ug/L | 97 |
| 25) methyl acetate | 2.860 | 43 | 95377 | 61.73 | ug/L | 99 |
| 26) methyl tert butyl ether | 3.138 | 73 | 290868 | 55.19 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 98405 | 56.61 | ug/L | 97 |
| 28) hexane | 3.332 | 56 | 69947 | 65.06 | ug/L | 95 |
| 29) di-isopropyl ether | 3.437 | 45 | 273068 | 53.26 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 289240 | 56.03 | ug/L | 99 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 170260 | 54.31 | ug/L | 100 |
| 32) chloroprene | 3.494 | 53 | 131555 | 57.29 | ug/L | 99 |
| 33) acrylonitrile | 3.112 | 53 | 38726 | 53.97 | ug/L | 99 |
| 34) vinyl acetate | 3.416 | 86 | 8677 | 49.02 | ug/L # | 89 |
| 35) ethyl acetate | 3.809 | 45 | 14177 | 47.52 | ug/L # | 75 |
| 36) 2-butanone | 3.798 | 72 | 60497 | 233.85 | ug/L # | 90 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 158551 | 59.83 | ug/L | 99 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 116461 | 54.98 | ug/L | 98 |
| 39) propionitrile | 3.840 | 54 | 166629 | 549.11 | ug/L | 96 |
| 40) methyl acrylate | 3.851 | 85 | 15294 | 52.37 | ug/L # | 75 |
| 41) bromochloromethane | 3.987 | 128 | 59227 | 57.39 | ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532a.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : GP21185-20LS Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 42) tetrahydrofuran | 3.998 | 71 | 15727 | 52.66 | ug/L | 96 |
| 43) chloroform | 4.040 | 83 | 186666 | 53.17 | ug/L | 98 |
| 45) methacrylonitrile | 3.945 | 67 | 46474 | 53.93 | ug/L | 95 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 167236 | 54.88 | ug/L | 98 |
| 47) cyclohexane | 4.244 | 84 | 138779 | 53.75 | ug/L | 95 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 138318 | 56.40 | ug/L | 98 |
| 49) carbon tetrachloride | 4.296 | 119 | 148636 | 59.51 | ug/L | 99 |
| 50) isobutyl alcohol | 4.291 | 42 | 32506 | 497.85 | ug/L | 94 |
| 51) tert-amyl alcohol | 4.380 | 55 | 26065 | 257.73 | ug/L | 95 |
| 54) n-butyl alcohol | 4.768 | 56 | 197162 | 2576.77 | ug/L | 99 |
| 55) benzene | 4.433 | 78 | 395026 | 56.02 | ug/L | 99 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 305810 | 55.92 | ug/L | 98 |
| 57) iso-octane | 4.501 | 57 | 313529 | 64.72 | ug/L | 97 |
| 58) heptane | 4.611 | 57 | 64363 | 64.09 | ug/L | 98 |
| 59) isopropyl acetate | 4.407 | 87 | 26362 | 52.90 | ug/L | 99 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 136741 | 49.76 | ug/L | 98 |
| 61) trichloroethene | 4.905 | 95 | 108092 | 54.69 | ug/L | 97 |
| 62) ethyl acrylate | 4.920 | 55 | 122769 | 50.99 | ug/L | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 15718 | 43.77 | ug/L | 98 |
| 64) 2-chloroethyl vinyl ether | 5.481 | 63 | 190965 | 421.16 | ug/L | 99 |
| 65) methyl methacrylate | 5.104 | 100 | 24688 | 50.20 | ug/L | 94 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 101617 | 54.27 | ug/L | 98 |
| 67) methylcyclohexane | 5.093 | 83 | 169867 | 61.46 | ug/L | 98 |
| 68) dibromomethane | 5.167 | 93 | 74771 | 54.64 | ug/L | 96 |
| 69) bromodichloromethane | 5.287 | 83 | 146680 | 54.93 | ug/L | 99 |
| 70) epichlorohydrin | 5.534 | 57 | 36719 | 284.35 | ug/L | 97 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 159118 | 56.56 | ug/L | 98 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 183938 | 226.34 | ug/L | 97 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 79158 | 1086.42 | ug/L | 97 |
| 76) toluene | 5.911 | 92 | 265040 | 56.54 | ug/L | 97 |
| 77) ethyl methacrylate | 6.105 | 69 | 131079 | 52.64 | ug/L | 98 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 148832 | 56.59 | ug/L | 99 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 85406 | 54.19 | ug/L | 95 |
| 80) 2-hexanone | 6.415 | 58 | 185219 | 218.76 | ug/L | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 103232 | 54.33 | ug/L | 98 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 154268 | 53.56 | ug/L | 98 |
| 83) butyl acetate | 6.504 | 56 | 71725 | 53.32 | ug/L | 93 |
| 84) dibromochloromethane | 6.582 | 129 | 126584 | 57.73 | ug/L | 97 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 120435 | 55.59 | ug/L | 100 |
| 86) n-butyl ether | 7.185 | 57 | 367699 | 54.22 | ug/L | 99 |
| 87) chlorobenzene | 7.128 | 112 | 287181 | 54.41 | ug/L | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 113198 | 56.98 | ug/L | 99 |
| 89) ethylbenzene | 7.206 | 91 | 494705 | 57.02 | ug/L | 100 |
| 90) m,p-xylene | 7.322 | 106 | 396411 | 118.89 | ug/L | 100 |
| 91) o-xylene | 7.678 | 91 | 393961 | 56.93 | ug/L | 99 |
| 92) styrene | 7.694 | 104 | 314684 | 59.74 | ug/L | 99 |
| 93) butyl acrylate | 7.605 | 56 | 91630 | 51.56 | ug/L | 97 |
| 94) n-amyl acetate | 7.809 | 70 | 76996 | 54.32 | ug/L | 95 |
| 95) bromoform | 7.867 | 173 | 94629 | 60.80 | ug/L | 99 |
| 96) isopropylbenzene | 8.019 | 105 | 466758 | 57.28 | ug/L | 99 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 39619 | 48.13 | ug/L | 98 |
| 100) bromobenzene | 8.328 | 156 | 127310 | 52.74 | ug/L | 96 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 142485 | 53.17 | ug/L | 98 |
| 102) trans-1,4-dichloro-2-b... | 8.339 | 53 | 24550 | 46.19 | ug/L | 92 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 40287 | 51.12 | ug/L | 97 |
| 104) n-propylbenzene | 8.412 | 91 | 537972 | 54.17 | ug/L | 99 |
| 105) 2-chlorotoluene | 8.507 | 126 | 121159 | 54.63 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532a.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : GP21185-20LS Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

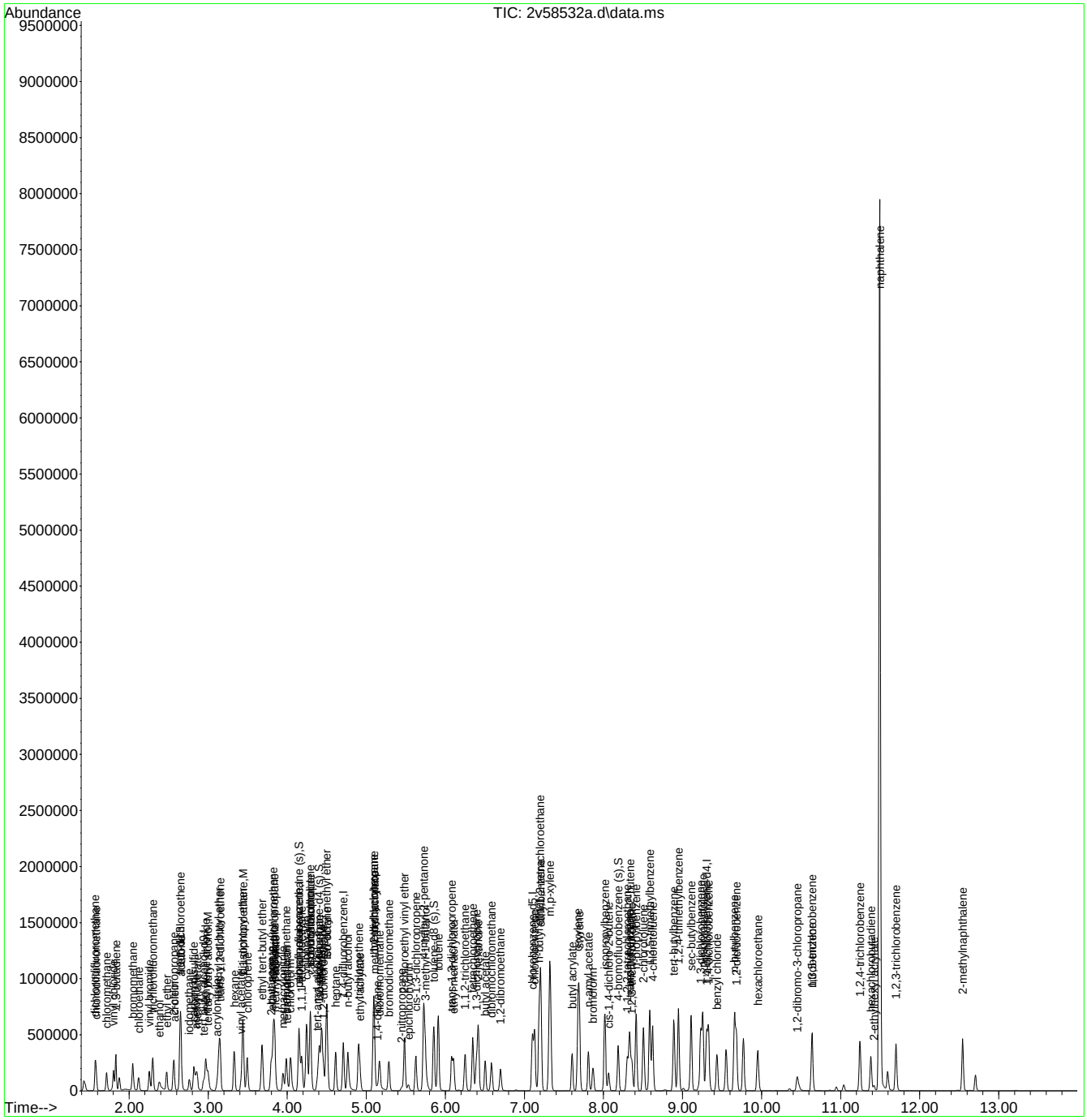
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 106) 4-chlorotoluene | 8.622 | 126 | 118940 | 54.29 | ug/L | 97 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 393440 | 56.69 | ug/L | 99 |
| 108) tert-butylbenzene | 8.889 | 134 | 77484 | 52.88 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 405463 | 57.24 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 479403 | 56.11 | ug/L | 100 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 228610 | 54.90 | ug/L | 97 |
| 112) p-isopropyltoluene | 9.256 | 119 | 404940 | 57.09 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 230025 | 52.77 | ug/L | 99 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 221397 | 56.03 | ug/L | 98 |
| 115) benzyl chloride | 9.435 | 91 | 230750 | 69.10 | ug/L | 100 |
| 116) n-butylbenzene | 9.655 | 92 | 197576 | 58.05 | ug/L | 96 |
| 117) hexachloroethane | 9.954 | 201 | 64413 | 58.08 | ug/L | 95 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 34142 | 53.17 | ug/L | 97 |
| 119) nitrobenzene | 10.641 | 77 | 7643 | 55.15 | ug/L | 91 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 167023 | 58.64 | ug/L | 99 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 141598 | 59.45 | ug/L | 95 |
| 122) hexachlorobutadiene | 11.385 | 225 | 62363 | 60.88 | ug/L | 99 |
| 123) naphthalene | 11.495 | 128 | 5843041 | 931.48 | ug/L | 100 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 131028 | 61.50 | ug/L | 98 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 12172 | 9.60 | ug/L | 89 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 209574 | 87.44 | ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-14-19\v2v2399\
Data File : 2v58532a.d
Acq On : 13 May 2019 2:02 pm
Operator : EddieH
Sample : GP21185-20LS Inst : MS2V
Misc : MS34708,V2V2399,5,,,,5
ALS Vial : 14 Sample Multiplier: 1

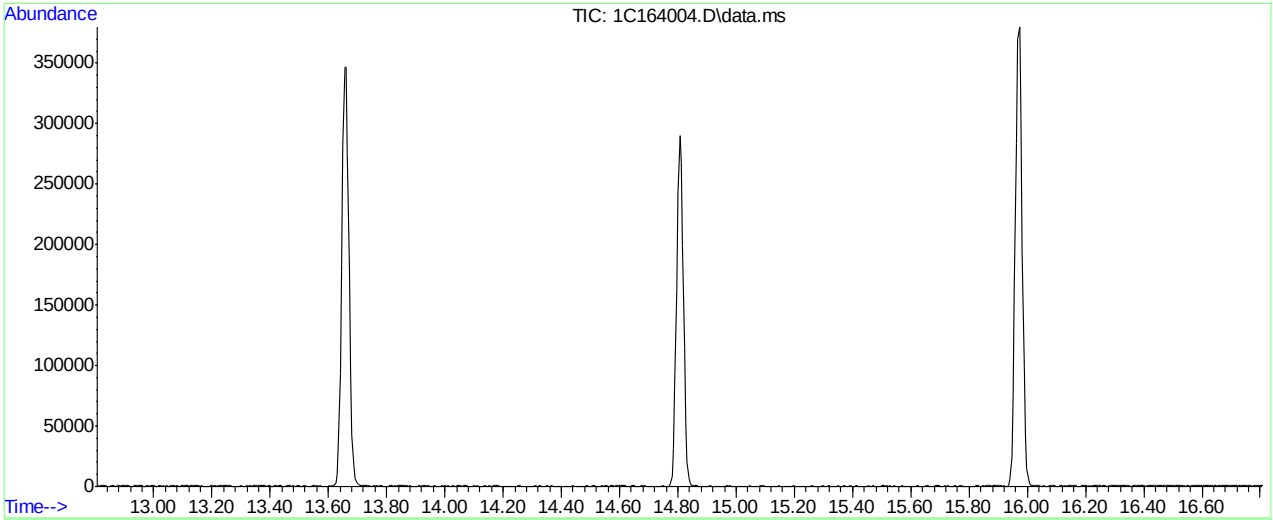
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 13 16:11:57 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V1C7200\1C164004.D  Vial: 2
Acq On : 24 Apr 2019 2:40 pm  Operator: ROBERTS
Sample : BFB  Inst : GCMS1C
Misc : MS34128,V1C7200,5.0,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um




AutoFind: Scans 2145, 2146, 2147; Background Corrected with Scan 2137

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 18.0 | 9866 | PASS |
| 75 | 95 | 30 | 60 | 49.0 | 26882 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 54821 | PASS |
| 96 | 95 | 5 | 9 | 6.8 | 3741 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 87.3 | 47850 | PASS |
| 175 | 174 | 5 | 9 | 7.7 | 3704 | PASS |
| 176 | 174 | 95 | 101 | 97.3 | 46538 | PASS |
| 177 | 176 | 5 | 9 | 6.8 | 3149 | PASS |

1C164004.D M1CS7200.M Thu Apr 25 08:08:51 2019

Average of 14.801 to 14.811 min.: 1C164004.D\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.10 | 544 | 51.10 | 2948 | 69.10 | 5345 | 81.00 | 1518 |
| 37.10 | 2561 | 55.10 | 98 | 70.05 | 372 | 81.95 | 264 |
| 38.10 | 2103 | 56.05 | 747 | 72.05 | 321 | 87.00 | 2269 |
| 39.10 | 936 | 57.10 | 1355 | 73.10 | 2372 | 88.00 | 2197 |
| 40.00 | 55 | 60.10 | 509 | 74.10 | 8770 | 90.95 | 209 |
| 44.10 | 255 | 61.05 | 2423 | 75.10 | 26882 | 92.10 | 1459 |
| 45.05 | 457 | 62.10 | 2371 | 76.10 | 2329 | 93.05 | 2145 |
| 47.05 | 626 | 63.10 | 1826 | 77.05 | 319 | 94.10 | 6042 |
| 48.10 | 307 | 64.10 | 101 | 78.05 | 253 | 95.10 | 54821 |
| 49.10 | 2240 | 67.10 | 114 | 79.00 | 1429 | 96.05 | 3741 |
| 50.10 | 9866 | 68.05 | 5387 | 80.00 | 468 | 103.95 | 254 |

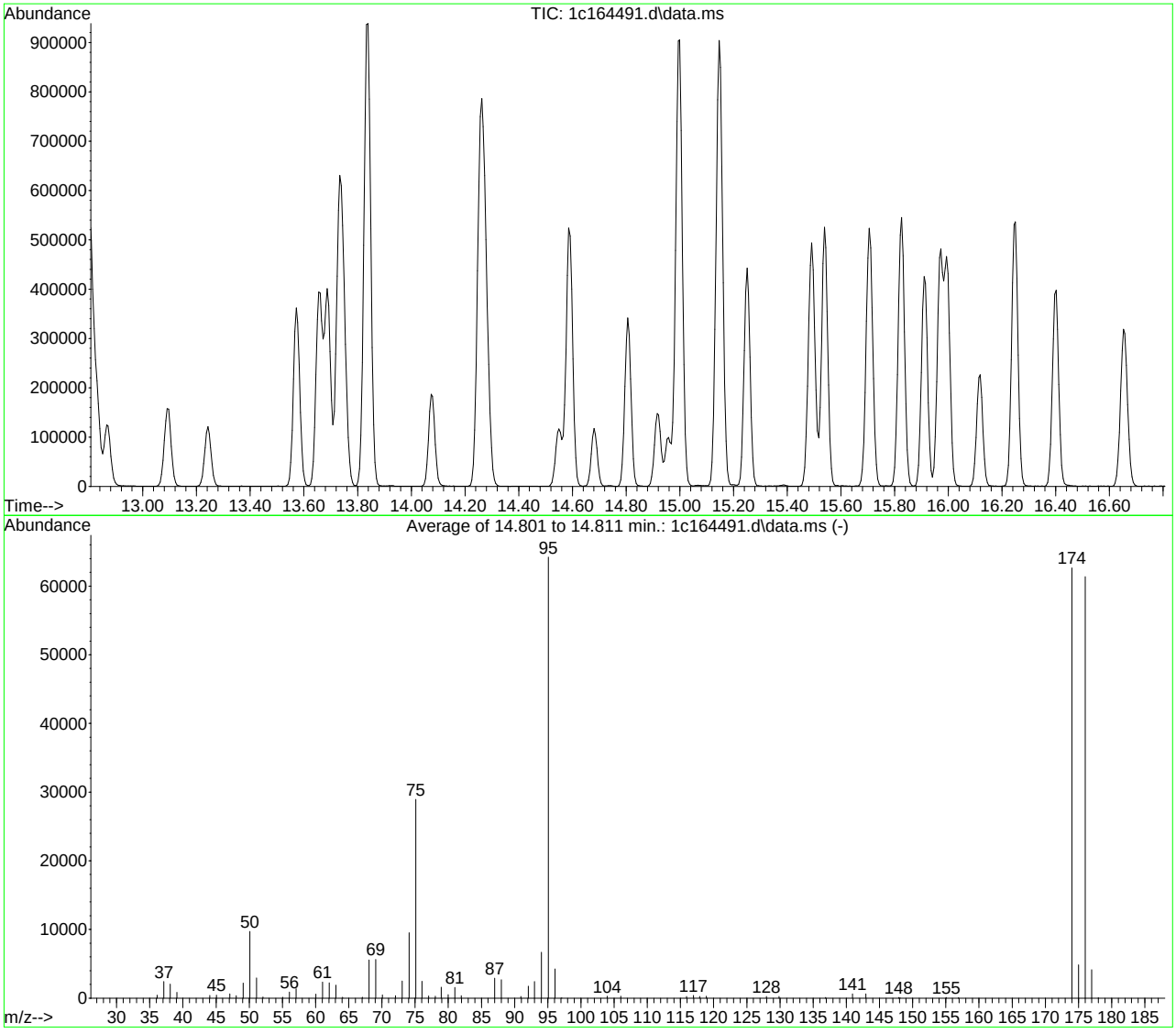
Average of 14.801 to 14.811 min.: 1C164004.D\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 105.95 | 231 | 154.95 | 117 | | | | |
| 115.95 | 210 | 174.00 | 47850 | | | | |
| 117.00 | 333 | 175.00 | 3704 | | | | |
| 117.95 | 212 | 176.00 | 46538 | | | | |
| 119.00 | 281 | 177.00 | 3149 | | | | |
| 127.90 | 120 | | | | | | |
| 128.90 | 103 | | | | | | |
| 129.95 | 234 | | | | | | |
| 140.95 | 508 | | | | | | |
| 142.95 | 581 | | | | | | |
| 148.00 | 51 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\data\ke...14\v1c7218\1c164491.d Vial: 1
Acq On : 13 May 2019 9:43 am Operator: PrashanS
Sample : BFB Inst : GCMS1C
Misc : MS34533,V1C7218,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um




AutoFind: Scans 2145, 2146, 2147; Background Corrected with Scan 2137

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 15.1 | 9704 | PASS |
| 75 | 95 | 30 | 60 | 45.0 | 28920 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 64205 | PASS |
| 96 | 95 | 5 | 9 | 6.6 | 4250 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 97.5 | 62629 | PASS |
| 175 | 174 | 5 | 9 | 7.7 | 4841 | PASS |
| 176 | 174 | 95 | 101 | 98.0 | 61379 | PASS |
| 177 | 176 | 5 | 9 | 6.7 | 4126 | PASS |

1c164491.d M1CS7200.M Tue May 14 11:19:05 2019

Average of 14.801 to 14.811 min.: 1c164491.d\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.10 | 447 | 52.05 | 183 | 69.05 | 5637 | 81.00 | 1566 |
| 37.10 | 2410 | 55.05 | 133 | 70.05 | 456 | 81.95 | 353 |
| 38.10 | 2040 | 56.05 | 868 | 72.05 | 345 | 87.00 | 2900 |
| 39.10 | 836 | 57.05 | 1379 | 73.05 | 2500 | 88.00 | 2674 |
| 44.05 | 377 | 60.05 | 567 | 74.10 | 9521 | 90.95 | 250 |
| 45.05 | 417 | 61.05 | 2357 | 75.10 | 28920 | 92.05 | 1739 |
| 47.05 | 623 | 62.05 | 2219 | 76.05 | 2442 | 93.00 | 2399 |
| 48.05 | 353 | 63.05 | 1884 | 77.05 | 335 | 94.05 | 6668 |
| 49.10 | 2204 | 64.05 | 135 | 78.05 | 272 | 95.10 | 64205 |
| 50.10 | 9704 | 67.05 | 132 | 78.95 | 1581 | 96.10 | 4250 |
| 51.10 | 2927 | 68.05 | 5560 | 80.00 | 514 | 97.10 | 60 |

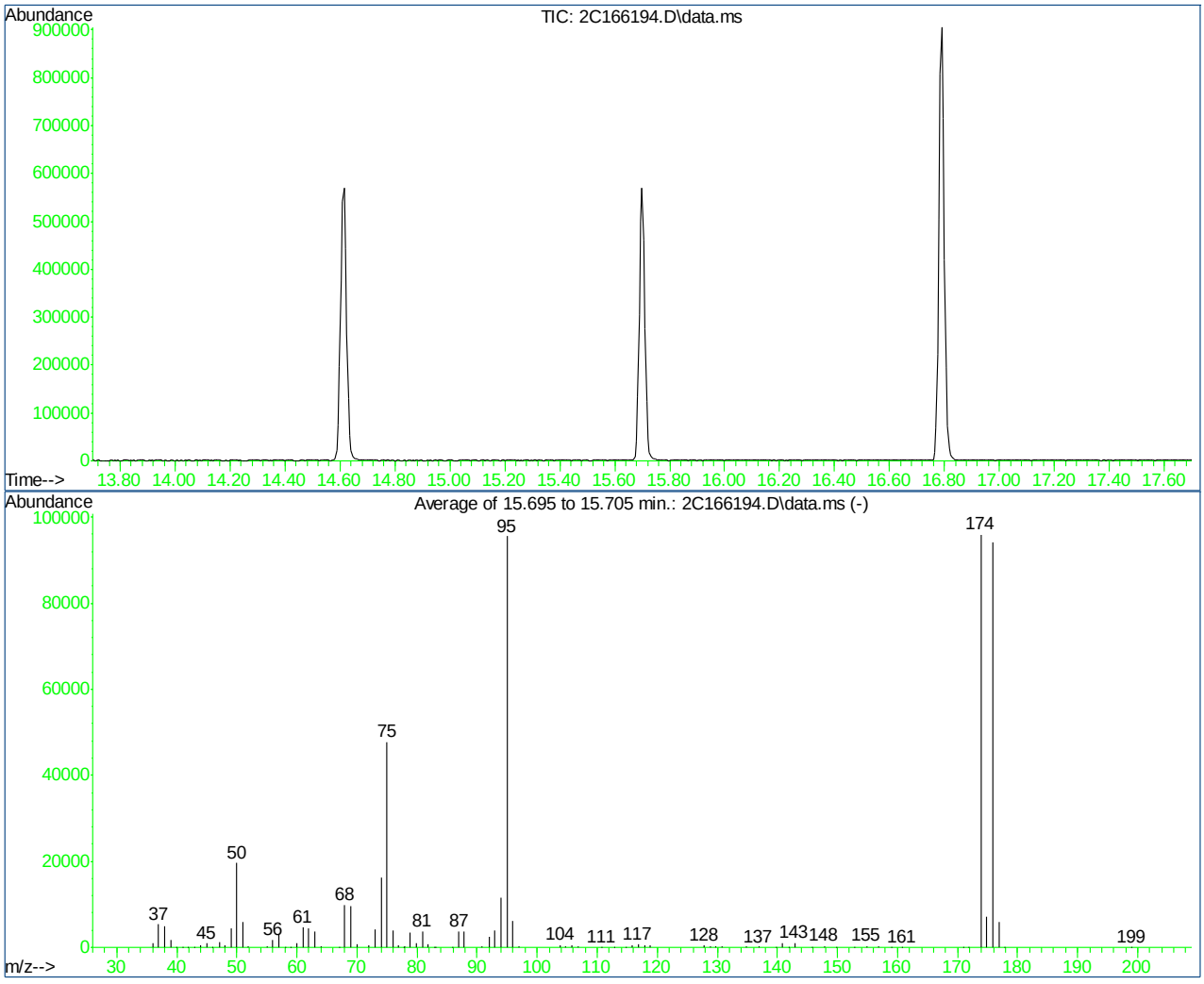
Average of 14.801 to 14.811 min.: 1c164491.d\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 103.95 | 292 | 147.90 | 108 | | | | |
| 106.00 | 279 | 148.10 | 59 | | | | |
| 115.90 | 249 | 155.05 | 112 | | | | |
| 116.95 | 386 | 156.90 | 51 | | | | |
| 117.90 | 239 | 174.00 | 62629 | | | | |
| 118.90 | 284 | 175.00 | 4841 | | | | |
| 127.95 | 247 | 176.00 | 61379 | | | | |
| 129.85 | 228 | 177.00 | 4126 | | | | |
| 136.85 | 108 | 178.00 | 49 | | | | |
| 140.95 | 631 | | | | | | |
| 142.95 | 618 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V2C7441\2C166194.D  Vial: 1
Acq On : 20 Mar 2019 3:08 pm  Operator: edwardd
Sample : BFB  Inst : Instrument #1
Misc : MS32911,V2C7441,w,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um




AutoFind: Scans 2234, 2235, 2236; Background Corrected with Scan 2226

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 20.5 | 19561 | PASS |
| 75 | 95 | 30 | 60 | 49.9 | 47709 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 95514 | PASS |
| 96 | 95 | 5 | 9 | 6.5 | 6244 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 100.5 | 95981 | PASS |
| 175 | 174 | 5 | 9 | 7.5 | 7159 | PASS |
| 176 | 174 | 95 | 101 | 98.1 | 94133 | PASS |
| 177 | 176 | 5 | 9 | 6.4 | 5988 | PASS |

2C166194.D M2C7441.M Thu Mar 21 14:04:30 2019 RPT1

Average of 15.695 to 15.705 min.: 2C166194.D\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 1015 | 47.05 | 1117 | 60.00 | 912 | 74.00 | 16178 |
| 37.00 | 5399 | 48.00 | 589 | 61.00 | 4670 | 75.00 | 47709 |
| 38.00 | 5021 | 49.00 | 4455 | 62.00 | 4464 | 76.00 | 3861 |
| 38.95 | 1765 | 50.00 | 19561 | 63.00 | 3602 | 76.90 | 576 |
| 39.90 | 79 | 51.00 | 5920 | 64.00 | 374 | 77.80 | 127 |
| 40.90 | 46 | 51.95 | 295 | 67.00 | 90 | 78.00 | 257 |
| 41.80 | 40 | 55.00 | 236 | 68.00 | 9858 | 78.90 | 3482 |
| 42.90 | 13 | 56.00 | 1728 | 69.00 | 9668 | 79.90 | 917 |
| 43.95 | 559 | 57.00 | 2935 | 69.95 | 799 | 80.90 | 3759 |
| 45.00 | 930 | 58.10 | 50 | 71.95 | 571 | 81.90 | 791 |
| 45.90 | 54 | 58.90 | 40 | 73.00 | 4185 | 82.90 | 47 |

Average of 15.695 to 15.705 min.: 2C166194.D\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 83.10 | 46 | 103.85 | 572 | 127.85 | 381 | 147.85 | 260 |
| 85.90 | 96 | 104.80 | 186 | 128.85 | 200 | 149.85 | 84 |
| 86.95 | 3812 | 105.85 | 518 | 129.80 | 320 | 152.80 | 50 |
| 87.90 | 3801 | 106.85 | 143 | 130.85 | 155 | 154.85 | 254 |
| 90.80 | 379 | 110.80 | 56 | 134.85 | 161 | 156.90 | 165 |
| 92.00 | 2564 | 112.80 | 97 | 136.90 | 229 | 158.90 | 87 |
| 93.00 | 3950 | 114.80 | 68 | 139.70 | 43 | 160.80 | 119 |
| 94.00 | 11555 | 115.90 | 425 | 140.90 | 1020 | 170.90 | 43 |
| 95.00 | 95514 | 116.80 | 649 | 141.85 | 130 | 171.90 | 74 |
| 95.95 | 6244 | 117.85 | 430 | 142.90 | 1076 | 173.90 | 95981 |
| 96.90 | 216 | 118.85 | 586 | 145.80 | 106 | 174.90 | 7159 |

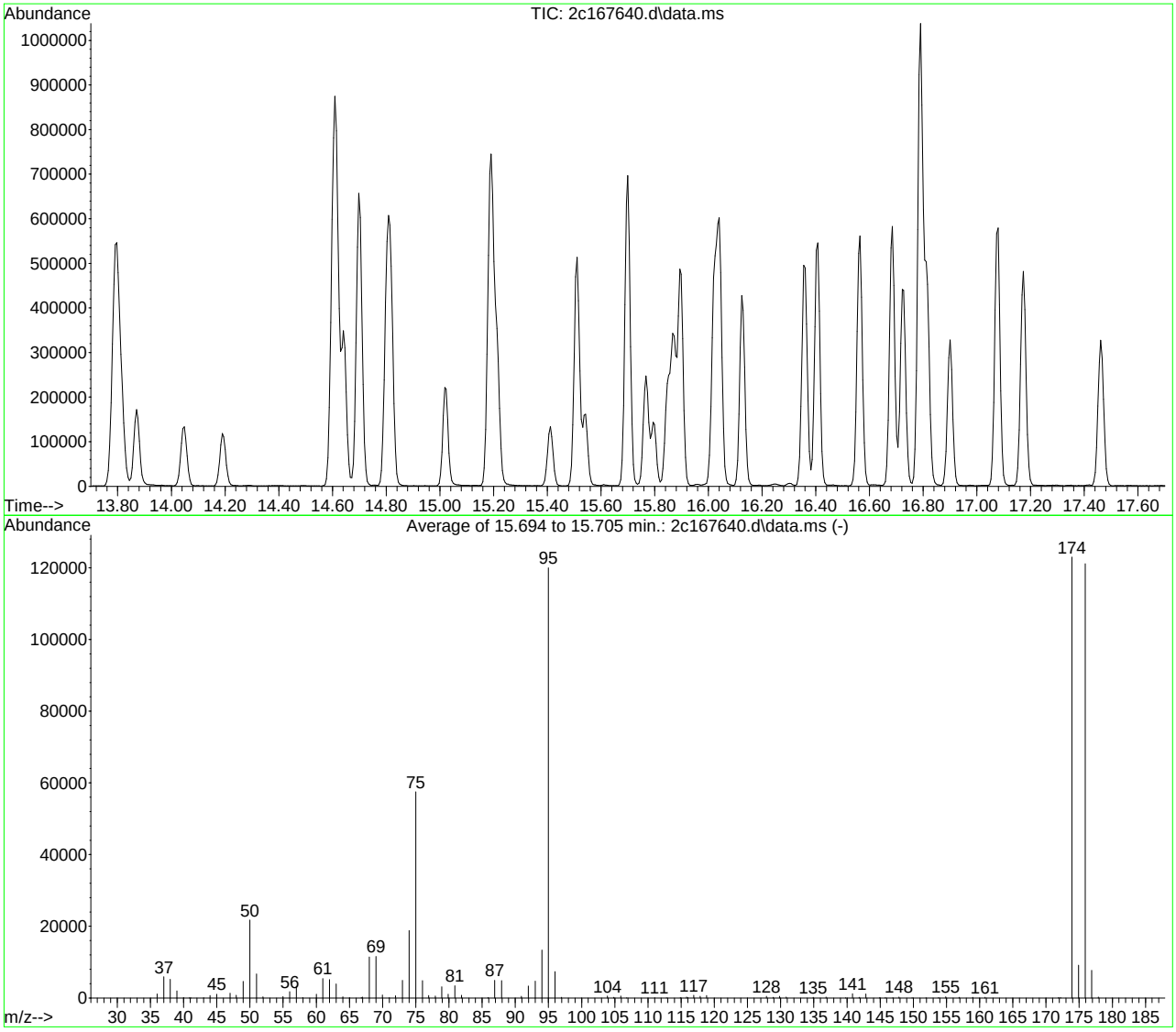
Average of 15.695 to 15.705 min.: 2C166194.D\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 175.90 | 94133 | | | | | | |
| 176.90 | 5988 | | | | | | |
| 177.85 | 115 | | | | | | |
| 199.00 | 49 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\data\ja...19\v2c7520\2c167640.d Vial: 2
Acq On : 15 May 2019 6:35 am Operator: thienn
Sample : BFB Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um




AutoFind: Scans 2234, 2235, 2236; Background Corrected with Scan 2226

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 18.1 | 21784 | PASS |
| 75 | 95 | 30 | 60 | 47.9 | 57507 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 120035 | PASS |
| 96 | 95 | 5 | 9 | 6.1 | 7369 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 102.5 | 122989 | PASS |
| 175 | 174 | 5 | 9 | 7.4 | 9119 | PASS |
| 176 | 174 | 95 | 101 | 98.5 | 121173 | PASS |
| 177 | 176 | 5 | 9 | 6.4 | 7721 | PASS |

2c167640.d M2C7441.M Wed May 15 22:44:19 2019

Average of 15.694 to 15.705 min.: 2c167640.d\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 1106 | 47.95 | 720 | 62.00 | 5126 | 73.00 | 4914 |
| 37.00 | 5890 | 49.00 | 4650 | 63.00 | 3893 | 74.00 | 18845 |
| 38.00 | 5233 | 50.00 | 21784 | 64.00 | 323 | 75.00 | 57507 |
| 39.00 | 2002 | 51.00 | 6699 | 65.00 | 45 | 76.00 | 4829 |
| 40.00 | 90 | 51.95 | 312 | 66.80 | 105 | 76.95 | 685 |
| 40.90 | 47 | 55.00 | 385 | 66.95 | 249 | 77.95 | 508 |
| 41.10 | 49 | 56.00 | 1750 | 68.00 | 11448 | 78.90 | 3099 |
| 43.00 | 26 | 57.00 | 3248 | 69.00 | 11599 | 79.90 | 1038 |
| 44.00 | 652 | 57.95 | 108 | 69.95 | 860 | 80.90 | 3420 |
| 45.00 | 1077 | 60.00 | 1070 | 71.00 | 46 | 81.90 | 731 |
| 47.00 | 1322 | 61.00 | 5421 | 71.95 | 597 | 85.90 | 129 |

Average of 15.694 to 15.705 min.: 2c167640.d\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 86.90 | 4904 | 105.90 | 522 | 128.85 | 219 | 146.90 | 47 |
| 87.95 | 4859 | 106.80 | 44 | 129.85 | 444 | 147.85 | 288 |
| 90.90 | 446 | 111.00 | 46 | 130.85 | 239 | 149.80 | 44 |
| 91.95 | 3351 | 112.80 | 44 | 134.90 | 209 | 151.90 | 45 |
| 93.00 | 4725 | 114.90 | 98 | 136.85 | 231 | 153.80 | 87 |
| 94.00 | 13387 | 115.80 | 276 | 139.80 | 44 | 154.90 | 301 |
| 95.00 | 120035 | 116.00 | 127 | 140.85 | 1162 | 156.90 | 170 |
| 96.00 | 7369 | 116.90 | 749 | 141.85 | 166 | 158.95 | 169 |
| 96.95 | 213 | 117.85 | 493 | 142.85 | 1088 | 160.80 | 149 |
| 103.90 | 537 | 118.85 | 653 | 144.95 | 92 | 171.90 | 86 |
| 104.80 | 191 | 127.85 | 461 | 145.80 | 103 | 172.20 | 95 |

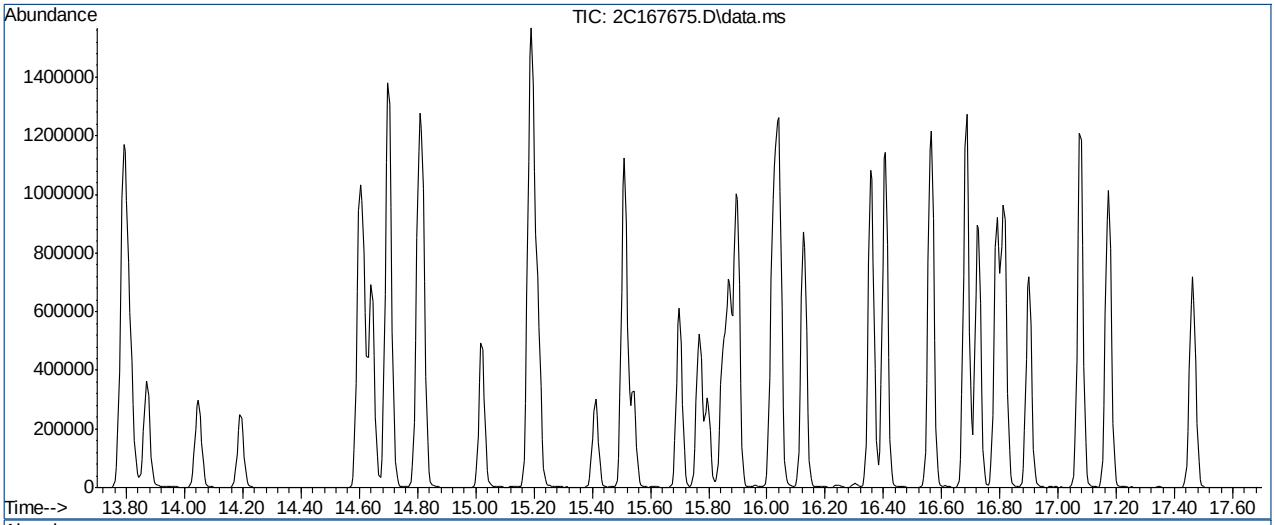
Average of 15.694 to 15.705 min.: 2c167640.d\data.ms
BFB
Modified:subtracted

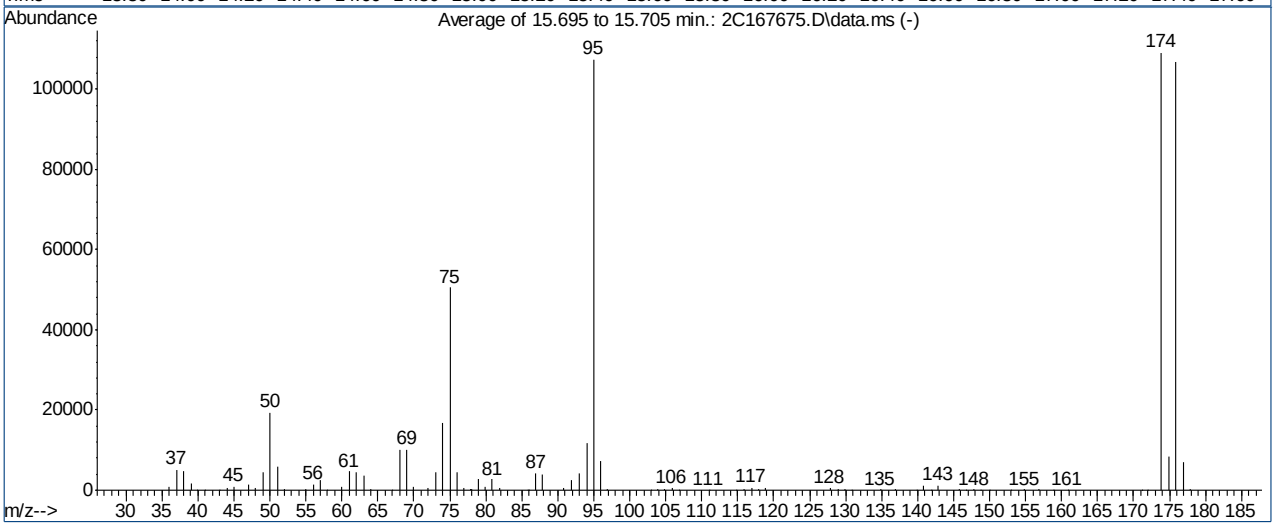
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 173.90 | 122989 | | | | | | |
| 174.90 | 9119 | | | | | | |
| 175.90 | 121173 | | | | | | |
| 176.90 | 7721 | | | | | | |
| 177.90 | 250 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V2C7521\2C167675.D  Vial: 4
Acq On : 16 May 2019 7:47 am  Operator: thienn
Sample : bfb  Inst : Instrument #1
Misc : MS32144,V2C7521,5,,100,5,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2C7441.M (RTE Integrator)
Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um




AutoFind: Scans 2234, 2235, 2236; Background Corrected with Scan 2226

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 18.1 | 19435 | PASS |
| 75 | 95 | 30 | 60 | 47.0 | 50485 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 107376 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 7167 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 101.7 | 109170 | PASS |
| 175 | 174 | 5 | 9 | 7.6 | 8267 | PASS |
| 176 | 174 | 95 | 101 | 97.8 | 106800 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 6909 | PASS |

2C167675.D M2C7441.M Thu May 16 11:27:02 2019 RPT1

Average of 15.695 to 15.705 min.: 2C167675.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 929 | 49.00 | 4347 | 63.00 | 3636 | 76.95 | 589 |
| 37.00 | 5110 | 50.00 | 19435 | 63.95 | 336 | 77.80 | 167 |
| 38.00 | 4658 | 51.00 | 5915 | 66.90 | 72 | 77.95 | 328 |
| 39.05 | 1793 | 52.00 | 316 | 68.00 | 9973 | 78.90 | 2698 |
| 39.90 | 26 | 55.00 | 230 | 69.00 | 10203 | 79.95 | 842 |
| 40.90 | 9 | 56.00 | 1438 | 70.00 | 760 | 80.90 | 2759 |
| 43.05 | 148 | 57.00 | 2573 | 72.00 | 509 | 81.90 | 648 |
| 44.00 | 561 | 57.90 | 57 | 73.00 | 4594 | 85.80 | 98 |
| 45.00 | 842 | 60.00 | 847 | 74.00 | 16747 | 86.00 | 45 |
| 47.00 | 1338 | 61.00 | 4700 | 75.00 | 50485 | 86.95 | 4276 |
| 47.95 | 647 | 62.00 | 4463 | 76.00 | 4349 | 87.90 | 4049 |

Average of 15.695 to 15.705 min.: 2C167675.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 90.85 | 443 | 106.80 | 45 | 134.85 | 183 | 152.90 | 45 |
| 91.95 | 2575 | 111.00 | 49 | 136.85 | 176 | 154.85 | 274 |
| 92.95 | 4072 | 114.80 | 79 | 139.90 | 85 | 156.90 | 202 |
| 94.00 | 11726 | 115.85 | 390 | 140.85 | 1073 | 158.85 | 108 |
| 95.00 | 107376 | 116.90 | 682 | 141.90 | 82 | 160.85 | 139 |
| 96.00 | 7167 | 117.85 | 354 | 142.90 | 1137 | 171.20 | 41 |
| 96.95 | 188 | 118.80 | 542 | 145.80 | 194 | 171.90 | 74 |
| 103.00 | 44 | 127.85 | 480 | 146.70 | 41 | 173.90 | 109170 |
| 103.90 | 413 | 128.90 | 157 | 147.85 | 253 | 174.90 | 8267 |
| 104.80 | 191 | 129.85 | 386 | 148.70 | 41 | 175.90 | 106800 |
| 105.85 | 442 | 130.90 | 150 | 150.00 | 50 | 176.90 | 6909 |

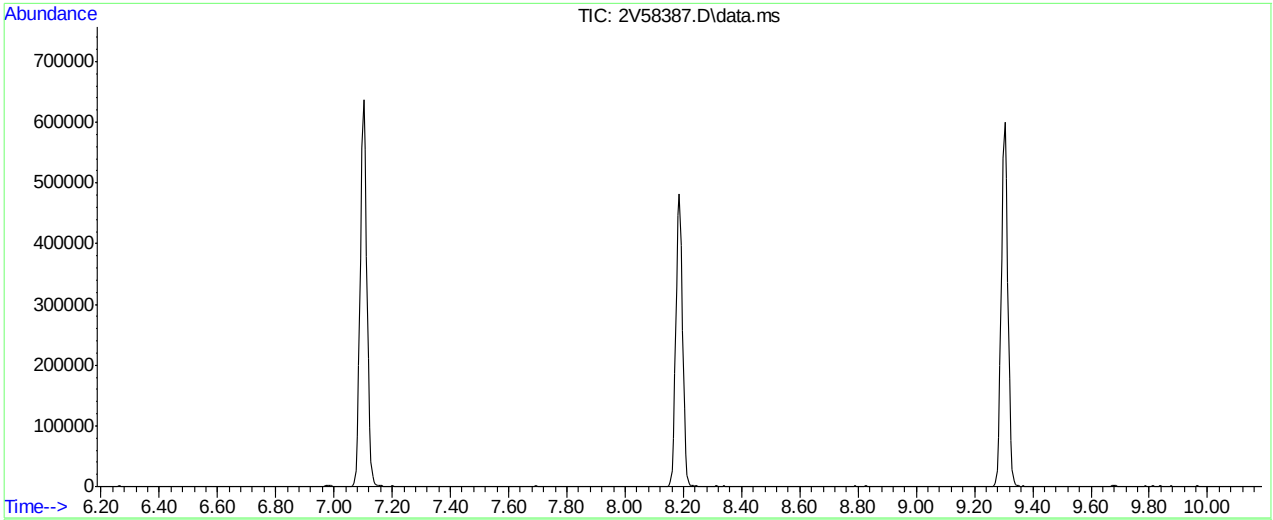
Average of 15.695 to 15.705 min.: 2C167675.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 177.85 | 198 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V2V2392\2V58387.D  Vial: 1
Acq On : 2 May 2019 5:18 pm  Operator: EddieH
Sample : bfb  Inst : MS2V
Misc : MS34255,V2V2392,5,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)




AutoFind: Scans 1296, 1297, 1298; Background Corrected with Scan 1286

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.3 | 14543 | PASS |
| 75 | 95 | 30 | 60 | 46.9 | 41733 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 89016 | PASS |
| 96 | 95 | 5 | 9 | 6.9 | 6175 | PASS |
| 173 | 174 | 0.00 | 2 | 1.1 | 893 | PASS |
| 174 | 95 | 50 | 120 | 91.3 | 81229 | PASS |
| 175 | 174 | 5 | 9 | 7.4 | 6033 | PASS |
| 176 | 174 | 95 | 101 | 96.2 | 78155 | PASS |
| 177 | 176 | 5 | 9 | 6.5 | 5116 | PASS |

2V58387.D M2V2392.M Mon May 06 08:40:02 2019 RPT1

Average of 8.182 to 8.192 min.: 2V58387.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.05 | 698 | 50.00 | 14543 | 64.05 | 259 | 76.95 | 492 |
| 37.05 | 3747 | 51.00 | 4499 | 66.90 | 89 | 77.90 | 307 |
| 38.00 | 3330 | 52.00 | 200 | 67.05 | 158 | 78.95 | 3383 |
| 39.00 | 1386 | 55.00 | 219 | 68.00 | 8648 | 79.95 | 956 |
| 39.90 | 45 | 56.00 | 1437 | 69.00 | 8733 | 80.90 | 3691 |
| 43.00 | 35 | 57.00 | 2431 | 70.05 | 675 | 81.95 | 714 |
| 44.00 | 578 | 57.95 | 86 | 72.00 | 405 | 83.00 | 84 |
| 45.05 | 807 | 59.95 | 727 | 73.00 | 3662 | 86.05 | 83 |
| 47.05 | 1015 | 61.00 | 4032 | 74.00 | 13730 | 87.00 | 3859 |
| 47.95 | 516 | 62.00 | 3704 | 75.00 | 41733 | 88.00 | 3679 |
| 49.00 | 3245 | 63.00 | 2940 | 76.00 | 3567 | 90.90 | 404 |

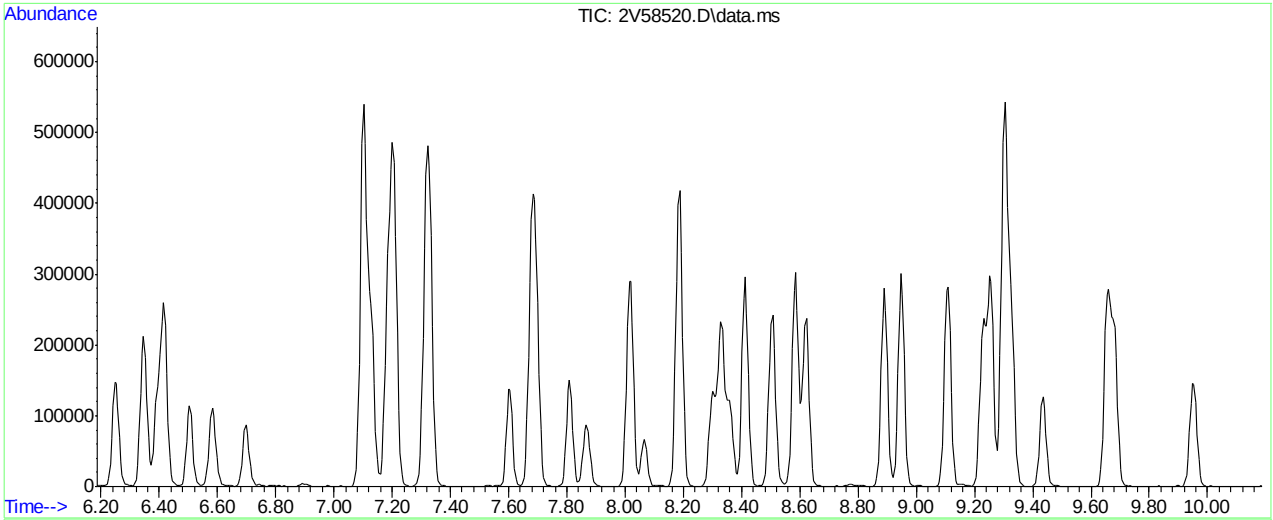
Average of 8.182 to 8.192 min.: 2V58387.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 92.00 | 2623 | 114.90 | 82 | 136.90 | 246 | 160.70 | 36 |
| 93.00 | 3839 | 115.85 | 346 | 140.95 | 991 | 171.95 | 77 |
| 94.00 | 10343 | 116.90 | 586 | 141.95 | 88 | 173.00 | 893 |
| 95.00 | 89016 | 117.90 | 334 | 142.95 | 1006 | 173.90 | 81229 |
| 96.00 | 6175 | 118.90 | 490 | 145.00 | 70 | 174.95 | 6033 |
| 96.95 | 208 | 127.80 | 231 | 145.85 | 188 | 175.90 | 78155 |
| 103.95 | 411 | 128.00 | 113 | 147.85 | 263 | 176.95 | 5116 |
| 104.90 | 153 | 128.90 | 141 | 153.80 | 34 | 177.95 | 144 |
| 105.90 | 454 | 129.90 | 377 | 154.95 | 180 | | |
| 110.85 | 99 | 130.95 | 135 | 156.80 | 137 | | |
| 112.90 | 88 | 134.85 | 208 | 158.80 | 83 | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V2V2399\2V58520.D  Vial: 2
Acq On : 13 May 2019 6:40 am  Operator: EddieH
Sample : bfb  Inst : MS2V
Misc : MS34633,V2V2399,5,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)




AutoFind: Scans 1296, 1297, 1298; Background Corrected with Scan 1287

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.2 | 12322 | PASS |
| 75 | 95 | 30 | 60 | 45.2 | 34389 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 76072 | PASS |
| 96 | 95 | 5 | 9 | 6.3 | 4779 | PASS |
| 173 | 174 | 0.00 | 2 | 1.3 | 948 | PASS |
| 174 | 95 | 50 | 120 | 98.3 | 74757 | PASS |
| 175 | 174 | 5 | 9 | 7.5 | 5608 | PASS |
| 176 | 174 | 95 | 101 | 96.1 | 71821 | PASS |
| 177 | 176 | 5 | 9 | 6.1 | 4392 | PASS |

2V58520.D M2V2392.M Mon May 13 11:52:27 2019 RPT1

Average of 8.182 to 8.192 min.: 2V58520.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.05 | 541 | 51.05 | 3772 | 69.00 | 6940 | 80.90 | 2728 |
| 37.05 | 2901 | 52.05 | 164 | 70.00 | 611 | 81.90 | 564 |
| 38.00 | 2849 | 56.05 | 1070 | 72.05 | 423 | 83.00 | 34 |
| 39.00 | 928 | 57.05 | 1888 | 73.00 | 2969 | 86.95 | 3475 |
| 43.00 | 42 | 59.95 | 564 | 74.00 | 11800 | 87.95 | 3262 |
| 44.00 | 568 | 61.00 | 3134 | 75.05 | 34389 | 90.90 | 342 |
| 45.05 | 645 | 62.00 | 3038 | 76.10 | 2866 | 92.00 | 2040 |
| 47.05 | 642 | 63.05 | 2414 | 77.00 | 452 | 93.05 | 3039 |
| 48.10 | 311 | 64.05 | 261 | 77.95 | 344 | 94.00 | 8849 |
| 49.05 | 2498 | 66.95 | 205 | 78.95 | 2742 | 95.00 | 76072 |
| 50.00 | 12322 | 68.00 | 6922 | 79.95 | 763 | 96.00 | 4779 |

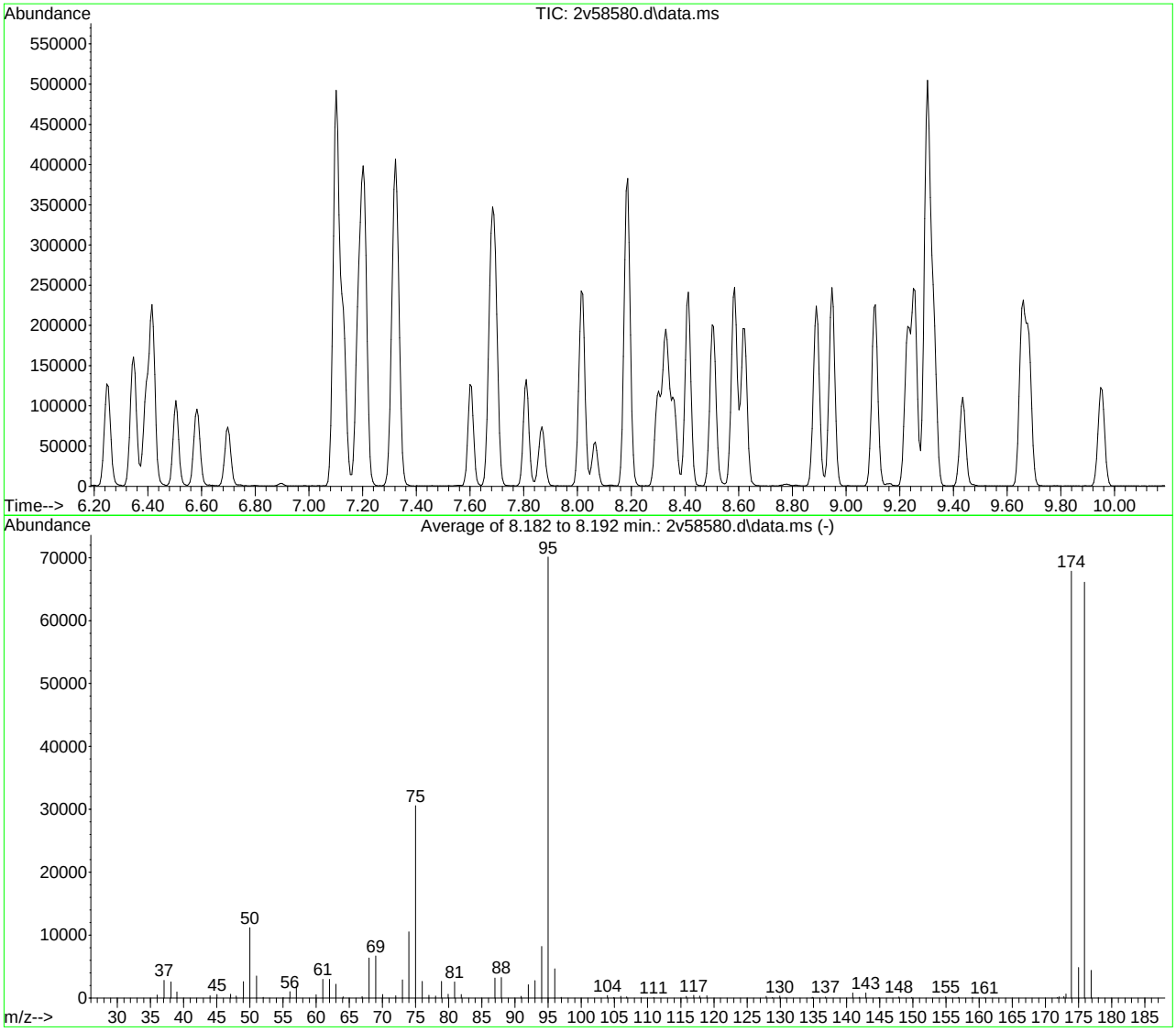
Average of 8.182 to 8.192 min.: 2V58520.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 97.05 | 161 | 117.90 | 317 | 142.90 | 843 | 173.95 | 74757 |
| 103.95 | 389 | 118.90 | 481 | 144.90 | 73 | 174.95 | 5608 |
| 104.90 | 63 | 126.80 | 34 | 145.90 | 96 | 175.90 | 71821 |
| 105.05 | 133 | 127.85 | 358 | 147.80 | 129 | 176.95 | 4392 |
| 105.80 | 224 | 128.90 | 97 | 154.85 | 244 | 178.00 | 119 |
| 106.00 | 128 | 129.95 | 302 | 156.95 | 79 | 207.00 | 48 |
| 106.90 | 221 | 131.00 | 83 | 158.95 | 132 | | |
| 108.95 | 137 | 134.85 | 161 | 160.90 | 51 | | |
| 114.80 | 43 | 136.85 | 113 | 171.65 | 111 | | |
| 115.85 | 267 | 140.90 | 847 | 172.00 | 44 | | |
| 116.90 | 544 | 141.95 | 83 | 172.95 | 948 | | |

SW-846 Method 8260

Data File : C:\msdchem\1\data\ni...-19\v2v2401\2v58580.d Vial: 2
Acq On : 15 May 2019 6:38 am Operator: EddieH
Sample : bfb Inst : MS2V
Misc : MS34708,V2V2401,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2V2392.M (RTE Integrator)
Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)




AutoFind: Scans 1296, 1297, 1298; Background Corrected with Scan 1287

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.0 | 11195 | PASS |
| 75 | 95 | 30 | 60 | 43.6 | 30565 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 70099 | PASS |
| 96 | 95 | 5 | 9 | 6.6 | 4639 | PASS |
| 173 | 174 | 0.00 | 2 | 0.9 | 624 | PASS |
| 174 | 95 | 50 | 120 | 96.8 | 67883 | PASS |
| 175 | 174 | 5 | 9 | 7.1 | 4851 | PASS |
| 176 | 174 | 95 | 101 | 97.4 | 66117 | PASS |
| 177 | 176 | 5 | 9 | 6.6 | 4372 | PASS |

2v58580.d M2V2392.M Thu May 16 05:40:49 2019

Average of 8.182 to 8.192 min.: 2v58580.d\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 490 | 52.00 | 117 | 69.00 | 6691 | 80.90 | 2559 |
| 37.05 | 2781 | 55.05 | 66 | 70.05 | 538 | 81.90 | 551 |
| 38.10 | 2570 | 56.05 | 1014 | 72.00 | 334 | 86.95 | 3159 |
| 39.00 | 983 | 57.00 | 1841 | 73.00 | 2877 | 87.95 | 3234 |
| 44.00 | 351 | 60.00 | 519 | 74.00 | 10531 | 90.90 | 262 |
| 45.05 | 561 | 61.00 | 2959 | 75.00 | 30565 | 92.00 | 2110 |
| 47.10 | 605 | 62.00 | 2955 | 76.00 | 2652 | 93.00 | 2769 |
| 47.95 | 298 | 63.00 | 2207 | 77.00 | 447 | 94.00 | 8175 |
| 49.05 | 2579 | 64.05 | 175 | 78.00 | 293 | 95.00 | 70099 |
| 50.00 | 11195 | 66.95 | 221 | 78.90 | 2655 | 96.00 | 4639 |
| 51.00 | 3476 | 68.00 | 6352 | 79.90 | 609 | 96.95 | 107 |

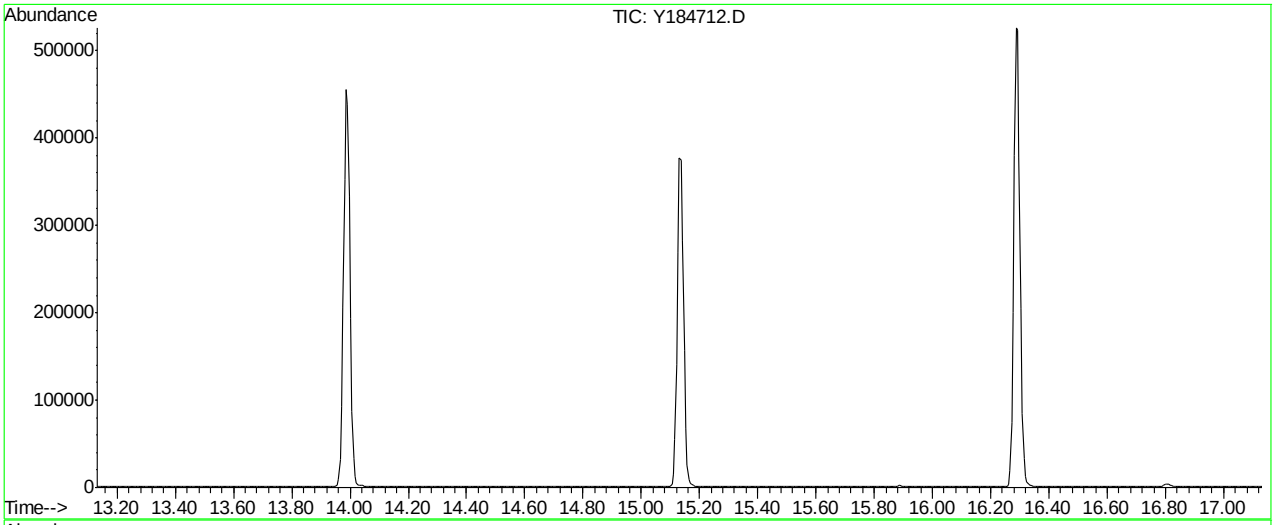
Average of 8.182 to 8.192 min.: 2v58580.d\data.ms
bfb
Modified:subtracted

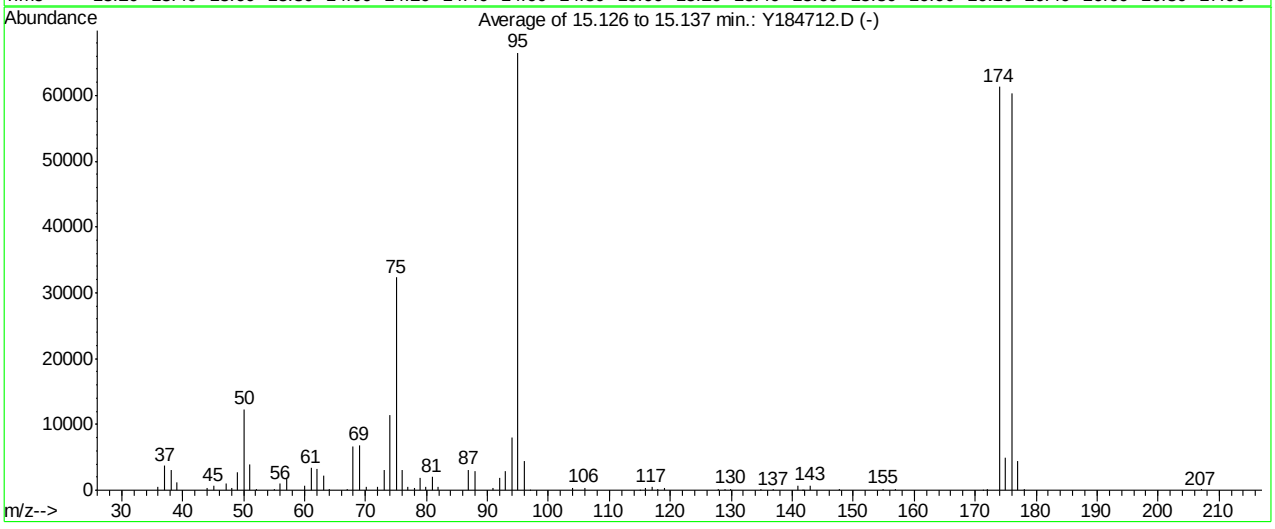
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 103.95 | 389 | 128.80 | 64 | 149.80 | 48 | 175.90 | 66117 |
| 104.85 | 69 | 129.95 | 298 | 154.95 | 196 | 176.90 | 4372 |
| 105.95 | 276 | 130.80 | 36 | 156.90 | 89 | 178.00 | 34 |
| 106.85 | 175 | 134.70 | 34 | 159.00 | 101 | | |
| 109.00 | 38 | 134.90 | 120 | 160.80 | 41 | | |
| 110.90 | 44 | 136.85 | 167 | 171.80 | 50 | | |
| 115.85 | 280 | 140.95 | 780 | 172.05 | 190 | | |
| 116.95 | 443 | 141.95 | 110 | 172.80 | 221 | | |
| 117.85 | 315 | 142.90 | 806 | 173.10 | 624 | | |
| 118.95 | 353 | 144.90 | 45 | 173.90 | 67883 | | |
| 127.90 | 277 | 147.90 | 204 | 175.00 | 4851 | | |

SW-846 Method 8260

Data File : C:\MSDChem\1\DATA\VY8014\Y184712.D  Vial: 2
Acq On : 24 Apr 2019 2:32 pm  Operator: ROBERTS
Sample : BFB  Inst : MSY
Misc : MS34134,VY8014,5.0,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8014.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um




AutoFind: Scans 2112, 2113, 2114; Background Corrected with Scan 2104

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 18.5 | 12333 | PASS |
| 75 | 95 | 30 | 60 | 48.6 | 32341 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 66517 | PASS |
| 96 | 95 | 5 | 9 | 6.6 | 4405 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 92.1 | 61248 | PASS |
| 175 | 174 | 5 | 9 | 8.0 | 4917 | PASS |
| 176 | 174 | 95 | 101 | 98.5 | 60341 | PASS |
| 177 | 176 | 5 | 9 | 7.4 | 4460 | PASS |

Y184712.D MYS8014.M Fri Apr 26 15:43:27 2019 RPT1

Average of 15.126 to 15.137 min.: Y184712.D
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 595 | 52.05 | 259 | 69.00 | 6865 | 80.95 | 2001 |
| 37.10 | 3673 | 55.00 | 173 | 70.05 | 543 | 81.95 | 443 |
| 38.10 | 3024 | 56.00 | 973 | 72.00 | 487 | 86.95 | 3092 |
| 39.05 | 1165 | 57.00 | 1710 | 73.00 | 3109 | 88.00 | 2905 |
| 44.00 | 313 | 60.05 | 736 | 74.00 | 11382 | 90.95 | 322 |
| 45.05 | 624 | 61.05 | 3333 | 75.00 | 32341 | 92.00 | 1868 |
| 47.05 | 1037 | 62.05 | 3223 | 76.05 | 3010 | 93.00 | 2892 |
| 48.00 | 380 | 63.10 | 2225 | 76.95 | 471 | 94.00 | 8059 |
| 49.05 | 2738 | 64.05 | 159 | 77.95 | 344 | 95.00 | 66517 |
| 50.10 | 12333 | 66.95 | 122 | 78.90 | 1843 | 96.00 | 4405 |
| 51.05 | 3937 | 68.00 | 6699 | 79.95 | 557 | 97.00 | 72 |

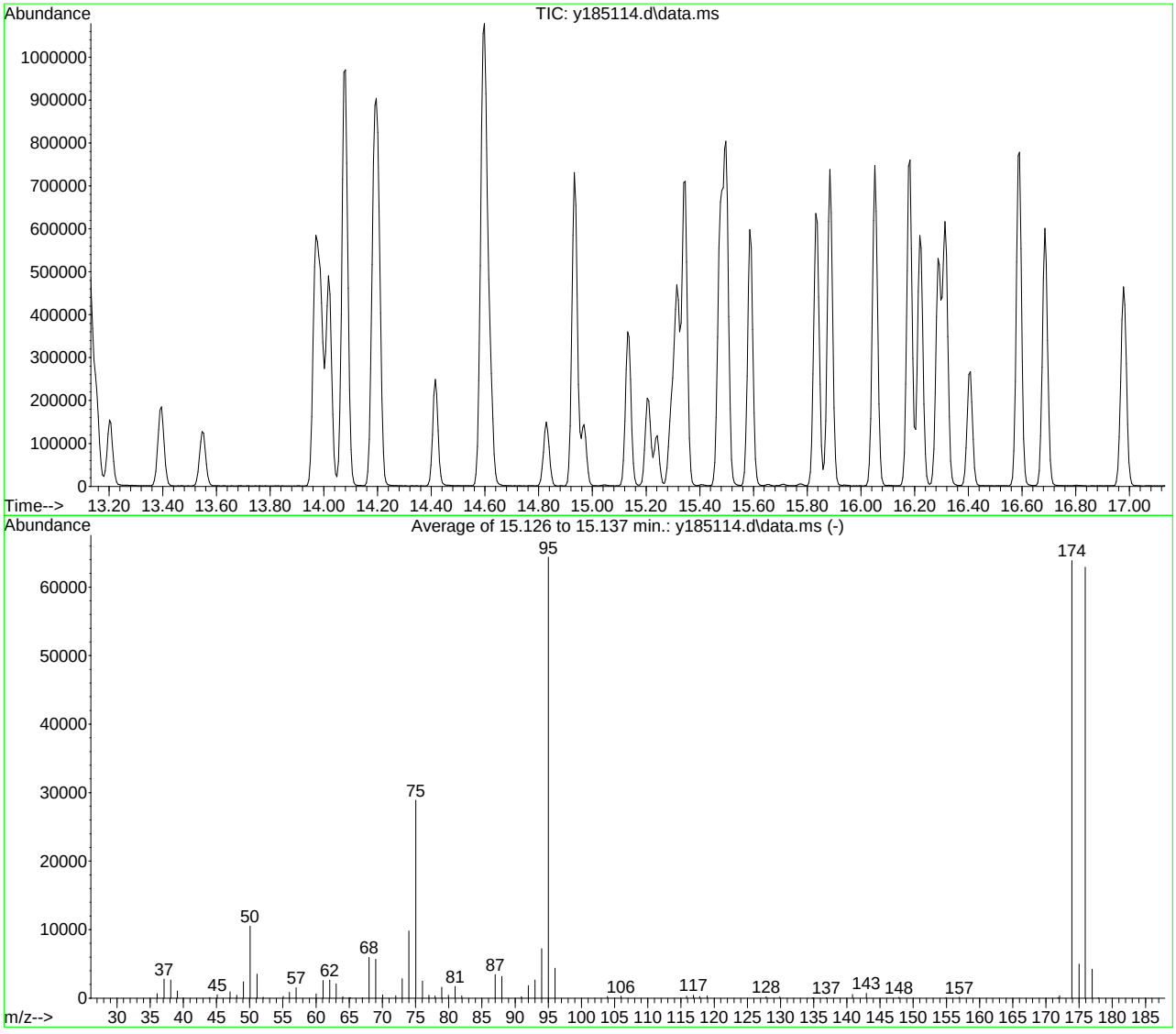
Average of 15.126 to 15.137 min.: Y184712.D
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 103.90 | 287 | 136.90 | 147 | 175.00 | 4917 | | |
| 105.95 | 387 | 140.95 | 664 | 175.95 | 60341 | | |
| 114.90 | 54 | 141.70 | 59 | 176.95 | 4460 | | |
| 115.95 | 282 | 141.90 | 62 | 178.00 | 169 | | |
| 116.95 | 449 | 142.95 | 716 | 207.05 | 141 | | |
| 117.90 | 262 | 147.80 | 116 | | | | |
| 118.95 | 422 | 154.95 | 252 | | | | |
| 127.90 | 180 | 156.90 | 142 | | | | |
| 128.95 | 127 | 171.30 | 58 | | | | |
| 129.95 | 248 | 172.05 | 186 | | | | |
| 134.90 | 125 | 173.95 | 61248 | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\data\ja...4-19\vy8033\y185114.d Vial: 1
Acq On : 11 May 2019 10:31 am Operator: PrashanS
Sample : BFB Inst : MSY
Misc : MS34413,VY8033,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8014.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um




AutoFind: Scans 2112, 2113, 2114; Background Corrected with Scan 2105

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.3 | 10512 | PASS |
| 75 | 95 | 30 | 60 | 44.9 | 28915 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 64363 | PASS |
| 96 | 95 | 5 | 9 | 6.8 | 4384 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 99.2 | 63880 | PASS |
| 175 | 174 | 5 | 9 | 7.8 | 4956 | PASS |
| 176 | 174 | 95 | 101 | 98.5 | 62899 | PASS |
| 177 | 176 | 5 | 9 | 6.7 | 4215 | PASS |

y185114.d MYS8014.M Mon May 13 22:36:27 2019

Average of 15.126 to 15.137 min.: y185114.d\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.05 | 657 | 51.10 | 3513 | 65.20 | 70 | 77.95 | 317 |
| 37.10 | 2782 | 52.05 | 124 | 67.00 | 62 | 78.95 | 1604 |
| 38.10 | 2632 | 55.05 | 236 | 68.00 | 5930 | 79.95 | 434 |
| 39.10 | 1029 | 56.00 | 857 | 69.00 | 5672 | 80.95 | 1695 |
| 40.00 | 27 | 57.00 | 1530 | 70.05 | 464 | 81.95 | 313 |
| 44.00 | 104 | 60.00 | 636 | 72.00 | 374 | 87.00 | 3423 |
| 45.10 | 516 | 61.05 | 2577 | 73.00 | 2839 | 88.00 | 3173 |
| 47.05 | 931 | 62.05 | 2640 | 74.00 | 9798 | 90.95 | 216 |
| 48.05 | 423 | 63.05 | 2088 | 75.05 | 28915 | 92.00 | 1811 |
| 49.05 | 2365 | 64.05 | 199 | 76.05 | 2494 | 93.00 | 2659 |
| 50.05 | 10512 | 65.00 | 111 | 77.00 | 445 | 94.00 | 7222 |

Average of 15.126 to 15.137 min.: y185114.d\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 95.00 | 64363 | 135.00 | 58 | 175.90 | 62899 | | |
| 96.00 | 4384 | 136.90 | 60 | 176.95 | 4215 | | |
| 103.90 | 236 | 140.85 | 551 | 177.90 | 56 | | |
| 105.95 | 279 | 142.95 | 699 | | | | |
| 115.85 | 279 | 147.85 | 129 | | | | |
| 116.90 | 417 | 154.95 | 107 | | | | |
| 117.80 | 245 | 156.95 | 120 | | | | |
| 118.95 | 329 | 171.80 | 90 | | | | |
| 127.85 | 220 | 172.05 | 344 | | | | |
| 129.90 | 182 | 173.90 | 63880 | | | | |
| 134.80 | 58 | 175.00 | 4956 | | | | |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164005.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC7200-0.5
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 07:51:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.358 | 65 | 56857 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 180407 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 247388 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 195319 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 101386 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 75317 | 49.10 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.20% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 76558 | 50.42 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.84% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 263586 | 50.46 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.92% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 95733 | 50.70 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 101.40% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 6) chlorodifluoromethane | 3.896 | 51 | 923 | 0.47 | ug/L | | 65 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 1066 | 0.38 | ug/L | | 90 |
| 8) chloromethane | 4.283 | 50 | 1081 | 0.55 | ug/L | | 89 |
| 9) vinyl chloride | 4.508 | 62 | 808 | 0.42 | ug/L | | 86 |
| 10) 1,3-butadiene | 4.586 | 54 | 497 | 0.40 | ug/L | # | 71 |
| 11) bromomethane | 5.198 | 94 | 693 | 0.50 | ug/L | | 91 |
| 13) trichlorofluoromethane | 5.810 | 101 | 1237 | 0.43 | ug/L | | 80 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 716 | 0.47 | ug/L | | 90 |
| 25) methyl tert butyl ether | 7.719 | 73 | 1967 | 0.47 | ug/L | | 97 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 925 | 0.56 | ug/L | | 91 |
| 27) di-isopropyl ether | 8.300 | 45 | 2433 | 0.48 | ug/L | | 94 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 1384 | 0.49 | ug/L | | 84 |
| 30) chloroprene | 8.467 | 53 | 1101 | 0.44 | ug/L | | 89 |
| 32) hexane | 8.070 | 57 | 1214 | 0.45 | ug/L | | 91 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 2305 | 0.46 | ug/L | | 96 |
| 36) 2,2-dichloropropane | 9.089 | 77 | 1187 | 0.46 | ug/L | | 71 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 855 | 0.48 | ug/L | # | 68 |
| 42) chloroform | 9.466 | 85 | 1189 | 0.62 | ug/L | | 91 |
| 46) 1,1,1-trichloroethane | 9.696 | 97 | 1125 | 0.42 | ug/L | # | 66 |
| 47) cyclohexane | 9.769 | 84 | 1029 | 0.40 | ug/L | | 84 |
| 48) 1,1-dichloropropene | 9.879 | 75 | 1037 | 0.46 | ug/L | | 97 |
| 50) carbon tetrachloride | 9.895 | 117 | 989 | 0.42 | ug/L | # | 66 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 2403 | 0.39 | ug/L | | 82 |
| 56) benzene | 10.151 | 78 | 3489 | 0.58 | ug/L | | 86 |
| 61) trichloroethene | 10.863 | 130 | 715 | 0.43 | ug/L | | 88 |
| 64) 2-chloroethyl vinyl ether | 11.663 | 63 | 1781 | 2.18 | ug/L | | 97 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 730 | 0.49 | ug/L | | 93 |
| 69) bromodichloromethane | 11.427 | 83 | 1009 | 0.47 | ug/L | | 91 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 1217 | 0.50 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 924 | 2.19 | ug/L | # | 75 |
| 76) toluene | 12.228 | 92 | 2011 | 0.58 | ug/L | | 97 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 1024 | 0.49 | ug/L | | 79 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164005.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC7200-0.5
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 07:51:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

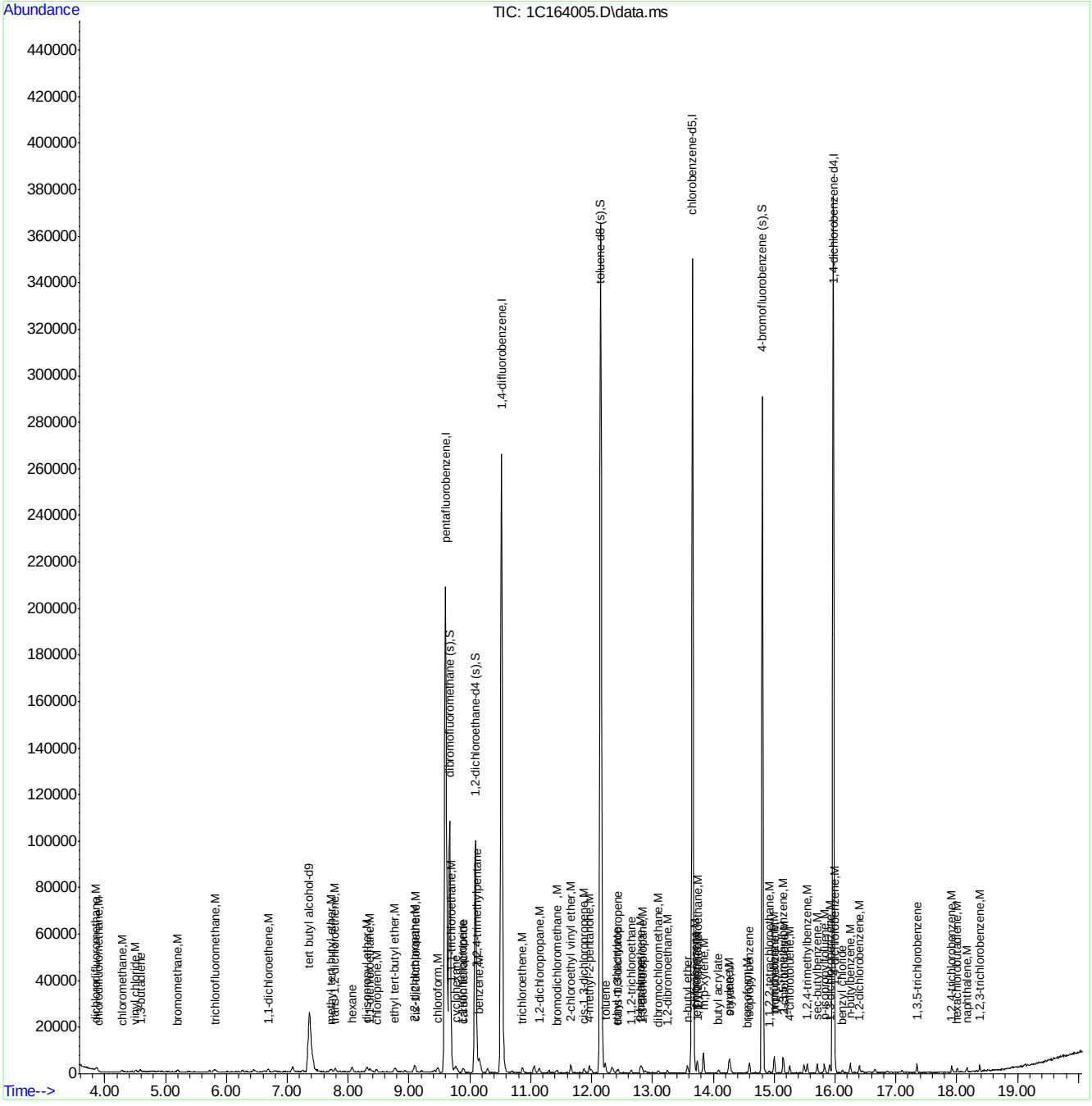
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) ethyl methacrylate | 12.411 | 69 | 629 | 0.42 | ug/L | # | 75 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 441 | 0.44 | ug/L | | 93 |
| 80) tetrachloroethene | 12.803 | 164 | 614 | 0.48 | ug/L | | 90 |
| 81) 1,3-dichloropropane | 12.834 | 76 | 850 | 0.48 | ug/L | | 84 |
| 82) 2-hexanone | 12.813 | 58 | 726 | 1.85 | ug/L | # | 78 |
| 84) dibromochloromethane | 13.091 | 129 | 649 | 0.43 | ug/L | | 81 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 647 | 0.41 | ug/L | | 89 |
| 86) n-butyl ether | 13.577 | 57 | 2896 | 0.54 | ug/L | | 92 |
| 87) chlorobenzene | 13.692 | 112 | 1925 | 0.54 | ug/L | | 84 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 577 | 0.41 | ug/L | | 74 |
| 89) ethylbenzene | 13.734 | 91 | 3838 | 0.60 | ug/L | | 91 |
| 90) m,p-xylene | 13.844 | 106 | 2712 | 1.14 | ug/L | | 88 |
| 91) o-xylene | 14.257 | 106 | 1250 | 0.54 | ug/L | | 95 |
| 92) styrene | 14.273 | 104 | 1980 | 0.51 | ug/L | | 97 |
| 93) bromoform | 14.555 | 173 | 383 | 0.41 | ug/L | # | 36 |
| 94) butyl acrylate | 14.079 | 55 | 1070 | 0.45 | ug/L | | 94 |
| 95) isopropylbenzene | 14.586 | 105 | 3537 | 0.57 | ug/L | | 91 |
| 99) bromobenzene | 15.005 | 156 | 838 | 0.53 | ug/L | | 88 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 603 | 0.47 | ug/L | | 93 |
| 103) n-propylbenzene | 15.000 | 91 | 3956 | 0.54 | ug/L | | 91 |
| 105) 2-chlorotoluene | 15.157 | 126 | 717 | 0.50 | ug/L | # | 70 |
| 106) 4-chlorotoluene | 15.256 | 91 | 2607 | 0.59 | ug/L | | 94 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 2947 | 0.56 | ug/L | | 98 |
| 109) 1,2,4-trimethylbenzene | 15.544 | 105 | 2991 | 0.58 | ug/L | | 96 |
| 110) sec-butylbenzene | 15.706 | 105 | 3460 | 0.52 | ug/L | | 93 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 1659 | 0.56 | ug/L | | 96 |
| 112) p-isopropyltoluene | 15.826 | 119 | 2998 | 0.53 | ug/L | | 98 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 1662 | 0.56 | ug/L | | 94 |
| 114) benzyl chloride | 16.119 | 91 | 1405 | 0.53 | ug/L | | 94 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 1520 | 0.53 | ug/L | | 97 |
| 117) n-butylbenzene | 16.250 | 92 | 1526 | 0.53 | ug/L | | 97 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 1303 | 0.56 | ug/L | | 95 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 923 | 0.48 | ug/L | | 97 |
| 123) hexachlorobutadiene | 18.007 | 225 | 671 | 0.49 | ug/L | | 95 |
| 124) naphthalene | 18.169 | 128 | 2060 | 0.56 | ug/L | | 86 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 1012 | 0.56 | ug/L | | 85 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164005.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC7200-0.5
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 07:51:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 55643 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 174973 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 238846 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 190511 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 100142 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 72928 | 49.01 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.02% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 76004 | 51.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.70% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 256822 | 50.41 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.82% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 92963 | 49.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.70% | | | |
| Target Compounds | | | | | | Qvalue |
| 6) chlorodifluoromethane | 3.896 | 51 | 1722 | 0.90 | ug/L | 88 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 2706 | 0.99 | ug/L | 94 |
| 8) chloromethane | 4.278 | 50 | 1997 | 1.05 | ug/L | 95 |
| 9) vinyl chloride | 4.513 | 62 | 1939 | 1.03 | ug/L | 88 |
| 10) 1,3-butadiene | 4.591 | 54 | 1106 | 0.92 | ug/L | 92 |
| 11) bromomethane | 5.198 | 94 | 1539 | 1.15 | ug/L | 92 |
| 12) chloroethane | 5.376 | 64 | 1111 | 1.02 | ug/L | 92 |
| 13) trichlorofluoromethane | 5.815 | 101 | 2623 | 0.93 | ug/L | 93 |
| 14) vinyl bromide | 5.726 | 106 | 1044 | 0.96 | ug/L | 81 |
| 17) freon 113 | 6.615 | 151 | 1051 | 0.83 | ug/L | 88 |
| 18) 1,1-dichloroethene | 6.689 | 96 | 1465 | 0.99 | ug/L | 85 |
| 22) carbon disulfide | 7.086 | 76 | 5263 | 1.15 | ug/L | 94 |
| 25) methyl tert butyl ether | 7.714 | 73 | 3661 | 0.90 | ug/L | 98 |
| 26) trans-1,2-dichloroethene | 7.792 | 96 | 1625 | 1.02 | ug/L | 88 |
| 27) di-isopropyl ether | 8.310 | 45 | 4665 | 0.95 | ug/L | 94 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 2624 | 0.96 | ug/L | 97 |
| 30) chloroprene | 8.462 | 53 | 2335 | 0.96 | ug/L | 94 |
| 32) hexane | 8.059 | 57 | 2438 | 0.94 | ug/L | 90 |
| 34) ethyl tert-butyl ether | 8.776 | 59 | 4240 | 0.88 | ug/L | 98 |
| 36) 2,2-dichloropropane | 9.089 | 77 | 2428 | 0.97 | ug/L | 83 |
| 37) cis-1,2-dichloroethene | 9.105 | 96 | 1730 | 1.01 | ug/L | 91 |
| 39) propionitrile | 9.204 | 54 | 1517 | 8.79 | ug/L | 60 |
| 40) bromochloromethane | 9.419 | 128 | 664 | 0.85 | ug/L | 90 |
| 42) chloroform | 9.471 | 85 | 1947 | 1.05 | ug/L | 95 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 2413 | 0.93 | ug/L | 80 |
| 47) cyclohexane | 9.759 | 84 | 2685 | 1.07 | ug/L | 99 |
| 48) 1,1-dichloropropene | 9.895 | 75 | 2038 | 0.94 | ug/L | 93 |
| 50) carbon tetrachloride | 9.895 | 117 | 2151 | 0.94 | ug/L | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 5689 | 0.96 | ug/L | 88 |
| 56) benzene | 10.151 | 78 | 6098 | 1.06 | ug/L | 98 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 764 | 0.79 | ug/L # | 73 |
| 58) heptane | 10.292 | 71 | 1152 | 0.86 | ug/L | 87 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 60) | 1,2-dichloroethane | 10.182 | 62 | 2241 | 1.21 | ug/L | | 89 |
| 61) | trichloroethene | 10.868 | 130 | 1518 | 0.95 | ug/L | | 96 |
| 62) | ethyl acrylate | 10.878 | 55 | 1241 | 0.82 | ug/L | | 63 |
| 64) | 2-chloroethyl vinyl ether | 11.657 | 63 | 3185 | 4.04 | ug/L | | 99 |
| 66) | 1,2-dichloropropane | 11.140 | 63 | 1451 | 1.02 | ug/L | | 98 |
| 67) | dibromomethane | 11.297 | 93 | 752 | 0.88 | ug/L | | 95 |
| 68) | methylcyclohexane | 11.056 | 83 | 3029 | 1.17 | ug/L | | 92 |
| 69) | bromodichloromethane | 11.433 | 83 | 1927 | 0.93 | ug/L | | 96 |
| 71) | cis-1,3-dichloropropene | 11.877 | 75 | 2266 | 0.96 | ug/L | | 98 |
| 72) | 4-methyl-2-pentanone | 11.961 | 58 | 1617 | 3.98 | ug/L | # | 61 |
| 76) | toluene | 12.228 | 92 | 3578 | 1.06 | ug/L | # | 85 |
| 77) | trans-1,3-dichloropropene | 12.437 | 75 | 1845 | 0.91 | ug/L | | 94 |
| 78) | ethyl methacrylate | 12.416 | 69 | 1210 | 0.82 | ug/L | | 86 |
| 79) | 1,1,2-trichloroethane | 12.646 | 83 | 832 | 0.86 | ug/L | # | 77 |
| 80) | tetrachloroethene | 12.803 | 164 | 1154 | 0.92 | ug/L | | 88 |
| 81) | 1,3-dichloropropane | 12.834 | 76 | 1534 | 0.89 | ug/L | | 96 |
| 82) | 2-hexanone | 12.819 | 58 | 1377 | 3.59 | ug/L | | 87 |
| 84) | dibromochloromethane | 13.096 | 129 | 1293 | 0.88 | ug/L | | 100 |
| 85) | 1,2-dibromoethane | 13.247 | 107 | 1374 | 0.89 | ug/L | | 97 |
| 86) | n-butyl ether | 13.577 | 57 | 5266 | 1.00 | ug/L | | 97 |
| 87) | chlorobenzene | 13.692 | 112 | 3505 | 1.00 | ug/L | | 83 |
| 88) | 1,1,1,2-tetrachloroethane | 13.750 | 131 | 1233 | 0.91 | ug/L | | 94 |
| 89) | ethylbenzene | 13.734 | 91 | 6486 | 1.04 | ug/L | | 94 |
| 90) | m,p-xylene | 13.838 | 106 | 4869 | 2.09 | ug/L | | 92 |
| 91) | o-xylene | 14.257 | 106 | 2208 | 0.97 | ug/L | | 100 |
| 92) | styrene | 14.267 | 104 | 3856 | 1.02 | ug/L | | 96 |
| 93) | bromoform | 14.550 | 173 | 731 | 0.81 | ug/L | | 86 |
| 94) | butyl acrylate | 14.084 | 55 | 2129 | 0.93 | ug/L | | 98 |
| 95) | isopropylbenzene | 14.592 | 105 | 6035 | 1.00 | ug/L | | 95 |
| 99) | bromobenzene | 15.005 | 156 | 1574 | 1.00 | ug/L | # | 80 |
| 100) | 1,1,2,2-tetrachloroethane | 14.921 | 83 | 1070 | 0.84 | ug/L | | 91 |
| 103) | n-propylbenzene | 15.000 | 91 | 7253 | 1.01 | ug/L | | 99 |
| 105) | 2-chlorotoluene | 15.156 | 126 | 1425 | 1.01 | ug/L | # | 85 |
| 106) | 4-chlorotoluene | 15.256 | 91 | 4480 | 1.03 | ug/L | | 94 |
| 107) | 1,3,5-trimethylbenzene | 15.146 | 105 | 5192 | 1.00 | ug/L | | 98 |
| 108) | tert-butylbenzene | 15.496 | 134 | 821 | 0.90 | ug/L | | 93 |
| 109) | 1,2,4-trimethylbenzene | 15.543 | 105 | 5222 | 1.02 | ug/L | | 95 |
| 110) | sec-butylbenzene | 15.706 | 105 | 6474 | 0.99 | ug/L | | 97 |
| 111) | 1,3-dichlorobenzene | 15.915 | 146 | 2894 | 0.99 | ug/L | | 87 |
| 112) | p-isopropyltoluene | 15.826 | 119 | 5579 | 1.00 | ug/L | | 92 |
| 113) | 1,4-dichlorobenzene | 15.999 | 146 | 2990 | 1.02 | ug/L | | 98 |
| 114) | benzyl chloride | 16.119 | 91 | 2382 | 0.91 | ug/L | | 92 |
| 115) | 1,2-dichlorobenzene | 16.401 | 146 | 2644 | 0.94 | ug/L | | 95 |
| 117) | n-butylbenzene | 16.250 | 92 | 2743 | 0.96 | ug/L | | 98 |
| 119) | 1,3,5-trichlorobenzene | 17.348 | 180 | 2203 | 0.96 | ug/L | | 92 |
| 122) | 1,2,4-trichlorobenzene | 17.918 | 180 | 1867 | 0.98 | ug/L | | 92 |
| 123) | hexachlorobutadiene | 18.012 | 225 | 1263 | 0.94 | ug/L | | 95 |
| 124) | naphthalene | 18.169 | 128 | 3436 | 0.94 | ug/L | | 96 |
| 125) | 1,2,3-trichlorobenzene | 18.378 | 180 | 1559 | 0.88 | ug/L | | 88 |
| 126) | hexachloroethane | 16.658 | 201 | 847 | 0.81 | ug/L | | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

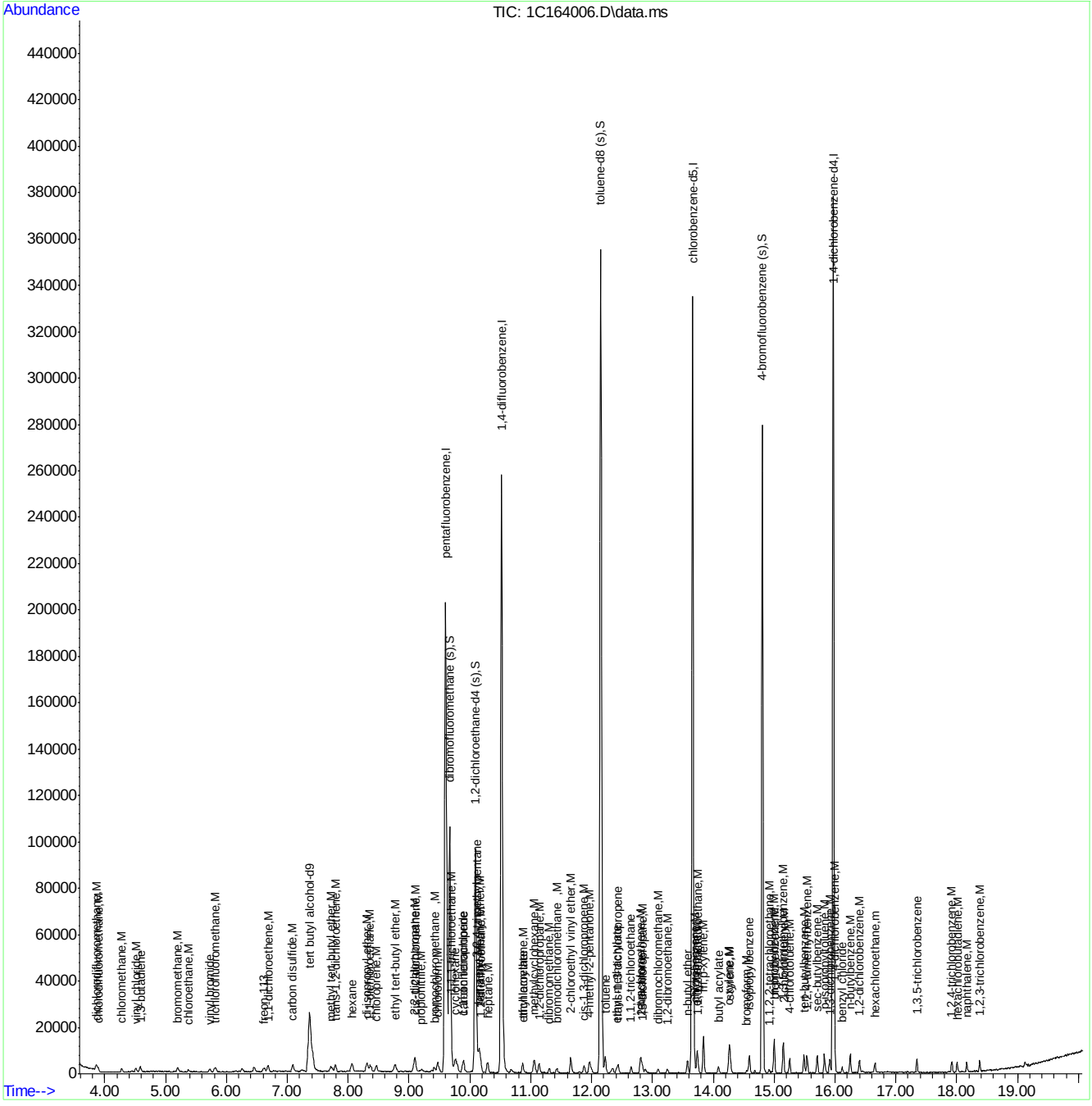
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.369 | 65 | 57479 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 175704 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 242175 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 191175 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 99385 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 73586 | 49.25 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.50% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 76594 | 51.53 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.06% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 262567 | 51.36 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.72% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93274 | 50.40 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.80% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.489 | 59 | 1394 | 9.34 | ug/L | | 67 |
| 6) chlorodifluoromethane | 3.896 | 51 | 3875 | 2.01 | ug/L | | 95 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 4940 | 1.81 | ug/L | | 92 |
| 8) chloromethane | 4.278 | 50 | 3691 | 1.93 | ug/L | | 98 |
| 9) vinyl chloride | 4.513 | 62 | 3360 | 1.79 | ug/L | | 92 |
| 10) 1,3-butadiene | 4.581 | 54 | 2309 | 1.90 | ug/L | | 87 |
| 11) bromomethane | 5.203 | 94 | 2700 | 2.00 | ug/L | | 84 |
| 12) chloroethane | 5.376 | 64 | 2019 | 1.85 | ug/L | | 94 |
| 13) trichlorofluoromethane | 5.810 | 101 | 5183 | 1.84 | ug/L | | 97 |
| 14) vinyl bromide | 5.737 | 106 | 1853 | 1.69 | ug/L | | 81 |
| 15) ethyl ether | 6.255 | 74 | 1295 | 1.73 | ug/L | # | 77 |
| 17) freon 113 | 6.621 | 151 | 2180 | 1.71 | ug/L | | 90 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 3099 | 2.09 | ug/L | | 91 |
| 19) acetone | 6.783 | 43 | 2812 | 8.05 | ug/L | | 90 |
| 20) acetonitrile | 7.238 | 41 | 2495 | 16.77 | ug/L | | 88 |
| 22) carbon disulfide | 7.086 | 76 | 10013 | 2.18 | ug/L | | 99 |
| 23) methylene chloride | 7.421 | 84 | 3253 | 2.08 | ug/L | | 96 |
| 25) methyl tert butyl ether | 7.714 | 73 | 7466 | 1.84 | ug/L | | 97 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 3295 | 2.06 | ug/L | | 87 |
| 27) di-isopropyl ether | 8.305 | 45 | 9628 | 1.95 | ug/L | | 95 |
| 28) 2-butanone | 9.089 | 72 | 933 | 6.63 | ug/L | # | 50 |
| 29) 1,1-dichloroethane | 8.363 | 63 | 5644 | 2.05 | ug/L | | 96 |
| 30) chloroprene | 8.462 | 53 | 4748 | 1.94 | ug/L | | 99 |
| 32) hexane | 8.064 | 57 | 4949 | 1.90 | ug/L | | 97 |
| 34) ethyl tert-butyl ether | 8.776 | 59 | 9014 | 1.86 | ug/L | | 96 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 5048 | 2.02 | ug/L | | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 3783 | 2.19 | ug/L | | 94 |
| 39) propionitrile | 9.205 | 54 | 3159 | 18.22 | ug/L | | 95 |
| 40) bromochloromethane | 9.424 | 128 | 1443 | 1.85 | ug/L | | 87 |
| 42) chloroform | 9.466 | 85 | 3994 | 2.15 | ug/L | | 95 |
| 43) t-butyl formate | 9.492 | 59 | 1811 | 1.55 | ug/L | # | 79 |
| 45) methacrylonitrile | 9.377 | 67 | 837 | 1.60 | ug/L | | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 5121 | 1.96 | ug/L | | 94 |
| 47) cyclohexane | 9.759 | 84 | 4792 | 1.90 | ug/L | | 93 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 4353 | 2.00 | ug/L | | 95 |
| 50) carbon tetrachloride | 9.900 | 117 | 4437 | 1.94 | ug/L | | 96 |
| 54) n-butyl alcohol | 10.669 | 56 | 2816 | 75.87 | ug/L | | 94 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 12025 | 2.00 | ug/L | | 92 |
| 56) benzene | 10.151 | 78 | 12677 | 2.17 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.167 | 87 | 1905 | 1.94 | ug/L | # | 84 |
| 58) heptane | 10.292 | 71 | 2550 | 1.88 | ug/L | | 98 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 4071 | 2.16 | ug/L | | 94 |
| 61) trichloroethene | 10.863 | 130 | 3380 | 2.08 | ug/L | | 93 |
| 62) ethyl acrylate | 10.873 | 55 | 2808 | 1.83 | ug/L | | 85 |
| 64) 2-chloroethyl vinyl ether | 11.658 | 63 | 6733 | 8.42 | ug/L | | 97 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 2862 | 1.98 | ug/L | | 92 |
| 67) dibromomethane | 11.302 | 93 | 1707 | 1.96 | ug/L | | 78 |
| 68) methylcyclohexane | 11.061 | 83 | 5770 | 2.19 | ug/L | | 100 |
| 69) bromodichloromethane | 11.433 | 83 | 4259 | 2.02 | ug/L | | 93 |
| 70) epichlorohydrin | 11.804 | 57 | 1058 | 8.97 | ug/L | | 79 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 4588 | 1.91 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 3349 | 8.12 | ug/L | | 94 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 1848 | 33.74 | ug/L | | 95 |
| 76) toluene | 12.222 | 92 | 7273 | 2.15 | ug/L | | 91 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 3913 | 1.93 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.411 | 69 | 2624 | 1.78 | ug/L | | 96 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 1747 | 1.79 | ug/L | | 94 |
| 80) tetrachloroethene | 12.803 | 164 | 2619 | 2.08 | ug/L | | 95 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 3478 | 2.01 | ug/L | | 93 |
| 82) 2-hexanone | 12.813 | 58 | 3149 | 8.18 | ug/L | # | 85 |
| 83) butyl acetate | 12.881 | 56 | 1342 | 1.92 | ug/L | # | 71 |
| 84) dibromochloromethane | 13.096 | 129 | 2663 | 1.81 | ug/L | | 87 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 2860 | 1.85 | ug/L | | 98 |
| 86) n-butyl ether | 13.577 | 57 | 10620 | 2.02 | ug/L | | 99 |
| 87) chlorobenzene | 13.692 | 112 | 7371 | 2.09 | ug/L | | 78 |
| 88) 1,1,1,2-tetrachloroethane | 13.755 | 131 | 2556 | 1.87 | ug/L | | 93 |
| 89) ethylbenzene | 13.734 | 91 | 13341 | 2.13 | ug/L | | 96 |
| 90) m,p-xylene | 13.839 | 106 | 10131 | 4.34 | ug/L | | 90 |
| 91) o-xylene | 14.257 | 106 | 4690 | 2.06 | ug/L | | 93 |
| 92) styrene | 14.273 | 104 | 7772 | 2.04 | ug/L | | 95 |
| 93) bromoform | 14.555 | 173 | 1672 | 1.84 | ug/L | | 91 |
| 94) butyl acrylate | 14.084 | 55 | 4360 | 1.89 | ug/L | | 93 |
| 95) isopropylbenzene | 14.592 | 105 | 12805 | 2.11 | ug/L | | 96 |
| 99) bromobenzene | 15.005 | 156 | 3141 | 2.02 | ug/L | | 95 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 2504 | 1.98 | ug/L | | 93 |
| 103) n-propylbenzene | 15.000 | 91 | 14977 | 2.09 | ug/L | | 99 |
| 105) 2-chlorotoluene | 15.157 | 126 | 2829 | 2.02 | ug/L | | 98 |
| 106) 4-chlorotoluene | 15.251 | 91 | 8946 | 2.08 | ug/L | | 99 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 10453 | 2.03 | ug/L | | 96 |
| 108) tert-butylbenzene | 15.491 | 134 | 1701 | 1.89 | ug/L | # | 86 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 10680 | 2.10 | ug/L | | 99 |
| 110) sec-butylbenzene | 15.711 | 105 | 13449 | 2.08 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

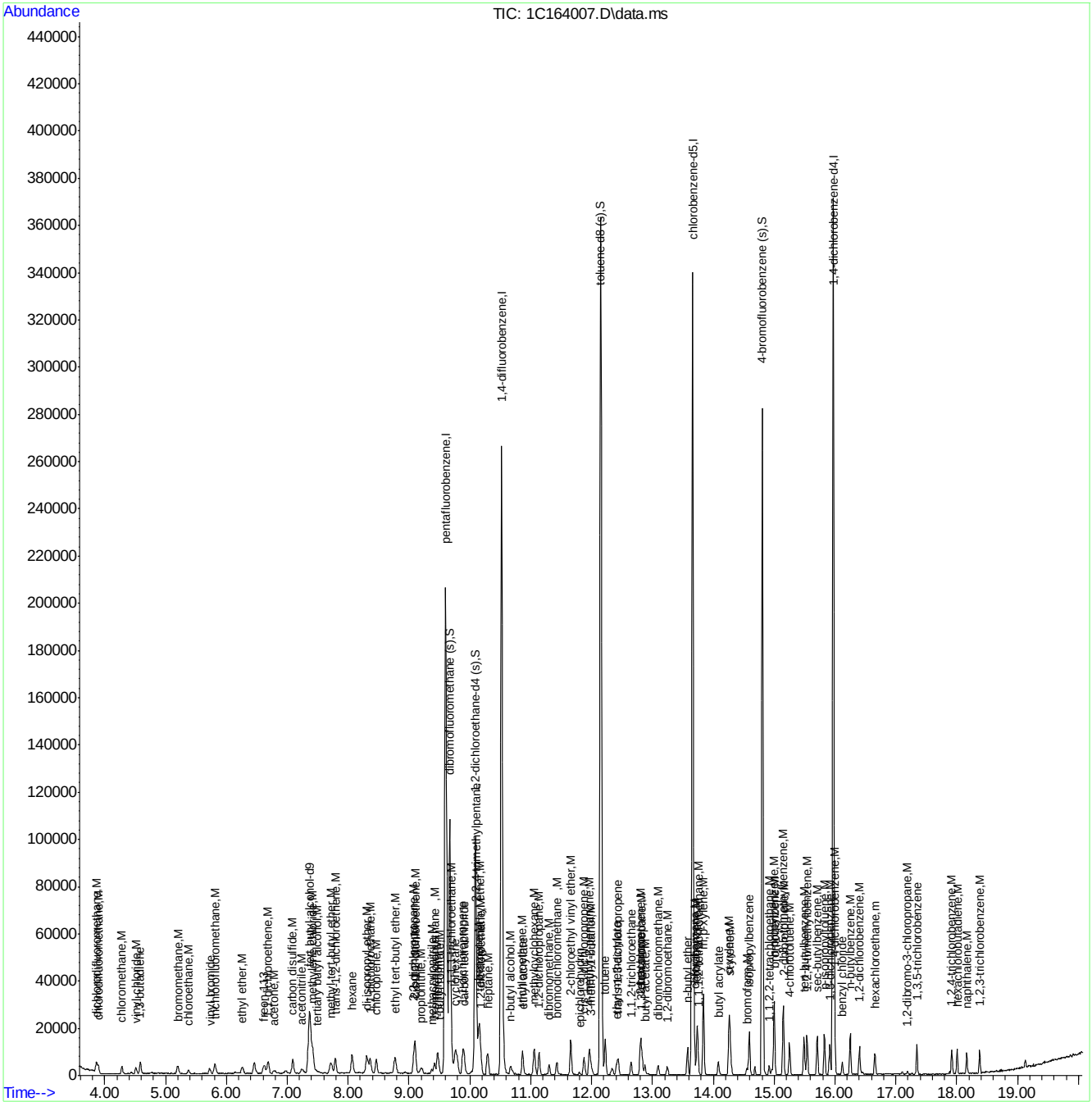
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 6011 | 2.07 | ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 11090 | 2.00 | ug/L | 94 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 5982 | 2.05 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 4936 | 1.90 | ug/L | 91 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 5233 | 1.87 | ug/L | 94 |
| 117) n-butylbenzene | 16.250 | 92 | 5712 | 2.02 | ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 425 | 1.70 | ug/L | 94 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 4478 | 1.97 | ug/L | 94 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 3531 | 1.86 | ug/L | 93 |
| 123) hexachlorobutadiene | 18.012 | 225 | 2689 | 2.01 | ug/L | 91 |
| 124) naphthalene | 18.164 | 128 | 6789 | 1.87 | ug/L | 96 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 3441 | 1.95 | ug/L | 95 |
| 126) hexachloroethane | 16.652 | 201 | 1970 | 1.89 | ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 55724 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 170562 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 236748 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 188030 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 97716 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 71979 | 50.04 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.08% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 74465 | 50.17 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.34% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 252005 | 49.75 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.50% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 91643 | 49.96 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.92% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.494 | 59 | 2896 | 19.57 | ug/L | | 81 |
| 4) 1,4-dioxane | 11.255 | 88 | 1088 | 80.51 | ug/L | | 93 |
| 6) chlorodifluoromethane | 3.896 | 51 | 7059 | 3.97 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 10560 | 4.19 | ug/L | | 95 |
| 8) chloromethane | 4.283 | 50 | 7443 | 4.03 | ug/L | | 97 |
| 9) vinyl chloride | 4.518 | 62 | 7128 | 4.10 | ug/L | | 95 |
| 10) 1,3-butadiene | 4.581 | 54 | 4443 | 4.07 | ug/L | | 92 |
| 11) bromomethane | 5.198 | 94 | 5451 | 4.11 | ug/L | | 95 |
| 12) chloroethane | 5.376 | 64 | 4209 | 4.11 | ug/L | | 98 |
| 13) trichlorofluoromethane | 5.810 | 101 | 10775 | 4.15 | ug/L | | 94 |
| 14) vinyl bromide | 5.721 | 106 | 4216 | 4.14 | ug/L | | 95 |
| 15) ethyl ether | 6.260 | 74 | 2653 | 3.83 | ug/L | | 98 |
| 17) freon 113 | 6.621 | 151 | 4806 | 4.19 | ug/L | | 91 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 5602 | 4.01 | ug/L | | 97 |
| 19) acetone | 6.772 | 43 | 5560 | 16.00 | ug/L | | 99 |
| 20) acetonitrile | 7.233 | 41 | 6090 | 43.30 | ug/L | | 95 |
| 21) iodomethane | 6.976 | 142 | 3328 | 4.96 | ug/L | | 91 |
| 22) carbon disulfide | 7.091 | 76 | 18345 | 4.07 | ug/L | | 100 |
| 23) methylene chloride | 7.421 | 84 | 6128 | 4.05 | ug/L | | 94 |
| 24) methyl acetate | 7.227 | 43 | 3092 | 3.67 | ug/L | | 97 |
| 25) methyl tert butyl ether | 7.714 | 73 | 15436 | 4.08 | ug/L | | 99 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 6276 | 4.05 | ug/L | | 95 |
| 27) di-isopropyl ether | 8.310 | 45 | 18687 | 4.01 | ug/L | | 96 |
| 28) 2-butanone | 9.079 | 72 | 1944 | 14.91 | ug/L | # | 83 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 11210 | 4.26 | ug/L | | 97 |
| 30) chloroprene | 8.462 | 53 | 9175 | 4.05 | ug/L | | 96 |
| 31) acrylonitrile | 7.787 | 53 | 1246 | 3.29 | ug/L | | 83 |
| 32) hexane | 8.064 | 57 | 10152 | 4.22 | ug/L | | 97 |
| 33) vinyl acetate | 8.347 | 86 | 697 | 3.18 | ug/L | # | 35 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 18089 | 4.03 | ug/L | | 100 |
| 35) ethyl acetate | 9.084 | 45 | 571 | 3.47 | ug/L | # | 12 |
| 36) 2,2-dichloropropane | 9.089 | 77 | 9711 | 4.14 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 7024 | 4.20 | ug/L | | 99 |
| 38) methyl acrylate | 9.168 | 85 | 463 | 2.70 | ug/L | | 90 |
| 39) propionitrile | 9.199 | 54 | 6583 | 39.84 | ug/L | | 91 |
| 40) bromochloromethane | 9.419 | 128 | 3015 | 4.15 | ug/L | | 88 |
| 41) tetrahydrofuran | 9.461 | 72 | 542 | 3.53 | ug/L | # | 38 |
| 42) chloroform | 9.471 | 85 | 7388 | 3.97 | ug/L | | 93 |
| 43) t-butyl formate | 9.487 | 59 | 3693 | 3.69 | ug/L | | 88 |
| 45) methacrylonitrile | 9.367 | 67 | 1891 | 3.97 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 9971 | 4.14 | ug/L | | 97 |
| 47) cyclohexane | 9.759 | 84 | 9917 | 4.17 | ug/L | | 94 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 8417 | 4.12 | ug/L | | 97 |
| 49) iso-butyl alcohol | 9.911 | 43 | 2014 | 37.79 | ug/L | | 79 |
| 50) carbon tetrachloride | 9.905 | 117 | 8565 | 4.07 | ug/L | | 95 |
| 51) tert amyl alcohol | 10.020 | 55 | 930 | 18.54 | ug/L | # | 87 |
| 54) n-butyl alcohol | 10.664 | 56 | 6366 | 184.30 | ug/L | | 94 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 25011 | 4.40 | ug/L | | 92 |
| 56) benzene | 10.151 | 78 | 24745 | 4.17 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 3696 | 4.00 | ug/L | # | 77 |
| 58) heptane | 10.287 | 71 | 5511 | 4.31 | ug/L | | 99 |
| 59) isopropyl acetate | 10.067 | 87 | 836 | 3.41 | ug/L | # | 45 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 7698 | 3.99 | ug/L | | 99 |
| 61) trichloroethene | 10.862 | 130 | 6137 | 4.02 | ug/L | | 99 |
| 62) ethyl acrylate | 10.868 | 55 | 5778 | 4.03 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 13513 | 19.21 | ug/L | | 99 |
| 65) methyl methacrylate | 11.129 | 100 | 1086 | 3.67 | ug/L | # | 76 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 5869 | 4.16 | ug/L | | 94 |
| 67) dibromomethane | 11.297 | 93 | 3308 | 4.00 | ug/L | | 94 |
| 68) methylcyclohexane | 11.061 | 83 | 10856 | 4.13 | ug/L | | 94 |
| 69) bromodichloromethane | 11.427 | 83 | 7912 | 3.96 | ug/L | | 93 |
| 70) epichlorohydrin | 11.793 | 57 | 2214 | 19.51 | ug/L | | 94 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 9261 | 4.03 | ug/L | | 96 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 6577 | 16.05 | ug/L | | 94 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 3912 | 75.35 | ug/L | | 95 |
| 76) toluene | 12.222 | 92 | 14220 | 4.13 | ug/L | | 95 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 7725 | 3.99 | ug/L | | 95 |
| 78) ethyl methacrylate | 12.411 | 69 | 5549 | 4.05 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 3768 | 4.16 | ug/L | | 95 |
| 80) tetrachloroethene | 12.803 | 164 | 5015 | 4.19 | ug/L | | 95 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 6867 | 4.13 | ug/L | | 96 |
| 82) 2-hexanone | 12.808 | 58 | 6270 | 16.76 | ug/L | | 99 |
| 83) butyl acetate | 12.876 | 56 | 2780 | 4.08 | ug/L | # | 81 |
| 84) dibromochloromethane | 13.096 | 129 | 5314 | 3.90 | ug/L | | 100 |
| 85) 1,2-dibromoethane | 13.247 | 107 | 5792 | 4.02 | ug/L | | 99 |
| 86) n-butyl ether | 13.577 | 57 | 20791 | 4.02 | ug/L | | 99 |
| 87) chlorobenzene | 13.692 | 112 | 14121 | 4.04 | ug/L | | 93 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 5235 | 4.12 | ug/L | | 96 |
| 89) ethylbenzene | 13.734 | 91 | 26240 | 4.15 | ug/L | | 97 |
| 90) m,p-xylene | 13.838 | 106 | 19255 | 8.19 | ug/L | | 97 |
| 91) o-xylene | 14.257 | 106 | 9475 | 4.22 | ug/L | | 99 |
| 92) styrene | 14.273 | 104 | 15435 | 4.15 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

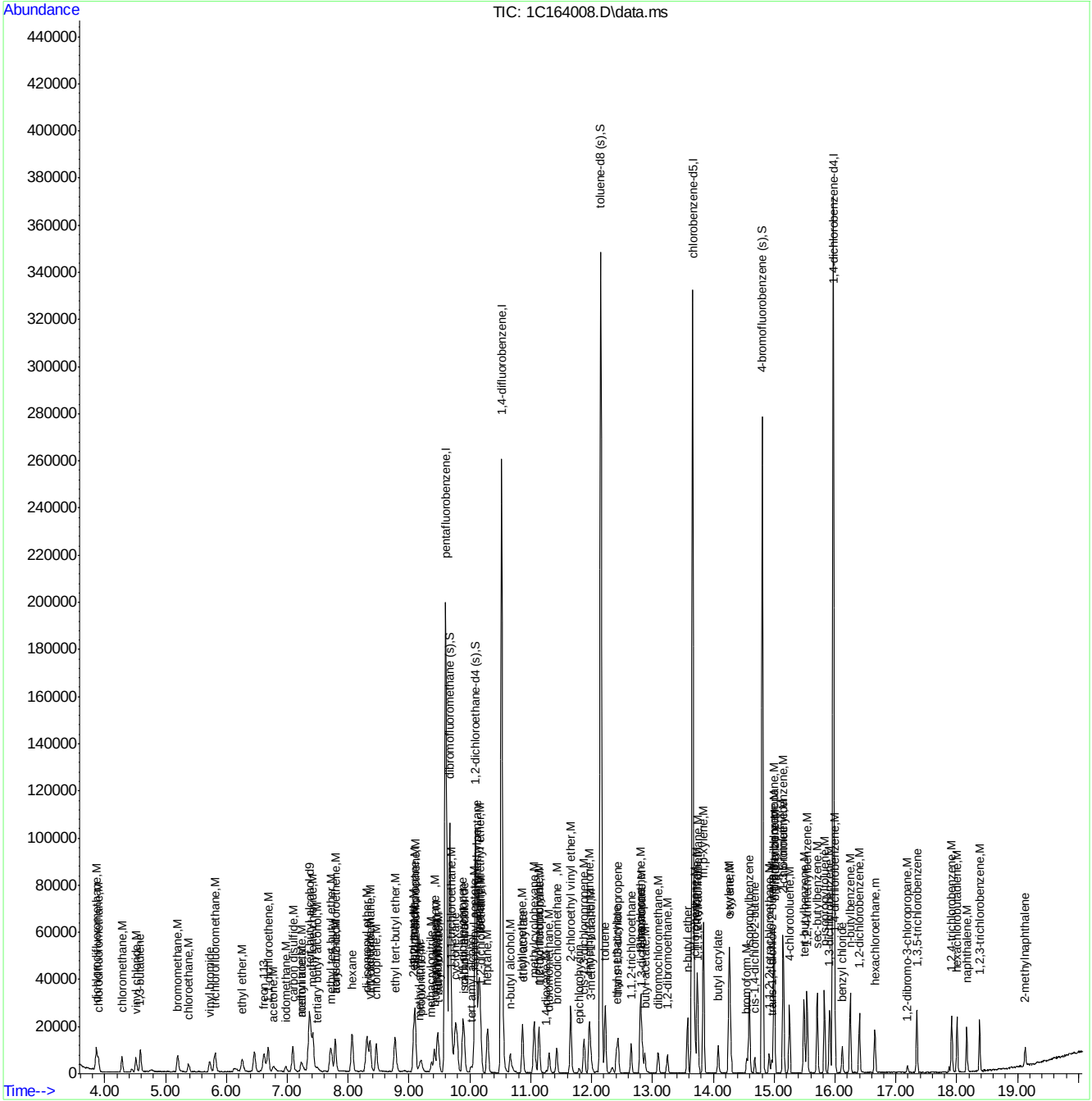
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) bromoform | 14.550 | 173 | 3131 | 3.78 | ug/L | 93 |
| 94) butyl acrylate | 14.079 | 55 | 8589 | 3.94 | ug/L | 93 |
| 95) isopropylbenzene | 14.592 | 105 | 24378 | 4.04 | ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 1836 | 3.58 | ug/L | 95 |
| 99) bromobenzene | 15.005 | 156 | 6308 | 4.11 | ug/L | 92 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 4827 | 4.01 | ug/L | 96 |
| 101) trans-1,4-dichloro-2-b... | 14.963 | 53 | 1217 | 3.68 | ug/L | 92 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 1191 | 3.84 | ug/L | 87 |
| 103) n-propylbenzene | 14.994 | 91 | 29478 | 4.18 | ug/L | 98 |
| 105) 2-chlorotoluene | 15.151 | 126 | 5821 | 4.24 | ug/L | 99 |
| 106) 4-chlorotoluene | 15.251 | 91 | 17459 | 4.02 | ug/L | 94 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 20683 | 4.06 | ug/L | 98 |
| 108) tert-butylbenzene | 15.496 | 134 | 3427 | 4.02 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 20902 | 4.10 | ug/L | 99 |
| 110) sec-butylbenzene | 15.706 | 105 | 25887 | 4.09 | ug/L | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 12105 | 4.17 | ug/L | 95 |
| 112) p-isopropyltoluene | 15.826 | 119 | 22566 | 4.15 | ug/L | 98 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 11756 | 4.05 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 9571 | 3.83 | ug/L | 98 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 11146 | 4.11 | ug/L | 97 |
| 117) n-butylbenzene | 16.250 | 92 | 11727 | 4.24 | ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 961 | 3.99 | ug/L | 84 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 9054 | 4.06 | ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 7466 | 4.11 | ug/L | 95 |
| 123) hexachlorobutadiene | 18.007 | 225 | 5234 | 4.10 | ug/L | 95 |
| 124) naphthalene | 18.164 | 128 | 13916 | 3.94 | ug/L | 96 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 7017 | 4.09 | ug/L | 98 |
| 126) hexachloroethane | 16.658 | 201 | 3847 | 3.98 | ug/L | 92 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 3745 | 1.66 | ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 55488 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 9.607 | 168 | 165932 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 227576 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 181339 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 94471 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 70051 | 50.06 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.12% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 73358 | 51.41 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 102.82% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 246336 | 50.43 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.86% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 89360 | 50.39 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.78% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.499 | 59 | 6227 | 42.25 | ug/L | | 98 |
| 4) 1,4-dioxane | 11.249 | 88 | 2815 | 209.19 | ug/L | | 92 |
| 6) chlorodifluoromethane | 3.896 | 51 | 13838 | 8.00 | ug/L | | 96 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 20050 | 8.17 | ug/L | | 99 |
| 8) chloromethane | 4.278 | 50 | 14407 | 8.01 | ug/L | | 99 |
| 9) vinyl chloride | 4.513 | 62 | 13527 | 7.99 | ug/L | | 98 |
| 10) 1,3-butadiene | 4.586 | 54 | 8630 | 8.12 | ug/L | | 94 |
| 11) bromomethane | 5.198 | 94 | 10802 | 8.37 | ug/L | | 97 |
| 12) chloroethane | 5.376 | 64 | 8171 | 8.20 | ug/L | | 94 |
| 13) trichlorofluoromethane | 5.815 | 101 | 20281 | 8.03 | ug/L | | 95 |
| 14) vinyl bromide | 5.721 | 106 | 7912 | 7.99 | ug/L | | 96 |
| 15) ethyl ether | 6.255 | 74 | 5490 | 8.14 | ug/L | | 98 |
| 16) acrolein | 6.547 | 56 | 1239 | 7.15 | ug/L | | 90 |
| 17) freon 113 | 6.621 | 151 | 9138 | 8.18 | ug/L | | 92 |
| 18) 1,1-dichloroethene | 6.683 | 96 | 11179 | 8.23 | ug/L | | 94 |
| 19) acetone | 6.762 | 43 | 11532 | 34.10 | ug/L | | 99 |
| 20) acetonitrile | 7.222 | 41 | 12594 | 92.04 | ug/L | | 93 |
| 21) iodomethane | 6.976 | 142 | 7283 | 7.45 | ug/L | | 93 |
| 22) carbon disulfide | 7.091 | 76 | 35052 | 7.99 | ug/L | | 99 |
| 23) methylene chloride | 7.426 | 84 | 12333 | 8.37 | ug/L | | 93 |
| 24) methyl acetate | 7.222 | 43 | 7064 | 8.62 | ug/L | | 98 |
| 25) methyl tert butyl ether | 7.719 | 73 | 30464 | 8.28 | ug/L | | 97 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 12025 | 7.97 | ug/L | | 99 |
| 27) di-isopropyl ether | 8.305 | 45 | 37209 | 8.21 | ug/L | | 98 |
| 28) 2-butanone | 9.068 | 72 | 4314 | 34.00 | ug/L | # | 88 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 21056 | 8.23 | ug/L | | 100 |
| 30) chloroprene | 8.462 | 53 | 18382 | 8.33 | ug/L | | 98 |
| 31) acrylonitrile | 7.787 | 53 | 3077 | 8.35 | ug/L | | 98 |
| 32) hexane | 8.064 | 57 | 18926 | 8.08 | ug/L | | 99 |
| 33) vinyl acetate | 8.347 | 86 | 1723 | 8.08 | ug/L | # | 42 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 36452 | 8.35 | ug/L | | 98 |
| 35) ethyl acetate | 9.079 | 45 | 1327 | 8.29 | ug/L | # | 26 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.089 | 77 | 18777 | 8.23 | ug/L | | 97 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 13474 | 8.28 | ug/L | | 96 |
| 38) methyl acrylate | 9.163 | 85 | 1361 | 8.15 | ug/L | # | 81 |
| 39) propionitrile | 9.189 | 54 | 14742 | 91.71 | ug/L | | 94 |
| 40) bromochloromethane | 9.414 | 128 | 5980 | 8.46 | ug/L | | 95 |
| 41) tetrahydrofuran | 9.455 | 72 | 1346 | 9.00 | ug/L | | 91 |
| 42) chloroform | 9.466 | 85 | 14473 | 7.99 | ug/L | | 94 |
| 43) t-butyl formate | 9.482 | 59 | 8556 | 8.78 | ug/L | | 94 |
| 45) methacrylonitrile | 9.367 | 67 | 3849 | 8.30 | ug/L | | 93 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 19195 | 8.19 | ug/L | | 93 |
| 47) cyclohexane | 9.759 | 84 | 19504 | 8.43 | ug/L | | 98 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 16602 | 8.36 | ug/L | | 96 |
| 49) iso-butyl alcohol | 9.905 | 43 | 4641 | 89.52 | ug/L | | 95 |
| 50) carbon tetrachloride | 9.900 | 117 | 16899 | 8.26 | ug/L | | 97 |
| 51) tert amyl alcohol | 10.020 | 55 | 2019 | 41.36 | ug/L | # | 87 |
| 54) n-butyl alcohol | 10.658 | 56 | 14748 | 444.18 | ug/L | | 96 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 47326 | 8.66 | ug/L | | 97 |
| 56) benzene | 10.151 | 78 | 47981 | 8.42 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 7928 | 8.93 | ug/L | | 97 |
| 58) heptane | 10.292 | 71 | 10599 | 8.62 | ug/L | | 91 |
| 59) isopropyl acetate | 10.067 | 87 | 1989 | 8.44 | ug/L | # | 78 |
| 60) 1,2-dichloroethane | 10.182 | 62 | 15913 | 8.59 | ug/L | | 96 |
| 61) trichloroethene | 10.862 | 130 | 12282 | 8.37 | ug/L | | 98 |
| 62) ethyl acrylate | 10.868 | 55 | 12146 | 8.82 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 31916 | 47.19 | ug/L | | 97 |
| 65) methyl methacrylate | 11.129 | 100 | 2430 | 8.53 | ug/L | # | 90 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 11574 | 8.53 | ug/L | | 99 |
| 67) dibromomethane | 11.302 | 93 | 6866 | 8.64 | ug/L | | 97 |
| 68) methylcyclohexane | 11.056 | 83 | 20413 | 8.07 | ug/L | | 95 |
| 69) bromodichloromethane | 11.427 | 83 | 15795 | 8.22 | ug/L | | 98 |
| 70) epichlorohydrin | 11.793 | 57 | 4702 | 43.11 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 18480 | 8.38 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 13774 | 34.96 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 8787 | 176.07 | ug/L | | 95 |
| 76) toluene | 12.228 | 92 | 27315 | 8.23 | ug/L | | 100 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 15945 | 8.54 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.411 | 69 | 11903 | 9.02 | ug/L | | 96 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 7305 | 8.35 | ug/L | | 94 |
| 80) tetrachloroethene | 12.798 | 164 | 9158 | 7.94 | ug/L | | 98 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 13583 | 8.47 | ug/L | | 98 |
| 82) 2-hexanone | 12.808 | 58 | 13004 | 36.04 | ug/L | | 98 |
| 83) butyl acetate | 12.871 | 56 | 5704 | 8.67 | ug/L | | 90 |
| 84) dibromochloromethane | 13.096 | 129 | 10788 | 8.20 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 11521 | 8.29 | ug/L | | 98 |
| 86) n-butyl ether | 13.577 | 57 | 40932 | 8.20 | ug/L | | 98 |
| 87) chlorobenzene | 13.692 | 112 | 27854 | 8.27 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 10203 | 8.33 | ug/L | | 95 |
| 89) ethylbenzene | 13.734 | 91 | 49501 | 8.11 | ug/L | | 99 |
| 90) m,p-xylene | 13.838 | 106 | 37519 | 16.55 | ug/L | | 98 |
| 91) o-xylene | 14.257 | 106 | 18029 | 8.33 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

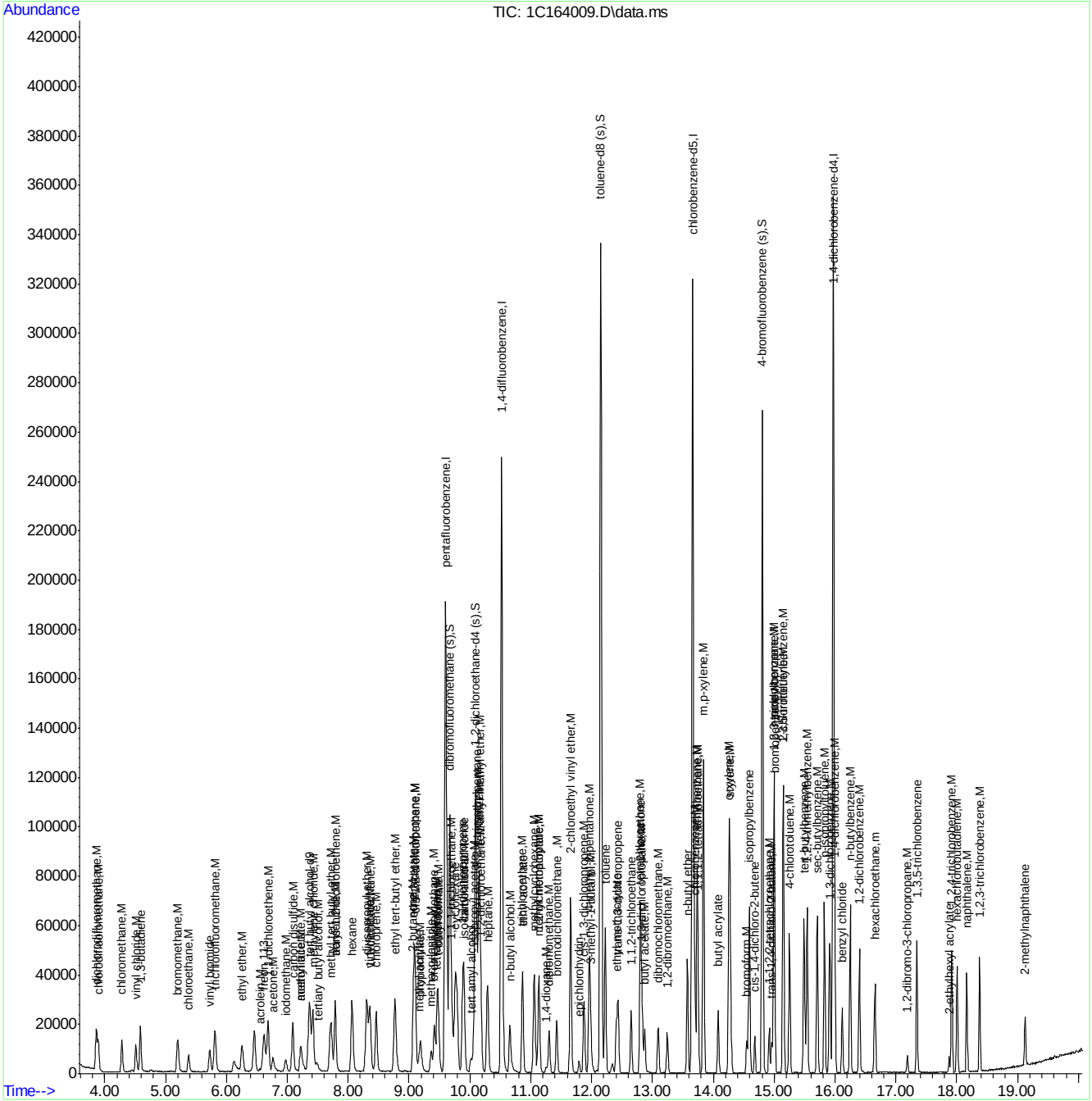
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) | styrene | 14.273 | 104 | 30192 | 8.41 | ug/L | 95 |
| 93) | bromoform | 14.550 | 173 | 6477 | 8.12 | ug/L | 98 |
| 94) | butyl acrylate | 14.079 | 55 | 17800 | 8.47 | ug/L | 97 |
| 95) | isopropylbenzene | 14.592 | 105 | 46854 | 8.05 | ug/L | 99 |
| 96) | cis-1,4-dichloro-2-butene | 14.686 | 88 | 4022 | 8.14 | ug/L | 95 |
| 99) | bromobenzene | 15.005 | 156 | 12275 | 8.28 | ug/L | 93 |
| 100) | 1,1,2,2-tetrachloroethane | 14.916 | 83 | 9715 | 8.35 | ug/L | 99 |
| 101) | trans-1,4-dichloro-2-b... | 14.958 | 53 | 2608 | 8.17 | ug/L | 99 |
| 102) | 1,2,3-trichloropropane | 14.994 | 110 | 2515 | 8.38 | ug/L | 93 |
| 103) | n-propylbenzene | 15.000 | 91 | 55956 | 8.20 | ug/L | 99 |
| 105) | 2-chlorotoluene | 15.151 | 126 | 11030 | 8.31 | ug/L | 91 |
| 106) | 4-chlorotoluene | 15.251 | 91 | 34145 | 8.13 | ug/L | 96 |
| 107) | 1,3,5-trimethylbenzene | 15.146 | 105 | 40627 | 8.25 | ug/L | 99 |
| 108) | tert-butylbenzene | 15.491 | 134 | 6871 | 8.34 | ug/L | 92 |
| 109) | 1,2,4-trimethylbenzene | 15.543 | 105 | 39918 | 8.10 | ug/L | 97 |
| 110) | sec-butylbenzene | 15.711 | 105 | 49369 | 8.07 | ug/L | 99 |
| 111) | 1,3-dichlorobenzene | 15.915 | 146 | 22878 | 8.14 | ug/L | 96 |
| 112) | p-isopropyltoluene | 15.826 | 119 | 43136 | 8.20 | ug/L | 99 |
| 113) | 1,4-dichlorobenzene | 15.999 | 146 | 23150 | 8.25 | ug/L | 98 |
| 114) | benzyl chloride | 16.119 | 91 | 20601 | 8.53 | ug/L | 96 |
| 115) | 1,2-dichlorobenzene | 16.401 | 146 | 21851 | 8.34 | ug/L | 98 |
| 117) | n-butylbenzene | 16.250 | 92 | 21929 | 8.20 | ug/L | 96 |
| 118) | 1,2-dibromo-3-chloropr... | 17.186 | 75 | 1970 | 8.46 | ug/L | 91 |
| 119) | 1,3,5-trichlorobenzene | 17.348 | 180 | 17399 | 8.07 | ug/L | 98 |
| 121) | 2-ethylhexyl acrylate | 17.881 | 70 | 1537 | 1.42 | ug/L | 84 |
| 122) | 1,2,4-trichlorobenzene | 17.918 | 180 | 14615 | 8.32 | ug/L | 94 |
| 123) | hexachlorobutadiene | 18.007 | 225 | 10064 | 8.16 | ug/L | 97 |
| 124) | naphthalene | 18.164 | 128 | 28695 | 8.39 | ug/L | 97 |
| 125) | 1,2,3-trichlorobenzene | 18.378 | 180 | 13878 | 8.36 | ug/L | 99 |
| 126) | hexachloroethane | 16.658 | 201 | 7461 | 7.97 | ug/L | 95 |
| 127) | 2-methylnaphthalene | 19.126 | 142 | 8707 | 4.00 | ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 54717 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 165339 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 229939 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 181832 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 94337 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 69877 | 50.11 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.22% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 73480 | 50.97 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 101.94% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 243555 | 49.73 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.46% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 87595 | 49.46 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 98.92% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 14659 | 100.86 | ug/L | | 97 |
| 4) 1,4-dioxane | 11.255 | 88 | 6632 | 499.79 | ug/L | | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 33557 | 19.48 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 51843 | 21.21 | ug/L | | 100 |
| 8) chloromethane | 4.278 | 50 | 35633 | 19.88 | ug/L | | 99 |
| 9) vinyl chloride | 4.513 | 62 | 35395 | 20.98 | ug/L | | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 21366 | 20.18 | ug/L | | 98 |
| 11) bromomethane | 5.198 | 94 | 25577 | 19.89 | ug/L | | 97 |
| 12) chloroethane | 5.376 | 64 | 20761 | 20.92 | ug/L | | 97 |
| 13) trichlorofluoromethane | 5.815 | 101 | 53015 | 21.07 | ug/L | | 98 |
| 14) vinyl bromide | 5.721 | 106 | 20519 | 20.79 | ug/L | | 99 |
| 15) ethyl ether | 6.260 | 74 | 13547 | 20.16 | ug/L | | 96 |
| 16) acrolein | 6.553 | 56 | 3446 | 19.96 | ug/L | | 97 |
| 17) freon 113 | 6.621 | 151 | 22266 | 20.01 | ug/L | | 97 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 26028 | 19.23 | ug/L | | 97 |
| 19) acetone | 6.757 | 43 | 26667 | 79.14 | ug/L | | 97 |
| 20) acetonitrile | 7.217 | 41 | 28821 | 211.38 | ug/L | | 99 |
| 21) iodomethane | 6.971 | 142 | 22193 | 16.69 | ug/L | | 97 |
| 22) carbon disulfide | 7.092 | 76 | 81917 | 18.74 | ug/L | | 99 |
| 23) methylene chloride | 7.421 | 84 | 28737 | 19.57 | ug/L | | 100 |
| 24) methyl acetate | 7.217 | 43 | 16682 | 20.44 | ug/L | | 96 |
| 25) methyl tert butyl ether | 7.714 | 73 | 73230 | 19.96 | ug/L | | 100 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 29156 | 19.41 | ug/L | | 98 |
| 27) di-isopropyl ether | 8.305 | 45 | 90848 | 20.12 | ug/L | | 100 |
| 28) 2-butanone | 9.069 | 72 | 10546 | 83.42 | ug/L | | 97 |
| 29) 1,1-dichloroethane | 8.363 | 63 | 51871 | 20.35 | ug/L | | 98 |
| 30) chloroprene | 8.462 | 53 | 44580 | 20.28 | ug/L | | 98 |
| 31) acrylonitrile | 7.777 | 53 | 7553 | 20.58 | ug/L | | 99 |
| 32) hexane | 8.064 | 57 | 46056 | 19.73 | ug/L | | 97 |
| 33) vinyl acetate | 8.342 | 86 | 4465 | 21.01 | ug/L | # | 88 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 88516 | 20.34 | ug/L | | 98 |
| 35) ethyl acetate | 9.074 | 45 | 3349 | 20.99 | ug/L | # | 78 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 44448 | 19.56 | ug/L | | 99 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 32029 | 19.75 | ug/L | | 96 |
| 38) methyl acrylate | 9.157 | 85 | 3424 | 20.57 | ug/L | | 98 |
| 39) propionitrile | 9.189 | 54 | 33412 | 208.61 | ug/L | | 99 |
| 40) bromochloromethane | 9.414 | 128 | 14394 | 20.44 | ug/L | | 93 |
| 41) tetrahydrofuran | 9.450 | 72 | 3081 | 20.68 | ug/L | # | 84 |
| 42) chloroform | 9.471 | 85 | 34787 | 19.28 | ug/L | | 96 |
| 43) t-butyl formate | 9.482 | 59 | 17760 | 18.30 | ug/L | | 94 |
| 45) methacrylonitrile | 9.361 | 67 | 9362 | 20.25 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 46731 | 20.01 | ug/L | | 97 |
| 47) cyclohexane | 9.759 | 84 | 49405 | 21.43 | ug/L | | 99 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 39485 | 19.96 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.905 | 43 | 10669 | 206.54 | ug/L | | 92 |
| 50) carbon tetrachloride | 9.900 | 117 | 40687 | 19.95 | ug/L | | 100 |
| 51) tert amyl alcohol | 10.020 | 55 | 4797 | 98.63 | ug/L | | 98 |
| 54) n-butyl alcohol | 10.653 | 56 | 34678 | 1033.71 | ug/L | | 99 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 112791 | 20.43 | ug/L | | 99 |
| 56) benzene | 10.151 | 78 | 113319 | 19.68 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 18608 | 20.74 | ug/L | | 99 |
| 58) heptane | 10.287 | 71 | 25263 | 20.33 | ug/L | | 97 |
| 59) isopropyl acetate | 10.062 | 87 | 4689 | 19.69 | ug/L | # | 91 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 36540 | 19.52 | ug/L | | 98 |
| 61) trichloroethene | 10.863 | 130 | 30069 | 20.29 | ug/L | | 98 |
| 62) ethyl acrylate | 10.863 | 55 | 28474 | 20.47 | ug/L | | 99 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 67512 | 98.79 | ug/L | | 99 |
| 65) methyl methacrylate | 11.129 | 100 | 5793 | 20.14 | ug/L | # | 88 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 28411 | 20.73 | ug/L | | 97 |
| 67) dibromomethane | 11.307 | 93 | 16186 | 20.17 | ug/L | | 96 |
| 68) methylcyclohexane | 11.061 | 83 | 48530 | 18.99 | ug/L | | 98 |
| 69) bromodichloromethane | 11.427 | 83 | 38623 | 19.89 | ug/L | | 99 |
| 70) epichlorohydrin | 11.799 | 57 | 11113 | 100.85 | ug/L | | 92 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 44783 | 20.09 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 31548 | 79.24 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 20910 | 414.68 | ug/L | | 97 |
| 76) toluene | 12.222 | 92 | 63153 | 18.98 | ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 37159 | 19.84 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 27693 | 20.92 | ug/L | | 97 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 17938 | 20.46 | ug/L | | 96 |
| 80) tetrachloroethene | 12.803 | 164 | 22580 | 19.51 | ug/L | | 96 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 32654 | 20.31 | ug/L | | 94 |
| 82) 2-hexanone | 12.803 | 58 | 30006 | 82.95 | ug/L | | 94 |
| 83) butyl acetate | 12.871 | 56 | 13272 | 20.13 | ug/L | | 99 |
| 84) dibromochloromethane | 13.096 | 129 | 26291 | 19.94 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 28899 | 20.75 | ug/L | | 100 |
| 86) n-butyl ether | 13.572 | 57 | 97742 | 19.52 | ug/L | | 100 |
| 87) chlorobenzene | 13.692 | 112 | 65368 | 19.36 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 24679 | 20.10 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 115372 | 18.86 | ug/L | | 100 |
| 90) m,p-xylene | 13.839 | 106 | 87963 | 38.70 | ug/L | | 99 |
| 91) o-xylene | 14.257 | 106 | 42868 | 19.76 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

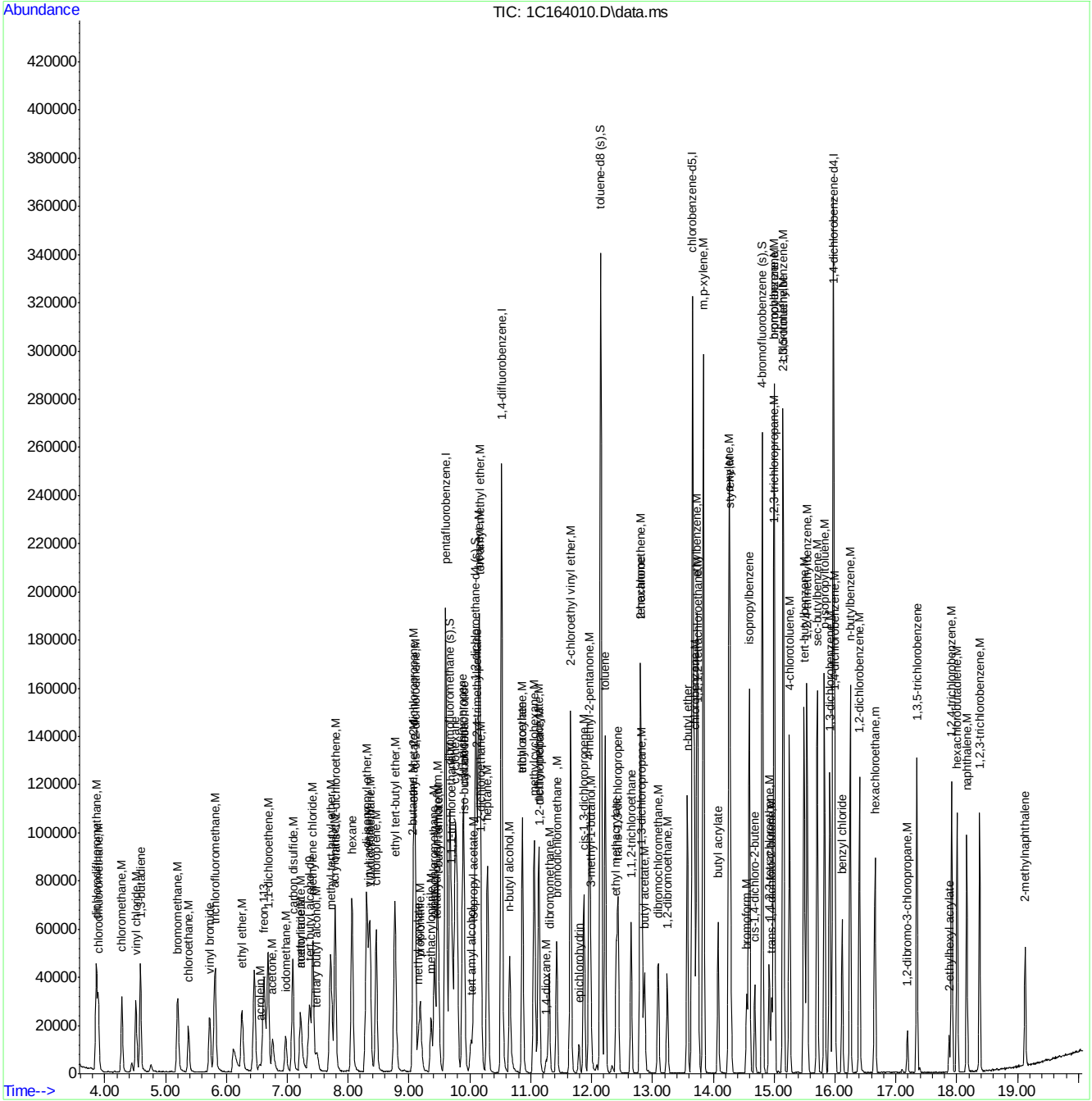
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 14.273 | 104 | 71084 | 19.75 | ug/L | 97 |
| 93) bromoform | 14.550 | 173 | 15846 | 19.81 | ug/L | 95 |
| 94) butyl acrylate | 14.079 | 55 | 42733 | 20.28 | ug/L | 98 |
| 95) isopropylbenzene | 14.592 | 105 | 112759 | 19.32 | ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 9706 | 19.59 | ug/L | 99 |
| 99) bromobenzene | 15.000 | 156 | 29229 | 19.73 | ug/L | 96 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 23377 | 20.12 | ug/L | 99 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 6157 | 19.31 | ug/L | 96 |
| 102) 1,2,3-trichloropropane | 14.989 | 110 | 6051 | 20.19 | ug/L | 94 |
| 103) n-propylbenzene | 15.000 | 91 | 131766 | 19.34 | ug/L | 99 |
| 105) 2-chlorotoluene | 15.151 | 126 | 26328 | 19.85 | ug/L | 91 |
| 106) 4-chlorotoluene | 15.251 | 91 | 80570 | 19.22 | ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 94881 | 19.31 | ug/L | 99 |
| 108) tert-butylbenzene | 15.491 | 134 | 16810 | 20.44 | ug/L | 91 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 95257 | 19.35 | ug/L | 97 |
| 110) sec-butylbenzene | 15.706 | 105 | 119026 | 19.48 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 54886 | 19.57 | ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 103841 | 19.76 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 53986 | 19.26 | ug/L | 99 |
| 114) benzyl chloride | 16.119 | 91 | 46603 | 19.32 | ug/L | 100 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 51807 | 19.79 | ug/L | 98 |
| 117) n-butylbenzene | 16.250 | 92 | 52422 | 19.63 | ug/L | 98 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 4774 | 20.53 | ug/L | 95 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 42154 | 19.57 | ug/L | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 3815 | 3.54 | ug/L | 97 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 34835 | 19.85 | ug/L | 96 |
| 123) hexachlorobutadiene | 18.007 | 225 | 24338 | 19.76 | ug/L | 99 |
| 124) naphthalene | 18.164 | 128 | 68377 | 20.03 | ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 31839 | 19.21 | ug/L | 99 |
| 126) hexachloroethane | 16.658 | 201 | 18468 | 19.77 | ug/L | 97 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 21172 | 9.74 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 56373 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 164623 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 233011 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 181991 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 95487 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 69994 | 50.42 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.84% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 71506 | 48.95 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 97.90% | | | |
| 75) toluene-d8 (s) | 12.154 | 98 | 243344 | 49.64 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.28% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 88912 | 49.60 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.20% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.484 | 59 | 36614 | 244.53 | ug/L | 100 |
| 4) 1,4-dioxane | 11.255 | 88 | 17321 | 1266.97 | ug/L | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 90321 | 52.65 | ug/L | 100 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 128184 | 52.67 | ug/L | 100 |
| 8) chloromethane | 4.277 | 50 | 89458 | 50.13 | ug/L | 100 |
| 9) vinyl chloride | 4.513 | 62 | 88173 | 52.49 | ug/L | 100 |
| 10) 1,3-butadiene | 4.586 | 54 | 56832 | 53.90 | ug/L | 100 |
| 11) bromomethane | 5.198 | 94 | 63134 | 49.32 | ug/L | 100 |
| 12) chloroethane | 5.376 | 64 | 51243 | 51.85 | ug/L | 100 |
| 13) trichlorofluoromethane | 5.810 | 101 | 132054 | 52.72 | ug/L | 100 |
| 14) vinyl bromide | 5.721 | 106 | 51408 | 52.32 | ug/L | 100 |
| 15) ethyl ether | 6.255 | 74 | 35117 | 52.48 | ug/L | 100 |
| 16) acrolein | 6.537 | 56 | 8835 | 51.39 | ug/L | 100 |
| 17) freon 113 | 6.621 | 151 | 59753 | 53.94 | ug/L | 100 |
| 18) 1,1-dichloroethene | 6.683 | 96 | 69437 | 51.53 | ug/L | 100 |
| 19) acetone | 6.757 | 43 | 65472 | 195.15 | ug/L | 100 |
| 20) acetonitrile | 7.212 | 41 | 69713 | 513.51 | ug/L | 100 |
| 21) iodomethane | 6.971 | 142 | 71724 | 47.52 | ug/L | 100 |
| 22) carbon disulfide | 7.086 | 76 | 215170 | 49.44 | ug/L | 100 |
| 23) methylene chloride | 7.421 | 84 | 73348 | 50.18 | ug/L | 100 |
| 24) methyl acetate | 7.206 | 43 | 41930 | 51.59 | ug/L | 100 |
| 25) methyl tert butyl ether | 7.714 | 73 | 190536 | 52.17 | ug/L | 100 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 74779 | 49.99 | ug/L | 100 |
| 27) di-isopropyl ether | 8.305 | 45 | 231495 | 51.49 | ug/L | 100 |
| 28) 2-butanone | 9.063 | 72 | 26364 | 209.46 | ug/L | 100 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 129096 | 50.86 | ug/L | 100 |
| 30) chloroprene | 8.456 | 53 | 114424 | 52.29 | ug/L | 100 |
| 31) acrylonitrile | 7.771 | 53 | 19090 | 52.23 | ug/L | 100 |
| 32) hexane | 8.064 | 57 | 122299 | 52.61 | ug/L | 100 |
| 33) vinyl acetate | 8.341 | 86 | 11510 | 54.38 | ug/L | 100 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 226990 | 52.38 | ug/L | 100 |
| 35) ethyl acetate | 9.068 | 45 | 8334 | 52.45 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 117154 | 51.77 | ug/L | 100 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 80856 | 50.08 | ug/L | 100 |
| 38) methyl acrylate | 9.152 | 85 | 9117 | 55.00 | ug/L | 100 |
| 39) propionitrile | 9.183 | 54 | 81216 | 509.27 | ug/L | 100 |
| 40) bromochloromethane | 9.419 | 128 | 36596 | 52.19 | ug/L | 100 |
| 41) tetrahydrofuran | 9.445 | 72 | 7683 | 51.78 | ug/L | 100 |
| 42) chloroform | 9.466 | 85 | 86994 | 48.42 | ug/L | 100 |
| 43) t-butyl formate | 9.482 | 59 | 54897 | 56.81 | ug/L | 100 |
| 45) methacrylonitrile | 9.361 | 67 | 24468 | 53.15 | ug/L | 100 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 122706 | 52.78 | ug/L | 100 |
| 47) cyclohexane | 9.759 | 84 | 117872 | 51.36 | ug/L | 100 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 102154 | 51.87 | ug/L | 100 |
| 49) iso-butyl alcohol | 9.900 | 43 | 25743 | 500.52 | ug/L | 100 |
| 50) carbon tetrachloride | 9.900 | 117 | 107353 | 52.87 | ug/L | 100 |
| 51) tert amyl alcohol | 10.020 | 55 | 12393 | 255.92 | ug/L | 100 |
| 54) n-butyl alcohol | 10.653 | 56 | 89284 | 2626.36 | ug/L | 100 |
| 55) 2,2,4-trimethylpentane | 10.114 | 57 | 289122 | 51.68 | ug/L | 100 |
| 56) benzene | 10.151 | 78 | 281491 | 48.25 | ug/L | 100 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 47297 | 52.02 | ug/L | 100 |
| 58) heptane | 10.287 | 71 | 65199 | 51.79 | ug/L | 100 |
| 59) isopropyl acetate | 10.062 | 87 | 12665 | 52.48 | ug/L | 100 |
| 60) 1,2-dichloroethane | 10.182 | 62 | 90613 | 47.77 | ug/L | 100 |
| 61) trichloroethene | 10.862 | 130 | 77997 | 51.94 | ug/L | 100 |
| 62) ethyl acrylate | 10.862 | 55 | 73915 | 52.45 | ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 192296 | 277.69 | ug/L | 100 |
| 65) methyl methacrylate | 11.124 | 100 | 14883 | 51.05 | ug/L | 100 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 69478 | 50.01 | ug/L | 100 |
| 67) dibromomethane | 11.302 | 93 | 41830 | 51.44 | ug/L | 100 |
| 68) methylcyclohexane | 11.061 | 83 | 126577 | 48.88 | ug/L | 100 |
| 69) bromodichloromethane | 11.427 | 83 | 101243 | 51.44 | ug/L | 100 |
| 70) epichlorohydrin | 11.788 | 57 | 28364 | 254.02 | ug/L | 100 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 115388 | 51.08 | ug/L | 100 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 79338 | 196.66 | ug/L | 100 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 52697 | 1031.29 | ug/L | 100 |
| 76) toluene | 12.222 | 92 | 161091 | 48.36 | ug/L | 100 |
| 77) trans-1,3-dichloropropene | 12.431 | 75 | 96510 | 51.49 | ug/L | 100 |
| 78) ethyl methacrylate | 12.405 | 69 | 70204 | 52.99 | ug/L | 100 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 46466 | 52.95 | ug/L | 100 |
| 80) tetrachloroethene | 12.803 | 164 | 59873 | 51.70 | ug/L | 100 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 82462 | 51.24 | ug/L | 100 |
| 82) 2-hexanone | 12.803 | 58 | 73296 | 202.44 | ug/L | 100 |
| 83) butyl acetate | 12.871 | 56 | 33189 | 50.29 | ug/L | 100 |
| 84) dibromochloromethane | 13.096 | 129 | 69957 | 53.02 | ug/L | 100 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 73605 | 52.79 | ug/L | 100 |
| 86) n-butyl ether | 13.572 | 57 | 250704 | 50.03 | ug/L | 100 |
| 87) chlorobenzene | 13.687 | 112 | 167537 | 49.57 | ug/L | 100 |
| 88) 1,1,1,2-tetrachloroethane | 13.749 | 131 | 65035 | 52.92 | ug/L | 100 |
| 89) ethylbenzene | 13.734 | 91 | 298727 | 48.78 | ug/L | 100 |
| 90) m,p-xylene | 13.838 | 106 | 222121 | 97.64 | ug/L | 100 |
| 91) o-xylene | 14.257 | 106 | 108443 | 49.93 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

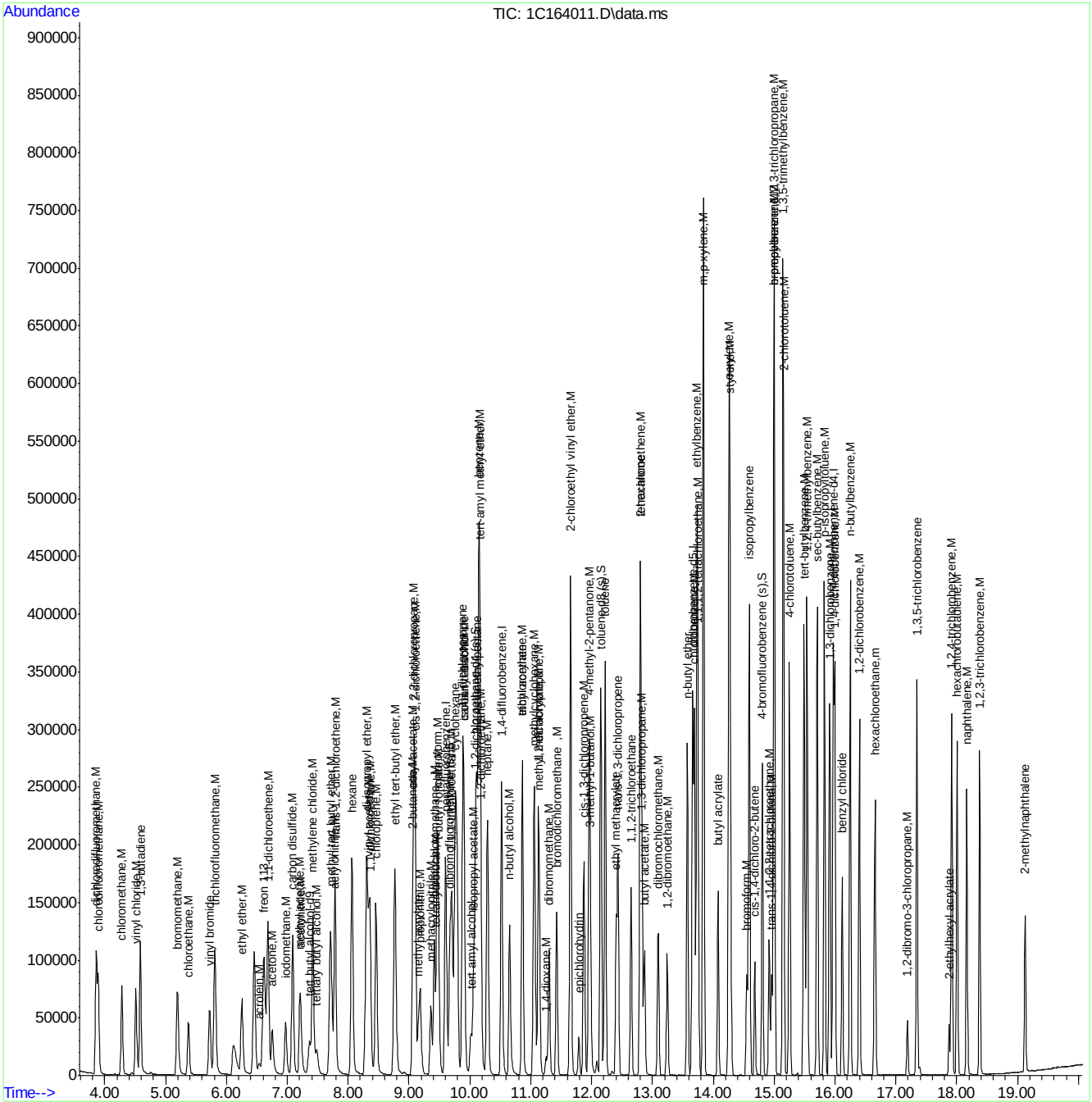
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 14.272 | 104 | 180980 | 50.25 | ug/L | 100 |
| 93) bromoform | 14.550 | 173 | 43307 | 54.08 | ug/L | 100 |
| 94) butyl acrylate | 14.079 | 55 | 109563 | 51.94 | ug/L | 100 |
| 95) isopropylbenzene | 14.592 | 105 | 288577 | 49.39 | ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 14.680 | 88 | 25503 | 51.42 | ug/L | 100 |
| 99) bromobenzene | 14.999 | 156 | 74780 | 49.88 | ug/L | 100 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 60734 | 51.65 | ug/L | 100 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 16558 | 51.31 | ug/L | 100 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 15415 | 50.81 | ug/L | 100 |
| 103) n-propylbenzene | 14.999 | 91 | 344035 | 49.89 | ug/L | 100 |
| 105) 2-chlorotoluene | 15.156 | 126 | 67254 | 50.11 | ug/L | 100 |
| 106) 4-chlorotoluene | 15.251 | 91 | 206975 | 48.78 | ug/L | 100 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 247192 | 49.69 | ug/L | 100 |
| 108) tert-butylbenzene | 15.491 | 134 | 43315 | 52.04 | ug/L | 100 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 243979 | 48.97 | ug/L | 100 |
| 110) sec-butylbenzene | 15.706 | 105 | 311051 | 50.30 | ug/L | 100 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 139799 | 49.23 | ug/L | 100 |
| 112) p-isopropyltoluene | 15.826 | 119 | 266385 | 50.08 | ug/L | 100 |
| 113) 1,4-dichlorobenzene | 15.998 | 146 | 139927 | 49.33 | ug/L | 100 |
| 114) benzyl chloride | 16.119 | 91 | 125008 | 51.19 | ug/L | 100 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 134309 | 50.69 | ug/L | 100 |
| 117) n-butylbenzene | 16.250 | 92 | 135625 | 50.17 | ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 11999 | 50.98 | ug/L | 100 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 109002 | 49.99 | ug/L | 100 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 11145 | 10.22 | ug/L | 100 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 90974 | 51.22 | ug/L | 100 |
| 123) hexachlorobutadiene | 18.007 | 225 | 64340 | 51.61 | ug/L | 100 |
| 124) naphthalene | 18.164 | 128 | 174189 | 50.42 | ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 84916 | 50.61 | ug/L | 100 |
| 126) hexachloroethane | 16.657 | 201 | 50069 | 52.94 | ug/L | 100 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 58392 | 26.54 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 54362 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 164574 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 234870 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 183738 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 97215 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 70392 | 50.72 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.44% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 72935 | 49.53 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 99.06% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 247436 | 49.99 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.98% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 91427 | 50.10 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.20% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.484 | 59 | 75126 | 520.30 | ug/L | | 99 |
| 4) 1,4-dioxane | 11.250 | 88 | 35303 | 2677.82 | ug/L | | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 175905 | 102.58 | ug/L | | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 251851 | 103.51 | ug/L | | 99 |
| 8) chloromethane | 4.278 | 50 | 174007 | 97.53 | ug/L | | 100 |
| 9) vinyl chloride | 4.513 | 62 | 170167 | 101.32 | ug/L | | 98 |
| 10) 1,3-butadiene | 4.586 | 54 | 108887 | 103.30 | ug/L | | 97 |
| 11) bromomethane | 5.193 | 94 | 121094 | 94.62 | ug/L | | 99 |
| 12) chloroethane | 5.371 | 64 | 102265 | 103.50 | ug/L | | 99 |
| 13) trichlorofluoromethane | 5.810 | 101 | 257020 | 102.63 | ug/L | | 98 |
| 14) vinyl bromide | 5.721 | 106 | 100668 | 102.48 | ug/L | | 98 |
| 15) ethyl ether | 6.255 | 74 | 70390 | 105.23 | ug/L | | 98 |
| 16) acrolein | 6.537 | 56 | 17990 | 104.67 | ug/L | | 96 |
| 17) freon 113 | 6.616 | 151 | 115449 | 104.25 | ug/L | | 98 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 133249 | 98.91 | ug/L | | 98 |
| 19) acetone | 6.752 | 43 | 136356 | 406.55 | ug/L | | 100 |
| 20) acetonitrile | 7.212 | 41 | 139353 | 1026.78 | ug/L | | 99 |
| 21) iodomethane | 6.971 | 142 | 161754 | 103.49 | ug/L | | 99 |
| 22) carbon disulfide | 7.086 | 76 | 412730 | 94.86 | ug/L | | 99 |
| 23) methylene chloride | 7.421 | 84 | 144165 | 98.65 | ug/L | | 99 |
| 24) methyl acetate | 7.207 | 43 | 81159 | 99.90 | ug/L | | 98 |
| 25) methyl tert butyl ether | 7.714 | 73 | 378515 | 103.67 | ug/L | | 99 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 142185 | 95.07 | ug/L | | 99 |
| 27) di-isopropyl ether | 8.305 | 45 | 456763 | 101.62 | ug/L | | 98 |
| 28) 2-butanone | 9.063 | 72 | 52945 | 420.77 | ug/L | | 93 |
| 29) 1,1-dichloroethane | 8.363 | 63 | 245160 | 96.62 | ug/L | | 98 |
| 30) chloroprene | 8.462 | 53 | 219477 | 100.33 | ug/L | | 99 |
| 31) acrylonitrile | 7.766 | 53 | 38255 | 104.69 | ug/L | | 98 |
| 32) hexane | 8.064 | 57 | 234975 | 101.12 | ug/L | | 98 |
| 33) vinyl acetate | 8.336 | 86 | 22383 | 105.79 | ug/L | # | 95 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 449388 | 103.73 | ug/L | | 99 |
| 35) ethyl acetate | 9.069 | 45 | 16246 | 102.27 | ug/L | # | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.079 | 77 | 223523 | 98.81 | ug/L | | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 155780 | 96.52 | ug/L | | 99 |
| 38) methyl acrylate | 9.158 | 85 | 18192 | 109.78 | ug/L | # | 87 |
| 39) propionitrile | 9.184 | 54 | 159700 | 1001.72 | ug/L | | 98 |
| 40) bromochloromethane | 9.414 | 128 | 72220 | 103.02 | ug/L | | 96 |
| 41) tetrahydrofuran | 9.445 | 72 | 15206 | 102.52 | ug/L | | 98 |
| 42) chloroform | 9.466 | 85 | 168040 | 93.56 | ug/L | | 99 |
| 43) t-butyl formate | 9.477 | 59 | 97174 | 100.60 | ug/L | | 96 |
| 45) methacrylonitrile | 9.356 | 67 | 47742 | 103.75 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 238226 | 102.50 | ug/L | | 99 |
| 47) cyclohexane | 9.759 | 84 | 226538 | 98.73 | ug/L | | 99 |
| 48) 1,1-dichloropropene | 9.885 | 75 | 193904 | 98.48 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.900 | 43 | 50930 | 990.53 | ug/L | | 96 |
| 50) carbon tetrachloride | 9.900 | 117 | 207463 | 102.20 | ug/L | | 99 |
| 51) tert amyl alcohol | 10.021 | 55 | 24638 | 508.94 | ug/L | | 98 |
| 54) n-butyl alcohol | 10.653 | 56 | 181265 | 5289.84 | ug/L | | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 561985 | 99.66 | ug/L | | 99 |
| 56) benzene | 10.151 | 78 | 543215 | 92.38 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.157 | 87 | 93594 | 102.12 | ug/L | | 98 |
| 58) heptane | 10.287 | 71 | 126733 | 99.87 | ug/L | | 99 |
| 59) isopropyl acetate | 10.062 | 87 | 25717 | 105.72 | ug/L | # | 90 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 180067 | 94.18 | ug/L | | 99 |
| 61) trichloroethene | 10.863 | 130 | 151238 | 99.91 | ug/L | | 99 |
| 62) ethyl acrylate | 10.857 | 55 | 145668 | 102.54 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 344534 | 493.59 | ug/L | | 99 |
| 65) methyl methacrylate | 11.124 | 100 | 29939 | 101.88 | ug/L | | 98 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 135409 | 96.70 | ug/L | | 99 |
| 67) dibromomethane | 11.302 | 93 | 83122 | 101.40 | ug/L | | 98 |
| 68) methylcyclohexane | 11.056 | 83 | 244623 | 93.72 | ug/L | | 99 |
| 69) bromodichloromethane | 11.427 | 83 | 204356 | 103.01 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 57461 | 510.53 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 227902 | 100.08 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 157137 | 386.42 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 105565 | 2049.57 | ug/L | | 99 |
| 76) toluene | 12.222 | 92 | 319473 | 95.00 | ug/L | | 100 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 191542 | 101.22 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.406 | 69 | 142307 | 106.40 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 93348 | 105.35 | ug/L | | 98 |
| 80) tetrachloroethene | 12.803 | 164 | 117586 | 100.56 | ug/L | | 99 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 164065 | 100.98 | ug/L | | 99 |
| 82) 2-hexanone | 12.803 | 58 | 145768 | 398.77 | ug/L | | 98 |
| 83) butyl acetate | 12.871 | 56 | 65653 | 98.54 | ug/L | | 99 |
| 84) dibromochloromethane | 13.096 | 129 | 144481 | 108.45 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 150074 | 106.62 | ug/L | | 99 |
| 86) n-butyl ether | 13.572 | 57 | 504362 | 99.69 | ug/L | | 100 |
| 87) chlorobenzene | 13.687 | 112 | 336438 | 98.61 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 130796 | 105.42 | ug/L | | 97 |
| 89) ethylbenzene | 13.734 | 91 | 588190 | 95.14 | ug/L | | 100 |
| 90) m,p-xylene | 13.839 | 106 | 438472 | 190.90 | ug/L | | 97 |
| 91) o-xylene | 14.257 | 106 | 212486 | 96.91 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

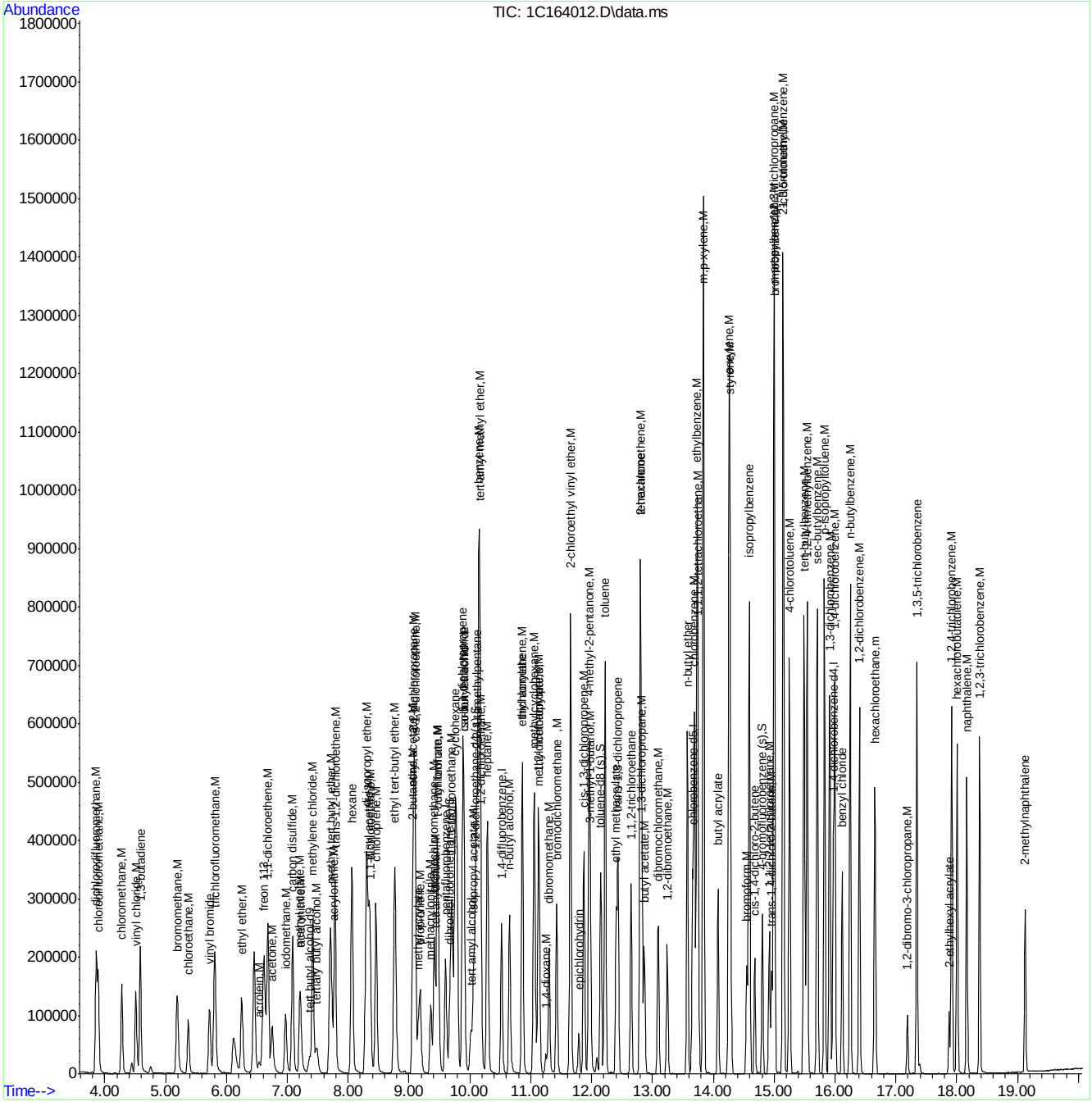
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 14.273 | 104 | 353538 | 97.23 | ug/L | 99 |
| 93) bromoform | 14.550 | 173 | 90473 | 111.91 | ug/L | 100 |
| 94) butyl acrylate | 14.079 | 55 | 219935 | 103.27 | ug/L | 98 |
| 95) isopropylbenzene | 14.592 | 105 | 575810 | 97.62 | ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 53028 | 105.90 | ug/L | 97 |
| 99) bromobenzene | 15.005 | 156 | 149860 | 98.19 | ug/L | 92 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 124527 | 104.01 | ug/L | 97 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 33362 | 101.53 | ug/L | 92 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 31001 | 100.37 | ug/L | 99 |
| 103) n-propylbenzene | 15.000 | 91 | 675283 | 96.19 | ug/L | 99 |
| 105) 2-chlorotoluene | 15.151 | 126 | 133528 | 97.72 | ug/L | 90 |
| 106) 4-chlorotoluene | 15.251 | 91 | 417206 | 96.57 | ug/L | 100 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 492609 | 97.26 | ug/L | 99 |
| 108) tert-butylbenzene | 15.491 | 134 | 86331 | 101.87 | ug/L | 95 |
| 109) 1,2,4-trimethylbenzene | 15.544 | 105 | 487621 | 96.12 | ug/L | 97 |
| 110) sec-butylbenzene | 15.706 | 105 | 619600 | 98.41 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 282370 | 97.68 | ug/L | 100 |
| 112) p-isopropyltoluene | 15.826 | 119 | 531211 | 98.09 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 281197 | 97.37 | ug/L | 99 |
| 114) benzyl chloride | 16.119 | 91 | 254434 | 102.34 | ug/L | 98 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 270601 | 100.32 | ug/L | 99 |
| 117) n-butylbenzene | 16.250 | 92 | 269323 | 97.85 | ug/L | 99 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 24716 | 103.14 | ug/L | 97 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 221999 | 100.01 | ug/L | 100 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 24771 | 22.30 | ug/L | 94 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 186074 | 102.91 | ug/L | 100 |
| 123) hexachlorobutadiene | 18.007 | 225 | 126500 | 99.66 | ug/L | 98 |
| 124) naphthalene | 18.164 | 128 | 352248 | 100.14 | ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 172497 | 100.99 | ug/L | 100 |
| 126) hexachloroethane | 16.658 | 201 | 104355 | 108.39 | ug/L | 99 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 122310 | 54.61 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.379 | 65 | 55377 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 166522 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 239614 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 189631 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 97742 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 70317 | 50.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.14% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 74062 | 49.30 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 98.60% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 251967 | 49.33 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.66% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93115 | 50.75 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 101.50% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.494 | 59 | 150758 | 1024.96 | ug/L | 87 |
| 4) 1,4-dioxane | 11.250 | 88 | 71490 | 5323.29 | ug/L | 98 |
| 6) chlorodifluoromethane | 3.891 | 51 | 336323 | 193.83 | ug/L | 98 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 485415 | 197.18 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 322753 | 178.79 | ug/L | 99 |
| 9) vinyl chloride | 4.513 | 62 | 327982 | 193.01 | ug/L | 98 |
| 10) 1,3-butadiene | 4.581 | 54 | 208320 | 195.32 | ug/L | 98 |
| 11) bromomethane | 5.177 | 94 | 231204 | 178.55 | ug/L | 97 |
| 12) chloroethane | 5.366 | 64 | 191915 | 191.97 | ug/L | 99 |
| 13) trichlorofluoromethane | 5.805 | 101 | 490566 | 193.60 | ug/L | 98 |
| 14) vinyl bromide | 5.716 | 106 | 193285 | 194.46 | ug/L | 98 |
| 15) ethyl ether | 6.255 | 74 | 136622 | 201.85 | ug/L | 98 |
| 16) acrolein | 6.532 | 56 | 35961 | 206.78 | ug/L | 97 |
| 17) freon 113 | 6.616 | 151 | 222609 | 198.67 | ug/L | 98 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 250089 | 183.46 | ug/L | 99 |
| 19) acetone | 6.752 | 43 | 260056 | 766.29 | ug/L | 98 |
| 20) acetonitrile | 7.212 | 41 | 273493 | 1991.58 | ug/L | 98 |
| 21) iodomethane | 6.971 | 142 | 323876 | 201.89 | ug/L | 99 |
| 22) carbon disulfide | 7.086 | 76 | 788625 | 179.14 | ug/L | 100 |
| 23) methylene chloride | 7.421 | 84 | 275371 | 186.23 | ug/L | 99 |
| 24) methyl acetate | 7.207 | 43 | 161252 | 196.16 | ug/L | 99 |
| 25) methyl tert butyl ether | 7.714 | 73 | 727040 | 196.79 | ug/L | 99 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 268674 | 177.55 | ug/L | 98 |
| 27) di-isopropyl ether | 8.305 | 45 | 865623 | 190.34 | ug/L | 98 |
| 28) 2-butanone | 9.063 | 72 | 101400 | 796.43 | ug/L | 99 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 459392 | 178.94 | ug/L | 100 |
| 30) chloroprene | 8.457 | 53 | 418196 | 188.93 | ug/L | 100 |
| 31) acrylonitrile | 7.766 | 53 | 74917 | 202.63 | ug/L | 96 |
| 32) hexane | 8.059 | 57 | 446430 | 189.87 | ug/L | 99 |
| 33) vinyl acetate | 8.342 | 86 | 42812 | 199.98 | ug/L | 95 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 861092 | 196.44 | ug/L | 99 |
| 35) ethyl acetate | 9.069 | 45 | 31381 | 195.24 | ug/L # | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 422041 | 184.39 | ug/L | | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 290081 | 177.63 | ug/L | | 99 |
| 38) methyl acrylate | 9.152 | 85 | 36271 | 216.32 | ug/L | | 96 |
| 39) propionitrile | 9.189 | 54 | 313364 | 1942.58 | ug/L | | 93 |
| 40) bromochloromethane | 9.414 | 128 | 135320 | 190.78 | ug/L | | 94 |
| 41) tetrahydrofuran | 9.445 | 72 | 29417 | 196.01 | ug/L | | 89 |
| 42) chloroform | 9.466 | 85 | 316928 | 174.39 | ug/L | | 98 |
| 43) t-butyl formate | 9.482 | 59 | 204142 | 208.86 | ug/L | | 95 |
| 45) methacrylonitrile | 9.356 | 67 | 93768 | 201.38 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 455508 | 193.69 | ug/L | | 99 |
| 47) cyclohexane | 9.759 | 84 | 427961 | 184.33 | ug/L | | 99 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 371977 | 186.71 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.905 | 43 | 101063 | 1942.56 | ug/L | | 96 |
| 50) carbon tetrachloride | 9.900 | 117 | 396026 | 192.81 | ug/L | | 99 |
| 51) tert amyl alcohol | 10.020 | 55 | 50140 | 1023.62 | ug/L | | 98 |
| 54) n-butyl alcohol | 10.659 | 56 | 360092 | 10300.49 | ug/L | | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 1069898 | 185.98 | ug/L | | 99 |
| 56) benzene | 10.151 | 78 | 1006338 | 167.75 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 179039 | 191.49 | ug/L | | 94 |
| 58) heptane | 10.287 | 71 | 240032 | 185.41 | ug/L | | 98 |
| 59) isopropyl acetate | 10.062 | 87 | 49710 | 200.31 | ug/L | # | 82 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 339158 | 173.88 | ug/L | | 99 |
| 61) trichloroethene | 10.863 | 130 | 287069 | 185.89 | ug/L | | 99 |
| 62) ethyl acrylate | 10.857 | 55 | 281989 | 194.57 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 692395 | 972.30 | ug/L | | 99 |
| 65) methyl methacrylate | 11.124 | 100 | 58167 | 194.02 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 254422 | 178.10 | ug/L | | 100 |
| 67) dibromomethane | 11.302 | 93 | 159805 | 191.09 | ug/L | | 99 |
| 68) methylcyclohexane | 11.056 | 83 | 469779 | 176.42 | ug/L | | 100 |
| 69) bromodichloromethane | 11.427 | 83 | 392194 | 193.77 | ug/L | | 100 |
| 70) epichlorohydrin | 11.788 | 57 | 113573 | 989.09 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 440218 | 189.49 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 302097 | 728.19 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 210563 | 4007.20 | ug/L | | 96 |
| 76) toluene | 12.222 | 92 | 612236 | 176.39 | ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 370643 | 189.79 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 273101 | 197.84 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 181425 | 198.40 | ug/L | | 98 |
| 80) tetrachloroethene | 12.798 | 164 | 224199 | 185.78 | ug/L | | 99 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 313423 | 186.92 | ug/L | | 99 |
| 82) 2-hexanone | 12.803 | 58 | 272460 | 722.19 | ug/L | | 98 |
| 83) butyl acetate | 12.871 | 56 | 127993 | 186.14 | ug/L | | 95 |
| 84) dibromochloromethane | 13.096 | 129 | 287305 | 208.96 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 295211 | 203.21 | ug/L | | 100 |
| 86) n-butyl ether | 13.577 | 57 | 948549 | 181.67 | ug/L | | 98 |
| 87) chlorobenzene | 13.692 | 112 | 647220 | 183.80 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 252779 | 197.40 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 1100428 | 172.46 | ug/L | | 100 |
| 90) m,p-xylene | 13.839 | 106 | 806285 | 340.14 | ug/L | | 100 |
| 91) o-xylene | 14.257 | 106 | 396381 | 175.16 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

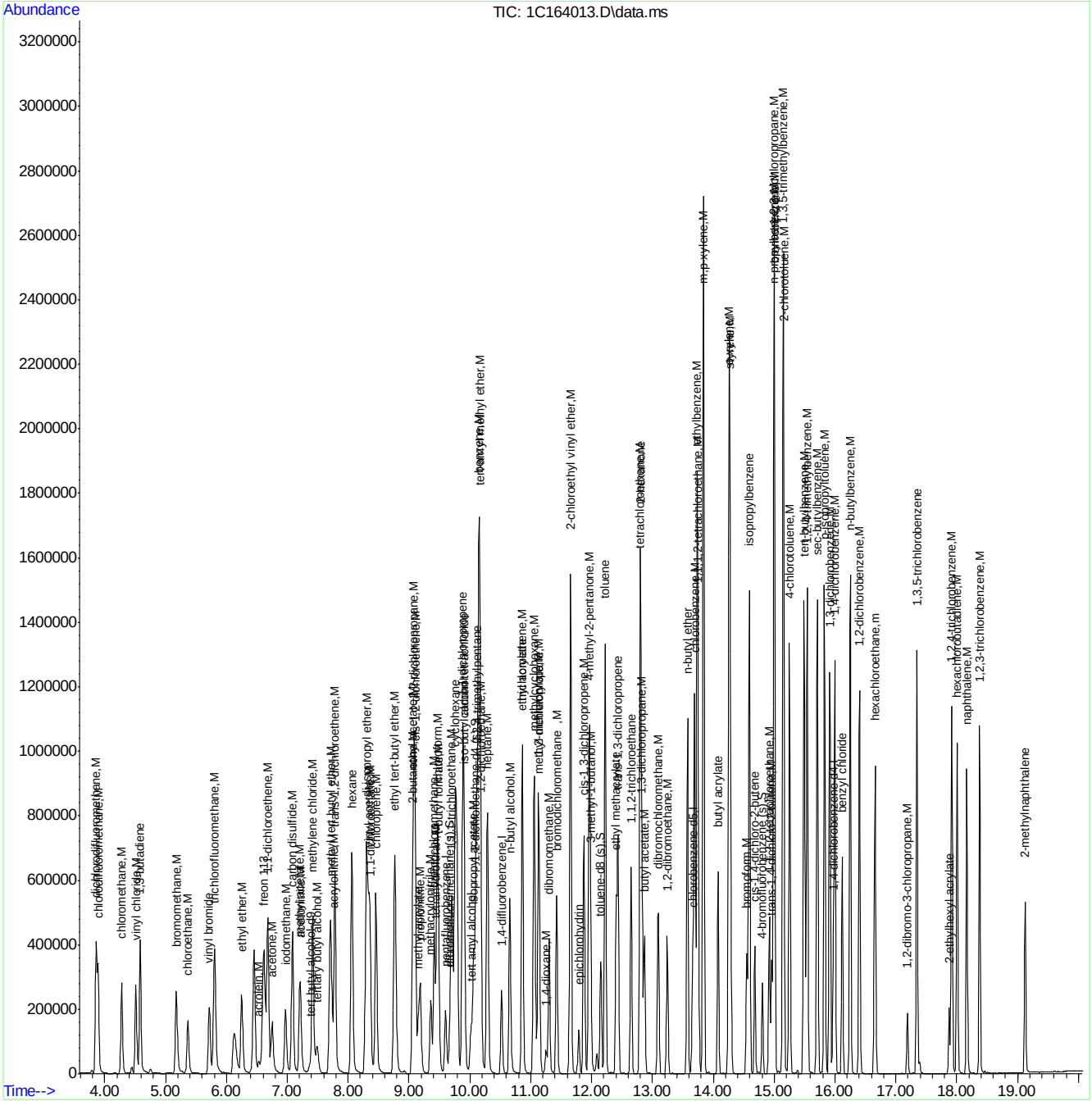
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 14.273 | 104 | 654467 | 174.40 | ug/L | 98 |
| 93) bromoform | 14.550 | 173 | 182034 | 218.17 | ug/L | 99 |
| 94) butyl acrylate | 14.079 | 55 | 429918 | 195.59 | ug/L | 99 |
| 95) isopropylbenzene | 14.592 | 105 | 1091513 | 179.29 | ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 105472 | 204.08 | ug/L | 97 |
| 99) bromobenzene | 15.005 | 156 | 279537 | 182.16 | ug/L | 93 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 245073 | 203.59 | ug/L | 96 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 66081 | 200.03 | ug/L | 96 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 59884 | 192.84 | ug/L | 98 |
| 103) n-propylbenzene | 15.000 | 91 | 1237824 | 175.37 | ug/L | 98 |
| 105) 2-chlorotoluene | 15.157 | 126 | 247026 | 179.80 | ug/L | 99 |
| 106) 4-chlorotoluene | 15.251 | 91 | 781379 | 179.89 | ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 916952 | 180.07 | ug/L | 99 |
| 108) tert-butylbenzene | 15.491 | 134 | 163739 | 192.17 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 15.544 | 105 | 913444 | 179.09 | ug/L | 97 |
| 110) sec-butylbenzene | 15.706 | 105 | 1149116 | 181.53 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 529790 | 182.28 | ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 986254 | 181.13 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 529027 | 182.20 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 489153 | 195.69 | ug/L | 99 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 511068 | 188.45 | ug/L | 99 |
| 117) n-butylbenzene | 16.250 | 92 | 501694 | 181.30 | ug/L | 99 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 48196 | 200.04 | ug/L | 97 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 412161 | 184.67 | ug/L | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 48621 | 43.54 | ug/L | 92 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 345690 | 190.15 | ug/L | 98 |
| 123) hexachlorobutadiene | 18.007 | 225 | 235261 | 184.35 | ug/L | 98 |
| 124) naphthalene | 18.164 | 128 | 664874 | 188.00 | ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 323863 | 188.59 | ug/L | 100 |
| 126) hexachloroethane | 16.658 | 201 | 205516 | 212.31 | ug/L | 98 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 234284 | 104.03 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 57618 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 173118 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 246979 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 192341 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 100566 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 74690 | 51.16 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.32% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 74278 | 47.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 95.74% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 253579 | 48.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.88% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 94168 | 49.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.76% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 37273 | 243.55 | ug/L | 98 |
| 4) 1,4-dioxane | 11.255 | 88 | 17368 | 1242.96 | ug/L | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 95602 | 53.00 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 117839 | 46.04 | ug/L | 97 |
| 8) chloromethane | 4.278 | 50 | 100452 | 53.52 | ug/L | 100 |
| 9) vinyl chloride | 4.513 | 62 | 82812 | 46.88 | ug/L | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 65370 | 58.95 | ug/L | 99 |
| 11) bromomethane | 5.193 | 94 | 63779 | 47.37 | ug/L | 97 |
| 12) chloroethane | 5.376 | 64 | 46561 | 44.00 | ug/L | 100 |
| 13) trichlorofluoromethane | 5.810 | 101 | 127812 | 48.52 | ug/L | 98 |
| 14) vinyl bromide | 5.721 | 106 | 53653 | 51.92 | ug/L | 100 |
| 15) ethyl ether | 6.255 | 74 | 36720 | 52.19 | ug/L | 98 |
| 16) acrolein | 6.537 | 56 | 9495 | 52.52 | ug/L | 96 |
| 17) freon 113 | 6.616 | 151 | 66824 | 57.37 | ug/L | 99 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 66876 | 47.19 | ug/L | 95 |
| 19) acetone | 6.752 | 43 | 68360 | 194.14 | ug/L | 98 |
| 21) iodomethane | 6.971 | 142 | 70476 | 44.60 | ug/L | 98 |
| 22) carbon disulfide | 7.086 | 76 | 239679 | 52.36 | ug/L | 99 |
| 23) methylene chloride | 7.421 | 84 | 74074 | 48.19 | ug/L | 99 |
| 24) methyl acetate | 7.207 | 43 | 40528 | 47.19 | ug/L | 100 |
| 25) methyl tert butyl ether | 7.709 | 73 | 379527 | 98.82 | ug/L | 85 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 74815 | 47.56 | ug/L | 98 |
| 27) di-isopropyl ether | 8.305 | 45 | 224275 | 47.44 | ug/L | 100 |
| 28) 2-butanone | 9.063 | 72 | 26988 | 203.90 | ug/L | 99 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 132683 | 49.71 | ug/L | 99 |
| 30) chloroprene | 8.457 | 53 | 118582 | 51.53 | ug/L | 99 |
| 31) acrylonitrile | 7.766 | 53 | 19600 | 50.99 | ug/L | 98 |
| 32) hexane | 8.064 | 57 | 132624 | 54.26 | ug/L | 98 |
| 33) vinyl acetate | 8.336 | 86 | 10807 | 48.56 | ug/L | 95 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 222343 | 48.79 | ug/L | 99 |
| 35) ethyl acetate | 9.068 | 45 | 8436 | 50.49 | ug/L | 99 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 114252 | 48.01 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 80678 | 47.52 | ug/L | | 98 |
| 38) methyl acrylate | 9.152 | 85 | 9201 | 52.78 | ug/L | # | 88 |
| 39) propionitrile | 9.184 | 54 | 84232 | 502.27 | ug/L | | 99 |
| 40) bromochloromethane | 9.419 | 128 | 37852 | 51.33 | ug/L | | 97 |
| 41) tetrahydrofuran | 9.450 | 72 | 7987 | 50.51 | ug/L | | 85 |
| 42) chloroform | 9.466 | 85 | 88951 | 47.08 | ug/L | | 97 |
| 43) t-butyl formate | 9.482 | 59 | 50004 | 49.21 | ug/L | | 96 |
| 45) methacrylonitrile | 9.361 | 67 | 24506 | 50.62 | ug/L | | 98 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 122064 | 49.93 | ug/L | | 98 |
| 47) cyclohexane | 9.759 | 84 | 114307 | 47.35 | ug/L | | 97 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 104027 | 50.23 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.905 | 43 | 25426 | 465.49 | ug/L | | 97 |
| 50) carbon tetrachloride | 9.905 | 117 | 110210 | 51.61 | ug/L | | 97 |
| 51) tert amyl alcohol | 10.020 | 55 | 13053 | 255.79 | ug/L | | 95 |
| 54) n-butyl alcohol | 10.653 | 56 | 91012 | 2525.32 | ug/L | | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 287100 | 48.42 | ug/L | | 100 |
| 56) benzene | 10.151 | 78 | 288641 | 46.68 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 46019 | 47.75 | ug/L | | 96 |
| 58) heptane | 10.287 | 71 | 79376 | 59.48 | ug/L | | 98 |
| 59) isopropyl acetate | 10.057 | 87 | 12187 | 47.64 | ug/L | | 98 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 89943 | 44.74 | ug/L | | 100 |
| 61) trichloroethene | 10.862 | 130 | 80509 | 50.58 | ug/L | | 99 |
| 62) ethyl acrylate | 10.857 | 55 | 75474 | 50.52 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 202680 | 276.13 | ug/L | | 99 |
| 65) methyl methacrylate | 11.124 | 100 | 15175 | 49.11 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 70694 | 48.01 | ug/L | | 99 |
| 67) dibromomethane | 11.302 | 93 | 41413 | 48.04 | ug/L | | 100 |
| 68) methylcyclohexane | 11.061 | 83 | 128728 | 46.90 | ug/L | | 100 |
| 69) bromodichloromethane | 11.427 | 83 | 100324 | 48.09 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 30188 | 255.06 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 117437 | 49.04 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 11.956 | 58 | 80525 | 188.31 | ug/L | | 96 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 53502 | 986.87 | ug/L | | 98 |
| 76) toluene | 12.222 | 92 | 164589 | 46.75 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 99447 | 50.20 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 71553 | 51.11 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 46655 | 50.30 | ug/L | | 96 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 83998 | 49.39 | ug/L | | 99 |
| 82) 2-hexanone | 12.803 | 58 | 74960 | 195.89 | ug/L | | 99 |
| 83) butyl acetate | 12.871 | 56 | 33745 | 48.38 | ug/L | | 97 |
| 84) dibromochloromethane | 13.096 | 129 | 73448 | 52.67 | ug/L | | 96 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 74074 | 50.27 | ug/L | | 100 |
| 86) n-butyl ether | 13.572 | 57 | 266698 | 50.36 | ug/L | | 99 |
| 87) chlorobenzene | 13.692 | 112 | 173070 | 48.46 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 66339 | 51.08 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 301301 | 46.56 | ug/L | | 99 |
| 90) m,p-xylene | 13.838 | 106 | 226680 | 94.28 | ug/L | | 98 |
| 91) o-xylene | 14.257 | 106 | 109148 | 47.55 | ug/L | | 97 |
| 92) styrene | 14.267 | 104 | 183991 | 48.34 | ug/L | | 95 |
| 93) bromoform | 14.550 | 173 | 46911 | 55.43 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

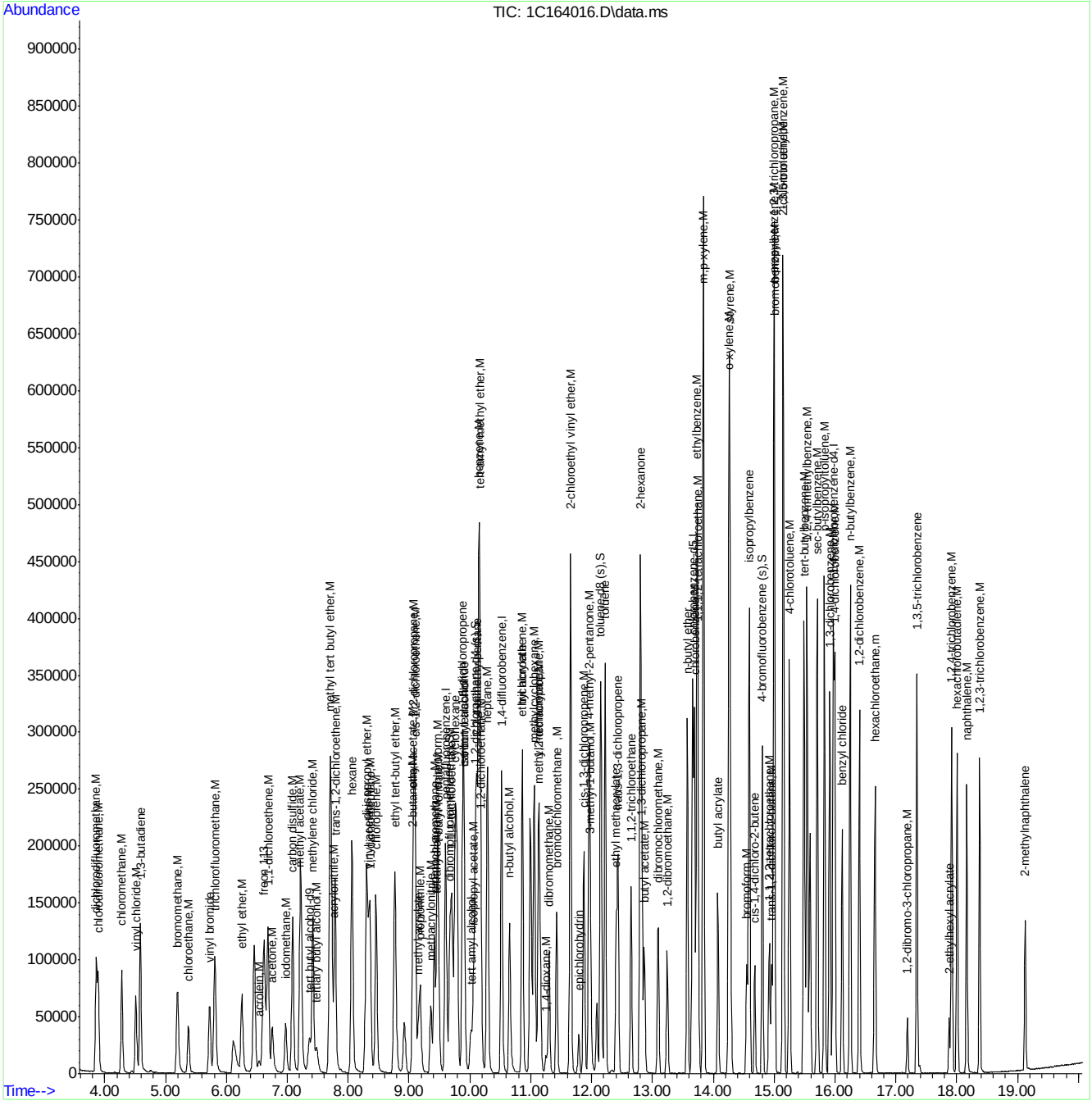
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 94) butyl acrylate | 14.074 | 55 | 109388 | 49.06 | ug/L | 99 |
| 95) isopropylbenzene | 14.592 | 105 | 296299 | 47.98 | ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 25513 | 48.67 | ug/L | 98 |
| 99) bromobenzene | 15.005 | 156 | 76003 | 48.14 | ug/L | 92 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 61440 | 49.61 | ug/L | 97 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 18590 | 55.16 | ug/L | 98 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 15695 | 49.12 | ug/L | 99 |
| 103) n-propylbenzene | 15.000 | 91 | 350472 | 48.26 | ug/L | 100 |
| 105) 2-chlorotoluene | 15.151 | 126 | 68127 | 48.19 | ug/L | 91 |
| 106) 4-chlorotoluene | 15.251 | 91 | 214234 | 47.94 | ug/L | 100 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 250029 | 47.72 | ug/L | 98 |
| 108) tert-butylbenzene | 15.491 | 134 | 44771 | 50.99 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 251797 | 47.98 | ug/L | 98 |
| 110) sec-butylbenzene | 15.706 | 105 | 318316 | 48.87 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 146711 | 49.06 | ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 275784 | 49.23 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 143981 | 48.20 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 161005 | 62.60 | ug/L | 99 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 138244 | 49.54 | ug/L | 99 |
| 117) n-butylbenzene | 16.250 | 92 | 138955 | 48.80 | ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 11975 | 48.31 | ug/L | 90 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 112780 | 49.11 | ug/L | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 11841 | 10.31 | ug/L | 96 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 89511 | 47.85 | ug/L | 95 |
| 123) hexachlorobutadiene | 18.007 | 225 | 63375 | 48.27 | ug/L | 98 |
| 124) naphthalene | 18.164 | 128 | 178986 | 49.19 | ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 83182 | 47.08 | ug/L | 98 |
| 126) hexachloroethane | 16.658 | 201 | 52954 | 52.92 | ug/L | 98 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 57911 | 24.99 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164017.D
Acq On : 24 Apr 2019 8:30 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 25 08:05:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

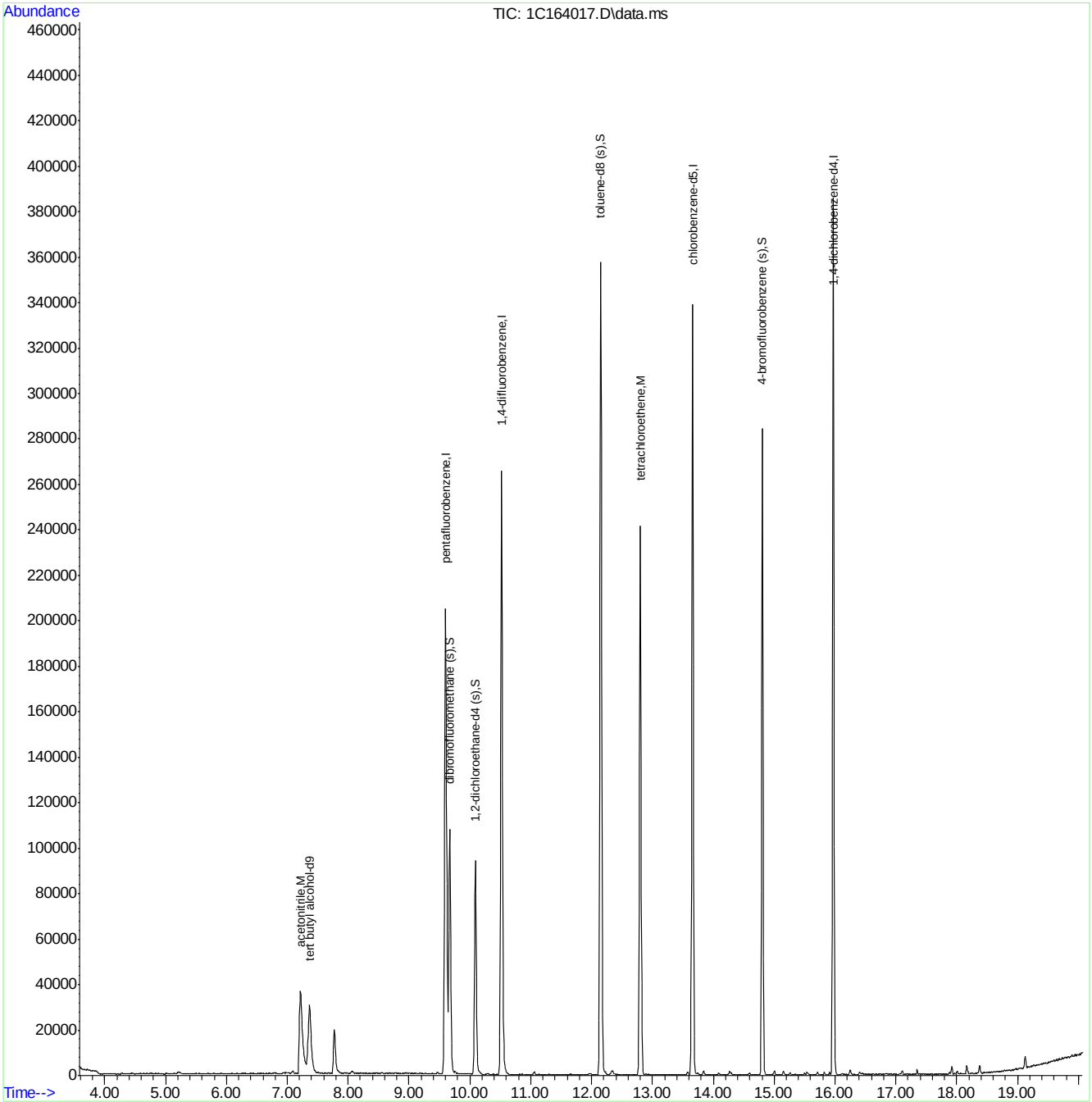
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 58834 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 176659 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 241919 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 195243 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 101236 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 73907 | 49.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.22% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 75274 | 49.53 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 99.06% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 259692 | 49.38 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.76% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 94564 | 49.76 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.52% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetonitrile | 7.217 | 41 | 73398 | 489.80 | ug/L | 99 |
| 80) tetrachloroethene | 12.803 | 164 | 60363 | 48.58 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164017.D
Acq On : 24 Apr 2019 8:30 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 25 08:05:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164491.d
Acq On : 13 May 2019 9:43 am
Operator : PrashanS
Sample : CC7200-50 Inst : GCMS1C
Misc : MS34533,V1C7218,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:16:27 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 61373 | 500.00 | ug/L | | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 212050 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 299095 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 236328 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 129709 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 89830 | 50.23 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.46% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 79075 | 42.09 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 84.18% | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 315458 | 49.55 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.10% | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 111878 | 45.95 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 91.90% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.484 | 59 | 42755 | 262.28 | ug/L | | 98 |
| 4) 1,4-dioxane | 11.250 | 88 | 22175 | 1489.88 | ug/L | | 89 |
| 6) chlorodifluoromethane | 3.891 | 51 | 105763 | 47.87 | ug/L | | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 138369 | 44.14 | ug/L | | 98 |
| 8) chloromethane | 4.278 | 50 | 107143 | 46.61 | ug/L | | 99 |
| 9) vinyl chloride | 4.513 | 62 | 109739 | 50.71 | ug/L | | 99 |
| 10) 1,3-butadiene | 4.581 | 54 | 75502 | 55.58 | ug/L | | 92 |
| 11) bromomethane | 5.193 | 94 | 81482 | 49.41 | ug/L | | 98 |
| 12) chloroethane | 5.376 | 64 | 64075 | 49.43 | ug/L | | 98 |
| 13) trichlorofluoromethane | 5.810 | 101 | 163897 | 50.80 | ug/L | | 97 |
| 14) vinyl bromide | 5.721 | 106 | 100717 | 79.57 | ug/L | | 95 |
| 15) ethyl ether | 6.255 | 74 | 45225 | 52.47 | ug/L | | 92 |
| 16) acrolein | 6.537 | 56 | 11294 | 51.00 | ug/L | | 85 |
| 17) freon 113 | 6.616 | 151 | 83697 | 58.66 | ug/L | | 98 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 96579 | 55.64 | ug/L | | 85 |
| 19) acetone | 6.752 | 43 | 80798 | 187.33 | ug/L | | 93 |
| 20) acetonitrile | 7.207 | 41 | 79559 | 442.30 | ug/L | | 98 |
| 21) iodomethane | 6.971 | 142 | 98911 | 50.67 | ug/L | | 94 |
| 22) carbon disulfide | 7.086 | 76 | 289275 | 51.59 | ug/L | | 97 |
| 23) methylene chloride | 7.421 | 84 | 98286 | 52.20 | ug/L | | 91 |
| 24) methyl acetate | 7.212 | 43 | 48480 | 46.09 | ug/L | | 95 |
| 25) methyl tert butyl ether | 7.709 | 73 | 229305 | 48.74 | ug/L | | 99 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 102342 | 53.11 | ug/L | | 90 |
| 27) di-isopropyl ether | 8.300 | 45 | 262695 | 45.36 | ug/L | | 97 |
| 28) 2-butanone | 9.063 | 72 | 35687 | 220.12 | ug/L | # | 74 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 158622 | 48.52 | ug/L | | 99 |
| 30) chloroprene | 8.457 | 53 | 136095 | 48.28 | ug/L | | 93 |
| 31) acrylonitrile | 7.766 | 53 | 23528 | 49.97 | ug/L | | 93 |
| 32) hexane | 8.059 | 57 | 156195 | 52.17 | ug/L | | 95 |
| 33) vinyl acetate | 8.342 | 86 | 14696 | 53.91 | ug/L | # | 51 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 265959 | 47.65 | ug/L | | 97 |
| 35) ethyl acetate | 9.069 | 45 | 9373 | 45.80 | ug/L | # | 87 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 144804 | 49.68 | ug/L | | 94 |
| 37) cis-1,2-dichloroethene | 9.095 | 96 | 109559 | 52.68 | ug/L | | 94 |
| 38) methyl acrylate | 9.158 | 85 | 11526 | 53.98 | ug/L | | 99 |
| 39) propionitrile | 9.184 | 54 | 97421 | 474.26 | ug/L | | 97 |
| 40) bromochloromethane | 9.414 | 128 | 50158 | 55.53 | ug/L | | 90 |
| 41) tetrahydrofuran | 9.440 | 72 | 9850 | 50.85 | ug/L | # | 84 |
| 42) chloroform | 9.466 | 85 | 108609 | 46.93 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164491.d
Acq On : 13 May 2019 9:43 am
Operator : PrashanS
Sample : CC7200-50 Inst : GCMS1C
Misc : MS34533,V1C7218,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:16:27 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 9.482 | 59 | 63495 | 51.02 | ug/L | | 98 |
| 45) methacrylonitrile | 9.356 | 67 | 29682 | 50.06 | ug/L | | 83 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 153497 | 51.26 | ug/L | | 96 |
| 47) cyclohexane | 9.759 | 84 | 140994 | 47.69 | ug/L | | 92 |
| 48) 1,1-dichloropropene | 9.879 | 75 | 132048 | 52.05 | ug/L | | 95 |
| 49) iso-butyl alcohol | 9.900 | 43 | 27409 | 409.66 | ug/L | | 96 |
| 50) carbon tetrachloride | 9.900 | 117 | 137840 | 52.70 | ug/L | | 98 |
| 51) tert amyl alcohol | 10.015 | 55 | 14497 | 231.93 | ug/L | | 96 |
| 54) n-butyl alcohol | 10.648 | 56 | 108332 | 2482.14 | ug/L | | 97 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 361510 | 50.34 | ug/L | | 97 |
| 56) benzene | 10.151 | 78 | 371205 | 49.57 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 58293 | 49.95 | ug/L | | 98 |
| 58) heptane | 10.287 | 71 | 87110 | 53.91 | ug/L | | 94 |
| 59) isopropyl acetate | 10.057 | 87 | 16314 | 52.66 | ug/L | # | 81 |
| 60) 1,2-dichloroethane | 10.177 | 62 | 102467 | 42.08 | ug/L | | 95 |
| 61) trichloroethene | 10.863 | 130 | 109379 | 56.74 | ug/L | | 97 |
| 62) ethyl acrylate | 10.857 | 55 | 84974 | 46.97 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 235882 | 265.37 | ug/L | | 95 |
| 65) methyl methacrylate | 11.124 | 100 | 19112 | 51.07 | ug/L | # | 73 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 86752 | 48.65 | ug/L | | 100 |
| 67) dibromomethane | 11.302 | 93 | 52925 | 50.70 | ug/L | | 92 |
| 68) methylcyclohexane | 11.056 | 83 | 172649 | 51.94 | ug/L | | 94 |
| 69) bromodichloromethane | 11.422 | 83 | 125918 | 49.84 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 34756 | 242.49 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 146760 | 50.61 | ug/L | | 89 |
| 72) 4-methyl-2-pentanone | 11.956 | 58 | 96229 | 185.83 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 62189 | 947.22 | ug/L | | 94 |
| 76) toluene | 12.222 | 92 | 217632 | 50.31 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 120515 | 49.52 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.405 | 69 | 86336 | 50.19 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 12.646 | 83 | 59324 | 52.06 | ug/L | | 95 |
| 80) tetrachloroethene | 12.798 | 164 | 86759 | 57.69 | ug/L | | 97 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 103786 | 49.67 | ug/L | | 89 |
| 82) 2-hexanone | 12.803 | 58 | 92590 | 196.93 | ug/L | | 90 |
| 83) butyl acetate | 12.871 | 56 | 39597 | 46.21 | ug/L | | 91 |
| 84) dibromochloromethane | 13.096 | 129 | 93866 | 54.78 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 83079 | 45.89 | ug/L | | 99 |
| 86) n-butyl ether | 13.572 | 57 | 311590 | 47.88 | ug/L | | 97 |
| 87) chlorobenzene | 13.687 | 112 | 224988 | 51.27 | ug/L | | 95 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 84690 | 53.07 | ug/L | | 97 |
| 89) ethylbenzene | 13.734 | 91 | 388229 | 48.82 | ug/L | | 97 |
| 90) m,p-xylene | 13.839 | 106 | 302701 | 102.46 | ug/L | | 90 |
| 91) o-xylene | 14.257 | 106 | 145602 | 51.63 | ug/L | | 94 |
| 92) styrene | 14.267 | 104 | 237580 | 50.80 | ug/L | | 97 |
| 93) bromoform | 14.550 | 173 | 59680 | 57.39 | ug/L | | 99 |
| 94) butyl acrylate | 14.074 | 55 | 126342 | 46.12 | ug/L | | 98 |
| 95) isopropylbenzene | 14.586 | 105 | 383068 | 50.49 | ug/L | | 97 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 30383 | 47.17 | ug/L | | 94 |
| 99) bromobenzene | 15.000 | 156 | 102434 | 50.30 | ug/L | | 88 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 78142 | 48.92 | ug/L | | 94 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 18625 | 42.85 | ug/L | # | 82 |
| 102) 1,2,3-trichloropropane | 14.989 | 110 | 19799 | 48.04 | ug/L | | 95 |
| 103) n-propylbenzene | 14.994 | 91 | 447008 | 47.72 | ug/L | | 96 |
| 105) 2-chlorotoluene | 15.151 | 126 | 91980 | 50.45 | ug/L | | 95 |
| 106) 4-chlorotoluene | 15.251 | 91 | 263875 | 45.78 | ug/L | | 97 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 319934 | 47.34 | ug/L | | 96 |
| 108) tert-butylbenzene | 15.491 | 134 | 60409 | 53.34 | ug/L | # | 87 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164491.d
Acq On : 13 May 2019 9:43 am
Operator : PrashanS
Sample : CC7200-50 Inst : GCMS1C
Misc : MS34533,V1C7218,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:16:27 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

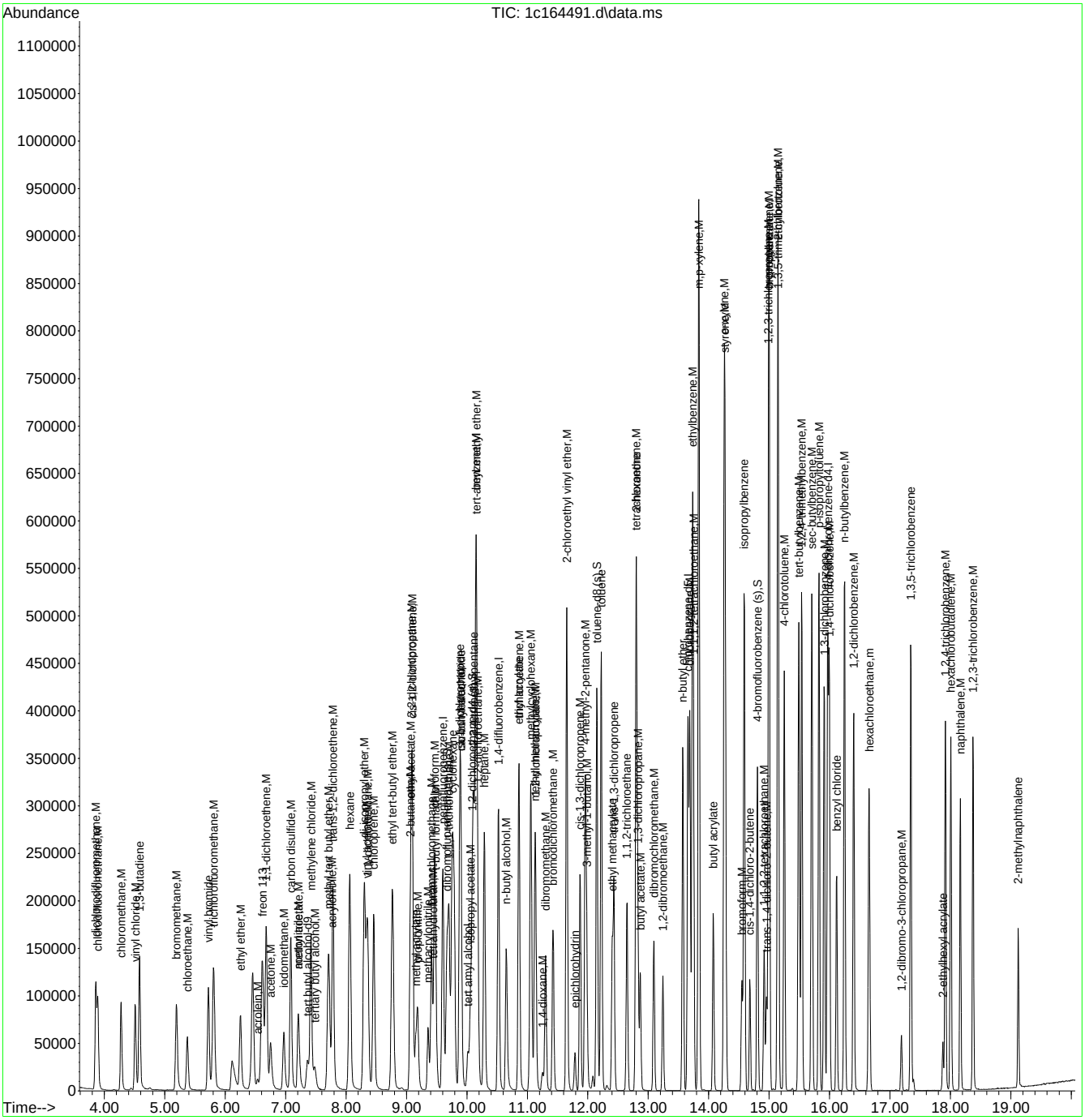
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 315028 | 46.54 | ug/L | 95 |
| 110) sec-butylbenzene | 15.706 | 105 | 416177 | 49.54 | ug/L | 98 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 196683 | 50.99 | ug/L | 97 |
| 112) p-isopropyltoluene | 15.826 | 119 | 354649 | 49.08 | ug/L | 97 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 195194 | 50.66 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 173816 | 52.40 | ug/L | 99 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 184140 | 51.17 | ug/L | 97 |
| 117) n-butylbenzene | 16.244 | 92 | 181203 | 49.34 | ug/L | 97 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 14519 | 45.41 | ug/L | 83 |
| 119) 1,3,5-trichlorobenzene | 17.343 | 180 | 156273 | 52.76 | ug/L | 100 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 12117 | 8.18 | ug/L | 89 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 125563 | 52.05 | ug/L | 97 |
| 123) hexachlorobutadiene | 18.007 | 225 | 86881 | 51.30 | ug/L | 99 |
| 124) naphthalene | 18.164 | 128 | 225350 | 48.02 | ug/L | 98 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 114447 | 50.22 | ug/L | 99 |
| 126) hexachloroethane | 16.658 | 201 | 73251 | 56.75 | ug/L | 95 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 72973 | 24.42 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\May 14\v1c7218\
Data File : 1c164491.d
Acq On : 13 May 2019 9:43 am
Operator : PrashanS
Sample : CC7200-50 Inst : GCMS1C
Misc : MS34533,V1C7218,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Results File: M1CS7200.RES
Quant Time: May 14 11:16:27 2019
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166195.D
Acq On : 20 Mar 2019 3:39 pm
Operator : edwardd
Sample : IC7441-0.2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 14:06:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.234 | 65 | 223266 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.687 | 168 | 201744 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 280497 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.615 | 117 | 283356 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 209466 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.714 | 113 | 97930 | 50.74 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.48% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 117978 | 54.57 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 109.14% | | | | |
| 75) toluene-d8 (s) | 13.194 | 98 | 338861 | 50.02 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.04% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 150102 | 45.48 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 90.96% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 6) chlorodifluoromethane | 4.375 | 51 | 804 | 0.17 | ug/L | | 65 |
| 9) vinyl chloride | 5.067 | 62 | 958 | 0.18 | ug/L | | 55 |
| 13) trichlorofluoromethane | 6.525 | 101 | 898 | 0.17 | ug/L | | 88 |
| 14) vinyl bromide | 6.357 | 106 | 725 | 0.24 | ug/L | # | 58 |
| 21) iodomethane | 7.720 | 142 | 769 | 0.17 | ug/L | # | 44 |
| 26) methyl tert butyl ether | 8.653 | 73 | 1744 | 0.22 | ug/L | | 82 |
| 29) di-isopropyl ether | 9.324 | 45 | 1838 | 0.23 | ug/L | | 93 |
| 30) 1,1-dichloroethane | 9.330 | 63 | 789 | 0.20 | ug/L | | 75 |
| 31) chloroprene | 9.434 | 53 | 579 | 0.18 | ug/L | | 73 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 1481 | 0.18 | ug/L | | 79 |
| 37) 2,2-dichloropropane | 10.142 | 77 | 779 | 0.22 | ug/L | | 69 |
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 555 | 0.22 | ug/L | # | 82 |
| 42) chloroform | 10.509 | 83 | 933 | 0.23 | ug/L | | 90 |
| 46) 1,1,1-trichloroethane | 10.787 | 97 | 709 | 0.17 | ug/L | | 90 |
| 47) cyclohexane | 10.902 | 84 | 770 | 0.21 | ug/L | # | 60 |
| 49) carbon tetrachloride | 10.992 | 117 | 524 | 0.16 | ug/L | # | 63 |
| 55) iso-octane | 11.317 | 57 | 1654 | 0.17 | ug/L | | 88 |
| 56) benzene | 11.212 | 78 | 1556 | 0.19 | ug/L | | 89 |
| 61) ethyl acrylate | 11.930 | 55 | 606 | 0.18 | ug/L | | 74 |
| 62) trichloroethene | 11.930 | 95 | 439 | 0.20 | ug/L | # | 51 |
| 64) 2-chloroethyl vinyl ether | 12.696 | 63 | 1123 | 0.81 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 525 | 0.24 | ug/L | | 81 |
| 67) dibromomethane | 12.313 | 93 | 326 | 0.20 | ug/L | # | 57 |
| 68) methylcyclohexane | 12.224 | 83 | 874 | 0.19 | ug/L | | 88 |
| 69) bromodichloromethane | 12.470 | 83 | 632 | 0.20 | ug/L | | 69 |
| 71) cis-1,3-dichloropropene | 12.890 | 75 | 658 | 0.18 | ug/L | | 84 |
| 72) 4-methyl-2-pentanone | 13.000 | 58 | 713 | 0.55 | ug/L | | 91 |
| 73) 3-methyl-1-butanol | 13.015 | 55 | 727 | 3.22 | ug/L | | 73 |
| 76) toluene | 13.267 | 92 | 1053 | 0.20 | ug/L | # | 72 |
| 77) ethyl methacrylate | 13.435 | 69 | 588 | 0.19 | ug/L | | 73 |
| 78) trans-1,3-dichloropropene | 13.440 | 75 | 658 | 0.20 | ug/L | | 85 |
| 79) 1,1,2-trichloroethane | 13.655 | 83 | 378 | 0.20 | ug/L | # | 47 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166195.D
Acq On : 20 Mar 2019 3:39 pm
Operator : edwardd
Sample : IC7441-0.2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 14:06:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

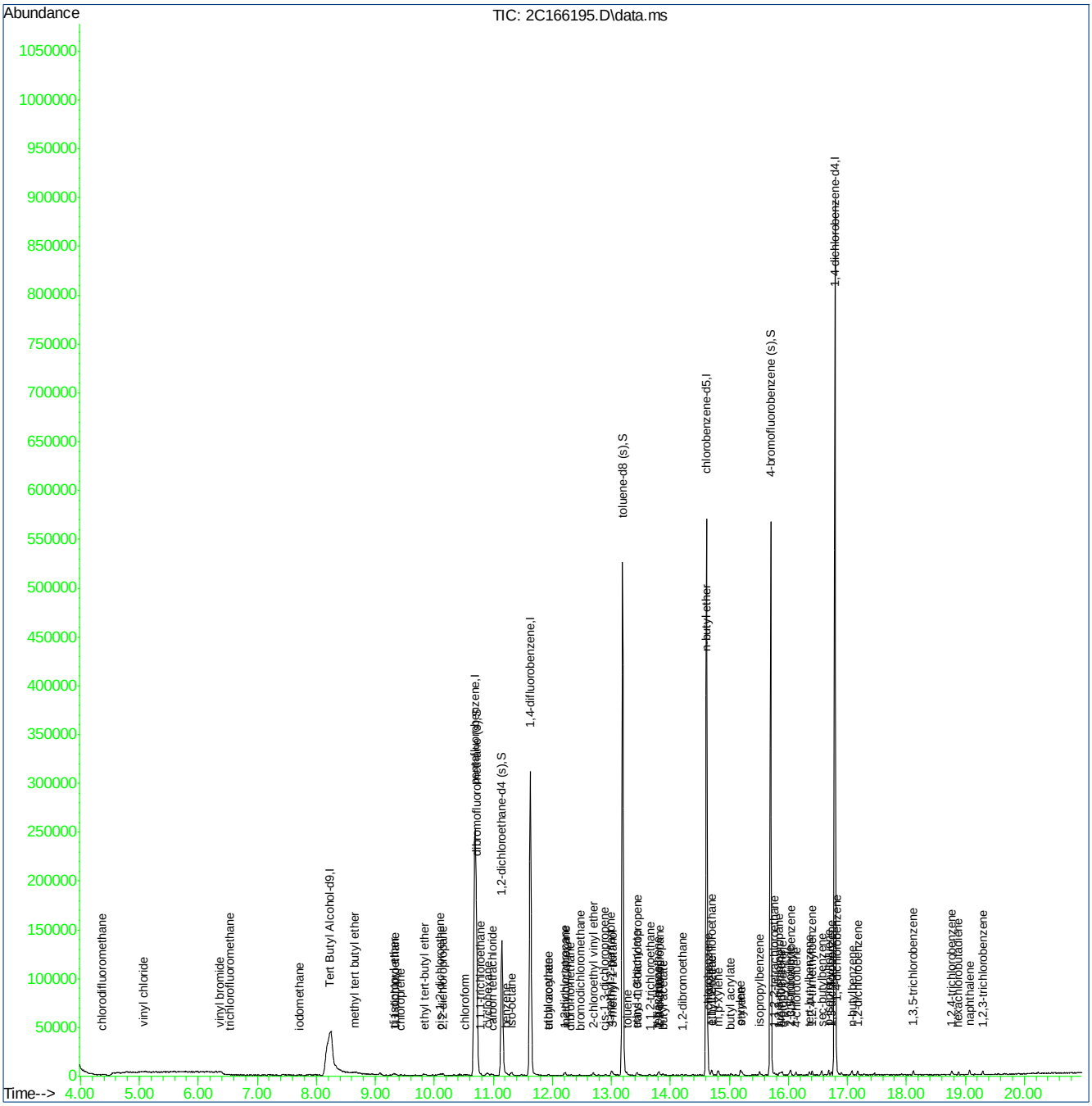
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 80) 2-hexanone | 13.802 | 58 | 839 | 0.72 | ug/L | # | 76 |
| 81) tetrachloroethene | 13.786 | 164 | 392 | 0.18 | ug/L | | 78 |
| 82) 1,3-dichloropropane | 13.818 | 76 | 603 | 0.19 | ug/L | | 93 |
| 83) butyl acetate | 13.875 | 56 | 301 | 0.18 | ug/L | # | 32 |
| 85) 1,2-dibromoethane | 14.200 | 107 | 659 | 0.21 | ug/L | | 80 |
| 86) n-butyl ether | 14.604 | 57 | 2006 | 0.21 | ug/L | # | 1 |
| 87) chlorobenzene | 14.641 | 112 | 1185 | 0.19 | ug/L | | 90 |
| 88) 1,1,1,2-tetrachloroethane | 14.698 | 131 | 514 | 0.19 | ug/L | | 83 |
| 89) ethylbenzene | 14.698 | 91 | 2322 | 0.23 | ug/L | | 97 |
| 90) m,p-xylene | 14.814 | 106 | 1679 | 0.42 | ug/L | # | 68 |
| 91) o-xylene | 15.191 | 106 | 937 | 0.21 | ug/L | | 86 |
| 92) styrene | 15.197 | 104 | 1309 | 0.19 | ug/L | | 96 |
| 93) butyl acrylate | 15.018 | 55 | 1292 | 0.24 | ug/L | | 98 |
| 95) isopropylbenzene | 15.511 | 105 | 2317 | 0.19 | ug/L | | 79 |
| 99) bromobenzene | 15.873 | 156 | 642 | 0.17 | ug/L | | 88 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 771 | 0.16 | ug/L | | 69 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 198 | 0.17 | ug/L | | 87 |
| 103) n-propylbenzene | 15.899 | 91 | 2760 | 0.19 | ug/L | | 90 |
| 104) 2-chlorotoluene | 16.025 | 126 | 670 | 0.19 | ug/L | # | 83 |
| 105) 4-chlorotoluene | 16.130 | 91 | 2017 | 0.22 | ug/L | | 88 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 2168 | 0.18 | ug/L | | 97 |
| 107) tert-butylbenzene | 16.360 | 119 | 1759 | 0.17 | ug/L | | 91 |
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 2104 | 0.18 | ug/L | | 98 |
| 109) sec-butylbenzene | 16.565 | 105 | 2685 | 0.16 | ug/L | | 95 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 1419 | 0.19 | ug/L | | 80 |
| 111) p-isopropyltoluene | 16.686 | 119 | 2370 | 0.17 | ug/L | | 98 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 1532 | 0.21 | ug/L | | 86 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 1776 | 0.22 | ug/L | | 80 |
| 114) n-butylbenzene | 17.079 | 92 | 1305 | 0.18 | ug/L | | 95 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 1553 | 0.19 | ug/L | | 96 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 1463 | 0.18 | ug/L | | 93 |
| 120) hexachlorobutadiene | 18.882 | 225 | 671 | 0.17 | ug/L | | 77 |
| 121) naphthalene | 19.071 | 128 | 3602 | 0.19 | ug/L | | 98 |
| 122) 1,2,3-trichlorobenzene | 19.302 | 180 | 1295 | 0.17 | ug/L | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166195.D
Acq On : 20 Mar 2019 3:39 pm
Operator : edwardd
Sample : IC7441-0.2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 14:06:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166196.D
Acq On : 20 Mar 2019 4:07 pm
Operator : edwardd
Sample : IC7441-0.5
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 11:00:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.244 | 65 | 224458 | 500.00 | ug/L | | 0.01 |
| 5) pentafluorobenzene | 10.682 | 168 | 212254 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 300336 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 310340 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 224904 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.714 | 113 | 98569 | 48.55 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.10% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 121800 | 52.62 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 105.24% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 365715 | 49.29 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.58% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 163788 | 46.22 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 92.44% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 6) chlorodifluoromethane | 4.375 | 51 | 2672 | 0.55 | ug/L | | 65 |
| 7) dichlorodifluoromethane | 4.354 | 85 | 2050 | 0.35 | ug/L | | 91 |
| 9) vinyl chloride | 5.056 | 62 | 2628 | 0.48 | ug/L | | 90 |
| 13) trichlorofluoromethane | 6.488 | 101 | 2632 | 0.46 | ug/L | | 73 |
| 14) vinyl bromide | 6.346 | 106 | 1600 | 0.51 | ug/L | # | 60 |
| 18) freon 113 | 7.437 | 151 | 1306 | 0.48 | ug/L | # | 77 |
| 19) 1,1-dichloroethene | 7.410 | 96 | 1424 | 0.58 | ug/L | # | 65 |
| 21) iodomethane | 7.715 | 142 | 2328 | 0.49 | ug/L | | 89 |
| 23) carbon disulfide | 7.851 | 76 | 4204 | 0.52 | ug/L | | 80 |
| 24) methylene chloride | 8.244 | 84 | 1530 | 0.56 | ug/L | # | 72 |
| 26) methyl tert butyl ether | 8.643 | 73 | 4277 | 0.51 | ug/L | | 96 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 1190 | 0.52 | ug/L | | 83 |
| 28) hexane | 9.078 | 56 | 1025 | 0.58 | ug/L | # | 90 |
| 29) di-isopropyl ether | 9.329 | 45 | 4292 | 0.50 | ug/L | | 88 |
| 30) 1,1-dichloroethane | 9.308 | 63 | 2187 | 0.53 | ug/L | | 74 |
| 31) chloroprene | 9.429 | 53 | 1867 | 0.54 | ug/L | | 90 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 4272 | 0.50 | ug/L | | 93 |
| 35) 2-butanone | 10.053 | 72 | 590 | 1.50 | ug/L | # | 20 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 2104 | 0.56 | ug/L | | 79 |
| 38) cis-1,2-dichloroethene | 10.090 | 96 | 1601 | 0.62 | ug/L | # | 72 |
| 39) propionitrile | 10.116 | 54 | 2693 | 5.01 | ug/L | | 90 |
| 40) bromochloromethane | 10.415 | 128 | 557 | 0.41 | ug/L | | 89 |
| 42) chloroform | 10.509 | 83 | 2470 | 0.58 | ug/L | | 88 |
| 43) t-butyl formate | 10.556 | 59 | 1053 | 0.45 | ug/L | | 80 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 2182 | 0.50 | ug/L | | 92 |
| 47) cyclohexane | 10.897 | 84 | 1744 | 0.44 | ug/L | # | 73 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 1553 | 0.54 | ug/L | | 89 |
| 49) carbon tetrachloride | 10.981 | 117 | 1667 | 0.49 | ug/L | | 79 |
| 55) iso-octane | 11.306 | 57 | 4904 | 0.48 | ug/L | | 90 |
| 56) benzene | 11.212 | 78 | 4684 | 0.54 | ug/L | | 97 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 1018 | 0.51 | ug/L | # | 44 |
| 58) heptane | 11.474 | 57 | 852 | 0.51 | ug/L | # | 80 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166196.D
Acq On : 20 Mar 2019 4:07 pm
Operator : edwardd
Sample : IC7441-0.5
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 11:00:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 61) | ethyl acrylate | 11.930 | 55 | 1538 | 0.44 | ug/L | | 74 |
| 62) | trichloroethene | 11.930 | 95 | 1082 | 0.45 | ug/L | | 94 |
| 64) | 2-chloroethyl vinyl ether | 12.695 | 63 | 3524 | 2.38 | ug/L | | 95 |
| 66) | 1,2-dichloropropane | 12.218 | 63 | 1197 | 0.50 | ug/L | | 81 |
| 67) | dibromomethane | 12.313 | 93 | 837 | 0.48 | ug/L | | 93 |
| 68) | methylcyclohexane | 12.213 | 83 | 2500 | 0.51 | ug/L | | 97 |
| 69) | bromodichloromethane | 12.465 | 83 | 1500 | 0.45 | ug/L | | 87 |
| 70) | epichlorohydrin | 12.785 | 57 | 874 | 2.20 | ug/L | # | 52 |
| 71) | cis-1,3-dichloropropene | 12.905 | 75 | 2078 | 0.53 | ug/L | | 78 |
| 72) | 4-methyl-2-pentanone | 12.999 | 58 | 2547 | 1.84 | ug/L | | 89 |
| 73) | 3-methyl-1-butanol | 13.010 | 55 | 2198 | 9.11 | ug/L | | 96 |
| 76) | toluene | 13.262 | 92 | 2818 | 0.50 | ug/L | | 88 |
| 77) | ethyl methacrylate | 13.429 | 69 | 1441 | 0.43 | ug/L | | 84 |
| 78) | trans-1,3-dichloropropene | 13.440 | 75 | 1575 | 0.43 | ug/L | | 95 |
| 79) | 1,1,2-trichloroethane | 13.644 | 83 | 944 | 0.46 | ug/L | # | 81 |
| 80) | 2-hexanone | 13.796 | 58 | 2481 | 1.94 | ug/L | | 95 |
| 81) | tetrachloroethene | 13.786 | 164 | 1214 | 0.51 | ug/L | | 96 |
| 82) | 1,3-dichloropropane | 13.817 | 76 | 1765 | 0.51 | ug/L | | 91 |
| 83) | butyl acetate | 13.875 | 56 | 816 | 0.44 | ug/L | # | 73 |
| 85) | 1,2-dibromoethane | 14.190 | 107 | 1525 | 0.44 | ug/L | | 99 |
| 86) | n-butyl ether | 14.599 | 57 | 5310 | 0.52 | ug/L | # | 1 |
| 87) | chlorobenzene | 14.641 | 112 | 3452 | 0.52 | ug/L | | 96 |
| 88) | 1,1,1,2-tetrachloroethane | 14.703 | 131 | 1234 | 0.43 | ug/L | | 86 |
| 89) | ethylbenzene | 14.703 | 91 | 5938 | 0.53 | ug/L | | 92 |
| 90) | m,p-xylene | 14.814 | 106 | 4330 | 0.98 | ug/L | | 93 |
| 91) | o-xylene | 15.186 | 106 | 2500 | 0.50 | ug/L | | 91 |
| 92) | styrene | 15.202 | 104 | 3900 | 0.50 | ug/L | | 93 |
| 93) | butyl acrylate | 15.029 | 55 | 3094 | 0.52 | ug/L | | 87 |
| 95) | isopropylbenzene | 15.506 | 105 | 6580 | 0.48 | ug/L | | 95 |
| 96) | cis-1,4-dichloro-2-butene | 15.537 | 75 | 594 | 0.41 | ug/L | | 94 |
| 99) | bromobenzene | 15.873 | 156 | 1827 | 0.46 | ug/L | | 85 |
| 100) | 1,1,2,2-tetrachloroethane | 15.768 | 83 | 2111 | 0.41 | ug/L | | 75 |
| 102) | 1,2,3-trichloropropane | 15.846 | 110 | 572 | 0.46 | ug/L | | 88 |
| 103) | n-propylbenzene | 15.899 | 91 | 7584 | 0.48 | ug/L | | 99 |
| 104) | 2-chlorotoluene | 16.019 | 126 | 1688 | 0.45 | ug/L | | 94 |
| 105) | 4-chlorotoluene | 16.130 | 91 | 5207 | 0.53 | ug/L | | 88 |
| 106) | 1,3,5-trimethylbenzene | 16.040 | 105 | 5734 | 0.45 | ug/L | | 99 |
| 107) | tert-butylbenzene | 16.360 | 119 | 4653 | 0.41 | ug/L | | 88 |
| 108) | 1,2,4-trimethylbenzene | 16.407 | 105 | 5694 | 0.44 | ug/L | | 97 |
| 109) | sec-butylbenzene | 16.565 | 105 | 7889 | 0.44 | ug/L | | 93 |
| 110) | 1,3-dichlorobenzene | 16.727 | 146 | 4118 | 0.52 | ug/L | | 94 |
| 111) | p-isopropyltoluene | 16.685 | 119 | 6520 | 0.43 | ug/L | | 95 |
| 112) | 1,4-dichlorobenzene | 16.811 | 146 | 4154 | 0.53 | ug/L | | 94 |
| 113) | 1,2-dichlorobenzene | 17.173 | 146 | 4522 | 0.52 | ug/L | | 94 |
| 114) | n-butylbenzene | 17.073 | 92 | 3749 | 0.48 | ug/L | | 91 |
| 116) | 1,3,5-trichlorobenzene | 18.117 | 180 | 4167 | 0.46 | ug/L | | 99 |
| 118) | 1,2,4-trichlorobenzene | 18.772 | 180 | 3475 | 0.41 | ug/L | | 92 |
| 120) | hexachlorobutadiene | 18.893 | 225 | 2162 | 0.50 | ug/L | | 78 |
| 121) | naphthalene | 19.076 | 128 | 7877 | 0.38 | ug/L | | 98 |
| 122) | 1,2,3-trichlorobenzene | 19.296 | 180 | 3212 | 0.40 | ug/L | | 85 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166196.D
Acq On : 20 Mar 2019 4:07 pm
Operator : edwardd
Sample : IC7441-0.5
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 11:00:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

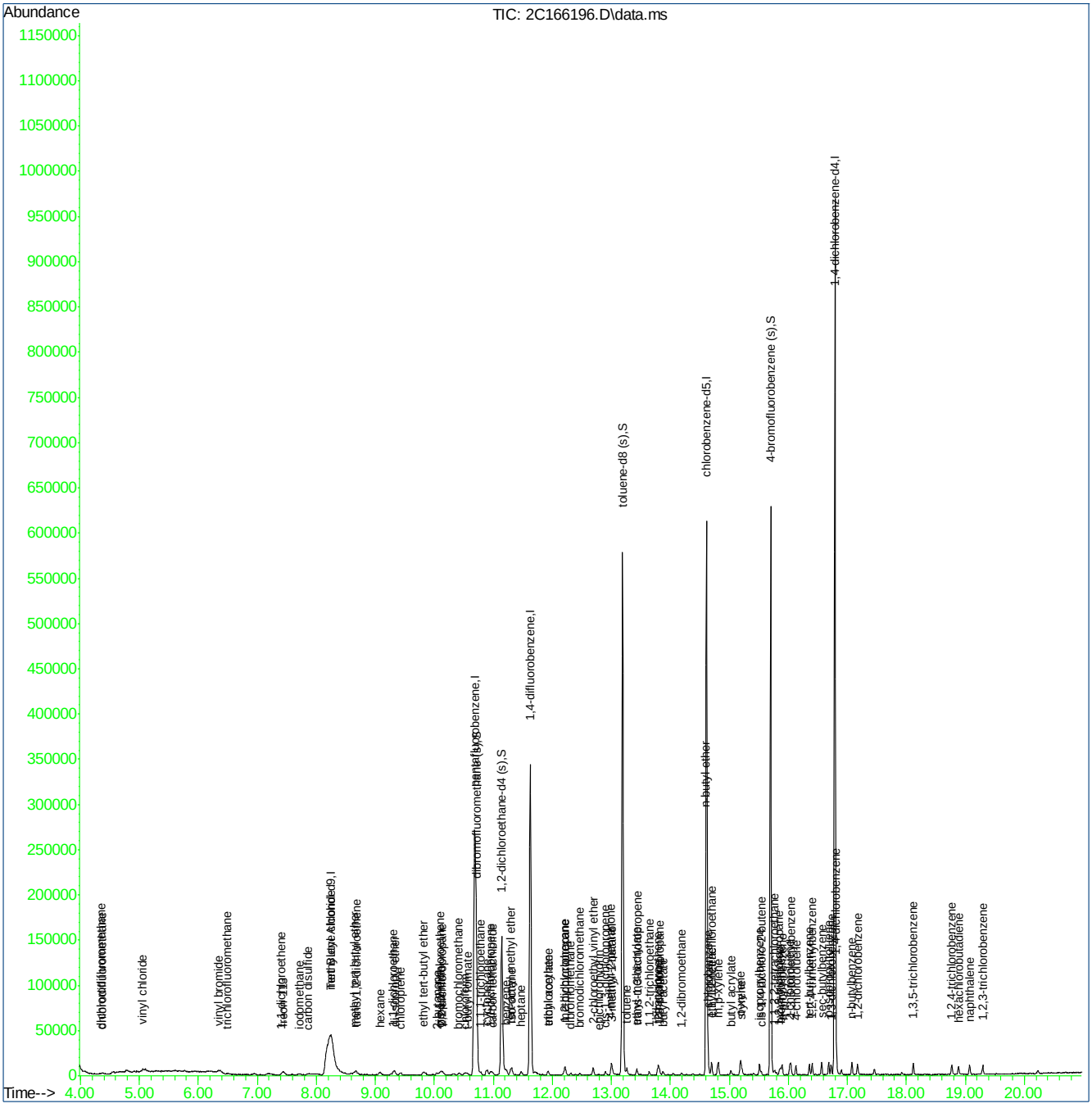
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166196.D
Acq On : 20 Mar 2019 4:07 pm
Operator : edwardd
Sample : IC7441-0.5
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 11:00:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 03/25/19 12:02

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166197.D
Acq On : 20 Mar 2019 4:36 pm
Operator : edwardd
Sample : IC7441-1
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 14:08:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.223 | 65 | 222164 | 500.00 | ug/L | | -0.01 |
| 5) pentafluorobenzene | 10.682 | 168 | 208447 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 292747 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 305031 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 221917 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 97904 | 49.10 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.20% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 121186 | 53.71 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 107.42% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 356953 | 48.94 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.88% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 162843 | 46.57 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 93.14% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.344 | 59 | 2973 | 4.75 | ug/L | | 42 |
| 6) chlorodifluoromethane | 4.370 | 51 | 4591 | 0.96 | ug/L | | 87 |
| 7) dichlorodifluoromethane | 4.370 | 85 | 5250 | 0.91 | ug/L | | 79 |
| 8) chloromethane | 4.789 | 50 | 6517 | 1.15 | ug/L | | 88 |
| 9) vinyl chloride | 5.056 | 62 | 5117 | 0.96 | ug/L | | 87 |
| 10) 1,3-butadiene | 5.083 | 54 | 3781 | 1.14 | ug/L | | 88 |
| 11) bromomethane | 5.769 | 94 | 4498 | 1.00 | ug/L | | 96 |
| 12) chloroethane | 5.974 | 64 | 2779 | 0.99 | ug/L | | 85 |
| 13) trichlorofluoromethane | 6.519 | 101 | 5461 | 0.97 | ug/L | | 99 |
| 14) vinyl bromide | 6.362 | 106 | 3050 | 0.99 | ug/L | | 96 |
| 15) ethyl ether | 6.949 | 74 | 1035 | 0.88 | ug/L | # | 66 |
| 16) 2-chloropropane | 7.180 | 43 | 5235 | 1.18 | ug/L | | 90 |
| 18) freon 113 | 7.452 | 151 | 3022 | 1.13 | ug/L | # | 76 |
| 19) 1,1-dichloroethene | 7.431 | 96 | 2715 | 1.13 | ug/L | # | 72 |
| 20) acetone | 7.447 | 58 | 1109m | 3.57 | ug/L | | |
| 21) iodomethane | 7.715 | 142 | 4730 | 1.01 | ug/L | | 90 |
| 22) acetonitrile | 7.977 | 41 | 5435 | 9.88 | ug/L | | 81 |
| 23) carbon disulfide | 7.856 | 76 | 7998 | 1.02 | ug/L | | 95 |
| 24) methylene chloride | 8.234 | 84 | 3288 | 1.23 | ug/L | | 88 |
| 25) methyl acetate | 7.982 | 43 | 3063 | 1.28 | ug/L | | 62 |
| 26) methyl tert butyl ether | 8.648 | 73 | 8891 | 1.09 | ug/L | | 98 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 2519 | 1.13 | ug/L | | 83 |
| 28) hexane | 9.083 | 56 | 1706 | 0.98 | ug/L | | 99 |
| 29) di-isopropyl ether | 9.324 | 45 | 8827 | 1.05 | ug/L | | 92 |
| 30) 1,1-dichloroethane | 9.319 | 63 | 4336 | 1.08 | ug/L | | 96 |
| 31) chloroprene | 9.434 | 53 | 3331 | 0.98 | ug/L | | 97 |
| 32) acrylonitrile | 8.580 | 53 | 939 | 0.76 | ug/L | | 75 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 8786 | 1.04 | ug/L | | 97 |
| 35) 2-butanone | 10.037 | 72 | 1275 | 3.29 | ug/L | | 93 |
| 36) ethyl acetate | 10.069 | 45 | 374 | 0.87 | ug/L | # | 1 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 4212 | 1.13 | ug/L | | 91 |
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 2952 | 1.16 | ug/L | | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166197.D
Acq On : 20 Mar 2019 4:36 pm
Operator : edwardd
Sample : IC7441-1
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 14:08:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 39) propionitrile | 10.111 | 54 | 5303 | 10.05 | ug/L | | 81 |
| 40) bromochloromethane | 10.415 | 128 | 1453 | 1.08 | ug/L | | 89 |
| 42) chloroform | 10.509 | 83 | 4623 | 1.10 | ug/L | | 95 |
| 43) t-butyl formate | 10.551 | 59 | 2192 | 0.96 | ug/L | | 79 |
| 45) methacrylonitrile | 10.320 | 67 | 1119 | 0.97 | ug/L | # | 68 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 4383 | 1.02 | ug/L | | 96 |
| 47) cyclohexane | 10.892 | 84 | 4385 | 1.14 | ug/L | | 93 |
| 48) 1,1-dichloropropene | 10.960 | 75 | 2817 | 1.00 | ug/L | | 98 |
| 49) carbon tetrachloride | 10.981 | 117 | 3199 | 0.95 | ug/L | | 98 |
| 53) n-butyl alcohol | 11.699 | 56 | 6721 | 45.37 | ug/L | | 91 |
| 55) iso-octane | 11.311 | 57 | 9475 | 0.95 | ug/L | | 97 |
| 56) benzene | 11.212 | 78 | 8772 | 1.03 | ug/L | | 97 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 2203 | 1.13 | ug/L | # | 82 |
| 58) heptane | 11.474 | 57 | 1727 | 1.06 | ug/L | | 83 |
| 59) isopropyl acetate | 11.128 | 87 | 574 | 0.95 | ug/L | # | 31 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 4100 | 1.28 | ug/L | | 89 |
| 61) ethyl acrylate | 11.930 | 55 | 3085 | 0.90 | ug/L | | 85 |
| 62) trichloroethene | 11.930 | 95 | 2504 | 1.07 | ug/L | | 94 |
| 63) 2-nitropropane | 12.643 | 41 | 764 | 1.07 | ug/L | # | 59 |
| 64) 2-chloroethyl vinyl ether | 12.695 | 63 | 7115 | 4.93 | ug/L | | 98 |
| 65) methyl methacrylate | 12.182 | 100 | 597 | 0.88 | ug/L | # | 66 |
| 66) 1,2-dichloropropane | 12.213 | 63 | 2484 | 1.07 | ug/L | | 94 |
| 67) dibromomethane | 12.318 | 93 | 1779 | 1.06 | ug/L | | 93 |
| 68) methylcyclohexane | 12.218 | 83 | 4906 | 1.03 | ug/L | | 96 |
| 69) bromodichloromethane | 12.465 | 83 | 2913 | 0.90 | ug/L | | 95 |
| 70) epichlorohydrin | 12.774 | 57 | 1829 | 4.72 | ug/L | | 90 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 3940 | 1.03 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 13.000 | 58 | 5293 | 3.92 | ug/L | | 95 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 4658 | 19.80 | ug/L | | 98 |
| 76) toluene | 13.262 | 92 | 5556 | 1.00 | ug/L | | 92 |
| 77) ethyl methacrylate | 13.430 | 69 | 3327 | 1.00 | ug/L | | 95 |
| 78) trans-1,3-dichloropropene | 13.440 | 75 | 3570 | 1.00 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 2078 | 1.04 | ug/L | | 95 |
| 80) 2-hexanone | 13.797 | 58 | 5276 | 4.20 | ug/L | # | 87 |
| 81) tetrachloroethene | 13.791 | 164 | 2279 | 0.97 | ug/L | | 92 |
| 82) 1,3-dichloropropane | 13.818 | 76 | 3527 | 1.04 | ug/L | | 87 |
| 83) butyl acetate | 13.875 | 56 | 1855 | 1.02 | ug/L | # | 69 |
| 84) dibromochloromethane | 14.043 | 129 | 2406 | 0.89 | ug/L | | 89 |
| 85) 1,2-dibromoethane | 14.195 | 107 | 3135 | 0.93 | ug/L | | 93 |
| 86) n-butyl ether | 14.599 | 57 | 9786 | 0.97 | ug/L | # | 38 |
| 87) chlorobenzene | 14.646 | 112 | 6821 | 1.04 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.698 | 131 | 2503 | 0.88 | ug/L | | 98 |
| 89) ethylbenzene | 14.698 | 91 | 11290 | 1.02 | ug/L | | 99 |
| 90) m,p-xylene | 14.808 | 106 | 8513 | 1.97 | ug/L | | 89 |
| 91) o-xylene | 15.181 | 106 | 4797 | 0.98 | ug/L | | 92 |
| 92) styrene | 15.196 | 104 | 7386 | 0.97 | ug/L | | 97 |
| 93) butyl acrylate | 15.023 | 55 | 6326 | 1.09 | ug/L | | 99 |
| 94) bromoform | 15.411 | 173 | 1639 | 0.75 | ug/L | | 93 |
| 95) isopropylbenzene | 15.511 | 105 | 12878 | 0.96 | ug/L | | 97 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 1180 | 0.83 | ug/L | # | 84 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166197.D
Acq On : 20 Mar 2019 4:36 pm
Operator : edwardd
Sample : IC7441-1
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 14:08:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

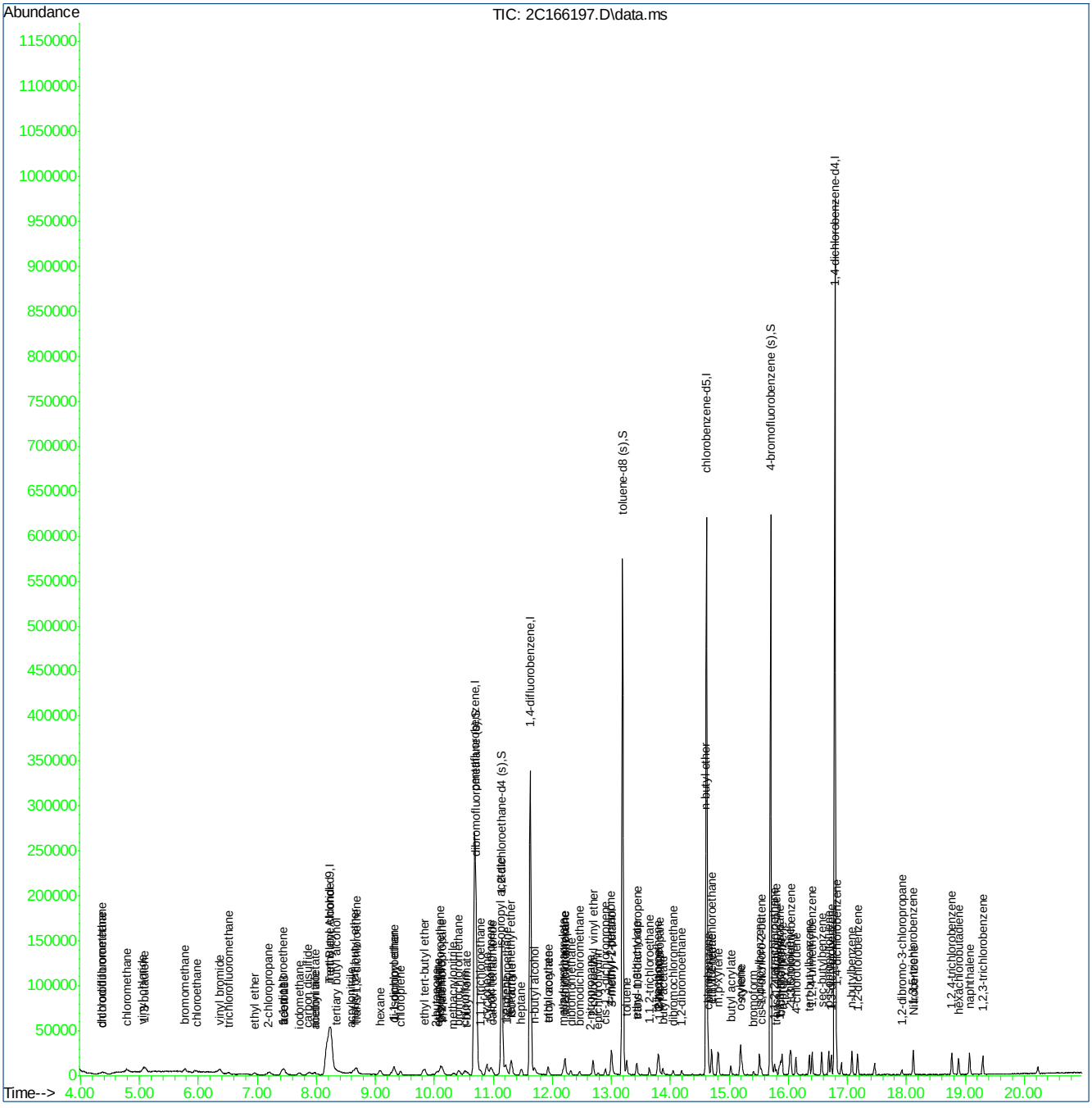
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 99) bromobenzene | 15.873 | 156 | 3859 | 0.98 | ug/L | | 96 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 4709 | 0.93 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 15.794 | 88 | 418 | 0.71 | ug/L | # | 76 |
| 102) 1,2,3-trichloropropane | 15.852 | 110 | 1111 | 0.91 | ug/L | | 95 |
| 103) n-propylbenzene | 15.899 | 91 | 15082 | 0.97 | ug/L | | 97 |
| 104) 2-chlorotoluene | 16.025 | 126 | 3357 | 0.91 | ug/L | | 93 |
| 105) 4-chlorotoluene | 16.130 | 91 | 9641 | 1.00 | ug/L | | 98 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 11366 | 0.91 | ug/L | | 94 |
| 107) tert-butylbenzene | 16.355 | 119 | 9450 | 0.84 | ug/L | | 99 |
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 11976 | 0.94 | ug/L | | 96 |
| 109) sec-butylbenzene | 16.565 | 105 | 15229 | 0.86 | ug/L | | 98 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 8253 | 1.06 | ug/L | | 95 |
| 111) p-isopropyltoluene | 16.685 | 119 | 12813 | 0.86 | ug/L | | 97 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 8314 | 1.07 | ug/L | | 98 |
| 113) 1,2-dichlorobenzene | 17.178 | 146 | 8718 | 1.01 | ug/L | | 93 |
| 114) n-butylbenzene | 17.073 | 92 | 6690 | 0.88 | ug/L | | 99 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 1093 | 0.75 | ug/L | | 79 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 8686 | 0.98 | ug/L | | 96 |
| 117) Nitrobenzene | 18.127 | 77 | 125 | 0.79 | ug/L | # | 14 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 7100 | 0.84 | ug/L | | 96 |
| 120) hexachlorobutadiene | 18.888 | 225 | 3784 | 0.89 | ug/L | | 93 |
| 121) naphthalene | 19.071 | 128 | 17148 | 0.84 | ug/L | | 98 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 6890 | 0.88 | ug/L | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166197.D
Acq On : 20 Mar 2019 4:36 pm
Operator : edwardd
Sample : IC7441-1
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 14:08:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



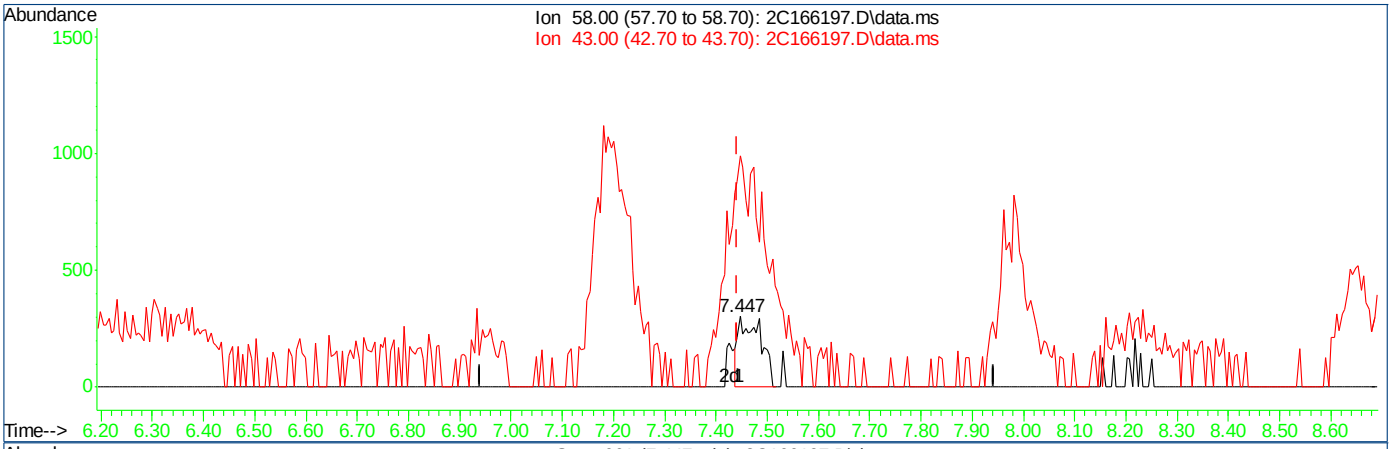
| | | | |
|---|---|---|---|
| **Sample Number:** | V2C7441-IC7441 | **Method:** | SW846 8260C |
| **Lab FileID:** | 2C166197.D | **Analyst approved:** | 03/21/19 14:16 Bridget Kelly |
| **Injection Time:** | 03/20/19 16:36 | **Supervisor approved:** | 03/25/19 12:02 Kanya Veerawat |

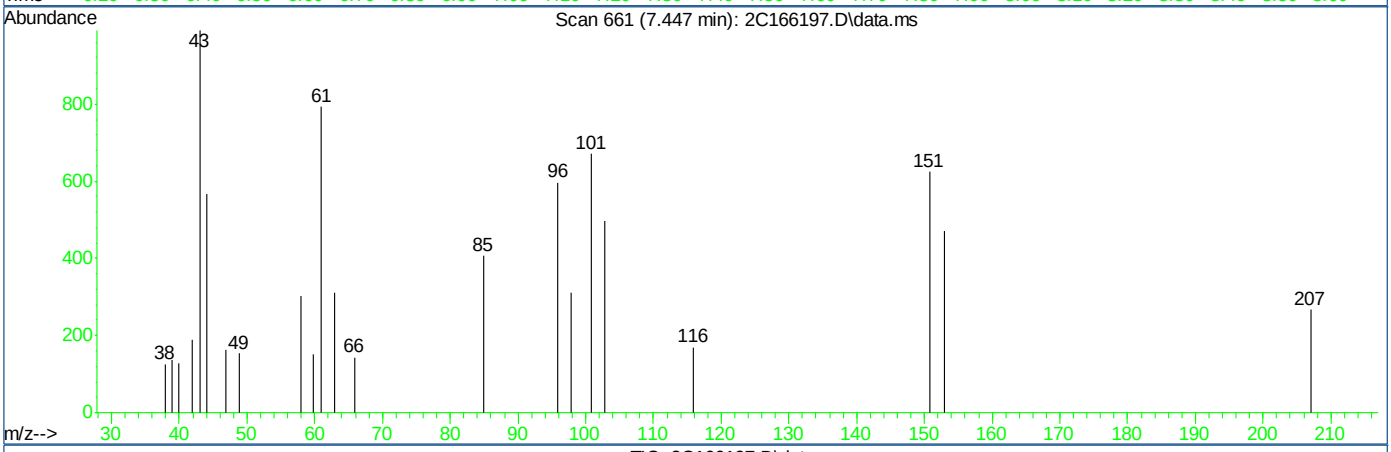
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Acetone | 67-64-1 | | 7.45 | Split peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166197.D
Acq On : 20 Mar 2019 4:36 pm
Operator : edwardd
Sample : IC7441-1
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 13:39:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration




TIC: 2C166197.D\data.ms

(20) acetone

7.447min (+0.005) 2.89ug/L

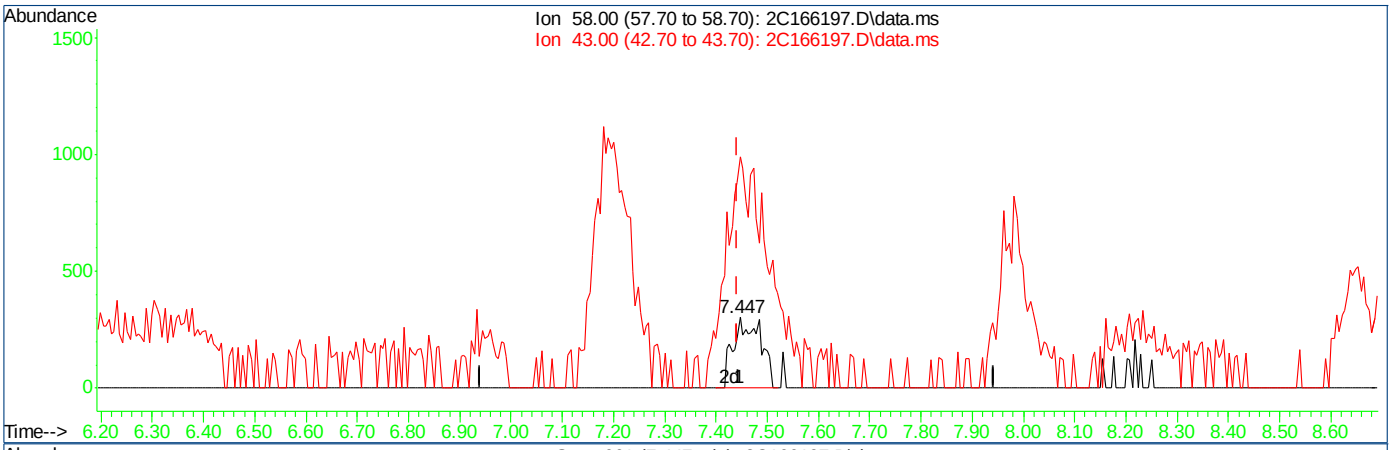
response 897

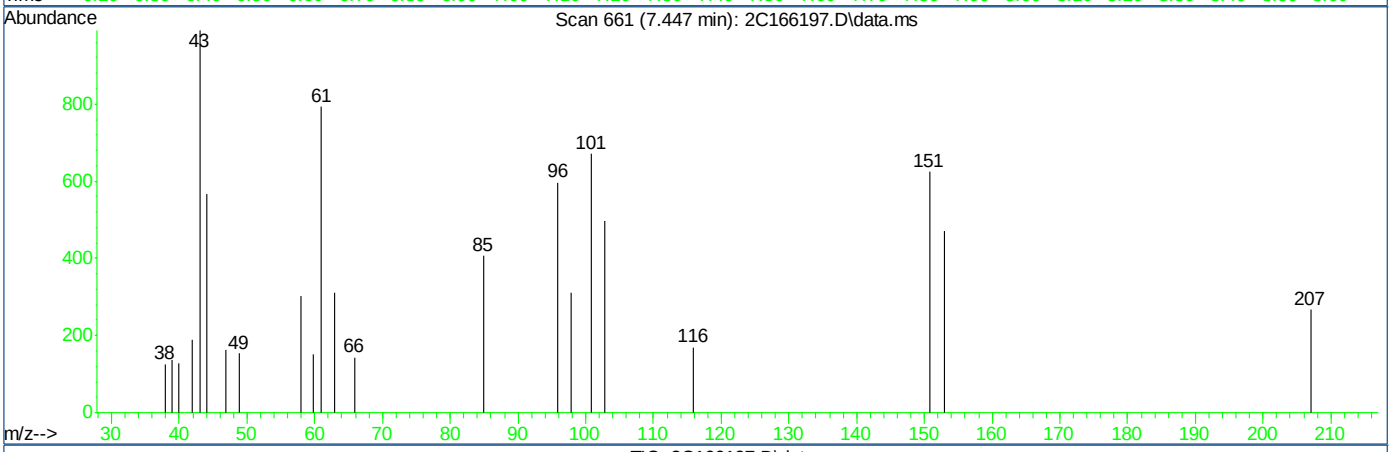
| Ion | Exp% | Act% |
|---|---|---|
| 58.00 | 100 | 100 |
| 43.00 | 336.60 | 183.83# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166197.D
Acq On : 20 Mar 2019 4:36 pm
Operator : edwardd
Sample : IC7441-1
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 13:39:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration




TIC: 2C166197.D\data.ms

(20) acetone

7.447min (+0.005) 3.57ug/L m

response 1109

| Ion | Exp% | Act% |
|---|---|---|
| 58.00 | 100 | 100 |
| 43.00 | 336.60 | 327.06 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166198.D
Acq On : 20 Mar 2019 5:04 pm
Operator : edwardd
Sample : IC7441-2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 14:09:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.228 | 65 | 207697 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 208309 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 293868 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 300913 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 218832 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 100895 | 50.63 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.26% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 122703 | 54.17 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 108.34% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 357379 | 49.67 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.34% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 159887 | 46.37 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 92.74% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.380 | 59 | 4398 | 7.52 | ug/L | | 82 |
| 6) chlorodifluoromethane | 4.390 | 51 | 8454 | 1.77 | ug/L | | 89 |
| 7) dichlorodifluoromethane | 4.364 | 85 | 10751 | 1.86 | ug/L | | 92 |
| 8) chloromethane | 4.794 | 50 | 12088 | 2.14 | ug/L | | 99 |
| 9) vinyl chloride | 5.061 | 62 | 10024 | 1.87 | ug/L | | 94 |
| 10) 1,3-butadiene | 5.103 | 54 | 6654 | 2.01 | ug/L | | 94 |
| 11) bromomethane | 5.764 | 94 | 7864 | 1.75 | ug/L | | 89 |
| 12) chloroethane | 5.963 | 64 | 5446 | 1.95 | ug/L | | 87 |
| 13) trichlorofluoromethane | 6.519 | 101 | 10858 | 1.94 | ug/L | | 93 |
| 14) vinyl bromide | 6.351 | 106 | 6097 | 1.97 | ug/L | # | 71 |
| 15) ethyl ether | 6.944 | 74 | 2277 | 1.94 | ug/L | # | 75 |
| 16) 2-chloropropane | 7.195 | 43 | 9471 | 2.13 | ug/L | | 96 |
| 17) acrolein | 7.243 | 56 | 1124 | 1.78 | ug/L | | 87 |
| 18) freon 113 | 7.447 | 151 | 4848 | 1.81 | ug/L | | 96 |
| 19) 1,1-dichloroethene | 7.431 | 96 | 4854 | 2.02 | ug/L | | 80 |
| 20) acetone | 7.479 | 58 | 2408 | 7.76 | ug/L | # | 49 |
| 21) iodomethane | 7.714 | 142 | 8690 | 1.86 | ug/L | | 98 |
| 22) acetonitrile | 7.940 | 41 | 10044 | 18.26 | ug/L | | 82 |
| 23) carbon disulfide | 7.877 | 76 | 14693 | 1.87 | ug/L | | 86 |
| 24) methylene chloride | 8.249 | 84 | 6036 | 2.25 | ug/L | | 87 |
| 25) methyl acetate | 7.977 | 43 | 5165 | 2.17 | ug/L | | 88 |
| 26) methyl tert butyl ether | 8.653 | 73 | 15582 | 1.91 | ug/L | | 95 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 4580 | 2.05 | ug/L | | 93 |
| 28) hexane | 9.072 | 56 | 3440 | 1.98 | ug/L | # | 67 |
| 29) di-isopropyl ether | 9.329 | 45 | 16512 | 1.97 | ug/L | | 94 |
| 30) 1,1-dichloroethane | 9.324 | 63 | 7737 | 1.93 | ug/L | | 96 |
| 31) chloroprene | 9.424 | 53 | 6332 | 1.86 | ug/L | | 96 |
| 32) acrylonitrile | 8.580 | 53 | 2160 | 1.74 | ug/L | | 89 |
| 34) ethyl tert-butyl ether | 9.827 | 59 | 16015 | 1.90 | ug/L | | 90 |
| 35) 2-butanone | 10.032 | 72 | 2764 | 7.14 | ug/L | # | 65 |
| 36) ethyl acetate | 10.063 | 45 | 883 | 2.05 | ug/L | # | 3 |
| 37) 2,2-dichloropropane | 10.126 | 77 | 7231 | 1.95 | ug/L | | 84 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166198.D
Acq On : 20 Mar 2019 5:04 pm
Operator : edwardd
Sample : IC7441-2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 14:09:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 5078 | 1.99 | ug/L | | 90 |
| 39) propionitrile | 10.121 | 54 | 9751 | 18.49 | ug/L | | 86 |
| 40) bromochloromethane | 10.420 | 128 | 2607 | 1.94 | ug/L | | 85 |
| 41) tetrahydrofuran | 10.430 | 71 | 759 | 1.81 | ug/L | # | 40 |
| 42) chloroform | 10.514 | 83 | 8296 | 1.98 | ug/L | | 94 |
| 43) t-butyl formate | 10.551 | 59 | 3950 | 1.73 | ug/L | | 90 |
| 45) methacrylonitrile | 10.326 | 67 | 2089 | 1.82 | ug/L | | 90 |
| 46) 1,1,1-trichloroethane | 10.787 | 97 | 7779 | 1.81 | ug/L | | 88 |
| 47) cyclohexane | 10.897 | 84 | 7601 | 1.97 | ug/L | | 94 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 5627 | 1.99 | ug/L | | 100 |
| 49) carbon tetrachloride | 10.981 | 117 | 6096 | 1.82 | ug/L | | 89 |
| 53) n-butyl alcohol | 11.689 | 56 | 12637 | 84.99 | ug/L | | 91 |
| 54) tert-amyl alcohol | 11.101 | 55 | 1878 | 9.14 | ug/L | # | 33 |
| 55) iso-octane | 11.306 | 57 | 17667 | 1.77 | ug/L | | 90 |
| 56) benzene | 11.206 | 78 | 16127 | 1.89 | ug/L | | 91 |
| 57) tert-amyl methyl ether | 11.295 | 87 | 3642 | 1.86 | ug/L | | 89 |
| 58) heptane | 11.474 | 57 | 3027 | 1.86 | ug/L | | 90 |
| 59) isopropyl acetate | 11.133 | 87 | 925 | 1.52 | ug/L | # | 28 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 6958 | 2.17 | ug/L | | 92 |
| 61) ethyl acrylate | 11.930 | 55 | 6058 | 1.76 | ug/L | | 92 |
| 62) trichloroethene | 11.935 | 95 | 4417 | 1.89 | ug/L | | 97 |
| 63) 2-nitropropane | 12.653 | 41 | 1562 | 2.19 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 13094 | 9.04 | ug/L | | 94 |
| 65) methyl methacrylate | 12.187 | 100 | 1073 | 1.57 | ug/L | # | 73 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 4430 | 1.91 | ug/L | | 93 |
| 67) dibromomethane | 12.313 | 93 | 3220 | 1.90 | ug/L | | 98 |
| 68) methylcyclohexane | 12.218 | 83 | 8966 | 1.88 | ug/L | | 96 |
| 69) bromodichloromethane | 12.459 | 83 | 5404 | 1.67 | ug/L | | 92 |
| 70) epichlorohydrin | 12.779 | 57 | 3452 | 8.88 | ug/L | | 88 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 6711 | 1.75 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 9974 | 7.35 | ug/L | | 96 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 9230 | 39.08 | ug/L | | 94 |
| 76) toluene | 13.267 | 92 | 10054 | 1.83 | ug/L | | 95 |
| 77) ethyl methacrylate | 13.429 | 69 | 5956 | 1.82 | ug/L | | 97 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 6092 | 1.72 | ug/L | | 89 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 3762 | 1.90 | ug/L | | 90 |
| 80) 2-hexanone | 13.802 | 58 | 9221 | 7.45 | ug/L | | 99 |
| 81) tetrachloroethene | 13.786 | 164 | 4461 | 1.93 | ug/L | | 96 |
| 82) 1,3-dichloropropane | 13.817 | 76 | 6963 | 2.08 | ug/L | | 77 |
| 83) butyl acetate | 13.875 | 56 | 3419 | 1.91 | ug/L | # | 83 |
| 84) dibromochloromethane | 14.048 | 129 | 4093 | 1.54 | ug/L | | 95 |
| 85) 1,2-dibromoethane | 14.195 | 107 | 5847 | 1.76 | ug/L | | 97 |
| 86) n-butyl ether | 14.599 | 57 | 18324 | 1.84 | ug/L | # | 66 |
| 87) chlorobenzene | 14.646 | 112 | 12151 | 1.87 | ug/L | | 95 |
| 88) 1,1,1,2-tetrachloroethane | 14.703 | 131 | 4667 | 1.67 | ug/L | | 97 |
| 89) ethylbenzene | 14.698 | 91 | 20085 | 1.84 | ug/L | | 98 |
| 90) m,p-xylene | 14.814 | 106 | 15508 | 3.64 | ug/L | | 99 |
| 91) o-xylene | 15.186 | 106 | 8861 | 1.83 | ug/L | | 98 |
| 92) styrene | 15.196 | 104 | 13615 | 1.82 | ug/L | | 94 |
| 93) butyl acrylate | 15.023 | 55 | 10933 | 1.90 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166198.D
Acq On : 20 Mar 2019 5:04 pm
Operator : edwardd
Sample : IC7441-2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 14:09:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

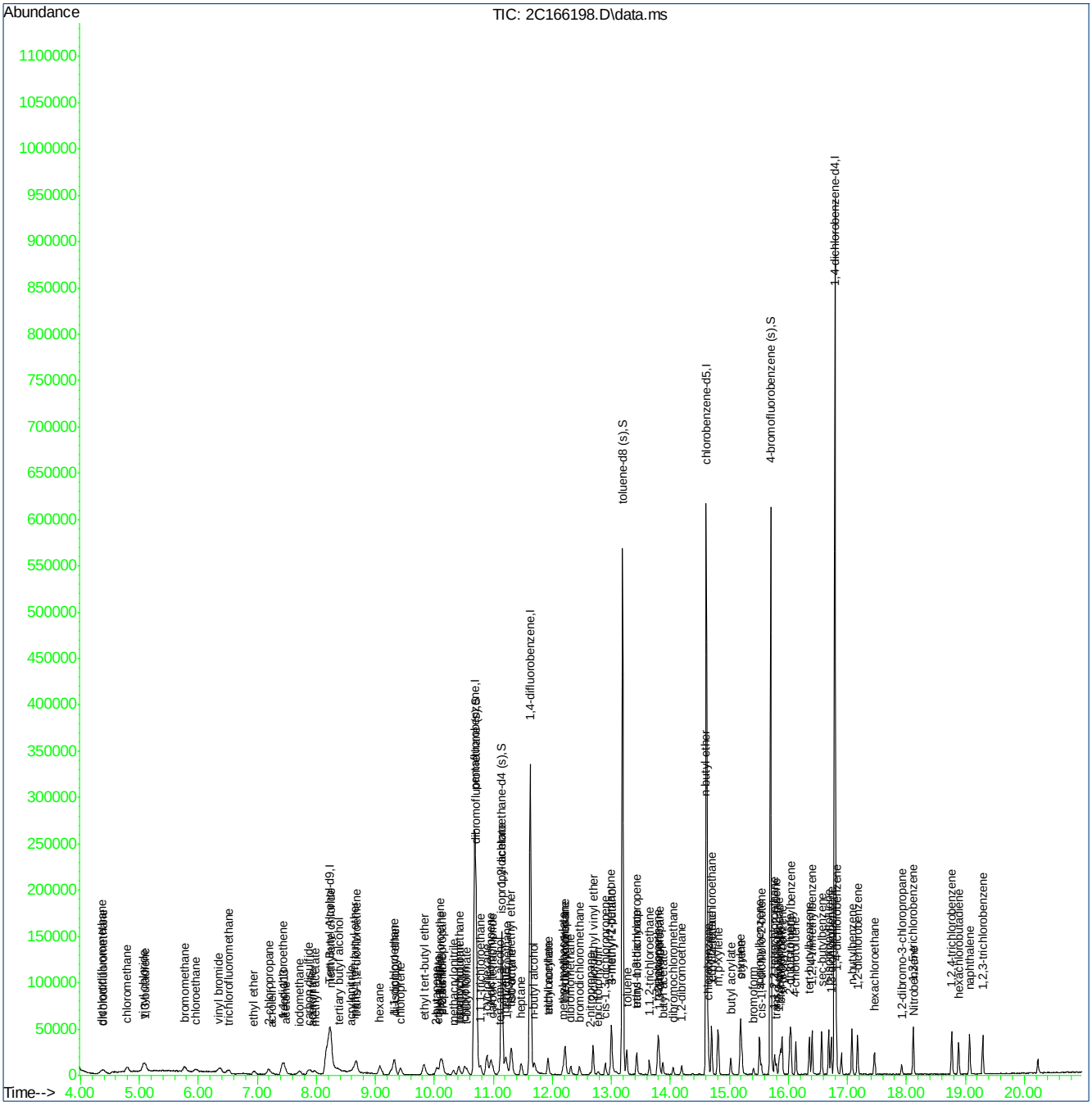
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 94) bromoform | 15.411 | 173 | 3145 | 1.46 | ug/L | | 95 |
| 95) isopropylbenzene | 15.511 | 105 | 23446 | 1.78 | ug/L | | 98 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 2281 | 1.63 | ug/L | # | 83 |
| 99) bromobenzene | 15.873 | 156 | 6783 | 1.74 | ug/L | | 96 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 8827 | 1.76 | ug/L | | 96 |
| 101) trans-1,4-dichloro-2-b... | 15.794 | 88 | 1038 | 1.79 | ug/L | # | 84 |
| 102) 1,2,3-trichloropropane | 15.846 | 110 | 2190 | 1.83 | ug/L | | 91 |
| 103) n-propylbenzene | 15.899 | 91 | 27490 | 1.79 | ug/L | | 98 |
| 104) 2-chlorotoluene | 16.019 | 126 | 6037 | 1.67 | ug/L | | 96 |
| 105) 4-chlorotoluene | 16.124 | 91 | 16880 | 1.77 | ug/L | | 95 |
| 106) 1,3,5-trimethylbenzene | 16.040 | 105 | 21183 | 1.71 | ug/L | | 98 |
| 107) tert-butylbenzene | 16.360 | 119 | 17463 | 1.57 | ug/L | | 93 |
| 108) 1,2,4-trimethylbenzene | 16.407 | 105 | 21763 | 1.73 | ug/L | | 97 |
| 109) sec-butylbenzene | 16.565 | 105 | 27989 | 1.60 | ug/L | | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 14313 | 1.86 | ug/L | | 97 |
| 111) p-isopropyltoluene | 16.685 | 119 | 24305 | 1.66 | ug/L | | 95 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 14265 | 1.86 | ug/L | | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 15833 | 1.86 | ug/L | | 93 |
| 114) n-butylbenzene | 17.079 | 92 | 12689 | 1.69 | ug/L | | 90 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 2142 | 1.50 | ug/L | | 98 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 15703 | 1.79 | ug/L | | 97 |
| 117) Nitrobenzene | 18.132 | 77 | 186 | 1.19 | ug/L | # | 59 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 13620 | 1.64 | ug/L | | 97 |
| 120) hexachlorobutadiene | 18.887 | 225 | 7133 | 1.70 | ug/L | | 99 |
| 121) naphthalene | 19.071 | 128 | 32203 | 1.61 | ug/L | | 99 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 12365 | 1.59 | ug/L | | 95 |
| 123) hexachloroethane | 17.467 | 201 | 2829 | 1.19 | ug/L | # | 84 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166198.D
Acq On : 20 Mar 2019 5:04 pm
Operator : edwardd
Sample : IC7441-2
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 14:09:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166199.D
Acq On : 20 Mar 2019 5:33 pm
Operator : edwardd
Sample : IC7441-4
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 14:09:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.239 | 65 | 242329 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 205241 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 295030 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 307995 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 218970 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 96727 | 49.27 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.54% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 120954 | 53.19 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 106.38% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 362371 | 49.21 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.42% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 160497 | 46.51 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 93.02% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.381 | 59 | 12321 | 18.06 | ug/L | | 82 |
| 4) 1,4-dioxane | 12.297 | 88 | 5799 | 100.85 | ug/L | | 77 |
| 6) chlorodifluoromethane | 4.385 | 51 | 18220 | 3.88 | ug/L | | 96 |
| 7) dichlorodifluoromethane | 4.343 | 85 | 22128 | 3.89 | ug/L | | 98 |
| 8) chloromethane | 4.789 | 50 | 24396 | 4.38 | ug/L | | 96 |
| 9) vinyl chloride | 5.067 | 62 | 20874 | 3.96 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.098 | 54 | 12670 | 3.89 | ug/L | | 95 |
| 11) bromomethane | 5.775 | 94 | 16315 | 3.69 | ug/L | | 89 |
| 12) chloroethane | 5.963 | 64 | 10674 | 3.88 | ug/L | | 93 |
| 13) trichlorofluoromethane | 6.509 | 101 | 22620 | 4.09 | ug/L | | 93 |
| 14) vinyl bromide | 6.362 | 106 | 11918 | 3.91 | ug/L | | 89 |
| 15) ethyl ether | 6.944 | 74 | 4419 | 3.81 | ug/L | # | 74 |
| 16) 2-chloropropane | 7.185 | 43 | 18896 | 4.32 | ug/L | | 98 |
| 17) acrolein | 7.222 | 56 | 2423 | 3.89 | ug/L | | 98 |
| 18) freon 113 | 7.447 | 151 | 10686 | 4.05 | ug/L | | 96 |
| 19) 1,1-dichloroethene | 7.421 | 96 | 9869 | 4.16 | ug/L | | 95 |
| 20) acetone | 7.442 | 58 | 5057 | 16.53 | ug/L | # | 70 |
| 21) iodomethane | 7.720 | 142 | 17950 | 3.90 | ug/L | | 98 |
| 22) acetonitrile | 7.951 | 41 | 22920 | 42.30 | ug/L | | 89 |
| 23) carbon disulfide | 7.872 | 76 | 30495 | 3.93 | ug/L | | 96 |
| 24) methylene chloride | 8.244 | 84 | 10749 | 4.07 | ug/L | | 89 |
| 25) methyl acetate | 7.972 | 43 | 9464 | 4.03 | ug/L | | 90 |
| 26) methyl tert butyl ether | 8.637 | 73 | 30422 | 3.78 | ug/L | | 92 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 9254 | 4.21 | ug/L | | 96 |
| 28) hexane | 9.073 | 56 | 6710 | 3.92 | ug/L | | 90 |
| 29) di-isopropyl ether | 9.319 | 45 | 31351 | 3.80 | ug/L | | 97 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 15730 | 3.98 | ug/L | | 88 |
| 31) chloroprene | 9.429 | 53 | 13157 | 3.93 | ug/L | | 98 |
| 32) acrylonitrile | 8.564 | 53 | 4319 | 3.54 | ug/L | | 94 |
| 33) vinyl acetate | 9.267 | 86 | 1545 | 3.39 | ug/L | # | 66 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 31076 | 3.73 | ug/L | | 98 |
| 35) 2-butanone | 10.032 | 72 | 6053 | 15.87 | ug/L | # | 74 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166199.D
Acq On : 20 Mar 2019 5:33 pm
Operator : edwardd
Sample : IC7441-4
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 14:09:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.058 | 45 | 1789 | 4.23 | ug/L | # | 10 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 14780 | 4.04 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 10188 | 4.06 | ug/L | | 93 |
| 39) propionitrile | 10.116 | 54 | 21842 | 42.05 | ug/L | | 98 |
| 40) bromochloromethane | 10.410 | 128 | 5056 | 3.82 | ug/L | | 91 |
| 41) tetrahydrofuran | 10.436 | 71 | 1759 | 4.27 | ug/L | # | 74 |
| 42) chloroform | 10.509 | 83 | 16359 | 3.96 | ug/L | | 95 |
| 43) t-butyl formate | 10.556 | 59 | 8271 | 3.67 | ug/L | | 97 |
| 45) methacrylonitrile | 10.326 | 67 | 4530 | 4.00 | ug/L | | 92 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 15727 | 3.71 | ug/L | | 98 |
| 47) cyclohexane | 10.897 | 84 | 15365 | 4.04 | ug/L | | 100 |
| 48) 1,1-dichloropropene | 10.960 | 75 | 11629 | 4.18 | ug/L | | 99 |
| 49) carbon tetrachloride | 10.986 | 117 | 12449 | 3.77 | ug/L | | 90 |
| 53) n-butyl alcohol | 11.699 | 56 | 28418 | 190.36 | ug/L | | 91 |
| 54) tert-amyl alcohol | 11.112 | 55 | 4234 | 20.53 | ug/L | # | 73 |
| 55) iso-octane | 11.311 | 57 | 36426 | 3.63 | ug/L | | 96 |
| 56) benzene | 11.207 | 78 | 32802 | 3.83 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.296 | 87 | 7511 | 3.82 | ug/L | # | 85 |
| 58) heptane | 11.479 | 57 | 6317 | 3.86 | ug/L | | 96 |
| 59) isopropyl acetate | 11.128 | 87 | 2200 | 3.60 | ug/L | # | 74 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 13246 | 4.12 | ug/L | | 94 |
| 61) ethyl acrylate | 11.920 | 55 | 12565 | 3.64 | ug/L | | 98 |
| 62) trichloroethene | 11.930 | 95 | 8959 | 3.81 | ug/L | | 91 |
| 63) 2-nitropropane | 12.659 | 41 | 2679 | 3.73 | ug/L | | 89 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 27008 | 18.58 | ug/L | | 99 |
| 65) methyl methacrylate | 12.176 | 100 | 2309 | 3.37 | ug/L | # | 90 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 9470 | 4.06 | ug/L | | 90 |
| 67) dibromomethane | 12.313 | 93 | 6716 | 3.96 | ug/L | | 95 |
| 68) methylcyclohexane | 12.218 | 83 | 18265 | 3.82 | ug/L | | 97 |
| 69) bromodichloromethane | 12.460 | 83 | 11224 | 3.45 | ug/L | | 97 |
| 70) epichlorohydrin | 12.774 | 57 | 7664 | 19.64 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 14062 | 3.64 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 20533 | 15.07 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 13.010 | 55 | 18948 | 79.91 | ug/L | | 92 |
| 76) toluene | 13.262 | 92 | 21157 | 3.76 | ug/L | | 97 |
| 77) ethyl methacrylate | 13.430 | 69 | 12427 | 3.72 | ug/L | | 94 |
| 78) trans-1,3-dichloropropene | 13.440 | 75 | 13115 | 3.63 | ug/L | | 88 |
| 79) 1,1,2-trichloroethane | 13.645 | 83 | 7629 | 3.77 | ug/L | | 90 |
| 80) 2-hexanone | 13.797 | 58 | 20020 | 15.80 | ug/L | | 94 |
| 81) tetrachloroethene | 13.786 | 164 | 9046 | 3.83 | ug/L | | 95 |
| 82) 1,3-dichloropropane | 13.818 | 76 | 13830 | 4.04 | ug/L | | 95 |
| 83) butyl acetate | 13.870 | 56 | 7473 | 4.08 | ug/L | | 96 |
| 84) dibromochloromethane | 14.048 | 129 | 8248 | 3.02 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 14.195 | 107 | 12592 | 3.70 | ug/L | | 95 |
| 86) n-butyl ether | 14.599 | 57 | 36956 | 3.63 | ug/L | | 83 |
| 87) chlorobenzene | 14.641 | 112 | 24762 | 3.73 | ug/L | | 91 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 9767 | 3.41 | ug/L | | 97 |
| 89) ethylbenzene | 14.698 | 91 | 41980 | 3.76 | ug/L | | 98 |
| 90) m,p-xylene | 14.808 | 106 | 32724 | 7.50 | ug/L | | 100 |
| 91) o-xylene | 15.186 | 106 | 17815 | 3.59 | ug/L | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166199.D
Acq On : 20 Mar 2019 5:33 pm
Operator : edwardd
Sample : IC7441-4
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 14:09:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

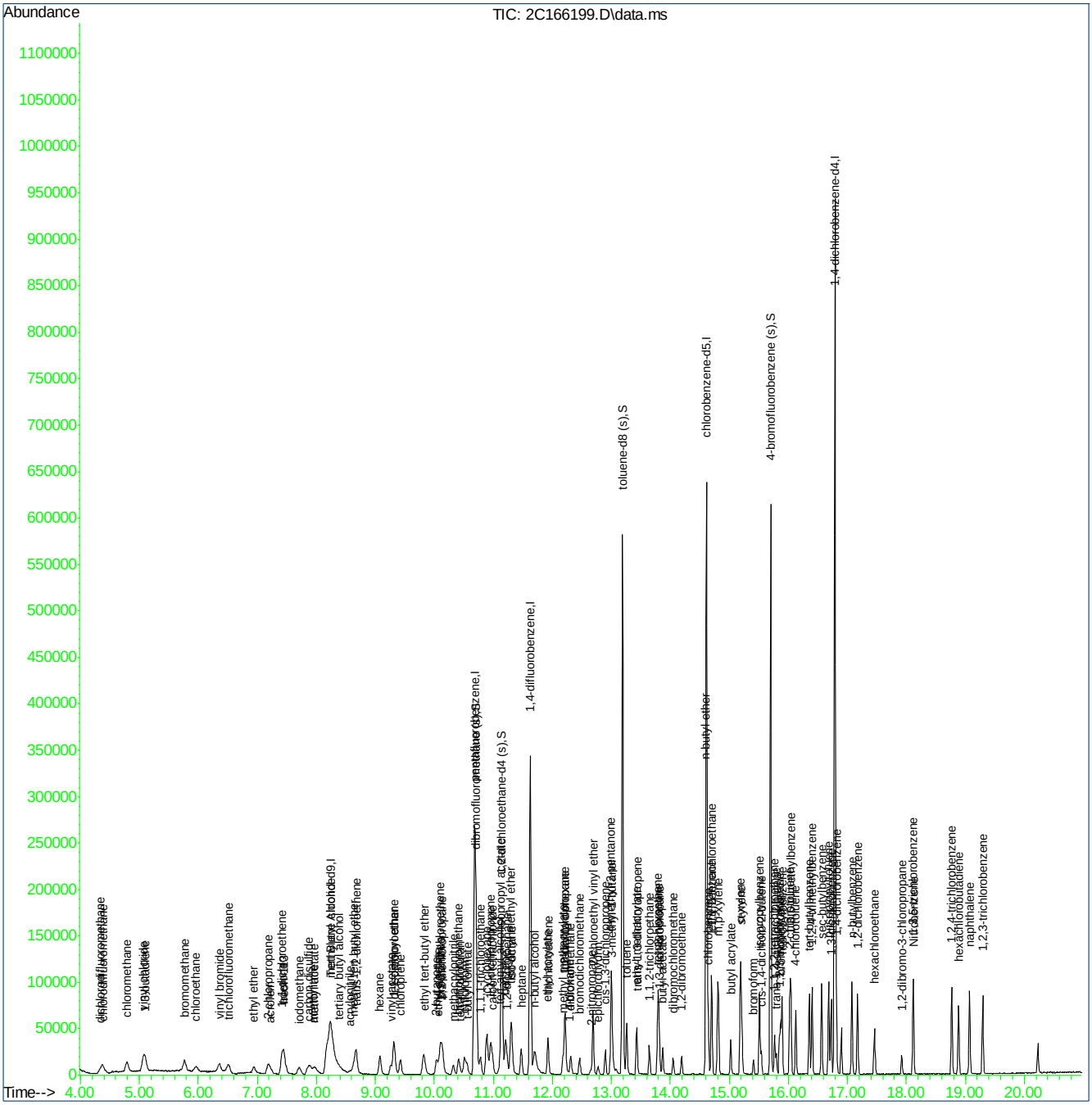
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) styrene | 15.196 | 104 | 28341 | 3.70 | ug/L | | 99 |
| 93) butyl acrylate | 15.023 | 55 | 22372 | 3.81 | ug/L | | 95 |
| 94) bromoform | 15.411 | 173 | 6313 | 2.86 | ug/L | | 94 |
| 95) isopropylbenzene | 15.511 | 105 | 48829 | 3.61 | ug/L | | 98 |
| 96) cis-1,4-dichloro-2-butene | 15.543 | 75 | 5000 | 3.49 | ug/L | | 97 |
| 99) bromobenzene | 15.873 | 156 | 14776 | 3.79 | ug/L | | 98 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 17174 | 3.43 | ug/L | | 95 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 1956 | 3.38 | ug/L | # | 88 |
| 102) 1,2,3-trichloropropane | 15.852 | 110 | 4515 | 3.76 | ug/L | | 97 |
| 103) n-propylbenzene | 15.899 | 91 | 56366 | 3.66 | ug/L | | 98 |
| 104) 2-chlorotoluene | 16.025 | 126 | 12710 | 3.51 | ug/L | | 99 |
| 105) 4-chlorotoluene | 16.124 | 91 | 34775 | 3.64 | ug/L | | 95 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 43564 | 3.52 | ug/L | | 98 |
| 107) tert-butylbenzene | 16.360 | 119 | 36848 | 3.32 | ug/L | | 98 |
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 44367 | 3.53 | ug/L | | 99 |
| 109) sec-butylbenzene | 16.565 | 105 | 59353 | 3.39 | ug/L | | 100 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 29603 | 3.85 | ug/L | | 99 |
| 111) p-isopropyltoluene | 16.685 | 119 | 50386 | 3.44 | ug/L | | 99 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 28430 | 3.71 | ug/L | | 95 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 31818 | 3.74 | ug/L | | 97 |
| 114) n-butylbenzene | 17.079 | 92 | 26492 | 3.52 | ug/L | | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 4400 | 3.08 | ug/L | | 85 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 30522 | 3.48 | ug/L | | 97 |
| 117) Nitrobenzene | 18.122 | 77 | 524 | 3.36 | ug/L | | 84 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 26890 | 3.23 | ug/L | | 98 |
| 120) hexachlorobutadiene | 18.888 | 225 | 14707 | 3.51 | ug/L | | 96 |
| 121) naphthalene | 19.071 | 128 | 64589 | 3.22 | ug/L | | 98 |
| 122) 1,2,3-trichlorobenzene | 19.297 | 180 | 25038 | 3.23 | ug/L | | 98 |
| 123) hexachloroethane | 17.461 | 201 | 6299 | 2.64 | ug/L | # | 86 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166199.D
Acq On : 20 Mar 2019 5:33 pm
Operator : edwardd
Sample : IC7441-4
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 14:09:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166200.D
Acq On : 20 Mar 2019 6:02 pm
Operator : edwardd
Sample : IC7441-8
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 13:46:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.244 | 65 | 216790 | 500.00 | ug/L | | 0.01 |
| 5) pentafluorobenzene | 10.682 | 168 | 204770 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 288990 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 300633 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 211540 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 96275 | 49.15 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.30% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 118654 | 53.27 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 106.54% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 353168 | 49.13 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.26% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 157830 | 47.35 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 94.70% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.380 | 59 | 22334 | 36.59 | ug/L | | 90 |
| 4) 1,4-dioxane | 12.260 | 88 | 8463 | 164.53 | ug/L | | 84 |
| 6) chlorodifluoromethane | 4.380 | 51 | 35820 | 7.65 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 4.338 | 85 | 43554 | 7.67 | ug/L | | 95 |
| 8) chloromethane | 4.784 | 50 | 45901 | 8.27 | ug/L | | 99 |
| 9) vinyl chloride | 5.056 | 62 | 40395 | 7.68 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.093 | 54 | 25199 | 7.75 | ug/L | | 97 |
| 11) bromomethane | 5.769 | 94 | 29175 | 6.62 | ug/L | | 99 |
| 12) chloroethane | 5.963 | 64 | 19939 | 7.26 | ug/L | | 96 |
| 13) trichlorofluoromethane | 6.503 | 101 | 42809 | 7.76 | ug/L | | 95 |
| 14) vinyl bromide | 6.351 | 106 | 22841 | 7.52 | ug/L | | 83 |
| 15) ethyl ether | 6.944 | 74 | 8841 | 7.65 | ug/L | | 88 |
| 16) 2-chloropropane | 7.190 | 43 | 33914 | 7.77 | ug/L | | 97 |
| 17) acrolein | 7.216 | 56 | 4727 | 7.62 | ug/L | | 90 |
| 18) freon 113 | 7.442 | 151 | 19533 | 7.41 | ug/L | | 94 |
| 19) 1,1-dichloroethene | 7.437 | 96 | 18431 | 7.79 | ug/L | | 88 |
| 20) acetone | 7.458 | 58 | 9478 | 31.05 | ug/L | | 98 |
| 21) iodomethane | 7.709 | 142 | 33857 | 7.38 | ug/L | | 96 |
| 22) acetonitrile | 7.956 | 41 | 39322 | 72.74 | ug/L | | 95 |
| 23) carbon disulfide | 7.867 | 76 | 57769 | 7.47 | ug/L | | 99 |
| 24) methylene chloride | 8.234 | 84 | 19966 | 7.57 | ug/L | | 98 |
| 25) methyl acetate | 7.966 | 43 | 18697 | 7.98 | ug/L | | 96 |
| 26) methyl tert butyl ether | 8.648 | 73 | 60467 | 7.54 | ug/L | | 100 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 17073 | 7.79 | ug/L | | 95 |
| 28) hexane | 9.083 | 56 | 12622 | 7.40 | ug/L | | 96 |
| 29) di-isopropyl ether | 9.319 | 45 | 61640 | 7.49 | ug/L | | 96 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 30692 | 7.77 | ug/L | | 98 |
| 31) chloroprene | 9.429 | 53 | 24435 | 7.31 | ug/L | | 93 |
| 32) acrylonitrile | 8.580 | 53 | 9227 | 7.57 | ug/L | | 86 |
| 33) vinyl acetate | 9.251 | 86 | 3271 | 7.20 | ug/L | # | 58 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 61055 | 7.35 | ug/L | | 95 |
| 35) 2-butanone | 10.027 | 72 | 10960 | 28.80 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166200.D
Acq On : 20 Mar 2019 6:02 pm
Operator : edwardd
Sample : IC7441-8
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 13:46:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.058 | 45 | 3149 | 7.45 | ug/L | # | 32 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 28624 | 7.84 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 19282 | 7.70 | ug/L | | 99 |
| 39) propionitrile | 10.111 | 54 | 40525 | 78.19 | ug/L | | 96 |
| 40) bromochloromethane | 10.409 | 128 | 10296 | 7.79 | ug/L | | 97 |
| 41) tetrahydrofuran | 10.441 | 71 | 3019 | 7.34 | ug/L | # | 79 |
| 42) chloroform | 10.509 | 83 | 31191 | 7.57 | ug/L | | 99 |
| 43) t-butyl formate | 10.546 | 59 | 15834 | 7.05 | ug/L | | 96 |
| 45) methacrylonitrile | 10.320 | 67 | 8384 | 7.41 | ug/L | | 92 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 31037 | 7.33 | ug/L | | 97 |
| 47) cyclohexane | 10.897 | 84 | 29138 | 7.69 | ug/L | | 89 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 21251 | 7.66 | ug/L | | 95 |
| 49) carbon tetrachloride | 10.986 | 117 | 23722 | 7.20 | ug/L | | 100 |
| 53) n-butyl alcohol | 11.694 | 56 | 51320 | 350.96 | ug/L | | 96 |
| 54) tert-amyl alcohol | 11.107 | 55 | 7515 | 37.20 | ug/L | # | 77 |
| 55) iso-octane | 11.311 | 57 | 70345 | 7.16 | ug/L | | 98 |
| 56) benzene | 11.206 | 78 | 62880 | 7.49 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.306 | 87 | 14860 | 7.72 | ug/L | | 90 |
| 58) heptane | 11.474 | 57 | 11969 | 7.47 | ug/L | | 99 |
| 59) isopropyl acetate | 11.133 | 87 | 3989 | 6.66 | ug/L | # | 89 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 24896 | 7.90 | ug/L | | 99 |
| 61) ethyl acrylate | 11.925 | 55 | 25324 | 7.49 | ug/L | | 95 |
| 62) trichloroethene | 11.930 | 95 | 17451 | 7.59 | ug/L | | 98 |
| 63) 2-nitropropane | 12.659 | 41 | 4800 | 6.83 | ug/L | | 85 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 52052 | 36.56 | ug/L | | 100 |
| 65) methyl methacrylate | 12.176 | 100 | 4636 | 6.90 | ug/L | | 88 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 17732 | 7.77 | ug/L | | 100 |
| 67) dibromomethane | 12.313 | 93 | 12594 | 7.57 | ug/L | | 92 |
| 68) methylcyclohexane | 12.218 | 83 | 35144 | 7.50 | ug/L | | 98 |
| 69) bromodichloromethane | 12.465 | 83 | 22143 | 6.95 | ug/L | | 99 |
| 70) epichlorohydrin | 12.769 | 57 | 14514 | 37.98 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 27007 | 7.14 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 39858 | 29.87 | ug/L | | 97 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 36372 | 156.60 | ug/L | | 95 |
| 76) toluene | 13.262 | 92 | 40961 | 7.45 | ug/L | | 95 |
| 77) ethyl methacrylate | 13.429 | 69 | 23499 | 7.20 | ug/L | | 97 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 25388 | 7.19 | ug/L | | 95 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 14589 | 7.38 | ug/L | | 96 |
| 80) 2-hexanone | 13.796 | 58 | 38224 | 30.91 | ug/L | | 90 |
| 81) tetrachloroethene | 13.786 | 164 | 17035 | 7.38 | ug/L | | 93 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 25941 | 7.76 | ug/L | | 96 |
| 83) butyl acetate | 13.870 | 56 | 13822 | 7.73 | ug/L | | 97 |
| 84) dibromochloromethane | 14.048 | 129 | 17105 | 6.42 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 14.195 | 107 | 24271 | 7.31 | ug/L | | 97 |
| 86) n-butyl ether | 14.599 | 57 | 71009 | 7.14 | ug/L | | 91 |
| 87) chlorobenzene | 14.641 | 112 | 46557 | 7.19 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 14.703 | 131 | 18804 | 6.72 | ug/L | | 99 |
| 89) ethylbenzene | 14.698 | 91 | 81341 | 7.46 | ug/L | | 97 |
| 90) m,p-xylene | 14.814 | 106 | 63342 | 14.87 | ug/L | | 98 |
| 91) o-xylene | 15.186 | 106 | 34531 | 7.13 | ug/L | | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166200.D
Acq On : 20 Mar 2019 6:02 pm
Operator : edwardd
Sample : IC7441-8
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 13:46:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

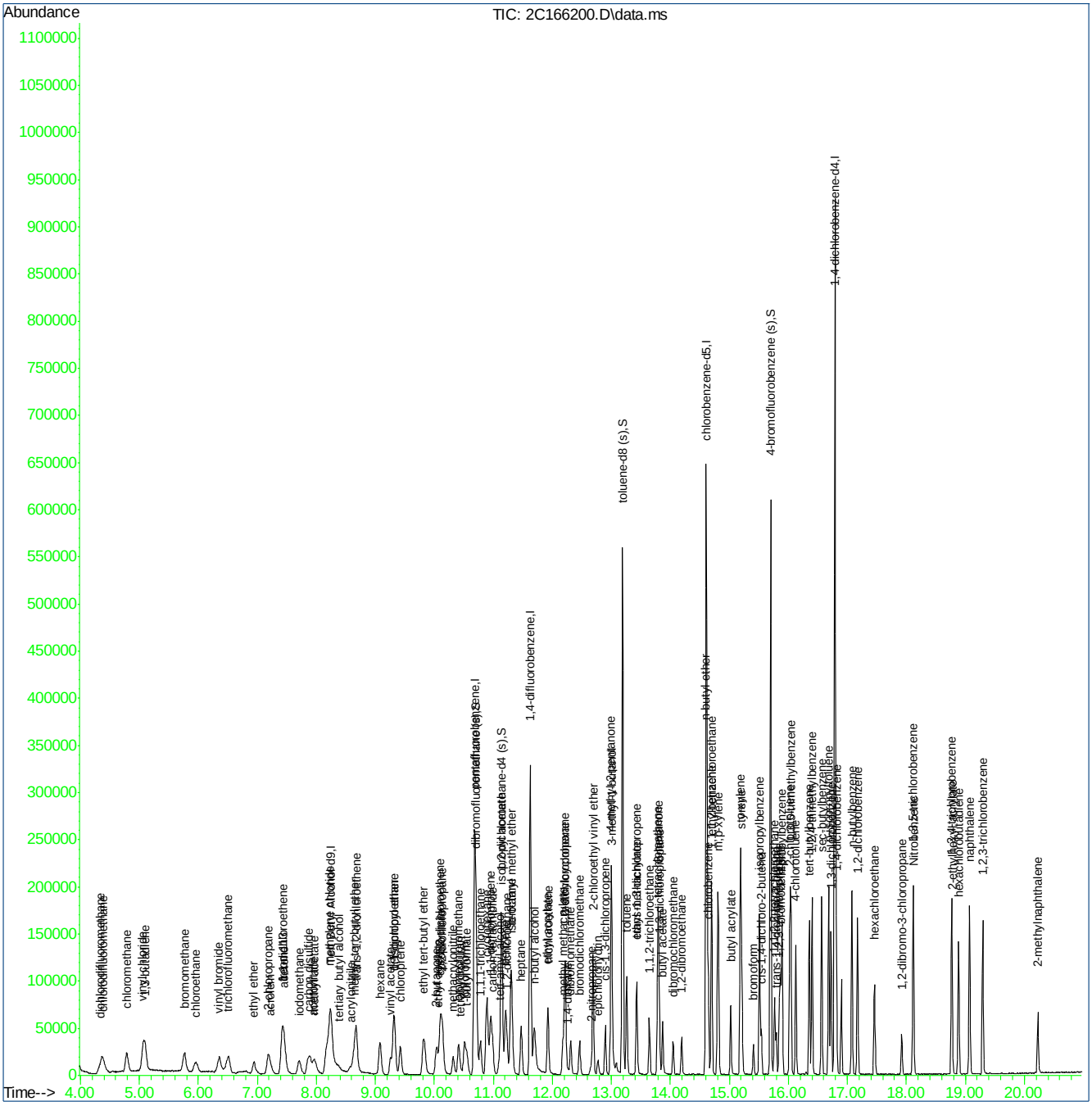
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) styrene | 15.196 | 104 | 55062 | 7.36 | ug/L | | 96 |
| 93) butyl acrylate | 15.023 | 55 | 43281 | 7.54 | ug/L | | 97 |
| 94) bromoform | 15.411 | 173 | 13079 | 6.07 | ug/L | | 94 |
| 95) isopropylbenzene | 15.511 | 105 | 95445 | 7.24 | ug/L | | 99 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 8649 | 6.18 | ug/L | # | 88 |
| 99) bromobenzene | 15.873 | 156 | 27065 | 7.19 | ug/L | | 98 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 33123 | 6.84 | ug/L | | 94 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 3573 | 6.39 | ug/L | # | 86 |
| 102) 1,2,3-trichloropropane | 15.846 | 110 | 8670 | 7.48 | ug/L | | 92 |
| 103) n-propylbenzene | 15.894 | 91 | 109909 | 7.40 | ug/L | | 96 |
| 104) 2-chlorotoluene | 16.025 | 126 | 24272 | 6.93 | ug/L | | 99 |
| 105) 4-chlorotoluene | 16.124 | 91 | 66789 | 7.25 | ug/L | | 98 |
| 106) 1,3,5-trimethylbenzene | 16.040 | 105 | 83930 | 7.02 | ug/L | | 99 |
| 107) tert-butylbenzene | 16.360 | 119 | 70877 | 6.61 | ug/L | | 98 |
| 108) 1,2,4-trimethylbenzene | 16.407 | 105 | 86990 | 7.17 | ug/L | | 98 |
| 109) sec-butylbenzene | 16.565 | 105 | 115338 | 6.82 | ug/L | | 98 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 56419 | 7.59 | ug/L | | 100 |
| 111) p-isopropyltoluene | 16.685 | 119 | 97612 | 6.90 | ug/L | | 98 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 55423 | 7.49 | ug/L | | 95 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 61568 | 7.48 | ug/L | | 95 |
| 114) n-butylbenzene | 17.079 | 92 | 51932 | 7.14 | ug/L | | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.928 | 75 | 8675 | 6.28 | ug/L | | 94 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 61052 | 7.21 | ug/L | | 98 |
| 117) Nitrobenzene | 18.122 | 77 | 1004 | 6.66 | ug/L | | 90 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 53938 | 6.72 | ug/L | | 99 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 5994 | 1.19 | ug/L | | 90 |
| 120) hexachlorobutadiene | 18.887 | 225 | 28848 | 7.12 | ug/L | | 99 |
| 121) naphthalene | 19.071 | 128 | 130872 | 6.75 | ug/L | | 100 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 49274 | 6.57 | ug/L | | 95 |
| 123) hexachloroethane | 17.461 | 201 | 11954 | 5.20 | ug/L | # | 84 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 30614 | 2.84 | ug/L | | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166200.D
Acq On : 20 Mar 2019 6:02 pm
Operator : edwardd
Sample : IC7441-8
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 13:46:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166201.D
Acq On : 20 Mar 2019 6:30 pm
Operator : edwardd
Sample : IC7441-20
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 13:46:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.255 | 65 | 238742 | 500.00 | ug/L | 0.02 |
| 5) pentafluorobenzene | 10.682 | 168 | 205669 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 292382 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 305547 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 208718 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 96954 | 49.28 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.56% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 116665 | 51.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 103.54% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 358679 | 49.10 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.20% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 159591 | 48.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.04% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.391 | 59 | 64933 | 96.60 | ug/L | 91 |
| 4) 1,4-dioxane | 12.281 | 88 | 24848 | 438.64 | ug/L | 95 |
| 6) chlorodifluoromethane | 4.385 | 51 | 93792 | 19.94 | ug/L | 94 |
| 7) dichlorodifluoromethane | 4.359 | 85 | 111599 | 19.56 | ug/L | 99 |
| 8) chloromethane | 4.789 | 50 | 108668 | 19.49 | ug/L | 99 |
| 9) vinyl chloride | 5.056 | 62 | 103636 | 19.62 | ug/L | 99 |
| 10) 1,3-butadiene | 5.098 | 54 | 65470 | 20.06 | ug/L | 98 |
| 11) bromomethane | 5.769 | 94 | 77447 | 17.48 | ug/L | 95 |
| 12) chloroethane | 5.963 | 64 | 50590 | 18.35 | ug/L | 100 |
| 13) trichlorofluoromethane | 6.509 | 101 | 107118 | 19.34 | ug/L | 98 |
| 14) vinyl bromide | 6.362 | 106 | 58308 | 19.11 | ug/L | 95 |
| 15) ethyl ether | 6.944 | 74 | 22798 | 19.63 | ug/L | 96 |
| 16) 2-chloropropane | 7.190 | 43 | 86085 | 19.63 | ug/L | 98 |
| 17) acrolein | 7.206 | 56 | 12031 | 19.30 | ug/L | 84 |
| 18) freon 113 | 7.447 | 151 | 52885 | 19.99 | ug/L | 97 |
| 19) 1,1-dichloroethene | 7.421 | 96 | 47751 | 20.09 | ug/L | 96 |
| 20) acetone | 7.437 | 58 | 24949 | 81.38 | ug/L | 98 |
| 21) iodomethane | 7.709 | 142 | 88974 | 19.31 | ug/L | 98 |
| 22) acetonitrile | 7.951 | 41 | 107559 | 198.09 | ug/L | 98 |
| 23) carbon disulfide | 7.867 | 76 | 153124 | 19.70 | ug/L | 98 |
| 24) methylene chloride | 8.239 | 84 | 53019 | 20.02 | ug/L | 93 |
| 25) methyl acetate | 7.966 | 43 | 48307 | 20.54 | ug/L | 97 |
| 26) methyl tert butyl ether | 8.643 | 73 | 158594 | 19.69 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 44960 | 20.43 | ug/L | 96 |
| 28) hexane | 9.078 | 56 | 33132 | 19.33 | ug/L | 95 |
| 29) di-isopropyl ether | 9.314 | 45 | 161278 | 19.52 | ug/L | 98 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 78594 | 19.82 | ug/L | 97 |
| 31) chloroprene | 9.424 | 53 | 65577 | 19.54 | ug/L | 99 |
| 32) acrylonitrile | 8.574 | 53 | 24211 | 19.78 | ug/L | 93 |
| 33) vinyl acetate | 9.256 | 86 | 8965 | 19.64 | ug/L | 95 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 161604 | 19.38 | ug/L | 97 |
| 35) 2-butanone | 10.032 | 72 | 31119 | 81.41 | ug/L | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166201.D
Acq On : 20 Mar 2019 6:30 pm
Operator : edwardd
Sample : IC7441-20
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 13:46:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.048 | 45 | 9843 | 23.20 | ug/L | # | 81 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 72685 | 19.81 | ug/L | | 95 |
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 48850 | 19.42 | ug/L | | 96 |
| 39) propionitrile | 10.116 | 54 | 107242 | 206.01 | ug/L | | 93 |
| 40) bromochloromethane | 10.415 | 128 | 26420 | 19.90 | ug/L | | 96 |
| 41) tetrahydrofuran | 10.436 | 71 | 8652 | 20.94 | ug/L | | 97 |
| 42) chloroform | 10.509 | 83 | 80129 | 19.35 | ug/L | | 98 |
| 43) t-butyl formate | 10.546 | 59 | 43257 | 19.16 | ug/L | | 97 |
| 45) methacrylonitrile | 10.326 | 67 | 22120 | 19.47 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 81888 | 19.25 | ug/L | | 98 |
| 47) cyclohexane | 10.902 | 84 | 74662 | 19.61 | ug/L | | 82 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 55485 | 19.92 | ug/L | | 94 |
| 49) carbon tetrachloride | 10.986 | 117 | 63175 | 19.10 | ug/L | | 94 |
| 53) n-butyl alcohol | 11.694 | 56 | 149530 | 1010.72 | ug/L | | 100 |
| 54) tert-amyl alcohol | 11.117 | 55 | 20699 | 101.29 | ug/L | | 96 |
| 55) iso-octane | 11.311 | 57 | 189754 | 19.08 | ug/L | | 99 |
| 56) benzene | 11.206 | 78 | 166419 | 19.60 | ug/L | | 97 |
| 57) tert-amyl methyl ether | 11.296 | 87 | 38676 | 19.86 | ug/L | | 100 |
| 58) heptane | 11.474 | 57 | 30904 | 19.07 | ug/L | | 98 |
| 59) isopropyl acetate | 11.128 | 87 | 11938 | 19.71 | ug/L | # | 92 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 63087 | 19.79 | ug/L | | 100 |
| 61) ethyl acrylate | 11.919 | 55 | 66918 | 19.56 | ug/L | | 98 |
| 62) trichloroethene | 11.930 | 95 | 45567 | 19.58 | ug/L | | 99 |
| 63) 2-nitropropane | 12.654 | 41 | 12961 | 18.23 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 140666 | 97.65 | ug/L | | 98 |
| 65) methyl methacrylate | 12.176 | 100 | 13145 | 19.35 | ug/L | | 96 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 45101 | 19.53 | ug/L | | 99 |
| 67) dibromomethane | 12.313 | 93 | 32641 | 19.40 | ug/L | | 98 |
| 68) methylcyclohexane | 12.218 | 83 | 92614 | 19.54 | ug/L | | 98 |
| 69) bromodichloromethane | 12.465 | 83 | 60647 | 18.81 | ug/L | | 97 |
| 70) epichlorohydrin | 12.774 | 57 | 39359 | 101.79 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 73042 | 19.10 | ug/L | | 100 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 107589 | 79.69 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 98028 | 417.16 | ug/L | | 98 |
| 76) toluene | 13.262 | 92 | 106296 | 19.03 | ug/L | | 98 |
| 77) ethyl methacrylate | 13.429 | 69 | 63436 | 19.12 | ug/L | | 99 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 69069 | 19.24 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 38832 | 19.34 | ug/L | | 98 |
| 80) 2-hexanone | 13.797 | 58 | 103004 | 81.96 | ug/L | | 94 |
| 81) tetrachloroethene | 13.786 | 164 | 45570 | 19.43 | ug/L | | 96 |
| 82) 1,3-dichloropropane | 13.817 | 76 | 67102 | 19.74 | ug/L | | 93 |
| 83) butyl acetate | 13.870 | 56 | 37185 | 20.45 | ug/L | | 98 |
| 84) dibromochloromethane | 14.048 | 129 | 47677 | 17.62 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 64152 | 19.01 | ug/L | | 99 |
| 86) n-butyl ether | 14.599 | 57 | 193701 | 19.16 | ug/L | | 99 |
| 87) chlorobenzene | 14.641 | 112 | 128443 | 19.52 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 51630 | 18.16 | ug/L | | 99 |
| 89) ethylbenzene | 14.698 | 91 | 216304 | 19.53 | ug/L | | 99 |
| 90) m,p-xylene | 14.808 | 106 | 167979 | 38.81 | ug/L | | 99 |
| 91) o-xylene | 15.186 | 106 | 93667 | 19.04 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166201.D
Acq On : 20 Mar 2019 6:30 pm
Operator : edwardd
Sample : IC7441-20
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 13:46:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

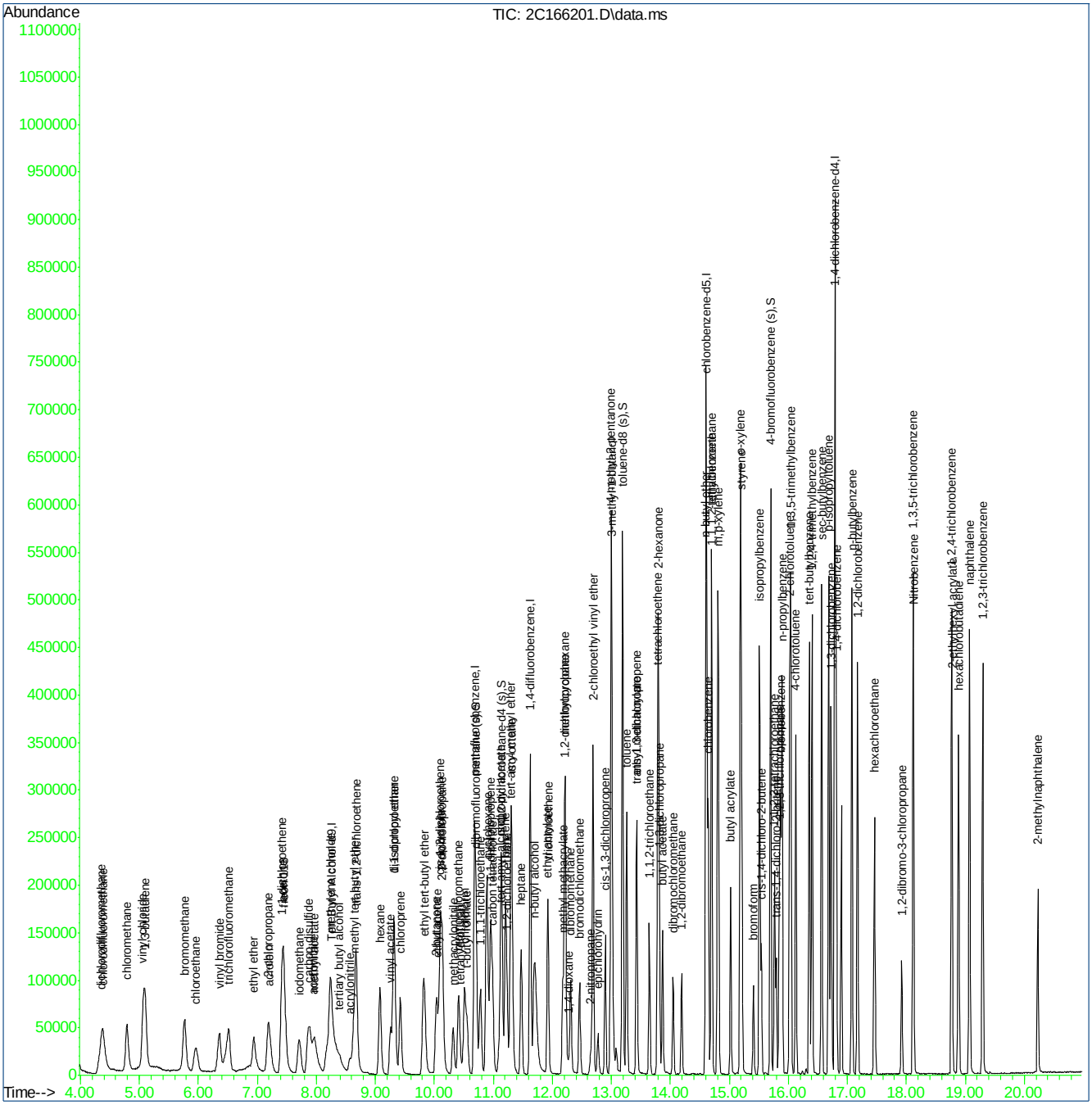
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 15.196 | 104 | 149174 | 19.62 | ug/L | 99 |
| 93) butyl acrylate | 15.018 | 55 | 115075 | 19.73 | ug/L | 98 |
| 94) bromoform | 15.411 | 173 | 38467 | 17.58 | ug/L | 99 |
| 95) isopropylbenzene | 15.511 | 105 | 258002 | 19.24 | ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 26757 | 18.83 | ug/L | 93 |
| 99) bromobenzene | 15.873 | 156 | 71957 | 19.37 | ug/L | 97 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 89203 | 18.67 | ug/L | 99 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 10502 | 19.02 | ug/L | 96 |
| 102) 1,2,3-trichloropropane | 15.852 | 110 | 21568 | 18.85 | ug/L | 97 |
| 103) n-propylbenzene | 15.899 | 91 | 281775 | 19.22 | ug/L | 99 |
| 104) 2-chlorotoluene | 16.025 | 126 | 64800 | 18.76 | ug/L | 97 |
| 105) 4-chlorotoluene | 16.124 | 91 | 175420 | 19.29 | ug/L | 100 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 221546 | 18.77 | ug/L | 100 |
| 107) tert-butylbenzene | 16.360 | 119 | 195646 | 18.50 | ug/L | 97 |
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 228082 | 19.06 | ug/L | 99 |
| 109) sec-butylbenzene | 16.565 | 105 | 312230 | 18.71 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 144314 | 19.68 | ug/L | 100 |
| 111) p-isopropyltoluene | 16.685 | 119 | 260390 | 18.65 | ug/L | 98 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 141468 | 19.39 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 159867 | 19.69 | ug/L | 96 |
| 114) n-butylbenzene | 17.079 | 92 | 135626 | 18.90 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 24161 | 17.73 | ug/L | 92 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 159148 | 19.04 | ug/L | 99 |
| 117) Nitrobenzene | 18.122 | 77 | 2735 | 18.38 | ug/L | 92 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 145220 | 18.33 | ug/L | 99 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 16696 | 3.35 | ug/L | 91 |
| 120) hexachlorobutadiene | 18.887 | 225 | 74957 | 18.76 | ug/L | 98 |
| 121) naphthalene | 19.071 | 128 | 351313 | 18.36 | ug/L | 99 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 134734 | 18.22 | ug/L | 98 |
| 123) hexachloroethane | 17.461 | 201 | 36742 | 16.18 | ug/L | 91 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 88225 | 8.29 | ug/L | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166201.D
Acq On : 20 Mar 2019 6:30 pm
Operator : edwardd
Sample : IC7441-20
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 13:46:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166202.D
Acq On : 20 Mar 2019 6:59 pm
Operator : edwardd
Sample : ICC7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 13:46:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.234 | 65 | 231334 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 206110 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 288771 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.615 | 117 | 300388 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 197744 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 98584 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.00% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 111284 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 100.00% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 359100 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.00% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 155800 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.375 | 59 | 163427 | 250.91 | ug/L | 100 |
| 4) 1,4-dioxane | 12.271 | 88 | 68612 | 1250.00 | ug/L | 100 |
| 6) chlorodifluoromethane | 4.375 | 51 | 235663 | 50.00 | ug/L | 100 |
| 7) dichlorodifluoromethane | 4.349 | 85 | 285567 | 49.94 | ug/L | 100 |
| 8) chloromethane | 4.784 | 50 | 279407 | 50.00 | ug/L | 100 |
| 9) vinyl chloride | 5.056 | 62 | 264668 | 50.00 | ug/L | 100 |
| 10) 1,3-butadiene | 5.093 | 54 | 163532 | 50.00 | ug/L | 100 |
| 11) bromomethane | 5.759 | 94 | 221954 | 50.00 | ug/L | 100 |
| 12) chloroethane | 5.958 | 64 | 138164 | 50.00 | ug/L | 100 |
| 13) trichlorofluoromethane | 6.509 | 101 | 277509 | 50.00 | ug/L | 100 |
| 14) vinyl bromide | 6.351 | 106 | 152878 | 50.00 | ug/L | 100 |
| 15) ethyl ether | 6.939 | 74 | 58179 | 50.00 | ug/L | 100 |
| 16) 2-chloropropane | 7.185 | 43 | 219691 | 50.00 | ug/L | 100 |
| 17) acrolein | 7.201 | 56 | 31237 | 50.00 | ug/L | 100 |
| 18) freon 113 | 7.447 | 151 | 132591 | 50.00 | ug/L | 100 |
| 19) 1,1-dichloroethene | 7.421 | 96 | 119098 | 50.00 | ug/L | 100 |
| 20) acetone | 7.442 | 58 | 61444 | 200.00 | ug/L | 100 |
| 21) iodomethane | 7.704 | 142 | 230934 | 50.00 | ug/L | 100 |
| 22) acetonitrile | 7.945 | 41 | 273247 | 502.15 | ug/L | 100 |
| 23) carbon disulfide | 7.861 | 76 | 389457 | 50.00 | ug/L | 100 |
| 24) methylene chloride | 8.234 | 84 | 132694 | 50.00 | ug/L | 100 |
| 25) methyl acetate | 7.966 | 43 | 117847 | 50.00 | ug/L | 100 |
| 26) methyl tert butyl ether | 8.653 | 73 | 403633 | 50.00 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 110292 | 50.00 | ug/L | 100 |
| 28) hexane | 9.078 | 56 | 85874 | 50.00 | ug/L | 100 |
| 29) di-isopropyl ether | 9.319 | 45 | 413905 | 50.00 | ug/L | 100 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 198669 | 50.00 | ug/L | 100 |
| 31) chloroprene | 9.424 | 53 | 168123 | 50.00 | ug/L | 100 |
| 32) acrylonitrile | 8.564 | 53 | 61328 | 50.00 | ug/L | 100 |
| 33) vinyl acetate | 9.251 | 86 | 22871 | 50.00 | ug/L | 100 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 417923 | 50.00 | ug/L | 100 |
| 35) 2-butanone | 10.027 | 72 | 76616 | 200.00 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166202.D
Acq On : 20 Mar 2019 6:59 pm
Operator : edwardd
Sample : ICC7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 13:46:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.048 | 45 | 21260 | 50.00 | ug/L | 100 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 183831 | 50.00 | ug/L | 100 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 126021 | 50.00 | ug/L | 100 |
| 39) propionitrile | 10.111 | 54 | 260839 | 500.00 | ug/L | 100 |
| 40) bromochloromethane | 10.410 | 128 | 66516 | 50.00 | ug/L | 100 |
| 41) tetrahydrofuran | 10.436 | 71 | 20707 | 50.00 | ug/L | 100 |
| 42) chloroform | 10.509 | 83 | 207455 | 50.00 | ug/L | 100 |
| 43) t-butyl formate | 10.551 | 59 | 113097 | 50.00 | ug/L | 100 |
| 45) methacrylonitrile | 10.320 | 67 | 56930 | 50.00 | ug/L | 100 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 213098 | 50.00 | ug/L | 100 |
| 47) cyclohexane | 10.897 | 84 | 191845 | 50.29 | ug/L | 100 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 139588 | 50.00 | ug/L | 100 |
| 49) carbon tetrachloride | 10.986 | 117 | 165734 | 50.00 | ug/L | 100 |
| 53) n-butyl alcohol | 11.694 | 56 | 365293 | 2500.00 | ug/L | 100 |
| 54) tert-amyl alcohol | 11.112 | 55 | 50459 | 250.00 | ug/L | 100 |
| 55) iso-octane | 11.311 | 57 | 491203 | 50.00 | ug/L | 100 |
| 56) benzene | 11.207 | 78 | 419280 | 50.00 | ug/L | 100 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 96188 | 50.00 | ug/L | 100 |
| 58) heptane | 11.474 | 57 | 80041 | 50.00 | ug/L | 100 |
| 59) isopropyl acetate | 11.128 | 87 | 29913 | 50.00 | ug/L | 100 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 157422 | 50.00 | ug/L | 100 |
| 61) ethyl acrylate | 11.920 | 55 | 168927 | 50.00 | ug/L | 100 |
| 62) trichloroethene | 11.930 | 95 | 114946 | 50.00 | ug/L | 100 |
| 63) 2-nitropropane | 12.654 | 41 | 35106 | 50.00 | ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 355670 | 250.00 | ug/L | 100 |
| 65) methyl methacrylate | 12.176 | 100 | 33553 | 50.00 | ug/L | 100 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 114016 | 50.00 | ug/L | 100 |
| 67) dibromomethane | 12.313 | 93 | 83072 | 50.00 | ug/L | 100 |
| 68) methylcyclohexane | 12.218 | 83 | 234099 | 50.00 | ug/L | 100 |
| 69) bromodichloromethane | 12.465 | 83 | 159243 | 50.00 | ug/L | 100 |
| 70) epichlorohydrin | 12.774 | 57 | 95476 | 250.00 | ug/L | 100 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 188870 | 50.00 | ug/L | 100 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 266678 | 200.00 | ug/L | 100 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 232089 | 1000.00 | ug/L | 100 |
| 76) toluene | 13.262 | 92 | 274502 | 50.00 | ug/L | 100 |
| 77) ethyl methacrylate | 13.424 | 69 | 163071 | 50.00 | ug/L | 100 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 176428 | 50.00 | ug/L | 100 |
| 79) 1,1,2-trichloroethane | 13.645 | 83 | 98699 | 50.00 | ug/L | 100 |
| 80) 2-hexanone | 13.797 | 58 | 247120 | 200.00 | ug/L | 100 |
| 81) tetrachloroethene | 13.786 | 164 | 115283 | 50.00 | ug/L | 100 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 167111 | 50.00 | ug/L | 100 |
| 83) butyl acetate | 13.870 | 56 | 89374 | 50.00 | ug/L | 100 |
| 84) dibromochloromethane | 14.048 | 129 | 133012 | 50.00 | ug/L | 100 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 165898 | 50.00 | ug/L | 100 |
| 86) n-butyl ether | 14.599 | 57 | 496926 | 50.00 | ug/L | 100 |
| 87) chlorobenzene | 14.641 | 112 | 323467 | 50.00 | ug/L | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 139728 | 50.00 | ug/L | 100 |
| 89) ethylbenzene | 14.698 | 91 | 544395 | 50.00 | ug/L | 100 |
| 90) m,p-xylene | 14.808 | 106 | 425507 | 100.00 | ug/L | 100 |
| 91) o-xylene | 15.186 | 106 | 241874 | 50.00 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166202.D
Acq On : 20 Mar 2019 6:59 pm
Operator : edwardd
Sample : ICC7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 13:46:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

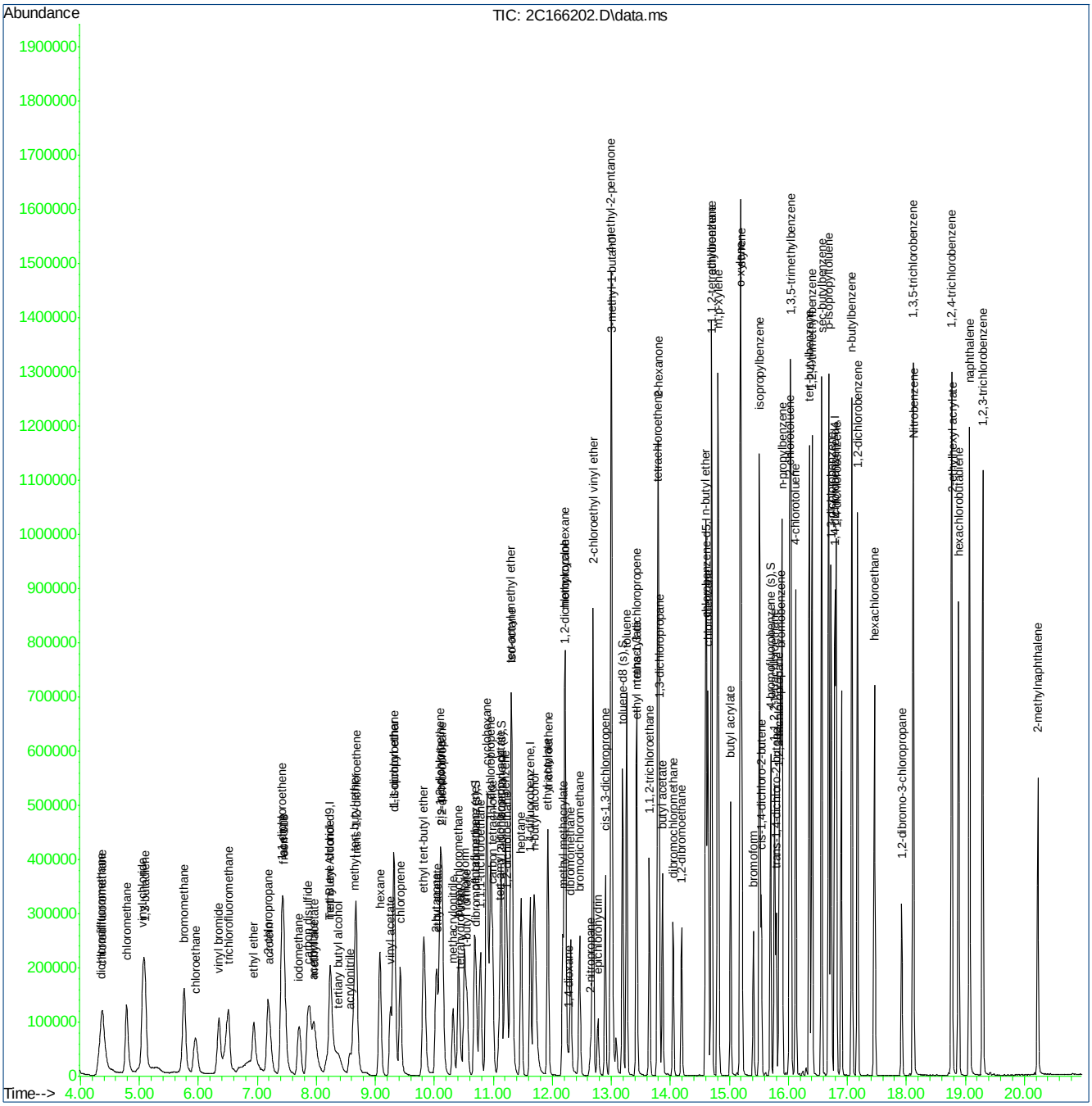
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 15.196 | 104 | 373782 | 50.00 | ug/L | 100 |
| 93) butyl acrylate | 15.018 | 55 | 286685 | 50.00 | ug/L | 100 |
| 94) bromoform | 15.411 | 173 | 107569 | 50.00 | ug/L | 100 |
| 95) isopropylbenzene | 15.511 | 105 | 659002 | 50.00 | ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 15.543 | 75 | 69863 | 50.00 | ug/L | 100 |
| 99) bromobenzene | 15.873 | 156 | 175936 | 50.00 | ug/L | 100 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 226323 | 50.00 | ug/L | 100 |
| 101) trans-1,4-dichloro-2-b... | 15.794 | 88 | 26154 | 50.00 | ug/L | 100 |
| 102) 1,2,3-trichloropropane | 15.847 | 110 | 54193 | 50.00 | ug/L | 100 |
| 103) n-propylbenzene | 15.899 | 91 | 694520 | 50.00 | ug/L | 100 |
| 104) 2-chlorotoluene | 16.020 | 126 | 163670 | 50.00 | ug/L | 100 |
| 105) 4-chlorotoluene | 16.125 | 91 | 430828 | 50.00 | ug/L | 100 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 559172 | 50.00 | ug/L | 100 |
| 107) tert-butylbenzene | 16.355 | 119 | 501100 | 50.00 | ug/L | 100 |
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 566779 | 50.00 | ug/L | 100 |
| 109) sec-butylbenzene | 16.565 | 105 | 790450 | 50.00 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 347298 | 50.00 | ug/L | 100 |
| 111) p-isopropyltoluene | 16.686 | 119 | 661355 | 50.00 | ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 345669 | 50.00 | ug/L | 100 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 384585 | 50.00 | ug/L | 100 |
| 114) n-butylbenzene | 17.073 | 92 | 339851 | 50.00 | ug/L | 100 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 64561 | 50.00 | ug/L | 100 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 395915 | 50.00 | ug/L | 100 |
| 117) Nitrobenzene | 18.122 | 77 | 7049 | 50.00 | ug/L | 100 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 375347 | 50.00 | ug/L | 100 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 47224 | 10.00 | ug/L | 100 |
| 120) hexachlorobutadiene | 18.888 | 225 | 189259 | 50.00 | ug/L | 100 |
| 121) naphthalene | 19.071 | 128 | 906498 | 50.00 | ug/L | 100 |
| 122) 1,2,3-trichlorobenzene | 19.297 | 180 | 350314 | 50.00 | ug/L | 100 |
| 123) hexachloroethane | 17.461 | 201 | 107546 | 50.00 | ug/L | 100 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 252097 | 25.00 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166202.D
Acq On : 20 Mar 2019 6:59 pm
Operator : edwardd
Sample : ICC7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 13:46:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166203.D
Acq On : 20 Mar 2019 7:27 pm
Operator : edwardd
Sample : IC7441-100
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 13:47:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.239 | 65 | 212030 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 210551 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 298565 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 304057 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 198244 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 100614 | 49.95 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.90% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 113417 | 49.29 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 98.58% | | | | |
| 75) toluene-d8 (s) | 13.194 | 98 | 361674 | 49.75 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.50% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 159796 | 51.15 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.30% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.375 | 59 | 276385 | 462.97 | ug/L | | 92 |
| 4) 1,4-dioxane | 12.255 | 88 | 95951 | 1907.22 | ug/L | | 94 |
| 6) chlorodifluoromethane | 4.380 | 51 | 457503 | 95.02 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 4.349 | 85 | 567317 | 97.12 | ug/L | | 99 |
| 8) chloromethane | 4.784 | 50 | 557717 | 97.70 | ug/L | | 100 |
| 9) vinyl chloride | 5.056 | 62 | 527339 | 97.52 | ug/L | | 98 |
| 10) 1,3-butadiene | 5.093 | 54 | 325251 | 97.35 | ug/L | | 97 |
| 11) bromomethane | 5.759 | 94 | 407806 | 89.93 | ug/L | | 99 |
| 12) chloroethane | 5.953 | 64 | 273680 | 96.95 | ug/L | | 98 |
| 13) trichlorofluoromethane | 6.503 | 101 | 579179 | 102.15 | ug/L | | 98 |
| 14) vinyl bromide | 6.351 | 106 | 321507 | 102.93 | ug/L | | 99 |
| 15) ethyl ether | 6.944 | 74 | 119342 | 100.40 | ug/L | # | 83 |
| 16) 2-chloropropane | 7.185 | 43 | 437807 | 97.54 | ug/L | | 99 |
| 17) acrolein | 7.206 | 56 | 63681 | 99.78 | ug/L | | 96 |
| 18) freon 113 | 7.442 | 151 | 264175 | 97.52 | ug/L | | 98 |
| 19) 1,1-dichloroethene | 7.421 | 96 | 238184 | 97.89 | ug/L | | 99 |
| 20) acetone | 7.431 | 58 | 117922 | 375.74 | ug/L | | 99 |
| 21) iodomethane | 7.709 | 142 | 465009 | 98.56 | ug/L | | 99 |
| 22) acetonitrile | 7.945 | 41 | 475735 | 855.83 | ug/L | | 99 |
| 23) carbon disulfide | 7.867 | 76 | 777836 | 97.76 | ug/L | | 98 |
| 24) methylene chloride | 8.239 | 84 | 261759 | 96.55 | ug/L | | 96 |
| 25) methyl acetate | 7.966 | 43 | 226349 | 94.01 | ug/L | | 98 |
| 26) methyl tert butyl ether | 8.648 | 73 | 782472 | 94.88 | ug/L | | 100 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 219941 | 97.61 | ug/L | | 95 |
| 28) hexane | 9.078 | 56 | 172400 | 98.26 | ug/L | | 92 |
| 29) di-isopropyl ether | 9.319 | 45 | 807090 | 95.44 | ug/L | | 100 |
| 30) 1,1-dichloroethane | 9.319 | 63 | 391507 | 96.45 | ug/L | | 99 |
| 31) chloroprene | 9.424 | 53 | 334420 | 97.36 | ug/L | | 97 |
| 32) acrylonitrile | 8.564 | 53 | 122221 | 97.54 | ug/L | | 98 |
| 33) vinyl acetate | 9.256 | 86 | 46203 | 98.88 | ug/L | | 95 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 824313 | 96.54 | ug/L | | 99 |
| 35) 2-butanone | 10.027 | 72 | 150053 | 383.44 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166203.D
Acq On : 20 Mar 2019 7:27 pm
Operator : edwardd
Sample : IC7441-100
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 13:47:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.053 | 45 | 41985 | 96.66 | ug/L | # | 67 |
| 37) 2,2-dichloropropane | 10.132 | 77 | 360093 | 95.88 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 244515 | 94.97 | ug/L | | 98 |
| 39) propionitrile | 10.111 | 54 | 495193 | 929.21 | ug/L | | 98 |
| 40) bromochloromethane | 10.415 | 128 | 133358 | 98.13 | ug/L | | 98 |
| 41) tetrahydrofuran | 10.436 | 71 | 40260 | 95.16 | ug/L | | 91 |
| 42) chloroform | 10.509 | 83 | 406364 | 95.87 | ug/L | | 97 |
| 43) t-butyl formate | 10.551 | 59 | 224180 | 97.02 | ug/L | | 98 |
| 45) methacrylonitrile | 10.320 | 67 | 112501 | 96.72 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 427722 | 98.24 | ug/L | | 99 |
| 47) cyclohexane | 10.902 | 84 | 383472 | 98.40 | ug/L | | 86 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 277688 | 97.37 | ug/L | | 99 |
| 49) carbon tetrachloride | 10.986 | 117 | 336378 | 99.34 | ug/L | | 100 |
| 53) n-butyl alcohol | 11.689 | 56 | 648050 | 4289.65 | ug/L | | 98 |
| 54) tert-amyl alcohol | 11.107 | 55 | 89763 | 430.14 | ug/L | # | 91 |
| 55) iso-octane | 11.317 | 57 | 1000294 | 98.48 | ug/L | | 98 |
| 56) benzene | 11.206 | 78 | 829836 | 95.71 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 189771 | 95.41 | ug/L | | 100 |
| 58) heptane | 11.474 | 57 | 162462 | 98.16 | ug/L | | 97 |
| 59) isopropyl acetate | 11.128 | 87 | 59302 | 95.87 | ug/L | | 98 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 306682 | 94.21 | ug/L | | 98 |
| 61) ethyl acrylate | 11.920 | 55 | 340002 | 97.33 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 229201 | 96.43 | ug/L | | 98 |
| 63) 2-nitropropane | 12.654 | 41 | 78427 | 108.04 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 698686 | 475.00 | ug/L | | 100 |
| 65) methyl methacrylate | 12.176 | 100 | 64411 | 92.84 | ug/L | | 96 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 219250 | 92.99 | ug/L | | 98 |
| 67) dibromomethane | 12.313 | 93 | 159094 | 92.62 | ug/L | | 95 |
| 68) methylcyclohexane | 12.218 | 83 | 443239 | 91.56 | ug/L | | 100 |
| 69) bromodichloromethane | 12.465 | 83 | 321183 | 97.54 | ug/L | | 99 |
| 70) epichlorohydrin | 12.774 | 57 | 183167 | 463.88 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 373453 | 95.62 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 519227 | 376.63 | ug/L | | 96 |
| 73) 3-methyl-1-butanol | 13.000 | 55 | 427855 | 1783.02 | ug/L | | 95 |
| 76) toluene | 13.262 | 92 | 545924 | 98.24 | ug/L | | 96 |
| 77) ethyl methacrylate | 13.424 | 69 | 323563 | 98.01 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 352950 | 98.82 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 193144 | 96.66 | ug/L | | 99 |
| 80) 2-hexanone | 13.797 | 58 | 471697 | 377.15 | ug/L | | 100 |
| 81) tetrachloroethene | 13.786 | 164 | 231293 | 99.10 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.817 | 76 | 323284 | 95.56 | ug/L | | 91 |
| 83) butyl acetate | 13.870 | 56 | 171813 | 94.96 | ug/L | | 94 |
| 84) dibromochloromethane | 14.048 | 129 | 279234 | 103.70 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 326837 | 97.32 | ug/L | | 97 |
| 86) n-butyl ether | 14.599 | 57 | 979393 | 97.36 | ug/L | | 99 |
| 87) chlorobenzene | 14.641 | 112 | 640759 | 97.85 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 283509 | 100.23 | ug/L | | 100 |
| 89) ethylbenzene | 14.698 | 91 | 1076752 | 97.70 | ug/L | | 100 |
| 90) m,p-xylene | 14.808 | 106 | 851958 | 197.81 | ug/L | | 98 |
| 91) o-xylene | 15.186 | 106 | 490163 | 100.10 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166203.D
Acq On : 20 Mar 2019 7:27 pm
Operator : edwardd
Sample : IC7441-100
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 13:47:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration

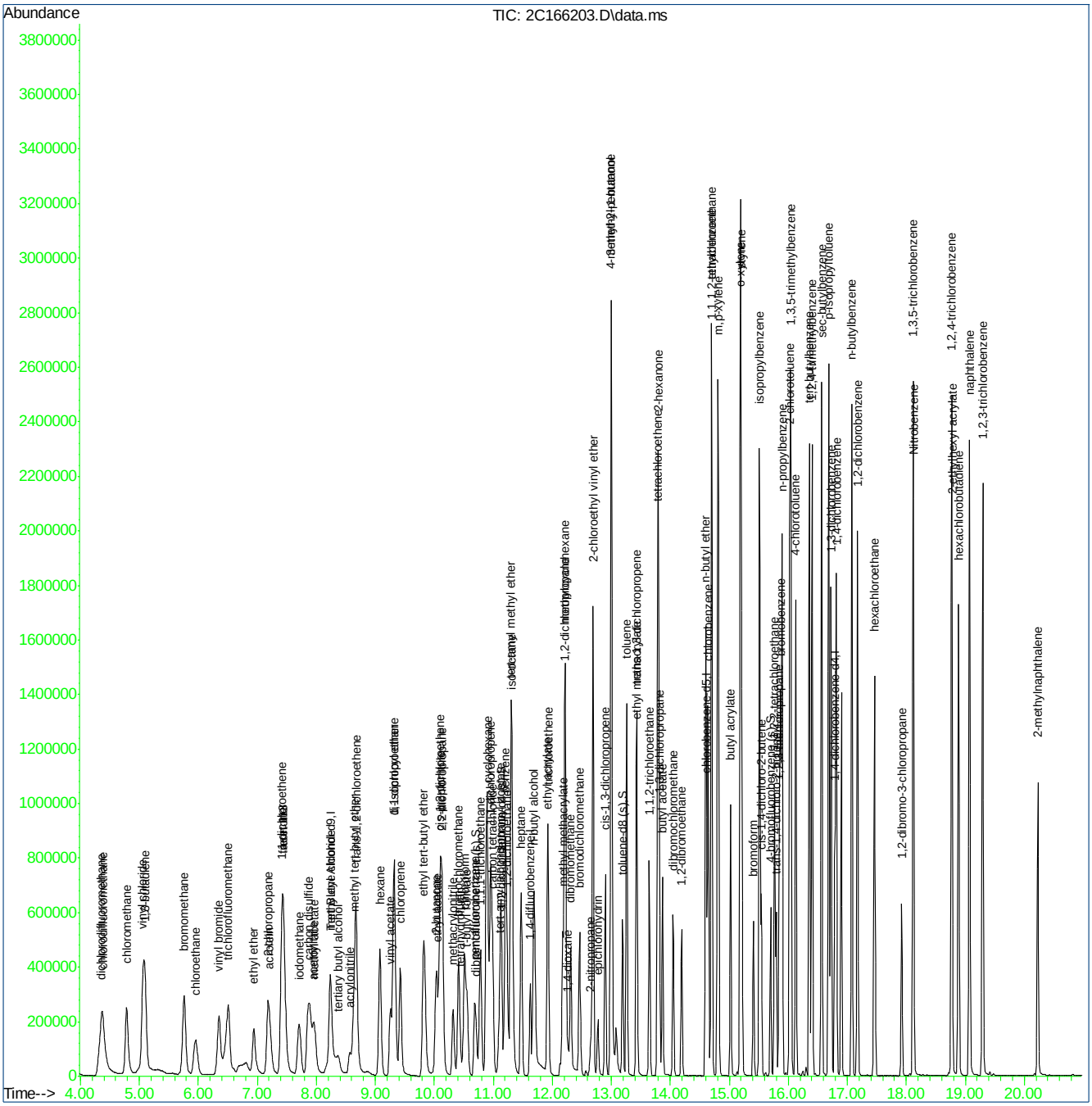
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) | styrene | 15.196 | 104 | 741526 | 98.00 | ug/L | 99 |
| 93) | butyl acrylate | 15.018 | 55 | 551218 | 94.98 | ug/L | 98 |
| 94) | bromoform | 15.411 | 173 | 233923 | 107.42 | ug/L | 97 |
| 95) | isopropylbenzene | 15.511 | 105 | 1299681 | 97.42 | ug/L | 98 |
| 96) | cis-1,4-dichloro-2-butene | 15.542 | 75 | 142112 | 100.48 | ug/L | 98 |
| 99) | bromobenzene | 15.873 | 156 | 340822 | 96.62 | ug/L | 98 |
| 100) | 1,1,2,2-tetrachloroethane | 15.768 | 83 | 435280 | 95.92 | ug/L | 100 |
| 101) | trans-1,4-dichloro-2-b... | 15.799 | 88 | 53088 | 101.24 | ug/L | 97 |
| 102) | 1,2,3-trichloropropane | 15.847 | 110 | 105235 | 96.85 | ug/L | 99 |
| 103) | n-propylbenzene | 15.899 | 91 | 1352354 | 97.11 | ug/L | 99 |
| 104) | 2-chlorotoluene | 16.025 | 126 | 330471 | 100.70 | ug/L | 96 |
| 105) | 4-chlorotoluene | 16.124 | 91 | 842778 | 97.56 | ug/L | 100 |
| 106) | 1,3,5-trimethylbenzene | 16.041 | 105 | 1096969 | 97.84 | ug/L | 100 |
| 107) | tert-butylbenzene | 16.360 | 119 | 1002911 | 99.82 | ug/L | 97 |
| 108) | 1,2,4-trimethylbenzene | 16.408 | 105 | 1112039 | 97.85 | ug/L | 99 |
| 109) | sec-butylbenzene | 16.565 | 105 | 1564186 | 98.69 | ug/L | 99 |
| 110) | 1,3-dichlorobenzene | 16.727 | 146 | 666195 | 95.67 | ug/L | 99 |
| 111) | p-isopropyltoluene | 16.685 | 119 | 1306540 | 98.53 | ug/L | 100 |
| 112) | 1,4-dichlorobenzene | 16.817 | 146 | 672702 | 97.06 | ug/L | 99 |
| 113) | 1,2-dichlorobenzene | 17.173 | 146 | 736654 | 95.53 | ug/L | 99 |
| 114) | n-butylbenzene | 17.073 | 92 | 668953 | 98.17 | ug/L | 96 |
| 115) | 1,2-dibromo-3-chloropr... | 17.923 | 75 | 130876 | 101.10 | ug/L | 99 |
| 116) | 1,3,5-trichlorobenzene | 18.117 | 180 | 763402 | 96.17 | ug/L | 99 |
| 117) | Nitrobenzene | 18.122 | 77 | 15422 | 109.12 | ug/L | 92 |
| 118) | 1,2,4-trichlorobenzene | 18.772 | 180 | 723931 | 96.19 | ug/L | 100 |
| 119) | 2-ethylhexyl acrylate | 18.777 | 55 | 98815 | 20.87 | ug/L | 100 |
| 120) | hexachlorobutadiene | 18.887 | 225 | 370434 | 97.62 | ug/L | 100 |
| 121) | naphthalene | 19.071 | 128 | 1770227 | 97.39 | ug/L | 100 |
| 122) | 1,2,3-trichlorobenzene | 19.296 | 180 | 678365 | 96.58 | ug/L | 99 |
| 123) | hexachloroethane | 17.461 | 201 | 237127 | 109.97 | ug/L | 94 |
| 124) | 2-methylnaphthalene | 20.230 | 142 | 509937 | 50.44 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166203.D
Acq On : 20 Mar 2019 7:27 pm
Operator : edwardd
Sample : IC7441-100
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 13:47:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:38:48 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166204.D
Acq On : 20 Mar 2019 7:56 pm
Operator : edwardd
Sample : IC7441-200
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 13:48:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:48:06 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.239 | 65 | 211897 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 217470 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 313802 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 327435 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 221709 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 103455 | 49.73 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.46% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 115601 | 47.80 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 95.60% | | | | |
| 75) toluene-d8 (s) | 13.194 | 98 | 391765 | 50.04 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.08% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 178019 | 50.96 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.92% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.370 | 59 | 546317 | 915.71 | ug/L | | 88 |
| 4) 1,4-dioxane | 12.260 | 88 | 211289 | 4202.44 | ug/L | | 95 |
| 6) chlorodifluoromethane | 4.380 | 51 | 864626 | 173.86 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 4.354 | 85 | 1081746 | 179.30 | ug/L | | 98 |
| 8) chloromethane | 4.789 | 50 | 1060982 | 179.95 | ug/L | | 99 |
| 9) vinyl chloride | 5.062 | 62 | 1018324 | 182.33 | ug/L | | 98 |
| 10) 1,3-butadiene | 5.098 | 54 | 622569 | 180.40 | ug/L | | 98 |
| 11) bromomethane | 5.764 | 94 | 857424 | 183.06 | ug/L | | 98 |
| 12) chloroethane | 5.958 | 64 | 584298 | 200.41 | ug/L | | 99 |
| 13) trichlorofluoromethane | 6.509 | 101 | 1219965 | 208.33 | ug/L | | 100 |
| 14) vinyl bromide | 6.357 | 106 | 683496 | 211.87 | ug/L | | 98 |
| 15) ethyl ether | 6.944 | 74 | 253156 | 206.20 | ug/L | # | 87 |
| 16) 2-chloropropane | 7.185 | 43 | 881206 | 190.08 | ug/L | | 98 |
| 17) acrolein | 7.201 | 56 | 120686 | 183.08 | ug/L | | 98 |
| 18) freon 113 | 7.442 | 151 | 517464 | 184.94 | ug/L | | 97 |
| 19) 1,1-dichloroethene | 7.431 | 96 | 479317 | 190.72 | ug/L | | 98 |
| 20) acetone | 7.437 | 58 | 233715 | 721.00 | ug/L | | 94 |
| 21) iodomethane | 7.715 | 142 | 938539 | 192.59 | ug/L | | 98 |
| 22) acetonitrile | 7.940 | 41 | 920309 | 1602.92 | ug/L | | 96 |
| 23) carbon disulfide | 7.872 | 76 | 1550021 | 188.60 | ug/L | | 99 |
| 24) methylene chloride | 8.239 | 84 | 529279 | 189.02 | ug/L | | 96 |
| 25) methyl acetate | 7.966 | 43 | 457645 | 184.03 | ug/L | | 98 |
| 26) methyl tert butyl ether | 8.653 | 73 | 1536508 | 180.39 | ug/L | | 99 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 431681 | 185.48 | ug/L | | 95 |
| 28) hexane | 9.078 | 56 | 333231 | 183.89 | ug/L | | 93 |
| 29) di-isopropyl ether | 9.324 | 45 | 1594803 | 182.59 | ug/L | | 99 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 777097 | 185.36 | ug/L | | 98 |
| 31) chloroprene | 9.424 | 53 | 670012 | 188.85 | ug/L | | 99 |
| 32) acrylonitrile | 8.569 | 53 | 248934 | 192.35 | ug/L | | 98 |
| 33) vinyl acetate | 9.256 | 86 | 95261 | 197.38 | ug/L | | 95 |
| 34) ethyl tert-butyl ether | 9.827 | 59 | 1626991 | 184.48 | ug/L | | 99 |
| 35) 2-butanone | 10.027 | 72 | 314460 | 777.99 | ug/L | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166204.D
Acq On : 20 Mar 2019 7:56 pm
Operator : edwardd
Sample : IC7441-200
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 13:48:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:48:06 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.053 | 45 | 93263 | 207.88 | ug/L # | 79 |
| 37) 2,2-dichloropropane | 10.137 | 77 | 700835 | 180.66 | ug/L | 96 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 491223 | 184.72 | ug/L | 98 |
| 39) propionitrile | 10.116 | 54 | 997573 | 1812.35 | ug/L | 93 |
| 40) bromochloromethane | 10.415 | 128 | 265562 | 189.19 | ug/L | 98 |
| 41) tetrahydrofuran | 10.436 | 71 | 82459 | 188.71 | ug/L | 93 |
| 42) chloroform | 10.509 | 83 | 804706 | 183.82 | ug/L | 99 |
| 43) t-butyl formate | 10.551 | 59 | 444399 | 186.21 | ug/L | 97 |
| 45) methacrylonitrile | 10.320 | 67 | 232649 | 193.66 | ug/L | 98 |
| 46) 1,1,1-trichloroethane | 10.787 | 97 | 849555 | 188.92 | ug/L | 99 |
| 47) cyclohexane | 10.897 | 84 | 756845 | 188.03 | ug/L | 98 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 554443 | 188.23 | ug/L | 97 |
| 49) carbon tetrachloride | 10.986 | 117 | 687306 | 196.52 | ug/L | 99 |
| 53) n-butyl alcohol | 11.689 | 56 | 1352512 | 8518.00 | ug/L | 97 |
| 54) tert-amyl alcohol | 11.112 | 55 | 175318 | 799.33 | ug/L | 98 |
| 55) iso-octane | 11.317 | 57 | 2013223 | 188.58 | ug/L | 98 |
| 56) benzene | 11.206 | 78 | 1673019 | 183.60 | ug/L | 100 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 387325 | 185.28 | ug/L | 98 |
| 58) heptane | 11.474 | 57 | 316646 | 182.02 | ug/L | 97 |
| 59) isopropyl acetate | 11.128 | 87 | 119554 | 183.90 | ug/L | 97 |
| 60) 1,2-dichloroethane | 11.238 | 62 | 621588 | 181.68 | ug/L | 98 |
| 61) ethyl acrylate | 11.919 | 55 | 707567 | 192.72 | ug/L | 99 |
| 62) trichloroethene | 11.930 | 95 | 467073 | 186.96 | ug/L | 96 |
| 63) 2-nitropropane | 12.653 | 41 | 176917 | 231.88 | ug/L | 96 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 1544127 | 998.79 | ug/L | 98 |
| 65) methyl methacrylate | 12.176 | 100 | 141673 | 194.28 | ug/L | 92 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 459411 | 185.40 | ug/L | 100 |
| 67) dibromomethane | 12.313 | 93 | 340293 | 188.48 | ug/L | 98 |
| 68) methylcyclohexane | 12.224 | 83 | 939826 | 184.72 | ug/L | 97 |
| 69) bromodichloromethane | 12.465 | 83 | 679390 | 196.30 | ug/L | 99 |
| 70) epichlorohydrin | 12.774 | 57 | 396498 | 955.40 | ug/L | 98 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 775079 | 188.82 | ug/L | 98 |
| 72) 4-methyl-2-pentanone | 13.000 | 58 | 1103848 | 761.82 | ug/L | 89 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 916560 | 3634.16 | ug/L | 97 |
| 76) toluene | 13.262 | 92 | 1155347 | 193.06 | ug/L | 93 |
| 77) ethyl methacrylate | 13.429 | 69 | 682880 | 192.09 | ug/L | 96 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 747745 | 194.41 | ug/L | 100 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 398068 | 185.00 | ug/L | 96 |
| 80) 2-hexanone | 13.796 | 58 | 1003425 | 745.01 | ug/L | 98 |
| 81) tetrachloroethene | 13.786 | 164 | 482812 | 192.11 | ug/L | 98 |
| 82) 1,3-dichloropropane | 13.817 | 76 | 685685 | 188.21 | ug/L | 91 |
| 83) butyl acetate | 13.870 | 56 | 371176 | 190.50 | ug/L | 94 |
| 84) dibromochloromethane | 14.048 | 129 | 608364 | 209.80 | ug/L | 98 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 686684 | 189.86 | ug/L | 97 |
| 86) n-butyl ether | 14.599 | 57 | 2042100 | 188.50 | ug/L | 98 |
| 87) chlorobenzene | 14.641 | 112 | 1356968 | 192.43 | ug/L | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 605717 | 198.84 | ug/L | 98 |
| 89) ethylbenzene | 14.698 | 91 | 2241613 | 188.87 | ug/L | 98 |
| 90) m,p-xylene | 14.814 | 106 | 1832211 | 395.03 | ug/L | 92 |
| 91) o-xylene | 15.186 | 106 | 1040264 | 197.28 | ug/L | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166204.D
Acq On : 20 Mar 2019 7:56 pm
Operator : edwardd
Sample : IC7441-200
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 13:48:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:48:06 2019
Response via : Initial Calibration

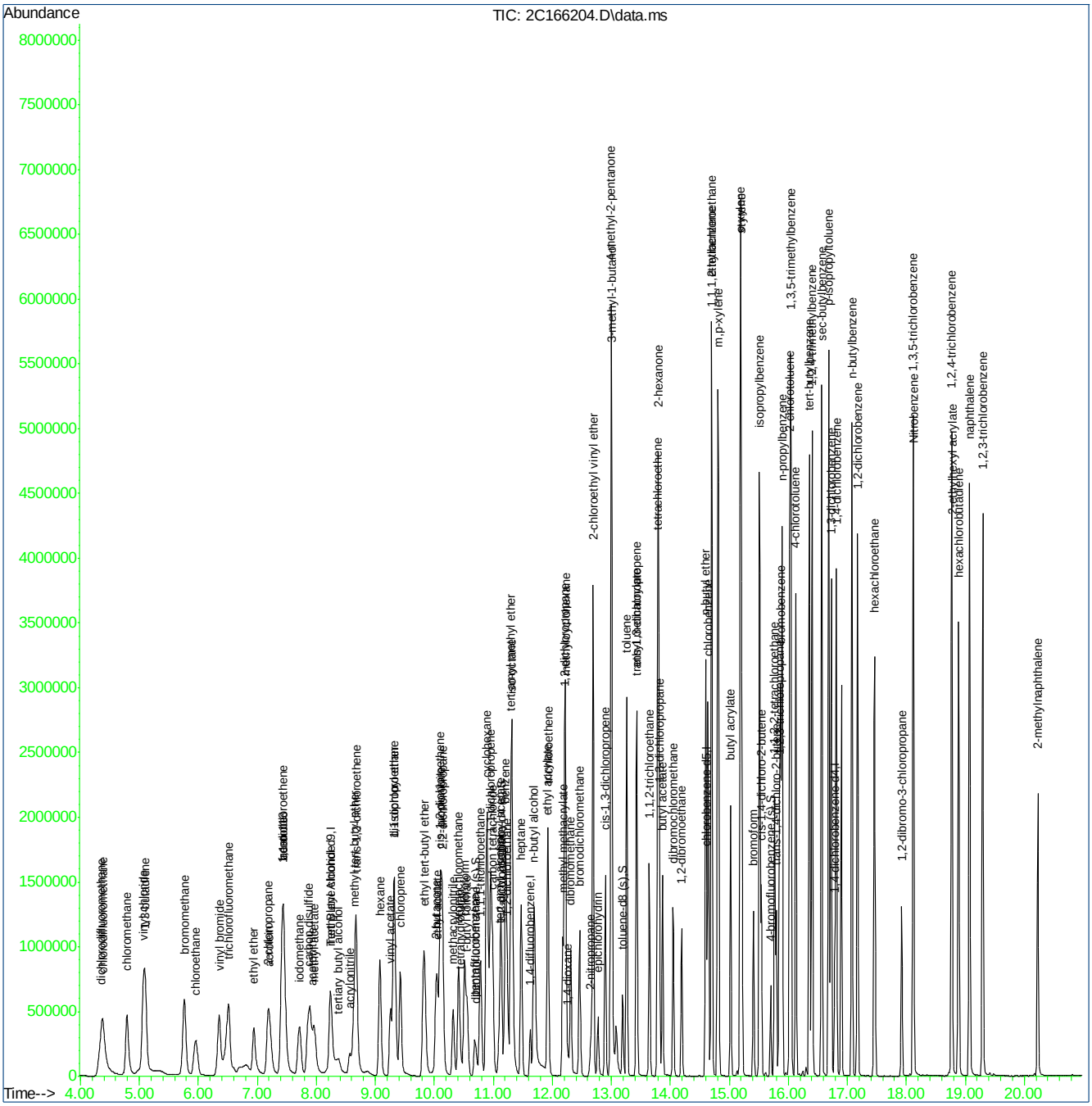
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) | styrene | 15.196 | 104 | 1591976 | 195.36 | ug/L | 99 |
| 93) | butyl acrylate | 15.018 | 55 | 1173252 | 187.72 | ug/L | 98 |
| 94) | bromoform | 15.411 | 173 | 522422 | 222.77 | ug/L | 100 |
| 95) | isopropylbenzene | 15.511 | 105 | 2647035 | 184.25 | ug/L | 97 |
| 96) | cis-1,4-dichloro-2-butene | 15.542 | 75 | 308517 | 202.56 | ug/L | 96 |
| 99) | bromobenzene | 15.873 | 156 | 728080 | 184.55 | ug/L | 98 |
| 100) | 1,1,2,2-tetrachloroethane | 15.768 | 83 | 900291 | 177.40 | ug/L | 97 |
| 101) | trans-1,4-dichloro-2-b... | 15.799 | 88 | 115347 | 196.68 | ug/L | 96 |
| 102) | 1,2,3-trichloropropane | 15.852 | 110 | 223762 | 184.13 | ug/L | 99 |
| 103) | n-propylbenzene | 15.899 | 91 | 2810532 | 180.47 | ug/L | 98 |
| 104) | 2-chlorotoluene | 16.025 | 126 | 710284 | 193.53 | ug/L | 93 |
| 105) | 4-chlorotoluene | 16.124 | 91 | 1811684 | 187.53 | ug/L | 99 |
| 106) | 1,3,5-trimethylbenzene | 16.040 | 105 | 2293670 | 182.93 | ug/L | 97 |
| 107) | tert-butylbenzene | 16.360 | 119 | 2113583 | 188.10 | ug/L | 97 |
| 108) | 1,2,4-trimethylbenzene | 16.407 | 105 | 2320525 | 182.58 | ug/L | 96 |
| 109) | sec-butylbenzene | 16.565 | 105 | 3209995 | 181.10 | ug/L | 97 |
| 110) | 1,3-dichlorobenzene | 16.727 | 146 | 1410795 | 181.16 | ug/L | 97 |
| 111) | p-isopropyltoluene | 16.685 | 119 | 2743332 | 184.98 | ug/L | 98 |
| 112) | 1,4-dichlorobenzene | 16.816 | 146 | 1438842 | 185.63 | ug/L | 97 |
| 113) | 1,2-dichlorobenzene | 17.173 | 146 | 1528134 | 177.20 | ug/L | 98 |
| 114) | n-butylbenzene | 17.079 | 92 | 1405348 | 184.41 | ug/L | 93 |
| 115) | 1,2-dibromo-3-chloropr... | 17.923 | 75 | 272316 | 188.10 | ug/L | 100 |
| 116) | 1,3,5-trichlorobenzene | 18.117 | 180 | 1522027 | 171.44 | ug/L | 97 |
| 117) | Nitrobenzene | 18.122 | 77 | 36940 | 233.70 | ug/L | 93 |
| 118) | 1,2,4-trichlorobenzene | 18.772 | 180 | 1414484 | 168.06 | ug/L | 98 |
| 119) | 2-ethylhexyl acrylate | 18.777 | 55 | 208973 | 39.47 | ug/L | 97 |
| 120) | hexachlorobutadiene | 18.887 | 225 | 753877 | 177.64 | ug/L | 99 |
| 121) | naphthalene | 19.071 | 128 | 3447800 | 169.62 | ug/L | 99 |
| 122) | 1,2,3-trichlorobenzene | 19.296 | 180 | 1325479 | 168.74 | ug/L | 98 |
| 123) | hexachloroethane | 17.461 | 201 | 537394 | 222.84 | ug/L | 92 |
| 124) | 2-methylnaphthalene | 20.230 | 142 | 1044609 | 92.39 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166204.D
Acq On : 20 Mar 2019 7:56 pm
Operator : edwardd
Sample : IC7441-200
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 13:48:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 13:48:06 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166207.D
Acq On : 20 Mar 2019 9:21 pm
Operator : edwardd
Sample : ICV7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 25 11:01:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.239 | 65 | 221631 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 208920 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 295204 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 313503 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 205091 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 97550 | 49.16 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.32% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 114155 | 48.21 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 96.42% | | | |
| 75) toluene-d8 (s) | 13.194 | 98 | 366619 | 49.39 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.78% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 163279 | 52.72 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 105.44% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.375 | 59 | 148594 | 259.84 | ug/L | 92 |
| 4) 1,4-dioxane | 12.266 | 88 | 54616 | 1173.13 | ug/L | 91 |
| 6) chlorodifluoromethane | 4.375 | 51 | 233132 | 51.01 | ug/L | 99 |
| 7) dichlorodifluoromethane | 4.343 | 85 | 240454 | 44.94 | ug/L | 99 |
| 8) chloromethane | 4.789 | 50 | 248871 | 42.84 | ug/L | 99 |
| 9) vinyl chloride | 5.062 | 62 | 243164 | 47.21 | ug/L | 98 |
| 10) 1,3-butadiene | 5.093 | 54 | 187540 | 56.78 | ug/L | 98 |
| 11) bromomethane | 5.759 | 94 | 190610 | 46.32 | ug/L | 97 |
| 12) chloroethane | 5.958 | 64 | 126299 | 46.63 | ug/L | 98 |
| 13) trichlorofluoromethane | 6.514 | 101 | 269693 | 49.36 | ug/L | 98 |
| 14) vinyl bromide | 6.357 | 106 | 150921 | 47.91 | ug/L | 99 |
| 15) ethyl ether | 6.944 | 74 | 57335 | 50.03 | ug/L | 90 |
| 16) 2-chloropropane | 7.185 | 43 | 214488 | 46.97 | ug/L | 97 |
| 17) acrolein | 7.201 | 56 | 29801 | 49.21 | ug/L | 94 |
| 18) freon 113 | 7.447 | 151 | 139011 | 52.74 | ug/L | 97 |
| 19) 1,1-dichloroethene | 7.421 | 96 | 112446 | 45.33 | ug/L | 99 |
| 20) acetone | 7.432 | 58 | 61042 | 203.05 | ug/L | 97 |
| 21) iodomethane | 7.709 | 142 | 255322 | 56.90 | ug/L | 97 |
| 23) carbon disulfide | 7.867 | 76 | 428850 | 55.44 | ug/L | 98 |
| 24) methylene chloride | 8.239 | 84 | 130314 | 46.65 | ug/L | 99 |
| 25) methyl acetate | 7.961 | 43 | 111092 | 45.02 | ug/L | 97 |
| 26) methyl tert butyl ether | 8.653 | 73 | 793118 | 97.90 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 8.674 | 96 | 102175 | 44.92 | ug/L | 97 |
| 28) hexane | 9.078 | 56 | 69389 | 40.28 | ug/L | 92 |
| 29) di-isopropyl ether | 9.319 | 45 | 386111 | 46.42 | ug/L | 99 |
| 30) 1,1-dichloroethane | 9.314 | 63 | 191691 | 47.72 | ug/L | 99 |
| 31) chloroprene | 9.429 | 53 | 167773 | 50.95 | ug/L | 98 |
| 32) acrylonitrile | 8.569 | 53 | 66340 | 57.80 | ug/L | 97 |
| 33) vinyl acetate | 9.251 | 86 | 21475 | 48.71 | ug/L | 97 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 400805 | 49.31 | ug/L | 98 |
| 35) 2-butanone | 10.027 | 72 | 75481 | 210.70 | ug/L | 99 |
| 36) ethyl acetate | 10.053 | 45 | 23195 | 53.48 | ug/L # | 63 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166207.D
Acq On : 20 Mar 2019 9:21 pm
Operator : edwardd
Sample : ICV7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 25 11:01:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 10.132 | 77 | 173420 | 45.89 | ug/L | | 95 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 123032 | 46.60 | ug/L | | 97 |
| 39) propionitrile | 10.105 | 54 | 259308 | 500.03 | ug/L | | 90 |
| 40) bromochloromethane | 10.410 | 128 | 65655 | 50.29 | ug/L | | 93 |
| 41) tetrahydrofuran | 10.431 | 71 | 20868 | 50.93 | ug/L | | 96 |
| 42) chloroform | 10.509 | 83 | 200690 | 46.89 | ug/L | | 97 |
| 43) t-butyl formate | 10.551 | 59 | 80466 | 37.67 | ug/L | | 99 |
| 45) methacrylonitrile | 10.315 | 67 | 55992 | 50.32 | ug/L | | 98 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 201476 | 49.11 | ug/L | | 99 |
| 47) cyclohexane | 10.897 | 84 | 184223 | 48.01 | ug/L | | 100 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 137517 | 48.65 | ug/L | | 98 |
| 49) carbon tetrachloride | 10.986 | 117 | 162153 | 51.22 | ug/L | | 98 |
| 53) n-butyl alcohol | 11.694 | 56 | 339690 | 2489.81 | ug/L | | 99 |
| 54) tert-amyl alcohol | 11.112 | 55 | 48405 | 250.96 | ug/L | # | 92 |
| 55) iso-octane | 11.317 | 57 | 474680 | 50.58 | ug/L | | 98 |
| 56) benzene | 11.207 | 78 | 415745 | 49.72 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 89416 | 46.13 | ug/L | | 100 |
| 58) heptane | 11.474 | 57 | 86895 | 54.55 | ug/L | | 98 |
| 59) isopropyl acetate | 11.128 | 87 | 28329 | 50.75 | ug/L | | 99 |
| 60) 1,2-dichloroethane | 11.233 | 62 | 157721 | 47.65 | ug/L | | 97 |
| 61) ethyl acrylate | 11.920 | 55 | 178270 | 55.25 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 115503 | 50.74 | ug/L | | 94 |
| 63) 2-nitropropane | 12.654 | 41 | 37345 | 51.35 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 362261 | 264.29 | ug/L | | 100 |
| 65) methyl methacrylate | 12.176 | 100 | 33560 | 54.09 | ug/L | # | 86 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 110430 | 47.16 | ug/L | | 99 |
| 67) dibromomethane | 12.313 | 93 | 86100 | 51.93 | ug/L | | 98 |
| 68) methylcyclohexane | 12.218 | 83 | 216096 | 46.69 | ug/L | | 99 |
| 69) bromodichloromethane | 12.465 | 83 | 159579 | 52.75 | ug/L | | 100 |
| 70) epichlorohydrin | 12.774 | 57 | 100185 | 270.25 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 191767 | 52.19 | ug/L | | 100 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 266536 | 210.94 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 223476 | 991.04 | ug/L | | 98 |
| 76) toluene | 13.262 | 92 | 277731 | 50.01 | ug/L | | 97 |
| 77) ethyl methacrylate | 13.424 | 69 | 158900 | 49.39 | ug/L | | 97 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 174277 | 50.14 | ug/L | | 100 |
| 79) 1,1,2-trichloroethane | 13.645 | 83 | 98738 | 49.65 | ug/L | | 99 |
| 80) 2-hexanone | 13.797 | 58 | 251660 | 201.06 | ug/L | | 97 |
| 81) tetrachloroethene | 13.786 | 164 | 116410 | 50.07 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 13.818 | 76 | 174336 | 50.38 | ug/L | | 90 |
| 83) butyl acetate | 13.870 | 56 | 90667 | 50.30 | ug/L | | 99 |
| 84) dibromochloromethane | 14.048 | 129 | 141688 | 56.83 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 167970 | 51.25 | ug/L | | 99 |
| 86) n-butyl ether | 14.599 | 57 | 508626 | 50.72 | ug/L | | 100 |
| 87) chlorobenzene | 14.641 | 112 | 329189 | 50.12 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 141772 | 53.17 | ug/L | | 98 |
| 89) ethylbenzene | 14.698 | 91 | 551279 | 49.01 | ug/L | | 100 |
| 90) m,p-xylene | 14.808 | 106 | 435239 | 100.63 | ug/L | | 98 |
| 91) o-xylene | 15.186 | 106 | 244489 | 50.20 | ug/L | | 98 |
| 92) styrene | 15.196 | 104 | 383772 | 51.23 | ug/L | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166207.D
Acq On : 20 Mar 2019 9:21 pm
Operator : edwardd
Sample : ICV7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 25 11:01:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

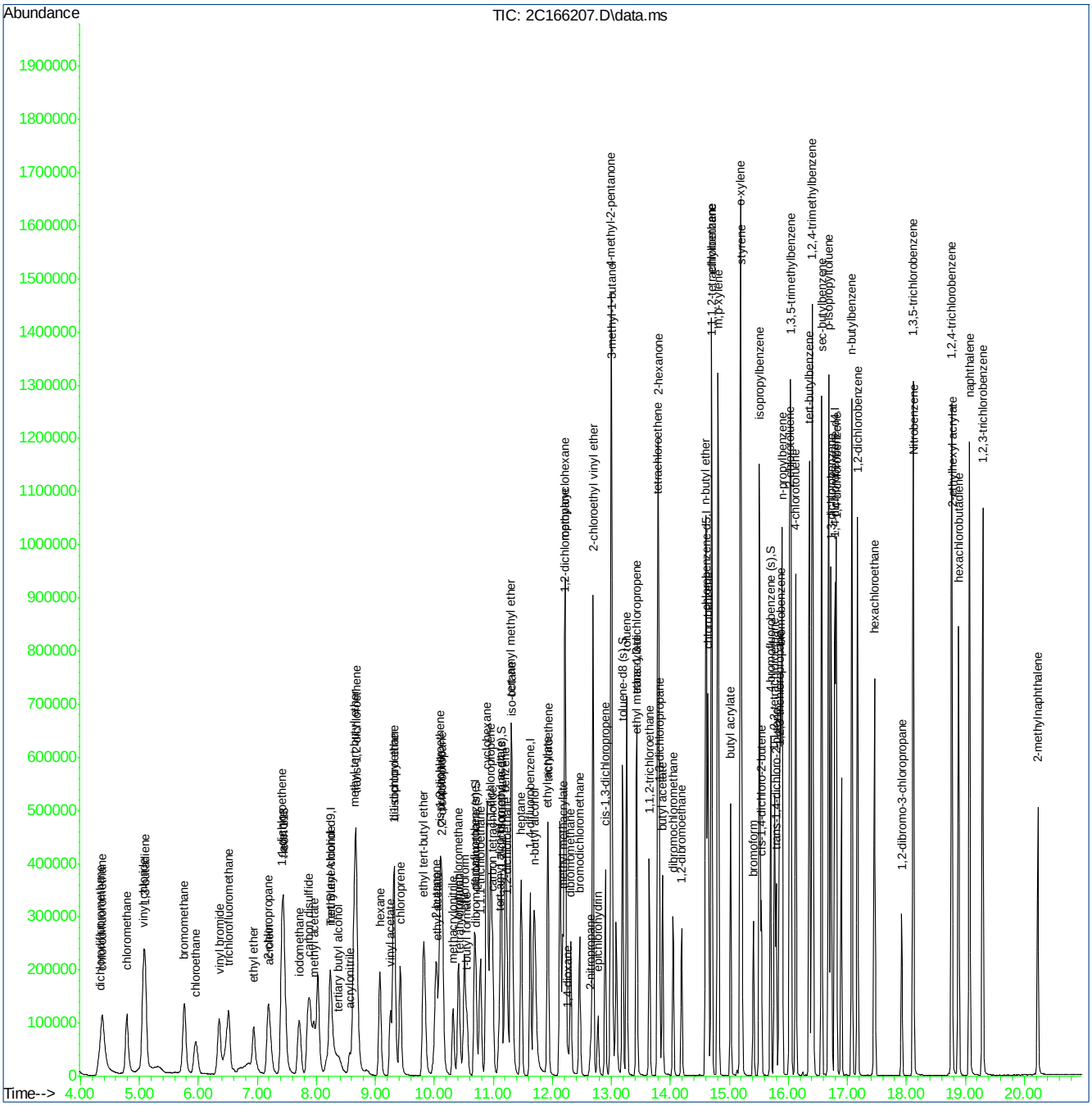
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) butyl acrylate | 15.018 | 55 | 289296 | 48.12 | ug/L | 98 |
| 94) bromoform | 15.411 | 173 | 120146 | 60.97 | ug/L | 97 |
| 95) isopropylbenzene | 15.511 | 105 | 658145 | 50.83 | ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 69496 | 53.12 | ug/L | 96 |
| 99) bromobenzene | 15.873 | 156 | 180393 | 53.00 | ug/L | 99 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 223882 | 53.44 | ug/L | 99 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 30961 | 63.43 | ug/L | 99 |
| 102) 1,2,3-trichloropropane | 15.852 | 110 | 54545 | 52.04 | ug/L | 96 |
| 103) n-propylbenzene | 15.899 | 91 | 703111 | 51.73 | ug/L | 100 |
| 104) 2-chlorotoluene | 16.020 | 126 | 165241 | 52.47 | ug/L | 97 |
| 105) 4-chlorotoluene | 16.124 | 91 | 451059 | 51.80 | ug/L | 100 |
| 106) 1,3,5-trimethylbenzene | 16.041 | 105 | 557082 | 52.40 | ug/L | 99 |
| 107) tert-butylbenzene | 16.360 | 119 | 505586 | 55.32 | ug/L | 98 |
| 108) 1,2,4-trimethylbenzene | 16.408 | 105 | 582083 | 53.86 | ug/L | 100 |
| 109) sec-butylbenzene | 16.565 | 105 | 791482 | 54.45 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 353402 | 50.29 | ug/L | 99 |
| 111) p-isopropyltoluene | 16.685 | 119 | 665124 | 54.04 | ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.817 | 146 | 355090 | 50.33 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 388159 | 49.86 | ug/L | 99 |
| 114) n-butylbenzene | 17.073 | 92 | 341310 | 52.52 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 62673 | 54.29 | ug/L | 98 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 394837 | 51.88 | ug/L | 99 |
| 117) Nitrobenzene | 18.122 | 77 | 6763 | 53.36 | ug/L | 92 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 369015 | 54.08 | ug/L | 99 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 54864 | 12.15 | ug/L | 96 |
| 120) hexachlorobutadiene | 18.888 | 225 | 179441 | 49.93 | ug/L | 99 |
| 121) naphthalene | 19.071 | 128 | 894623 | 54.47 | ug/L | 100 |
| 122) 1,2,3-trichlorobenzene | 19.297 | 180 | 337288 | 53.34 | ug/L | 98 |
| 123) hexachloroethane | 17.461 | 201 | 116124 | 52.29 | ug/L | 98 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 234613 | 25.09 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166207.D
Acq On : 20 Mar 2019 9:21 pm
Operator : edwardd
Sample : ICV7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 25 11:01:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166208.D
Acq On : 20 Mar 2019 9:50 pm
Operator : edwardd
Sample : ICV7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 21 14:12:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 14:10:37 2019
Response via : Initial Calibration

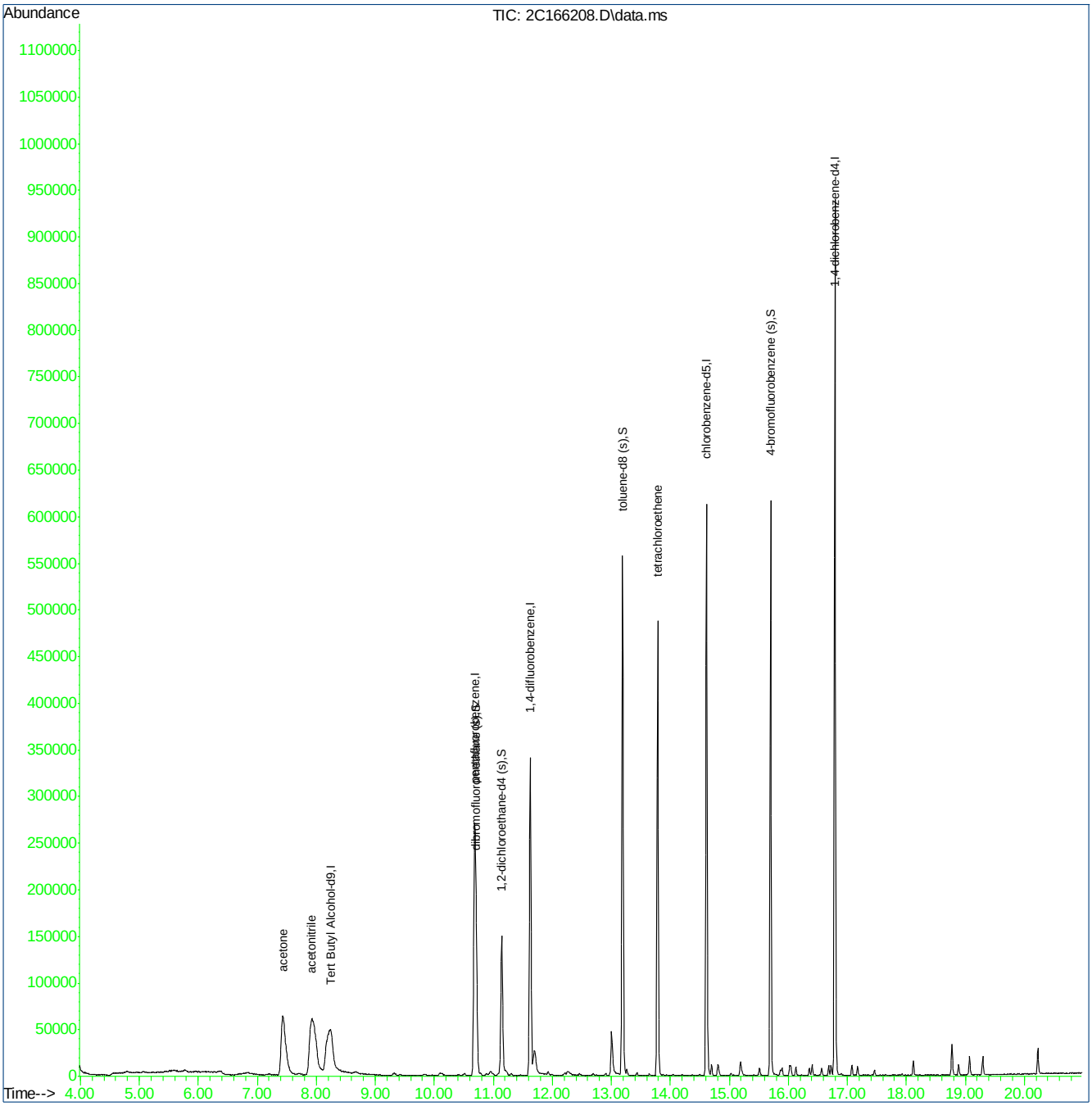
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.239 | 65 | 223345 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 10.682 | 168 | 209799 | 50.00 | ug/L | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 293721 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 302466 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 216133 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 98290 | 49.33 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.66% | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 119775 | 50.84 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 101.68% | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 354854 | 49.55 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.10% | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 160223 | 49.09 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.18% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 7.431 | 58 | 62199 | 206.03 | ug/L | 97 |
| 22) acetonitrile | 7.924 | 41 | 257019 | 493.68 | ug/L | 95 |
| 81) tetrachloroethene | 13.786 | 164 | 102125 | 45.53 | ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7441\
Data File : 2C166208.D
Acq On : 20 Mar 2019 9:50 pm
Operator : edwardd
Sample : ICV7441-50
Misc : MS32911,V2C7441,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 21 14:12:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Thu Mar 21 14:10:37 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167640.d
Acq On : 15 May 2019 6:35 am
Operator : thienn
Sample : CC7441-20 Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:45:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.228 | 65 | 235838 | 500.00 | ug/L | | -0.01 |
| 5) pentafluorobenzene | 10.682 | 168 | 271855 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 372819 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 373384 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 241663 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.708 | 113 | 124878 | 48.37 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.74% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.143 | 65 | 142210 | 47.55 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 95.10% | | | | |
| 75) toluene-d8 (s) | 13.188 | 98 | 428868 | 48.51 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.02% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 185885 | 50.94 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.88% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.365 | 59 | 56399 | 92.68 | ug/L | | 87 |
| 4) 1,4-dioxane | 12.255 | 88 | 15726 | 317.44 | ug/L | | 86 |
| 6) chlorodifluoromethane | 4.390 | 51 | 96735 | 16.27 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 4.348 | 85 | 107799 | 15.48 | ug/L | | 95 |
| 8) chloromethane | 4.799 | 50 | 114596 | 15.16 | ug/L | | 97 |
| 9) vinyl chloride | 5.072 | 62 | 109573 | 16.35 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.114 | 54 | 69529 | 16.18 | ug/L | | 96 |
| 11) bromomethane | 5.785 | 94 | 85387 | 15.95 | ug/L | | 96 |
| 12) chloroethane | 5.979 | 64 | 57339 | 16.27 | ug/L | | 97 |
| 13) trichlorofluoromethane | 6.519 | 101 | 123267 | 17.34 | ug/L | | 96 |
| 14) vinyl bromide | 6.372 | 106 | 80233 | 19.58 | ug/L | | 96 |
| 15) ethyl ether | 6.949 | 74 | 31453 | 21.09 | ug/L | # | 74 |
| 16) 2-chloropropane | 7.185 | 43 | 104391 | 17.57 | ug/L | | 97 |
| 17) acrolein | 7.211 | 56 | 13545 | 17.19 | ug/L | | 98 |
| 18) freon 113 | 7.452 | 151 | 59952 | 17.48 | ug/L | | 95 |
| 19) 1,1-dichloroethene | 7.431 | 96 | 63914 | 19.80 | ug/L | | 93 |
| 20) acetone | 7.447 | 58 | 30577 | 78.16 | ug/L | | 92 |
| 21) iodomethane | 7.709 | 142 | 116927 | 20.03 | ug/L | | 99 |
| 22) acetonitrile | 7.929 | 41 | 102433 | 151.84 | ug/L | | 99 |
| 23) carbon disulfide | 7.877 | 76 | 193208 | 19.19 | ug/L | | 96 |
| 24) methylene chloride | 8.244 | 84 | 71089 | 19.56 | ug/L | | 90 |
| 25) methyl acetate | 7.966 | 43 | 54204 | 16.88 | ug/L | | 93 |
| 26) methyl tert butyl ether | 8.648 | 73 | 191925 | 18.21 | ug/L | | 100 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 60193 | 20.34 | ug/L | | 94 |
| 28) hexane | 9.078 | 56 | 37238 | 16.61 | ug/L | | 97 |
| 29) di-isopropyl ether | 9.319 | 45 | 190811 | 17.63 | ug/L | | 97 |
| 30) 1,1-dichloroethane | 9.319 | 63 | 102781 | 19.66 | ug/L | | 100 |
| 31) chloroprene | 9.429 | 53 | 81084 | 18.92 | ug/L | | 96 |
| 32) acrylonitrile | 8.569 | 53 | 30636 | 20.51 | ug/L | | 96 |
| 33) vinyl acetate | 9.256 | 86 | 11471 | 19.99 | ug/L | # | 73 |
| 34) ethyl tert-butyl ether | 9.822 | 59 | 194001 | 18.34 | ug/L | | 99 |
| 35) 2-butanone | 10.027 | 72 | 37518 | 80.48 | ug/L | # | 88 |
| 36) ethyl acetate | 10.048 | 45 | 10013 | 17.74 | ug/L | # | 72 |
| 37) 2,2-dichloropropane | 10.137 | 77 | 94575 | 19.23 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 10.095 | 96 | 66200 | 19.27 | ug/L | | 95 |
| 39) propionitrile | 10.111 | 54 | 123315 | 182.74 | ug/L | | 94 |
| 40) bromochloromethane | 10.409 | 128 | 35982 | 21.18 | ug/L | | 88 |
| 41) tetrahydrofuran | 10.430 | 71 | 10636 | 19.95 | ug/L | | 91 |
| 42) chloroform | 10.509 | 83 | 107434 | 19.29 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167640.d
Acq On : 15 May 2019 6:35 am
Operator : thienn
Sample : CC7441-20 Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:45:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) t-butyl formate | 10.551 | 59 | 48433 | 17.43 | ug/L | | 95 |
| 45) methacrylonitrile | 10.320 | 67 | 27442 | 18.95 | ug/L | | 99 |
| 46) 1,1,1-trichloroethane | 10.782 | 97 | 102340 | 19.17 | ug/L | | 96 |
| 47) cyclohexane | 10.897 | 84 | 90336 | 18.09 | ug/L | | 96 |
| 48) 1,1-dichloropropene | 10.955 | 75 | 71951 | 19.56 | ug/L | | 96 |
| 49) carbon tetrachloride | 10.986 | 117 | 88134 | 21.39 | ug/L | | 99 |
| 53) n-butyl alcohol | 11.689 | 56 | 121858 | 707.23 | ug/L | | 92 |
| 54) tert-amyl alcohol | 11.102 | 55 | 22483 | 92.30 | ug/L | # | 68 |
| 55) iso-octane | 11.316 | 57 | 220867 | 18.63 | ug/L | | 97 |
| 56) benzene | 11.206 | 78 | 214947 | 20.35 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 45586 | 18.62 | ug/L | | 100 |
| 58) heptane | 11.474 | 57 | 35903 | 17.85 | ug/L | | 97 |
| 59) isopropyl acetate | 11.128 | 87 | 14358 | 20.37 | ug/L | # | 82 |
| 60) 1,2-dichloroethane | 11.238 | 62 | 80403 | 19.23 | ug/L | | 95 |
| 61) ethyl acrylate | 11.919 | 55 | 76343 | 18.74 | ug/L | | 98 |
| 62) trichloroethene | 11.930 | 95 | 59192 | 20.59 | ug/L | | 93 |
| 63) 2-nitropropane | 12.653 | 41 | 19458 | 21.19 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 180337 | 104.18 | ug/L | | 98 |
| 65) methyl methacrylate | 12.176 | 100 | 15282 | 19.50 | ug/L | # | 88 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 55863 | 18.89 | ug/L | | 99 |
| 67) dibromomethane | 12.313 | 93 | 41596 | 19.86 | ug/L | | 97 |
| 68) methylcyclohexane | 12.218 | 83 | 108416 | 18.55 | ug/L | | 97 |
| 69) bromodichloromethane | 12.459 | 83 | 79864 | 20.91 | ug/L | | 98 |
| 70) epichlorohydrin | 12.769 | 57 | 44233 | 94.48 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 91342 | 19.68 | ug/L | | 94 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 125029 | 78.35 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 13.005 | 55 | 87650 | 307.78 | ug/L | | 97 |
| 76) toluene | 13.262 | 92 | 131618 | 19.90 | ug/L | | 99 |
| 77) ethyl methacrylate | 13.429 | 69 | 72537 | 18.93 | ug/L | | 93 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 85126 | 20.56 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 48011 | 20.27 | ug/L | | 98 |
| 80) 2-hexanone | 13.796 | 58 | 117679 | 78.94 | ug/L | | 99 |
| 81) tetrachloroethene | 13.786 | 164 | 54135 | 19.55 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 82511 | 20.02 | ug/L | | 95 |
| 83) butyl acetate | 13.870 | 56 | 42206 | 19.66 | ug/L | | 90 |
| 84) dibromochloromethane | 14.048 | 129 | 65740 | 22.14 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 71315 | 18.27 | ug/L | | 100 |
| 86) n-butyl ether | 14.599 | 57 | 217251 | 18.19 | ug/L | | 98 |
| 87) chlorobenzene | 14.641 | 112 | 159406 | 20.38 | ug/L | | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.703 | 131 | 66260 | 20.86 | ug/L | | 100 |
| 89) ethylbenzene | 14.698 | 91 | 260566 | 19.45 | ug/L | | 98 |
| 90) m,p-xylene | 14.808 | 106 | 201623 | 39.14 | ug/L | | 98 |
| 91) o-xylene | 15.186 | 106 | 111455 | 19.21 | ug/L | | 98 |
| 92) styrene | 15.196 | 104 | 176243 | 19.75 | ug/L | | 98 |
| 93) butyl acrylate | 15.018 | 55 | 128620 | 17.96 | ug/L | | 98 |
| 94) bromoform | 15.411 | 173 | 55020 | 23.44 | ug/L | | 97 |
| 95) isopropylbenzene | 15.511 | 105 | 299428 | 19.41 | ug/L | | 100 |
| 96) cis-1,4-dichloro-2-butene | 15.542 | 75 | 34021 | 21.83 | ug/L | | 96 |
| 99) bromobenzene | 15.873 | 156 | 86158 | 21.48 | ug/L | | 99 |
| 100) 1,1,2,2-tetrachloroethane | 15.768 | 83 | 105872 | 21.45 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 15.799 | 88 | 12688 | 22.06 | ug/L | | 91 |
| 102) 1,2,3-trichloropropane | 15.846 | 110 | 26240 | 21.25 | ug/L | | 98 |
| 103) n-propylbenzene | 15.899 | 91 | 334521 | 20.89 | ug/L | | 99 |
| 104) 2-chlorotoluene | 16.019 | 126 | 77104 | 20.78 | ug/L | | 96 |
| 105) 4-chlorotoluene | 16.124 | 91 | 211403 | 20.60 | ug/L | | 97 |
| 106) 1,3,5-trimethylbenzene | 16.040 | 105 | 258040 | 20.60 | ug/L | | 98 |
| 107) tert-butylbenzene | 16.360 | 119 | 218172 | 20.26 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167640.d
Acq On : 15 May 2019 6:35 am
Operator : thienn
Sample : CC7441-20 Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:45:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 16.407 | 105 | 266683 | 20.94 | ug/L | 99 |
| 109) sec-butylbenzene | 16.565 | 105 | 347983 | 20.32 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.727 | 146 | 170983 | 20.65 | ug/L | 99 |
| 111) p-isopropyltoluene | 16.685 | 119 | 296574 | 20.45 | ug/L | 98 |
| 112) 1,4-dichlorobenzene | 16.816 | 146 | 167783 | 20.18 | ug/L | 98 |
| 113) 1,2-dichlorobenzene | 17.173 | 146 | 186154 | 20.29 | ug/L | 98 |
| 114) n-butylbenzene | 17.079 | 92 | 157177 | 20.53 | ug/L | 97 |
| 115) 1,2-dibromo-3-chloropr... | 17.923 | 75 | 27059 | 19.89 | ug/L | 99 |
| 116) 1,3,5-trichlorobenzene | 18.117 | 180 | 185968 | 20.74 | ug/L | 97 |
| 117) Nitrobenzene | 18.122 | 77 | 5666 | 37.94 | ug/L | 76 |
| 118) 1,2,4-trichlorobenzene | 18.772 | 180 | 161539 | 20.09 | ug/L | 98 |
| 119) 2-ethylhexyl acrylate | 18.777 | 55 | 13527 | 2.54 | ug/L | 94 |
| 120) hexachlorobutadiene | 18.887 | 225 | 85306 | 20.15 | ug/L | 100 |
| 121) naphthalene | 19.071 | 128 | 375466 | 19.40 | ug/L | 99 |
| 122) 1,2,3-trichlorobenzene | 19.296 | 180 | 147286 | 19.77 | ug/L | 97 |
| 123) hexachloroethane | 17.467 | 201 | 52205 | 21.22 | ug/L | 95 |
| 124) 2-methylnaphthalene | 20.230 | 142 | 82721 | 7.51 | ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

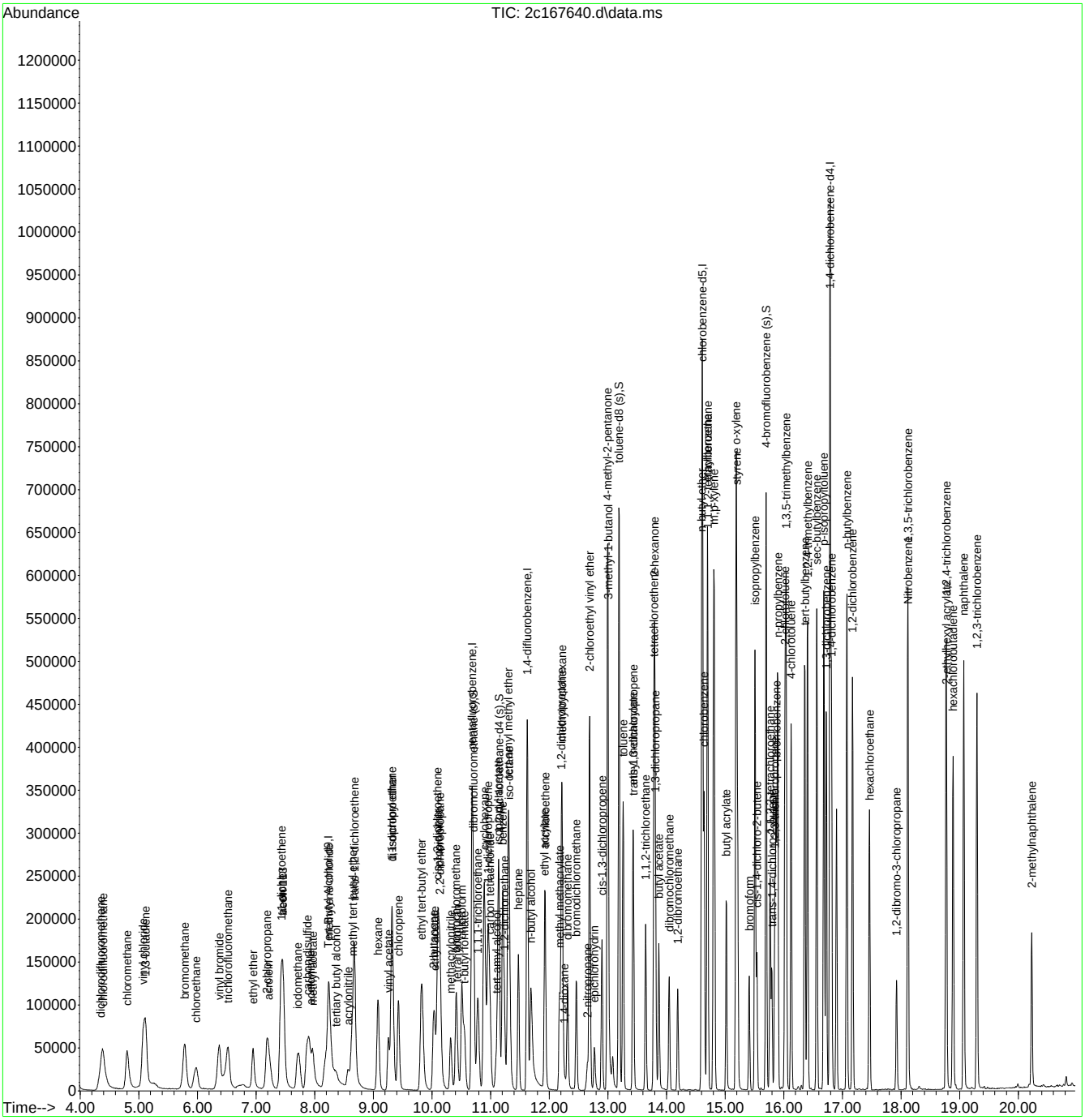
7.8.25

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-16-19\v2c7520\
Data File : 2c167640.d
Acq On : 15 May 2019 6:35 am
Operator : thienn
Sample : CC7441-20 Inst : Instrument #1
Misc : MS34682,V2C7520,5,,100,5,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Results File: M2C7441.RES
Quant Time: May 15 22:45:01 2019
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167675.D
Acq On : 16 May 2019 7:47 am
Operator : thienn
Sample : cc7441-50
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 11:27:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 8.228 | 65 | 257560 | 500.00 | ug/L | | -0.01 |
| 5) pentafluorobenzene | 10.687 | 168 | 262192 | 50.00 | ug/L | | 0.00 |
| 51) 1,4-difluorobenzene | 11.626 | 114 | 344714 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 14.614 | 117 | 331934 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.790 | 152 | 211495 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 10.714 | 113 | 127867 | 51.35 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.70% | | | | |
| 52) 1,2-dichloroethane-d4 (s) | 11.144 | 65 | 135477 | 48.99 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 81 - 124 | | Recovery = 97.98% | | | | |
| 75) toluene-d8 (s) | 13.194 | 98 | 388174 | 49.39 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.78% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.700 | 95 | 165735 | 51.90 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 103.80% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 8.354 | 59 | 155882 | 234.56 | ug/L | | 89 |
| 4) 1,4-dioxane | 12.255 | 88 | 69794 | 1290.02 | ug/L | | 93 |
| 6) chlorodifluoromethane | 4.391 | 51 | 226901 | 39.56 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 4.359 | 85 | 295883 | 44.06 | ug/L | | 99 |
| 8) chloromethane | 4.805 | 50 | 285907 | 39.22 | ug/L | | 100 |
| 9) vinyl chloride | 5.072 | 62 | 276579 | 42.79 | ug/L | | 96 |
| 10) 1,3-butadiene | 5.119 | 54 | 161235 | 38.90 | ug/L | | 97 |
| 11) bromomethane | 5.785 | 94 | 218727 | 42.35 | ug/L | | 98 |
| 12) chloroethane | 5.984 | 64 | 146223 | 43.02 | ug/L | | 98 |
| 13) trichlorofluoromethane | 6.524 | 101 | 335183 | 48.88 | ug/L | | 97 |
| 14) vinyl bromide | 6.372 | 106 | 208661 | 52.79 | ug/L | | 98 |
| 15) ethyl ether | 6.949 | 74 | 76186 | 52.97 | ug/L | # | 79 |
| 16) 2-chloropropane | 7.196 | 43 | 253662 | 44.26 | ug/L | | 97 |
| 17) acrolein | 7.206 | 56 | 34828 | 45.83 | ug/L | | 94 |
| 18) freon 113 | 7.458 | 151 | 144206 | 43.59 | ug/L | | 99 |
| 19) 1,1-dichloroethene | 7.437 | 96 | 147927 | 47.52 | ug/L | | 91 |
| 20) acetone | 7.452 | 58 | 95575 | 253.32 | ug/L | | 96 |
| 21) iodomethane | 7.725 | 142 | 286208 | 50.82 | ug/L | | 97 |
| 22) acetonitrile | 7.951 | 41 | 246886 | 379.45 | ug/L | | 98 |
| 23) carbon disulfide | 7.877 | 76 | 473825 | 48.80 | ug/L | | 96 |
| 24) methylene chloride | 8.244 | 84 | 169083 | 48.24 | ug/L | | 88 |
| 25) methyl acetate | 7.977 | 43 | 132227 | 42.70 | ug/L | | 98 |
| 26) methyl tert butyl ether | 8.653 | 73 | 448304 | 44.10 | ug/L | | 98 |
| 27) trans-1,2-dichloroethene | 8.679 | 96 | 144665 | 50.68 | ug/L | | 95 |
| 28) hexane | 9.083 | 56 | 91109 | 42.14 | ug/L | | 98 |
| 29) di-isopropyl ether | 9.324 | 45 | 450685 | 43.17 | ug/L | | 98 |
| 30) 1,1-dichloroethane | 9.319 | 63 | 243383 | 48.28 | ug/L | | 99 |
| 31) chloroprene | 9.429 | 53 | 196692 | 47.60 | ug/L | | 97 |
| 32) acrylonitrile | 8.574 | 53 | 72706 | 50.48 | ug/L | | 96 |
| 33) vinyl acetate | 9.261 | 86 | 25467 | 46.03 | ug/L | # | 85 |
| 34) ethyl tert-butyl ether | 9.828 | 59 | 455972 | 44.70 | ug/L | | 98 |
| 35) 2-butanone | 10.027 | 72 | 87068 | 193.66 | ug/L | | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167675.D
Acq On : 16 May 2019 7:47 am
Operator : thienn
Sample : cc7441-50
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 11:27:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) ethyl acetate | 10.053 | 45 | 23157 | 42.54 | ug/L | # | 84 |
| 37) 2,2-dichloropropane | 10.137 | 77 | 228155 | 48.10 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 10.100 | 96 | 160141 | 48.33 | ug/L | | 96 |
| 39) propionitrile | 10.111 | 54 | 271531 | 417.21 | ug/L | | 95 |
| 40) bromochloromethane | 10.415 | 128 | 85023 | 51.90 | ug/L | | 95 |
| 41) tetrahydrofuran | 10.441 | 71 | 23962 | 46.60 | ug/L | | 93 |
| 42) chloroform | 10.514 | 83 | 254135 | 47.31 | ug/L | | 98 |
| 43) t-butyl formate | 10.551 | 59 | 125131 | 46.68 | ug/L | | 99 |
| 45) methacrylonitrile | 10.320 | 67 | 61309 | 43.90 | ug/L | | 93 |
| 46) 1,1,1-trichloroethane | 10.787 | 97 | 249300 | 48.42 | ug/L | | 100 |
| 47) cyclohexane | 10.902 | 84 | 236344 | 49.07 | ug/L | | 85 |
| 48) 1,1-dichloropropene | 10.960 | 75 | 159809 | 45.05 | ug/L | | 97 |
| 49) carbon tetrachloride | 10.992 | 117 | 212863 | 53.58 | ug/L | | 99 |
| 53) n-butyl alcohol | 11.689 | 56 | 400776 | 2515.64 | ug/L | | 97 |
| 54) tert-amyl alcohol | 11.107 | 55 | 56824 | 252.30 | ug/L | # | 83 |
| 55) iso-octane | 11.317 | 57 | 526105 | 48.01 | ug/L | | 97 |
| 56) benzene | 11.206 | 78 | 480265 | 49.18 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 11.301 | 87 | 106757 | 47.16 | ug/L | | 98 |
| 58) heptane | 11.474 | 57 | 83425 | 44.85 | ug/L | | 96 |
| 59) isopropyl acetate | 11.133 | 87 | 31752 | 48.71 | ug/L | # | 84 |
| 60) 1,2-dichloroethane | 11.238 | 62 | 176442 | 45.65 | ug/L | | 95 |
| 61) ethyl acrylate | 11.920 | 55 | 161689 | 42.92 | ug/L | | 99 |
| 62) trichloroethene | 11.930 | 95 | 127911 | 48.12 | ug/L | | 97 |
| 63) 2-nitropropane | 12.654 | 41 | 43091 | 50.74 | ug/L | | 93 |
| 64) 2-chloroethyl vinyl ether | 12.690 | 63 | 371825 | 232.30 | ug/L | | 99 |
| 65) methyl methacrylate | 12.176 | 100 | 34288 | 47.33 | ug/L | # | 83 |
| 66) 1,2-dichloropropane | 12.208 | 63 | 121206 | 44.33 | ug/L | | 100 |
| 67) dibromomethane | 12.313 | 93 | 90381 | 46.68 | ug/L | | 98 |
| 68) methylcyclohexane | 12.224 | 83 | 263423 | 48.74 | ug/L | | 98 |
| 69) bromodichloromethane | 12.465 | 83 | 176583 | 49.99 | ug/L | | 100 |
| 70) epichlorohydrin | 12.774 | 57 | 93512 | 216.02 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 12.900 | 75 | 192890 | 44.96 | ug/L | | 95 |
| 72) 4-methyl-2-pentanone | 12.994 | 58 | 271428 | 183.96 | ug/L | | 97 |
| 73) 3-methyl-1-butanol | 13.000 | 55 | 262653 | 997.49 | ug/L | | 97 |
| 76) toluene | 13.262 | 92 | 281351 | 47.85 | ug/L | | 98 |
| 77) ethyl methacrylate | 13.424 | 69 | 158277 | 46.46 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 13.435 | 75 | 181323 | 49.27 | ug/L | | 91 |
| 79) 1,1,2-trichloroethane | 13.644 | 83 | 98035 | 46.56 | ug/L | | 97 |
| 80) 2-hexanone | 13.797 | 58 | 250859 | 189.29 | ug/L | | 98 |
| 81) tetrachloroethene | 13.786 | 164 | 114687 | 46.59 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.812 | 76 | 167505 | 45.72 | ug/L | | 96 |
| 83) butyl acetate | 13.870 | 56 | 88303 | 46.27 | ug/L | | 92 |
| 84) dibromochloromethane | 14.048 | 129 | 145351 | 55.06 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 14.190 | 107 | 152962 | 44.08 | ug/L | | 99 |
| 86) n-butyl ether | 14.599 | 57 | 475267 | 44.77 | ug/L | | 100 |
| 87) chlorobenzene | 14.641 | 112 | 330738 | 47.56 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.704 | 131 | 151812 | 53.77 | ug/L | | 99 |
| 89) ethylbenzene | 14.698 | 91 | 545233 | 45.78 | ug/L | | 99 |
| 90) m,p-xylene | 14.808 | 106 | 424446 | 92.69 | ug/L | | 98 |
| 91) o-xylene | 15.186 | 106 | 241116 | 46.76 | ug/L | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167675.D
Acq On : 16 May 2019 7:47 am
Operator : thienn
Sample : cc7441-50
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 11:27:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration

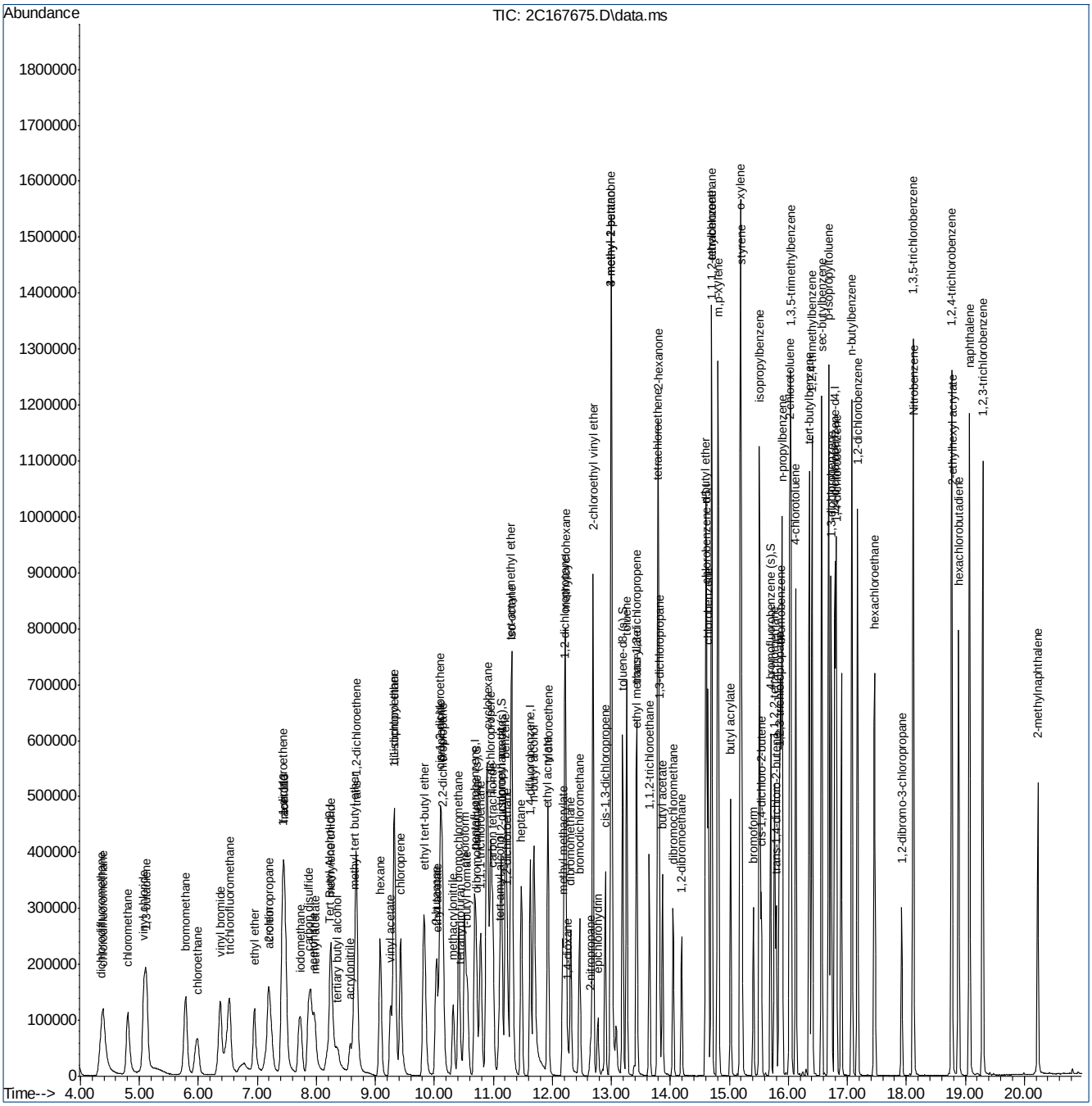
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) | styrene | 15.196 | 104 | 366493 | 46.20 | ug/L | 98 |
| 93) | butyl acrylate | 15.018 | 55 | 278685 | 43.78 | ug/L | 99 |
| 94) | bromoform | 15.411 | 173 | 125548 | 60.17 | ug/L | 98 |
| 95) | isopropylbenzene | 15.511 | 105 | 656595 | 47.89 | ug/L | 99 |
| 96) | cis-1,4-dichloro-2-butene | 15.542 | 75 | 73157 | 52.82 | ug/L | 96 |
| 99) | bromobenzene | 15.873 | 156 | 178577 | 50.88 | ug/L | 99 |
| 100) | 1,1,2,2-tetrachloroethane | 15.768 | 83 | 227323 | 52.62 | ug/L | 99 |
| 101) | trans-1,4-dichloro-2-b... | 15.799 | 88 | 27346 | 54.33 | ug/L | 95 |
| 102) | 1,2,3-trichloropropane | 15.852 | 110 | 54159 | 50.11 | ug/L | 99 |
| 103) | n-propylbenzene | 15.899 | 91 | 690909 | 49.29 | ug/L | 99 |
| 104) | 2-chlorotoluene | 16.025 | 126 | 164685 | 50.71 | ug/L | 99 |
| 105) | 4-chlorotoluene | 16.124 | 91 | 431178 | 48.02 | ug/L | 99 |
| 106) | 1,3,5-trimethylbenzene | 16.041 | 105 | 549835 | 50.15 | ug/L | 100 |
| 107) | tert-butylbenzene | 16.360 | 119 | 477252 | 50.64 | ug/L | 96 |
| 108) | 1,2,4-trimethylbenzene | 16.408 | 105 | 562016 | 50.42 | ug/L | 100 |
| 109) | sec-butylbenzene | 16.565 | 105 | 757608 | 50.54 | ug/L | 99 |
| 110) | 1,3-dichlorobenzene | 16.727 | 146 | 349812 | 48.27 | ug/L | 99 |
| 111) | p-isopropyltoluene | 16.685 | 119 | 644477 | 50.78 | ug/L | 99 |
| 112) | 1,4-dichlorobenzene | 16.817 | 146 | 350204 | 48.13 | ug/L | 100 |
| 113) | 1,2-dichlorobenzene | 17.173 | 146 | 388754 | 48.42 | ug/L | 98 |
| 114) | n-butylbenzene | 17.073 | 92 | 335864 | 50.12 | ug/L | 97 |
| 115) | 1,2-dibromo-3-chloropr... | 17.923 | 75 | 63979 | 53.74 | ug/L | 97 |
| 116) | 1,3,5-trichlorobenzene | 18.117 | 180 | 405135 | 51.62 | ug/L | 99 |
| 117) | Nitrobenzene | 18.122 | 77 | 17926 | 137.15 | ug/L | 79 |
| 118) | 1,2,4-trichlorobenzene | 18.772 | 180 | 383460 | 54.50 | ug/L | 99 |
| 119) | 2-ethylhexyl acrylate | 18.777 | 55 | 45049 | 9.68 | ug/L | 92 |
| 120) | hexachlorobutadiene | 18.888 | 225 | 180023 | 48.58 | ug/L | 99 |
| 121) | naphthalene | 19.071 | 128 | 927976 | 54.79 | ug/L | 99 |
| 122) | 1,2,3-trichlorobenzene | 19.296 | 180 | 356975 | 54.75 | ug/L | 100 |
| 123) | hexachloroethane | 17.461 | 201 | 124723 | 54.33 | ug/L | 94 |
| 124) | 2-methylnaphthalene | 20.230 | 142 | 248967 | 25.81 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2C7521\
Data File : 2C167675.D
Acq On : 16 May 2019 7:47 am
Operator : thienn
Sample : cc7441-50
Misc : MS32144,V2C7521,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 16 11:27:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2C7441.M
Quant Title : SW846 8260C, Column ZB624 60mX0.25mmX1.4um
QLast Update : Mon Mar 25 11:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58388.D
Acq On : 2 May 2019 5:49 pm
Operator : EddieH
Sample : ic2392-0.2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 08:42:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.939 | 65 | 139863 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 283229 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 424572 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 361749 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 165302 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 145353 | 53.59 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 107.18% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 132795 | 51.53 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 103.06% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 482657 | 50.72 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 101.44% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 163049 | 52.01 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 104.02% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 7) dichlorodifluoromethane | 1.570 | 85 | 700 | 0.19 | ug/L | | 87 |
| 9) vinyl chloride | 1.801 | 62 | 736 | 0.21 | ug/L | | 70 |
| 12) trichlorofluoromethane | 2.299 | 101 | 877 | 0.19 | ug/L | | 83 |
| 13) vinyl bromide | 2.257 | 106 | 535 | 0.21 | ug/L | | 80 |
| 14) 1,3-butadiene | 1.827 | 54 | 589 | 0.23 | ug/L | | 86 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 699 | 0.20 | ug/L | | 93 |
| 26) methyl tert butyl ether | 3.138 | 73 | 1520 | 0.20 | ug/L | | 88 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 412 | 0.17 | ug/L | | 84 |
| 30) ethyl tert-butyl ether | 3.678 | 59 | 1388 | 0.19 | ug/L | | 92 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 926 | 0.21 | ug/L | | 87 |
| 32) chloroprene | 3.489 | 53 | 563 | 0.17 | ug/L | # | 69 |
| 38) cis-1,2-dichloroethene | 3.819 | 96 | 652 | 0.22 | ug/L | | 84 |
| 39) propionitrile | 3.840 | 54 | 878 | 1.99 | ug/L | | 91 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 744 | 0.22 | ug/L | # | 57 |
| 55) benzene | 4.438 | 78 | 2059 | 0.20 | ug/L | | 83 |
| 61) trichloroethene | 4.900 | 95 | 545 | 0.19 | ug/L | # | 52 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 559 | 0.20 | ug/L | | 99 |
| 69) bromodichloromethane | 5.288 | 83 | 756 | 0.19 | ug/L | | 95 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 774 | 0.18 | ug/L | | 93 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 866 | 0.69 | ug/L | # | 75 |
| 76) toluene | 5.911 | 92 | 1380 | 0.21 | ug/L | | 91 |
| 81) tetrachloroethene | 6.341 | 164 | 523 | 0.20 | ug/L | # | 72 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 805 | 0.20 | ug/L | | 86 |
| 84) dibromochloromethane | 6.588 | 129 | 547 | 0.17 | ug/L | # | 56 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 589 | 0.19 | ug/L | | 93 |
| 86) n-butyl ether | 7.186 | 57 | 1888 | 0.19 | ug/L | | 86 |
| 87) chlorobenzene | 7.133 | 112 | 1481 | 0.20 | ug/L | | 90 |
| 88) 1,1,1,2-tetrachloroethane | 7.206 | 131 | 531 | 0.18 | ug/L | | 90 |
| 89) ethylbenzene | 7.212 | 91 | 2526 | 0.21 | ug/L | | 95 |
| 90) m,p-xylene | 7.327 | 106 | 1647 | 0.34 | ug/L | | 99 |
| 91) o-xylene | 7.678 | 91 | 1976 | 0.20 | ug/L | | 87 |
| 92) styrene | 7.694 | 104 | 1327 | 0.17 | ug/L | | 87 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58388.D
Acq On : 2 May 2019 5:49 pm
Operator : EddieH
Sample : ic2392-0.2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 08:42:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

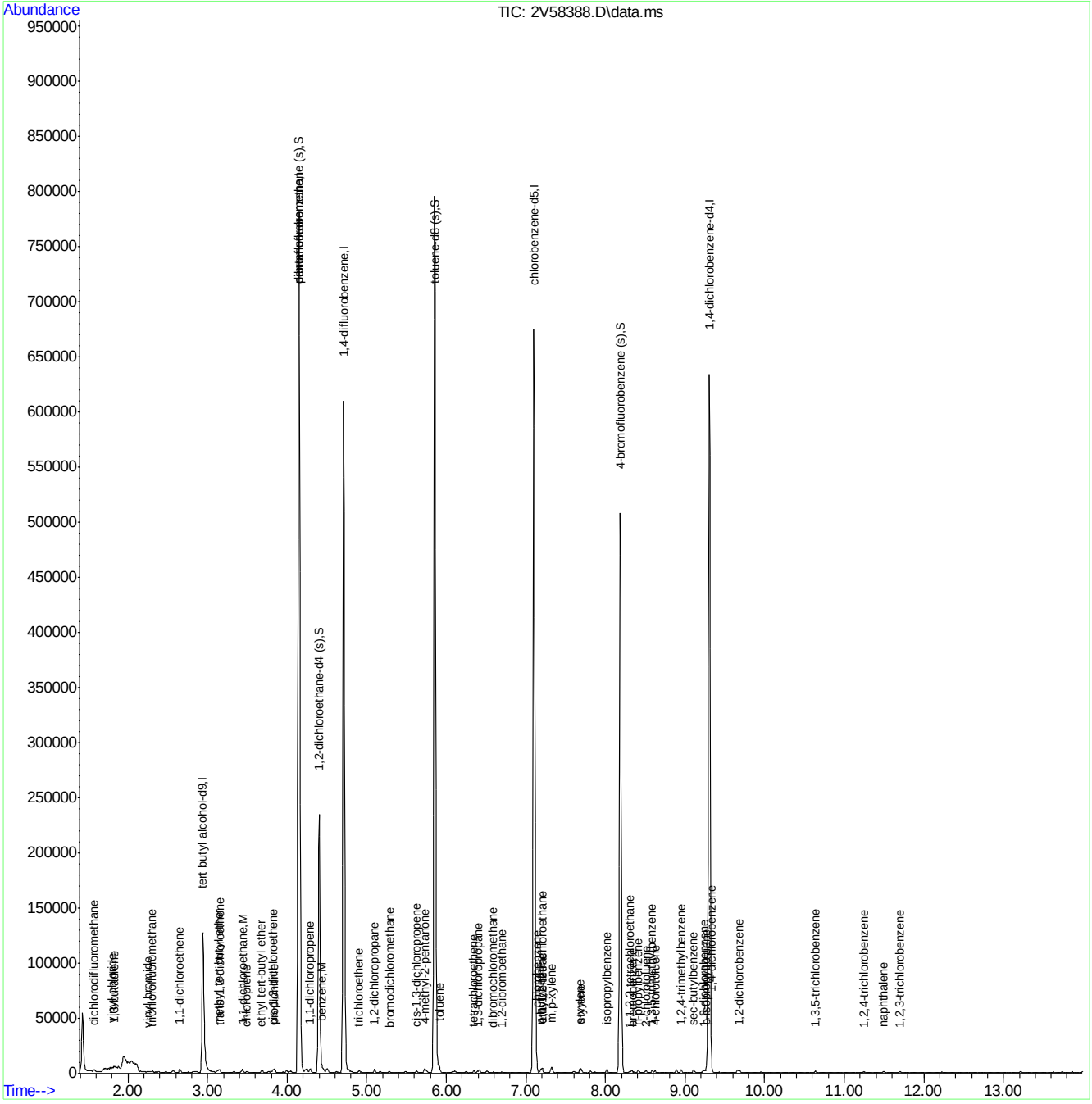
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 96) isopropylbenzene | 8.019 | 105 | 2231 | 0.19 | ug/L | | 94 |
| 100) bromobenzene | 8.334 | 156 | 599 | 0.19 | ug/L | # | 76 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 566 | 0.16 | ug/L | | 80 |
| 104) n-propylbenzene | 8.412 | 91 | 2535 | 0.19 | ug/L | | 90 |
| 105) 2-chlorotoluene | 8.512 | 126 | 547 | 0.19 | ug/L | # | 80 |
| 106) 4-chlorotoluene | 8.622 | 126 | 557 | 0.19 | ug/L | # | 81 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 1628 | 0.18 | ug/L | | 92 |
| 109) 1,2,4-trimethylbenzene | 8.952 | 105 | 1645 | 0.18 | ug/L | | 93 |
| 110) sec-butylbenzene | 9.104 | 105 | 2152 | 0.19 | ug/L | | 89 |
| 111) 1,3-dichlorobenzene | 9.236 | 146 | 1034 | 0.19 | ug/L | | 92 |
| 112) p-isopropyltoluene | 9.257 | 119 | 1742 | 0.18 | ug/L | | 93 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 1131 | 0.20 | ug/L | | 83 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 876 | 0.17 | ug/L | | 88 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 572 | 0.15 | ug/L | # | 78 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 486 | 0.15 | ug/L | | 88 |
| 123) naphthalene | 11.495 | 128 | 1403 | 0.16 | ug/L | | 83 |
| 124) 1,2,3-trichlorobenzene | 11.695 | 180 | 416 | 0.14 | ug/L | # | 73 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58388.D
Acq On : 2 May 2019 5:49 pm
Operator : EddieH
Sample : ic2392-0.2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 06 08:42:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58389.D
Acq On : 2 May 2019 6:15 pm
Operator : EddieH
Sample : ic2392-0.5
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 08:45:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 136334 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 280894 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 418328 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 359078 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 166537 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 143561 | 53.37 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 106.74% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 133546 | 52.59 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 105.18% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 474356 | 50.21 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 100.42% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 163475 | 51.76 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 103.52% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 6) chlorodifluoromethane | 1.581 | 51 | 1194 | 0.46 | ug/L | | 88 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 1287 | 0.36 | ug/L | | 97 |
| 8) chloromethane | 1.712 | 50 | 1898 | 0.52 | ug/L | | 94 |
| 9) vinyl chloride | 1.806 | 62 | 1603 | 0.46 | ug/L | | 84 |
| 10) bromomethane | 2.047 | 96 | 1496 | 0.51 | ug/L | | 95 |
| 11) chloroethane | 2.121 | 64 | 819 | 0.40 | ug/L | | 85 |
| 12) trichlorofluoromethane | 2.299 | 101 | 1676 | 0.36 | ug/L | | 81 |
| 13) vinyl bromide | 2.257 | 106 | 988 | 0.39 | ug/L | | 97 |
| 14) 1,3-butadiene | 1.832 | 54 | 1119 | 0.45 | ug/L | | 92 |
| 16) 2-chloropropane | 2.567 | 43 | 1876 | 0.55 | ug/L | | 80 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 1239 | 0.35 | ug/L | | 86 |
| 20) acetone | 2.656 | 58 | 630 | 2.15 | ug/L | # | 61 |
| 23) carbon disulfide | 2.818 | 76 | 2695 | 0.47 | ug/L | | 82 |
| 24) methylene chloride | 2.970 | 84 | 1224 | 0.48 | ug/L | | 85 |
| 26) methyl tert butyl ether | 3.133 | 73 | 2952 | 0.40 | ug/L | | 92 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 1047 | 0.43 | ug/L | | 85 |
| 29) di-isopropyl ether | 3.437 | 45 | 3177 | 0.44 | ug/L | | 90 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 3048 | 0.41 | ug/L | | 94 |
| 31) 1,1-dichloroethane | 3.447 | 63 | 1742 | 0.40 | ug/L | | 92 |
| 32) chloroprene | 3.495 | 53 | 1282 | 0.39 | ug/L | | 94 |
| 37) 2,2-dichloropropane | 3.841 | 77 | 1632 | 0.44 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 3.830 | 96 | 1324 | 0.46 | ug/L | # | 72 |
| 39) propionitrile | 3.846 | 54 | 1604 | 3.66 | ug/L | # | 48 |
| 41) bromochloromethane | 3.987 | 128 | 638 | 0.43 | ug/L | # | 71 |
| 43) chloroform | 4.040 | 83 | 2428 | 0.51 | ug/L | | 90 |
| 46) 1,1,1-trichloroethane | 4.187 | 97 | 1835 | 0.44 | ug/L | | 74 |
| 47) cyclohexane | 4.239 | 84 | 1339 | 0.37 | ug/L | # | 71 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 1456 | 0.43 | ug/L | | 93 |
| 49) carbon tetrachloride | 4.291 | 119 | 1359 | 0.38 | ug/L | # | 77 |
| 55) benzene | 4.433 | 78 | 3928 | 0.39 | ug/L | | 97 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 2048 | 0.56 | ug/L | | 88 |
| 61) trichloroethene | 4.900 | 95 | 1128 | 0.40 | ug/L | # | 67 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58389.D
Acq On : 2 May 2019 6:15 pm
Operator : EddieH
Sample : ic2392-0.5
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 08:45:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

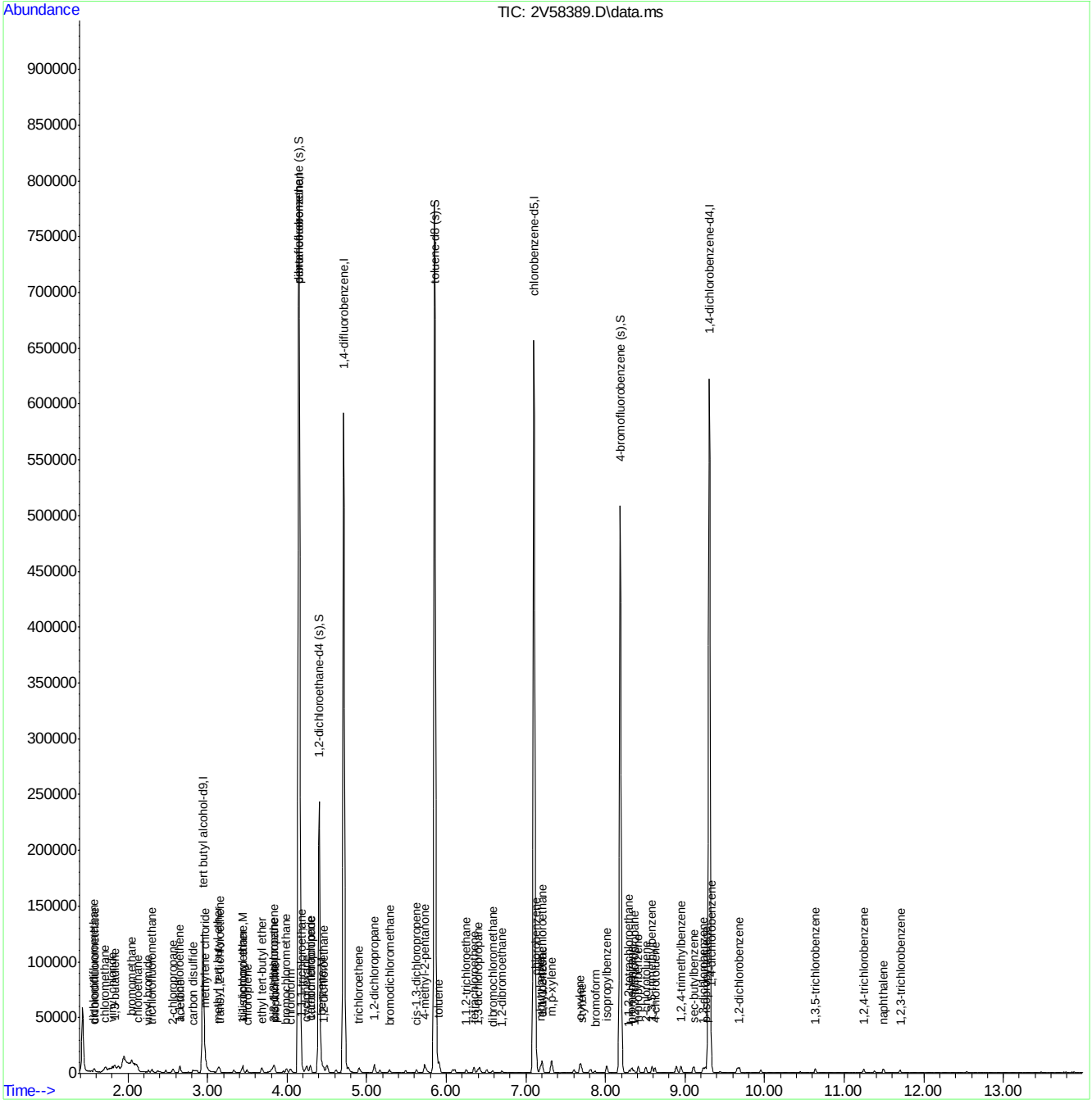
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 66) | 1,2-dichloropropane | 5.099 | 63 | 1008 | 0.37 | ug/L | | 79 |
| 69) | bromodichloromethane | 5.288 | 83 | 1483 | 0.39 | ug/L | | 92 |
| 71) | cis-1,3-dichloropropene | 5.628 | 75 | 1598 | 0.38 | ug/L | | 90 |
| 72) | 4-methyl-2-pentanone | 5.728 | 58 | 1627 | 1.31 | ug/L | | 97 |
| 76) | toluene | 5.906 | 92 | 2715 | 0.42 | ug/L | | 86 |
| 79) | 1,1,2-trichloroethane | 6.252 | 83 | 866 | 0.39 | ug/L | | 81 |
| 81) | tetrachloroethene | 6.347 | 164 | 1123 | 0.44 | ug/L | | 88 |
| 82) | 1,3-dichloropropane | 6.394 | 76 | 1558 | 0.39 | ug/L | | 88 |
| 84) | dibromochloromethane | 6.583 | 129 | 1135 | 0.35 | ug/L | # | 71 |
| 85) | 1,2-dibromoethane | 6.698 | 107 | 1106 | 0.35 | ug/L | | 90 |
| 86) | n-butyl ether | 7.186 | 57 | 3764 | 0.39 | ug/L | | 92 |
| 87) | chlorobenzene | 7.128 | 112 | 2886 | 0.39 | ug/L | | 88 |
| 88) | 1,1,1,2-tetrachloroethane | 7.201 | 131 | 1043 | 0.36 | ug/L | | 95 |
| 89) | ethylbenzene | 7.207 | 91 | 4617 | 0.38 | ug/L | | 95 |
| 90) | m,p-xylene | 7.322 | 106 | 3744 | 0.78 | ug/L | | 92 |
| 91) | o-xylene | 7.678 | 91 | 3854 | 0.40 | ug/L | | 96 |
| 92) | styrene | 7.699 | 104 | 2811 | 0.36 | ug/L | | 94 |
| 95) | bromoform | 7.872 | 173 | 832 | 0.35 | ug/L | | 91 |
| 96) | isopropylbenzene | 8.014 | 105 | 4293 | 0.36 | ug/L | | 96 |
| 100) | bromobenzene | 8.329 | 156 | 1140 | 0.36 | ug/L | | 92 |
| 101) | 1,1,2,2-tetrachloroethane | 8.297 | 83 | 1254 | 0.35 | ug/L | | 93 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 366 | 0.35 | ug/L | | 91 |
| 104) | n-propylbenzene | 8.412 | 91 | 4873 | 0.37 | ug/L | | 95 |
| 105) | 2-chlorotoluene | 8.507 | 126 | 1069 | 0.37 | ug/L | | 89 |
| 106) | 4-chlorotoluene | 8.622 | 126 | 1069 | 0.37 | ug/L | | 97 |
| 107) | 1,3,5-trimethylbenzene | 8.586 | 105 | 3516 | 0.38 | ug/L | | 96 |
| 109) | 1,2,4-trimethylbenzene | 8.947 | 105 | 3578 | 0.38 | ug/L | | 98 |
| 110) | sec-butylbenzene | 9.115 | 105 | 4184 | 0.36 | ug/L | | 87 |
| 111) | 1,3-dichlorobenzene | 9.230 | 146 | 2092 | 0.38 | ug/L | | 96 |
| 112) | p-isopropyltoluene | 9.257 | 119 | 3410 | 0.35 | ug/L | | 93 |
| 113) | 1,4-dichlorobenzene | 9.330 | 146 | 2457 | 0.44 | ug/L | | 89 |
| 114) | 1,2-dichlorobenzene | 9.681 | 146 | 1943 | 0.36 | ug/L | | 95 |
| 120) | 1,3,5-trichlorobenzene | 10.641 | 180 | 1506 | 0.39 | ug/L | | 93 |
| 121) | 1,2,4-trichlorobenzene | 11.244 | 180 | 1143 | 0.35 | ug/L | | 96 |
| 123) | naphthalene | 11.495 | 128 | 3048 | 0.35 | ug/L | | 94 |
| 124) | 1,2,3-trichlorobenzene | 11.705 | 180 | 1040 | 0.35 | ug/L | | 84 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58389.D
Acq On : 2 May 2019 6:15 pm
Operator : EddieH
Sample : ic2392-0.5
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 08:45:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58390.D
Acq On : 2 May 2019 6:40 pm
Operator : EddieH
Sample : ic2392-1
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 08:50:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 131436 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 261032 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 386697 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 335200 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 154492 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 132020 | 52.81 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 105.62% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 125073 | 53.28 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 106.56% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 440743 | 49.98 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 99.96% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 152315 | 51.99 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 103.98% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 2569 | 84.43 | ug/L | | 90 |
| 3) tertiary butyl alcohol | 2.997 | 59 | 3247 | 3.54 | ug/L | | 80 |
| 6) chlorodifluoromethane | 1.581 | 51 | 2269 | 0.93 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 2992 | 0.89 | ug/L | | 98 |
| 8) chloromethane | 1.717 | 50 | 3548 | 1.05 | ug/L | | 93 |
| 9) vinyl chloride | 1.801 | 62 | 2794 | 0.86 | ug/L | | 91 |
| 10) bromomethane | 2.047 | 96 | 2641 | 0.97 | ug/L | | 87 |
| 11) chloroethane | 2.121 | 64 | 1818 | 0.95 | ug/L | | 91 |
| 12) trichlorofluoromethane | 2.299 | 101 | 3579 | 0.83 | ug/L | | 87 |
| 13) vinyl bromide | 2.257 | 106 | 1975 | 0.85 | ug/L | | 92 |
| 14) 1,3-butadiene | 1.833 | 54 | 2227 | 0.96 | ug/L | | 91 |
| 15) ethyl ether | 2.472 | 74 | 1230 | 0.95 | ug/L | # | 72 |
| 16) 2-chloropropane | 2.567 | 43 | 3387 | 1.06 | ug/L | | 97 |
| 18) freon 113 | 2.645 | 151 | 1451 | 0.79 | ug/L | | 89 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 2795 | 0.85 | ug/L | | 96 |
| 20) acetone | 2.661 | 58 | 992 | 3.64 | ug/L | # | 75 |
| 23) carbon disulfide | 2.823 | 76 | 4939 | 0.92 | ug/L | | 96 |
| 24) methylene chloride | 2.970 | 84 | 2339 | 0.99 | ug/L | | 88 |
| 26) methyl tert butyl ether | 3.138 | 73 | 6102 | 0.89 | ug/L | | 95 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 2092 | 0.92 | ug/L | | 86 |
| 28) hexane | 3.332 | 56 | 1118 | 0.82 | ug/L | # | 75 |
| 29) di-isopropyl ether | 3.437 | 45 | 5781 | 0.87 | ug/L | | 97 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 5637 | 0.82 | ug/L | | 95 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 3571 | 0.89 | ug/L | | 99 |
| 32) chloroprene | 3.495 | 53 | 2660 | 0.87 | ug/L | | 88 |
| 33) acrylonitrile | 3.112 | 53 | 779 | 0.82 | ug/L | | 89 |
| 36) 2-butanone | 3.799 | 72 | 1091 | 3.13 | ug/L | # | 82 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 3031 | 0.88 | ug/L | | 91 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 2390 | 0.89 | ug/L | | 81 |
| 39) propionitrile | 3.841 | 54 | 3283 | 8.06 | ug/L | | 93 |
| 41) bromochloromethane | 3.993 | 128 | 1154 | 0.83 | ug/L | # | 73 |
| 43) chloroform | 4.040 | 83 | 4260 | 0.97 | ug/L | | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58390.D
Acq On : 2 May 2019 6:40 pm
Operator : EddieH
Sample : ic2392-1
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 08:50:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 45) methacrylonitrile | 3.956 | 67 | 969 | 0.86 ug/L # | 53 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 3783 | 0.98 ug/L | 93 |
| 47) cyclohexane | 4.239 | 84 | 3046 | 0.90 ug/L # | 80 |
| 48) 1,1-dichloropropene | 4.292 | 75 | 2703 | 0.85 ug/L | 94 |
| 49) carbon tetrachloride | 4.297 | 119 | 2803 | 0.84 ug/L | 92 |
| 55) benzene | 4.433 | 78 | 8228 | 0.89 ug/L | 96 |
| 56) tert-amyl methyl ether | 4.501 | 73 | 5449 | 0.73 ug/L | 94 |
| 57) iso-octane | 4.501 | 57 | 4691 | 0.74 ug/L | 90 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 3557 | 1.06 ug/L | 88 |
| 61) trichloroethene | 4.900 | 95 | 2292 | 0.88 ug/L | 89 |
| 62) ethyl acrylate | 4.926 | 55 | 2580 | 0.82 ug/L | 95 |
| 65) methyl methacrylate | 5.104 | 100 | 528 | 0.82 ug/L # | 51 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 2171 | 0.87 ug/L | 95 |
| 67) methylcyclohexane | 5.088 | 83 | 2841 | 0.78 ug/L | 86 |
| 68) dibromomethane | 5.162 | 93 | 1367 | 0.75 ug/L | 95 |
| 69) bromodichloromethane | 5.282 | 83 | 2987 | 0.84 ug/L | 90 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 3026 | 0.78 ug/L | 94 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 3427 | 2.98 ug/L | 91 |
| 76) toluene | 5.912 | 92 | 5138 | 0.84 ug/L # | 84 |
| 77) ethyl methacrylate | 6.111 | 69 | 2523 | 0.76 ug/L | 94 |
| 78) trans-1,3-dichloropropene | 6.085 | 75 | 2396 | 0.67 ug/L | 87 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 1695 | 0.82 ug/L | 96 |
| 80) 2-hexanone | 6.420 | 58 | 3477 | 3.02 ug/L | 97 |
| 81) tetrachloroethene | 6.347 | 164 | 2196 | 0.91 ug/L | 94 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 3154 | 0.84 ug/L | 90 |
| 83) butyl acetate | 6.504 | 56 | 1324 | 0.74 ug/L | 85 |
| 84) dibromochloromethane | 6.583 | 129 | 2250 | 0.74 ug/L | 97 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 2137 | 0.73 ug/L | 90 |
| 86) n-butyl ether | 7.180 | 57 | 7119 | 0.78 ug/L | 96 |
| 87) chlorobenzene | 7.128 | 112 | 5941 | 0.86 ug/L | 92 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 2001 | 0.74 ug/L | 99 |
| 89) ethylbenzene | 7.207 | 91 | 9398 | 0.82 ug/L | 97 |
| 90) m,p-xylene | 7.322 | 106 | 7126 | 1.59 ug/L | 96 |
| 91) o-xylene | 7.679 | 91 | 7587 | 0.84 ug/L | 92 |
| 92) styrene | 7.694 | 104 | 5255 | 0.71 ug/L | 93 |
| 94) n-amyl acetate | 7.815 | 70 | 1318 | 0.68 ug/L | 89 |
| 95) bromoform | 7.867 | 173 | 1537 | 0.70 ug/L | 94 |
| 96) isopropylbenzene | 8.019 | 105 | 8792 | 0.79 ug/L | 96 |
| 100) bromobenzene | 8.329 | 156 | 2388 | 0.82 ug/L | 93 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 2760 | 0.83 ug/L | 93 |
| 103) 1,2,3-trichloropropane | 8.365 | 110 | 792 | 0.82 ug/L | 90 |
| 104) n-propylbenzene | 8.413 | 91 | 9816 | 0.81 ug/L | 96 |
| 105) 2-chlorotoluene | 8.507 | 126 | 2256 | 0.83 ug/L # | 89 |
| 106) 4-chlorotoluene | 8.622 | 126 | 2191 | 0.81 ug/L | 95 |
| 107) 1,3,5-trimethylbenzene | 8.586 | 105 | 6607 | 0.76 ug/L | 99 |
| 109) 1,2,4-trimethylbenzene | 8.953 | 105 | 6989 | 0.80 ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 8183 | 0.77 ug/L | 94 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 4057 | 0.79 ug/L | 98 |
| 112) p-isopropyltoluene | 9.257 | 119 | 6834 | 0.76 ug/L | 94 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 4404 | 0.85 ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58390.D
Acq On : 2 May 2019 6:40 pm
Operator : EddieH
Sample : ic2392-1
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 08:50:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 3947 | 0.80 | ug/L | 97 |
| 115) benzyl chloride | 9.435 | 91 | 2406 | 0.54 | ug/L | 91 |
| 116) n-butylbenzene | 9.655 | 92 | 3188 | 0.76 | ug/L | 98 |
| 120) 1,3,5-trichlorobenzene | 10.636 | 180 | 2775 | 0.78 | ug/L | 91 |
| 121) 1,2,4-trichlorobenzene | 11.249 | 180 | 2367 | 0.78 | ug/L | 95 |
| 122) hexachlorobutadiene | 11.385 | 225 | 1071 | 0.88 | ug/L | 76 |
| 123) naphthalene | 11.495 | 128 | 6035 | 0.75 | ug/L | 89 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 2065 | 0.75 | ug/L | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

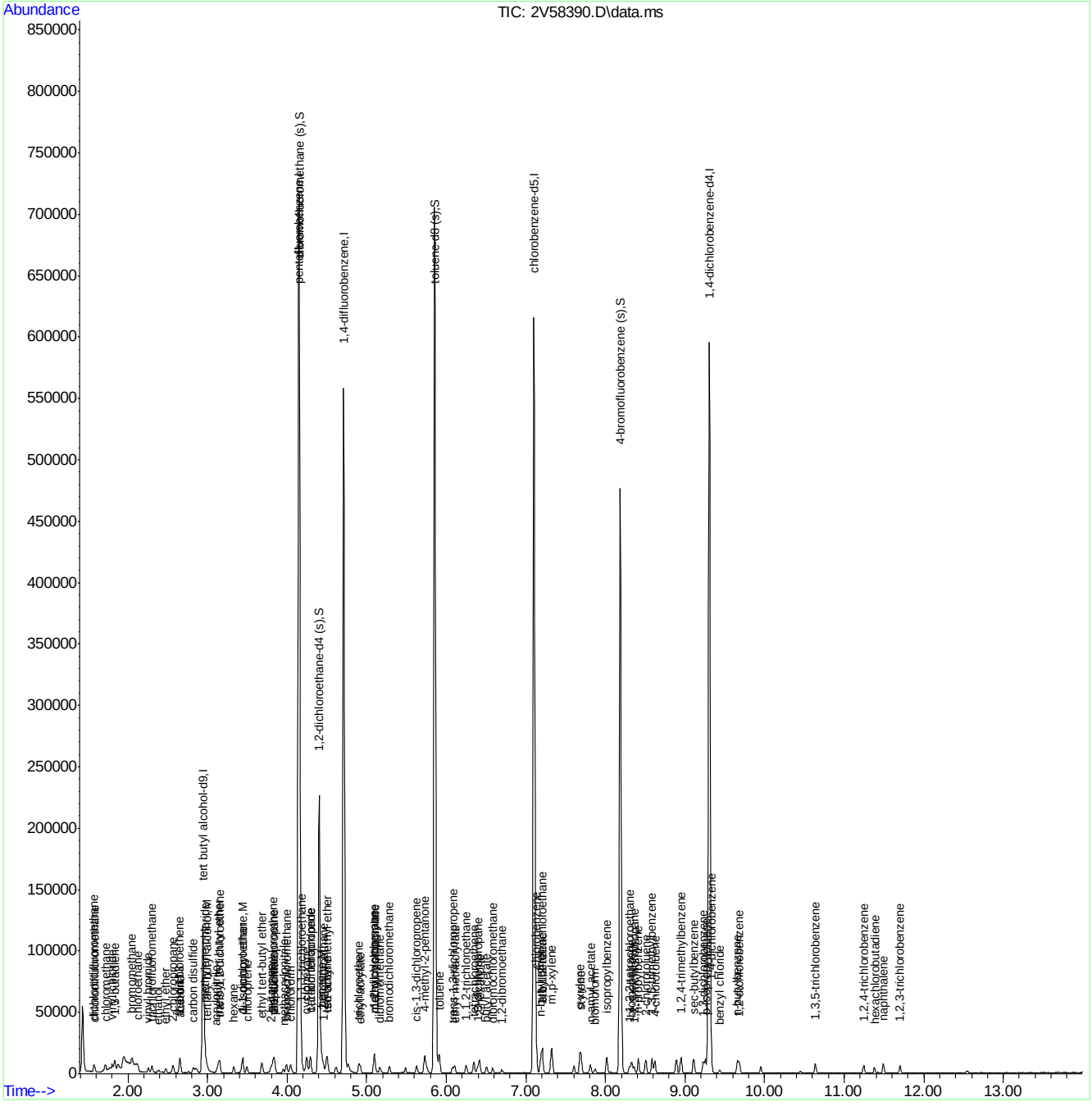
7.8.29

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58390.D
Acq On : 2 May 2019 6:40 pm
Operator : EddieH
Sample : ic2392-1
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 06 08:50:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Fri May 03 08:58:38 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58391.D
Acq On : 2 May 2019 7:06 pm
Operator : EddieH
Sample : ic2392-2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 08:51:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 126831 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 251877 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 372656 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 318884 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 145789 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 126543 | 50.89 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 101.78% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 117568 | 50.45 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 100.90% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 419397 | 49.93 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 99.86% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 144349 | 51.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 102.14% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 5429 | 198.02 | ug/L | 95 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 6741 | 8.80 | ug/L | 86 |
| 4) 1,4-dioxane | 5.146 | 88 | 1456 | 40.63 | ug/L | 94 |
| 6) chlorodifluoromethane | 1.581 | 51 | 4714 | 2.02 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 6412 | 2.07 | ug/L | 95 |
| 8) chloromethane | 1.717 | 50 | 6132 | 1.93 | ug/L | 88 |
| 9) vinyl chloride | 1.801 | 62 | 5927 | 1.98 | ug/L | 93 |
| 10) bromomethane | 2.047 | 96 | 4896 | 1.92 | ug/L | 93 |
| 11) chloroethane | 2.121 | 64 | 3514 | 2.00 | ug/L | 95 |
| 12) trichlorofluoromethane | 2.299 | 101 | 7463 | 1.94 | ug/L | 99 |
| 13) vinyl bromide | 2.257 | 106 | 4173 | 1.97 | ug/L | 95 |
| 14) 1,3-butadiene | 1.832 | 54 | 5135 | 2.25 | ug/L | 96 |
| 15) ethyl ether | 2.477 | 74 | 2240 | 1.85 | ug/L | 93 |
| 16) 2-chloropropane | 2.566 | 43 | 5963 | 1.92 | ug/L | 95 |
| 17) acrolein | 2.566 | 56 | 1017 | 2.02 | ug/L | 67 |
| 18) freon 113 | 2.645 | 151 | 3712 | 2.13 | ug/L | 89 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 5906 | 1.99 | ug/L | 93 |
| 20) acetone | 2.656 | 58 | 2148 | 8.29 | ug/L | 100 |
| 21) acetonitrile | 2.849 | 41 | 6233 | 22.05 | ug/L | 96 |
| 22) iodomethane | 2.760 | 142 | 2047 | 2.94 | ug/L | 79 |
| 23) carbon disulfide | 2.818 | 76 | 10112 | 2.00 | ug/L | 95 |
| 24) methylene chloride | 2.970 | 84 | 4284 | 1.90 | ug/L | 90 |
| 25) methyl acetate | 2.860 | 43 | 3714 | 2.02 | ug/L | 98 |
| 26) methyl tert butyl ether | 3.138 | 73 | 11371 | 1.81 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 3997 | 1.93 | ug/L | 93 |
| 28) hexane | 3.332 | 56 | 2486 | 1.94 | ug/L | 95 |
| 29) di-isopropyl ether | 3.437 | 45 | 11370 | 1.86 | ug/L | 100 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 11109 | 1.81 | ug/L | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 7247 | 1.94 | ug/L | 92 |
| 32) chloroprene | 3.489 | 53 | 5337 | 1.95 | ug/L | 86 |
| 33) acrylonitrile | 3.112 | 53 | 1522 | 1.78 | ug/L | 87 |
| 36) 2-butanone | 3.793 | 72 | 2188 | 7.10 | ug/L # | 80 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58391.D
Acq On : 2 May 2019 7:06 pm
Operator : EddieH
Sample : ic2392-2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 08:51:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.835 | 77 | 6008 | 1.90 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 4832 | 1.91 | ug/L | | 99 |
| 39) propionitrile | 3.840 | 54 | 6970 | 19.28 | ug/L | | 93 |
| 40) methyl acrylate | 3.856 | 85 | 667 | 1.92 | ug/L | # | 29 |
| 41) bromochloromethane | 3.987 | 128 | 2280 | 1.85 | ug/L | | 95 |
| 42) tetrahydrofuran | 3.998 | 71 | 715 | 2.01 | ug/L | | 94 |
| 43) chloroform | 4.045 | 83 | 7845 | 1.88 | ug/L | | 99 |
| 45) methacrylonitrile | 3.945 | 67 | 1879 | 1.83 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 6976 | 1.92 | ug/L | | 77 |
| 47) cyclohexane | 4.244 | 84 | 6016 | 1.96 | ug/L | # | 89 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 5351 | 1.83 | ug/L | | 95 |
| 49) carbon tetrachloride | 4.297 | 119 | 5609 | 1.89 | ug/L | | 95 |
| 51) tert-amyl alcohol | 4.386 | 55 | 1192 | 9.89 | ug/L | # | 63 |
| 54) n-butyl alcohol | 4.768 | 56 | 7594 | 83.07 | ug/L | | 96 |
| 55) benzene | 4.438 | 78 | 15720 | 1.86 | ug/L | | 96 |
| 56) tert-amyl methyl ether | 4.501 | 73 | 11600 | 1.77 | ug/L | | 96 |
| 57) iso-octane | 4.501 | 57 | 11601 | 2.00 | ug/L | | 97 |
| 58) heptane | 4.616 | 57 | 2236 | 1.86 | ug/L | | 89 |
| 59) isopropyl acetate | 4.417 | 87 | 1043 | 1.75 | ug/L | # | 80 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 6373 | 1.94 | ug/L | | 97 |
| 61) trichloroethene | 4.900 | 95 | 4362 | 1.84 | ug/L | | 91 |
| 62) ethyl acrylate | 4.920 | 55 | 5264 | 1.83 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 5.487 | 63 | 2987 | 11.17 | ug/L | | 89 |
| 65) methyl methacrylate | 5.104 | 100 | 1092 | 1.92 | ug/L | # | 81 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 3918 | 1.75 | ug/L | | 85 |
| 67) methylcyclohexane | 5.088 | 83 | 6185 | 1.87 | ug/L | | 90 |
| 68) dibromomethane | 5.162 | 93 | 3116 | 1.90 | ug/L | # | 74 |
| 69) bromodichloromethane | 5.287 | 83 | 5977 | 1.87 | ug/L | | 94 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 6014 | 1.79 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 6864 | 7.06 | ug/L | | 97 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 2633 | 30.19 | ug/L | # | 77 |
| 76) toluene | 5.911 | 92 | 10037 | 1.84 | ug/L | # | 85 |
| 77) ethyl methacrylate | 6.105 | 69 | 4988 | 1.72 | ug/L | | 93 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 5363 | 1.75 | ug/L | | 97 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 3597 | 1.96 | ug/L | | 93 |
| 80) 2-hexanone | 6.420 | 58 | 6613 | 6.72 | ug/L | | 95 |
| 81) tetrachloroethene | 6.347 | 164 | 4393 | 1.99 | ug/L | | 91 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 6424 | 1.92 | ug/L | | 98 |
| 83) butyl acetate | 6.509 | 56 | 2875 | 1.84 | ug/L | | 95 |
| 84) dibromochloromethane | 6.583 | 129 | 4668 | 1.83 | ug/L | | 95 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 4582 | 1.82 | ug/L | | 97 |
| 86) n-butyl ether | 7.185 | 57 | 14230 | 1.81 | ug/L | | 100 |
| 87) chlorobenzene | 7.128 | 112 | 11129 | 1.81 | ug/L | | 93 |
| 88) 1,1,1,2-tetrachloroethane | 7.196 | 131 | 4010 | 1.74 | ug/L | | 93 |
| 89) ethylbenzene | 7.206 | 91 | 18307 | 1.82 | ug/L | | 99 |
| 90) m,p-xylene | 7.322 | 106 | 14572 | 3.76 | ug/L | | 89 |
| 91) o-xylene | 7.678 | 91 | 14383 | 1.79 | ug/L | | 97 |
| 92) styrene | 7.694 | 104 | 10505 | 1.72 | ug/L | | 94 |
| 93) butyl acrylate | 7.600 | 56 | 3240 | 1.57 | ug/L | # | 87 |
| 94) n-amyl acetate | 7.809 | 70 | 2889 | 1.75 | ug/L | | 87 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58391.D
Acq On : 2 May 2019 7:06 pm
Operator : EddieH
Sample : ic2392-2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 08:51:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

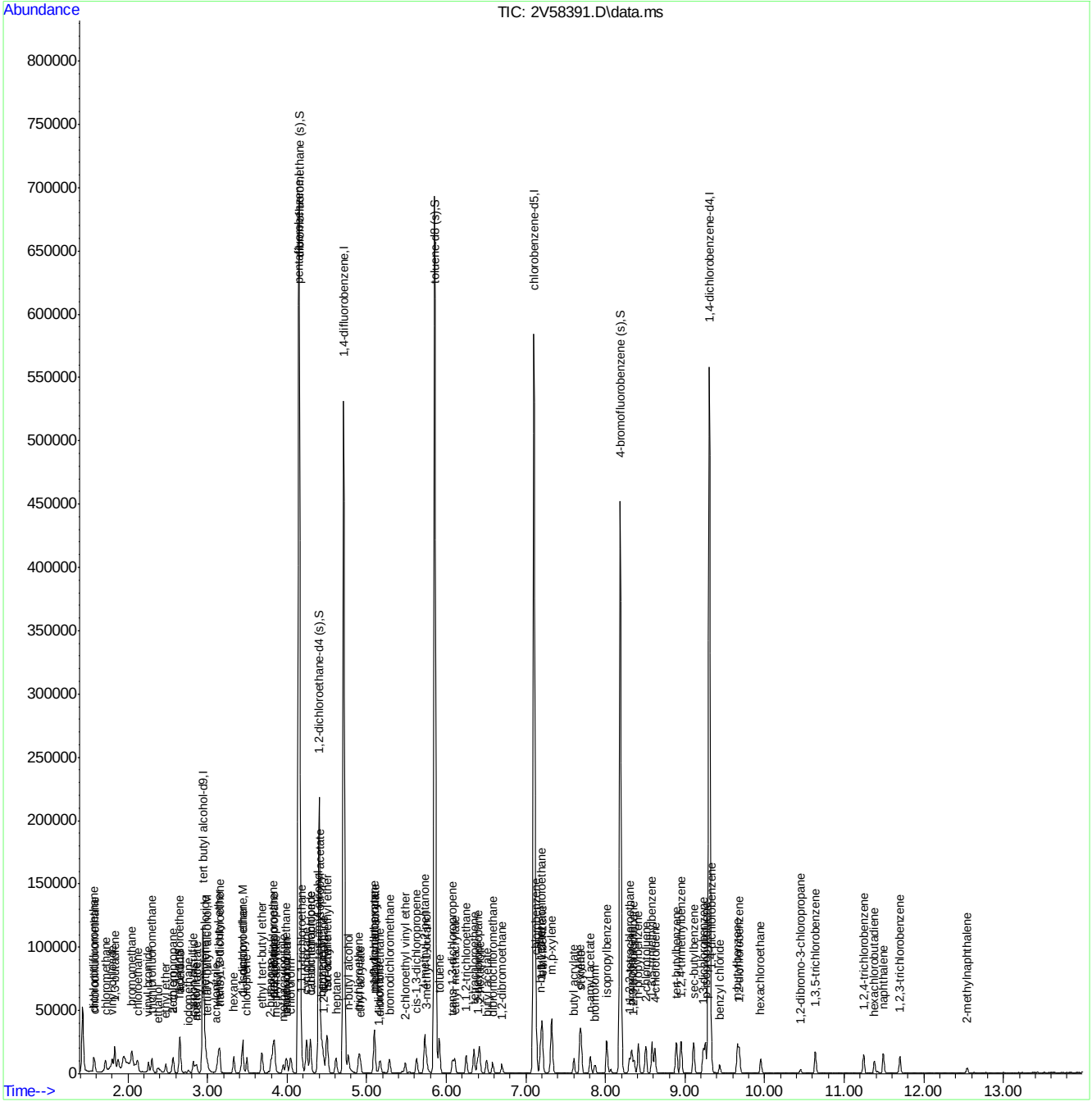
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 95) bromoform | 7.862 | 173 | 2990 | 1.65 ug/L | 86 |
| 96) isopropylbenzene | 8.019 | 105 | 17290 | 1.83 ug/L | 96 |
| 100) bromobenzene | 8.328 | 156 | 4831 | 1.89 ug/L | 94 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 5242 | 1.85 ug/L | 96 |
| 103) 1,2,3-trichloropropane | 8.355 | 110 | 1609 | 1.96 ug/L | 76 |
| 104) n-propylbenzene | 8.412 | 91 | 19599 | 1.86 ug/L | 100 |
| 105) 2-chlorotoluene | 8.507 | 126 | 4586 | 1.95 ug/L | 95 |
| 106) 4-chlorotoluene | 8.622 | 126 | 4220 | 1.82 ug/L | 86 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 13609 | 1.85 ug/L | 99 |
| 108) tert-butylbenzene | 8.889 | 134 | 2697 | 1.47 ug/L # | 1 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 14078 | 1.88 ug/L | 95 |
| 110) sec-butylbenzene | 9.110 | 105 | 16651 | 1.84 ug/L | 99 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 7979 | 1.81 ug/L | 95 |
| 112) p-isopropyltoluene | 9.256 | 119 | 13635 | 1.82 ug/L | 95 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 8587 | 1.86 ug/L | 97 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 7925 | 1.89 ug/L | 96 |
| 115) benzyl chloride | 9.435 | 91 | 5118 | 1.45 ug/L | 94 |
| 116) n-butylbenzene | 9.660 | 92 | 6062 | 1.68 ug/L | 93 |
| 117) hexachloroethane | 9.949 | 201 | 1872 | 1.59 ug/L | 96 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 1109 | 1.63 ug/L | 83 |
| 120) 1,3,5-trichlorobenzene | 10.635 | 180 | 5661 | 1.88 ug/L | 93 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 4560 | 1.81 ug/L | 97 |
| 122) hexachlorobutadiene | 11.380 | 225 | 1946 | 1.79 ug/L | 91 |
| 123) naphthalene | 11.490 | 128 | 12049 | 1.81 ug/L | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 4436 | 1.97 ug/L | 98 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 2088 | 0.82 ug/L # | 80 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58391.D
Acq On : 2 May 2019 7:06 pm
Operator : EddieH
Sample : ic2392-2
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 06 08:51:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58392.D
Acq On : 2 May 2019 7:32 pm
Operator : EddieH
Sample : ic2392-4
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 08:52:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 122785 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 242593 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 354698 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 301397 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 138544 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 118925 | 49.66 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 99.32% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 110440 | 49.79 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 99.58% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 397867 | 50.11 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 100.22% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 134849 | 50.20 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 100.40% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 10355 | 390.14 | ug/L | 96 |
| 3) tertiary butyl alcohol | 3.002 | 59 | 13855 | 18.68 | ug/L | 96 |
| 4) 1,4-dioxane | 5.146 | 88 | 3011 | 86.79 | ug/L | 93 |
| 6) chlorodifluoromethane | 1.586 | 51 | 9115 | 4.06 | ug/L | 94 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 12280 | 4.11 | ug/L | 96 |
| 8) chloromethane | 1.717 | 50 | 11545 | 3.76 | ug/L | 94 |
| 9) vinyl chloride | 1.801 | 62 | 10549 | 3.66 | ug/L | 96 |
| 10) bromomethane | 2.047 | 96 | 9313 | 3.79 | ug/L | 98 |
| 11) chloroethane | 2.121 | 64 | 6369 | 3.76 | ug/L | 93 |
| 12) trichlorofluoromethane | 2.299 | 101 | 14666 | 3.96 | ug/L | 91 |
| 13) vinyl bromide | 2.257 | 106 | 7421 | 3.64 | ug/L | 91 |
| 14) 1,3-butadiene | 1.833 | 54 | 8504 | 3.87 | ug/L | 96 |
| 15) ethyl ether | 2.477 | 74 | 4236 | 3.64 | ug/L | 92 |
| 16) 2-chloropropane | 2.567 | 43 | 11070 | 3.70 | ug/L | 94 |
| 17) acrolein | 2.577 | 56 | 1725 | 3.55 | ug/L | 73 |
| 18) freon 113 | 2.650 | 151 | 5998 | 3.58 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 11157 | 3.90 | ug/L | 96 |
| 20) acetone | 2.661 | 58 | 3989 | 15.98 | ug/L | 95 |
| 21) acetonitrile | 2.844 | 41 | 11162 | 41.00 | ug/L | 96 |
| 22) iodomethane | 2.766 | 142 | 4159 | 3.93 | ug/L | 94 |
| 23) carbon disulfide | 2.818 | 76 | 18473 | 3.80 | ug/L | 99 |
| 24) methylene chloride | 2.970 | 84 | 8378 | 3.85 | ug/L | 94 |
| 25) methyl acetate | 2.860 | 43 | 6724 | 3.79 | ug/L | 98 |
| 26) methyl tert butyl ether | 3.138 | 73 | 22854 | 3.78 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 7599 | 3.81 | ug/L | 91 |
| 28) hexane | 3.327 | 56 | 4344 | 3.52 | ug/L | 96 |
| 29) di-isopropyl ether | 3.442 | 45 | 21893 | 3.72 | ug/L | 96 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 22107 | 3.73 | ug/L | 94 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 13717 | 3.81 | ug/L | 99 |
| 32) chloroprene | 3.495 | 53 | 9873 | 3.75 | ug/L | 99 |
| 33) acrylonitrile | 3.112 | 53 | 3306 | 4.02 | ug/L | 94 |
| 35) ethyl acetate | 3.809 | 45 | 1178 | 3.53 | ug/L | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58392.D
Acq On : 2 May 2019 7:32 pm
Operator : EddieH
Sample : ic2392-4
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 08:52:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2-butanone | 3.799 | 72 | 4317 | 14.54 | ug/L | # | 89 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 11423 | 3.76 | ug/L | | 91 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 8775 | 3.61 | ug/L | | 99 |
| 39) propionitrile | 3.841 | 54 | 13464 | 38.67 | ug/L | | 91 |
| 40) methyl acrylate | 3.856 | 85 | 1127 | 3.36 | ug/L | # | 53 |
| 41) bromochloromethane | 3.987 | 128 | 4534 | 3.83 | ug/L | | 98 |
| 42) tetrahydrofuran | 3.998 | 71 | 1354 | 3.95 | ug/L | # | 80 |
| 43) chloroform | 4.045 | 83 | 15013 | 3.73 | ug/L | | 98 |
| 45) methacrylonitrile | 3.945 | 67 | 3813 | 3.86 | ug/L | | 93 |
| 46) 1,1,1-trichloroethane | 4.187 | 97 | 13393 | 3.82 | ug/L | | 99 |
| 47) cyclohexane | 4.239 | 84 | 11521 | 3.90 | ug/L | # | 78 |
| 48) 1,1-dichloropropene | 4.292 | 75 | 10455 | 3.72 | ug/L | | 94 |
| 49) carbon tetrachloride | 4.297 | 119 | 10433 | 3.64 | ug/L | | 94 |
| 50) isobutyl alcohol | 4.292 | 42 | 2809 | 37.40 | ug/L | | 87 |
| 51) tert-amyl alcohol | 4.381 | 55 | 2160 | 18.62 | ug/L | # | 64 |
| 54) n-butyl alcohol | 4.769 | 56 | 15288 | 175.70 | ug/L | | 95 |
| 55) benzene | 4.433 | 78 | 29967 | 3.73 | ug/L | | 96 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 22344 | 3.59 | ug/L | | 95 |
| 57) iso-octane | 4.501 | 57 | 19020 | 3.45 | ug/L | | 97 |
| 58) heptane | 4.611 | 57 | 3866 | 3.38 | ug/L | | 95 |
| 59) isopropyl acetate | 4.412 | 87 | 2034 | 3.58 | ug/L | # | 89 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 11417 | 3.65 | ug/L | | 96 |
| 61) trichloroethene | 4.905 | 95 | 8644 | 3.84 | ug/L | | 91 |
| 62) ethyl acrylate | 4.921 | 55 | 10434 | 3.80 | ug/L | | 98 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 7351 | 20.01 | ug/L | | 93 |
| 65) methyl methacrylate | 5.104 | 100 | 2067 | 3.82 | ug/L | | 93 |
| 66) 1,2-dichloropropane | 5.094 | 63 | 7816 | 3.67 | ug/L | | 92 |
| 67) methylcyclohexane | 5.094 | 83 | 10679 | 3.39 | ug/L | | 98 |
| 68) dibromomethane | 5.167 | 93 | 5581 | 3.58 | ug/L | | 93 |
| 69) bromodichloromethane | 5.288 | 83 | 11348 | 3.73 | ug/L | | 93 |
| 70) epichlorohydrin | 5.539 | 57 | 2345 | 15.93 | ug/L | | 71 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 11624 | 3.63 | ug/L | | 91 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 14185 | 15.32 | ug/L | | 94 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 5661 | 68.19 | ug/L | | 87 |
| 76) toluene | 5.912 | 92 | 19047 | 3.70 | ug/L | | 97 |
| 77) ethyl methacrylate | 6.106 | 69 | 10061 | 3.68 | ug/L | | 96 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 10529 | 3.64 | ug/L | | 96 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 6519 | 3.77 | ug/L | | 98 |
| 80) 2-hexanone | 6.415 | 58 | 13395 | 14.40 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 7532 | 3.61 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 11939 | 3.77 | ug/L | | 95 |
| 83) butyl acetate | 6.504 | 56 | 5465 | 3.70 | ug/L | | 87 |
| 84) dibromochloromethane | 6.583 | 129 | 8995 | 3.73 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 6.693 | 107 | 8986 | 3.78 | ug/L | | 85 |
| 86) n-butyl ether | 7.186 | 57 | 27027 | 3.63 | ug/L | | 100 |
| 87) chlorobenzene | 7.128 | 112 | 21447 | 3.70 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 7.196 | 131 | 8094 | 3.71 | ug/L | | 93 |
| 89) ethylbenzene | 7.207 | 91 | 35344 | 3.71 | ug/L | | 97 |
| 90) m,p-xylene | 7.322 | 106 | 27504 | 7.51 | ug/L | | 96 |
| 91) o-xylene | 7.678 | 91 | 28180 | 3.71 | ug/L | | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58392.D
Acq On : 2 May 2019 7:32 pm
Operator : EddieH
Sample : ic2392-4
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 08:52:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

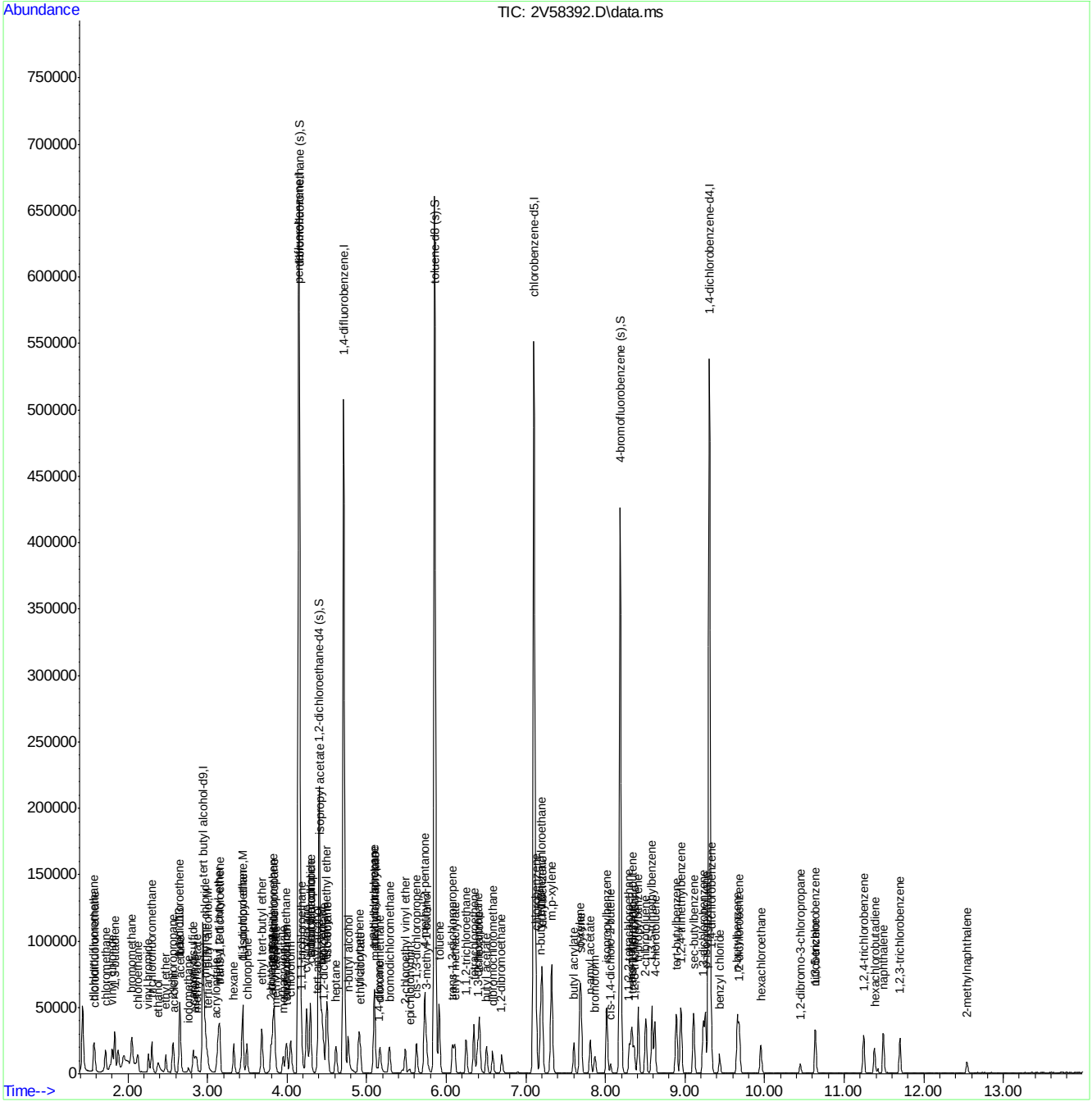
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 92) | styrene | 7.694 | 104 | 21077 | 3.64 | ug/L | | 97 |
| 93) | butyl acrylate | 7.600 | 56 | 6927 | 3.55 | ug/L | | 92 |
| 94) | n-amyl acetate | 7.810 | 70 | 5642 | 3.62 | ug/L | | 94 |
| 95) | bromoform | 7.867 | 173 | 6051 | 3.54 | ug/L | | 99 |
| 96) | isopropylbenzene | 8.019 | 105 | 32814 | 3.67 | ug/L | | 98 |
| 97) | cis-1,4-dichloro-2-butene | 8.066 | 88 | 1695 | 5.27 | ug/L | | 91 |
| 100) | bromobenzene | 8.329 | 156 | 9108 | 3.75 | ug/L | | 90 |
| 101) | 1,1,2,2-tetrachloroethane | 8.297 | 83 | 10640 | 3.96 | ug/L | | 96 |
| 102) | trans-1,4-dichloro-2-b... | 8.339 | 53 | 1119 | 5.11 | ug/L | | 89 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 3155 | 4.05 | ug/L | | 95 |
| 104) | n-propylbenzene | 8.413 | 91 | 37484 | 3.75 | ug/L | | 99 |
| 105) | 2-chlorotoluene | 8.502 | 126 | 8377 | 3.76 | ug/L | | 90 |
| 106) | 4-chlorotoluene | 8.622 | 126 | 8335 | 3.78 | ug/L | | 88 |
| 107) | 1,3,5-trimethylbenzene | 8.586 | 105 | 26056 | 3.73 | ug/L | | 97 |
| 108) | tert-butylbenzene | 8.890 | 134 | 5379 | 3.09 | ug/L | # | 1 |
| 109) | 1,2,4-trimethylbenzene | 8.947 | 105 | 26536 | 3.72 | ug/L | | 98 |
| 110) | sec-butylbenzene | 9.110 | 105 | 31817 | 3.70 | ug/L | | 98 |
| 111) | 1,3-dichlorobenzene | 9.230 | 146 | 15527 | 3.71 | ug/L | | 94 |
| 112) | p-isopropyltoluene | 9.257 | 119 | 25844 | 3.62 | ug/L | | 98 |
| 113) | 1,4-dichlorobenzene | 9.330 | 146 | 16064 | 3.66 | ug/L | | 95 |
| 114) | 1,2-dichlorobenzene | 9.681 | 146 | 14575 | 3.67 | ug/L | | 90 |
| 115) | benzyl chloride | 9.435 | 91 | 10622 | 3.16 | ug/L | | 98 |
| 116) | n-butylbenzene | 9.655 | 92 | 12324 | 3.60 | ug/L | | 98 |
| 117) | hexachloroethane | 9.954 | 201 | 3576 | 3.21 | ug/L | | 96 |
| 118) | 1,2-dibromo-3-chloropr... | 10.452 | 157 | 2346 | 3.63 | ug/L | | 88 |
| 119) | nitrobenzene | 10.641 | 77 | 454 | 3.26 | ug/L | | 84 |
| 120) | 1,3,5-trichlorobenzene | 10.636 | 180 | 11251 | 3.93 | ug/L | | 91 |
| 121) | 1,2,4-trichlorobenzene | 11.244 | 180 | 9308 | 3.89 | ug/L | | 87 |
| 122) | hexachlorobutadiene | 11.385 | 225 | 3719 | 3.61 | ug/L | | 93 |
| 123) | naphthalene | 11.490 | 128 | 23744 | 3.76 | ug/L | | 98 |
| 124) | 1,2,3-trichlorobenzene | 11.700 | 180 | 8019 | 3.74 | ug/L | | 97 |
| 126) | 2-methylnaphthalene | 12.544 | 142 | 4274 | 1.77 | ug/L | | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58392.D
Acq On : 2 May 2019 7:32 pm
Operator : EddieH
Sample : ic2392-4
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 06 08:52:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58393.D
Acq On : 2 May 2019 7:58 pm
Operator : EddieH
Sample : ic2392-8
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 06 08:52:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 114111 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 226694 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 332192 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 280477 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 132260 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 113023 | 50.51 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 101.02% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 106058 | 51.05 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 102.10% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 375725 | 50.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 101.70% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 128077 | 49.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 99.88% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 20484 | 830.42 | ug/L | 96 |
| 3) tertiary butyl alcohol | 2.997 | 59 | 28142 | 40.83 | ug/L | 94 |
| 4) 1,4-dioxane | 5.141 | 88 | 6485 | 201.14 | ug/L | 92 |
| 6) chlorodifluoromethane | 1.586 | 51 | 17374 | 8.28 | ug/L | 97 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 23482 | 8.42 | ug/L | 99 |
| 8) chloromethane | 1.717 | 50 | 23654 | 8.25 | ug/L | 98 |
| 9) vinyl chloride | 1.806 | 62 | 22336 | 8.29 | ug/L | 95 |
| 10) bromomethane | 2.048 | 96 | 17761 | 7.72 | ug/L | 96 |
| 11) chloroethane | 2.121 | 64 | 11840 | 7.48 | ug/L | 96 |
| 12) trichlorofluoromethane | 2.299 | 101 | 28399 | 8.21 | ug/L | 99 |
| 13) vinyl bromide | 2.257 | 106 | 15589 | 8.18 | ug/L | 94 |
| 14) 1,3-butadiene | 1.833 | 54 | 17157 | 8.36 | ug/L | 96 |
| 15) ethyl ether | 2.477 | 74 | 9037 | 8.31 | ug/L | 97 |
| 16) 2-chloropropane | 2.567 | 43 | 22434 | 8.03 | ug/L | 94 |
| 17) acrolein | 2.572 | 56 | 3636 | 8.01 | ug/L | 97 |
| 18) freon 113 | 2.650 | 151 | 13020 | 8.32 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 21970 | 8.22 | ug/L | 99 |
| 20) acetone | 2.661 | 58 | 7657 | 32.82 | ug/L | 96 |
| 21) acetonitrile | 2.844 | 41 | 21203 | 83.34 | ug/L | 98 |
| 22) iodomethane | 2.761 | 142 | 9396 | 6.61 | ug/L | 93 |
| 23) carbon disulfide | 2.818 | 76 | 36819 | 8.11 | ug/L | 97 |
| 24) methylene chloride | 2.970 | 84 | 16578 | 8.16 | ug/L | 96 |
| 25) methyl acetate | 2.860 | 43 | 12925 | 7.80 | ug/L | 97 |
| 26) methyl tert butyl ether | 3.138 | 73 | 46823 | 8.29 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 15458 | 8.30 | ug/L | 91 |
| 28) hexane | 3.332 | 56 | 9490 | 8.23 | ug/L | 95 |
| 29) di-isopropyl ether | 3.437 | 45 | 44753 | 8.14 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 44693 | 8.07 | ug/L | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 27190 | 8.09 | ug/L | 96 |
| 32) chloroprene | 3.495 | 53 | 20331 | 8.26 | ug/L | 95 |
| 33) acrylonitrile | 3.112 | 53 | 6046 | 7.86 | ug/L | 95 |
| 34) vinyl acetate | 3.416 | 86 | 997 | 5.25 | ug/L # | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58393.D
Acq On : 2 May 2019 7:58 pm
Operator : EddieH
Sample : ic2392-8
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 06 08:52:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 2559 | 8.20 | ug/L | # | 88 |
| 36) 2-butanone | 3.799 | 72 | 8713 | 31.41 | ug/L | # | 85 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 23046 | 8.12 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 17748 | 7.81 | ug/L | | 97 |
| 39) propionitrile | 3.841 | 54 | 26870 | 82.59 | ug/L | | 98 |
| 40) methyl acrylate | 3.851 | 85 | 2389 | 7.62 | ug/L | # | 87 |
| 41) bromochloromethane | 3.987 | 128 | 9157 | 8.27 | ug/L | | 89 |
| 42) tetrahydrofuran | 3.998 | 71 | 2525 | 7.88 | ug/L | | 82 |
| 43) chloroform | 4.045 | 83 | 30434 | 8.09 | ug/L | | 95 |
| 45) methacrylonitrile | 3.951 | 67 | 7333 | 7.94 | ug/L | | 92 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 26413 | 8.07 | ug/L | | 99 |
| 47) cyclohexane | 4.244 | 84 | 22724 | 8.23 | ug/L | | 99 |
| 48) 1,1-dichloropropene | 4.292 | 75 | 20745 | 7.89 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 21567 | 8.05 | ug/L | | 98 |
| 50) isobutyl alcohol | 4.286 | 42 | 5499 | 78.34 | ug/L | # | 85 |
| 51) tert-amyl alcohol | 4.381 | 55 | 4546 | 41.93 | ug/L | # | 80 |
| 54) n-butyl alcohol | 4.769 | 56 | 31959 | 392.18 | ug/L | | 98 |
| 55) benzene | 4.433 | 78 | 59684 | 7.93 | ug/L | | 97 |
| 56) tert-amyl methyl ether | 4.501 | 73 | 45295 | 7.77 | ug/L | | 98 |
| 57) iso-octane | 4.501 | 57 | 41084 | 7.95 | ug/L | | 98 |
| 58) heptane | 4.617 | 57 | 8353 | 7.79 | ug/L | | 92 |
| 59) isopropyl acetate | 4.407 | 87 | 4251 | 8.00 | ug/L | | 93 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 22769 | 7.77 | ug/L | | 99 |
| 61) trichloroethene | 4.900 | 95 | 16740 | 7.94 | ug/L | | 91 |
| 62) ethyl acrylate | 4.921 | 55 | 20803 | 8.10 | ug/L | | 97 |
| 63) 2-nitropropane | 5.445 | 41 | 2073 | 14.36 | ug/L | | 84 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 15030 | 37.07 | ug/L | | 92 |
| 65) methyl methacrylate | 5.104 | 100 | 4146 | 8.17 | ug/L | # | 90 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 15990 | 8.03 | ug/L | | 99 |
| 67) methylcyclohexane | 5.094 | 83 | 23048 | 7.81 | ug/L | | 97 |
| 68) dibromomethane | 5.167 | 93 | 11902 | 8.15 | ug/L | | 98 |
| 69) bromodichloromethane | 5.288 | 83 | 22872 | 8.03 | ug/L | | 100 |
| 70) epichlorohydrin | 5.534 | 57 | 4477 | 32.48 | ug/L | | 80 |
| 71) cis-1,3-dichloropropene | 5.629 | 75 | 23515 | 7.83 | ug/L | | 93 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 28582 | 32.96 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 12049 | 154.97 | ug/L | | 98 |
| 76) toluene | 5.912 | 92 | 38060 | 7.94 | ug/L | | 95 |
| 77) ethyl methacrylate | 6.106 | 69 | 20360 | 8.00 | ug/L | | 95 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 21342 | 7.94 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 13269 | 8.24 | ug/L | | 97 |
| 80) 2-hexanone | 6.415 | 58 | 27691 | 31.99 | ug/L | | 96 |
| 81) tetrachloroethene | 6.352 | 164 | 15838 | 8.15 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 23813 | 8.09 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 10959 | 7.97 | ug/L | | 91 |
| 84) dibromochloromethane | 6.583 | 129 | 18364 | 8.19 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 19232 | 8.68 | ug/L | | 96 |
| 86) n-butyl ether | 7.186 | 57 | 55163 | 7.96 | ug/L | | 98 |
| 87) chlorobenzene | 7.128 | 112 | 43565 | 8.07 | ug/L | | 95 |
| 88) 1,1,1,2-tetrachloroethane | 7.196 | 131 | 16927 | 8.33 | ug/L | | 94 |
| 89) ethylbenzene | 7.207 | 91 | 71297 | 8.04 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58393.D
Acq On : 2 May 2019 7:58 pm
Operator : EddieH
Sample : ic2392-8
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 06 08:52:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

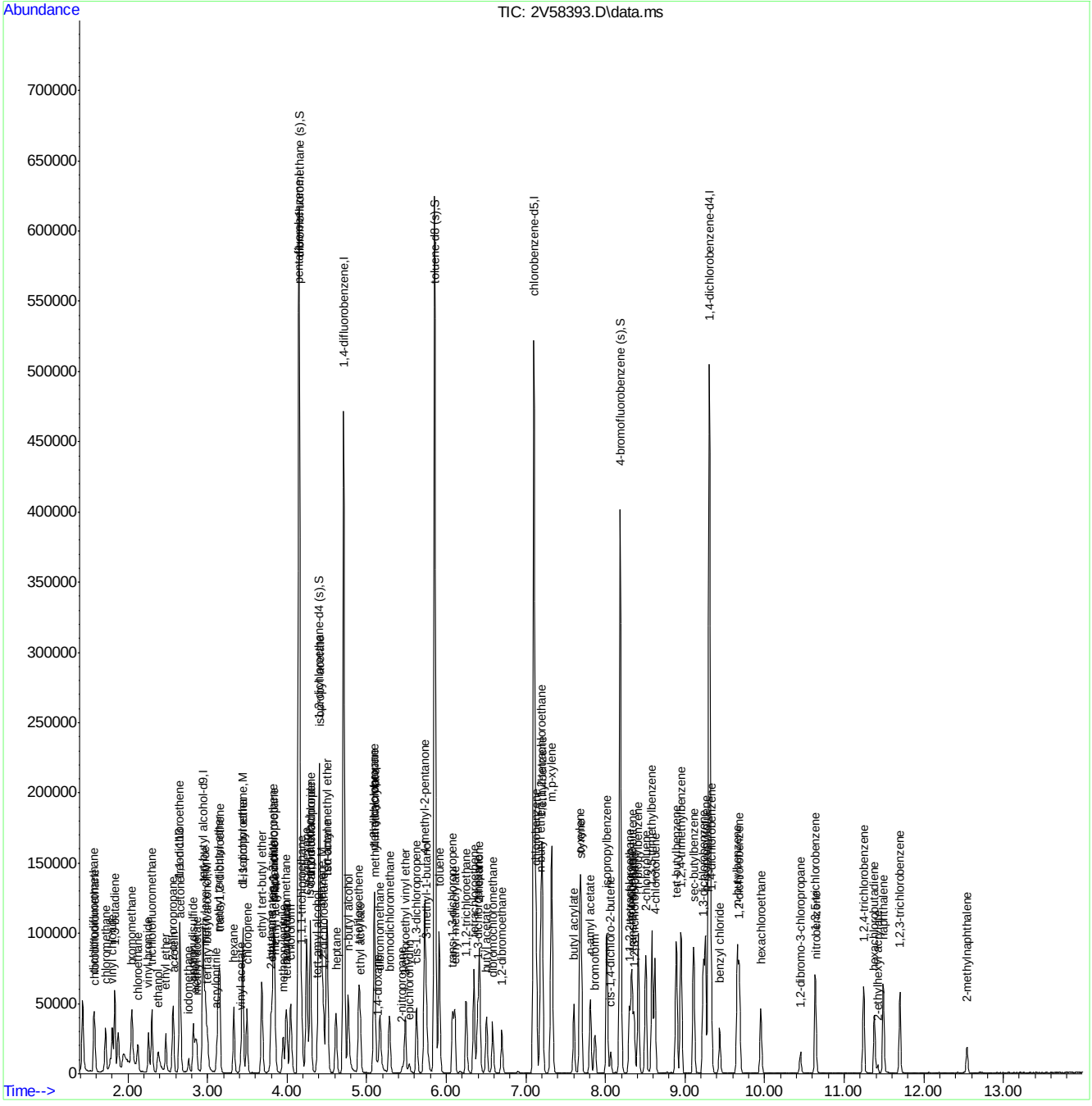
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 90) | m,p-xylene | 7.322 | 106 | 55217 | 16.20 | ug/L | | 93 |
| 91) | o-xylene | 7.679 | 91 | 56663 | 8.01 | ug/L | | 100 |
| 92) | styrene | 7.694 | 104 | 43373 | 8.05 | ug/L | | 99 |
| 93) | butyl acrylate | 7.605 | 56 | 14082 | 7.76 | ug/L | | 93 |
| 94) | n-amyl acetate | 7.810 | 70 | 11438 | 7.89 | ug/L | | 98 |
| 95) | bromoform | 7.867 | 173 | 12873 | 8.09 | ug/L | | 95 |
| 96) | isopropylbenzene | 8.019 | 105 | 67182 | 8.06 | ug/L | | 99 |
| 97) | cis-1,4-dichloro-2-butene | 8.067 | 88 | 3692 | 7.60 | ug/L | | 86 |
| 100) | bromobenzene | 8.329 | 156 | 19191 | 8.28 | ug/L | | 92 |
| 101) | 1,1,2,2-tetrachloroethane | 8.302 | 83 | 21598 | 8.42 | ug/L | | 98 |
| 102) | trans-1,4-dichloro-2-b... | 8.339 | 53 | 2619 | 7.94 | ug/L | | 83 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 6330 | 8.52 | ug/L | | 94 |
| 104) | n-propylbenzene | 8.413 | 91 | 76686 | 8.04 | ug/L | | 99 |
| 105) | 2-chlorotoluene | 8.507 | 126 | 17019 | 7.99 | ug/L | | 98 |
| 106) | 4-chlorotoluene | 8.622 | 126 | 17124 | 8.14 | ug/L | | 99 |
| 107) | 1,3,5-trimethylbenzene | 8.586 | 105 | 54347 | 8.15 | ug/L | | 94 |
| 108) | tert-butylbenzene | 8.890 | 134 | 10810 | 6.51 | ug/L | # | 1 |
| 109) | 1,2,4-trimethylbenzene | 8.947 | 105 | 55486 | 8.16 | ug/L | | 98 |
| 110) | sec-butylbenzene | 9.110 | 105 | 65841 | 8.02 | ug/L | | 99 |
| 111) | 1,3-dichlorobenzene | 9.230 | 146 | 31966 | 7.99 | ug/L | | 97 |
| 112) | p-isopropyltoluene | 9.257 | 119 | 54474 | 8.00 | ug/L | | 99 |
| 113) | 1,4-dichlorobenzene | 9.330 | 146 | 32501 | 7.76 | ug/L | | 97 |
| 114) | 1,2-dichlorobenzene | 9.681 | 146 | 30962 | 8.16 | ug/L | | 97 |
| 115) | benzyl chloride | 9.435 | 91 | 22802 | 7.11 | ug/L | | 98 |
| 116) | n-butylbenzene | 9.655 | 92 | 25154 | 7.70 | ug/L | | 98 |
| 117) | hexachloroethane | 9.954 | 201 | 7414 | 6.96 | ug/L | | 82 |
| 118) | 1,2-dibromo-3-chloropr... | 10.452 | 157 | 4510 | 7.31 | ug/L | | 96 |
| 119) | nitrobenzene | 10.646 | 77 | 879 | 6.60 | ug/L | | 83 |
| 120) | 1,3,5-trichlorobenzene | 10.636 | 180 | 21923 | 8.01 | ug/L | | 96 |
| 121) | 1,2,4-trichlorobenzene | 11.244 | 180 | 18390 | 8.04 | ug/L | | 99 |
| 122) | hexachlorobutadiene | 11.380 | 225 | 7689 | 7.82 | ug/L | | 91 |
| 123) | naphthalene | 11.490 | 128 | 48714 | 8.09 | ug/L | | 98 |
| 124) | 1,2,3-trichlorobenzene | 11.700 | 180 | 17442 | 8.53 | ug/L | | 93 |
| 125) | 2-ethylhexyl acrylate | 11.422 | 70 | 1671 | 1.37 | ug/L | | 96 |
| 126) | 2-methylnaphthalene | 12.544 | 142 | 8422 | 3.66 | ug/L | | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58393.D
Acq On : 2 May 2019 7:58 pm
Operator : EddieH
Sample : ic2392-8
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 06 08:52:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58394.D
Acq On : 2 May 2019 8:24 pm
Operator : EddieH
Sample : ic2392-20
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 08:53:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.939 | 65 | 111475 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 224569 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 322071 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 276679 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 131641 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 108421 | 48.91 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 97.82% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 101807 | 50.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 101.08% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 366875 | 50.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 100.68% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 126007 | 49.37 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 98.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.378 | 45 | 50543 | 2097.47 | ug/L | 98 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 70855 | 105.23 | ug/L | 99 |
| 4) 1,4-dioxane | 5.141 | 88 | 16140 | 512.45 | ug/L | 94 |
| 6) chlorodifluoromethane | 1.581 | 51 | 42710 | 20.54 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 58092 | 21.02 | ug/L | 99 |
| 8) chloromethane | 1.717 | 50 | 57377 | 20.21 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 54654 | 20.47 | ug/L | 99 |
| 10) bromomethane | 2.047 | 96 | 43166 | 18.95 | ug/L | 97 |
| 11) chloroethane | 2.121 | 64 | 31163 | 19.87 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 72595 | 21.19 | ug/L | 98 |
| 13) vinyl bromide | 2.257 | 106 | 38003 | 20.14 | ug/L | 95 |
| 14) 1,3-butadiene | 1.833 | 54 | 41472 | 20.39 | ug/L | 98 |
| 15) ethyl ether | 2.477 | 74 | 21620 | 20.06 | ug/L | 95 |
| 16) 2-chloropropane | 2.567 | 43 | 54989 | 19.88 | ug/L | 99 |
| 17) acrolein | 2.572 | 56 | 9328 | 20.74 | ug/L | 95 |
| 18) freon 113 | 2.650 | 151 | 31452 | 20.28 | ug/L | 94 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 55466 | 20.95 | ug/L | 98 |
| 20) acetone | 2.661 | 58 | 18918 | 81.85 | ug/L | 95 |
| 21) acetonitrile | 2.844 | 41 | 52060 | 206.57 | ug/L | 100 |
| 22) iodomethane | 2.761 | 142 | 27294 | 15.43 | ug/L | 97 |
| 23) carbon disulfide | 2.818 | 76 | 91330 | 20.30 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 40819 | 20.28 | ug/L | 100 |
| 25) methyl acetate | 2.860 | 43 | 30678 | 18.69 | ug/L | 94 |
| 26) methyl tert butyl ether | 3.138 | 73 | 116282 | 20.78 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 38091 | 20.64 | ug/L | 98 |
| 28) hexane | 3.332 | 56 | 23714 | 20.76 | ug/L | 95 |
| 29) di-isopropyl ether | 3.437 | 45 | 113076 | 20.76 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 116683 | 21.28 | ug/L | 100 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 67961 | 20.41 | ug/L | 99 |
| 32) chloroprene | 3.495 | 53 | 51313 | 21.04 | ug/L | 99 |
| 33) acrylonitrile | 3.112 | 53 | 15847 | 20.80 | ug/L | 97 |
| 34) vinyl acetate | 3.416 | 86 | 2185 | 11.62 | ug/L # | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58394.D
Acq On : 2 May 2019 8:24 pm
Operator : EddieH
Sample : ic2392-20
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 08:53:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 6209 | 20.09 | ug/L | # | 74 |
| 36) 2-butanone | 3.799 | 72 | 22982 | 83.64 | ug/L | | 97 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 58613 | 20.84 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 45774 | 20.34 | ug/L | | 100 |
| 39) propionitrile | 3.841 | 54 | 67852 | 210.52 | ug/L | | 99 |
| 40) methyl acrylate | 3.851 | 85 | 6034 | 19.44 | ug/L | # | 80 |
| 41) bromochloromethane | 3.987 | 128 | 23215 | 21.17 | ug/L | | 95 |
| 42) tetrahydrofuran | 4.003 | 71 | 6333 | 19.95 | ug/L | | 96 |
| 43) chloroform | 4.040 | 83 | 75917 | 20.37 | ug/L | | 97 |
| 45) methacrylonitrile | 3.951 | 67 | 18631 | 20.35 | ug/L | | 93 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 65372 | 20.15 | ug/L | | 99 |
| 47) cyclohexane | 4.239 | 84 | 56177 | 20.53 | ug/L | # | 83 |
| 48) 1,1-dichloropropene | 4.292 | 75 | 53472 | 20.53 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 55512 | 20.93 | ug/L | | 95 |
| 50) isobutyl alcohol | 4.292 | 42 | 13906 | 199.99 | ug/L | | 94 |
| 51) tert-amyl alcohol | 4.386 | 55 | 11179 | 104.08 | ug/L | | 89 |
| 54) n-butyl alcohol | 4.769 | 56 | 82224 | 1040.71 | ug/L | | 98 |
| 55) benzene | 4.438 | 78 | 153869 | 21.09 | ug/L | | 98 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 119296 | 21.09 | ug/L | | 99 |
| 57) iso-octane | 4.501 | 57 | 103406 | 20.63 | ug/L | | 98 |
| 58) heptane | 4.611 | 57 | 20250 | 19.49 | ug/L | | 94 |
| 59) isopropyl acetate | 4.412 | 87 | 10460 | 20.29 | ug/L | # | 89 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 56349 | 19.83 | ug/L | | 98 |
| 61) trichloroethene | 4.905 | 95 | 42577 | 20.82 | ug/L | | 99 |
| 62) ethyl acrylate | 4.921 | 55 | 52705 | 21.15 | ug/L | | 99 |
| 63) 2-nitropropane | 5.450 | 41 | 5535 | 21.63 | ug/L | | 90 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 45667 | 104.24 | ug/L | | 97 |
| 65) methyl methacrylate | 5.099 | 100 | 10535 | 21.41 | ug/L | # | 81 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 40321 | 20.88 | ug/L | | 99 |
| 67) methylcyclohexane | 5.094 | 83 | 58570 | 20.48 | ug/L | | 98 |
| 68) dibromomethane | 5.167 | 93 | 29232 | 20.65 | ug/L | | 99 |
| 69) bromodichloromethane | 5.288 | 83 | 57858 | 20.94 | ug/L | | 96 |
| 70) epichlorohydrin | 5.534 | 57 | 12851 | 96.16 | ug/L | | 86 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 62209 | 21.37 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 72663 | 86.42 | ug/L | | 97 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 31134 | 413.02 | ug/L | | 99 |
| 76) toluene | 5.912 | 92 | 97206 | 20.56 | ug/L | | 98 |
| 77) ethyl methacrylate | 6.106 | 69 | 52874 | 21.05 | ug/L | | 99 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 55963 | 21.10 | ug/L | | 97 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 33272 | 20.93 | ug/L | | 97 |
| 80) 2-hexanone | 6.415 | 58 | 71923 | 84.23 | ug/L | | 98 |
| 81) tetrachloroethene | 6.347 | 164 | 39242 | 20.48 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 61122 | 21.04 | ug/L | | 97 |
| 83) butyl acetate | 6.504 | 56 | 28162 | 20.76 | ug/L | | 96 |
| 84) dibromochloromethane | 6.583 | 129 | 46717 | 21.12 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 46242 | 21.16 | ug/L | | 99 |
| 86) n-butyl ether | 7.186 | 57 | 145161 | 21.22 | ug/L | | 99 |
| 87) chlorobenzene | 7.128 | 112 | 110757 | 20.81 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 43087 | 21.50 | ug/L | | 95 |
| 89) ethylbenzene | 7.207 | 91 | 183146 | 20.93 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58394.D
Acq On : 2 May 2019 8:24 pm
Operator : EddieH
Sample : ic2392-20
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 08:53:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

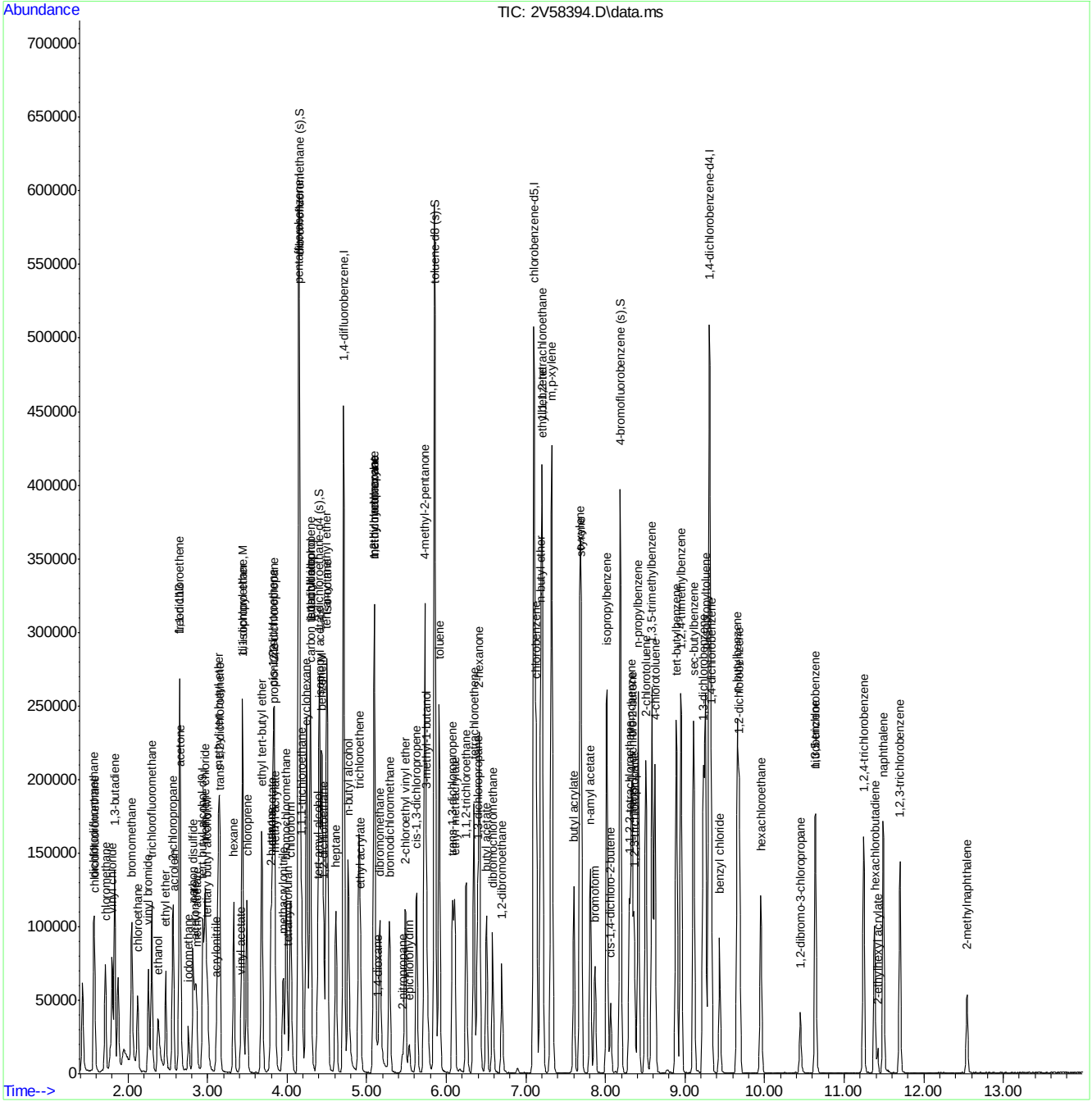
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 90) m,p-xylene | 7.322 | 106 | 143525 | 42.68 | ug/L | | 97 |
| 91) o-xylene | 7.679 | 91 | 144502 | 20.70 | ug/L | | 98 |
| 92) styrene | 7.694 | 104 | 114478 | 21.55 | ug/L | | 98 |
| 93) butyl acrylate | 7.605 | 56 | 36135 | 20.18 | ug/L | | 95 |
| 94) n-amyl acetate | 7.810 | 70 | 29644 | 20.73 | ug/L | | 100 |
| 95) bromoform | 7.867 | 173 | 32468 | 20.68 | ug/L | | 94 |
| 96) isopropylbenzene | 8.019 | 105 | 174098 | 21.18 | ug/L | | 99 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 11605 | 16.49 | ug/L | | 94 |
| 100) bromobenzene | 8.329 | 156 | 48305 | 20.93 | ug/L | | 96 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 54684 | 21.42 | ug/L | | 94 |
| 102) trans-1,4-dichloro-2-b... | 8.339 | 53 | 7436 | 16.79 | ug/L | | 93 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 15875 | 21.46 | ug/L | | 98 |
| 104) n-propylbenzene | 8.413 | 91 | 200714 | 21.14 | ug/L | | 99 |
| 105) 2-chlorotoluene | 8.507 | 126 | 44876 | 21.18 | ug/L | | 97 |
| 106) 4-chlorotoluene | 8.622 | 126 | 43412 | 20.73 | ug/L | | 93 |
| 107) 1,3,5-trimethylbenzene | 8.586 | 105 | 142337 | 21.46 | ug/L | | 99 |
| 108) tert-butylbenzene | 8.890 | 134 | 28442 | 17.21 | ug/L | # | 1 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 144053 | 21.27 | ug/L | | 98 |
| 110) sec-butylbenzene | 9.110 | 105 | 171241 | 20.97 | ug/L | | 98 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 84111 | 21.13 | ug/L | | 96 |
| 112) p-isopropyltoluene | 9.257 | 119 | 144316 | 21.29 | ug/L | | 100 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 84332 | 20.24 | ug/L | | 97 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 79743 | 21.11 | ug/L | | 98 |
| 115) benzyl chloride | 9.435 | 91 | 64565 | 20.22 | ug/L | | 100 |
| 116) n-butylbenzene | 9.655 | 92 | 67401 | 20.72 | ug/L | | 98 |
| 117) hexachloroethane | 9.954 | 201 | 20336 | 19.18 | ug/L | | 87 |
| 118) 1,2-dibromo-3-chloropr... | 10.447 | 157 | 11770 | 19.18 | ug/L | | 89 |
| 119) nitrobenzene | 10.641 | 77 | 2430 | 18.34 | ug/L | | 93 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 57369 | 21.07 | ug/L | | 99 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 49040 | 21.54 | ug/L | | 99 |
| 122) hexachlorobutadiene | 11.385 | 225 | 19193 | 19.60 | ug/L | | 96 |
| 123) naphthalene | 11.490 | 128 | 127280 | 21.23 | ug/L | | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 42956 | 21.10 | ug/L | | 95 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 3835 | 3.17 | ug/L | # | 76 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 23446 | 10.24 | ug/L | | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58394.D
Acq On : 2 May 2019 8:24 pm
Operator : EddieH
Sample : ic2392-20
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 06 08:53:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58395.D
Acq On : 2 May 2019 8:50 pm
Operator : EddieH
Sample : icc2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 08:54:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 110449 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 230479 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 330663 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 286658 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 138239 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 110405 | 48.53 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 97.06% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 100111 | 48.41 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 96.82% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 377065 | 49.93 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 99.86% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 131082 | 48.91 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 97.82% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 125825 | 5270.08 | ug/L | 100 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 189918 | 284.67 | ug/L | 100 |
| 4) 1,4-dioxane | 5.141 | 88 | 41153 | 1318.76 | ug/L | 100 |
| 6) chlorodifluoromethane | 1.581 | 51 | 107522 | 50.37 | ug/L | 100 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 148313 | 52.29 | ug/L | 100 |
| 8) chloromethane | 1.717 | 50 | 150103 | 51.50 | ug/L | 100 |
| 9) vinyl chloride | 1.801 | 62 | 144017 | 52.56 | ug/L | 100 |
| 10) bromomethane | 2.047 | 96 | 119954 | 51.32 | ug/L | 100 |
| 11) chloroethane | 2.121 | 64 | 84142 | 52.28 | ug/L | 100 |
| 12) trichlorofluoromethane | 2.299 | 101 | 190748 | 54.25 | ug/L | 100 |
| 13) vinyl bromide | 2.257 | 106 | 102973 | 53.16 | ug/L | 100 |
| 14) 1,3-butadiene | 1.832 | 54 | 105231 | 50.41 | ug/L | 100 |
| 15) ethyl ether | 2.477 | 74 | 57102 | 51.62 | ug/L | 100 |
| 16) 2-chloropropane | 2.566 | 43 | 141272 | 49.77 | ug/L | 100 |
| 17) acrolein | 2.572 | 56 | 24033 | 52.06 | ug/L | 100 |
| 18) freon 113 | 2.650 | 151 | 80857 | 50.80 | ug/L | 100 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 144555 | 53.20 | ug/L | 100 |
| 20) acetone | 2.661 | 58 | 48182 | 203.12 | ug/L | 100 |
| 21) acetonitrile | 2.844 | 41 | 131952 | 510.15 | ug/L | 100 |
| 22) iodomethane | 2.760 | 142 | 89059 | 44.61 | ug/L | 100 |
| 23) carbon disulfide | 2.823 | 76 | 236097 | 51.13 | ug/L | 100 |
| 24) methylene chloride | 2.970 | 84 | 104725 | 50.70 | ug/L | 100 |
| 25) methyl acetate | 2.860 | 43 | 84569 | 50.21 | ug/L | 100 |
| 26) methyl tert butyl ether | 3.138 | 73 | 303013 | 52.76 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 100588 | 53.10 | ug/L | 100 |
| 28) hexane | 3.332 | 56 | 60248 | 51.38 | ug/L | 100 |
| 29) di-isopropyl ether | 3.437 | 45 | 294052 | 52.61 | ug/L | 100 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 303221 | 53.87 | ug/L | 100 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 177353 | 51.89 | ug/L | 100 |
| 32) chloroprene | 3.494 | 53 | 134895 | 53.88 | ug/L | 100 |
| 33) acrylonitrile | 3.112 | 53 | 41785 | 53.44 | ug/L | 100 |
| 34) vinyl acetate | 3.416 | 86 | 8981 | 46.54 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58395.D
Acq On : 2 May 2019 8:50 pm
Operator : EddieH
Sample : icc2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 08:54:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 15401 | 48.55 | ug/L | 100 |
| 36) 2-butanone | 3.799 | 72 | 61588 | 218.39 | ug/L | 100 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 152232 | 52.74 | ug/L | 100 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 118634 | 51.37 | ug/L | 100 |
| 39) propionitrile | 3.840 | 54 | 179801 | 543.56 | ug/L | 100 |
| 40) methyl acrylate | 3.851 | 85 | 15650 | 49.12 | ug/L | 100 |
| 41) bromochloromethane | 3.987 | 128 | 61298 | 54.46 | ug/L | 100 |
| 42) tetrahydrofuran | 3.998 | 71 | 16497 | 50.63 | ug/L | 100 |
| 43) chloroform | 4.045 | 83 | 193879 | 50.68 | ug/L | 100 |
| 45) methacrylonitrile | 3.951 | 67 | 49796 | 53.01 | ug/L | 100 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 171644 | 51.56 | ug/L | 99 |
| 47) cyclohexane | 4.244 | 84 | 149601 | 53.28 | ug/L | 100 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 139841 | 52.31 | ug/L | 100 |
| 49) carbon tetrachloride | 4.297 | 119 | 147624 | 54.22 | ug/L | 100 |
| 50) isobutyl alcohol | 4.291 | 42 | 37366 | 523.59 | ug/L | 99 |
| 51) tert-amyl alcohol | 4.386 | 55 | 28313 | 256.85 | ug/L | 100 |
| 54) n-butyl alcohol | 4.768 | 56 | 223334 | 2753.29 | ug/L | 100 |
| 55) benzene | 4.438 | 78 | 395675 | 52.83 | ug/L | 100 |
| 56) tert-amyl methyl ether | 4.501 | 73 | 318674 | 54.89 | ug/L | 100 |
| 57) iso-octane | 4.501 | 57 | 269234 | 52.32 | ug/L | 100 |
| 58) heptane | 4.611 | 57 | 55327 | 51.86 | ug/L | 100 |
| 59) isopropyl acetate | 4.412 | 87 | 27683 | 52.31 | ug/L | 100 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 143554 | 49.19 | ug/L | 100 |
| 61) trichloroethene | 4.905 | 95 | 111251 | 53.00 | ug/L | 100 |
| 62) ethyl acrylate | 4.921 | 55 | 134715 | 52.66 | ug/L | 100 |
| 63) 2-nitropropane | 5.445 | 41 | 17111 | 44.60 | ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 116158 | 250.01 | ug/L | 100 |
| 65) methyl methacrylate | 5.104 | 100 | 27420 | 54.29 | ug/L | 100 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 106080 | 53.49 | ug/L | 100 |
| 67) methylcyclohexane | 5.094 | 83 | 155093 | 52.83 | ug/L | 100 |
| 68) dibromomethane | 5.167 | 93 | 77403 | 53.26 | ug/L | 100 |
| 69) bromodichloromethane | 5.288 | 83 | 151843 | 53.54 | ug/L | 100 |
| 70) epichlorohydrin | 5.534 | 57 | 37098 | 270.39 | ug/L | 100 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 165246 | 55.30 | ug/L | 100 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 196247 | 227.35 | ug/L | 100 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 87264 | 1127.57 | ug/L | 100 |
| 76) toluene | 5.911 | 92 | 260013 | 53.08 | ug/L | 100 |
| 77) ethyl methacrylate | 6.105 | 69 | 141149 | 54.24 | ug/L | 100 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 151826 | 55.24 | ug/L | 100 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 88707 | 53.87 | ug/L | 100 |
| 80) 2-hexanone | 6.420 | 58 | 196740 | 222.39 | ug/L | 100 |
| 81) tetrachloroethene | 6.347 | 164 | 102889 | 51.82 | ug/L | 100 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 161243 | 53.58 | ug/L | 100 |
| 83) butyl acetate | 6.504 | 56 | 76783 | 54.63 | ug/L | 100 |
| 84) dibromochloromethane | 6.583 | 129 | 129827 | 56.66 | ug/L | 100 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 125663 | 55.51 | ug/L | 100 |
| 86) n-butyl ether | 7.186 | 57 | 390162 | 55.06 | ug/L | 100 |
| 87) chlorobenzene | 7.128 | 112 | 295786 | 53.63 | ug/L | 100 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 115993 | 55.88 | ug/L | 100 |
| 89) ethylbenzene | 7.206 | 91 | 488115 | 53.85 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58395.D
Acq On : 2 May 2019 8:50 pm
Operator : EddieH
Sample : icc2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 08:54:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

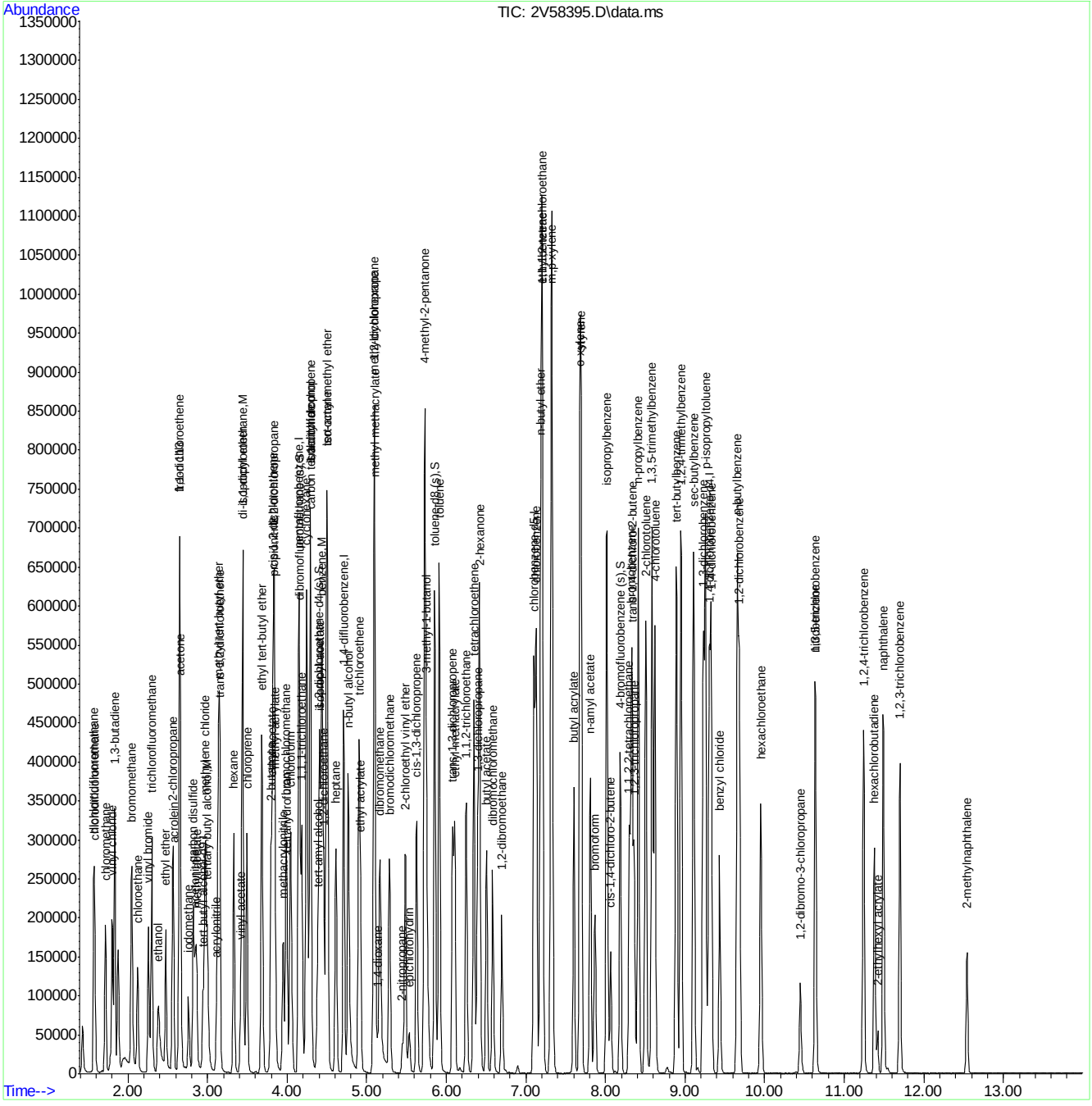
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 90) m,p-xylene | 7.322 | 106 | 384053 | 110.22 | ug/L | | 100 |
| 91) o-xylene | 7.678 | 91 | 388165 | 53.68 | ug/L | | 100 |
| 92) styrene | 7.694 | 104 | 315527 | 57.32 | ug/L | | 100 |
| 93) butyl acrylate | 7.605 | 56 | 100322 | 54.06 | ug/L | | 100 |
| 94) n-amyl acetate | 7.809 | 70 | 82658 | 55.80 | ug/L | | 100 |
| 95) bromoform | 7.867 | 173 | 94366 | 58.02 | ug/L | | 100 |
| 96) isopropylbenzene | 8.019 | 105 | 475769 | 55.88 | ug/L | | 100 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 38056 | 44.52 | ug/L | | 100 |
| 100) bromobenzene | 8.328 | 156 | 130957 | 54.04 | ug/L | | 100 |
| 101) 1,1,2,2-tetrachloroethane | 8.297 | 83 | 151895 | 56.66 | ug/L | | 100 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 23356 | 43.94 | ug/L | | 100 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 43172 | 55.57 | ug/L | | 100 |
| 104) n-propylbenzene | 8.412 | 91 | 543637 | 54.53 | ug/L | | 100 |
| 105) 2-chlorotoluene | 8.507 | 126 | 121218 | 54.47 | ug/L | | 100 |
| 106) 4-chlorotoluene | 8.622 | 126 | 120721 | 54.90 | ug/L | | 100 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 387236 | 55.59 | ug/L | | 100 |
| 108) tert-butylbenzene | 8.890 | 134 | 78297 | 45.11 | ug/L | # | 1 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 393052 | 55.28 | ug/L | | 100 |
| 110) sec-butylbenzene | 9.110 | 105 | 477390 | 55.66 | ug/L | | 100 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 229128 | 54.82 | ug/L | | 100 |
| 112) p-isopropyltoluene | 9.257 | 119 | 403686 | 56.70 | ug/L | | 100 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 232453 | 53.12 | ug/L | | 100 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 221220 | 55.77 | ug/L | | 100 |
| 115) benzyl chloride | 9.435 | 91 | 200026 | 59.67 | ug/L | | 100 |
| 116) n-butylbenzene | 9.655 | 92 | 188671 | 55.23 | ug/L | | 100 |
| 117) hexachloroethane | 9.954 | 201 | 62801 | 56.41 | ug/L | | 100 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 35155 | 54.54 | ug/L | | 100 |
| 119) nitrobenzene | 10.641 | 77 | 7132 | 51.26 | ug/L | | 100 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 159698 | 55.85 | ug/L | | 100 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 136408 | 57.07 | ug/L | | 100 |
| 122) hexachlorobutadiene | 11.380 | 225 | 54589 | 53.09 | ug/L | | 100 |
| 123) naphthalene | 11.490 | 128 | 358712 | 56.98 | ug/L | | 100 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 123235 | 57.64 | ug/L | | 100 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 13269 | 10.44 | ug/L | | 100 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 67562 | 28.09 | ug/L | | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58395.D
Acq On : 2 May 2019 8:50 pm
Operator : EddieH
Sample : icc2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 06 08:54:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58396.D
Acq On : 2 May 2019 9:16 pm
Operator : EddieH
Sample : ic2392-100
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 06 08:54:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 111668 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 236537 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 338230 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 294400 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 142470 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 112758 | 48.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 96.58% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 105413 | 49.83 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 99.66% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 384067 | 49.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 99.04% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 135680 | 49.12 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 98.24% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 244012 | 10108.69 | ug/L | 97 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 363243 | 538.53 | ug/L | 99 |
| 4) 1,4-dioxane | 5.141 | 88 | 84569 | 2680.45 | ug/L | 95 |
| 6) chlorodifluoromethane | 1.581 | 51 | 223880 | 102.20 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 301426 | 103.54 | ug/L | 99 |
| 8) chloromethane | 1.717 | 50 | 295772 | 98.89 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 289009 | 102.78 | ug/L | 100 |
| 10) bromomethane | 2.042 | 96 | 256723 | 107.01 | ug/L | 99 |
| 11) chloroethane | 2.116 | 64 | 178232 | 107.90 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 387314 | 107.34 | ug/L | 99 |
| 13) vinyl bromide | 2.252 | 106 | 210990 | 106.14 | ug/L | 99 |
| 14) 1,3-butadiene | 1.832 | 54 | 204794 | 95.59 | ug/L | 99 |
| 15) ethyl ether | 2.472 | 74 | 117568 | 103.55 | ug/L | 93 |
| 16) 2-chloropropane | 2.561 | 43 | 292538 | 100.41 | ug/L | 99 |
| 17) acrolein | 2.572 | 56 | 47867 | 101.03 | ug/L | 97 |
| 18) freon 113 | 2.645 | 151 | 168742 | 103.29 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 300056 | 107.60 | ug/L | 96 |
| 20) acetone | 2.661 | 58 | 93691 | 384.85 | ug/L | 94 |
| 21) acetonitrile | 2.844 | 41 | 266260 | 1003.04 | ug/L | 97 |
| 22) iodomethane | 2.760 | 142 | 211695 | 100.63 | ug/L | 98 |
| 23) carbon disulfide | 2.818 | 76 | 486364 | 102.64 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 215653 | 101.73 | ug/L | 99 |
| 25) methyl acetate | 2.860 | 43 | 178889 | 103.50 | ug/L | 98 |
| 26) methyl tert butyl ether | 3.138 | 73 | 626524 | 106.30 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 208657 | 107.33 | ug/L | 98 |
| 28) hexane | 3.327 | 56 | 124442 | 103.41 | ug/L | 97 |
| 29) di-isopropyl ether | 3.437 | 45 | 613802 | 107.00 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 634139 | 109.78 | ug/L | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 370904 | 105.73 | ug/L | 98 |
| 32) chloroprene | 3.494 | 53 | 282782 | 110.06 | ug/L | 99 |
| 33) acrylonitrile | 3.112 | 53 | 85412 | 106.45 | ug/L | 97 |
| 34) vinyl acetate | 3.416 | 86 | 25080 | 126.64 | ug/L # | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58396.D
Acq On : 2 May 2019 9:16 pm
Operator : EddieH
Sample : ic2392-100
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 06 08:54:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 36029 | 110.67 | ug/L | | 94 |
| 36) 2-butanone | 3.793 | 72 | 128144 | 442.77 | ug/L | # | 85 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 314894 | 106.29 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 246796 | 104.13 | ug/L | | 98 |
| 39) propionitrile | 3.841 | 54 | 363524 | 1070.82 | ug/L | | 93 |
| 40) methyl acrylate | 3.851 | 85 | 35261 | 107.83 | ug/L | # | 92 |
| 41) bromochloromethane | 3.987 | 128 | 121431 | 105.13 | ug/L | | 93 |
| 42) tetrahydrofuran | 3.998 | 71 | 33729 | 100.87 | ug/L | | 97 |
| 43) chloroform | 4.040 | 83 | 401215 | 102.19 | ug/L | | 99 |
| 45) methacrylonitrile | 3.951 | 67 | 102021 | 105.82 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 357775 | 104.72 | ug/L | | 99 |
| 47) cyclohexane | 4.244 | 84 | 307048 | 106.55 | ug/L | | 96 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 294682 | 107.42 | ug/L | | 99 |
| 49) carbon tetrachloride | 4.297 | 119 | 314519 | 112.56 | ug/L | | 99 |
| 50) isobutyl alcohol | 4.291 | 42 | 75158 | 1026.18 | ug/L | | 97 |
| 51) tert-amyl alcohol | 4.386 | 55 | 56128 | 496.13 | ug/L | | 96 |
| 54) n-butyl alcohol | 4.769 | 56 | 452857 | 5457.97 | ug/L | | 99 |
| 55) benzene | 4.433 | 78 | 827723 | 108.03 | ug/L | | 98 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 662085 | 111.48 | ug/L | | 99 |
| 57) iso-octane | 4.501 | 57 | 557444 | 105.90 | ug/L | | 100 |
| 58) heptane | 4.611 | 57 | 113616 | 104.11 | ug/L | | 98 |
| 59) isopropyl acetate | 4.412 | 87 | 58017 | 107.17 | ug/L | | 94 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 296599 | 99.37 | ug/L | | 99 |
| 61) trichloroethene | 4.905 | 95 | 235069 | 109.47 | ug/L | | 99 |
| 62) ethyl acrylate | 4.921 | 55 | 278000 | 106.25 | ug/L | | 98 |
| 63) 2-nitropropane | 5.445 | 41 | 42033 | 92.78 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 250522 | 520.94 | ug/L | | 99 |
| 65) methyl methacrylate | 5.104 | 100 | 57291 | 110.89 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 226111 | 111.47 | ug/L | | 100 |
| 67) methylcyclohexane | 5.094 | 83 | 328884 | 109.52 | ug/L | | 99 |
| 68) dibromomethane | 5.167 | 93 | 162529 | 109.32 | ug/L | | 98 |
| 69) bromodichloromethane | 5.288 | 83 | 317554 | 109.46 | ug/L | | 99 |
| 70) epichlorohydrin | 5.534 | 57 | 81001 | 577.17 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 348089 | 113.89 | ug/L | | 100 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 407033 | 460.99 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 178112 | 2249.96 | ug/L | | 96 |
| 76) toluene | 5.912 | 92 | 539798 | 107.30 | ug/L | | 97 |
| 77) ethyl methacrylate | 6.105 | 69 | 293660 | 109.89 | ug/L | | 99 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 320450 | 113.53 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 183821 | 108.69 | ug/L | | 96 |
| 80) 2-hexanone | 6.420 | 58 | 405959 | 446.82 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 214141 | 105.02 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 334452 | 108.21 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 159557 | 110.53 | ug/L | | 97 |
| 84) dibromochloromethane | 6.583 | 129 | 272797 | 115.92 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 261155 | 112.32 | ug/L | | 99 |
| 86) n-butyl ether | 7.186 | 57 | 817464 | 112.33 | ug/L | | 100 |
| 87) chlorobenzene | 7.128 | 112 | 623398 | 110.06 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 243301 | 114.12 | ug/L | | 99 |
| 89) ethylbenzene | 7.207 | 91 | 1026866 | 110.30 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58396.D
Acq On : 2 May 2019 9:16 pm
Operator : EddieH
Sample : ic2392-100
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 06 08:54:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

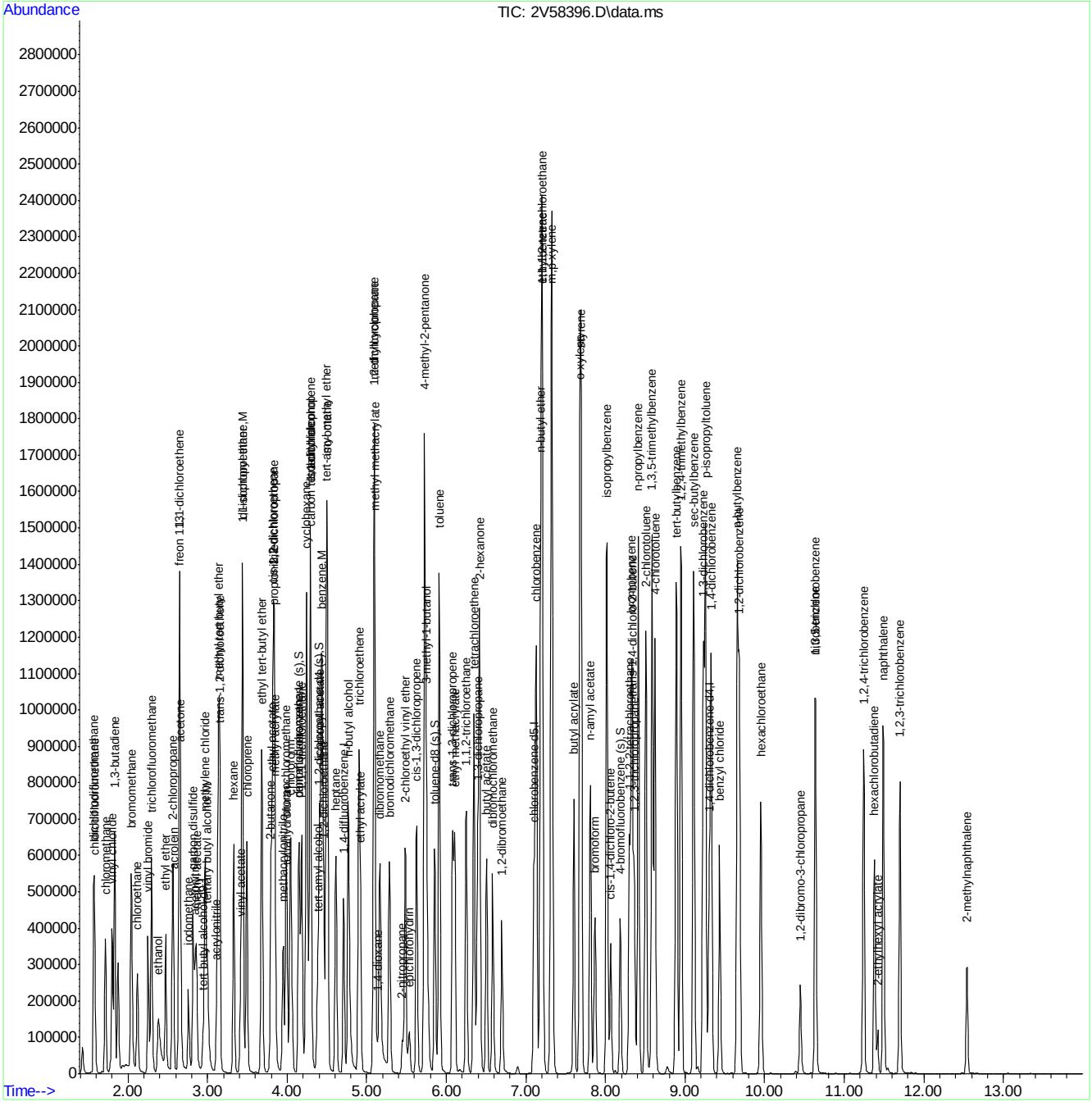
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 90) | m,p-xylene | 7.322 | 106 | 801055 | 223.86 | ug/L | | 99 |
| 91) | o-xylene | 7.678 | 91 | 818765 | 110.25 | ug/L | | 99 |
| 92) | styrene | 7.694 | 104 | 670501 | 118.61 | ug/L | | 99 |
| 93) | butyl acrylate | 7.605 | 56 | 210688 | 110.55 | ug/L | | 98 |
| 94) | n-amyl acetate | 7.809 | 70 | 173345 | 113.95 | ug/L | | 98 |
| 95) | bromoform | 7.867 | 173 | 199266 | 119.30 | ug/L | | 97 |
| 96) | isopropylbenzene | 8.019 | 105 | 980312 | 112.11 | ug/L | | 98 |
| 97) | cis-1,4-dichloro-2-butene | 8.066 | 88 | 87522 | 95.32 | ug/L | | 96 |
| 100) | bromobenzene | 8.329 | 156 | 274096 | 109.76 | ug/L | | 99 |
| 101) | 1,1,2,2-tetrachloroethane | 8.302 | 83 | 306006 | 110.76 | ug/L | | 99 |
| 102) | trans-1,4-dichloro-2-b... | 8.339 | 53 | 53817 | 94.34 | ug/L | | 97 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 87335 | 109.08 | ug/L | | 98 |
| 104) | n-propylbenzene | 8.412 | 91 | 1128433 | 109.82 | ug/L | | 99 |
| 105) | 2-chlorotoluene | 8.507 | 126 | 248476 | 108.34 | ug/L | | 97 |
| 106) | 4-chlorotoluene | 8.622 | 126 | 248036 | 109.44 | ug/L | | 95 |
| 107) | 1,3,5-trimethylbenzene | 8.585 | 105 | 802567 | 111.79 | ug/L | | 99 |
| 108) | tert-butylbenzene | 8.890 | 134 | 162246 | 90.70 | ug/L | # | 1 |
| 109) | 1,2,4-trimethylbenzene | 8.947 | 105 | 816650 | 111.44 | ug/L | | 99 |
| 110) | sec-butylbenzene | 9.110 | 105 | 991231 | 112.14 | ug/L | | 99 |
| 111) | 1,3-dichlorobenzene | 9.230 | 146 | 481225 | 111.71 | ug/L | | 98 |
| 112) | p-isopropyltoluene | 9.257 | 119 | 837210 | 114.11 | ug/L | | 99 |
| 113) | 1,4-dichlorobenzene | 9.330 | 146 | 482712 | 107.04 | ug/L | | 99 |
| 114) | 1,2-dichlorobenzene | 9.681 | 146 | 462693 | 113.18 | ug/L | | 98 |
| 115) | benzyl chloride | 9.435 | 91 | 446450 | 129.22 | ug/L | | 99 |
| 116) | n-butylbenzene | 9.655 | 92 | 397584 | 112.92 | ug/L | | 98 |
| 117) | hexachloroethane | 9.954 | 201 | 135738 | 118.31 | ug/L | | 99 |
| 118) | 1,2-dibromo-3-chloropr... | 10.452 | 157 | 74321 | 111.88 | ug/L | | 98 |
| 119) | nitrobenzene | 10.641 | 77 | 15824 | 110.36 | ug/L | | 89 |
| 120) | 1,3,5-trichlorobenzene | 10.641 | 180 | 333584 | 113.20 | ug/L | | 100 |
| 121) | 1,2,4-trichlorobenzene | 11.244 | 180 | 281290 | 114.18 | ug/L | | 97 |
| 122) | hexachlorobutadiene | 11.380 | 225 | 112106 | 105.79 | ug/L | | 98 |
| 123) | naphthalene | 11.490 | 128 | 743054 | 114.53 | ug/L | | 99 |
| 124) | 1,2,3-trichlorobenzene | 11.700 | 180 | 246057 | 111.67 | ug/L | | 97 |
| 125) | 2-ethylhexyl acrylate | 11.422 | 70 | 28121 | 21.47 | ug/L | | 88 |
| 126) | 2-methylnaphthalene | 12.544 | 142 | 130398 | 52.61 | ug/L | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58396.D
Acq On : 2 May 2019 9:16 pm
Operator : EddieH
Sample : ic2392-100
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 06 08:54:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58397.D
Acq On : 2 May 2019 9:41 pm
Operator : EddieH
Sample : ic2392-200
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 06 08:54:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.949 | 65 | 105232 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 242129 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 338757 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 295257 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 138868 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 113723 | 47.58 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 95.16% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 102048 | 48.17 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 96.34% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 378045 | 48.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 97.22% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 132076 | 49.05 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 98.10% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.388 | 45 | 436304 | 19180.23 | ug/L | 98 |
| 3) tertiary butyl alcohol | 3.002 | 59 | 656587 | 1032.97 | ug/L | 97 |
| 4) 1,4-dioxane | 5.146 | 88 | 165281 | 5559.04 | ug/L | 99 |
| 6) chlorodifluoromethane | 1.581 | 51 | 455410 | 203.09 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 631957 | 212.07 | ug/L | 97 |
| 8) chloromethane | 1.712 | 50 | 573143 | 187.20 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 573837 | 199.36 | ug/L | 100 |
| 10) bromomethane | 2.037 | 96 | 505857 | 205.99 | ug/L | 100 |
| 11) chloroethane | 2.110 | 64 | 393696 | 232.85 | ug/L | 100 |
| 12) trichlorofluoromethane | 2.294 | 101 | 808729 | 218.95 | ug/L | 98 |
| 13) vinyl bromide | 2.252 | 106 | 437749 | 215.13 | ug/L | 98 |
| 14) 1,3-butadiene | 1.833 | 54 | 412373 | 188.03 | ug/L | 99 |
| 15) ethyl ether | 2.472 | 74 | 249296 | 214.50 | ug/L | 91 |
| 16) 2-chloropropane | 2.561 | 43 | 573113 | 192.17 | ug/L | 99 |
| 17) acrolein | 2.572 | 56 | 98672 | 203.46 | ug/L | 98 |
| 18) freon 113 | 2.645 | 151 | 373695 | 223.47 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.645 | 61 | 627538 | 219.83 | ug/L | 98 |
| 20) acetone | 2.661 | 58 | 185837 | 745.72 | ug/L | 97 |
| 21) acetonitrile | 2.844 | 41 | 542886 | 1997.91 | ug/L | 99 |
| 22) iodomethane | 2.761 | 142 | 460332 | 211.46 | ug/L | 96 |
| 23) carbon disulfide | 2.818 | 76 | 1023342 | 210.97 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 451681 | 208.16 | ug/L | 97 |
| 25) methyl acetate | 2.860 | 43 | 384627 | 217.39 | ug/L | 99 |
| 26) methyl tert butyl ether | 3.133 | 73 | 1315469 | 218.05 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 3.149 | 96 | 438938 | 220.56 | ug/L | 96 |
| 28) hexane | 3.327 | 56 | 287606 | 233.47 | ug/L | 98 |
| 29) di-isopropyl ether | 3.437 | 45 | 1296883 | 220.86 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 1333616 | 225.53 | ug/L | 99 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 773279 | 215.34 | ug/L | 99 |
| 32) chloroprene | 3.489 | 53 | 589595 | 224.18 | ug/L | 99 |
| 33) acrylonitrile | 3.112 | 53 | 174732 | 212.73 | ug/L | 98 |
| 34) vinyl acetate | 3.416 | 86 | 63236 | 311.94 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58397.D
Acq On : 2 May 2019 9:41 pm
Operator : EddieH
Sample : ic2392-200
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 06 08:54:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.809 | 45 | 77004 | 231.06 | ug/L | # | 81 |
| 36) 2-butanone | 3.799 | 72 | 264316 | 892.18 | ug/L | # | 91 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 652230 | 215.08 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 515612 | 212.53 | ug/L | | 98 |
| 39) propionitrile | 3.846 | 54 | 739511 | 2128.05 | ug/L | # | 56 |
| 40) methyl acrylate | 3.851 | 85 | 80596 | 240.79 | ug/L | # | 93 |
| 41) bromochloromethane | 3.987 | 128 | 244782 | 207.02 | ug/L | | 96 |
| 42) tetrahydrofuran | 3.998 | 71 | 67922 | 198.44 | ug/L | | 95 |
| 43) chloroform | 4.040 | 83 | 830733 | 206.69 | ug/L | | 98 |
| 45) methacrylonitrile | 3.951 | 67 | 211838 | 214.65 | ug/L | | 98 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 737674 | 210.93 | ug/L | | 99 |
| 47) cyclohexane | 4.239 | 84 | 667087 | 226.13 | ug/L | # | 84 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 613910 | 218.61 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 656155 | 229.41 | ug/L | | 98 |
| 50) isobutyl alcohol | 4.297 | 42 | 148499 | 1980.73 | ug/L | | 99 |
| 51) tert-amyl alcohol | 4.386 | 55 | 111695 | 964.51 | ug/L | | 95 |
| 54) n-butyl alcohol | 4.774 | 56 | 902902 | 10865.12 | ug/L | | 99 |
| 55) benzene | 4.433 | 78 | 1703138 | 221.95 | ug/L | | 98 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 1398497 | 235.11 | ug/L | | 99 |
| 57) iso-octane | 4.501 | 57 | 1289986 | 244.69 | ug/L | | 99 |
| 58) heptane | 4.611 | 57 | 261030 | 238.82 | ug/L | | 98 |
| 59) isopropyl acetate | 4.412 | 87 | 118808 | 219.12 | ug/L | | 96 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 613384 | 205.18 | ug/L | | 99 |
| 61) trichloroethene | 4.900 | 95 | 486575 | 226.25 | ug/L | | 97 |
| 62) ethyl acrylate | 4.921 | 55 | 567669 | 216.62 | ug/L | | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 99067 | 204.52 | ug/L | | 95 |
| 65) methyl methacrylate | 5.104 | 100 | 121612 | 235.02 | ug/L | | 97 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 470886 | 231.79 | ug/L | | 100 |
| 67) methylcyclohexane | 5.094 | 83 | 741444 | 246.51 | ug/L | | 100 |
| 68) dibromomethane | 5.167 | 93 | 338535 | 227.36 | ug/L | | 99 |
| 69) bromodichloromethane | 5.288 | 83 | 666279 | 229.30 | ug/L | | 96 |
| 70) epichlorohydrin | 5.534 | 57 | 167099 | 1188.81 | ug/L | | 85 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 723918 | 236.48 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 838640 | 948.33 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 5.754 | 70 | 360101 | 4541.81 | ug/L | | 98 |
| 76) toluene | 5.912 | 92 | 1110848 | 220.18 | ug/L | | 98 |
| 77) ethyl methacrylate | 6.106 | 69 | 618478 | 230.76 | ug/L | | 99 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 667896 | 235.93 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 378935 | 223.41 | ug/L | | 98 |
| 80) 2-hexanone | 6.420 | 58 | 830268 | 911.18 | ug/L | | 100 |
| 81) tetrachloroethene | 6.347 | 164 | 442170 | 216.22 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 680768 | 219.62 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 323886 | 223.72 | ug/L | | 98 |
| 84) dibromochloromethane | 6.583 | 129 | 567390 | 240.41 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 537001 | 230.30 | ug/L | | 100 |
| 86) n-butyl ether | 7.186 | 57 | 1674448 | 229.42 | ug/L | | 99 |
| 87) chlorobenzene | 7.128 | 112 | 1277889 | 224.96 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 508418 | 237.78 | ug/L | | 100 |
| 89) ethylbenzene | 7.207 | 91 | 2110936 | 226.09 | ug/L | | 100 |
| 90) m,p-xylene | 7.322 | 106 | 1654019 | 460.88 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58397.D
Acq On : 2 May 2019 9:41 pm
Operator : EddieH
Sample : ic2392-200
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 06 08:54:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration

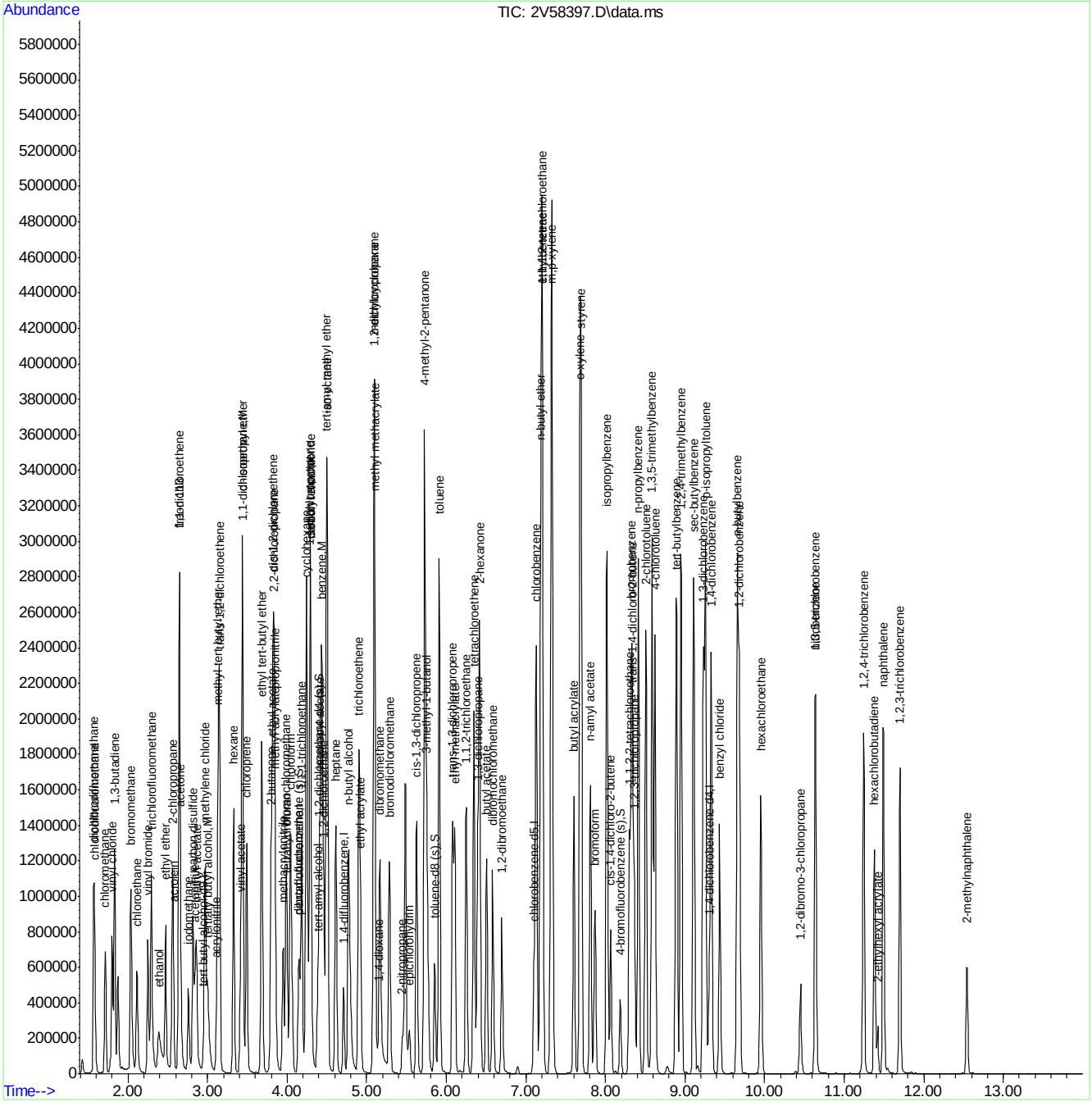
| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 91) | o-xylene | 7.679 | 91 | 1692165 | 227.20 | ug/L | | 99 |
| 92) | styrene | 7.694 | 104 | 1392535 | 245.62 | ug/L | | 99 |
| 93) | butyl acrylate | 7.605 | 56 | 446225 | 233.46 | ug/L | | 95 |
| 94) | n-amyl acetate | 7.810 | 70 | 359437 | 235.59 | ug/L | | 98 |
| 95) | bromoform | 7.867 | 173 | 423784 | 252.99 | ug/L | | 98 |
| 96) | isopropylbenzene | 8.019 | 105 | 1997807 | 227.80 | ug/L | | 99 |
| 97) | cis-1,4-dichloro-2-butene | 8.067 | 88 | 200125 | 212.80 | ug/L | | 96 |
| 100) | bromobenzene | 8.329 | 156 | 565076 | 232.14 | ug/L | | 98 |
| 101) | 1,1,2,2-tetrachloroethane | 8.302 | 83 | 631900 | 234.66 | ug/L | | 96 |
| 102) | trans-1,4-dichloro-2-b... | 8.339 | 53 | 121219 | 213.88 | ug/L | | 96 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 177352 | 227.26 | ug/L | | 96 |
| 104) | n-propylbenzene | 8.413 | 91 | 2250767 | 224.73 | ug/L | | 99 |
| 105) | 2-chlorotoluene | 8.507 | 126 | 503221 | 225.11 | ug/L | | 98 |
| 106) | 4-chlorotoluene | 8.622 | 126 | 504035 | 228.17 | ug/L | | 95 |
| 107) | 1,3,5-trimethylbenzene | 8.586 | 105 | 1617202 | 231.10 | ug/L | | 99 |
| 108) | tert-butylbenzene | 8.895 | 134 | 327447 | 187.80 | ug/L | # | 1 |
| 109) | 1,2,4-trimethylbenzene | 8.947 | 105 | 1635581 | 228.98 | ug/L | | 100 |
| 110) | sec-butylbenzene | 9.110 | 105 | 1990137 | 231.00 | ug/L | | 100 |
| 111) | 1,3-dichlorobenzene | 9.230 | 146 | 978506 | 233.04 | ug/L | | 98 |
| 112) | p-isopropyltoluene | 9.257 | 119 | 1675200 | 234.24 | ug/L | | 100 |
| 113) | 1,4-dichlorobenzene | 9.330 | 146 | 988972 | 224.99 | ug/L | | 99 |
| 114) | 1,2-dichlorobenzene | 9.681 | 146 | 945644 | 237.32 | ug/L | | 99 |
| 115) | benzyl chloride | 9.435 | 91 | 982147 | 291.64 | ug/L | | 100 |
| 116) | n-butylbenzene | 9.655 | 92 | 818804 | 238.59 | ug/L | | 97 |
| 117) | hexachloroethane | 9.954 | 201 | 282050 | 252.20 | ug/L | | 98 |
| 118) | 1,2-dibromo-3-chloropr... | 10.452 | 157 | 154567 | 238.72 | ug/L | | 99 |
| 119) | nitrobenzene | 10.641 | 77 | 36746 | 262.92 | ug/L | | 91 |
| 120) | 1,3,5-trichlorobenzene | 10.641 | 180 | 687370 | 239.30 | ug/L | | 100 |
| 121) | 1,2,4-trichlorobenzene | 11.244 | 180 | 591338 | 246.26 | ug/L | | 97 |
| 122) | hexachlorobutadiene | 11.380 | 225 | 246146 | 238.31 | ug/L | | 96 |
| 123) | naphthalene | 11.495 | 128 | 1521960 | 240.68 | ug/L | | 99 |
| 124) | 1,2,3-trichlorobenzene | 11.700 | 180 | 519319 | 241.80 | ug/L | | 98 |
| 125) | 2-ethylhexyl acrylate | 11.422 | 70 | 63194 | 49.50 | ug/L | | 90 |
| 126) | 2-methylnaphthalene | 12.544 | 142 | 284766 | 117.87 | ug/L | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58397.D
Acq On : 2 May 2019 9:41 pm
Operator : EddieH
Sample : ic2392-200
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 06 08:54:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:28:42 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58401.D
Acq On : 2 May 2019 11:25 pm
Operator : EddieH
Sample : icv2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 06 08:59:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

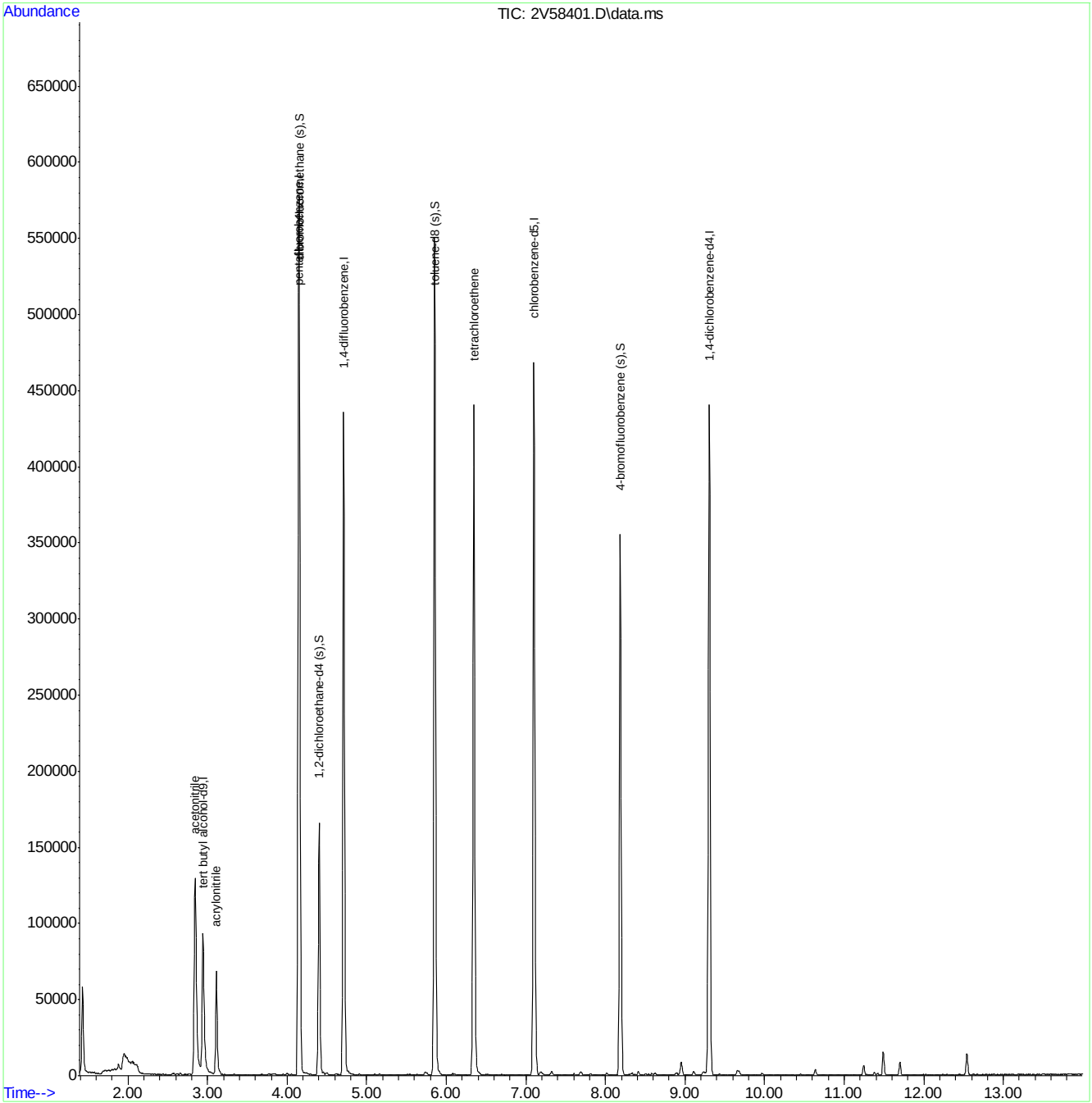
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 101775 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 219548 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 306681 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 256490 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 115538 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 101550 | 46.92 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 93.84% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 92676 | 48.22 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 96.44% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 339823 | 50.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 100.58% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 113205 | 50.53 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 101.06% | | | |
| Target Compounds | | | | | | Qvalue |
| 21) acetonitrile | 2.844 | 41 | 138193 | 543.45 | ug/L | 98 |
| 33) acrylonitrile | 3.112 | 53 | 39967 | 53.70 | ug/L | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 94378 | 53.13 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58401.D
Acq On : 2 May 2019 11:25 pm
Operator : EddieH
Sample : icv2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 06 08:59:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration




M2V2392.M Wed May 08 15:06:38 2019 RPT1 Page: 2

# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58405.D
Acq On : 3 May 2019 11:29 am
Operator : EddieH
Sample : icv2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 09:05:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 103849 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 235681 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 329765 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 283522 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 136133 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 108076 | 46.51 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 93.02% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 98307 | 47.57 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 95.14% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 374491 | 50.14 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 100.28% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 128820 | 48.80 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 97.60% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 130883 | 5844.73 | ug/L | | 98 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 181426 | 290.91 | ug/L | | 98 |
| 4) 1,4-dioxane | 5.141 | 88 | 42250 | 1450.28 | ug/L | | 94 |
| 6) chlorodifluoromethane | 1.581 | 51 | 122868 | 56.37 | ug/L | | 97 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 156221 | 53.93 | ug/L | | 99 |
| 8) chloromethane | 1.712 | 50 | 150587 | 50.28 | ug/L | | 98 |
| 9) vinyl chloride | 1.801 | 62 | 134849 | 48.16 | ug/L | | 99 |
| 10) bromomethane | 2.047 | 96 | 119116 | 49.88 | ug/L | | 96 |
| 11) chloroethane | 2.121 | 64 | 82836 | 50.40 | ug/L | | 99 |
| 12) trichlorofluoromethane | 2.299 | 101 | 187872 | 52.27 | ug/L | | 99 |
| 13) vinyl bromide | 2.257 | 106 | 99849 | 50.48 | ug/L | | 100 |
| 14) 1,3-butadiene | 1.832 | 54 | 120448 | 56.25 | ug/L | | 99 |
| 15) ethyl ether | 2.477 | 74 | 58346 | 51.58 | ug/L | | 97 |
| 16) 2-chloropropane | 2.566 | 43 | 152146 | 52.51 | ug/L | | 98 |
| 17) acrolein | 2.572 | 56 | 24393 | 51.66 | ug/L | | 91 |
| 18) freon 113 | 2.645 | 151 | 96134 | 59.16 | ug/L | | 94 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 142619 | 51.39 | ug/L | | 98 |
| 20) acetone | 2.661 | 58 | 50291 | 207.20 | ug/L | | 95 |
| 22) iodomethane | 2.760 | 142 | 116815 | 56.40 | ug/L | | 96 |
| 23) carbon disulfide | 2.818 | 76 | 272892 | 57.88 | ug/L | | 97 |
| 24) methylene chloride | 2.970 | 84 | 109763 | 52.02 | ug/L | | 99 |
| 25) methyl acetate | 2.860 | 43 | 81181 | 47.18 | ug/L | | 97 |
| 26) methyl tert butyl ether | 3.138 | 73 | 626874 | 106.82 | ug/L | | 98 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 106711 | 55.13 | ug/L | | 99 |
| 28) hexane | 3.332 | 56 | 72309 | 60.40 | ug/L | | 98 |
| 29) di-isopropyl ether | 3.437 | 45 | 287887 | 50.43 | ug/L | | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 300316 | 52.24 | ug/L | | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 186655 | 53.47 | ug/L | | 99 |
| 32) chloroprene | 3.494 | 53 | 145116 | 56.75 | ug/L | | 100 |
| 34) vinyl acetate | 3.421 | 86 | 8427 | 42.75 | ug/L | # | 62 |
| 35) ethyl acetate | 3.809 | 45 | 16263 | 48.96 | ug/L | | 91 |
| 36) 2-butanone | 3.799 | 72 | 63072 | 218.95 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58405.D
Acq On : 3 May 2019 11:29 am
Operator : EddieH
Sample : icv2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 09:05:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.835 | 77 | 164702 | 55.82 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 121793 | 51.63 | ug/L | | 99 |
| 39) propionitrile | 3.841 | 54 | 181382 | 536.78 | ug/L | | 99 |
| 40) methyl acrylate | 3.851 | 85 | 15810 | 48.61 | ug/L | # | 84 |
| 41) bromochloromethane | 3.987 | 128 | 65552 | 57.04 | ug/L | | 97 |
| 42) tetrahydrofuran | 3.998 | 71 | 16163 | 48.60 | ug/L | | 87 |
| 43) chloroform | 4.040 | 83 | 202032 | 51.68 | ug/L | | 99 |
| 45) methacrylonitrile | 3.951 | 67 | 50123 | 52.23 | ug/L | | 99 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 176108 | 51.90 | ug/L | | 98 |
| 47) cyclohexane | 4.244 | 84 | 150532 | 52.36 | ug/L | | 97 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 145658 | 53.34 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 156813 | 56.38 | ug/L | | 97 |
| 50) isobutyl alcohol | 4.291 | 42 | 37123 | 510.59 | ug/L | | 98 |
| 51) tert-amyl alcohol | 4.381 | 55 | 28040 | 248.99 | ug/L | | 94 |
| 54) n-butyl alcohol | 4.769 | 56 | 214327 | 2645.74 | ug/L | | 98 |
| 55) benzene | 4.433 | 78 | 414451 | 55.51 | ug/L | | 99 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 312390 | 53.96 | ug/L | | 98 |
| 57) iso-octane | 4.501 | 57 | 297445 | 58.00 | ug/L | | 98 |
| 58) heptane | 4.611 | 57 | 75287 | 70.81 | ug/L | | 97 |
| 59) isopropyl acetate | 4.412 | 87 | 26968 | 51.11 | ug/L | # | 92 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 145923 | 50.15 | ug/L | | 99 |
| 61) trichloroethene | 4.900 | 95 | 119331 | 57.03 | ug/L | | 97 |
| 62) ethyl acrylate | 4.921 | 55 | 138034 | 54.15 | ug/L | | 100 |
| 63) 2-nitropropane | 5.445 | 41 | 18948 | 48.42 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 118340 | 248.84 | ug/L | | 99 |
| 65) methyl methacrylate | 5.104 | 100 | 28789 | 55.30 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 112194 | 56.60 | ug/L | | 99 |
| 67) methylcyclohexane | 5.094 | 83 | 170188 | 58.16 | ug/L | | 99 |
| 68) dibromomethane | 5.167 | 93 | 79828 | 55.10 | ug/L | | 96 |
| 69) bromodichloromethane | 5.288 | 83 | 156761 | 55.45 | ug/L | | 98 |
| 70) epichlorohydrin | 5.534 | 57 | 36664 | 268.18 | ug/L | | 94 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 175567 | 58.95 | ug/L | | 100 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 194991 | 226.63 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 86980 | 1127.57 | ug/L | | 97 |
| 76) toluene | 5.912 | 92 | 268487 | 55.42 | ug/L | | 97 |
| 77) ethyl methacrylate | 6.106 | 69 | 146375 | 56.88 | ug/L | | 98 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 162785 | 59.88 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 90848 | 55.78 | ug/L | | 98 |
| 80) 2-hexanone | 6.415 | 58 | 193261 | 220.85 | ug/L | | 99 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 166069 | 55.79 | ug/L | | 99 |
| 83) butyl acetate | 6.504 | 56 | 75543 | 54.34 | ug/L | | 95 |
| 84) dibromochloromethane | 6.583 | 129 | 138615 | 61.16 | ug/L | | 96 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 129262 | 57.73 | ug/L | | 99 |
| 86) n-butyl ether | 7.186 | 57 | 421855 | 60.19 | ug/L | | 99 |
| 87) chlorobenzene | 7.128 | 112 | 316275 | 57.98 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 122030 | 59.43 | ug/L | | 100 |
| 89) ethylbenzene | 7.207 | 91 | 510857 | 56.98 | ug/L | | 99 |
| 90) m,p-xylene | 7.322 | 106 | 404210 | 117.29 | ug/L | | 99 |
| 91) o-xylene | 7.678 | 91 | 405982 | 56.77 | ug/L | | 100 |
| 92) styrene | 7.694 | 104 | 331914 | 60.97 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58405.D
Acq On : 3 May 2019 11:29 am
Operator : EddieH
Sample : icv2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 09:05:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

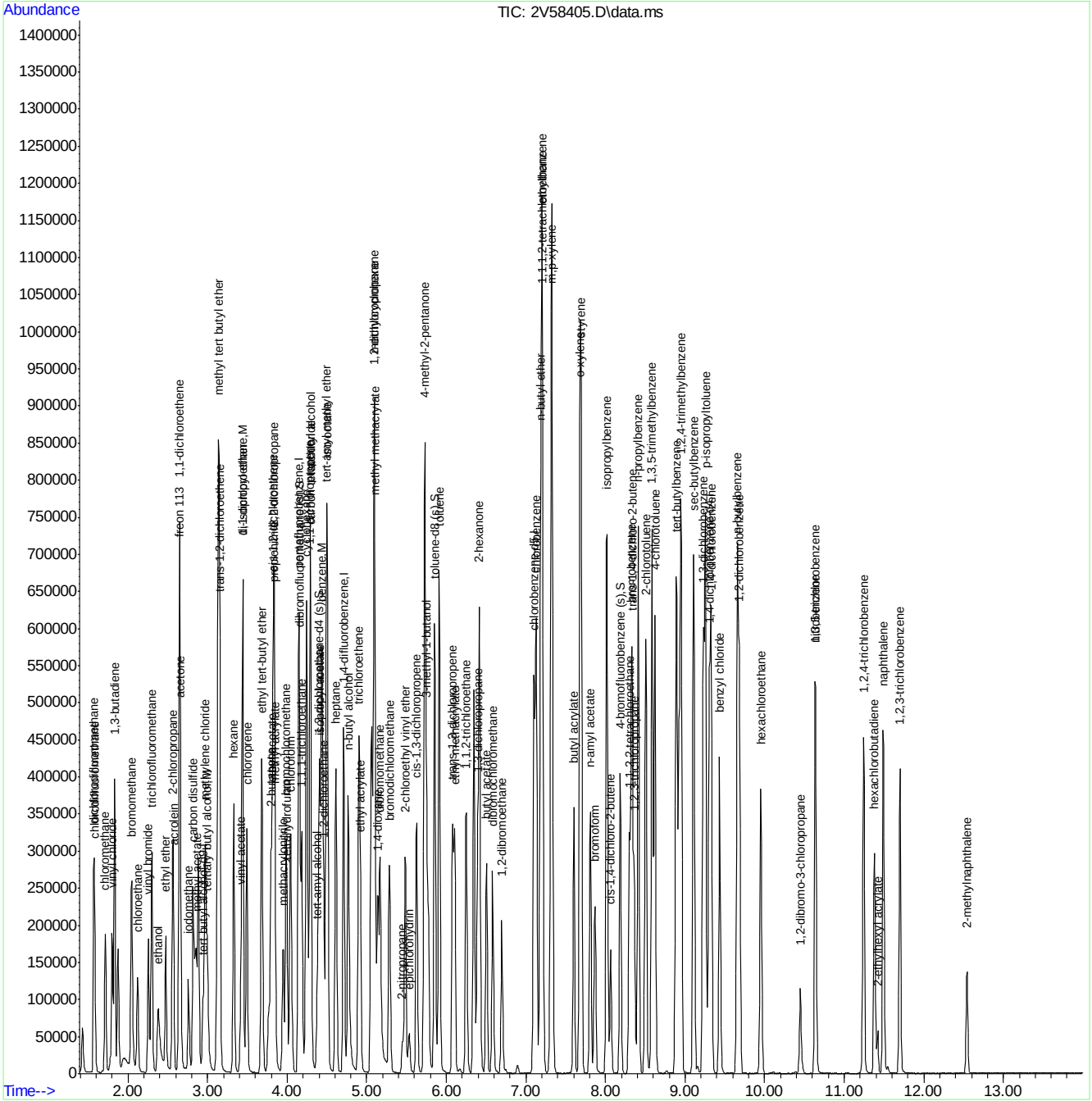
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) butyl acrylate | 7.605 | 56 | 98515 | 53.64 | ug/L | 97 |
| 94) n-amyl acetate | 7.809 | 70 | 77642 | 53.00 | ug/L | 96 |
| 95) bromoform | 7.867 | 173 | 105315 | 65.47 | ug/L | 97 |
| 96) isopropylbenzene | 8.019 | 105 | 493557 | 58.61 | ug/L | 99 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 42306 | 49.60 | ug/L | 97 |
| 100) bromobenzene | 8.329 | 156 | 136945 | 57.39 | ug/L | 98 |
| 101) 1,1,2,2-tetrachloroethane | 8.302 | 83 | 148913 | 56.21 | ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 28297 | 53.33 | ug/L | 98 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 42470 | 54.51 | ug/L | 96 |
| 104) n-propylbenzene | 8.412 | 91 | 571599 | 58.22 | ug/L | 100 |
| 105) 2-chlorotoluene | 8.507 | 126 | 123781 | 56.46 | ug/L | 98 |
| 106) 4-chlorotoluene | 8.622 | 126 | 129635 | 59.86 | ug/L | 97 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 404369 | 58.94 | ug/L | 99 |
| 108) tert-butylbenzene | 8.890 | 134 | 90793 | 62.68 | ug/L | 99 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 416442 | 59.47 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 493527 | 58.44 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 244093 | 59.30 | ug/L | 98 |
| 112) p-isopropyltoluene | 9.257 | 119 | 428319 | 61.09 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.330 | 146 | 246130 | 57.12 | ug/L | 99 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 233121 | 59.68 | ug/L | 99 |
| 115) benzyl chloride | 9.435 | 91 | 299758 | 90.80 | ug/L | 99 |
| 116) n-butylbenzene | 9.655 | 92 | 200993 | 59.74 | ug/L | 99 |
| 117) hexachloroethane | 9.954 | 201 | 68580 | 62.56 | ug/L | 97 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 33994 | 53.56 | ug/L | 99 |
| 119) nitrobenzene | 10.641 | 77 | 7746 | 56.54 | ug/L | 96 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 171701 | 60.98 | ug/L | 98 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 142362 | 60.46 | ug/L | 98 |
| 122) hexachlorobutadiene | 11.380 | 225 | 57952 | 57.23 | ug/L | 96 |
| 123) naphthalene | 11.490 | 128 | 358076 | 57.75 | ug/L | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 124656 | 59.18 | ug/L | 98 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 13702 | 10.93 | ug/L | 89 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 60575 | 25.57 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2392\
Data File : 2V58405.D
Acq On : 3 May 2019 11:29 am
Operator : EddieH
Sample : icv2392-50
Misc : MS34255,V2V2392,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 06 09:05:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58520.D
Acq On : 13 May 2019 6:40 am
Operator : EddieH
Sample : cc2392-20
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 11:51:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 113014 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 247896 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 345723 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 294126 | 50.00 | ug/L | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 140414 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 4.150 | 113 | 116761 | 47.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 95.54% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.402 | 65 | 101657 | 46.92 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 93.84% | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 383938 | 49.55 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 99.10% | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 130438 | 47.91 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 95.82% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 57066 | 2341.69 | ug/L | 96 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 82221 | 121.15 | ug/L | 98 |
| 4) 1,4-dioxane | 5.136 | 88 | 17753 | 559.97 | ug/L | 96 |
| 6) chlorodifluoromethane | 1.586 | 51 | 50604 | 22.07 | ug/L | 95 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 65378 | 21.46 | ug/L | 98 |
| 8) chloromethane | 1.717 | 50 | 63696 | 20.22 | ug/L | 99 |
| 9) vinyl chloride | 1.801 | 62 | 62236 | 21.13 | ug/L | 99 |
| 10) bromomethane | 2.047 | 96 | 51063 | 20.33 | ug/L | 97 |
| 11) chloroethane | 2.121 | 64 | 34401 | 19.90 | ug/L | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 81834 | 21.65 | ug/L | 99 |
| 13) vinyl bromide | 2.257 | 106 | 48922 | 23.51 | ug/L | 98 |
| 14) 1,3-butadiene | 1.832 | 54 | 45230 | 20.08 | ug/L | 98 |
| 15) ethyl ether | 2.477 | 74 | 24359 | 20.47 | ug/L | 95 |
| 16) 2-chloropropane | 2.566 | 43 | 62767 | 20.59 | ug/L | 98 |
| 17) acrolein | 2.572 | 56 | 9947 | 20.03 | ug/L | 95 |
| 18) freon 113 | 2.650 | 151 | 38542 | 22.55 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 65135 | 22.32 | ug/L | 98 |
| 20) acetone | 2.661 | 58 | 23342 | 91.43 | ug/L | 97 |
| 21) acetonitrile | 2.844 | 41 | 56957 | 198.37 | ug/L | 98 |
| 22) iodomethane | 2.760 | 142 | 35380 | 17.71 | ug/L | 97 |
| 23) carbon disulfide | 2.818 | 76 | 107834 | 21.75 | ug/L | 98 |
| 24) methylene chloride | 2.970 | 84 | 47615 | 21.45 | ug/L | 99 |
| 25) methyl acetate | 2.860 | 43 | 34177 | 18.88 | ug/L | 98 |
| 26) methyl tert butyl ether | 3.138 | 73 | 131965 | 21.38 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 45774 | 22.48 | ug/L | 98 |
| 28) hexane | 3.327 | 56 | 28921 | 22.97 | ug/L | 93 |
| 29) di-isopropyl ether | 3.437 | 45 | 125844 | 20.96 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 132010 | 21.83 | ug/L | 98 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 78861 | 21.48 | ug/L | 99 |
| 32) chloroprene | 3.494 | 53 | 59350 | 22.07 | ug/L | 97 |
| 33) acrylonitrile | 3.112 | 53 | 17681 | 21.04 | ug/L | 96 |
| 34) vinyl acetate | 3.416 | 86 | 2469 | 11.91 | ug/L # | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58520.D
Acq On : 13 May 2019 6:40 am
Operator : EddieH
Sample : cc2392-20
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 11:51:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 35) ethyl acetate | 3.804 | 45 | 6595 | 18.87 | ug/L | # | 43 |
| 36) 2-butanone | 3.799 | 72 | 25924 | 85.56 | ug/L | | 93 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 71791 | 23.13 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 52714 | 21.25 | ug/L | | 99 |
| 39) propionitrile | 3.841 | 54 | 76191 | 214.37 | ug/L | | 98 |
| 40) methyl acrylate | 3.851 | 85 | 6876 | 20.10 | ug/L | # | 73 |
| 41) bromochloromethane | 3.987 | 128 | 27031 | 22.36 | ug/L | | 95 |
| 42) tetrahydrofuran | 3.998 | 71 | 7209 | 20.61 | ug/L | | 89 |
| 43) chloroform | 4.040 | 83 | 86432 | 21.02 | ug/L | | 97 |
| 45) methacrylonitrile | 3.951 | 67 | 20579 | 20.39 | ug/L | | 99 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 76488 | 21.43 | ug/L | | 98 |
| 47) cyclohexane | 4.244 | 84 | 59861 | 19.79 | ug/L | | 96 |
| 48) 1,1-dichloropropene | 4.291 | 75 | 61505 | 21.41 | ug/L | | 99 |
| 49) carbon tetrachloride | 4.297 | 119 | 66995 | 22.90 | ug/L | | 98 |
| 50) isobutyl alcohol | 4.291 | 42 | 14272 | 186.63 | ug/L | | 99 |
| 51) tert-amyl alcohol | 4.381 | 55 | 11734 | 99.06 | ug/L | | 88 |
| 54) n-butyl alcohol | 4.769 | 56 | 86889 | 1023.09 | ug/L | | 99 |
| 55) benzene | 4.433 | 78 | 172740 | 22.07 | ug/L | | 100 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 135393 | 22.31 | ug/L | | 99 |
| 57) iso-octane | 4.501 | 57 | 127778 | 23.76 | ug/L | | 96 |
| 58) heptane | 4.617 | 57 | 26135 | 23.45 | ug/L | | 90 |
| 59) isopropyl acetate | 4.412 | 87 | 11873 | 21.46 | ug/L | # | 87 |
| 60) 1,2-dichloroethane | 4.459 | 62 | 62065 | 20.35 | ug/L | | 99 |
| 61) trichloroethene | 4.905 | 95 | 48957 | 22.32 | ug/L | | 98 |
| 62) ethyl acrylate | 4.921 | 55 | 55938 | 20.93 | ug/L | | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 5345 | 20.52 | ug/L | | 88 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 75924 | 154.45 | ug/L | | 96 |
| 65) methyl methacrylate | 5.104 | 100 | 11398 | 20.88 | ug/L | | 98 |
| 66) 1,2-dichloropropane | 5.099 | 63 | 45929 | 22.10 | ug/L | | 100 |
| 67) methylcyclohexane | 5.094 | 83 | 71257 | 23.23 | ug/L | | 99 |
| 68) dibromomethane | 5.167 | 93 | 32725 | 21.54 | ug/L | | 93 |
| 69) bromodichloromethane | 5.288 | 83 | 67429 | 22.75 | ug/L | | 97 |
| 70) epichlorohydrin | 5.534 | 57 | 14784 | 103.15 | ug/L | | 90 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 71459 | 22.88 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 80573 | 89.32 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 34067 | 421.24 | ug/L | | 97 |
| 76) toluene | 5.912 | 92 | 111424 | 22.17 | ug/L | | 98 |
| 77) ethyl methacrylate | 6.106 | 69 | 57013 | 21.35 | ug/L | | 99 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 65029 | 23.06 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.247 | 83 | 38005 | 22.49 | ug/L | | 98 |
| 80) 2-hexanone | 6.415 | 58 | 79247 | 87.29 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 46482 | 22.82 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 69370 | 22.46 | ug/L | | 98 |
| 83) butyl acetate | 6.504 | 56 | 30680 | 21.27 | ug/L | | 98 |
| 84) dibromochloromethane | 6.583 | 129 | 55341 | 23.54 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 53240 | 22.92 | ug/L | | 100 |
| 86) n-butyl ether | 7.186 | 57 | 160556 | 22.08 | ug/L | | 100 |
| 87) chlorobenzene | 7.128 | 112 | 126840 | 22.41 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.201 | 131 | 49943 | 23.45 | ug/L | | 98 |
| 89) ethylbenzene | 7.207 | 91 | 208201 | 22.38 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58520.D
Acq On : 13 May 2019 6:40 am
Operator : EddieH
Sample : cc2392-20
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 11:51:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration

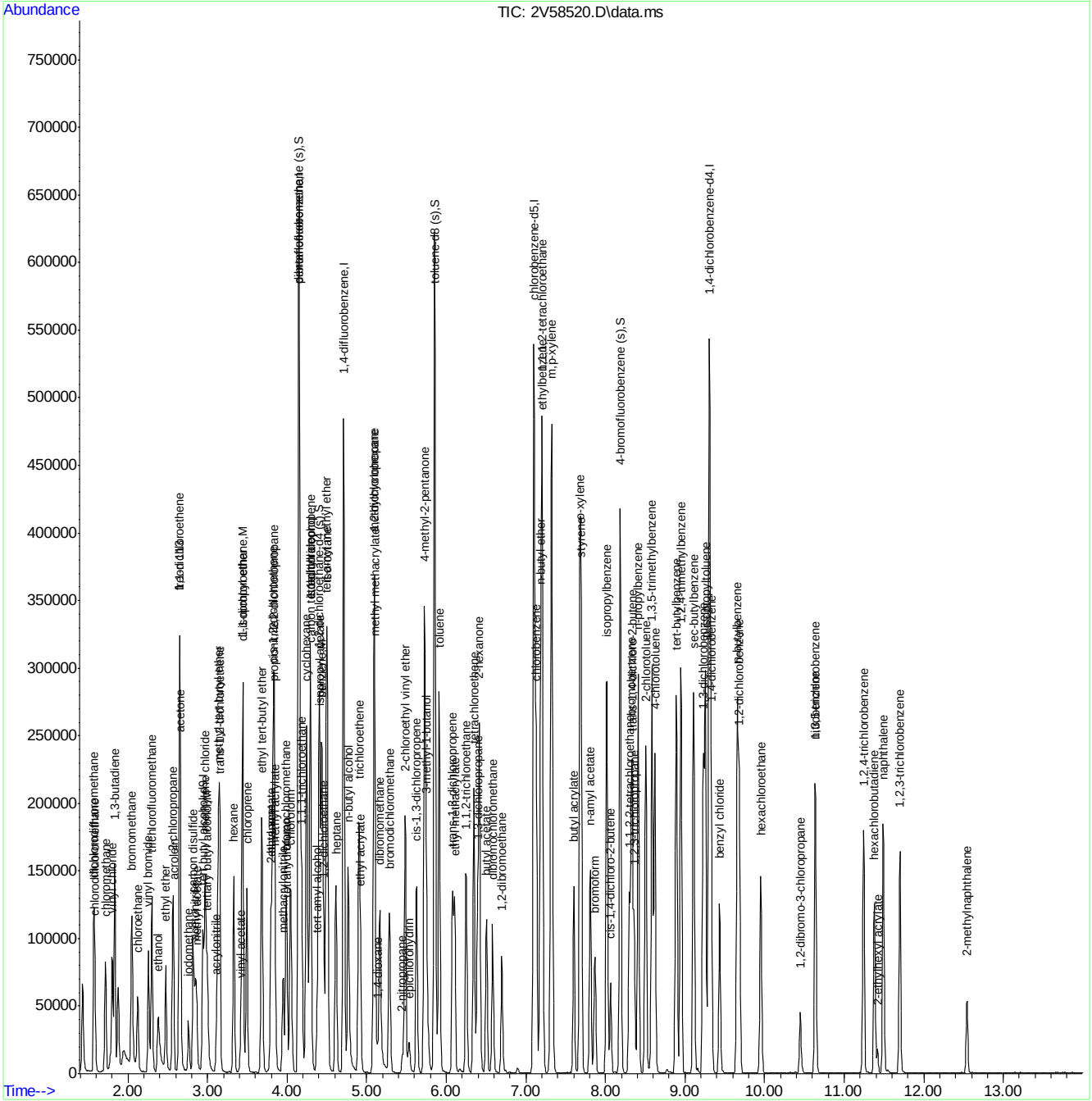
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 90) | m,p-xylene | 7.322 | 106 | 164466 | 46.00 | ug/L | 99 |
| 91) | o-xylene | 7.678 | 91 | 164621 | 22.19 | ug/L | 100 |
| 92) | styrene | 7.694 | 104 | 130340 | 23.08 | ug/L | 100 |
| 93) | butyl acrylate | 7.600 | 56 | 38907 | 20.42 | ug/L | 96 |
| 94) | n-amyl acetate | 7.809 | 70 | 33672 | 22.16 | ug/L | 91 |
| 95) | bromoform | 7.867 | 173 | 39966 | 23.95 | ug/L | 98 |
| 96) | isopropylbenzene | 8.019 | 105 | 200808 | 22.98 | ug/L | 99 |
| 97) | cis-1,4-dichloro-2-butene | 8.066 | 88 | 15763 | 20.08 | ug/L | 94 |
| 100) | bromobenzene | 8.329 | 156 | 56543 | 22.97 | ug/L | 94 |
| 101) | 1,1,2,2-tetrachloroethane | 8.302 | 83 | 60772 | 22.24 | ug/L | 100 |
| 102) | trans-1,4-dichloro-2-b... | 8.334 | 53 | 10280 | 20.83 | ug/L | 96 |
| 103) | 1,2,3-trichloropropane | 8.360 | 110 | 17616 | 21.92 | ug/L | 97 |
| 104) | n-propylbenzene | 8.412 | 91 | 227647 | 22.48 | ug/L | 100 |
| 105) | 2-chlorotoluene | 8.507 | 126 | 51340 | 22.70 | ug/L | 99 |
| 106) | 4-chlorotoluene | 8.622 | 126 | 50351 | 22.54 | ug/L | 97 |
| 107) | 1,3,5-trimethylbenzene | 8.585 | 105 | 163355 | 23.09 | ug/L | 99 |
| 108) | tert-butylbenzene | 8.890 | 134 | 33002 | 22.09 | ug/L | 93 |
| 109) | 1,2,4-trimethylbenzene | 8.947 | 105 | 163048 | 22.58 | ug/L | 100 |
| 110) | sec-butylbenzene | 9.110 | 105 | 201199 | 23.10 | ug/L | 99 |
| 111) | 1,3-dichlorobenzene | 9.230 | 146 | 95750 | 22.55 | ug/L | 97 |
| 112) | p-isopropyltoluene | 9.257 | 119 | 167665 | 23.18 | ug/L | 98 |
| 113) | 1,4-dichlorobenzene | 9.330 | 146 | 97964 | 22.04 | ug/L | 98 |
| 114) | 1,2-dichlorobenzene | 9.681 | 146 | 92184 | 22.88 | ug/L | 98 |
| 115) | benzyl chloride | 9.435 | 91 | 90203 | 26.49 | ug/L | 99 |
| 116) | n-butylbenzene | 9.655 | 92 | 78929 | 22.74 | ug/L | 98 |
| 117) | hexachloroethane | 9.954 | 201 | 26727 | 23.64 | ug/L | 95 |
| 118) | 1,2-dibromo-3-chloropr... | 10.447 | 157 | 13044 | 19.92 | ug/L | 91 |
| 119) | nitrobenzene | 10.636 | 77 | 3898 | 27.58 | ug/L | 100 |
| 120) | 1,3,5-trichlorobenzene | 10.636 | 180 | 69478 | 23.92 | ug/L | 99 |
| 121) | 1,2,4-trichlorobenzene | 11.244 | 180 | 56973 | 23.46 | ug/L | 97 |
| 122) | hexachlorobutadiene | 11.380 | 225 | 25130 | 24.06 | ug/L | 95 |
| 123) | naphthalene | 11.490 | 128 | 142389 | 22.26 | ug/L | 98 |
| 124) | 1,2,3-trichlorobenzene | 11.700 | 180 | 50989 | 23.47 | ug/L | 96 |
| 125) | 2-ethylhexyl acrylate | 11.422 | 70 | 4443 | 3.44 | ug/L | 99 |
| 126) | 2-methylnaphthalene | 12.544 | 142 | 24973 | 10.22 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V2V2399\
Data File : 2V58520.D
Acq On : 13 May 2019 6:40 am
Operator : EddieH
Sample : cc2392-20
Misc : MS34633,V2V2399,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 13 11:51:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 09:05:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-16-19\v2v2401\
Data File : 2v58580.d
Acq On : 15 May 2019 6:38 am
Operator : EddieH
Sample : cc2392-20 Inst : MS2V
Misc : MS34708,V2V2401,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 06:53:39 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) tert butyl alcohol-d9 | 2.944 | 65 | 103646 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 4.150 | 168 | 219620 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 4.711 | 114 | 310308 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 7.102 | 117 | 270286 | 50.00 | ug/L | | 0.00 |
| 98) 1,4-dichlorobenzene-d4 | 9.304 | 152 | 131264 | 50.00 | ug/L | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 44) dibromofluoromethane (s) | 4.155 | 113 | 102620 | 47.39 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 120 | | Recovery = 94.78% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.401 | 65 | 93944 | 48.31 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 64 - 135 | | Recovery = 96.62% | | | | |
| 75) toluene-d8 (s) | 5.854 | 98 | 350365 | 49.21 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 76 - 117 | | Recovery = 98.42% | | | | |
| 99) 4-bromofluorobenzene (s) | 8.187 | 95 | 122190 | 48.01 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 72 - 122 | | Recovery = 96.02% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) ethanol | 2.383 | 45 | 50736 | 2270.11 | ug/L | | 96 |
| 3) tertiary butyl alcohol | 2.996 | 59 | 67481 | 108.42 | ug/L | | 97 |
| 4) 1,4-dioxane | 5.135 | 88 | 16014 | 550.77 | ug/L | | 95 |
| 6) chlorodifluoromethane | 1.581 | 51 | 36517 | 17.98 | ug/L | | 99 |
| 7) dichlorodifluoromethane | 1.570 | 85 | 47202 | 17.49 | ug/L | | 100 |
| 8) chloromethane | 1.717 | 50 | 53147 | 19.04 | ug/L | | 95 |
| 9) vinyl chloride | 1.801 | 62 | 52248 | 20.03 | ug/L | | 100 |
| 10) bromomethane | 2.047 | 96 | 47120 | 21.17 | ug/L | | 96 |
| 11) chloroethane | 2.121 | 64 | 28897 | 18.87 | ug/L | | 98 |
| 12) trichlorofluoromethane | 2.299 | 101 | 63626 | 19.00 | ug/L | | 97 |
| 13) vinyl bromide | 2.257 | 106 | 35125 | 19.06 | ug/L | | 98 |
| 14) 1,3-butadiene | 1.832 | 54 | 36730 | 18.41 | ug/L | | 98 |
| 15) ethyl ether | 2.477 | 74 | 21457 | 20.36 | ug/L | | 98 |
| 16) 2-chloropropane | 2.561 | 43 | 48127 | 17.82 | ug/L | | 98 |
| 17) acrolein | 2.572 | 56 | 7999 | 18.18 | ug/L | | 98 |
| 18) freon 113 | 2.645 | 151 | 28365 | 18.73 | ug/L | | 95 |
| 19) 1,1-dichloroethene | 2.650 | 61 | 49768 | 19.25 | ug/L | | 99 |
| 20) acetone | 2.661 | 58 | 21447 | 94.82 | ug/L | | 97 |
| 21) acetonitrile | 2.844 | 41 | 51278 | 201.59 | ug/L | | 96 |
| 22) iodomethane | 2.766 | 142 | 21616 | 12.85 | ug/L | | 93 |
| 23) carbon disulfide | 2.818 | 76 | 81655 | 18.59 | ug/L | | 98 |
| 24) methylene chloride | 2.970 | 84 | 40194 | 20.44 | ug/L | | 98 |
| 25) methyl acetate | 2.860 | 43 | 31120 | 19.41 | ug/L | | 98 |
| 26) methyl tert butyl ether | 3.138 | 73 | 112721 | 20.61 | ug/L | | 99 |
| 27) trans-1,2-dichloroethene | 3.154 | 96 | 35414 | 19.63 | ug/L | | 97 |
| 28) hexane | 3.332 | 56 | 21725 | 19.47 | ug/L | | 94 |
| 29) di-isopropyl ether | 3.437 | 45 | 106772 | 20.07 | ug/L | | 98 |
| 30) ethyl tert-butyl ether | 3.683 | 59 | 113213 | 21.13 | ug/L | | 99 |
| 31) 1,1-dichloroethane | 3.442 | 63 | 64130 | 19.71 | ug/L | | 98 |
| 32) chloroprene | 3.494 | 53 | 45160 | 18.95 | ug/L | | 98 |
| 33) acrylonitrile | 3.112 | 53 | 15504 | 20.82 | ug/L | | 94 |
| 34) vinyl acetate | 3.421 | 86 | 1921 | 10.46 | ug/L | # | 7 |
| 35) ethyl acetate | 3.809 | 45 | 5698 | 18.41 | ug/L | # | 76 |
| 36) 2-butanone | 3.793 | 72 | 23083 | 85.99 | ug/L | # | 83 |
| 37) 2,2-dichloropropane | 3.835 | 77 | 56480 | 20.54 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 3.825 | 96 | 42542 | 19.35 | ug/L | | 98 |
| 39) propionitrile | 3.840 | 54 | 65664 | 208.54 | ug/L | | 99 |
| 40) methyl acrylate | 3.851 | 85 | 6074 | 20.04 | ug/L | # | 71 |
| 41) bromochloromethane | 3.987 | 128 | 23319 | 21.77 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-16-19\v2v2401\
Data File : 2v58580.d
Acq On : 15 May 2019 6:38 am
Operator : EddieH
Sample : cc2392-20 Inst : MS2V
Misc : MS34708,V2V2401,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 06:53:39 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 42) tetrahydrofuran | 4.003 | 71 | 6734 | 21.73 | ug/L | # | 82 |
| 43) chloroform | 4.045 | 83 | 71776 | 19.70 | ug/L | | 98 |
| 45) methacrylonitrile | 3.945 | 67 | 18682 | 20.89 | ug/L | | 93 |
| 46) 1,1,1-trichloroethane | 4.181 | 97 | 60821 | 19.23 | ug/L | | 98 |
| 47) cyclohexane | 4.244 | 84 | 48315 | 18.03 | ug/L | | 93 |
| 48) 1,1-dichloropropene | 4.286 | 75 | 49360 | 19.40 | ug/L | | 98 |
| 49) carbon tetrachloride | 4.297 | 119 | 51660 | 19.93 | ug/L | | 98 |
| 50) isobutyl alcohol | 4.291 | 42 | 12240 | 180.66 | ug/L | | 94 |
| 51) tert-amyl alcohol | 4.380 | 55 | 10254 | 97.71 | ug/L | | 90 |
| 54) n-butyl alcohol | 4.768 | 56 | 73808 | 968.25 | ug/L | | 99 |
| 55) benzene | 4.433 | 78 | 145235 | 20.67 | ug/L | | 98 |
| 56) tert-amyl methyl ether | 4.496 | 73 | 118508 | 21.75 | ug/L | | 99 |
| 57) iso-octane | 4.501 | 57 | 99221 | 20.56 | ug/L | | 98 |
| 58) heptane | 4.611 | 57 | 20428 | 20.42 | ug/L | | 93 |
| 59) isopropyl acetate | 4.407 | 87 | 10841 | 21.84 | ug/L | # | 90 |
| 60) 1,2-dichloroethane | 4.454 | 62 | 55323 | 20.21 | ug/L | | 97 |
| 61) trichloroethene | 4.900 | 95 | 40055 | 20.34 | ug/L | | 96 |
| 62) ethyl acrylate | 4.921 | 55 | 49970 | 20.83 | ug/L | | 99 |
| 63) 2-nitropropane | 5.445 | 41 | 3752 | 18.28 | ug/L | | 87 |
| 64) 2-chloroethyl vinyl ether | 5.482 | 63 | 76659 | 173.05 | ug/L | | 99 |
| 65) methyl methacrylate | 5.104 | 100 | 10400 | 21.23 | ug/L | # | 73 |
| 66) 1,2-dichloropropane | 5.094 | 63 | 38904 | 20.86 | ug/L | | 98 |
| 67) methylcyclohexane | 5.094 | 83 | 54349 | 19.74 | ug/L | | 98 |
| 68) dibromomethane | 5.167 | 93 | 28524 | 20.92 | ug/L | | 97 |
| 69) bromodichloromethane | 5.288 | 83 | 57891 | 21.76 | ug/L | | 93 |
| 70) epichlorohydrin | 5.534 | 57 | 11854 | 92.14 | ug/L | | 84 |
| 71) cis-1,3-dichloropropene | 5.628 | 75 | 61129 | 21.81 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 5.728 | 58 | 70749 | 87.38 | ug/L | | 98 |
| 73) 3-methyl-1-butanol | 5.749 | 70 | 28817 | 396.99 | ug/L | | 99 |
| 76) toluene | 5.911 | 92 | 91949 | 19.91 | ug/L | | 98 |
| 77) ethyl methacrylate | 6.105 | 69 | 51427 | 20.96 | ug/L | | 97 |
| 78) trans-1,3-dichloropropene | 6.079 | 75 | 54750 | 21.13 | ug/L | | 97 |
| 79) 1,1,2-trichloroethane | 6.252 | 83 | 33271 | 21.43 | ug/L | | 98 |
| 80) 2-hexanone | 6.415 | 58 | 69967 | 83.87 | ug/L | | 99 |
| 81) tetrachloroethene | 6.347 | 164 | 35973 | 19.22 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 6.394 | 76 | 59968 | 21.13 | ug/L | | 97 |
| 83) butyl acetate | 6.504 | 56 | 27887 | 21.04 | ug/L | | 91 |
| 84) dibromochloromethane | 6.583 | 129 | 48909 | 22.64 | ug/L | | 96 |
| 85) 1,2-dibromoethane | 6.698 | 107 | 45885 | 21.50 | ug/L | | 96 |
| 86) n-butyl ether | 7.180 | 57 | 134730 | 20.17 | ug/L | | 100 |
| 87) chlorobenzene | 7.128 | 112 | 106000 | 20.38 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.196 | 131 | 41600 | 21.25 | ug/L | | 98 |
| 89) ethylbenzene | 7.206 | 91 | 173493 | 20.30 | ug/L | | 99 |
| 90) m,p-xylene | 7.322 | 106 | 135813 | 41.34 | ug/L | | 99 |
| 91) o-xylene | 7.678 | 91 | 137556 | 20.18 | ug/L | | 99 |
| 92) styrene | 7.694 | 104 | 109450 | 21.09 | ug/L | | 98 |
| 93) butyl acrylate | 7.600 | 56 | 34654 | 19.79 | ug/L | | 99 |
| 94) n-amyl acetate | 7.809 | 70 | 28900 | 20.69 | ug/L | | 97 |
| 95) bromoform | 7.867 | 173 | 34407 | 22.44 | ug/L | | 97 |
| 96) isopropylbenzene | 8.019 | 105 | 165391 | 20.60 | ug/L | | 97 |
| 97) cis-1,4-dichloro-2-butene | 8.066 | 88 | 13775 | 19.27 | ug/L | | 98 |
| 100) bromobenzene | 8.328 | 156 | 48230 | 20.96 | ug/L | | 97 |
| 101) 1,1,2,2-tetrachloroethane | 8.297 | 83 | 54215 | 21.22 | ug/L | | 97 |
| 102) trans-1,4-dichloro-2-b... | 8.334 | 53 | 9139 | 19.96 | ug/L | | 92 |
| 103) 1,2,3-trichloropropane | 8.360 | 110 | 16005 | 21.31 | ug/L | | 96 |
| 104) n-propylbenzene | 8.412 | 91 | 188276 | 19.89 | ug/L | | 99 |
| 105) 2-chlorotoluene | 8.507 | 126 | 42732 | 20.21 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-16-19\v2v2401\
Data File : 2v58580.d
Acq On : 15 May 2019 6:38 am
Operator : EddieH
Sample : cc2392-20 Inst : MS2V
Misc : MS34708,V2V2401,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 06:53:39 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration

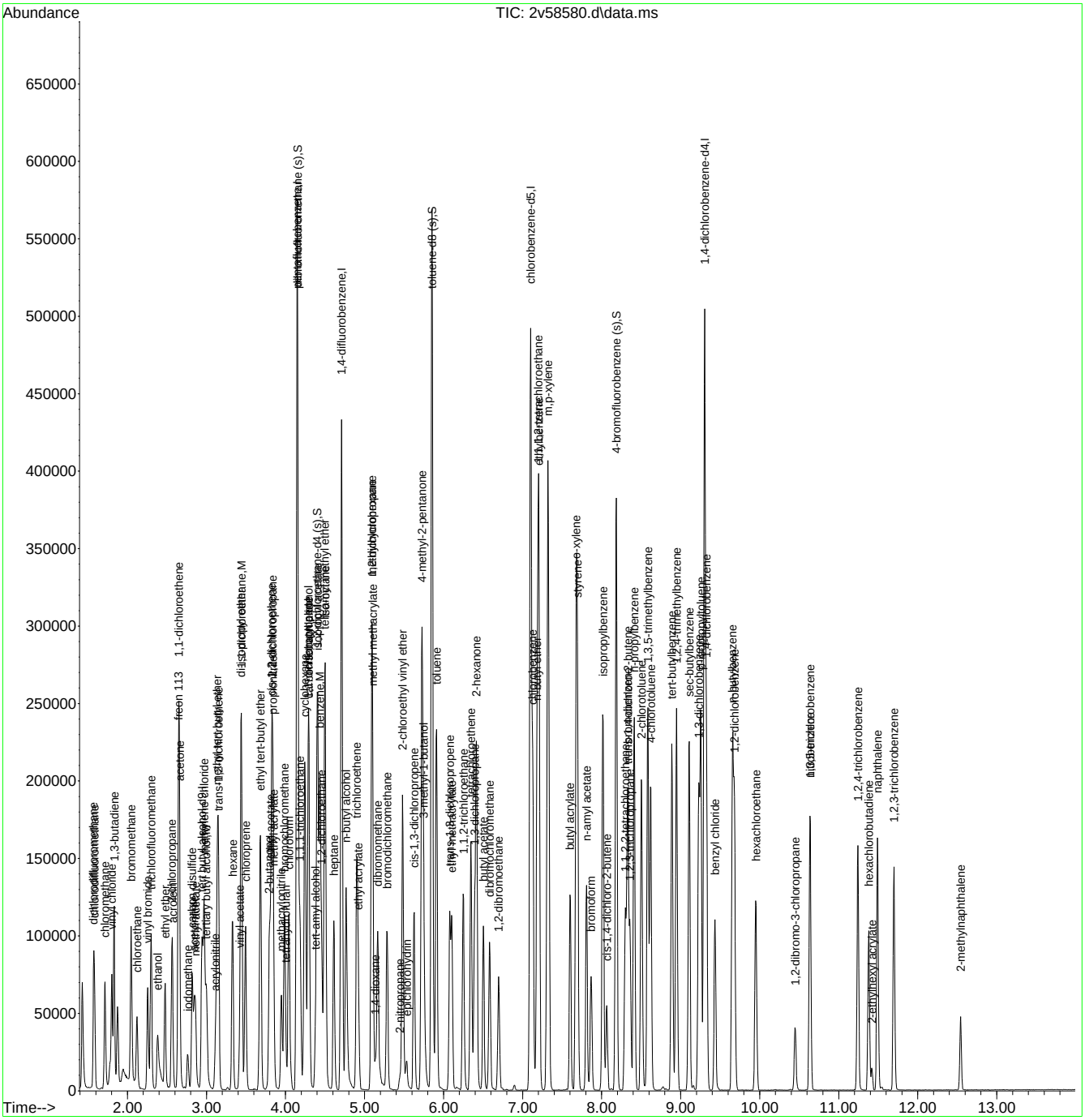
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 106) 4-chlorotoluene | 8.622 | 126 | 42733 | 20.46 | ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 8.585 | 105 | 135622 | 20.50 | ug/L | 99 |
| 108) tert-butylbenzene | 8.889 | 134 | 27121 | 19.42 | ug/L | 94 |
| 109) 1,2,4-trimethylbenzene | 8.947 | 105 | 135992 | 20.14 | ug/L | 99 |
| 110) sec-butylbenzene | 9.110 | 105 | 163177 | 20.04 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 9.230 | 146 | 80439 | 20.27 | ug/L | 98 |
| 112) p-isopropyltoluene | 9.257 | 119 | 139540 | 20.64 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 9.325 | 146 | 82438 | 19.84 | ug/L | 99 |
| 114) 1,2-dichlorobenzene | 9.681 | 146 | 79380 | 21.08 | ug/L | 97 |
| 115) benzyl chloride | 9.435 | 91 | 78740 | 24.74 | ug/L | 99 |
| 116) n-butylbenzene | 9.655 | 92 | 63976 | 19.72 | ug/L | 98 |
| 117) hexachloroethane | 9.954 | 201 | 21192 | 20.05 | ug/L | 97 |
| 118) 1,2-dibromo-3-chloropr... | 10.452 | 157 | 12579 | 20.55 | ug/L | 95 |
| 119) nitrobenzene | 10.641 | 77 | 2545 | 19.26 | ug/L | 87 |
| 120) 1,3,5-trichlorobenzene | 10.641 | 180 | 57624 | 21.22 | ug/L | 96 |
| 121) 1,2,4-trichlorobenzene | 11.244 | 180 | 50002 | 22.02 | ug/L | 100 |
| 122) hexachlorobutadiene | 11.380 | 225 | 20746 | 21.25 | ug/L | 98 |
| 123) naphthalene | 11.490 | 128 | 125296 | 20.96 | ug/L | 99 |
| 124) 1,2,3-trichlorobenzene | 11.700 | 180 | 43979 | 21.65 | ug/L | 96 |
| 125) 2-ethylhexyl acrylate | 11.422 | 70 | 3585 | 2.97 | ug/L | 95 |
| 126) 2-methylnaphthalene | 12.544 | 142 | 21882 | 9.58 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\nizele\5_may\5-16-19\v2v2401\
Data File : 2v58580.d
Acq On : 15 May 2019 6:38 am
Operator : EddieH
Sample : cc2392-20 Inst : MS2V
Misc : MS34708,V2V2401,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2V2392.M
Quant Results File: M2V2392.RES
Quant Time: May 15 06:53:39 2019
Quant Title : SW 846 Method 8260C, Rxi-624 (30m x 0.25mm x 1.4um)
QLast Update : Mon May 06 08:56:47 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184713.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC8014-0.5
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 12:14:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.73 | 65 | 56213 | 500.00 | ug/L | | -0.01 |
| 5) pentafluorobenzene | 9.98 | 168 | 179067 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 247615 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 222547 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 123910 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 81490 | 50.54 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.08% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 69798 | 51.78 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.56% | | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 275462 | 47.24 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 94.48% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.14 | 95 | 103409 | 49.38 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 98.76% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 9) vinyl chloride | 4.99 | 62 | 1383 | 0.47 | ug/L | # | 49 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 1265 | 0.44 | ug/L | | 87 |
| 22) iodomethane | 7.34 | 142 | 1676 | 0.48 | ug/L | # | 43 |
| 23) carbon disulfide | 7.47 | 76 | 3086 | 0.53 | ug/L | | 85 |
| 26) methyl tert butyl ether | 8.13 | 73 | 2848 | 0.53 | ug/L | | 54 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 1494 | 0.56 | ug/L | | 79 |
| 28) hexane | 8.51 | 57 | 1119 | 0.46 | ug/L | | 89 |
| 29) di-isopropyl ether | 8.71 | 45 | 3496 | 0.50 | ug/L | | 92 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 2847 | 0.45 | ug/L | | 87 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 1650 | 0.49 | ug/L | | 73 |
| 33) chloroprene | 8.83 | 53 | 1248 | 0.51 | ug/L | | 73 |
| 37) 2,2-dichloropropane | 9.49 | 77 | 1434 | 0.50 | ug/L | | 82 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 1103 | 0.51 | ug/L | | 88 |
| 39) propionitrile | 9.46 | 54 | 996 | 5.33 | ug/L | | 85 |
| 40) bromochloromethane | 9.74 | 130 | 659 | 0.47 | ug/L | # | 76 |
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 1615 | 0.53 | ug/L | | 87 |
| 48) cyclohexane | 10.20 | 84 | 1504 | 0.49 | ug/L | | 86 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 1178 | 0.53 | ug/L | # | 79 |
| 51) carbon tetrachloride | 10.28 | 117 | 1335 | 0.51 | ug/L | # | 76 |
| 54) 2,2,4-trimethylpentane | 10.59 | 57 | 2704 | 0.37 | ug/L | | 86 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 2980 | 0.53 | ug/L | | 92 |
| 57) benzene | 10.50 | 78 | 3878 | 0.56 | ug/L | | 82 |
| 61) trichloroethene | 11.22 | 130 | 968 | 0.53 | ug/L | | 95 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 2246 | 2.69 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 956 | 0.52 | ug/L | # | 39 |
| 68) dibromomethane | 11.61 | 93 | 550 | 0.53 | ug/L | | 81 |
| 69) bromodichloromethane | 11.76 | 83 | 1322 | 0.53 | ug/L | | 94 |
| 71) cis-1,3-dichloropropene | 12.21 | 75 | 1250 | 0.44 | ug/L | | 93 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 1064 | 2.18 | ug/L | # | 77 |
| 76) toluene | 12.58 | 92 | 2379 | 0.55 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 1296 | 0.51 | ug/L | | 89 |
| 78) ethyl methacrylate | 12.74 | 69 | 891 | 0.50 | ug/L | | 72 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 695 | 0.58 | ug/L | # | 69 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184713.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC8014-0.5
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 12:14:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

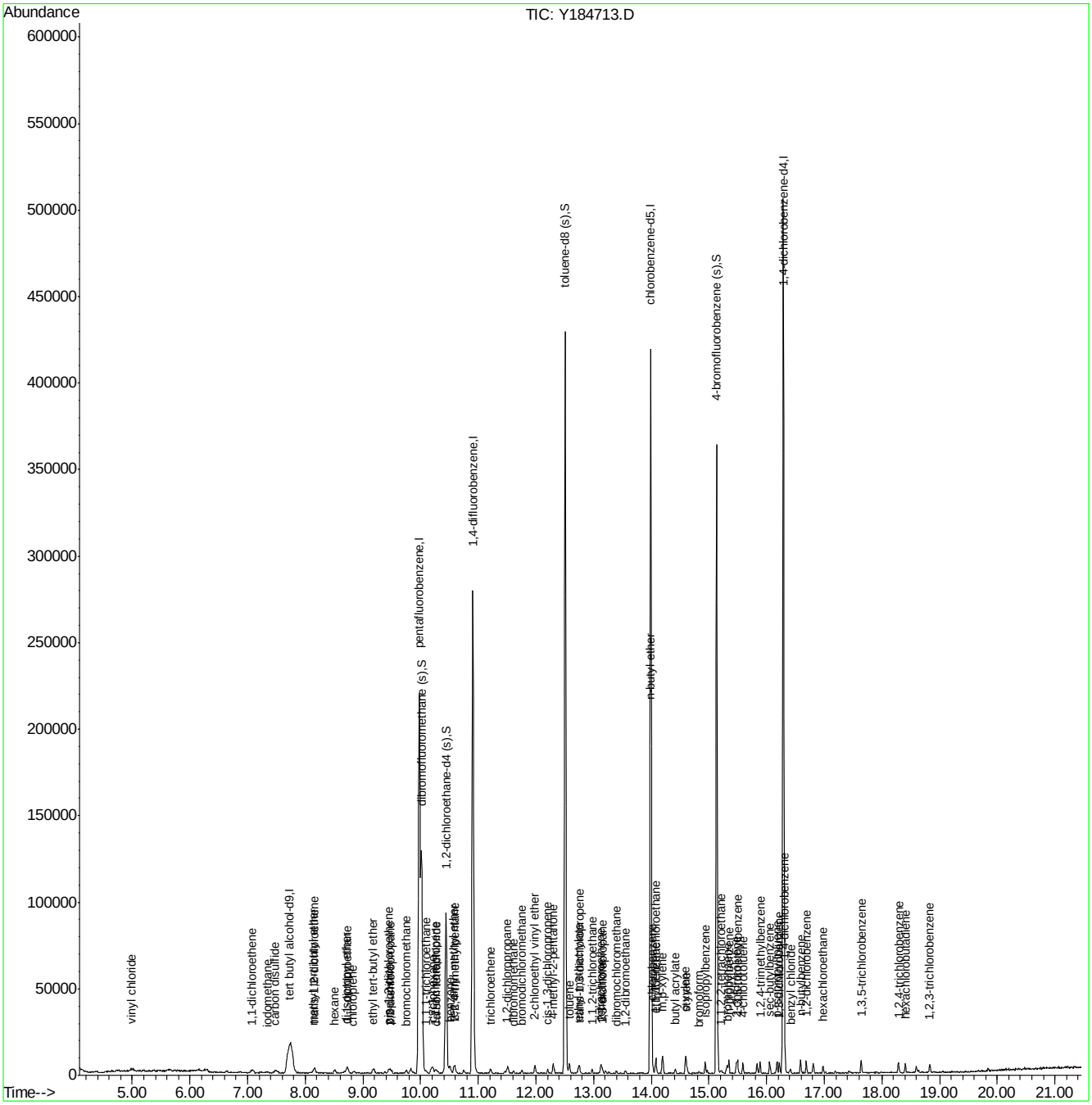
| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 80) 2-hexanone | 13.13 | 58 | 923 | 1.99 | ug/L | # | 77 |
| 81) tetrachloroethene | 13.12 | 166 | 1004 | 0.52 | ug/L | | 92 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 1263 | 0.56 | ug/L | | 91 |
| 84) dibromochloromethane | 13.39 | 129 | 828 | 0.43 | ug/L | | 89 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 1013 | 0.53 | ug/L | | 87 |
| 86) n-butyl ether | 13.97 | 57 | 3943 | 0.54 | ug/L | | 76 |
| 87) chlorobenzene | 14.02 | 112 | 3055 | 0.61 | ug/L | | 83 |
| 88) 1,1,1,2-tetrachloroethane | 14.09 | 131 | 1100 | 0.53 | ug/L | | 83 |
| 89) ethylbenzene | 14.08 | 91 | 4315 | 0.53 | ug/L | | 95 |
| 90) m,p-xylene | 14.20 | 106 | 3428 | 1.10 | ug/L | | 96 |
| 91) o-xylene | 14.59 | 91 | 3554 | 0.51 | ug/L | | 88 |
| 92) styrene | 14.60 | 104 | 2736 | 0.49 | ug/L | | 93 |
| 93) bromoform | 14.83 | 173 | 641 | 0.51 | ug/L | | 90 |
| 94) butyl acrylate | 14.41 | 55 | 1526 | 0.52 | ug/L | | 94 |
| 95) isopropylbenzene | 14.93 | 105 | 4385 | 0.53 | ug/L | | 96 |
| 99) bromobenzene | 15.31 | 156 | 1423 | 0.59 | ug/L | # | 80 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 1059 | 0.58 | ug/L | | 84 |
| 103) n-propylbenzene | 15.35 | 91 | 5499 | 0.59 | ug/L | | 94 |
| 104) 2-chlorotoluene | 15.48 | 126 | 1301 | 0.61 | ug/L | # | 54 |
| 105) 4-chlorotoluene | 15.59 | 91 | 3513 | 0.59 | ug/L | | 90 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 3857 | 0.55 | ug/L | | 91 |
| 108) 1,2,4-trimethylbenzene | 15.89 | 105 | 4080 | 0.56 | ug/L | | 95 |
| 109) sec-butylbenzene | 16.06 | 105 | 4557 | 0.51 | ug/L | | 97 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 2581 | 0.58 | ug/L | | 90 |
| 111) p-isopropyltoluene | 16.18 | 119 | 4032 | 0.51 | ug/L | | 94 |
| 112) 1,4-dichlorobenzene | 16.32 | 146 | 2780 | 0.62 | ug/L | | 100 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 2776 | 0.62 | ug/L | | 98 |
| 114) n-butylbenzene | 16.59 | 92 | 2136 | 0.52 | ug/L | | 90 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 2554 | 0.57 | ug/L | | 87 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 2123 | 0.56 | ug/L | | 94 |
| 118) hexachlorobutadiene | 18.41 | 225 | 1324 | 0.59 | ug/L | | 92 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 1605 | 0.47 | ug/L | | 81 |
| 121) hexachloroethane | 16.98 | 201 | 798 | 0.55 | ug/L | | 88 |
| 122) benzyl chloride | 16.41 | 91 | 1972 | 0.59 | ug/L | | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184713.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC8014-0.5
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 12:14:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184714.D
Acq On : 24 Apr 2019 3:40 pm
Operator : ROBERTS
Sample : IC8014-1
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 12:15:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 50098 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 174738 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 241908 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 216141 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 120094 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 77304 | 49.13 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.26% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.43 | 65 | 66660 | 50.62 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 101.24% | | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 272570 | 48.13 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.26% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 98731 | 48.65 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.30% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 6) chlorodifluoromethane | 4.39 | 51 | 2580 | 0.97 | ug/L | | 64 |
| 7) dichlorodifluoromethane | 4.36 | 85 | 3338 | 0.98 | ug/L | # | 51 |
| 8) chloromethane | 4.74 | 50 | 4283 | 1.30 | ug/L | | 82 |
| 9) vinyl chloride | 4.98 | 62 | 3306 | 1.16 | ug/L | | 79 |
| 11) bromomethane | 5.62 | 94 | 3107 | 1.34 | ug/L | | 92 |
| 12) chloroethane | 5.77 | 64 | 1613 | 1.03 | ug/L | | 53 |
| 13) vinyl bromide | 6.15 | 106 | 1230 | 0.87 | ug/L | # | 65 |
| 14) trichlorofluoromethane | 6.27 | 101 | 3945 | 1.22 | ug/L | | 88 |
| 15) ethyl ether | 6.65 | 74 | 741 | 0.82 | ug/L | # | 7 |
| 16) 2-chloropropane | 6.86 | 63 | 767 | 1.02 | ug/L | # | 34 |
| 18) freon 113 | 7.10 | 151 | 1379 | 0.82 | ug/L | # | 81 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 2477 | 0.87 | ug/L | | 91 |
| 20) acetone | 7.07 | 43 | 1853 | 4.63 | ug/L | | 98 |
| 22) iodomethane | 7.33 | 142 | 3089 | 0.90 | ug/L | | 92 |
| 23) carbon disulfide | 7.47 | 76 | 5832 | 1.03 | ug/L | | 91 |
| 26) methyl tert butyl ether | 8.13 | 73 | 5064 | 0.96 | ug/L | | 96 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 2619 | 1.00 | ug/L | | 91 |
| 28) hexane | 8.52 | 57 | 2351 | 0.99 | ug/L | | 89 |
| 29) di-isopropyl ether | 8.72 | 45 | 5968 | 0.87 | ug/L | | 98 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 5761 | 0.92 | ug/L | | 93 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 3373 | 1.02 | ug/L | | 92 |
| 33) chloroprene | 8.83 | 53 | 2304 | 0.96 | ug/L | | 80 |
| 37) 2,2-dichloropropane | 9.49 | 77 | 2986 | 1.07 | ug/L | | 95 |
| 38) cis-1,2-dichloroethene | 9.44 | 96 | 2304 | 1.09 | ug/L | # | 76 |
| 39) propionitrile | 9.46 | 54 | 1739 | 9.53 | ug/L | | 87 |
| 40) bromochloromethane | 9.74 | 130 | 1379 | 1.01 | ug/L | | 92 |
| 42) chloroform | 9.82 | 83 | 4164 | 1.25 | ug/L | | 94 |
| 47) 1,1,1-trichloroethane | 10.10 | 97 | 3205 | 1.08 | ug/L | | 98 |
| 48) cyclohexane | 10.21 | 84 | 3046 | 1.02 | ug/L | # | 71 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 2001 | 0.93 | ug/L | | 93 |
| 51) carbon tetrachloride | 10.29 | 117 | 2769 | 1.07 | ug/L | | 97 |
| 54) 2,2,4-trimethylpentane | 10.59 | 57 | 6313 | 0.90 | ug/L | | 94 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 4710 | 0.86 | ug/L | | 92 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184714.D
Acq On : 24 Apr 2019 3:40 pm
Operator : ROBERTS
Sample : IC8014-1
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 12:15:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 56) n-butyl alcohol | 10.95 | 41 | 1344 | 44.79 | ug/L | # | 66 |
| 57) benzene | 10.51 | 78 | 7094 | 1.05 | ug/L | | 95 |
| 58) heptane | 10.74 | 57 | 1196 | 1.00 | ug/L | | 78 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 2368 | 1.09 | ug/L | | 80 |
| 61) trichloroethene | 11.22 | 130 | 1728 | 0.97 | ug/L | # | 83 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 3647 | 4.48 | ug/L | | 96 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 1554 | 0.87 | ug/L | | 89 |
| 67) methylcyclohexane | 11.51 | 83 | 2849 | 0.98 | ug/L | | 91 |
| 68) dibromomethane | 11.61 | 93 | 948 | 0.93 | ug/L | | 96 |
| 69) bromodichloromethane | 11.75 | 83 | 2408 | 0.98 | ug/L | | 80 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 2550 | 0.93 | ug/L | | 91 |
| 72) 4-methyl-2-pentanone | 12.31 | 58 | 1849 | 3.87 | ug/L | # | 75 |
| 76) toluene | 12.58 | 92 | 4142 | 0.99 | ug/L | # | 81 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 2343 | 0.94 | ug/L | | 92 |
| 78) ethyl methacrylate | 12.74 | 69 | 1530 | 0.89 | ug/L | | 90 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 1151 | 0.99 | ug/L | # | 83 |
| 80) 2-hexanone | 13.13 | 58 | 1598 | 3.54 | ug/L | # | 81 |
| 81) tetrachloroethene | 13.12 | 166 | 1916 | 1.01 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 2044 | 0.93 | ug/L | | 93 |
| 84) dibromochloromethane | 13.39 | 129 | 1543 | 0.82 | ug/L | | 86 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 1711 | 0.92 | ug/L | | 91 |
| 86) n-butyl ether | 13.97 | 57 | 6566 | 0.93 | ug/L | | 88 |
| 87) chlorobenzene | 14.02 | 112 | 4994 | 1.03 | ug/L | | 87 |
| 88) 1,1,1,2-tetrachloroethane | 14.09 | 131 | 1852 | 0.91 | ug/L | # | 78 |
| 89) ethylbenzene | 14.07 | 91 | 7770 | 0.99 | ug/L | | 97 |
| 90) m,p-xylene | 14.20 | 106 | 6359 | 2.10 | ug/L | # | 76 |
| 91) o-xylene | 14.59 | 91 | 6120 | 0.90 | ug/L | | 94 |
| 92) styrene | 14.60 | 104 | 5101 | 0.94 | ug/L | | 88 |
| 93) bromoform | 14.83 | 173 | 1187 | 0.97 | ug/L | | 79 |
| 94) butyl acrylate | 14.42 | 55 | 2692 | 0.94 | ug/L | | 83 |
| 95) isopropylbenzene | 14.93 | 105 | 7979 | 0.99 | ug/L | | 96 |
| 99) bromobenzene | 15.32 | 156 | 2460 | 1.06 | ug/L | # | 63 |
| 100) 1,1,2,2-tetrachloroethane | 15.20 | 83 | 1791 | 1.02 | ug/L | | 82 |
| 103) n-propylbenzene | 15.35 | 91 | 9379 | 1.03 | ug/L | | 94 |
| 104) 2-chlorotoluene | 15.48 | 126 | 2056 | 0.99 | ug/L | | 94 |
| 105) 4-chlorotoluene | 15.59 | 91 | 6036 | 1.05 | ug/L | | 94 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 6635 | 0.97 | ug/L | | 98 |
| 107) tert-butylbenzene | 15.84 | 134 | 1105 | 0.86 | ug/L | # | 87 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 6579 | 0.92 | ug/L | | 94 |
| 109) sec-butylbenzene | 16.06 | 105 | 8626 | 1.00 | ug/L | | 95 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 4249 | 0.98 | ug/L | | 91 |
| 111) p-isopropyltoluene | 16.18 | 119 | 7541 | 0.99 | ug/L | | 93 |
| 112) 1,4-dichlorobenzene | 16.31 | 146 | 4569 | 1.05 | ug/L | | 88 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 4828 | 1.11 | ug/L | | 91 |
| 114) n-butylbenzene | 16.59 | 92 | 3846 | 0.97 | ug/L | | 82 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 3985 | 0.92 | ug/L | | 86 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 3341 | 0.90 | ug/L | | 94 |
| 118) hexachlorobutadiene | 18.41 | 225 | 2223 | 1.03 | ug/L | | 90 |
| 119) naphthalene | 18.59 | 128 | 4830 | 0.80 | ug/L | | 99 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 2733 | 0.83 | ug/L | | 84 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184714.D
Acq On : 24 Apr 2019 3:40 pm
Operator : ROBERTS
Sample : IC8014-1
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 12:15:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 121) hexachloroethane | 16.98 | 201 | 1165 | 0.83 | ug/L | 84 |
| 122) benzyl chloride | 16.41 | 91 | 3065 | 0.94 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

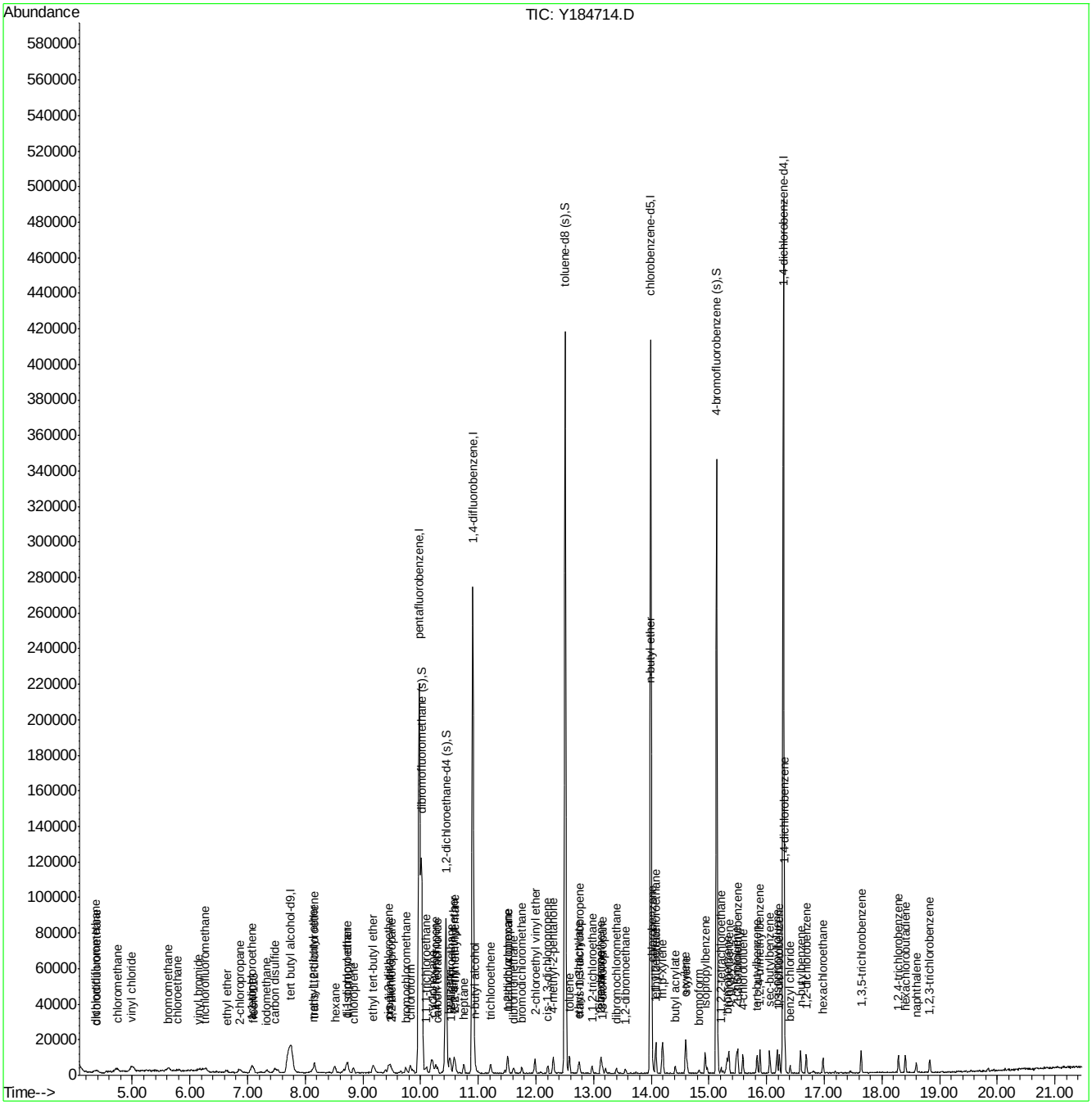
7.8.42

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184714.D
Acq On : 24 Apr 2019 3:40 pm
Operator : ROBERTS
Sample : IC8014-1
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 12:15:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184715.D
Acq On : 24 Apr 2019 4:09 pm
Operator : ROBERTS
Sample : IC8014-2
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 12:17:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 52109 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.98 | 168 | 185611 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 260206 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 231217 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 125353 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 84176 | 50.37 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.74% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 72011 | 50.83 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 101.66% | | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 291827 | 48.17 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.34% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.14 | 95 | 103822 | 49.01 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 98.02% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.81 | 59 | 1309 | 7.79 | ug/L | | 54 |
| 4) 1,4-dioxane | 11.55 | 88 | 757 | 44.42 | ug/L | | 94 |
| 6) chlorodifluoromethane | 4.38 | 51 | 5797 | 2.05 | ug/L | | 98 |
| 7) dichlorodifluoromethane | 4.36 | 85 | 6680 | 1.84 | ug/L | | 89 |
| 8) chloromethane | 4.75 | 50 | 7398 | 2.11 | ug/L | | 96 |
| 9) vinyl chloride | 5.00 | 62 | 5686 | 1.88 | ug/L | | 92 |
| 10) 1,3-butadiene | 5.04 | 54 | 3841 | 2.03 | ug/L | | 77 |
| 11) bromomethane | 5.62 | 94 | 5231 | 2.13 | ug/L | | 99 |
| 12) chloroethane | 5.81 | 64 | 3337 | 2.00 | ug/L | | 87 |
| 13) vinyl bromide | 6.15 | 106 | 2599 | 1.72 | ug/L | | 83 |
| 14) trichlorofluoromethane | 6.26 | 101 | 6884 | 2.01 | ug/L | | 67 |
| 15) ethyl ether | 6.64 | 74 | 1572 | 1.63 | ug/L | # | 62 |
| 16) 2-chloropropane | 6.87 | 63 | 1473 | 1.84 | ug/L | # | 32 |
| 18) freon 113 | 7.11 | 151 | 3436 | 1.93 | ug/L | | 81 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 5857 | 1.95 | ug/L | | 79 |
| 20) acetone | 7.08 | 43 | 3749 | 8.82 | ug/L | | 94 |
| 22) iodomethane | 7.33 | 142 | 7247 | 1.99 | ug/L | | 88 |
| 23) carbon disulfide | 7.48 | 76 | 13489 | 2.24 | ug/L | | 87 |
| 24) methylene chloride | 7.78 | 84 | 5840 | 2.51 | ug/L | | 86 |
| 26) methyl tert butyl ether | 8.13 | 73 | 10739 | 1.91 | ug/L | | 94 |
| 27) trans-1,2-dichloroethene | 8.17 | 61 | 5755 | 2.07 | ug/L | | 87 |
| 28) hexane | 8.51 | 57 | 4834 | 1.92 | ug/L | | 93 |
| 29) di-isopropyl ether | 8.72 | 45 | 13682 | 1.89 | ug/L | | 93 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 11708 | 1.77 | ug/L | | 99 |
| 31) 2-butanone | 9.38 | 72 | 985 | 6.83 | ug/L | # | 54 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 7390 | 2.10 | ug/L | | 94 |
| 33) chloroprene | 8.84 | 53 | 4935 | 1.93 | ug/L | | 94 |
| 37) 2,2-dichloropropane | 9.49 | 77 | 6075 | 2.04 | ug/L | | 89 |
| 38) cis-1,2-dichloroethene | 9.46 | 96 | 4704 | 2.10 | ug/L | # | 73 |
| 39) propionitrile | 9.47 | 54 | 3601 | 18.59 | ug/L | | 59 |
| 40) bromochloromethane | 9.74 | 130 | 2939 | 2.03 | ug/L | | 89 |
| 42) chloroform | 9.82 | 83 | 7529 | 2.12 | ug/L | | 91 |
| 43) tert-butyl formate | 9.87 | 59 | 2374 | 1.69 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184715.D
Acq On : 24 Apr 2019 4:09 pm
Operator : ROBERTS
Sample : IC8014-2
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 12:17:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 6415 | 2.04 | ug/L | | 97 |
| 48) cyclohexane | 10.21 | 84 | 5838 | 1.85 | ug/L | | 91 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 4717 | 2.06 | ug/L | | 94 |
| 51) carbon tetrachloride | 10.29 | 117 | 5787 | 2.11 | ug/L | | 94 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 13158 | 1.74 | ug/L | | 95 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 10818 | 1.84 | ug/L | | 100 |
| 56) n-butyl alcohol | 10.95 | 41 | 2806 | 86.93 | ug/L | | 85 |
| 57) benzene | 10.51 | 78 | 15222 | 2.10 | ug/L | | 93 |
| 58) heptane | 10.75 | 57 | 2588 | 2.01 | ug/L | | 97 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 4793 | 2.06 | ug/L | | 97 |
| 61) trichloroethene | 11.21 | 130 | 3831 | 2.00 | ug/L | | 90 |
| 62) ethyl acrylate | 11.20 | 55 | 3008 | 1.93 | ug/L | | 80 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 8535 | 9.74 | ug/L | | 97 |
| 66) 1,2-dichloropropane | 11.51 | 63 | 3717 | 1.94 | ug/L | | 96 |
| 67) methylcyclohexane | 11.51 | 83 | 6137 | 1.97 | ug/L | | 94 |
| 68) dibromomethane | 11.62 | 93 | 2137 | 1.95 | ug/L | | 80 |
| 69) bromodichloromethane | 11.75 | 83 | 5260 | 1.99 | ug/L | | 88 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 5655 | 1.91 | ug/L | | 96 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 3711 | 7.22 | ug/L | | 88 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 1246 | 31.82 | ug/L | # | 60 |
| 76) toluene | 12.58 | 92 | 8912 | 2.00 | ug/L | | 91 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 4728 | 1.78 | ug/L | | 93 |
| 78) ethyl methacrylate | 12.74 | 69 | 3369 | 1.83 | ug/L | | 90 |
| 79) 1,1,2-trichloroethane | 12.97 | 83 | 2489 | 1.99 | ug/L | # | 85 |
| 80) 2-hexanone | 13.13 | 58 | 3422 | 7.09 | ug/L | # | 84 |
| 81) tetrachloroethene | 13.12 | 166 | 4256 | 2.11 | ug/L | | 95 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 4524 | 1.92 | ug/L | | 97 |
| 83) butyl acetate | 13.21 | 56 | 1693 | 1.82 | ug/L | | 86 |
| 84) dibromochloromethane | 13.39 | 129 | 3682 | 1.83 | ug/L | | 94 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 3851 | 1.94 | ug/L | | 92 |
| 86) n-butyl ether | 13.97 | 57 | 14055 | 1.86 | ug/L | | 86 |
| 87) chlorobenzene | 14.02 | 112 | 10704 | 2.06 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 14.09 | 131 | 3778 | 1.74 | ug/L | | 87 |
| 89) ethylbenzene | 14.08 | 91 | 17031 | 2.03 | ug/L | | 97 |
| 90) m,p-xylene | 14.20 | 106 | 12583 | 3.88 | ug/L | | 91 |
| 91) o-xylene | 14.59 | 91 | 13660 | 1.89 | ug/L | | 95 |
| 92) styrene | 14.60 | 104 | 10110 | 1.75 | ug/L | | 99 |
| 93) bromoform | 14.83 | 173 | 2431 | 1.85 | ug/L | | 96 |
| 94) butyl acrylate | 14.42 | 55 | 5449 | 1.77 | ug/L | | 95 |
| 95) isopropylbenzene | 14.94 | 105 | 15778 | 1.83 | ug/L | | 95 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 1204 | 1.74 | ug/L | # | 83 |
| 99) bromobenzene | 15.32 | 156 | 4759 | 1.96 | ug/L | # | 81 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 3617 | 1.97 | ug/L | | 89 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 714 | 1.66 | ug/L | | 87 |
| 102) 1,2,3-trichloropropane | 15.30 | 110 | 1044 | 2.18 | ug/L | | 83 |
| 103) n-propylbenzene | 15.35 | 91 | 19490 | 2.06 | ug/L | | 98 |
| 104) 2-chlorotoluene | 15.48 | 126 | 4267 | 1.96 | ug/L | | 91 |
| 105) 4-chlorotoluene | 15.59 | 91 | 11884 | 1.97 | ug/L | | 92 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 13774 | 1.93 | ug/L | | 93 |
| 107) tert-butylbenzene | 15.84 | 134 | 2535 | 1.89 | ug/L | | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184715.D
Acq On : 24 Apr 2019 4:09 pm
Operator : ROBERTS
Sample : IC8014-2
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 12:17:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 14219 | 1.91 ug/L | 97 |
| 109) sec-butylbenzene | 16.05 | 105 | 17611 | 1.96 ug/L | 98 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 9450 | 2.09 ug/L | 98 |
| 111) p-isopropyltoluene | 16.18 | 119 | 15015 | 1.88 ug/L | 98 |
| 112) 1,4-dichlorobenzene | 16.32 | 146 | 9778 | 2.16 ug/L | 94 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 9202 | 2.02 ug/L | 92 |
| 114) n-butylbenzene | 16.59 | 92 | 7912 | 1.91 ug/L | 95 |
| 115) 1,2-dibromo-3-chloropropan | 17.44 | 157 | 845 | 1.95 ug/L # | 65 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 8536 | 1.89 ug/L | 91 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 6765 | 1.75 ug/L | 91 |
| 118) hexachlorobutadiene | 18.41 | 225 | 4723 | 2.09 ug/L | 93 |
| 119) naphthalene | 18.59 | 128 | 9731 | 1.54 ug/L | 95 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 5960 | 1.73 ug/L | 92 |
| 121) hexachloroethane | 16.98 | 201 | 2807 | 1.92 ug/L | 85 |
| 122) benzyl chloride | 16.41 | 91 | 6581 | 1.93 ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

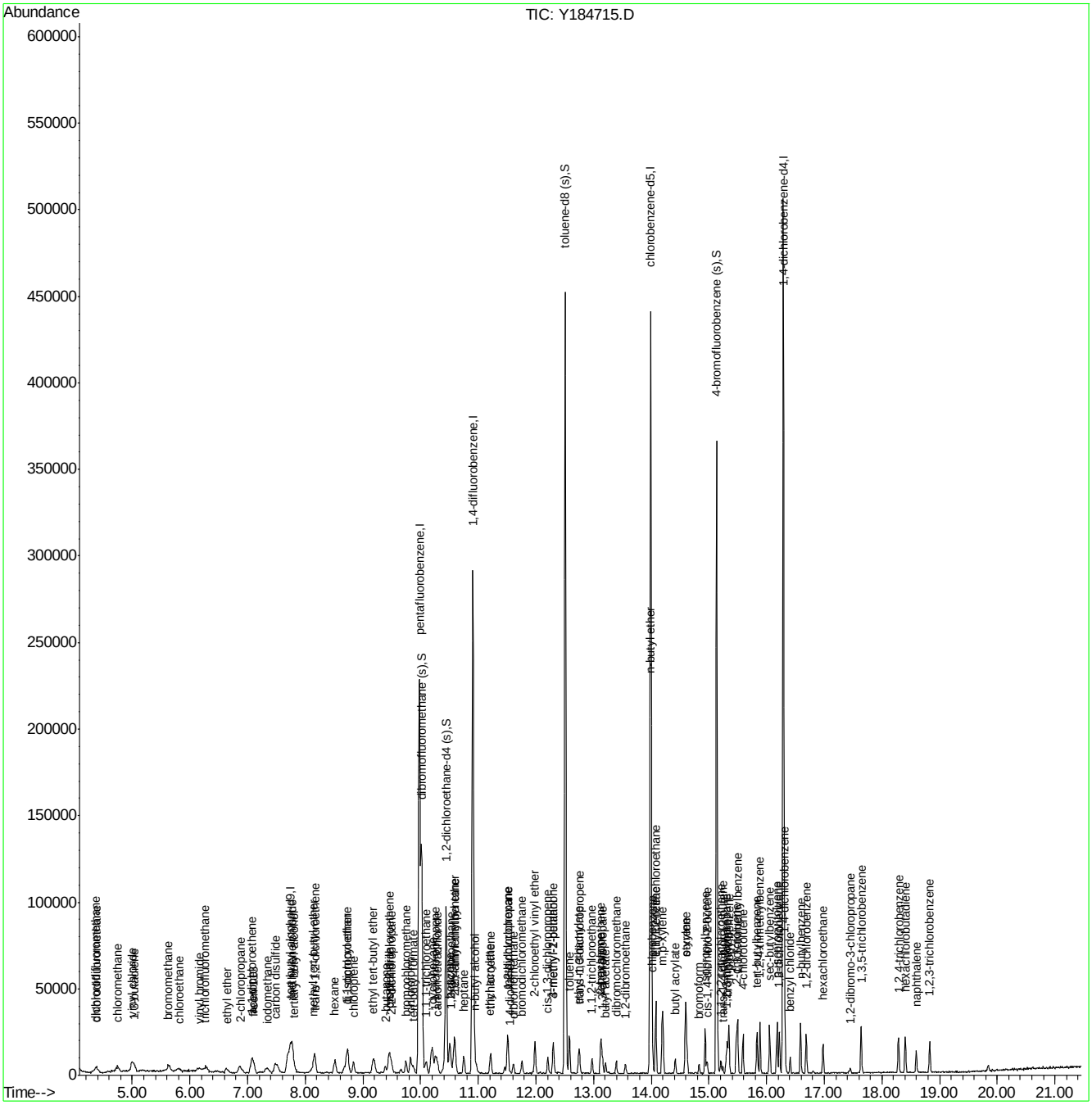
7.8.43

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184715.D
Acq On : 24 Apr 2019 4:09 pm
Operator : ROBERTS
Sample : IC8014-2
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 12:17:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration






SGS JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184716.D
Acq On : 24 Apr 2019 4:38 pm
Operator : ROBERTS
Sample : IC8014-4
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 12:19:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 55416 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 180507 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 252656 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 223014 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 123863 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 83075 | 51.12 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.24% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 73232 | 53.24 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 106.48% | | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 280000 | 47.92 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 95.84% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 103094 | 49.25 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 98.50% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.86 | 59 | 3640 | 20.37 | ug/L | | 91 |
| 4) 1,4-dioxane | 11.54 | 88 | 1913 | 105.56 | ug/L | | 79 |
| 6) chlorodifluoromethane | 4.37 | 51 | 11984 | 4.36 | ug/L | | 94 |
| 7) dichlorodifluoromethane | 4.36 | 85 | 14056 | 3.98 | ug/L | | 90 |
| 8) chloromethane | 4.74 | 50 | 15246 | 4.47 | ug/L | | 93 |
| 9) vinyl chloride | 5.01 | 62 | 12322 | 4.18 | ug/L | | 99 |
| 10) 1,3-butadiene | 5.03 | 54 | 7855 | 4.27 | ug/L | | 89 |
| 11) bromomethane | 5.63 | 94 | 10729 | 4.48 | ug/L | | 88 |
| 12) chloroethane | 5.81 | 64 | 6617 | 4.09 | ug/L | | 88 |
| 13) vinyl bromide | 6.15 | 106 | 6198 | 4.22 | ug/L | | 92 |
| 14) trichlorofluoromethane | 6.28 | 101 | 14820 | 4.44 | ug/L | | 97 |
| 15) ethyl ether | 6.63 | 74 | 3430 | 3.66 | ug/L | # | 63 |
| 16) 2-chloropropane | 6.87 | 63 | 3181 | 4.08 | ug/L | # | 56 |
| 18) freon 113 | 7.09 | 151 | 7012 | 4.06 | ug/L | | 97 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 11002 | 3.76 | ug/L | | 96 |
| 20) acetone | 7.09 | 43 | 7915 | 19.15 | ug/L | | 91 |
| 21) acetonitrile | 7.52 | 41 | 8746 | 42.65 | ug/L | | 80 |
| 22) iodomethane | 7.33 | 142 | 14173 | 3.99 | ug/L | | 91 |
| 23) carbon disulfide | 7.48 | 76 | 23834 | 4.06 | ug/L | | 96 |
| 24) methylene chloride | 7.78 | 84 | 9578 | 4.23 | ug/L | | 93 |
| 25) methyl acetate | 7.52 | 43 | 4021 | 4.10 | ug/L | | 93 |
| 26) methyl tert butyl ether | 8.14 | 73 | 21562 | 3.94 | ug/L | | 96 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 11122 | 4.11 | ug/L | | 93 |
| 28) hexane | 8.51 | 57 | 10195 | 4.16 | ug/L | | 98 |
| 29) di-isopropyl ether | 8.72 | 45 | 27246 | 3.86 | ug/L | | 95 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 24632 | 3.82 | ug/L | | 100 |
| 31) 2-butanone | 9.38 | 72 | 2541 | 18.12 | ug/L | # | 46 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 13928 | 4.08 | ug/L | | 97 |
| 33) chloroprene | 8.84 | 53 | 10155 | 4.08 | ug/L | | 94 |
| 34) acrylonitrile | 8.07 | 53 | 2018 | 3.73 | ug/L | | 85 |
| 35) vinyl acetate | 8.67 | 86 | 999 | 3.69 | ug/L | # | 53 |
| 36) ethyl acetate | 9.39 | 45 | 690 | 3.57 | ug/L | # | 65 |
| 37) 2,2-dichloropropane | 9.49 | 77 | 12128 | 4.19 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184716.D
Acq On : 24 Apr 2019 4:38 pm
Operator : ROBERTS
Sample : IC8014-4
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 12:19:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 9052 | 4.15 | ug/L | | 91 |
| 39) propionitrile | 9.47 | 54 | 8191 | 43.47 | ug/L | | 75 |
| 40) bromochloromethane | 9.74 | 130 | 5621 | 3.99 | ug/L | | 90 |
| 41) tetrahydrofuran | 9.76 | 72 | 647 | 3.90 | ug/L | | 82 |
| 42) chloroform | 9.83 | 83 | 14843 | 4.31 | ug/L | | 99 |
| 43) tert-butyl formate | 9.87 | 59 | 5490 | 4.02 | ug/L | | 89 |
| 46) methacrylonitrile | 9.66 | 67 | 1974 | 3.85 | ug/L | | 82 |
| 47) 1,1,1-trichloroethane | 10.10 | 97 | 12489 | 4.08 | ug/L | | 82 |
| 48) cyclohexane | 10.21 | 84 | 13112 | 4.27 | ug/L | # | 83 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 8997 | 4.04 | ug/L | | 93 |
| 50) tert-amyl alcohol | 10.37 | 55 | 1179 | 19.18 | ug/L | # | 79 |
| 51) carbon tetrachloride | 10.28 | 117 | 10889 | 4.09 | ug/L | | 94 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 27590 | 3.75 | ug/L | | 97 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 22446 | 3.93 | ug/L | | 89 |
| 56) n-butyl alcohol | 10.96 | 41 | 6394 | 204.01 | ug/L | | 93 |
| 57) benzene | 10.51 | 78 | 29684 | 4.22 | ug/L | | 100 |
| 58) heptane | 10.75 | 57 | 4773 | 3.82 | ug/L | | 94 |
| 59) isopropyl acetate | 10.41 | 87 | 1119 | 3.76 | ug/L | # | 79 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 9871 | 4.37 | ug/L | | 92 |
| 61) trichloroethene | 11.21 | 130 | 7842 | 4.21 | ug/L | | 96 |
| 62) ethyl acrylate | 11.20 | 55 | 6205 | 4.11 | ug/L | | 94 |
| 63) 2-nitropropane | 11.96 | 41 | 2068 | 4.29 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 16248 | 19.09 | ug/L | | 96 |
| 65) methyl methacrylate | 11.46 | 100 | 1261 | 3.81 | ug/L | # | 84 |
| 66) 1,2-dichloropropane | 11.51 | 63 | 7892 | 4.24 | ug/L | | 94 |
| 67) methylcyclohexane | 11.52 | 83 | 11924 | 3.93 | ug/L | | 89 |
| 68) dibromomethane | 11.61 | 93 | 4484 | 4.22 | ug/L | | 94 |
| 69) bromodichloromethane | 11.76 | 83 | 10579 | 4.12 | ug/L | | 96 |
| 70) epichlorohydrin | 12.07 | 57 | 2639 | 21.22 | ug/L | | 90 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 11562 | 4.02 | ug/L | | 95 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 8011 | 16.05 | ug/L | | 94 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 2912 | 76.59 | ug/L | | 85 |
| 76) toluene | 12.58 | 92 | 17091 | 3.97 | ug/L | | 94 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 9645 | 3.75 | ug/L | | 95 |
| 78) ethyl methacrylate | 12.74 | 69 | 6905 | 3.88 | ug/L | | 93 |
| 79) 1,1,2-trichloroethane | 12.97 | 83 | 4825 | 4.00 | ug/L | | 94 |
| 80) 2-hexanone | 13.13 | 58 | 7568 | 16.27 | ug/L | # | 85 |
| 81) tetrachloroethene | 13.12 | 166 | 7664 | 3.93 | ug/L | | 96 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 9332 | 4.10 | ug/L | | 99 |
| 83) butyl acetate | 13.20 | 56 | 3362 | 3.74 | ug/L | | 99 |
| 84) dibromochloromethane | 13.39 | 129 | 7277 | 3.74 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 7622 | 3.98 | ug/L | | 99 |
| 86) n-butyl ether | 13.97 | 57 | 27016 | 3.70 | ug/L | | 94 |
| 87) chlorobenzene | 14.02 | 112 | 20618 | 4.12 | ug/L | | 95 |
| 88) 1,1,1,2-tetrachloroethane | 14.09 | 131 | 8223 | 3.92 | ug/L | | 93 |
| 89) ethylbenzene | 14.08 | 91 | 32383 | 4.00 | ug/L | | 94 |
| 90) m,p-xylene | 14.20 | 106 | 24495 | 7.84 | ug/L | | 98 |
| 91) o-xylene | 14.59 | 91 | 26116 | 3.74 | ug/L | | 97 |
| 92) styrene | 14.60 | 104 | 20903 | 3.75 | ug/L | | 97 |
| 93) bromoform | 14.83 | 173 | 4714 | 3.72 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184716.D
Acq On : 24 Apr 2019 4:38 pm
Operator : ROBERTS
Sample : IC8014-4
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 12:19:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

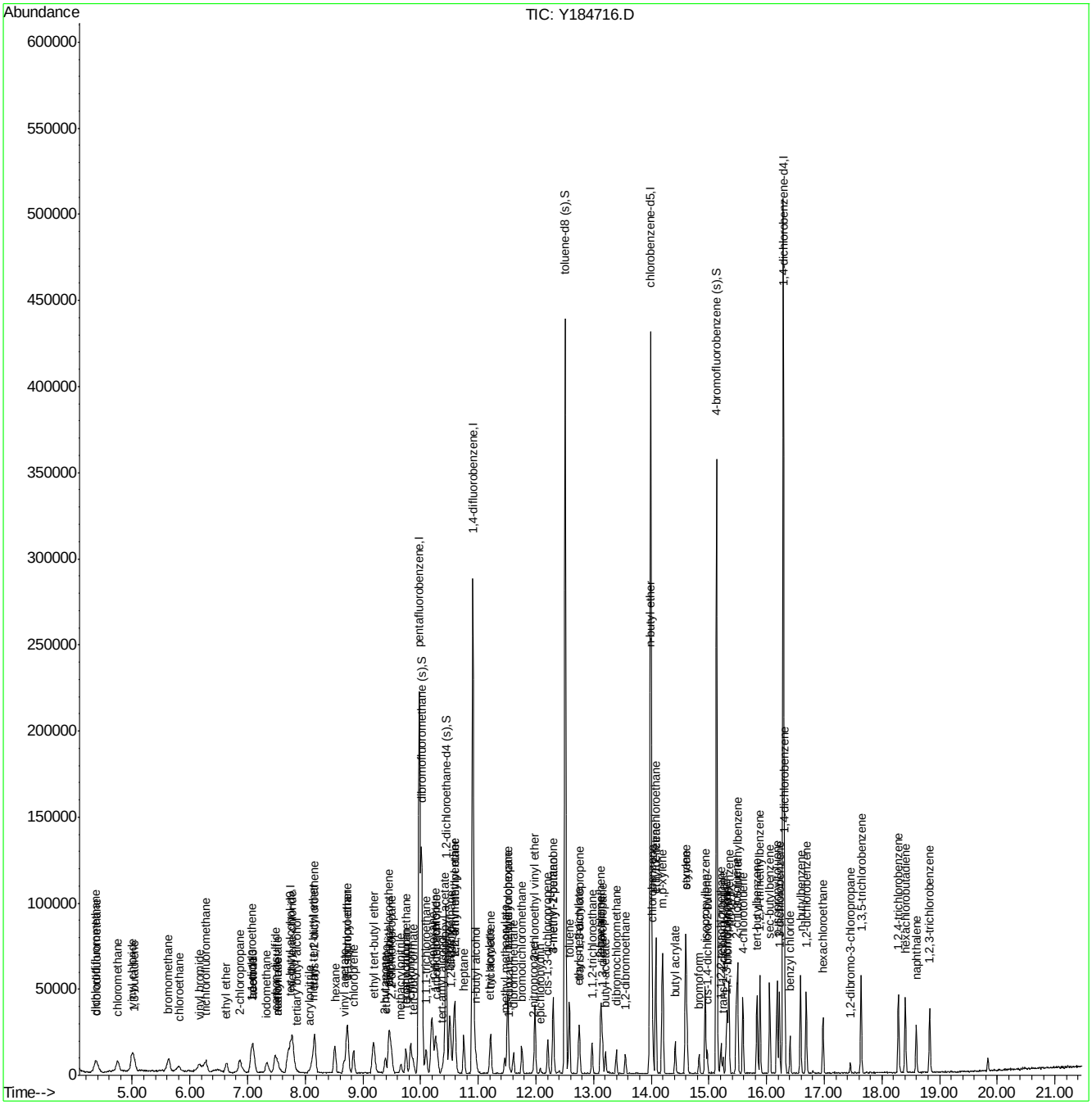
| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 94) butyl acrylate | 14.42 | 55 | 11124 | 3.75 | ug/L | | 96 |
| 95) isopropylbenzene | 14.93 | 105 | 31012 | 3.72 | ug/L | | 96 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 2412 | 3.61 | ug/L | | 94 |
| 99) bromobenzene | 15.32 | 156 | 10088 | 4.20 | ug/L | # | 79 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 7764 | 4.29 | ug/L | | 95 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 1683 | 3.96 | ug/L | | 91 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 1895 | 4.00 | ug/L | | 80 |
| 103) n-propylbenzene | 15.35 | 91 | 37262 | 3.98 | ug/L | | 98 |
| 104) 2-chlorotoluene | 15.48 | 126 | 8421 | 3.92 | ug/L | | 89 |
| 105) 4-chlorotoluene | 15.59 | 91 | 23381 | 3.93 | ug/L | | 100 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 27380 | 3.88 | ug/L | | 99 |
| 107) tert-butylbenzene | 15.84 | 134 | 4836 | 3.65 | ug/L | # | 91 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 28036 | 3.82 | ug/L | | 99 |
| 109) sec-butylbenzene | 16.05 | 105 | 33816 | 3.81 | ug/L | | 97 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 18131 | 4.05 | ug/L | | 94 |
| 111) p-isopropyltoluene | 16.18 | 119 | 29864 | 3.79 | ug/L | | 97 |
| 112) 1,4-dichlorobenzene | 16.31 | 146 | 18877 | 4.22 | ug/L | | 95 |
| 113) 1,2-dichlorobenzene | 16.69 | 146 | 18239 | 4.05 | ug/L | | 96 |
| 114) n-butylbenzene | 16.59 | 92 | 15757 | 3.85 | ug/L | | 93 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 1662 | 3.89 | ug/L | | 97 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 17457 | 3.91 | ug/L | | 99 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 14156 | 3.71 | ug/L | | 93 |
| 118) hexachlorobutadiene | 18.41 | 225 | 9185 | 4.12 | ug/L | | 93 |
| 119) naphthalene | 18.59 | 128 | 21485 | 3.44 | ug/L | | 100 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 12201 | 3.59 | ug/L | | 98 |
| 121) hexachloroethane | 16.98 | 201 | 4815 | 3.33 | ug/L | | 97 |
| 122) benzyl chloride | 16.41 | 91 | 13287 | 3.94 | ug/L | | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184716.D
Acq On : 24 Apr 2019 4:38 pm
Operator : ROBERTS
Sample : IC8014-4
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 12:19:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration






SGS JC87535

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184717.D
Acq On : 24 Apr 2019 5:07 pm
Operator : ROBERTS
Sample : IC8014-8
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 12:19:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.75 | 65 | 55075 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 175770 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 247230 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 221702 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 122752 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 79760 | 50.40 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.80% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 71940 | 53.45 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 106.90% | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 277475 | 47.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 95.54% | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 101186 | 48.78 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.56% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.85 | 59 | 7108 | 40.02 | ug/L | 92 |
| 4) 1,4-dioxane | 11.54 | 88 | 3276 | 181.89 | ug/L | 80 |
| 6) chlorodifluoromethane | 4.39 | 51 | 21904 | 8.19 | ug/L | 97 |
| 7) dichlorodifluoromethane | 4.35 | 85 | 26990 | 7.85 | ug/L | 95 |
| 8) chloromethane | 4.75 | 50 | 28590 | 8.61 | ug/L | 96 |
| 9) vinyl chloride | 4.99 | 62 | 24244 | 8.45 | ug/L | 90 |
| 10) 1,3-butadiene | 5.03 | 54 | 14563 | 8.14 | ug/L | 92 |
| 11) bromomethane | 5.62 | 94 | 19685 | 8.45 | ug/L | 94 |
| 12) chloroethane | 5.81 | 64 | 13229 | 8.39 | ug/L | 91 |
| 13) vinyl bromide | 6.16 | 106 | 11204 | 7.84 | ug/L | 90 |
| 14) trichlorofluoromethane | 6.27 | 101 | 26788 | 8.24 | ug/L | 98 |
| 15) ethyl ether | 6.63 | 74 | 6791 | 7.44 | ug/L | 88 |
| 16) 2-chloropropane | 6.86 | 63 | 5961 | 7.85 | ug/L # | 74 |
| 17) acrolein | 6.88 | 56 | 1674 | 7.06 | ug/L # | 65 |
| 18) freon 113 | 7.10 | 151 | 12671 | 7.53 | ug/L | 97 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 21186 | 7.43 | ug/L | 95 |
| 20) acetone | 7.08 | 43 | 13466 | 33.46 | ug/L | 83 |
| 21) acetonitrile | 7.50 | 41 | 18103 | 90.67 | ug/L | 89 |
| 22) iodomethane | 7.33 | 142 | 26511 | 7.67 | ug/L | 98 |
| 23) carbon disulfide | 7.47 | 76 | 47059 | 8.24 | ug/L | 93 |
| 24) methylene chloride | 7.78 | 84 | 18587 | 8.44 | ug/L | 95 |
| 25) methyl acetate | 7.52 | 43 | 8426 | 8.81 | ug/L | 87 |
| 26) methyl tert butyl ether | 8.13 | 73 | 44365 | 8.33 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 8.15 | 61 | 20538 | 7.80 | ug/L | 88 |
| 28) hexane | 8.52 | 57 | 18563 | 7.77 | ug/L | 97 |
| 29) di-isopropyl ether | 8.72 | 45 | 53837 | 7.84 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 49186 | 7.83 | ug/L | 96 |
| 31) 2-butanone | 9.38 | 72 | 4536 | 33.22 | ug/L # | 77 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 26723 | 8.04 | ug/L | 98 |
| 33) chloroprene | 8.84 | 53 | 18481 | 7.63 | ug/L | 95 |
| 34) acrylonitrile | 8.07 | 53 | 4708 | 8.94 | ug/L | 98 |
| 35) vinyl acetate | 8.66 | 86 | 2049 | 7.77 | ug/L # | 85 |
| 36) ethyl acetate | 9.39 | 45 | 1645 | 8.73 | ug/L | 82 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184717.D
Acq On : 24 Apr 2019 5:07 pm
Operator : ROBERTS
Sample : IC8014-8
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 12:19:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.49 | 77 | 23113 | 8.21 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 17967 | 8.46 | ug/L | | 89 |
| 39) propionitrile | 9.46 | 54 | 16443 | 89.62 | ug/L | | 95 |
| 40) bromochloromethane | 9.74 | 130 | 11176 | 8.15 | ug/L | | 90 |
| 41) tetrahydrofuran | 9.76 | 72 | 1269 | 7.86 | ug/L | # | 76 |
| 42) chloroform | 9.82 | 83 | 27979 | 8.34 | ug/L | | 100 |
| 43) tert-butyl formate | 9.87 | 59 | 10470 | 7.87 | ug/L | | 97 |
| 46) methacrylonitrile | 9.66 | 67 | 4215 | 8.45 | ug/L | | 95 |
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 23894 | 8.02 | ug/L | | 98 |
| 48) cyclohexane | 10.20 | 84 | 24050 | 8.04 | ug/L | | 93 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 17055 | 7.87 | ug/L | | 97 |
| 50) tert-amyl alcohol | 10.38 | 55 | 2687 | 44.88 | ug/L | | 98 |
| 51) carbon tetrachloride | 10.29 | 117 | 20900 | 8.07 | ug/L | | 96 |
| 54) 2,2,4-trimethylpentane | 10.59 | 57 | 53957 | 7.49 | ug/L | | 95 |
| 55) tert-amyl methyl ether | 10.59 | 73 | 43793 | 7.83 | ug/L | | 94 |
| 56) n-butyl alcohol | 10.95 | 41 | 12726 | 414.96 | ug/L | | 88 |
| 57) benzene | 10.51 | 78 | 56988 | 8.28 | ug/L | | 98 |
| 58) heptane | 10.75 | 57 | 9638 | 7.89 | ug/L | | 96 |
| 59) isopropyl acetate | 10.40 | 87 | 2388 | 8.20 | ug/L | # | 79 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 18793 | 8.50 | ug/L | | 98 |
| 61) trichloroethene | 11.22 | 130 | 15093 | 8.27 | ug/L | | 99 |
| 62) ethyl acrylate | 11.20 | 55 | 12278 | 8.31 | ug/L | | 95 |
| 63) 2-nitropropane | 11.96 | 41 | 4144 | 8.78 | ug/L | # | 71 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 35321 | 42.41 | ug/L | | 98 |
| 65) methyl methacrylate | 11.45 | 100 | 2653 | 8.19 | ug/L | # | 78 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 14704 | 8.08 | ug/L | | 92 |
| 67) methylcyclohexane | 11.51 | 83 | 22470 | 7.57 | ug/L | | 99 |
| 68) dibromomethane | 11.61 | 93 | 8861 | 8.52 | ug/L | | 89 |
| 69) bromodichloromethane | 11.76 | 83 | 19934 | 7.93 | ug/L | | 97 |
| 70) epichlorohydrin | 12.07 | 57 | 5426 | 44.60 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 22572 | 8.01 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 12.31 | 58 | 16894 | 34.59 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 5899 | 158.56 | ug/L | | 89 |
| 76) toluene | 12.58 | 92 | 32768 | 7.65 | ug/L | | 94 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 19766 | 7.74 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.75 | 69 | 13799 | 7.80 | ug/L | | 90 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 9824 | 8.20 | ug/L | | 92 |
| 80) 2-hexanone | 13.13 | 58 | 15734 | 34.02 | ug/L | | 94 |
| 81) tetrachloroethene | 13.12 | 166 | 15254 | 7.87 | ug/L | | 95 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 18570 | 8.21 | ug/L | | 92 |
| 83) butyl acetate | 13.21 | 56 | 7362 | 8.24 | ug/L | | 85 |
| 84) dibromochloromethane | 13.40 | 129 | 14993 | 7.76 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 15756 | 8.28 | ug/L | | 95 |
| 86) n-butyl ether | 13.97 | 57 | 53719 | 7.40 | ug/L | | 96 |
| 87) chlorobenzene | 14.02 | 112 | 39769 | 7.99 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 14.09 | 131 | 15733 | 7.55 | ug/L | | 98 |
| 89) ethylbenzene | 14.07 | 91 | 62625 | 7.79 | ug/L | | 97 |
| 90) m,p-xylene | 14.20 | 106 | 48089 | 15.48 | ug/L | | 98 |
| 91) o-xylene | 14.59 | 91 | 52434 | 7.56 | ug/L | | 97 |
| 92) styrene | 14.60 | 104 | 42347 | 7.65 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184717.D
Acq On : 24 Apr 2019 5:07 pm
Operator : ROBERTS
Sample : IC8014-8
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 12:19:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

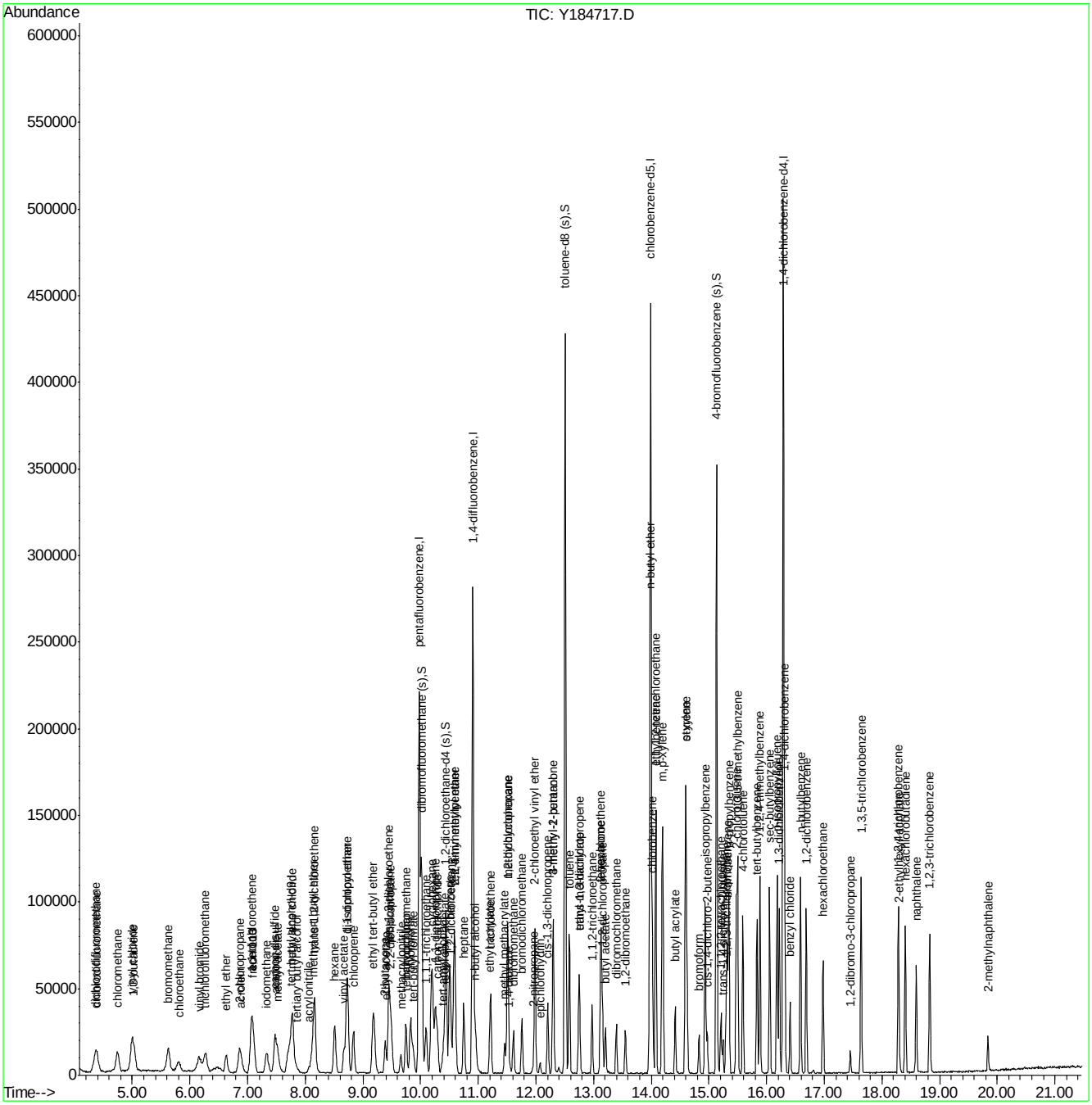
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 14.83 | 173 | 9955 | 7.91 ug/L | 92 |
| 94) butyl acrylate | 14.41 | 55 | 23679 | 8.03 ug/L | 98 |
| 95) isopropylbenzene | 14.93 | 105 | 61493 | 7.43 ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 5454 | 8.21 ug/L | 85 |
| 99) bromobenzene | 15.31 | 156 | 19875 | 8.35 ug/L | 92 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 15670 | 8.74 ug/L | 98 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 3586 | 8.52 ug/L | 99 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 4109 | 8.76 ug/L | 88 |
| 103) n-propylbenzene | 15.35 | 91 | 74090 | 7.99 ug/L | 98 |
| 104) 2-chlorotoluene | 15.48 | 126 | 16959 | 7.96 ug/L | 99 |
| 105) 4-chlorotoluene | 15.59 | 91 | 46639 | 7.90 ug/L | 97 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 55132 | 7.88 ug/L | 99 |
| 107) tert-butylbenzene | 15.84 | 134 | 9155 | 6.96 ug/L | 98 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 56749 | 7.80 ug/L | 98 |
| 109) sec-butylbenzene | 16.05 | 105 | 66433 | 7.55 ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 35547 | 8.02 ug/L | 99 |
| 111) p-isopropyltoluene | 16.18 | 119 | 59874 | 7.67 ug/L | 99 |
| 112) 1,4-dichlorobenzene | 16.31 | 146 | 36564 | 8.25 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 16.69 | 146 | 35957 | 8.06 ug/L | 95 |
| 114) n-butylbenzene | 16.59 | 92 | 30301 | 7.48 ug/L | 100 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 3410 | 8.05 ug/L | 91 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 33649 | 7.61 ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 28928 | 7.66 ug/L | 99 |
| 118) hexachlorobutadiene | 18.41 | 225 | 17428 | 7.88 ug/L | 98 |
| 119) naphthalene | 18.59 | 128 | 44840 | 7.25 ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 25974 | 7.72 ug/L | 99 |
| 121) hexachloroethane | 16.98 | 201 | 10096 | 7.04 ug/L | 93 |
| 122) benzyl chloride | 16.41 | 91 | 27006 | 8.09 ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 18.30 | 70 | 2395 | 1.19 ug/L | 93 |
| 124) 2-methylnaphthalene | 19.84 | 142 | 9555 | 3.43 ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184717.D
Acq On : 24 Apr 2019 5:07 pm
Operator : ROBERTS
Sample : IC8014-8
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 12:19:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184718.D
Acq On : 24 Apr 2019 5:35 pm
Operator : ROBERTS
Sample : IC8014-20
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 12:20:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.73 | 65 | 52655 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.97 | 168 | 163262 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 230362 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 214598 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 117730 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 74031 | 50.36 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.72% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 65244 | 52.02 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 104.04% | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 262197 | 46.63 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 93.26% | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 99459 | 49.99 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.98% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.84 | 59 | 16886 | 99.43 | ug/L | 98 |
| 4) 1,4-dioxane | 11.55 | 88 | 8021 | 465.80 | ug/L | 85 |
| 6) chlorodifluoromethane | 4.37 | 51 | 54989 | 22.13 | ug/L | 97 |
| 7) dichlorodifluoromethane | 4.35 | 85 | 75413 | 23.61 | ug/L | 97 |
| 8) chloromethane | 4.74 | 50 | 72376 | 23.46 | ug/L | 89 |
| 9) vinyl chloride | 4.99 | 62 | 61409 | 23.05 | ug/L | 98 |
| 10) 1,3-butadiene | 5.03 | 54 | 35592 | 21.41 | ug/L | 98 |
| 11) bromomethane | 5.62 | 94 | 49745 | 22.99 | ug/L | 97 |
| 12) chloroethane | 5.81 | 64 | 32584 | 22.25 | ug/L | 96 |
| 13) vinyl bromide | 6.15 | 106 | 29160 | 21.96 | ug/L | 98 |
| 14) trichlorofluoromethane | 6.27 | 101 | 68571 | 22.71 | ug/L | 98 |
| 15) ethyl ether | 6.62 | 74 | 16630 | 19.63 | ug/L | 87 |
| 16) 2-chloropropane | 6.87 | 63 | 13755 | 19.51 | ug/L | 98 |
| 17) acrolein | 6.88 | 56 | 4498 | 20.42 | ug/L | 79 |
| 18) freon 113 | 7.10 | 151 | 31628 | 20.25 | ug/L | 94 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 51594 | 19.49 | ug/L | 97 |
| 20) acetone | 7.07 | 43 | 30790 | 82.37 | ug/L | 97 |
| 21) acetonitrile | 7.51 | 41 | 41289 | 222.63 | ug/L | 89 |
| 22) iodomethane | 7.33 | 142 | 68601 | 21.38 | ug/L | 99 |
| 23) carbon disulfide | 7.47 | 76 | 114277 | 21.54 | ug/L | 98 |
| 24) methylene chloride | 7.78 | 84 | 44031 | 21.52 | ug/L | 96 |
| 25) methyl acetate | 7.53 | 43 | 19753 | 22.24 | ug/L | 98 |
| 26) methyl tert butyl ether | 8.14 | 73 | 105474 | 21.33 | ug/L | 97 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 51380 | 21.01 | ug/L | 94 |
| 28) hexane | 8.51 | 57 | 45858 | 20.67 | ug/L | 92 |
| 29) di-isopropyl ether | 8.72 | 45 | 132214 | 20.73 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 120134 | 20.60 | ug/L | 97 |
| 31) 2-butanone | 9.38 | 72 | 11322 | 89.28 | ug/L | 95 |
| 32) 1,1-dichloroethane | 8.74 | 63 | 64581 | 20.91 | ug/L | 99 |
| 33) chloroprene | 8.83 | 53 | 46369 | 20.61 | ug/L | 95 |
| 34) acrylonitrile | 8.07 | 53 | 10558 | 21.59 | ug/L | 91 |
| 35) vinyl acetate | 8.66 | 86 | 5261 | 21.49 | ug/L # | 85 |
| 36) ethyl acetate | 9.39 | 45 | 3831 | 21.89 | ug/L | 89 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184718.D
Acq On : 24 Apr 2019 5:35 pm
Operator : ROBERTS
Sample : IC8014-20
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 12:20:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.49 | 77 | 55701 | 21.30 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 42727 | 21.67 | ug/L | | 99 |
| 39) propionitrile | 9.46 | 54 | 37383 | 219.37 | ug/L | | 80 |
| 40) bromochloromethane | 9.74 | 130 | 27020 | 21.22 | ug/L | | 97 |
| 41) tetrahydrofuran | 9.77 | 72 | 3294 | 21.96 | ug/L | | 88 |
| 42) chloroform | 9.83 | 83 | 66160 | 21.22 | ug/L | | 94 |
| 43) tert-butyl formate | 9.87 | 59 | 26132 | 21.14 | ug/L | | 94 |
| 46) methacrylonitrile | 9.66 | 67 | 9808 | 21.18 | ug/L | | 87 |
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 58284 | 21.07 | ug/L | | 97 |
| 48) cyclohexane | 10.20 | 84 | 64701 | 23.28 | ug/L | | 96 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 41723 | 20.72 | ug/L | | 99 |
| 50) tert-amyl alcohol | 10.38 | 55 | 5867 | 105.51 | ug/L | | 90 |
| 51) carbon tetrachloride | 10.29 | 117 | 51664 | 21.47 | ug/L | | 97 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 135949 | 20.26 | ug/L | | 100 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 107788 | 20.69 | ug/L | | 97 |
| 56) n-butyl alcohol | 10.95 | 41 | 30273 | 1059.41 | ug/L | | 96 |
| 57) benzene | 10.50 | 78 | 134219 | 20.94 | ug/L | | 96 |
| 58) heptane | 10.75 | 57 | 24592 | 21.61 | ug/L | | 98 |
| 59) isopropyl acetate | 10.40 | 87 | 5569 | 20.53 | ug/L | | 89 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 44059 | 21.38 | ug/L | | 96 |
| 61) trichloroethene | 11.22 | 130 | 35865 | 21.10 | ug/L | | 96 |
| 62) ethyl acrylate | 11.19 | 55 | 31148 | 22.62 | ug/L | | 97 |
| 63) 2-nitropropane | 11.96 | 41 | 9580 | 21.77 | ug/L | # | 74 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 87395 | 112.62 | ug/L | | 97 |
| 65) methyl methacrylate | 11.46 | 100 | 6797 | 22.53 | ug/L | # | 81 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 35305 | 20.82 | ug/L | | 98 |
| 67) methylcyclohexane | 11.51 | 83 | 56827 | 20.55 | ug/L | | 97 |
| 68) dibromomethane | 11.61 | 93 | 20869 | 21.54 | ug/L | | 94 |
| 69) bromodichloromethane | 11.76 | 83 | 48442 | 20.68 | ug/L | | 98 |
| 70) epichlorohydrin | 12.08 | 57 | 12575 | 110.93 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 54873 | 20.91 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 40596 | 89.21 | ug/L | | 96 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 15333 | 442.31 | ug/L | | 98 |
| 76) toluene | 12.58 | 92 | 80250 | 19.36 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 48157 | 19.48 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.74 | 69 | 34272 | 20.01 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 23290 | 20.09 | ug/L | | 94 |
| 80) 2-hexanone | 13.13 | 58 | 37213 | 83.11 | ug/L | | 97 |
| 81) tetrachloroethene | 13.12 | 166 | 36258 | 19.33 | ug/L | | 96 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 44740 | 20.43 | ug/L | | 98 |
| 83) butyl acetate | 13.21 | 56 | 17889 | 20.68 | ug/L | | 95 |
| 84) dibromochloromethane | 13.39 | 129 | 36864 | 19.70 | ug/L | | 100 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 38505 | 20.90 | ug/L | | 97 |
| 86) n-butyl ether | 13.97 | 57 | 135920 | 19.35 | ug/L | | 99 |
| 87) chlorobenzene | 14.02 | 112 | 98397 | 20.42 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 14.08 | 131 | 39251 | 19.47 | ug/L | | 97 |
| 89) ethylbenzene | 14.07 | 91 | 153853 | 19.76 | ug/L | | 99 |
| 90) m,p-xylene | 14.20 | 106 | 120122 | 39.94 | ug/L | | 97 |
| 91) o-xylene | 14.59 | 91 | 131594 | 19.60 | ug/L | | 96 |
| 92) styrene | 14.60 | 104 | 106239 | 19.82 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184718.D
Acq On : 24 Apr 2019 5:35 pm
Operator : ROBERTS
Sample : IC8014-20
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 12:20:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

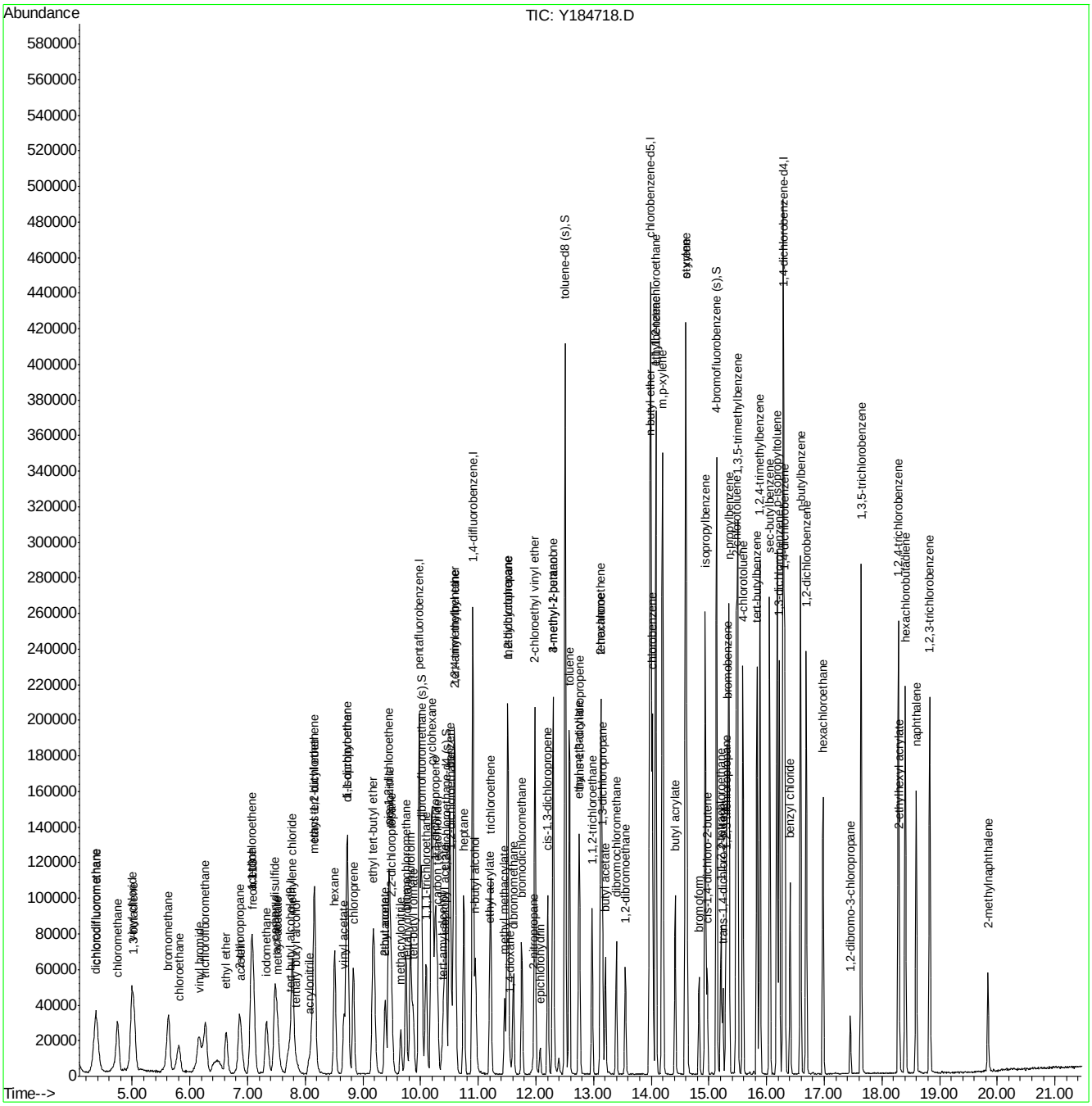
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 14.83 | 173 | 24254 | 19.90 ug/L | 95 |
| 94) butyl acrylate | 14.41 | 55 | 56638 | 19.84 ug/L | 99 |
| 95) isopropylbenzene | 14.93 | 105 | 153553 | 19.16 ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 12383 | 19.25 ug/L | 95 |
| 99) bromobenzene | 15.31 | 156 | 48072 | 21.05 ug/L | 99 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 38049 | 22.12 ug/L | 97 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 8525 | 21.12 ug/L | 94 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 9216 | 20.48 ug/L | 92 |
| 103) n-propylbenzene | 15.35 | 91 | 185451 | 20.86 ug/L | 99 |
| 104) 2-chlorotoluene | 15.48 | 126 | 42540 | 20.82 ug/L | 98 |
| 105) 4-chlorotoluene | 15.59 | 91 | 118967 | 21.01 ug/L | 99 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 137494 | 20.48 ug/L | 98 |
| 107) tert-butylbenzene | 15.84 | 134 | 23661 | 18.76 ug/L | 95 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 141063 | 20.23 ug/L | 99 |
| 109) sec-butylbenzene | 16.05 | 105 | 168761 | 19.99 ug/L | 98 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 89108 | 20.96 ug/L | 97 |
| 111) p-isopropyltoluene | 16.18 | 119 | 151199 | 20.20 ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.31 | 146 | 88196 | 20.75 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 88802 | 20.76 ug/L | 98 |
| 114) n-butylbenzene | 16.59 | 92 | 78106 | 20.10 ug/L | 99 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 8784 | 21.62 ug/L | 97 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 86931 | 20.49 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 75488 | 20.84 ug/L | 97 |
| 118) hexachlorobutadiene | 18.41 | 225 | 44795 | 21.12 ug/L | 99 |
| 119) naphthalene | 18.59 | 128 | 121504 | 20.48 ug/L | 98 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 68644 | 21.27 ug/L | 99 |
| 121) hexachloroethane | 16.98 | 201 | 25114 | 18.26 ug/L | 98 |
| 122) benzyl chloride | 16.41 | 91 | 66231 | 20.68 ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 18.31 | 70 | 6511 | 3.37 ug/L | 96 |
| 124) 2-methylnaphthalene | 19.84 | 142 | 25649 | 9.60 ug/L | 92 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184718.D
Acq On : 24 Apr 2019 5:35 pm
Operator : ROBERTS
Sample : IC8014-20
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 12:20:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184719.D
Acq On : 24 Apr 2019 6:04 pm
Operator : ROBERTS
Sample : ICC8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 12:20:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 52871 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 180942 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 258053 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 216710 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 125526 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 81458 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.00% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 70243 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.00% | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 283896 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.00% | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 106065 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.00% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.84 | 59 | 42631 | 250.00 | ug/L | 100 |
| 4) 1,4-dioxane | 11.54 | 88 | 21613 | 1250.00 | ug/L | 100 |
| 6) chlorodifluoromethane | 4.38 | 51 | 137725 | 50.00 | ug/L | 100 |
| 7) dichlorodifluoromethane | 4.35 | 85 | 177031 | 50.00 | ug/L | 100 |
| 8) chloromethane | 4.75 | 50 | 171123 | 50.04 | ug/L | 100 |
| 9) vinyl chloride | 4.99 | 62 | 147642 | 50.00 | ug/L | 100 |
| 10) 1,3-butadiene | 5.03 | 54 | 92101 | 50.00 | ug/L | 100 |
| 11) bromomethane | 5.63 | 94 | 119917 | 50.00 | ug/L | 100 |
| 12) chloroethane | 5.81 | 64 | 81143 | 50.00 | ug/L | 100 |
| 13) vinyl bromide | 6.16 | 106 | 73572 | 50.00 | ug/L | 100 |
| 14) trichlorofluoromethane | 6.27 | 101 | 167315 | 50.00 | ug/L | 100 |
| 15) ethyl ether | 6.63 | 74 | 46957 | 50.00 | ug/L | 100 |
| 16) 2-chloropropane | 6.86 | 63 | 39071 | 50.00 | ug/L | 100 |
| 17) acrolein | 6.88 | 56 | 12205 | 50.00 | ug/L | 100 |
| 18) freon 113 | 7.10 | 151 | 86567 | 50.00 | ug/L | 100 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 146727 | 50.00 | ug/L | 100 |
| 20) acetone | 7.08 | 43 | 82853 | 200.00 | ug/L | 100 |
| 21) acetonitrile | 7.50 | 41 | 102771 | 500.00 | ug/L | 100 |
| 22) iodomethane | 7.33 | 142 | 177831 | 50.00 | ug/L | 100 |
| 23) carbon disulfide | 7.47 | 76 | 294052 | 50.00 | ug/L | 100 |
| 24) methylene chloride | 7.78 | 84 | 113393 | 50.00 | ug/L | 100 |
| 25) methyl acetate | 7.52 | 43 | 49209 | 50.00 | ug/L | 100 |
| 26) methyl tert butyl ether | 8.14 | 73 | 273979 | 50.00 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 135489 | 50.00 | ug/L | 100 |
| 28) hexane | 8.51 | 57 | 122969 | 50.00 | ug/L | 100 |
| 29) di-isopropyl ether | 8.72 | 45 | 353434 | 50.00 | ug/L | 100 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 323341 | 50.03 | ug/L | 100 |
| 31) 2-butanone | 9.38 | 72 | 28110 | 200.00 | ug/L | 100 |
| 32) 1,1-dichloroethane | 8.74 | 63 | 171613 | 50.13 | ug/L | 100 |
| 33) chloroprene | 8.83 | 53 | 124696 | 50.00 | ug/L | 100 |
| 34) acrylonitrile | 8.07 | 53 | 27097 | 50.00 | ug/L | 100 |
| 35) vinyl acetate | 8.67 | 86 | 13567 | 50.00 | ug/L | 100 |
| 36) ethyl acetate | 9.38 | 45 | 9700 | 50.00 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184719.D
Acq On : 24 Apr 2019 6:04 pm
Operator : ROBERTS
Sample : ICC8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 12:20:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.49 | 77 | 144940 | 50.00 | ug/L | 100 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 109256 | 50.00 | ug/L | 100 |
| 39) propionitrile | 9.46 | 54 | 94433 | 500.00 | ug/L | 100 |
| 40) bromochloromethane | 9.74 | 130 | 70548 | 50.00 | ug/L | 100 |
| 41) tetrahydrofuran | 9.77 | 72 | 8313 | 50.00 | ug/L | 100 |
| 42) chloroform | 9.82 | 83 | 172755 | 50.00 | ug/L | 100 |
| 43) tert-butyl formate | 9.87 | 59 | 68489 | 50.00 | ug/L | 100 |
| 46) methacrylonitrile | 9.65 | 67 | 25666 | 50.00 | ug/L | 100 |
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 153261 | 50.00 | ug/L | 100 |
| 48) cyclohexane | 10.20 | 84 | 153990 | 50.00 | ug/L | 100 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 111586 | 50.00 | ug/L | 100 |
| 50) tert-amyl alcohol | 10.38 | 55 | 15407 | 250.00 | ug/L | 100 |
| 51) carbon tetrachloride | 10.29 | 117 | 133373 | 50.00 | ug/L | 100 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 375756 | 50.00 | ug/L | 100 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 291851 | 50.00 | ug/L | 100 |
| 56) n-butyl alcohol | 10.95 | 41 | 80026 | 2500.00 | ug/L | 100 |
| 57) benzene | 10.50 | 78 | 359031 | 50.00 | ug/L | 100 |
| 58) heptane | 10.75 | 57 | 63736 | 50.00 | ug/L | 100 |
| 59) isopropyl acetate | 10.40 | 87 | 15195 | 50.00 | ug/L | 100 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 115405 | 50.00 | ug/L | 100 |
| 61) trichloroethene | 11.22 | 130 | 95215 | 50.00 | ug/L | 100 |
| 62) ethyl acrylate | 11.20 | 55 | 77142 | 50.00 | ug/L | 100 |
| 63) 2-nitropropane | 11.96 | 41 | 24645 | 50.00 | ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 217323 | 250.00 | ug/L | 100 |
| 65) methyl methacrylate | 11.45 | 100 | 16901 | 50.00 | ug/L | 100 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 94976 | 50.00 | ug/L | 100 |
| 67) methylcyclohexane | 11.51 | 83 | 154848 | 50.00 | ug/L | 100 |
| 68) dibromomethane | 11.61 | 93 | 54262 | 50.00 | ug/L | 100 |
| 69) bromodichloromethane | 11.76 | 83 | 131203 | 50.00 | ug/L | 100 |
| 70) epichlorohydrin | 12.07 | 57 | 31748 | 250.00 | ug/L | 100 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 146996 | 50.00 | ug/L | 100 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 101952 | 200.00 | ug/L | 100 |
| 73) 3-methyl-1-butanol | 12.29 | 70 | 38833 | 1000.00 | ug/L | 100 |
| 76) toluene | 12.58 | 92 | 209244 | 50.00 | ug/L | 100 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 124814 | 50.00 | ug/L | 100 |
| 78) ethyl methacrylate | 12.74 | 69 | 86460 | 50.00 | ug/L | 100 |
| 79) 1,1,2-trichloroethane | 12.97 | 83 | 58541 | 50.00 | ug/L | 100 |
| 80) 2-hexanone | 13.13 | 58 | 90428 | 200.00 | ug/L | 100 |
| 81) tetrachloroethene | 13.12 | 166 | 94695 | 50.00 | ug/L | 100 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 110560 | 50.00 | ug/L | 100 |
| 83) butyl acetate | 13.20 | 56 | 43683 | 50.00 | ug/L | 100 |
| 84) dibromochloromethane | 13.40 | 129 | 94469 | 50.00 | ug/L | 100 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 93027 | 50.00 | ug/L | 100 |
| 86) n-butyl ether | 13.97 | 57 | 354758 | 50.00 | ug/L | 100 |
| 87) chlorobenzene | 14.02 | 112 | 243333 | 50.00 | ug/L | 100 |
| 88) 1,1,1,2-tetrachloroethane | 14.08 | 131 | 101802 | 50.00 | ug/L | 100 |
| 89) ethylbenzene | 14.07 | 91 | 393125 | 50.00 | ug/L | 100 |
| 90) m,p-xylene | 14.20 | 106 | 303745 | 100.00 | ug/L | 100 |
| 91) o-xylene | 14.59 | 91 | 339042 | 50.00 | ug/L | 100 |
| 92) styrene | 14.60 | 104 | 270704 | 50.00 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184719.D
Acq On : 24 Apr 2019 6:04 pm
Operator : ROBERTS
Sample : ICC8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 12:20:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

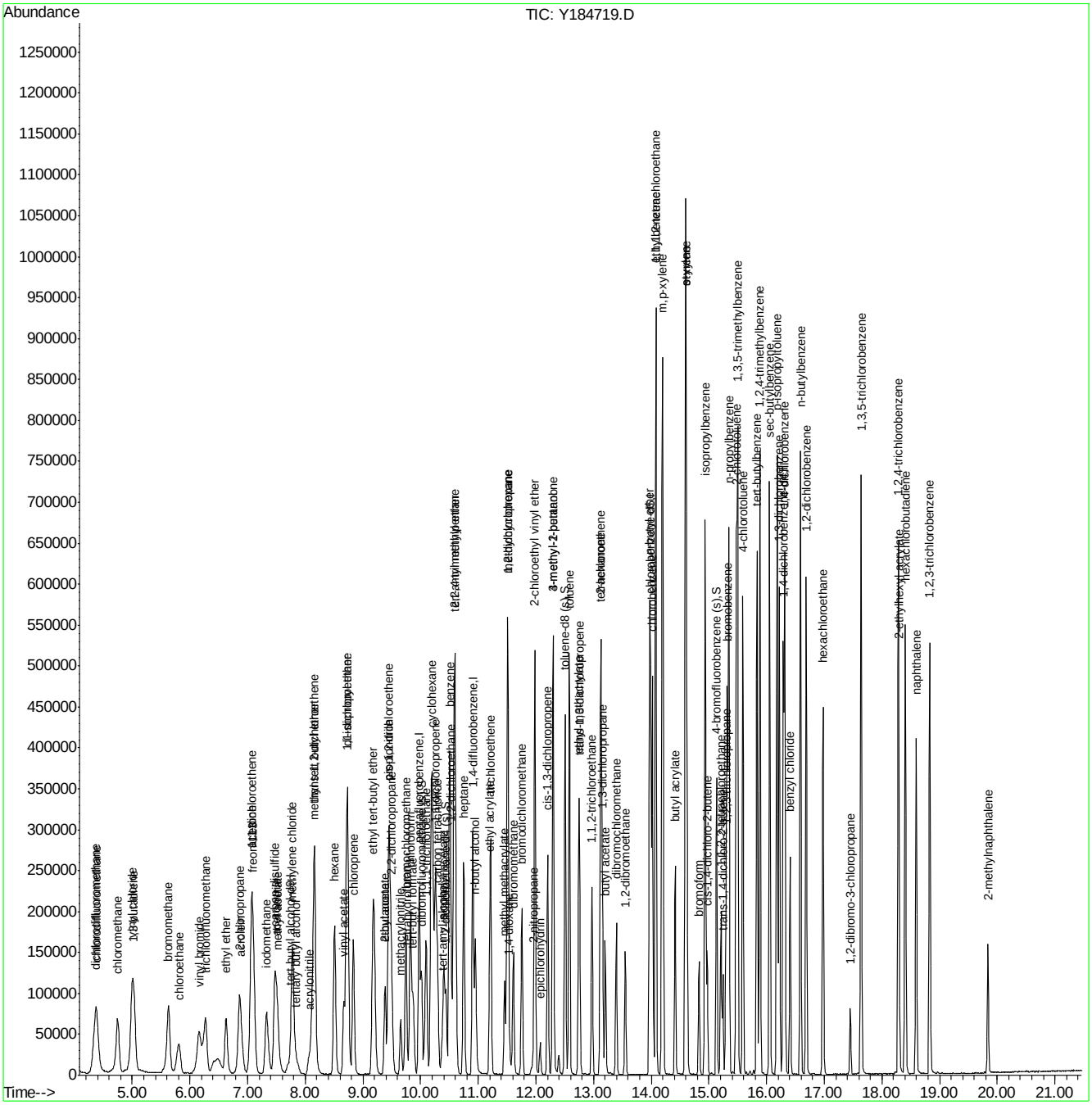
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) bromoform | 14.83 | 173 | 61535 | 50.00 | ug/L | 100 |
| 94) butyl acrylate | 14.41 | 55 | 144117 | 50.00 | ug/L | 100 |
| 95) isopropylbenzene | 14.93 | 105 | 404616 | 50.00 | ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 32479 | 50.00 | ug/L | 100 |
| 99) bromobenzene | 15.31 | 156 | 121763 | 50.00 | ug/L | 100 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 91718 | 50.00 | ug/L | 100 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 21514 | 50.00 | ug/L | 100 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 23992 | 50.00 | ug/L | 100 |
| 103) n-propylbenzene | 15.35 | 91 | 474029 | 50.00 | ug/L | 100 |
| 104) 2-chlorotoluene | 15.48 | 126 | 108920 | 50.00 | ug/L | 100 |
| 105) 4-chlorotoluene | 15.59 | 91 | 301808 | 50.00 | ug/L | 100 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 357951 | 50.00 | ug/L | 100 |
| 107) tert-butylbenzene | 15.84 | 134 | 67226 | 50.00 | ug/L | 100 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 371775 | 50.00 | ug/L | 100 |
| 109) sec-butylbenzene | 16.05 | 105 | 450005 | 50.00 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 226641 | 50.00 | ug/L | 100 |
| 111) p-isopropyltoluene | 16.18 | 119 | 398990 | 50.00 | ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.31 | 146 | 226626 | 50.00 | ug/L | 100 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 228091 | 50.00 | ug/L | 100 |
| 114) n-butylbenzene | 16.59 | 92 | 207209 | 50.00 | ug/L | 100 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 21661 | 50.00 | ug/L | 100 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 226206 | 50.00 | ug/L | 100 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 193151 | 50.00 | ug/L | 100 |
| 118) hexachlorobutadiene | 18.41 | 225 | 113051 | 50.00 | ug/L | 100 |
| 119) naphthalene | 18.59 | 128 | 316303 | 50.00 | ug/L | 100 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 172023 | 50.00 | ug/L | 100 |
| 121) hexachloroethane | 16.98 | 201 | 73304 | 50.00 | ug/L | 100 |
| 122) benzyl chloride | 16.41 | 91 | 170703 | 50.00 | ug/L | 100 |
| 123) 2-ethylhexyl acrylate | 18.30 | 70 | 20601 | 10.00 | ug/L | 100 |
| 124) 2-methylnaphthalene | 19.84 | 142 | 71241 | 25.00 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184719.D
Acq On : 24 Apr 2019 6:04 pm
Operator : ROBERTS
Sample : ICC8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 12:20:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184720.D
Acq On : 24 Apr 2019 6:32 pm
Operator : ROBERTS
Sample : IC8014-100
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 12:20:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 57202 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 181641 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 263054 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 222949 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 131498 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 82403 | 50.39 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.78% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.43 | 65 | 72162 | 50.39 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.78% | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 288044 | 49.31 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.62% | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 106409 | 47.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.76% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.85 | 59 | 89280 | 483.92 | ug/L | 98 |
| 4) 1,4-dioxane | 11.54 | 88 | 41969 | 2243.52 | ug/L | 99 |
| 6) chlorodifluoromethane | 4.38 | 51 | 289471 | 104.69 | ug/L | 99 |
| 7) dichlorodifluoromethane | 4.35 | 85 | 365956 | 102.96 | ug/L | 96 |
| 8) chloromethane | 4.74 | 50 | 361821 | 105.39 | ug/L | 97 |
| 9) vinyl chloride | 5.00 | 62 | 320921 | 108.26 | ug/L | 98 |
| 10) 1,3-butadiene | 5.03 | 54 | 195564 | 105.76 | ug/L | 99 |
| 11) bromomethane | 5.63 | 94 | 247249 | 102.69 | ug/L | 100 |
| 12) chloroethane | 5.81 | 64 | 167650 | 102.91 | ug/L | 96 |
| 13) vinyl bromide | 6.15 | 106 | 149839 | 101.44 | ug/L | 96 |
| 14) trichlorofluoromethane | 6.27 | 101 | 344430 | 102.53 | ug/L | 97 |
| 15) ethyl ether | 6.63 | 74 | 90599 | 96.10 | ug/L | 94 |
| 16) 2-chloropropane | 6.86 | 63 | 80413 | 102.51 | ug/L | 96 |
| 17) acrolein | 6.87 | 56 | 24994 | 102.00 | ug/L | 96 |
| 18) freon 113 | 7.09 | 151 | 176339 | 101.46 | ug/L | 98 |
| 19) 1,1-dichloroethene | 7.08 | 61 | 294030 | 99.81 | ug/L | 98 |
| 20) acetone | 7.08 | 43 | 170312 | 409.54 | ug/L | 96 |
| 21) acetonitrile | 7.50 | 41 | 209482 | 1015.25 | ug/L | 98 |
| 22) iodomethane | 7.33 | 142 | 361129 | 101.15 | ug/L | 99 |
| 23) carbon disulfide | 7.47 | 76 | 594550 | 100.71 | ug/L | 100 |
| 24) methylene chloride | 7.78 | 84 | 231728 | 101.79 | ug/L | 95 |
| 25) methyl acetate | 7.53 | 43 | 98822 | 100.02 | ug/L | 96 |
| 26) methyl tert butyl ether | 8.15 | 73 | 570878 | 103.78 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 268306 | 98.63 | ug/L | 96 |
| 28) hexane | 8.51 | 57 | 246617 | 99.89 | ug/L | 99 |
| 29) di-isopropyl ether | 8.72 | 45 | 725033 | 102.18 | ug/L | 97 |
| 30) ethyl tert-butyl ether | 9.19 | 59 | 676922 | 104.33 | ug/L | 99 |
| 31) 2-butanone | 9.38 | 72 | 57864 | 410.11 | ug/L | 100 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 342885 | 99.78 | ug/L | 98 |
| 33) chloroprene | 8.83 | 53 | 252075 | 100.69 | ug/L | 98 |
| 34) acrylonitrile | 8.07 | 53 | 53668 | 98.65 | ug/L | 97 |
| 35) vinyl acetate | 8.67 | 86 | 28045 | 102.96 | ug/L # | 89 |
| 36) ethyl acetate | 9.39 | 45 | 18675 | 95.89 | ug/L | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184720.D
Acq On : 24 Apr 2019 6:32 pm
Operator : ROBERTS
Sample : IC8014-100
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 12:20:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | | Dev(Min) |
|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.49 | 77 | 297375 | 102.19 ug/L | | 95 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 219348 | 100.00 ug/L | | 98 |
| 39) propionitrile | 9.46 | 54 | 187168 | 987.20 ug/L | | 79 |
| 40) bromochloromethane | 9.74 | 130 | 142612 | 100.69 ug/L | | 98 |
| 41) tetrahydrofuran | 9.76 | 72 | 17829 | 106.82 ug/L | # | 61 |
| 42) chloroform | 9.83 | 83 | 349944 | 100.89 ug/L | | 98 |
| 43) tert-butyl formate | 9.87 | 59 | 146467 | 106.52 ug/L | | 98 |
| 46) methacrylonitrile | 9.66 | 67 | 51211 | 99.38 ug/L | | 93 |
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 315986 | 102.69 ug/L | | 96 |
| 48) cyclohexane | 10.21 | 84 | 313374 | 101.36 ug/L | | 90 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 221938 | 99.06 ug/L | | 98 |
| 50) tert-amyl alcohol | 10.38 | 55 | 31580 | 510.46 ug/L | # | 81 |
| 51) carbon tetrachloride | 10.29 | 117 | 275908 | 103.04 ug/L | | 99 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 784625 | 102.42 ug/L | | 98 |
| 55) tert-amyl methyl ether | 10.58 | 73 | 602415 | 101.24 ug/L | | 99 |
| 56) n-butyl alcohol | 10.95 | 41 | 165163 | 5061.57 ug/L | | 99 |
| 57) benzene | 10.50 | 78 | 719818 | 98.34 ug/L | | 99 |
| 58) heptane | 10.75 | 57 | 126473 | 97.33 ug/L | | 98 |
| 59) isopropyl acetate | 10.40 | 87 | 30250 | 97.65 ug/L | | 87 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 227880 | 96.85 ug/L | | 99 |
| 61) trichloroethene | 11.22 | 130 | 192834 | 99.34 ug/L | | 99 |
| 62) ethyl acrylate | 11.19 | 55 | 156027 | 99.21 ug/L | | 97 |
| 63) 2-nitropropane | 11.96 | 41 | 50116 | 99.74 ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 438332 | 494.65 ug/L | | 99 |
| 65) methyl methacrylate | 11.45 | 100 | 34882 | 101.23 ug/L | | 96 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 190979 | 98.63 ug/L | | 100 |
| 67) methylcyclohexane | 11.51 | 83 | 317138 | 100.46 ug/L | | 97 |
| 68) dibromomethane | 11.61 | 93 | 109990 | 99.42 ug/L | | 92 |
| 69) bromodichloromethane | 11.76 | 83 | 267159 | 99.88 ug/L | | 99 |
| 70) epichlorohydrin | 12.07 | 57 | 62944 | 486.23 ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 297118 | 99.14 ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 204038 | 392.65 ug/L | | 99 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 80052 | 2022.25 ug/L | | 95 |
| 76) toluene | 12.58 | 92 | 423954 | 98.47 ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 249910 | 97.31 ug/L | | 99 |
| 78) ethyl methacrylate | 12.74 | 69 | 177179 | 99.60 ug/L | | 97 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 118863 | 98.68 ug/L | | 98 |
| 80) 2-hexanone | 13.13 | 58 | 181869 | 390.98 ug/L | | 98 |
| 81) tetrachloroethene | 13.12 | 166 | 193155 | 99.13 ug/L | | 96 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 220365 | 96.87 ug/L | | 98 |
| 83) butyl acetate | 13.21 | 56 | 89322 | 99.38 ug/L | | 98 |
| 84) dibromochloromethane | 13.39 | 129 | 194539 | 100.08 ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 193721 | 101.21 ug/L | | 99 |
| 86) n-butyl ether | 13.97 | 57 | 729331 | 99.92 ug/L | | 99 |
| 87) chlorobenzene | 14.02 | 112 | 492313 | 98.33 ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.08 | 131 | 211149 | 100.80 ug/L | | 97 |
| 89) ethylbenzene | 14.07 | 91 | 789449 | 97.60 ug/L | | 99 |
| 90) m,p-xylene | 14.20 | 106 | 616385 | 197.25 ug/L | | 100 |
| 91) o-xylene | 14.59 | 91 | 692632 | 99.29 ug/L | | 100 |
| 92) styrene | 14.60 | 104 | 538779 | 96.73 ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184720.D
Acq On : 24 Apr 2019 6:32 pm
Operator : ROBERTS
Sample : IC8014-100
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 12:20:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

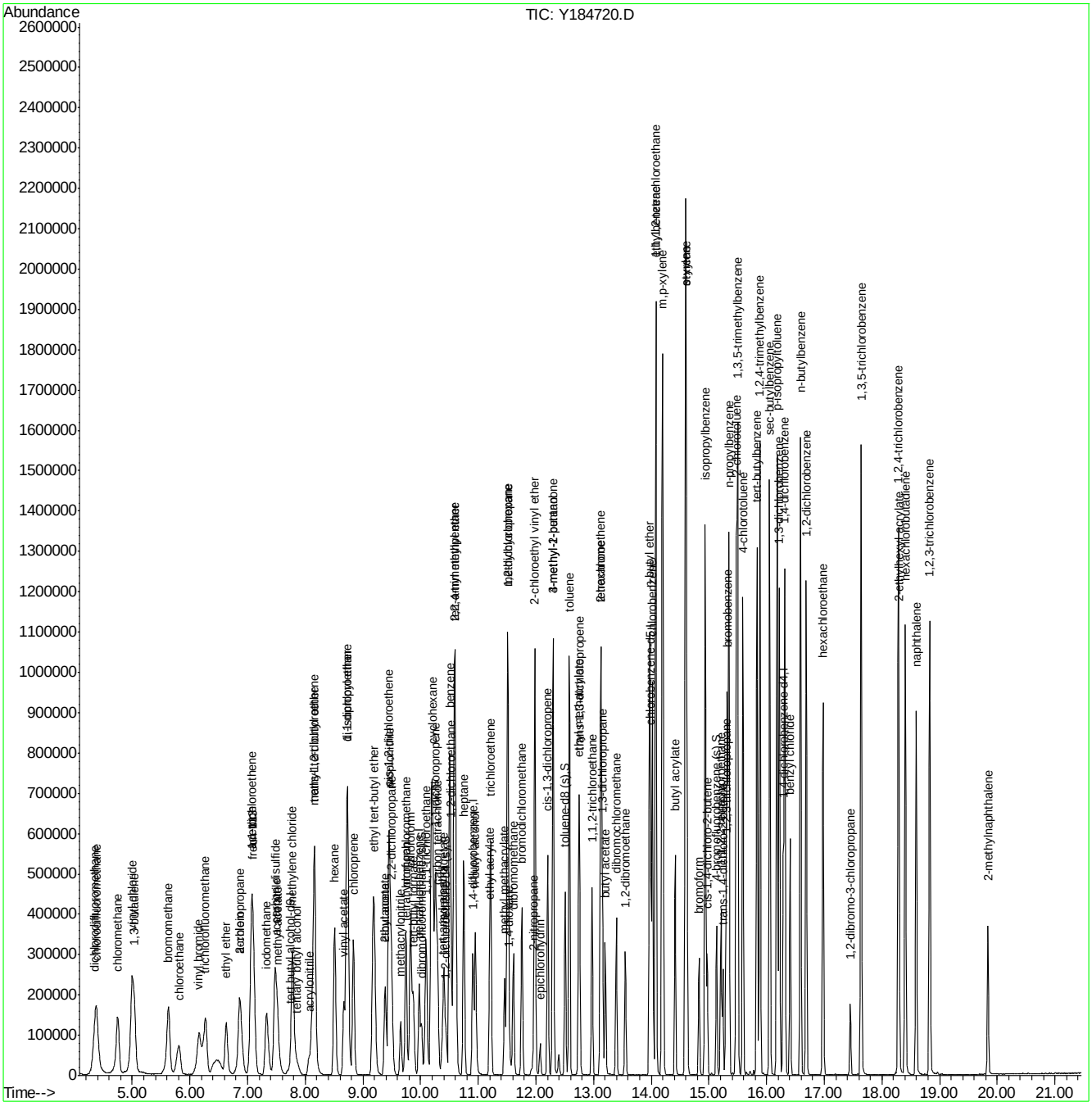
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 14.83 | 173 | 126305 | 99.76 ug/L | 98 |
| 94) butyl acrylate | 14.41 | 55 | 302770 | 102.10 ug/L | 98 |
| 95) isopropylbenzene | 14.93 | 105 | 827383 | 99.38 ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 66461 | 99.45 ug/L | 97 |
| 99) bromobenzene | 15.31 | 156 | 242017 | 94.87 ug/L | 96 |
| 100) 1,1,2,2-tetrachloroethane | 15.20 | 83 | 186405 | 97.00 ug/L | 95 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 44470 | 98.66 ug/L | 98 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 47686 | 94.87 ug/L | 98 |
| 103) n-propylbenzene | 15.35 | 91 | 957728 | 96.43 ug/L | 98 |
| 104) 2-chlorotoluene | 15.48 | 126 | 219890 | 96.36 ug/L | 96 |
| 105) 4-chlorotoluene | 15.59 | 91 | 612422 | 96.85 ug/L | 100 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 734684 | 97.96 ug/L | 99 |
| 107) tert-butylbenzene | 15.84 | 134 | 139577 | 99.10 ug/L | 97 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 761659 | 97.78 ug/L | 100 |
| 109) sec-butylbenzene | 16.05 | 105 | 943850 | 100.11 ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 468849 | 98.74 ug/L | 98 |
| 111) p-isopropyltoluene | 16.18 | 119 | 822609 | 98.40 ug/L | 99 |
| 112) 1,4-dichlorobenzene | 16.32 | 146 | 468248 | 98.62 ug/L | 99 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 468724 | 98.08 ug/L | 99 |
| 114) n-butylbenzene | 16.59 | 92 | 435833 | 100.39 ug/L | 99 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 48277 | 106.38 ug/L | 93 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 473910 | 99.99 ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 410358 | 101.40 ug/L | 98 |
| 118) hexachlorobutadiene | 18.41 | 225 | 232963 | 98.36 ug/L | 96 |
| 119) naphthalene | 18.59 | 128 | 683649 | 103.16 ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 368725 | 102.31 ug/L | 99 |
| 121) hexachloroethane | 16.98 | 201 | 155556 | 101.28 ug/L | 99 |
| 122) benzyl chloride | 16.41 | 91 | 367026 | 102.62 ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 18.30 | 70 | 50254 | 23.29 ug/L | 81 |
| 124) 2-methylnaphthalene | 19.84 | 142 | 171253 | 57.37 ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184720.D
Acq On : 24 Apr 2019 6:32 pm
Operator : ROBERTS
Sample : IC8014-100
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 12:20:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184721.D
Acq On : 24 Apr 2019 7:01 pm
Operator : ROBERTS
Sample : IC8014-200
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 12:21:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.75 | 65 | 58443 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 180118 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 258308 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 225308 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 134869 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 82810 | 51.06 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.12% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.44 | 65 | 69494 | 49.42 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 98.84% | | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 292060 | 49.47 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.94% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.14 | 95 | 110771 | 48.60 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.20% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.86 | 59 | 189366 | 1004.62 | ug/L | | 82 |
| 4) 1,4-dioxane | 11.54 | 88 | 89001 | 4656.66 | ug/L | | 95 |
| 6) chlorodifluoromethane | 4.38 | 51 | 561846 | 204.91 | ug/L | | 99 |
| 7) dichlorodifluoromethane | 4.35 | 85 | 714894 | 202.84 | ug/L | | 98 |
| 8) chloromethane | 4.74 | 50 | 715852 | 210.28 | ug/L | | 96 |
| 9) vinyl chloride | 4.99 | 62 | 631758 | 214.93 | ug/L | | 98 |
| 10) 1,3-butadiene | 5.03 | 54 | 392674 | 214.15 | ug/L | | 98 |
| 11) bromomethane | 5.62 | 94 | 479523 | 200.85 | ug/L | | 100 |
| 12) chloroethane | 5.81 | 64 | 332015 | 205.52 | ug/L | | 99 |
| 13) vinyl bromide | 6.15 | 106 | 303987 | 207.54 | ug/L | | 94 |
| 14) trichlorofluoromethane | 6.27 | 101 | 679655 | 204.04 | ug/L | | 94 |
| 15) ethyl ether | 6.63 | 74 | 194216 | 207.75 | ug/L | | 98 |
| 16) 2-chloropropane | 6.86 | 63 | 155049 | 199.33 | ug/L | | 97 |
| 17) acrolein | 6.87 | 56 | 52091 | 214.38 | ug/L | | 97 |
| 18) freon 113 | 7.10 | 151 | 333673 | 193.61 | ug/L | | 97 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 562341 | 192.50 | ug/L | | 98 |
| 20) acetone | 7.07 | 43 | 331032 | 802.74 | ug/L | | 97 |
| 21) acetonitrile | 7.50 | 41 | 418080 | 2043.34 | ug/L | | 98 |
| 22) iodomethane | 7.33 | 142 | 704290 | 198.93 | ug/L | | 99 |
| 23) carbon disulfide | 7.47 | 76 | 1138698 | 194.51 | ug/L | | 99 |
| 24) methylene chloride | 7.78 | 84 | 448269 | 198.57 | ug/L | | 96 |
| 25) methyl acetate | 7.52 | 43 | 198788 | 202.91 | ug/L | | 94 |
| 26) methyl tert butyl ether | 8.15 | 73 | 1161543 | 212.95 | ug/L | | 99 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 516463 | 191.46 | ug/L | | 98 |
| 28) hexane | 8.51 | 57 | 482880 | 197.24 | ug/L | | 98 |
| 29) di-isopropyl ether | 8.72 | 45 | 1430710 | 203.33 | ug/L | | 98 |
| 30) ethyl tert-butyl ether | 9.19 | 59 | 1399174 | 217.47 | ug/L | | 99 |
| 31) 2-butanone | 9.38 | 72 | 122215 | 873.53 | ug/L | | 99 |
| 32) 1,1-dichloroethane | 8.74 | 63 | 658550 | 193.25 | ug/L | | 98 |
| 33) chloroprene | 8.83 | 53 | 491029 | 197.79 | ug/L | | 98 |
| 34) acrylonitrile | 8.07 | 53 | 109561 | 203.09 | ug/L | | 97 |
| 35) vinyl acetate | 8.67 | 86 | 58822 | 217.78 | ug/L | # | 90 |
| 36) ethyl acetate | 9.39 | 45 | 39440 | 204.23 | ug/L | | 87 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184721.D
Acq On : 24 Apr 2019 7:01 pm
Operator : ROBERTS
Sample : IC8014-200
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 12:21:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.49 | 77 | 586238 | 203.16 ug/L | 97 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 441290 | 202.88 ug/L | 98 |
| 39) propionitrile | 9.46 | 54 | 404235 | 2150.12 ug/L | 79 |
| 40) bromochloromethane | 9.74 | 130 | 287712 | 204.85 ug/L | 98 |
| 41) tetrahydrofuran | 9.76 | 72 | 38563 | 233.01 ug/L | 91 |
| 42) chloroform | 9.82 | 83 | 691084 | 200.93 ug/L | 99 |
| 43) tert-butyl formate | 9.87 | 59 | 307597 | 225.59 ug/L | 96 |
| 46) methacrylonitrile | 9.66 | 67 | 109004 | 213.32 ug/L | 97 |
| 47) 1,1,1-trichloroethane | 10.09 | 97 | 624107 | 204.54 ug/L | 98 |
| 48) cyclohexane | 10.21 | 84 | 620482 | 202.39 ug/L | 90 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 436827 | 196.63 ug/L | 98 |
| 50) tert-amyl alcohol | 10.38 | 55 | 67157 | 1094.70 ug/L # | 72 |
| 51) carbon tetrachloride | 10.29 | 117 | 541137 | 203.79 ug/L | 98 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 1578287 | 209.81 ug/L | 98 |
| 55) tert-amyl methyl ether | 10.59 | 73 | 1262886 | 216.14 ug/L | 99 |
| 56) n-butyl alcohol | 10.95 | 41 | 353695 | 11038.47 ug/L | 97 |
| 57) benzene | 10.50 | 78 | 1418549 | 197.36 ug/L | 99 |
| 58) heptane | 10.75 | 57 | 248877 | 195.05 ug/L | 97 |
| 59) isopropyl acetate | 10.40 | 87 | 62459 | 205.32 ug/L # | 82 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 453105 | 196.12 ug/L | 99 |
| 61) trichloroethene | 11.21 | 130 | 379653 | 199.17 ug/L | 98 |
| 62) ethyl acrylate | 11.19 | 55 | 330333 | 213.90 ug/L | 97 |
| 63) 2-nitropropane | 11.96 | 41 | 104182 | 211.16 ug/L | 98 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 923772 | 1061.62 ug/L | 98 |
| 65) methyl methacrylate | 11.45 | 100 | 75074 | 221.88 ug/L | 88 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 380939 | 200.35 ug/L | 99 |
| 67) methylcyclohexane | 11.51 | 83 | 632258 | 203.95 ug/L | 99 |
| 68) dibromomethane | 11.61 | 93 | 222944 | 205.23 ug/L | 97 |
| 69) bromodichloromethane | 11.76 | 83 | 539527 | 205.40 ug/L | 99 |
| 70) epichlorohydrin | 12.07 | 57 | 136211 | 1071.54 ug/L | 99 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 606954 | 206.25 ug/L | 99 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 429598 | 841.91 ug/L | 100 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 180119 | 4633.72 ug/L | 96 |
| 76) toluene | 12.58 | 92 | 848436 | 195.00 ug/L | 98 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 512996 | 197.66 ug/L | 99 |
| 78) ethyl methacrylate | 12.74 | 69 | 373267 | 207.62 ug/L | 99 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 242915 | 199.56 ug/L | 97 |
| 80) 2-hexanone | 13.13 | 58 | 381540 | 811.65 ug/L | 99 |
| 81) tetrachloroethene | 13.12 | 166 | 382401 | 194.21 ug/L | 97 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 455375 | 198.08 ug/L | 99 |
| 83) butyl acetate | 13.21 | 56 | 182707 | 201.15 ug/L | 95 |
| 84) dibromochloromethane | 13.39 | 129 | 405278 | 206.32 ug/L | 100 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 401566 | 207.60 ug/L | 97 |
| 86) n-butyl ether | 13.97 | 57 | 1451939 | 196.83 ug/L | 99 |
| 87) chlorobenzene | 14.02 | 112 | 980411 | 193.77 ug/L | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.08 | 131 | 427673 | 202.04 ug/L | 98 |
| 89) ethylbenzene | 14.08 | 91 | 1575476 | 192.73 ug/L | 99 |
| 90) m,p-xylene | 14.20 | 106 | 1259445 | 398.82 ug/L | 97 |
| 91) o-xylene | 14.59 | 91 | 1405763 | 199.40 ug/L | 100 |
| 92) styrene | 14.60 | 104 | 1108566 | 196.94 ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184721.D
Acq On : 24 Apr 2019 7:01 pm
Operator : ROBERTS
Sample : IC8014-200
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 12:21:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration

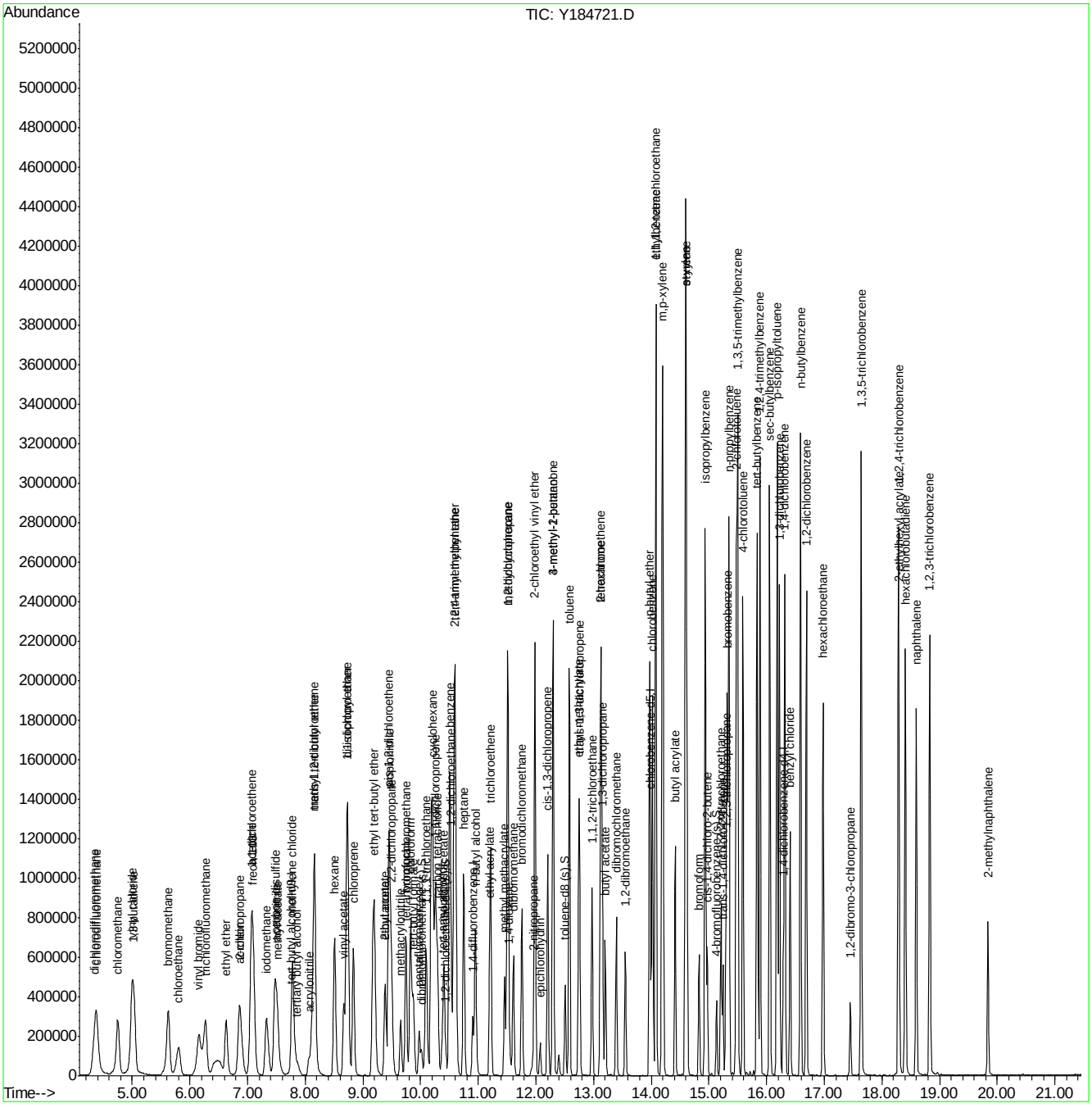
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 14.83 | 173 | 270296 | 211.25 ug/L | 99 |
| 94) butyl acrylate | 14.41 | 55 | 639043 | 213.25 ug/L | 99 |
| 95) isopropylbenzene | 14.93 | 105 | 1706111 | 202.79 ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 143648 | 212.70 ug/L | 98 |
| 99) bromobenzene | 15.32 | 156 | 497056 | 189.97 ug/L | 93 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 397180 | 201.52 ug/L | 96 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 95181 | 205.88 ug/L | 99 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 99244 | 192.50 ug/L | 100 |
| 103) n-propylbenzene | 15.35 | 91 | 1947374 | 191.18 ug/L | 99 |
| 104) 2-chlorotoluene | 15.48 | 126 | 447642 | 191.26 ug/L | 95 |
| 105) 4-chlorotoluene | 15.59 | 91 | 1259720 | 194.24 ug/L | 99 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 1513132 | 196.72 ug/L | 98 |
| 107) tert-butylbenzene | 15.84 | 134 | 284512 | 196.95 ug/L | 95 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 1555480 | 194.70 ug/L | 100 |
| 109) sec-butylbenzene | 16.05 | 105 | 1917024 | 198.24 ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 948365 | 194.73 ug/L | 99 |
| 111) p-isopropyltoluene | 16.18 | 119 | 1679969 | 195.94 ug/L | 100 |
| 112) 1,4-dichlorobenzene | 16.32 | 146 | 965193 | 198.20 ug/L | 99 |
| 113) 1,2-dichlorobenzene | 16.69 | 146 | 957714 | 195.40 ug/L | 99 |
| 114) n-butylbenzene | 16.59 | 92 | 884151 | 198.57 ug/L | 97 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 103271 | 221.87 ug/L | 93 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 934806 | 192.31 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 815734 | 196.54 ug/L | 98 |
| 118) hexachlorobutadiene | 18.41 | 225 | 454481 | 187.08 ug/L | 97 |
| 119) naphthalene | 18.59 | 128 | 1405580 | 206.80 ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 728448 | 197.06 ug/L | 99 |
| 121) hexachloroethane | 16.98 | 201 | 324253 | 205.85 ug/L | 97 |
| 122) benzyl chloride | 16.41 | 91 | 782289 | 213.26 ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 18.30 | 70 | 113681 | 51.36 ug/L | 89 |
| 124) 2-methylnaphthalene | 19.84 | 142 | 369678 | 120.74 ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184721.D
Acq On : 24 Apr 2019 7:01 pm
Operator : ROBERTS
Sample : IC8014-200
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 12:21:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 07:29:29 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184724.D
Acq On : 24 Apr 2019 8:27 pm
Operator : ROBERTS
Sample : ICV8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 12:24:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 53382 | 500.00 | ug/L | | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 165842 | 50.00 | ug/L | | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 238721 | 50.00 | ug/L | | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 217783 | 50.00 | ug/L | | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 130925 | 50.00 | ug/L | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 45) dibromofluoromethane (s) | 10.02 | 113 | 76959 | 51.16 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.32% | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.43 | 65 | 66268 | 49.69 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 99.38% | | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 269398 | 48.88 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.76% | | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 103054 | 47.47 | ug/L | | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.94% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.85 | 59 | 45268 | 272.08 | ug/L | | 94 |
| 4) 1,4-dioxane | 11.54 | 88 | 21576 | 1308.08 | ug/L | | 95 |
| 6) chlorodifluoromethane | 4.38 | 51 | 147907 | 56.56 | ug/L | | 96 |
| 7) dichlorodifluoromethane | 4.36 | 85 | 162676 | 49.54 | ug/L | | 96 |
| 8) chloromethane | 4.74 | 50 | 186907 | 54.07 | ug/L | | 94 |
| 9) vinyl chloride | 4.99 | 62 | 144897 | 50.95 | ug/L | | 95 |
| 10) 1,3-butadiene | 5.04 | 54 | 111319 | 63.21 | ug/L | | 97 |
| 11) bromomethane | 5.63 | 94 | 114482 | 47.55 | ug/L | | 95 |
| 12) chloroethane | 5.81 | 64 | 72787 | 47.33 | ug/L | | 96 |
| 13) vinyl bromide | 6.15 | 106 | 76966 | 57.70 | ug/L | | 93 |
| 14) trichlorofluoromethane | 6.27 | 101 | 162971 | 49.75 | ug/L | | 98 |
| 15) ethyl ether | 6.63 | 74 | 45881 | 57.16 | ug/L | | 95 |
| 16) 2-chloropropane | 6.86 | 63 | 39887 | 56.15 | ug/L | | 92 |
| 17) acrolein | 6.86 | 56 | 12804 | 57.28 | ug/L | | 93 |
| 18) freon 113 | 7.10 | 151 | 91954 | 59.86 | ug/L | | 95 |
| 19) 1,1-dichloroethene | 7.07 | 61 | 132001 | 51.83 | ug/L | | 96 |
| 20) acetone | 7.08 | 43 | 81830 | 201.41 | ug/L | | 98 |
| 22) iodomethane | 7.33 | 142 | 199508 | 62.05 | ug/L | | 98 |
| 23) carbon disulfide | 7.48 | 76 | 318742 | 57.18 | ug/L | | 97 |
| 24) methylene chloride | 7.78 | 84 | 114858 | 51.89 | ug/L | | 92 |
| 25) methyl acetate | 7.52 | 43 | 46859 | 49.85 | ug/L | | 94 |
| 26) methyl tert butyl ether | 8.15 | 73 | 553691 | 108.32 | ug/L | | 97 |
| 27) trans-1,2-dichloroethene | 8.16 | 61 | 130549 | 51.71 | ug/L | | 99 |
| 28) hexane | 8.51 | 57 | 128649 | 57.74 | ug/L | | 99 |
| 29) di-isopropyl ether | 8.72 | 45 | 324697 | 51.04 | ug/L | | 97 |
| 30) ethyl tert-butyl ether | 9.18 | 59 | 307154 | 53.08 | ug/L | | 99 |
| 31) 2-butanone | 9.38 | 72 | 28587 | 214.02 | ug/L | | 96 |
| 32) 1,1-dichloroethane | 8.73 | 63 | 167319 | 52.84 | ug/L | | 97 |
| 33) chloroprene | 8.83 | 53 | 122751 | 54.11 | ug/L | | 99 |
| 35) vinyl acetate | 8.67 | 86 | 12316 | 48.81 | ug/L | # | 81 |
| 36) ethyl acetate | 9.39 | 45 | 8573 | 47.76 | ug/L | | 89 |
| 37) 2,2-dichloropropane | 9.49 | 77 | 138413 | 50.61 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 9.45 | 96 | 105465 | 50.66 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184724.D
Acq On : 24 Apr 2019 8:27 pm
Operator : ROBERTS
Sample : ICV8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 12:24:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | | Dev(Min) |
|---|---|---|---|---|---|---|
| 39) propionitrile | 9.46 | 54 | 94889 | 529.63 ug/L | | 96 |
| 40) bromochloromethane | 9.74 | 130 | 70335 | 53.90 ug/L | | 95 |
| 41) tetrahydrofuran | 9.77 | 72 | 9177 | 57.46 ug/L | | 97 |
| 42) chloroform | 9.83 | 83 | 168281 | 49.99 ug/L | | 98 |
| 43) tert-butyl formate | 9.86 | 59 | 61596 | 48.49 ug/L | | 98 |
| 46) methacrylonitrile | 9.66 | 67 | 25259 | 52.47 ug/L | | 97 |
| 47) 1,1,1-trichloroethane | 10.10 | 97 | 148018 | 51.01 ug/L | | 96 |
| 48) cyclohexane | 10.20 | 84 | 142012 | 49.23 ug/L | | 96 |
| 49) 1,1-dichloropropene | 10.26 | 75 | 109625 | 53.42 ug/L | | 98 |
| 50) tert-amyl alcohol | 10.38 | 55 | 15834 | 269.04 ug/L | # | 77 |
| 51) carbon tetrachloride | 10.28 | 117 | 133462 | 52.84 ug/L | | 95 |
| 54) 2,2,4-trimethylpentane | 10.60 | 57 | 360022 | 54.99 ug/L | | 97 |
| 55) tert-amyl methyl ether | 10.59 | 73 | 277435 | 51.77 ug/L | | 99 |
| 56) n-butyl alcohol | 10.95 | 41 | 82508 | 2786.91 ug/L | | 98 |
| 57) benzene | 10.50 | 78 | 351881 | 51.05 ug/L | | 99 |
| 58) heptane | 10.75 | 57 | 74332 | 63.20 ug/L | | 98 |
| 59) isopropyl acetate | 10.40 | 87 | 14046 | 50.00 ug/L | | 92 |
| 60) 1,2-dichloroethane | 10.53 | 62 | 108872 | 49.17 ug/L | | 98 |
| 61) trichloroethene | 11.22 | 130 | 95813 | 53.47 ug/L | | 96 |
| 62) ethyl acrylate | 11.19 | 55 | 78083 | 53.01 ug/L | | 96 |
| 63) 2-nitropropane | 11.96 | 41 | 25999 | 54.22 ug/L | | 95 |
| 64) 2-chloroethyl vinyl ether | 11.98 | 63 | 229658 | 281.28 ug/L | | 99 |
| 65) methyl methacrylate | 11.45 | 100 | 17496 | 53.93 ug/L | # | 50 |
| 66) 1,2-dichloropropane | 11.50 | 63 | 91988 | 52.40 ug/L | | 99 |
| 67) methylcyclohexane | 11.51 | 83 | 152955 | 53.75 ug/L | | 99 |
| 68) dibromomethane | 11.61 | 93 | 54156 | 52.87 ug/L | | 99 |
| 69) bromodichloromethane | 11.75 | 83 | 126413 | 51.48 ug/L | | 97 |
| 70) epichlorohydrin | 12.07 | 57 | 32483 | 262.11 ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 12.20 | 75 | 145988 | 54.65 ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 12.30 | 58 | 105247 | 218.55 ug/L | | 95 |
| 73) 3-methyl-1-butanol | 12.30 | 70 | 41531 | 1152.92 ug/L | | 97 |
| 76) toluene | 12.58 | 92 | 206183 | 49.17 ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.76 | 75 | 127059 | 52.51 ug/L | | 99 |
| 78) ethyl methacrylate | 12.74 | 69 | 90327 | 53.26 ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 12.98 | 83 | 59771 | 49.95 ug/L | | 94 |
| 80) 2-hexanone | 13.13 | 58 | 97173 | 216.82 ug/L | | 98 |
| 82) 1,3-dichloropropane | 13.15 | 76 | 112733 | 50.56 ug/L | | 99 |
| 83) butyl acetate | 13.20 | 56 | 46756 | 53.98 ug/L | | 98 |
| 84) dibromochloromethane | 13.40 | 129 | 101147 | 56.35 ug/L | | 96 |
| 85) 1,2-dibromoethane | 13.55 | 107 | 97031 | 51.45 ug/L | | 96 |
| 86) n-butyl ether | 13.97 | 57 | 380512 | 54.96 ug/L | | 99 |
| 87) chlorobenzene | 14.02 | 112 | 253369 | 50.23 ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.08 | 131 | 104680 | 52.62 ug/L | | 98 |
| 89) ethylbenzene | 14.07 | 91 | 397849 | 50.49 ug/L | | 100 |
| 90) m,p-xylene | 14.20 | 106 | 309195 | 100.76 ug/L | | 98 |
| 91) o-xylene | 14.59 | 91 | 341933 | 51.79 ug/L | | 98 |
| 92) styrene | 14.60 | 104 | 275422 | 52.73 ug/L | | 98 |
| 93) bromoform | 14.83 | 173 | 67314 | 55.19 ug/L | | 98 |
| 94) butyl acrylate | 14.41 | 55 | 152049 | 53.24 ug/L | | 99 |
| 95) isopropylbenzene | 14.93 | 105 | 411749 | 51.88 ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184724.D
Acq On : 24 Apr 2019 8:27 pm
Operator : ROBERTS
Sample : ICV8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 12:24:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

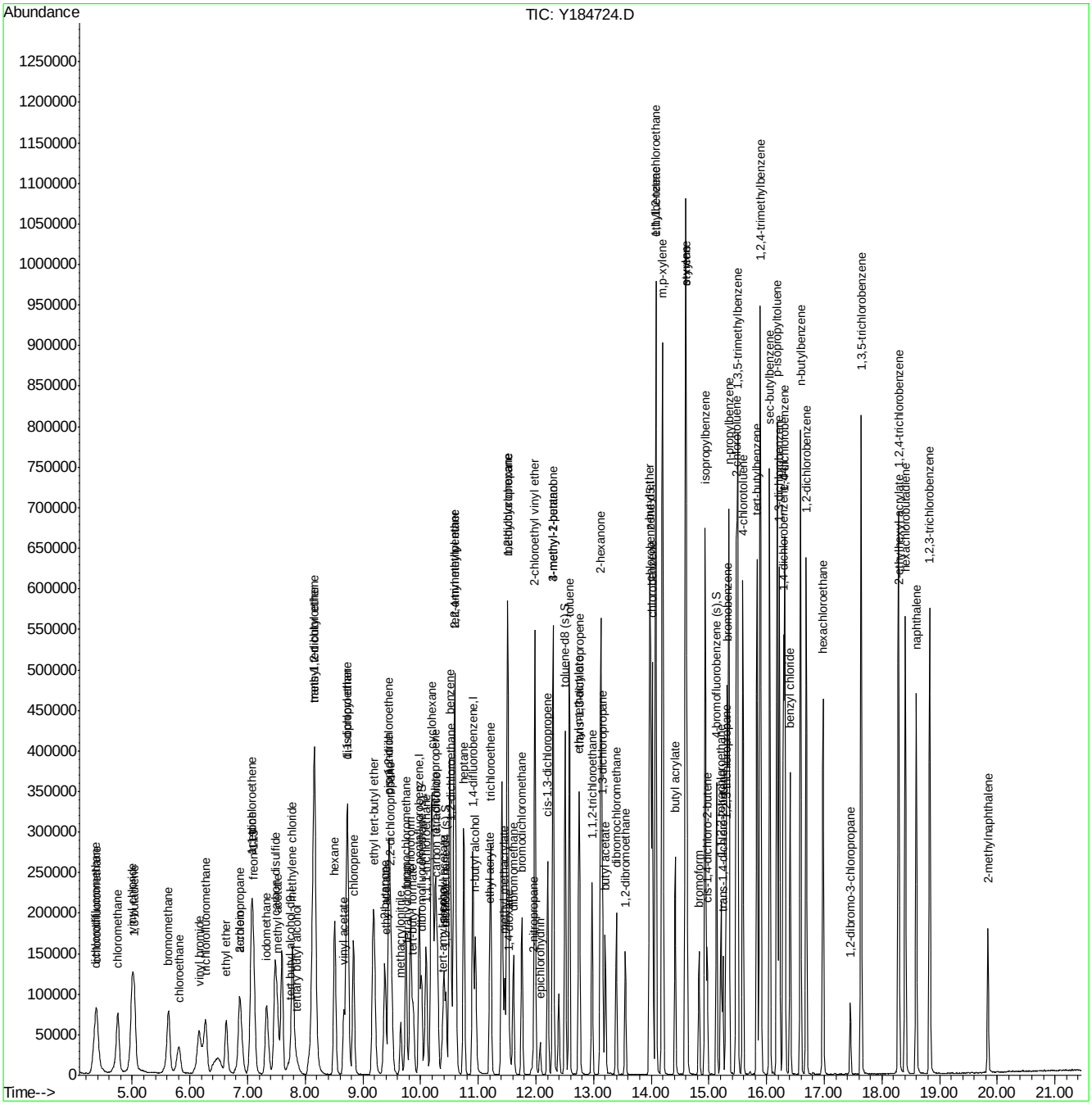
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 96) cis-1,4-dichloro-2-butene | 14.97 | 88 | 33576 | 52.81 ug/L | 98 |
| 99) bromobenzene | 15.31 | 156 | 124133 | 47.49 ug/L | 95 |
| 100) 1,1,2,2-tetrachloroethane | 15.21 | 83 | 96698 | 48.26 ug/L | 97 |
| 101) trans-1,4-dichloro-2-buten | 15.24 | 53 | 25348 | 56.81 ug/L | 100 |
| 102) 1,2,3-trichloropropane | 15.29 | 110 | 25196 | 49.50 ug/L | 91 |
| 103) n-propylbenzene | 15.35 | 91 | 492050 | 48.70 ug/L | 99 |
| 104) 2-chlorotoluene | 15.48 | 126 | 109340 | 47.53 ug/L | 94 |
| 105) 4-chlorotoluene | 15.59 | 91 | 313806 | 48.92 ug/L | 99 |
| 106) 1,3,5-trimethylbenzene | 15.50 | 105 | 361467 | 48.60 ug/L | 98 |
| 107) tert-butylbenzene | 15.84 | 134 | 67648 | 51.46 ug/L | 96 |
| 108) 1,2,4-trimethylbenzene | 15.88 | 105 | 390603 | 51.00 ug/L | 97 |
| 109) sec-butylbenzene | 16.05 | 105 | 467647 | 50.41 ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.22 | 146 | 243166 | 50.30 ug/L | 99 |
| 111) p-isopropyltoluene | 16.18 | 119 | 419839 | 51.39 ug/L | 99 |
| 112) 1,4-dichlorobenzene | 16.31 | 146 | 244612 | 49.14 ug/L | 97 |
| 113) 1,2-dichlorobenzene | 16.68 | 146 | 242372 | 48.95 ug/L | 100 |
| 114) n-butylbenzene | 16.59 | 92 | 217087 | 50.96 ug/L | 97 |
| 115) 1,2-dibromo-3-chloropropan | 17.45 | 157 | 23966 | 51.50 ug/L | 94 |
| 116) 1,3,5-trichlorobenzene | 17.64 | 180 | 244964 | 52.36 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 18.29 | 180 | 208207 | 52.74 ug/L | 99 |
| 118) hexachlorobutadiene | 18.41 | 225 | 118076 | 48.72 ug/L | 97 |
| 119) naphthalene | 18.59 | 128 | 354866 | 57.95 ug/L | 100 |
| 120) 1,2,3-trichlorobenzene | 18.83 | 180 | 188977 | 55.25 ug/L | 99 |
| 121) hexachloroethane | 16.98 | 201 | 76220 | 52.41 ug/L | 99 |
| 122) benzyl chloride | 16.41 | 91 | 231436 | 63.60 ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 18.30 | 70 | 24114 | 9.87 ug/L | 82 |
| 124) 2-methylnaphthalene | 19.84 | 142 | 84614 | 27.52 ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184724.D
Acq On : 24 Apr 2019 8:27 pm
Operator : ROBERTS
Sample : ICV8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 12:24:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184725.D
Acq On : 24 Apr 2019 8:55 pm
Operator : ROBERTS
Sample : ICV8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 25 12:24:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

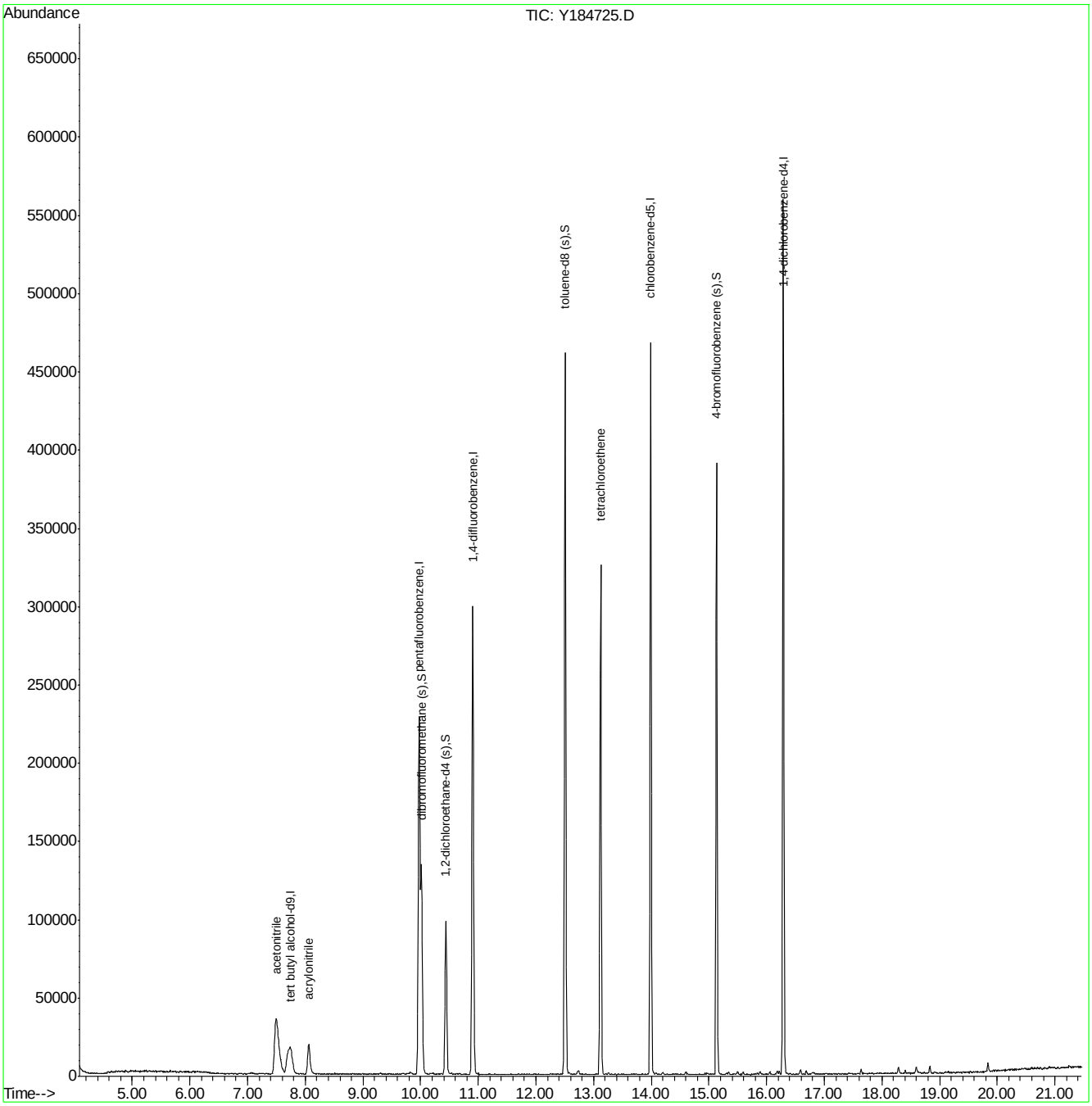
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.74 | 65 | 56845 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.97 | 168 | 184928 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.91 | 114 | 262362 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.99 | 117 | 242218 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.29 | 152 | 137507 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 10.01 | 113 | 84749 | 50.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.04% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.43 | 65 | 74119 | 50.57 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 101.14% | | | |
| 75) toluene-d8 (s) | 12.51 | 98 | 300820 | 49.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.14% | | | |
| 98) 4-bromofluorobenzene (s) | 15.13 | 95 | 113522 | 49.79 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.58% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 21) acetonitrile | 7.50 | 41 | 100744 | 453.16 | ug/L | 96 |
| 34) acrylonitrile | 8.07 | 53 | 23499 | 41.51 | ug/L | 94 |
| 81) tetrachloroethene | 13.12 | 166 | 97372 | 46.02 | ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8014\
Data File : Y184725.D
Acq On : 24 Apr 2019 8:55 pm
Operator : ROBERTS
Sample : ICV8014-50
Misc : MS34134,VY8014,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 25 12:24:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185114.d
Acq On : 11 May 2019 10:31 am
Operator : PrashanS
Sample : CC8014-50 Inst : MSY
Misc : MS34413,VY8033,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:37:28 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.731 | 65 | 51411 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.974 | 168 | 194431 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.905 | 114 | 268103 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.986 | 117 | 230953 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 16.287 | 152 | 127658 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 10.016 | 113 | 86816 | 49.22 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.44% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.435 | 65 | 68545 | 45.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 91.54% | | | |
| 75) toluene-d8 (s) | 12.506 | 98 | 293211 | 50.17 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.34% | | | |
| 98) 4-bromofluorobenzene (s) | 15.131 | 95 | 103014 | 48.66 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.32% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 7.851 | 59 | 40256 | 251.24 | ug/L | 97 |
| 4) 1,4-dioxane | 11.543 | 88 | 21307 | 1341.30 | ug/L | 99 |
| 6) chlorodifluoromethane | 4.378 | 51 | 125114 | 40.81 | ug/L | 97 |
| 7) dichlorodifluoromethane | 4.347 | 85 | 140490 | 36.49 | ug/L | 97 |
| 8) chloromethane | 4.744 | 50 | 148401 | 36.62 | ug/L | 94 |
| 9) vinyl chloride | 4.995 | 62 | 133069 | 39.91 | ug/L | 98 |
| 10) 1,3-butadiene | 5.032 | 54 | 89765 | 43.48 | ug/L | 97 |
| 11) bromomethane | 5.628 | 94 | 124585 | 44.14 | ug/L | 98 |
| 12) chloroethane | 5.806 | 64 | 92114 | 51.09 | ug/L | 97 |
| 13) vinyl bromide | 6.151 | 106 | 128483 | 82.16 | ug/L | 95 |
| 14) trichlorofluoromethane | 6.271 | 101 | 193976 | 50.51 | ug/L | 97 |
| 15) ethyl ether | 6.632 | 74 | 45951 | 48.83 | ug/L | 92 |
| 16) 2-chloropropane | 6.862 | 63 | 42693 | 51.27 | ug/L # | 83 |
| 17) acrolein | 6.868 | 56 | 12792 | 48.81 | ug/L | 94 |
| 18) freon 113 | 7.103 | 151 | 104050 | 57.78 | ug/L | 97 |
| 19) 1,1-dichloroethene | 7.066 | 61 | 156134 | 52.29 | ug/L | 89 |
| 20) acetone | 7.066 | 43 | 80470 | 168.94 | ug/L | 98 |
| 21) acetonitrile | 7.506 | 41 | 98290 | 420.51 | ug/L | 95 |
| 22) iodomethane | 7.323 | 142 | 192837 | 51.15 | ug/L | 98 |
| 23) carbon disulfide | 7.474 | 76 | 341382 | 52.24 | ug/L | 98 |
| 24) methylene chloride | 7.772 | 84 | 119589 | 46.08 | ug/L | 90 |
| 25) methyl acetate | 7.521 | 43 | 48355 | 43.88 | ug/L | 97 |
| 26) methyl tert butyl ether | 8.144 | 73 | 264539 | 44.14 | ug/L | 97 |
| 27) trans-1,2-dichloroethene | 8.159 | 61 | 140913 | 47.61 | ug/L | 99 |
| 28) hexane | 8.505 | 57 | 138105 | 52.87 | ug/L | 95 |
| 29) di-isopropyl ether | 8.724 | 45 | 332469 | 44.57 | ug/L | 97 |
| 30) ethyl tert-butyl ether | 9.179 | 59 | 307290 | 45.29 | ug/L | 98 |
| 31) 2-butanone | 9.373 | 72 | 29775 | 190.14 | ug/L # | 67 |
| 32) 1,1-dichloroethane | 8.735 | 63 | 176454 | 47.53 | ug/L | 98 |
| 33) chloroprene | 8.834 | 53 | 126467 | 47.55 | ug/L | 93 |
| 34) acrylonitrile | 8.060 | 53 | 25374 | 42.63 | ug/L | 98 |
| 35) vinyl acetate | 8.662 | 86 | 13908 | 47.02 | ug/L # | 88 |
| 36) ethyl acetate | 9.389 | 45 | 8747 | 41.57 | ug/L | 82 |
| 37) 2,2-dichloropropane | 9.488 | 77 | 155981 | 48.64 | ug/L | 97 |
| 38) cis-1,2-dichloroethene | 9.446 | 96 | 114612 | 46.96 | ug/L | 95 |
| 39) propionitrile | 9.462 | 54 | 92459 | 440.19 | ug/L | 81 |
| 40) bromochloromethane | 9.739 | 130 | 74015 | 48.38 | ug/L | 94 |
| 41) tetrahydrofuran | 9.760 | 72 | 8823 | 47.12 | ug/L | 80 |
| 42) chloroform | 9.823 | 83 | 174524 | 44.22 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185114.d
Acq On : 11 May 2019 10:31 am
Operator : PrashanS
Sample : CC8014-50 Inst : MSY
Misc : MS34413,VY8033,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:37:28 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 43) tert-butyl formate | 9.864 | 59 | 63970 | 42.95 | ug/L | | 98 |
| 46) methacrylonitrile | 9.650 | 67 | 25346 | 44.91 | ug/L | | 96 |
| 47) 1,1,1-trichloroethane | 10.089 | 97 | 164436 | 48.34 | ug/L | | 97 |
| 48) cyclohexane | 10.204 | 84 | 156197 | 46.19 | ug/L | | 92 |
| 49) 1,1-dichloropropene | 10.252 | 75 | 123122 | 51.18 | ug/L | | 99 |
| 50) tert-amyl alcohol | 10.372 | 55 | 14818 | 214.75 | ug/L | | 96 |
| 51) carbon tetrachloride | 10.288 | 117 | 148148 | 50.03 | ug/L | | 98 |
| 54) 2,2,4-trimethylpentane | 10.597 | 57 | 406168 | 55.24 | ug/L | | 95 |
| 55) tert-amyl methyl ether | 10.581 | 73 | 277157 | 46.05 | ug/L | | 99 |
| 56) n-butyl alcohol | 10.947 | 41 | 75256 | 2263.38 | ug/L | | 95 |
| 57) benzene | 10.503 | 78 | 377560 | 48.77 | ug/L | | 99 |
| 58) heptane | 10.748 | 57 | 70584 | 53.44 | ug/L | | 98 |
| 59) isopropyl acetate | 10.403 | 87 | 14637 | 46.40 | ug/L | | 95 |
| 60) 1,2-dichloroethane | 10.529 | 62 | 105406 | 42.38 | ug/L | | 98 |
| 61) trichloroethene | 11.214 | 130 | 107147 | 53.24 | ug/L | | 99 |
| 62) ethyl acrylate | 11.193 | 55 | 71056 | 42.95 | ug/L | | 97 |
| 63) 2-nitropropane | 11.957 | 41 | 20547 | 38.15 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.983 | 63 | 215422 | 234.93 | ug/L | | 99 |
| 65) methyl methacrylate | 11.454 | 100 | 16587 | 45.53 | ug/L | # | 89 |
| 66) 1,2-dichloropropane | 11.502 | 63 | 97094 | 49.24 | ug/L | | 95 |
| 67) methylcyclohexane | 11.512 | 83 | 183847 | 57.53 | ug/L | | 96 |
| 68) dibromomethane | 11.606 | 93 | 54576 | 47.44 | ug/L | | 100 |
| 69) bromodichloromethane | 11.753 | 83 | 127875 | 46.37 | ug/L | | 98 |
| 70) epichlorohydrin | 12.072 | 57 | 30351 | 218.07 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 12.202 | 75 | 144301 | 48.10 | ug/L | | 94 |
| 72) 4-methyl-2-pentanone | 12.302 | 58 | 100926 | 186.61 | ug/L | | 92 |
| 73) 3-methyl-1-butanol | 12.291 | 70 | 39613 | 979.16 | ug/L | | 89 |
| 76) toluene | 12.579 | 92 | 220952 | 49.68 | ug/L | | 97 |
| 77) trans-1,3-dichloropropene | 12.757 | 75 | 121345 | 47.29 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.741 | 69 | 83381 | 46.36 | ug/L | | 95 |
| 79) 1,1,2-trichloroethane | 12.971 | 83 | 60013 | 47.29 | ug/L | | 95 |
| 80) 2-hexanone | 13.133 | 58 | 89942 | 189.24 | ug/L | | 92 |
| 81) tetrachloroethene | 13.123 | 166 | 110101 | 54.57 | ug/L | | 95 |
| 82) 1,3-dichloropropane | 13.149 | 76 | 110701 | 46.82 | ug/L | | 95 |
| 83) butyl acetate | 13.201 | 56 | 41316 | 44.98 | ug/L | | 96 |
| 84) dibromochloromethane | 13.395 | 129 | 95690 | 50.27 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 13.547 | 107 | 81085 | 40.55 | ug/L | | 98 |
| 86) n-butyl ether | 13.970 | 57 | 355146 | 48.37 | ug/L | | 98 |
| 87) chlorobenzene | 14.017 | 112 | 254874 | 47.64 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 14.080 | 131 | 105840 | 50.17 | ug/L | | 95 |
| 89) ethylbenzene | 14.075 | 91 | 412325 | 49.34 | ug/L | | 100 |
| 90) m,p-xylene | 14.195 | 106 | 328208 | 100.86 | ug/L | | 95 |
| 91) o-xylene | 14.593 | 91 | 344765 | 49.24 | ug/L | | 98 |
| 92) styrene | 14.603 | 104 | 281907 | 50.89 | ug/L | | 98 |
| 93) bromoform | 14.828 | 173 | 66090 | 51.10 | ug/L | | 96 |
| 94) butyl acrylate | 14.415 | 55 | 136111 | 44.94 | ug/L | | 95 |
| 95) isopropylbenzene | 14.933 | 105 | 438553 | 52.11 | ug/L | | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.969 | 88 | 31246 | 46.35 | ug/L | | 93 |
| 99) bromobenzene | 15.314 | 156 | 129172 | 50.68 | ug/L | | 89 |
| 100) 1,1,2,2-tetrachloroethane | 15.205 | 83 | 94324 | 48.28 | ug/L | | 98 |
| 101) trans-1,4-dichloro-2-b... | 15.241 | 53 | 20052 | 46.09 | ug/L | | 87 |
| 102) 1,2,3-trichloropropane | 15.293 | 110 | 24300 | 48.96 | ug/L | | 97 |
| 103) n-propylbenzene | 15.346 | 91 | 511416 | 51.91 | ug/L | | 99 |
| 104) 2-chlorotoluene | 15.477 | 126 | 117175 | 52.24 | ug/L | | 91 |
| 105) 4-chlorotoluene | 15.586 | 91 | 304215 | 48.64 | ug/L | | 97 |
| 106) 1,3,5-trimethylbenzene | 15.497 | 105 | 370811 | 51.14 | ug/L | | 98 |
| 107) tert-butylbenzene | 15.837 | 134 | 69666 | 54.36 | ug/L | | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185114.d
Acq On : 11 May 2019 10:31 am
Operator : PrashanS
Sample : CC8014-50 Inst : MSY
Misc : MS34413,VY8033,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:37:28 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration

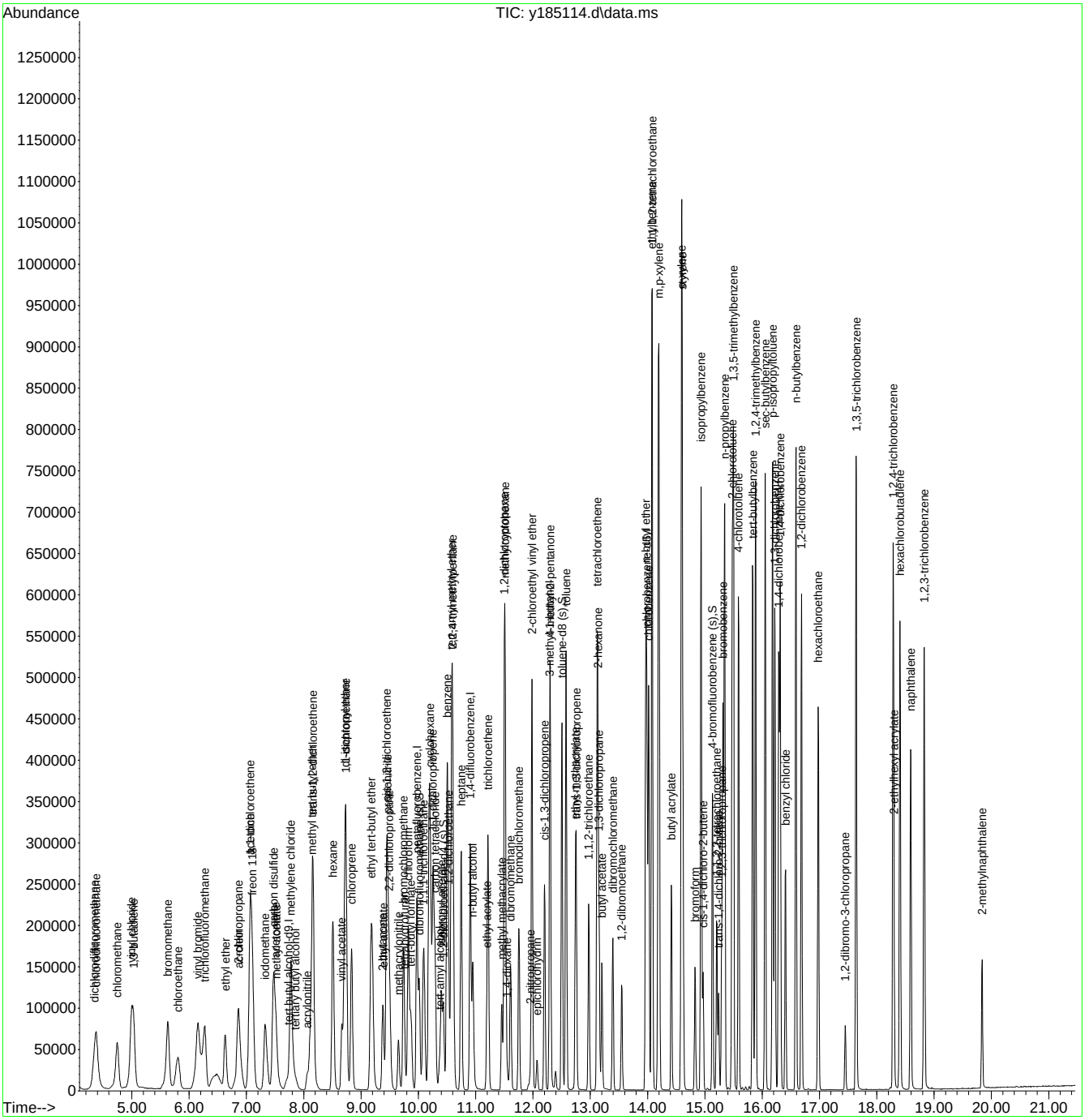
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 15.884 | 105 | 366224 | 49.04 | ug/L | 100 |
| 109) sec-butylbenzene | 16.052 | 105 | 467167 | 51.64 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 16.219 | 146 | 237704 | 50.43 | ug/L | 96 |
| 111) p-isopropyltoluene | 16.183 | 119 | 408895 | 51.33 | ug/L | 97 |
| 112) 1,4-dichlorobenzene | 16.313 | 146 | 237133 | 48.85 | ug/L | 98 |
| 113) 1,2-dichlorobenzene | 16.685 | 146 | 233006 | 48.27 | ug/L | 98 |
| 114) n-butylbenzene | 16.591 | 92 | 218648 | 52.64 | ug/L | 99 |
| 115) 1,2-dibromo-3-chloropr... | 17.448 | 157 | 22397 | 49.36 | ug/L | 95 |
| 116) 1,3,5-trichlorobenzene | 17.642 | 180 | 242683 | 53.20 | ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 18.285 | 180 | 206740 | 53.71 | ug/L | 98 |
| 118) hexachlorobutadiene | 18.405 | 225 | 123615 | 52.31 | ug/L | 98 |
| 119) naphthalene | 18.594 | 128 | 324661 | 54.38 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 18.829 | 180 | 188012 | 56.38 | ug/L | 97 |
| 121) hexachloroethane | 16.978 | 201 | 80468 | 56.75 | ug/L | 98 |
| 122) benzyl chloride | 16.407 | 91 | 177933 | 50.15 | ug/L | 95 |
| 123) 2-ethylhexyl acrylate | 18.301 | 70 | 20018 | 8.54 | ug/L | 93 |
| 124) 2-methylnaphthalene | 19.839 | 142 | 73325 | 24.46 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\janellac\05-14-19\vy8033\
Data File : y185114.d
Acq On : 11 May 2019 10:31 am
Operator : PrashanS
Sample : CC8014-50 Inst : MSY
Misc : MS34413,VY8033,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8014.M
Quant Results File: MYS8014.RES
Quant Time: May 13 22:37:28 2019
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 25 12:22:34 2019
Response via : Initial Calibration



# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-72.23 | EC: V019-2648-80.11 | Acrolein V019-2648-54.40 | |
| Standard Concentrations | 100-10,000 PPM | 100 PPM | 100 PPM | |
| Internal Surrogate | V019-2648-64 | | | |
| I/S Concentration | 50/500 PPM | | | |
| Standard | ABK: V019-2648-52.7 | Ext EC: V019-2648-76.5 | Ext Acrolein: V019-2648-42.5 | Ext PA: V019-2648-79.1 |
| Standard Concentrations | 100-10000 PPM | 100 PPM | 100 PPM | 100/1000 PPM |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Rough reviewed by | | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS1C | Instrument ID: | Sequence loaded by | Robert Szot |
| Analysis Date | 4/19/1942 | Data processed by | Robert Szot |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | V1C7200 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 4/24/19 | Approved By: | KANYAV |
| Init Calib Quant Method | M1CS7200 | Approved Date: | 4/25/2019 4:27:41 PM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164004 | BFB | | NA | | | 5 | 5 | | 1 | ok | 2:40 pm |
| 1C | 164005 | IC7200-0.5 | | NA | | 8260 initial calibration | 5 | 5 | | 2 | ok | 2.5 uL ABK, EC, Acrolein / 500 mL DI H2O |
| 1C | 164006 | IC7200-1 | | NA | | 8260 initial calibration | 5 | 5 | | 3 | ok | 2 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 1C | 164007 | IC7200-2 | | NA | | 8260 initial calibration | 5 | 5 | | 4 | ok | 4 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 1C | 164008 | IC7200-4 | | NA | | 8260 initial calibration | 5 | 5 | | 5 | ok | 2 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164009 | IC7200-8 | | NA | | 8260 initial calibration | 5 | 5 | | 6 | ok | 4 uL ABK, EC, Acrolein / 50 mL DI H2O |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164010 | IC7200-20 | | NA | | 8260 initial calibration | 5 | 5 | | 7 | ok | 10 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164011 | IC7200-50 | | NA | | 8260 initial calibration | 5 | 5 | | 8 | ok | 25 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164012 | IC7200-100 | | NA | | 8260 initial calibration | 5 | 5 | | 9 | ok | 50 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164013 | IC7200-200 | | NA | | 8260 initial calibration | 5 | 5 | | 10 | ok | 100 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164014 | IB | | NA | | | 5 | 5 | | 11 | ok | |
| 1C | 164015 | IB | | NA | | | 5 | 5 | | 12 | ok | |
| 1C | 164016 | ICV7200-50 | | NA | | 8260 initial calibration | 5 | 5 | | 13 | ok | 25 uL Ext ABK, Ext EC, Ext Acrolein / 100 mL DI H2O |
| 1C | 164017 | ICV7200-50 | | NA | | 8260 initial calibration | 5 | 5 | | 14 | ok | 25 uL Ext PA / 100 mL DI H2O |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-103.1 | EC: V019-2648-104.11 | Acrolein: V019-2648-88.45 | |
| Standard Concentrations | 100-10,000ppm | 100ppm | 100ppm | |
| Internal Surrogate | V019-2648-97 | | | |
| I/S Concentration | 50/500ppm | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Rough reviewed by | Prashant B. Shukla | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS1C | Instrument ID: | Sequence loaded by | Prashant B. Shukla |
| Analysis Date | 5/13/2019 | Data processed by | kenrickb |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | V1C7218 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 4/24/19 | Approved By: | MEI |
| Init Calib Quant Method | M1CS7200 | Approved Date: | 5/14/2019 12:45:25 PM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164489 | CC7200-50 | | NA | | | 5.0 | 5 | | 1 | NG | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O |
| 1C | 164490 | IB | | NA | | | 5.0 | 5 | | 2 | OK | |
| 1C | 164491 | BFB/CC7200-50 | | NA | | | 5.0 | 5 | | 3 | ok/ok | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O, 9:43 AM |
| 1C | 164492 | BS | | NA | | | 5.0 | 5 | | 4 | ok | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O |
| 1C | 164493 | IB | | NA | | | 5.0 | 5 | | 5 | OK | |
| 1C | 164494 | MB | | NA | | | 5.0 | 5 | | 6 | ok | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164495 | JC87563-10 | 3 | NA | MS34561 | V8260STD | 5.0 | 5 | | 7 | ok | RR for CF (SSTB) |
| 1C | 164496 | JC87563-7 | 6 | NA | MS34561 | V8260STD | 5.26 | 5 | | 8 | ok | |
| 1C | 164497 | JC87563-8 | 6 | NA | MS34561 | V8260STD | 5.28 | 5 | | 9 | ok | |
| 1C | 164498 | JC87563-1 | 6 | NA | MS34561 | V8260STD | 5.41 | 5 | | 10 | ok | |
| 1C | 164499 | JC87563-2 | 5 | NA | MS34561 | V8260STD | 5.85 | 5 | | 11 | ok | |
| 1C | 164500 | JC87563-3 | 5 | NA | MS34561 | V8260STD | 5.91 | 5 | | 12 | ok | |
| 1C | 164501 | JC87563-4 | 6 | NA | MS34561 | V8260STD | 5.01 | 5 | | 13 | ok | |
| 1C | 164502 | JC87563-5 | 6 | NA | MS34561 | V8260STD | 5.33 | 5 | | 14 | ok | |
| 1C | 164503 | JC87563-6 | 6 | NA | MS34561 | V8260STD | 5.92 | 5 | | 15 | ok | |
| 1C | 164504 | JC87563-11 | 5 | NA | MS34561 | V8260STD | 5.49 | 5 | | 16 | ok | |
| 1C | 164505 | JC87563-7MS | 7 | NA | MS34561 | V8260STD | 5.76 | 5 | | 17 | ok | 2.5uL Std.A/B/K,EC,Acrolein in sample |
| 1C | 164506 | JC87563-7MSD | 7 | NA | MS34561 | V8260STD | 5.54 | 5 | | 18 | ok | 2.5uL Std.A/B/K,EC,Acrolein in sample, (sample # JC87563-8.7 used for MSD) |
| 1C | 164507 | IB | | NA | | | 5.0 | 5 | | 19 | OK | |
| 1C | 164508 | JC87563-10 | 2 | NA | MS34561 | V8260STD | 5.0 | 5 | | 20 | ok | |
| 1C | 164509 | JC87664-12 | 3 | NA | MS34603 | V8260TCL20+ | 6.27 | 5 | | 21 | ok | |
| 1C | 164510 | JC87563-12 | 5 | NA | MS34561 | V8260STD | 5.74 | 5 | | 22 | ok | |
| 1C | 164511 | JC87563-13 | 5 | NA | MS34561 | V8260STD | 5.38 | 5 | | 23 | ok | |
| 1C | 164512 | JC87563-14 | 6 | NA | MS34561 | V8260STD | 7.33 | 5 | | 24 | ok | |
| 1C | 164513 | JC87535-5 | 4 | NA | MS34539 | V8260TCL20 | 4.48 | 5 | | 25 | ok | |
| 1C | 164514 | JC87535-2 | 4 | NA | MS34539 | V8260TCL20 | 5.2 | 5 | | 26 | ok | 13-May-2019 08:14 pm |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164515 | JC87520-1 | 4 | NA | MS34539 | V8260SL | 4.62 | 5 | | 27 | RR | Out of BFB time. 14 May 2019 7:22 am |
| 1C | 164516 | IB | | NA | | | 5.0 | 5 | | 28 | OK | 5/14/19 |
| 1C | 164517 | IB | | NA | | | 5.0 | 5 | | 29 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | | | |
|---|---|---|---|---|---|---|
| Standards | ABK: V018-2645-148.72 | EC: V018-2648-28.12 | Acrolein: V019-2648-21.2 6 | Ext PA V019-2648-2 2.2 | Column | ZB624(60mx0.25mmx1.4um) |
| Standard Concentration | 100-10,000 PPM | 100 PPM | 100 PPM | 100/1000 PPM | Method | V8260C |
| Standards | Ext ABK V019-2648-06.7 | Ext EC V019-2648-25.5 | Ext Acrolein V018-2645-1 42.8 | Acetone 3rd source V 019-2648-13.2 | Init Calib Date | 3/20/19 |
| Standard Concentration | 100-10,000 PPM | 100 PPM | 100 PPM | 400 PPM | | |
| | | | | | Analysis Date | 3/20/2019 |
| | | | | | Sequence loaded by | Robert Szot |
| Internal Surrogate | V018-2645-147 | | | | Data processed by | Bridget Kelly |
| nternal Surrogate Concentration | 250/2500 PPM | | | | Batch ID | V2C7441 |
| | | | | | Matrix | AQ |
| Initial Calibration Method | M2C7441 | | | | Approved By: | KANYAV |
| pH Paper Lot# | 204518 | | | | Approved Date: | 3/25/2019 2:11:34 AM |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 166194 | BFB | | NA | | | 5 | | | 1 | ok | 3:08 pm |
| 2C | 166195 | IC7441-0.2 | | NA | | V8260 initial calibration | 5 | | | 2 | ok | 1 uL ABK, EC, Acrolein / 500 mL DI H2O |
| 2C | 166196 | IC7441-0.5 | | NA | | V8260 initial calibration | 5 | | | 3 | ok | 2.5 uL ABK, EC, Acrolein / 500 mL DI H2O |
| 2C | 166197 | IC7441-1 | | NA | | V8260 initial calibration | 5 | | | 4 | ok | 5 uL ABK, EC, Acrolein / 500 mL DI H2O |
| 2C | 166198 | IC7441-2 | | NA | | V8260 initial calibration | 5 | | | 5 | ok | 4 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 2C | 166199 | IC7441-4 | | NA | | V8260 initial calibration | 5 | | | 6 | ok | 8 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 2C | 166200 | IC7441-8 | | NA | | V8260 initial calibration | 5 | | | 7 | ok | 16 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 2C | 166201 | IC7441-20 | | NA | | V8260 initial calibration | 5 | | | 8 | ok | 40 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 2C | 166202 | ICC7441-50 | | NA | | V8260 initial calibration | 5 | | | 9 | ok | 100 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 2C | 166203 | IC7441-100 | | NA | | V8260 initial calibration | 5 | | | 10 | ok | 200 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 2C | 166204 | IC7441-200 | | NA | | V8260 initial calibration | 5 | | | 11 | ok | 400 uL ABK, EC, Acrolein / 200 mL DI H2O |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 166205 | IB | | NA | | | 5 | | | 12 | ok | |
| 2C | 166206 | IB | | NA | | | 5 | | | 13 | ok | |
| 2C | 166207 | ICV7441-50 | | NA | | V8260 initial calibration | 5 | | | 14 | ok | 100 uL Ext ABK, Ext EC, Ext Acrolein / 200 mL DI H2O |
| 2C | 166208 | ICV7441-50 | | NA | | V8260 initial calibration | 5 | | | 15 | ok | 100 uL Ext PA, Acetone 3rd source / 200 mL DI H2O |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| STANDARDS | AKB: V019-2648-103.2 | EC:V019-2648-111.1 | ACROLEIN:V019-2648-88.7 | MEOH LOT # 187026, FISHER CHEMICAL |
| STANDARDS CONCENTRATION | 100-10000PPM | 100PPM | 100PPM | |
| INTERNAL SURROGATE | V019-2648-96 | | | |
| I/S CONCENTRATION | 250/2500PPM | | | |
| | | | | |
| | | | | |
| | | | | |
| METHOD | V8260C | | | |
| INIT. CALIB. QUANT METHOD | M2C7441 | | | |
| | | | | |
| | | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS2C | Instrument ID: | Sequence loaded by | thienn |
| Analysis Date | 5/15/2019 | Data processed by | janellec |
| Column | ZB264(50MX0.25MLX1.4UM) | Batch ID | V2C7520 |
| Method | v8260c | Matrix | SO |
| | | Approved By: | MEI |
| Init Calib Quant Method | m2c7441 | Approved Date: | 6/25/2019 11:35:22 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 167639 | IB | | NA | | | | 5 | | 1 | ok | |
| 2C | 167640 | BFB/CC7441-20 | | NA | | | | 5 | | 2 | ok/ok | 6.35am,ABK,EC, Acrolein 10ul/50ml DI water |
| 2C | 167641 | CC7441-4 | | NA | | | | 5 | | 3 | ok | ABK,EC, Acrolein 2ul/50ml DI water |
| 2C | 167642 | BS | | NA | | | | 5 | | 4 | ok | ABK,EC, Acrolein 25ul/50ml DI water |
| 2C | 167643 | IB | | NA | | | | 5 | | 5 | ok | |
| 2C | 167644 | MB/JC80308E-15A | | NA | MS32144 | V8260SL | 5 | 5 | 100 | 6 | ok | Daily blank disp #55 MeOH lot # 187026, Fisher Chemical |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 167645 | JC87537-4 | 3 | NA | MS34562 | V8260TCL20 | 1.05 | 10 | 5 | 7 | ok | +Y core and 2C core |
| 2C | 167646 | JC87569-2 | 3 | NA | MS34562 | V82608010LTCL+ | 3.58 | 10 | 100 | 8 | ok/dl | rr 10x |
| 2C | 167647 | JC87569-3 | 3 | NA | MS34562 | V82608010LTCL+ | 4.26 | 10 | 100 | 9 | ok | Dilution due to non targets. |
| 2C | 167648 | JC87569-4 | 3 | NA | MS34562 | V82608010LTCL+ | 5.48 | 10 | 100 | 10 | ok | Dilution due to non targets. |
| 2C | 167649 | JC87569-2MS | 3 | NA | MS34562 | V8260TCL20 | 3.58 | 10 | 100 | 11 | ok | ABK,EC, Acrolein 25ul/50ml sample |
| 2C | 167650 | JC87569-2MSD | 3 | NA | MS34562 | V8260TCL20 | 3.58 | 10 | 100 | 12 | ok | ABK,EC, Acrolein 25ul/50ml sample |
| 2C | 167651 | IB | | NA | | | | 5 | | 13 | ok | |
| 2C | 167652 | JC87569-2 | 3 | NA | MS34562 | V82608010LTCL+ | 3.58 | 10 | 10 | 14 | ok | +2C |
| 2C | 167653 | JC87811-3 | 3 | NA | MS34655 | V8260TCL20, 124TMB,135TMB,TBA | 4.13 | 10 | 100 | 15 | ok/RR | RR LL |
| 2C | 167654 | JC87811-4 | 3 | NA | MS34655 | V8260TCL20, 124TMB,135TMB,TBA | 3.7 | 10 | 100 | 16 | ok/RR | RR LL |
| 2C | 167655 | JC87818-1 | 3 | NA | MS34655 | V8260TCL20+ | 5.7 | 5 | 100 | 17 | ok/RR | RR LL |
| 2C | 167656 | JC87818-2 | 3 | NA | MS34655 | V8260TCL20+ | 5.7 | 5 | 100 | 18 | ok/DL | +2C |
| 2C | 167657 | JC87818-3 | 3 | NA | MS34655 | V8260TCL20+ | 5.3 | 5 | 100 | 19 | ok/DL | rr SME F/D 10X |
| 2C | 167658 | JC87818-4 | 3 | NA | MS34655 | V8260TCL20+ | 5.3 | 5 | 100 | 20 | ok/DL | rr SME F/D 20X |
| 2C | 167659 | JC87818-2 | 3 | NA | MS34655 | V8260TCL20+ | 5.7 | 5 | 10 | 21 | ok | +2C |
| 2C | 167660 | JC87563-9 | 4 | NA | MS34561 | V8260STD | 6.98 | 10 | 100 | 22 | ok | |
| 2C | 167661 | JC88048-5 | 4 | NA | MS34752 | V8260TCL20+ | 5.1 | 5 | 100 | 23 | ok/DL | rr SME F/D 20X |
| 2C | 167662 | JC87535-3 | 3 | NA | MS34539 | V8260TCL20 | 2.27 | 10 | 1 | 24 | RR | c/o |
| 2C | 167663 | JC87535-11 | 3 | NA | MS34539 | V8260TCL20 | 5.21 | 10 | 1 | 25 | ok | Dilution due to non targets. |
| 2C | 167664 | JC87535-7 | 3 | NA | MS34539 | V8260TCL20 | 5.72 | 10 | 1 | 26 | ok | Dilution due to non targets. |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 167665 | JC87884-2 | 4 | NA | MS34682 | V8260CP51G | 4.9 | 5 | 1 | 27 | RR | rr out of bfb time. 6:45PM |
| 2C | 167666 | IB | | NA | | | | 5 | | 28 | ok | |
| 2C | 167667 | IB | | NA | | | | 5 | | 29 | ok | |
| 2C | 167668 | IB | | NA | | | | 5 | | 30 | ok | |
| 2C | 167669 | IB | | NA | | | | 5 | | 31 | ok | |
| 2C | 167670 | IB | | NA | | | | 5 | | 32 | ok | |
| 2C | 167671 | IB | | NA | | | | 5 | | 33 | ok | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| STANDARDS | AKB: V019-2648-103.2 | EC:V019-2648-111.1 | ACROLEIN:V019-2648-88.7 | MEOH LOT # 187026, FISHER CHEMICAL |
| STANDARDS CONCENTRATION | 100-10000PPM | 100PPM | 100PPM | |
| INTERNAL SURROGATE | V019-2648-96 | | | |
| I/S CONCENTRATION | 250/2500PPM | | | |
| | | | | |
| | | | | |
| | | | | |
| METHOD | V8260C | | | |
| INIT. CALIB. QUANT METHOD | M2C7441 | | | |
| | | | | |
| | | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS2C | Instrument ID: | Sequence loaded by | THIENN |
| Analysis Date | 5/16/2019 | Data processed by | Lotusa |
| Column | ZB264(50MX0.25MLX1.4UM) | Batch ID | V2C7521 |
| Method | V8260C | Matrix | SO |
| | | Approved By: | MEI |
| Init Calib Quant Method | M2C7441 | Approved Date: | 6/25/2019 11:34:38 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 167672 | IB | | NA | | | | 5 | | 1 | OK | |
| 2C | 167673 | IB | | NA | | | | 5 | | 2 | OK | |
| 2C | 167674 | CC7441-50 | | NA | | | | 5 | | 3 | NG | GAS LOW,ABK,EC, Acrolein 25ul/50ml DI water |
| 2C | 167675 | BFB/CC7441-50 | | NA | | | | 5 | | 4 | ok/ok | 7.47AM, ABK,EC, Acrolein 25ul/50ml DI water |
| 2C | 167676 | CC7441-4 | | NA | | | | 5 | | 5 | ok | for # 8, ABK,EC, Acrolein 2ul/50ml DI water |
| 2C | 167677 | BS | | NA | | | | 5 | | 6 | ok | ABK,EC, Acrolein 25ul/50ml DI water |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 167678 | IB | | NA | | | | 5 | | 7 | OK | |
| 2C | 167679 | MB/JC80308E-16A | | NA | MS32144 | V8260SL | 5 | 5 | 100 | 8 | ok/ok | Daily blank disp #55 MeOH lot # 187026, Fisher Chemical |
| 2C | 167680 | JC87818-3 | 3 | NA | MS34655 | V8260TCL20+ | 5.3 | 5 | 10 | 9 | ok | +2C |
| 2C | 167681 | JC87818-4 | 3 | NA | MS34655 | V8260TCL20+ | 5.3 | 5 | 10 | 10 | ok | +2C |
| 2C | 167682 | JC87884-2 | 4 | NA | MS34682 | V8260CP51G | 4.9 | 5 | 1 | 11 | OK | +2C |
| 2C | 167683 | IB | | NA | | | | 5 | | 12 | OK | |
| 2C | 167684 | JC87535-3 | 3 | NA | MS34539 | V8260TCL20 | 2.27 | 10 | 2 | 13 | OK | Dilution due to non targets. |
| 2C | 167685 | JC87535-3MS | 3 | NA | MS34539 | V8260TCL20 | 2.27 | 10 | 2 | 14 | OK | ABK,EC, Acrolein 25ul/50ml sample |
| 2C | 167686 | JC87535-3MSD | 3 | NA | MS34539 | V8260TCL20 | 2.27 | 10 | 2 | 15 | OK | ABK,EC, Acrolein 25ul/50ml sample |
| 2C | 167687 | IB | | NA | | | | 5 | | 16 | ok | |
| 2C | 167688 | IB | | NA | | | | 5 | | 17 | ok | |
| 2C | 167689 | JC88048-5 | 4 | NA | MS34752 | V8260TCL20+ | 5.1 | 5 | 5 | 18 | OK | +2C |
| 2C | 167690 | JC88158-9 | 3 | NA | MS34794 | V8260BENZ | 5.3 | 5 | 10 | 19 | OK | |
| 2C | 167691 | JC88158-10 | 3 | NA | MS34794 | V8260BENZ | 5.4 | 5 | 10 | 20 | OK | |
| 2C | 167692 | JC88158-9 | 3 | NA | MS34794 | V8260BENZ | 5.3 | 5 | 100 | 21 | OK | |
| 2C | 167693 | JC88158-10 | 3 | NA | MS34794 | V8260BENZ | 5.4 | 5 | 100 | 22 | OK | |
| 2C | 167694 | IB | | NA | | | | 5 | | 23 | ok | |
| 2C | 167695 | IB | | NA | | | | 5 | | 24 | ok | |
| 2C | 167696 | JC88158-7 | 3 | NA | MS34794 | V8260BTX-T | 5.3 | 5 | 5 | 25 | OK | |
| 2C | 167697 | JC88158-15 | 3 | NA | MS34794 | V8260ETHBNZ,XYL | 5.9 | 5 | 5 | 26 | OK | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2C | 167698 | JC88158-7 | 3 | NA | MS34794 | V8260BTX-T | 5.3 | 5 | 100 | 27 | OK | |
| 2C | 167699 | JC88158-15 | 3 | NA | MS34794 | V8260ETHBNZ,XYL | 5.9 | 5 | 100 | 28 | OK | 7:20pm |
| 2C | 167700 | IB | | NA | | | | 5 | | 29 | OK | |
| 2C | 167701 | IB | | NA | | | | 5 | | 30 | OK | |
| 2C | 167702 | IB | | NA | | | | 5 | | 31 | OK | |
| 2C | 167703 | IB | | NA | | | | 5 | | 32 | OK | |
| 2C | 167704 | IB | | NA | | | | 5 | | 33 | OK | |
| 2C | 167705 | IB | | NA | | | | 5 | | 34 | OK | |
| 2C | 167706 | IB | | NA | | | | 5 | | 35 | OK | |
| 2C | 167707 | IB | | NA | | | | 5 | | 36 | OK | |
| 2C | 167708 | IB | | NA | | | | 5 | | 37 | OK | |
| 2C | 167709 | IB | | NA | | | | 5 | | 38 | OK | |
| 2C | 167710 | IB | | NA | | | | 5 | | 39 | OK | |
| 2C | 167711 | IB | | NA | | | | 5 | | 40 | OK | |
| 2C | 167712 | IB | | NA | | | | 5 | | 41 | OK | |
| 2C | 167713 | IB | | NA | | | | 5 | | 42 | OK | |
| 2C | 167714 | IB | | NA | | | | 5 | | 43 | OK | |
| 2C | 167715 | IB | | NA | | | | 5 | | 44 | OK | |
| 2C | 167716 | IB | | NA | | | | 5 | | 45 | OK | |
| 2C | 167717 | IB | | NA | | | | 5 | | 46 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | | Column | Rxi-624(30mx0.25mmx1.4um) |
|---|---|---|---|---|---|---|
| Standards | ABK: V019-2648-72.49 | EC: V019-2648-92.2 | Acrolein: V019-2648-88.2 | | Method | V8260C |
| Standard Concentration | 100-10,000ppm | 100ppm | 100ppm | | Initial Calibration Date | 5/2/2019 |
| External Standards | ABK: V019-2648-94.3 | EC: V019-2648-90.4 | Acrolein: V019-2648-86.6 | PA: V019-2648-79.2 | | |
| External Standard Concentration | 100-10,000ppm | 100ppm | 100ppm | 100ppm | | |
| Internal Surrogate | V019-2648-64 | | | | Analysis Date | 5/2/2019 |
| Internal Surrogate Concentration | 50/500ppm | | | | Sequence loaded by | Eddie Huang |
| | | | | | Data processed by | Robert Szot |
| | | | | | Batch ID | V2V2392 |
| Prepared by | Robert Szot | | | | Matrix | AQ |
| Initial Calibration Method | M2V2392 | | | | Approved By: | KANYAV |
| pH Paper Lot# | 204518 | | | | Approved Date: | 5/8/2019 2:06:04 AM |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58387 | BFB | | NA | | | 5 | | | 1 | ok | 5:18 pm |
| 2V | 58388 | IC2392-0.2 | | NA | | V8260 initial cal. | 5 | | | 2 | ok | 2uLABK,EC,Acrolein/1000mL DI H2O. |
| 2V | 58389 | IC2392-0.5 | | NA | | V8260 initial cal. | 5 | | | 3 | ok | 5uLABK,EC,Acrolein/1000mL DI H2O. |
| 2V | 58390 | IC2392-1 | | NA | | V8260 initial cal. | 5 | | | 4 | ok | 1uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58391 | IC2392-2 | | NA | | V8260 initial cal. | 5 | | | 5 | ok | 2uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58392 | IC2392-4 | | NA | | V8260 initial cal. | 5 | | | 6 | ok | 4uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58393 | IC2392-8 | | NA | | V8260 initial cal. | 5 | | | 7 | ok | 8uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58394 | IC2392-20 | | NA | | V8260 initial cal. | 5 | | | 8 | ok | 20uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58395 | ICC2392-50 | | NA | | V8260 initial cal. | 5 | | | 9 | ok | 50uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58396 | IC2392-100 | | NA | | V8260 initial cal. | 5 | | | 10 | ok | 100uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58397 | IC2392-200 | | NA | | V8260 initial cal. | 5 | | | 11 | ok | 200uLABK,EC,Acrolein/100mL DI H2O. |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58398 | IB | | NA | | | 5 | | | 12 | ok | |
| 2V | 58399 | IB | | NA | | | 5 | | | 13 | ok | |
| 2V | 58400 | ICV2392-50 | | NA | | V8260 initial cal. | 5 | | | 14 | not used | 50uLExtABK,EC,Acrolein/100mL DI H2O. RR for bromoform |
| 2V | 58401 | ICV2392-50 | | NA | | V8260 initial cal. | 5 | | | 15 | ok | 50uLExtPA/100mL DI H2O. |
| 2V | 58402 | IB | | NA | | | 5 | | | 16 | ok | |
| 2V | 58403 | IB | | NA | | | 5 | | | 1 | ok | |
| 2V | 58404 | BFB2 | | NA | | V8260 initial cal. | 5 | | | 2 | ok | |
| 2V | 58405 | ICV2392-50 | | NA | | V8260 initial cal. | 5 | | | 3 | ok | 50uLExtABK,EC,Acrolein/100mL DI H2O |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | | Column | Rxi-624(30mx0.25mmx1.4um) |
|---|---|---|---|---|---|---|
| Standards | ABK: V019-2648-72.73 | EC: V019-2648-101.3 | Acrolein: V019-2648-88.4 | | Method | V8260C |
| Standard Concentration | 100-10,000ppm | 100ppm | 100ppm | | Initial Calibration Date | 5/2/2019 |
| Internal Surrogate | V019-2648-97 | | | | | |
| Internal Surrogate Concentration | 50/500ppm | | | | | |
| | | | | | Analysis Date | 5/13/2019 |
| | | | | | Sequence loaded by | Eddie Huang |
| | | | | | Data processed by | nizele |
| | | | | | Batch ID | V2V2399 |
| | | | | | Matrix | AQ |
| Initial Calibration Method | M2V2392 | | | | Approved By: | KANYAV |
| pH Paper Lot# | 204518 | | | | Approved Date: | 5/14/2019 3:58:39 AM |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58519 | IB | | NA | | | 5 | | | 1 | ok | |
| 2V | 58520 | BFB/CC2392-20 | | NA | | | 5 | | | 2 | ok/ok | 20uLABK,EC,Acrolein/100mL DI H2O. 6:40am, 5/13/19. |
| 2V | 58521 | BS | | NA | | | 5 | | | 3 | ok | 50uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58522 | IB | | NA | | | 5 | | | 4 | ok | |
| 2V | 58523 | MB | | NA | | | 5 | | | 5 | ok | |
| 2V | 58524 | GP21174-20LB | | 5X | MS34707 | V8260TCLP, | 10/50 | | | 6 | ok | TCLPBNZ. |
| 2V | 58525 | GP21185-22LB | | 5X | MS34708 | V8260TCLP | 10/50 | | | 7 | ok | |
| 2V | 58526 | JC87583-1 | 1.1 | 5X | MS34707 | V8260TCLPBNZ | 10/50 | | | 8 | ok | |
| 2V | 58527 | JC87414-2R | 1.1 | 5X | MS34707 | V8260TCLP | 10/50 | | | 9 | ok | |
| 2V | 58528 | JC87414-8R | 1.1 | 5X | MS34707 | V8260TCLP | 10/50 | | | 10 | ok | |
| 2V | 58529 | JC87414-14R | 1.2 | 5X | MS34707 | V8260TCLP | 10/50 | | | 11 | ok | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58530 | JC87535-13 | 3.1 | 5X | MS34708 | V8260TCLP | 10/50 | | | 12 | ok | |
| 2V | 58531 | JC87715-1 | 1.7 | 50X | MS34707 | V8260TCLP | 1/50 | | | 13 | not used | For screening purpose only. Napthalene C/O. |
| 2V | 58532 | JC87535-13MS | 3.1 | 5X | MS34708 | V8260TCLP | 10/50 | | | 14 | ok | 50uLABK,EC,Acrolein/100mL. GP21185-20LS. |
| 2V | 58533 | JC87535-13MSD | 3.1 | 5X | MS34708 | V8260TCLP | 10/50 | | | 15 | ok | 50uLABK,EC,Acrolein/100mL. |
| 2V | 58534 | IB | | NA | | | 5 | | | 16 | ok | |
| 2V | 58535 | JC87715-1 | 1.7 | 5X | MS34707 | V8260TCLP | 10/50 | | | 17 | ok | |
| 2V | 58536 | JC87747-1A | 2.1 | 5X | MS34707 | V8260TCLP | 10/50 | | | 18 | ok | |
| 2V | 58537 | JC87747-2A | 2.1 | 5X | MS34707 | V8260TCLP | 10/50 | | | 19 | ok | |
| 2V | 58538 | JC87747-3A | 2.1 | 5X | MS34707 | V8260TCLP | 10/50 | | | 20 | ok | |
| 2V | 58539 | JC87747-4A | 2.1 | 5X | MS34707 | V8260TCLP | 10/50 | | | 21 | ok | |
| 2V | 58540 | JC87535-14 | 3.1 | 5X | MS34708 | V8260TCLP | 10/50 | | | 22 | ok | 6:24 pm |
| 2V | 58541 | IB | | NA | | | 5 | | | 23 | ok | |
| 2V | 58542 | IB | | NA | | | 5 | | | 24 | ok | |
| 2V | 58543 | IB | | NA | | | 5 | | | 25 | ok | |
| 2V | 58544 | IB | | NA | | | 5 | | | 26 | ok | |
| 2V | 58545 | IB | | NA | | | 5 | | | 27 | ok | |
| 2V | 58546 | IB | | NA | | | 5 | | | 28 | ok | |
| 2V | 58547 | IB | | NA | | | 5 | | | 29 | ok | |
| 2V | 58548 | IB | | NA | | | 5 | | | 30 | ok | |
| 2V | 58549 | IB | | NA | | | 5 | | | 31 | ok | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58550 | IB | | NA | | | 5 | | | 32 | ok | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | | Column | Rxi-624(30mx0.25mmx1.4um) |
|---|---|---|---|---|---|---|
| Standards | ABK: V019-2648-72.73 | EC: V019-2648-111.5 | Acrolein: V019-2648-88.40 | | Method | V8260C |
| Standard Concentration | 100-10,000ppm | 100ppm | 100ppm | | Initial Calibration Date | 5/2/2019 |
| Internal Surrogate | V019-2648-97 | | | | | |
| Internal Surrogate Concentration | 50/500ppm | | | | Rough reviewed by | Eddie Huang (5/15/19) |
| | | | | | Analysis Date | 5/15/2019 |
| | | | | | Sequence loaded by | Eddie Huang |
| | | | | | Data processed by | nizele |
| | | | | | Batch ID | V2V2401 |
| | | | | | Matrix | AQ |
| Initial Calibration Method | M2V2392 | | | | Approved By: | MOHUI |
| pH Paper Lot# | 204518 | | | | Approved Date: | 5/16/2019 9:57:03 AM |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58579 | IB | | NA | | | 5 | | | 1 | ok | |
| 2V | 58580 | BFB/CC2392-20 | | NA | | | 5 | | | 2 | okok | 20uLABK,EC,Acrolein/100mL DI H2O. 6:38am, 5/15/19. |
| 2V | 58581 | BS | | NA | | | 5 | | | 3 | ok | 50uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58582 | IB | | NA | | | 5 | | | 4 | ok | |
| 2V | 58583 | MB | | NA | | | 5 | | | 5 | ok | |
| 2V | 58584 | GP21186-23LB | | 5X | MS34710 | V8260TCLP | 10/50 | | | 6 | ok | |
| 2V | 58585 | TD38572-1 | 1.1 | 100,000X | MS34710 | V8260TCLP | 0.0005/50 | | | 7 | ok | Dilution due to high non-target. OK per Robert. Oil sample. MeOH extraction: 5mL sample into 5mL MeOH. Made a 200X |
| 2V | 58586 | TD38572-1MS | 1.1 | 100,000X | MS34710 | V8260TCLP | 0.0005/50 | | | 8 | ok | 50uLABK,EC,Acrolein/100mL. GP21186-21LS. |
| 2V | 58587 | TD38572-1MSD | 1.1 | 100,000X | MS34710 | V8260TCLP | 0.0005/50 | | | 9 | ok | 50uLABK,EC,Acrolein/100mL. 10:16am, 5/15/19. |
| 2V | 58588 | IB | | NA | | | 5 | | | 10 | ok | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | | Column | Rxi-624(30mx0.25mmx1.4um) |
|---|---|---|---|---|---|---|
| Standards | ABK: V019-2648-72.73 | EC: V019-2648-111.5 | Acrolein: V019-2648-88.40 | | Method | V8260C |
| Standard Concentration | 100-10,000ppm | 100ppm | 100ppm | | Initial Calibration Date | 5/2/2019 |
| Internal Surrogate | V019-2648-97 | | | | | |
| Internal Surrogate Concentration | 50/500ppm | | | | Rough reviewed by | Eddie Huang (5/16/19) |
| | | | | | Analysis Date | 5/15/2019 |
| | | | | | Sequence loaded by | Eddie Huang |
| | | | | | Data processed by | BridgetK/EddieH/kenrickb |
| | | | | | Batch ID | V2V2402 |
| | | | | | Matrix | AQ |
| Initial Calibration Method | M2V2392 | | | | Approved By: | MOHUI |
| pH Paper Lot# | 204518 | | | | Approved Date: | 5/16/2019 11:41:08 AM |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58580 | BFB/CC2392-20 | | NA | | | 5 | | | 1 | ok/ok | Shared with V2V2401. 20uLABK,EC,Acrolein/100mL DI H2O. 6:38am, 5/15/19. |
| 2V | 58589 | BS | | NA | | | 5 | | | 11 | ok | 50uLABK,EC,Acrolein/100mL DI H2O. |
| 2V | 58590 | IB | | NA | | | 5 | | | 12 | ok | |
| 2V | 58591 | MB | | NA | | | 5 | | | 13 | ok | |
| 2V | 58592 | GP21166-19LB | | 5X | MS34686 | V8260TCLP | 10/50 | | | 14 | OK | |
| 2V | 58593 | JC87535-15 | 3.4 | 5X | MS34708 | V8260TCLP | 10/50 | | | 15 | OK | |
| 2V | 58594 | JC87626-1 | 1.3 | 5X | MS34686 | V8260TCLPVC | 10/50 | | | 16 | OK | |
| 2V | 58595 | TD38572-2 | 1.4 | 5X | MS34709 | V8260TCLP | 10/50 | | | 17 | OK | |
| 2V | 58596 | TD38572-3 | 1.4 | 5X | MS34709 | V8260TCLP | 10/50 | | | 18 | OK | |
| 2V | 58597 | JC87626-1MS | 1.3 | 5X | MS34686 | V8260TCLPVC | 10/50 | | | 19 | OK/OK | 50uLABK,EC,Acrolein/100mL. GP21166-17LS. |
| 2V | 58598 | JC87626-1MSD | 1.3 | 5X | MS34686 | V8260TCLPVC | 10/50 | | | 20 | OK | 50uLABK,EC,Acrolein/100mL. |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Purge Vol (ml) | CL | pH | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2V | 58599 | IB | | NA | | | 5 | | | 21 | OK | |
| 2V | 58600 | JC87838-1A | 1.4 | 5X | MS34707 | V8260TCLP | 10/50 | | | 22 | ok | |
| 2V | 58601 | GP21174-18LS | 1.4 | 5X | MS34707 | V8260TCLP | 10/50 | | | 23 | ok | 25uLABK,EC,Acrolein/50mL sample. |
| 2V | 58602 | IB | | NA | | | 5 | | | 24 | OK | |
| 2V | 58603 | JC87791-1 | 4.2 | 5X | MS34686 | V8260TCLP | 10/50 | | | 25 | OK | |
| 2V | 58604 | ECC2392-50 | | NA | | | 5 | | | 26 | ok | 50uLABK,EC,Acrolein/100mL DI H2O. 5:48pm, 5/15/19. |
| 2V | 58605 | IB | | NA | | | 5 | | | 27 | OK | |
| 2V | 58606 | IB | | NA | | | 5 | | | 28 | OK | |
| 2V | 58607 | IB | | NA | | | 5 | | | 29 | OK | |
| 2V | 58608 | IB | | NA | | | 5 | | | 30 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-72.23 | EC: V019-2648-80.11 | Acrolein: V019-2648-54.40 | |
| Concentration | 100-10,000 PPM | 100 PPM | 100 PPM | |
| Standard | Ext ABK: V019-2648-52.7 | Ext EC: V019-2648-76.5 | Ext Acrolein: V019-2648-42.5 | Ext PA: V019-2648-79.1 |
| Concentration | 100-10,000 PPM | 100 PPM | 100 PPM | 100 PPM |
| | | | | |
| | | | | |
| Internal Surrogate | V019-2648-63 | | | |
| Concentration | 250/2500 PPM | | | |
| | | | | |
| | | | | |
| | | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMSY | Instrument ID: | Sequence loaded by | Robert Szot |
| Analysis Date | 4/24/2019 | Data processed by | Robert Szot |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | VY8014 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 4/24/19 | Approved By: | KANYAV |
| Init Calib Quant Method | MYS8014 | Approved Date: | 4/26/2019 12:59:40 PM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 184712 | BFB | | NA | | | 5 | 5 | | 1 | ok | 2:32 pm |
| Y | 184713 | IC8014-0.5 | | NA | | 8260 initial calibration | 5 | 5 | | 2 | ok | 2.5 uL ABK, EC, Acrolein / 500 mL DI H2O |
| Y | 184714 | IC8014-1 | | NA | | 8260 initial calibration | 5 | 5 | | 3 | ok | 2 uL ABK, EC, Acrolein / 200 mL DI H2O |
| Y | 184715 | IC8014-2 | | NA | | 8260 initial calibration | 5 | 5 | | 4 | ok | 4 uL ABK, EC, Acrolein / 200 mL DI H2O |
| Y | 184716 | IC8014-4 | | NA | | 8260 initial calibration | 5 | 5 | | 5 | ok | 2 uL ABK, EC, Acrolein / 50 mL DI H2O |
| Y | 184717 | IC8014-8 | | NA | | 8260 initial calibration | 5 | 5 | | 6 | ok | 4 uL ABK, EC, Acrolein / 50 mL DI H2O |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 184718 | IC8014-20 | | NA | | 8260 initial calibration | 5 | 5 | | 7 | ok | 10 uL ABK, EC, Acrolein / 50 mL DI H2O |
| Y | 184719 | ICC8014-50 | | NA | | 8260 initial calibration | 5 | 5 | | 8 | ok | 25 uL ABK, EC, Acrolein / 50 mL DI H2O |
| Y | 184720 | IC8014-100 | | NA | | 8260 initial calibration | 5 | 5 | | 9 | ok | 50 uL ABK, EC, Acrolein / 50 mL DI H2O |
| Y | 184721 | IC8014-200 | | NA | | 8260 initial calibration | 5 | 5 | | 10 | ok | 100 uL ABK, EC, Acrolein / 50 mL DI H2O |
| Y | 184722 | IB | | NA | | | 5 | 5 | | 11 | ok | |
| Y | 184723 | IB | | NA | | | 5 | 5 | | 12 | ok | |
| Y | 184724 | ICV8014-50 | | NA | | 8260 initial calibration | 5 | 5 | | 13 | ok | 25 uL Ext ABK, Ext EC, Ext Acrolein / 50 mL DI H2O |
| Y | 184725 | ICV8014-50 | | NA | | 8260 initial calibration | 5 | 5 | | 14 | ok | 25 uL Ext PA / 50 mL DI H2O |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standards | ABK: V019-2648-103.1 | EC: V019-2648-104.11 | Acrolein: V019-2648-88.45 | |
| Standard Concentration | 100-10,000 PPM | 100 PPM | 100 PPM | |
| Internal Surrogate | V019-2648-96 | | | |
| I/S Concentration | 250/2,500 PPM | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Rough reviewed by | Prashant B. Shukla | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMSY | Instrument ID: | Sequence loaded by | Prashant B. Shukla |
| Analysis Date | 5/11/2019 | Data processed by | janellec |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | VY8033 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 4/24/19 | Approved By: | MEI |
| Init Calib Quant Method | MYS8014 | Approved Date: | 5/17/2019 10:16:18 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 185114 | BFB/CC8014-50 | | NA | | | 5.0 | 5 | | 1 | OK/OK | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O, # 7,8,9 low, 10:31 AM |
| Y | 185115 | CC8014-2 | | NA | | | 5.0 | 5 | | 2 | OK | 1uL Std.A/B/K,EC,Acrolein in 50mL DI H2O, for # 7,8,9 |
| Y | 185116 | BS | | NA | | | 5.0 | 5 | | 3 | OK | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O |
| Y | 185117 | IB | | NA | | | 5.0 | 5 | | 4 | OK | |
| Y | 185118 | MB | | NA | | | 5.0 | 5 | | 5 | OK | |
| Y | 185119 | JC87535-8 | 15 | NA | MS34539 | V8260TCL20 | 5.35 | 5 | | 6 | OK | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 185120 | JC87535-1 | 4 | NA | MS34539 | V8260TCL20 | 4.98 | 5 | | 7 | OK | |
| Y | 185121 | JC87535-2 | 5 | NA | MS34539 | V8260TCL20 | 6.76 | 5 | | 8 | RR | Matrix C/O, RR LL |
| Y | 185122 | JC87535-5 | 5 | NA | MS34539 | V8260TCL20 | 4.98 | 5 | | 9 | RR | Matrix C/O, RR LL |
| Y | 185123 | JC87535-6 | 5 | NA | MS34539 | V8260TCL20 | 3.82 | 5 | | 10 | OK | |
| Y | 185124 | JC87535-10 | 4 | NA | MS34539 | V8260TCL20 | 4.92 | 5 | | 11 | OK | |
| Y | 185125 | JC87535-9 | 5 | NA | MS34539 | V8260TCL20 | 5.71 | 5 | | 12 | OK | |
| Y | 185126 | JC87535-4 | 5 | NA | MS34539 | V8260TCL20 | 5.42 | 5 | | 13 | OK | |
| Y | 185127 | JC87535-12 | 4 | NA | MS34539 | V8260TCL20 | 4.83 | 5 | | 14 | OK | |
| Y | 185128 | JC87535-8MS | 10 | NA | MS34539 | V8260TCL20 | 6.31 | 5 | | 15 | OK | 2.5uL Std.A/B/K,EC,Acrolein in sample |
| Y | 185129 | JC87535-8MSD | 14 | NA | MS34539 | V8260TCL20 | 5.18 | 5 | | 16 | OK | 2.5uL Std.A/B/K,EC,Acrolein in sample |
| Y | 185130 | IB | | NA | | | 5.0 | 5 | | 17 | OK | |
| Y | 185131 | JC80306B-18 | | NA | MS31659 | V8260SL | 5.0 | 5 | | 18 | OK | |
| Y | 185132 | JC80306C-18 | | NA | MS31659 | V8260SL | 5.0 | 5 | | 19 | OK | |
| Y | 185133 | JC80306D-18 | | NA | MS31659 | V8260SL | 5.0 | 5 | | 20 | OK | |
| Y | 185134 | JC87763-4 | 6 | NA | MS34608 | V8260TCL20+,TBA | 5.4 | 5 | | 21 | OK | |
| Y | 185135 | JC87764-1 | 6 | NA | MS34608 | V8260TCL20+,TBA | 6.2 | 5 | | 22 | OK/DL | SME |
| Y | 185136 | JC87530-1 | 7 | NA | MS34539 | V8260TCL20+ | 5.43 | 5 | | 23 | ok | |
| Y | 185137 | JC87530-2 | 7 | NA | MS34539 | V8260TCL20+ | 5.41 | 5 | | 24 | OK | |
| Y | 185138 | JC87530-3 | 9 | NA | MS34539 | V8260TCL20+ | 5.26 | 5 | | 25 | OK | 10:16 PM |
| Y | 185139 | IB | | NA | | | 5.0 | 5 | | 26 | OK | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Y | 185140 | IB | | NA | | | 5.0 | 5 | | 27 | OK | 5/13/19 |
| Y | 185141 | IB | | NA | | | 5.0 | 5 | | 28 | OK | |

## MS Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-MB1 | M154394.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 67 | 16 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 20 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 28 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 59 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 170 | 130 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 170 | 36 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 67 | 21 | ug/kg | |
| | 3&4-Methylphenol | ND | 67 | 27 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 22 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 330 | 89 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 130 | 31 | ug/kg | |
| 108-95-2 | Phenol | ND | 67 | 17 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 170 | 22 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 25 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 20 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 33 | 11 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 33 | 17 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 170 | 7.2 | ug/kg | |
| 120-12-7 | Anthracene | ND | 33 | 20 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 67 | 14 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 33 | 9.4 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 33 | 15 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 33 | 15 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 33 | 17 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 33 | 16 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 67 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | 21.4 | 67 | 8.1 | ug/kg | J |
| 92-52-4 | 1,1'-Biphenyl | ND | 67 | 4.6 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 170 | 8.3 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 67 | 7.9 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 67 | 4.8 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 67 | 13 | ug/kg | |
| 218-01-9 | Chrysene | ND | 33 | 10 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 67 | 7.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 67 | 14 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-MB1 | M154394.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 67 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 67 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 33 | 10 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 33 | 17 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 67 | 28 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 33 | 22 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 33 | 15 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 67 | 14 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 67 | 5.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 67 | 8.3 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 67 | 7.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 67 | 5.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 67 | 7.8 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 33 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 33 | 15 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 67 | 8.4 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 33 | 13 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 330 | 13 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 16 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 33 | 16 | ug/kg | |
| 78-59-1 | Isophorone | ND | 67 | 7.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 33 | 7.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 7.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 8.3 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 8.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 33 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 67 | 13 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 67 | 9.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 12 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 33 | 11 | ug/kg | |
| 129-00-0 | Pyrene | ND | 33 | 11 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 170 | 8.5 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-MB1 | M154394.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 64% | 23-115% |
| 4165-62-2 | Phenol-d5 | 69% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 80% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 77% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 84% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 76% | 36-134% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 2.72 | 250 | ug/kg | J |
| | system artifact/aldol-condensation | 3.11 | 810 | ug/kg | J |
| | unknown | 3.92 | 200 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 200 | ug/kg | J |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 5P59685.D | 1 | 05/16/19 | CC | 05/12/19 | OP20269 | E5P2816 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 67 | 16 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 20 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 28 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 59 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 170 | 130 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 170 | 36 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 67 | 21 | ug/kg | |
| | 3&4-Methylphenol | ND | 67 | 27 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 22 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 330 | 89 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 130 | 31 | ug/kg | |
| 108-95-2 | Phenol | ND | 67 | 17 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 170 | 22 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 25 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 20 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 33 | 11 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 33 | 17 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 170 | 7.2 | ug/kg | |
| 120-12-7 | Anthracene | ND | 33 | 20 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 67 | 14 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 33 | 9.4 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 33 | 15 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 33 | 15 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 33 | 17 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 33 | 16 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 67 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 67 | 8.1 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 67 | 4.6 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 170 | 8.3 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 67 | 7.9 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 67 | 4.8 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 67 | 13 | ug/kg | |
| 218-01-9 | Chrysene | ND | 33 | 10 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 67 | 7.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 67 | 14 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 5P59685.D | 1 | 05/16/19 | CC | 05/12/19 | OP20269 | E5P2816 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 67 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 67 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 33 | 10 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 33 | 17 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 67 | 28 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 33 | 22 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 33 | 15 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 67 | 14 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 67 | 5.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 67 | 8.3 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 67 | 7.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 67 | 5.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 67 | 7.8 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 33 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 33 | 15 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 67 | 8.4 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 33 | 13 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 330 | 13 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 16 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 33 | 16 | ug/kg | |
| 78-59-1 | Isophorone | ND | 67 | 7.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 33 | 7.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 7.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 8.3 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 8.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 33 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 67 | 13 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 67 | 9.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 12 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 33 | 11 | ug/kg | |
| 129-00-0 | Pyrene | ND | 33 | 11 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 170 | 8.5 | ug/kg | |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 5P59685.D | 1 | 05/16/19 | CC | 05/12/19 | OP20269 | E5P2816 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 45% | 23-115% |
| 4165-62-2 | Phenol-d5 | 51% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 42% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 58% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 52% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 50% | 36-134% |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 2M111986.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 67 | 16 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 20 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 28 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 59 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 170 | 130 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 170 | 36 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 67 | 21 | ug/kg | |
| | 3&4-Methylphenol | ND | 67 | 27 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 22 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 330 | 89 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 130 | 31 | ug/kg | |
| 108-95-2 | Phenol | ND | 67 | 17 | ug/kg | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | 170 | 22 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 25 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 20 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 33 | 11 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 33 | 17 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 170 | 7.2 | ug/kg | |
| 120-12-7 | Anthracene | ND | 33 | 20 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 67 | 14 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 33 | 9.4 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 33 | 15 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 33 | 15 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 33 | 17 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 33 | 16 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 67 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 67 | 8.1 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 67 | 4.6 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 170 | 8.3 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 67 | 7.9 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 67 | 4.8 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 67 | 13 | ug/kg | |
| 218-01-9 | Chrysene | ND | 33 | 10 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 67 | 7.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 67 | 14 | ug/kg | |

# Method Blank Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 2M111986.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 67 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 67 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 33 | 10 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 33 | 17 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 67 | 28 | ug/kg | |
| 123-91-1 | 1,4-Dioxane | ND | 33 | 22 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 33 | 15 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 67 | 14 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 67 | 5.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 67 | 8.3 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 67 | 7.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 67 | 5.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 67 | 7.8 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 33 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 33 | 15 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 67 | 8.4 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 33 | 13 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 330 | 13 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 16 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 33 | 16 | ug/kg | |
| 78-59-1 | Isophorone | ND | 67 | 7.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 33 | 7.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 7.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 8.3 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 8.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 33 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 67 | 13 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 67 | 9.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 12 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 33 | 11 | ug/kg | |
| 129-00-0 | Pyrene | ND | 33 | 11 | ug/kg | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | 170 | 8.5 | ug/kg | |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 2M111986.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 44% | 23-115% |
| 4165-62-2 | Phenol-d5 | 46% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 35% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 53% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 50% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 51% | 36-134% |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20353-MB | 6P481846.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | ND | 2.0 | 0.89 | ug/l | |
| | 3&4-Methylphenol | ND | 2.0 | 0.88 | ug/l | |
| 87-86-5 | Pentachlorophenol | ND | 10 | 1.4 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 5.0 | 1.3 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 5.0 | 0.92 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 2.0 | 0.17 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.55 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.49 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 5.0 | 0.39 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.64 | ug/l | |
| 110-86-1 | Pyridine | ND | 2.0 | 0.39 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 60% | 14-88% |
| 4165-62-2 | Phenol-d5 | 45% | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 78% | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 105% | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 89% | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 95% | 10-126% |

# Leachate Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20353-LB34 | 6P481847.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | ND | 20 | 8.9 | ug/l | |
| | 3&4-Methylphenol | ND | 20 | 8.8 | ug/l | |
| 87-86-5 | Pentachlorophenol | ND | 100 | 14 | ug/l | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 50 | 13 | ug/l | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 50 | 9.2 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 20 | 1.7 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 20 | 5.5 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 20 | 3.3 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 10 | 4.9 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 50 | 3.9 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 20 | 6.4 | ug/l | |
| 110-86-1 | Pyridine | ND | 20 | 3.9 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 58% | 14-88% |
| 4165-62-2 | Phenol-d5 | 43% | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 79% | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 105% | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 91% | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 90% | 10-126% |

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-BS1 | M154395.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | 1670 | 1300 | 78 | 44-122 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 1670 | 1350 | 81 | 50-123 |
| 120-83-2 | 2,4-Dichlorophenol | 1670 | 1360 | 82 | 48-122 |
| 105-67-9 | 2,4-Dimethylphenol | 1670 | 1670 | 100 | 48-124 |
| 51-28-5 | 2,4-Dinitrophenol | 3330 | 3820 | 115 | 34-146 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1670 | 1720 | 103 | 49-140 |
| 95-48-7 | 2-Methylphenol | 1670 | 1500 | 90 | 40-126 |
| | 3&4-Methylphenol | 1670 | 1620 | 97 | 40-127 |
| 88-75-5 | 2-Nitrophenol | 1670 | 1600 | 96 | 44-133 |
| 100-02-7 | 4-Nitrophenol | 1670 | 1040 | 62 | 35-153 |
| 87-86-5 | Pentachlorophenol | 1670 | 1530 | 92 | 15-149 |
| 108-95-2 | Phenol | 1670 | 1240 | 74 | 50-109 |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 1670 | 1350 | 81 | 44-132 |
| 95-95-4 | 2,4,5-Trichlorophenol | 1670 | 1570 | 94 | 45-124 |
| 88-06-2 | 2,4,6-Trichlorophenol | 1670 | 1490 | 89 | 57-122 |
| 83-32-9 | Acenaphthene | 1670 | 1470 | 88 | 53-119 |
| 208-96-8 | Acenaphthylene | 1670 | 1360 | 82 | 41-125 |
| 98-86-2 | Acetophenone | 1670 | 1340 | 80 | 52-112 |
| 120-12-7 | Anthracene | 1670 | 1420 | 85 | 51-120 |
| 1912-24-9 | Atrazine | 1670 | 1660 | 100 | 49-139 |
| 56-55-3 | Benzo(a)anthracene | 1670 | 1280 | 77 | 54-118 |
| 50-32-8 | Benzo(a)pyrene | 1670 | 1320 | 79 | 55-121 |
| 205-99-2 | Benzo(b)fluoranthene | 1670 | 1450 | 87 | 57-116 |
| 191-24-2 | Benzo(g,h,i)perylene | 1670 | 1430 | 86 | 40-124 |
| 207-08-9 | Benzo(k)fluoranthene | 1670 | 1300 | 78 | 59-116 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1670 | 1280 | 77 | 60-122 |
| 85-68-7 | Butyl benzyl phthalate | 1670 | 1350 | 81 | 51-134 |
| 92-52-4 | 1,1'-Biphenyl | 1670 | 1400 | 84 | 46-122 |
| 100-52-7 | Benzaldehyde | 1670 | 1070 | 64 | 14-139 |
| 91-58-7 | 2-Chloronaphthalene | 1670 | 1340 | 80 | 49-120 |
| 106-47-8 | 4-Chloroaniline | 1670 | 864 | 52 | 10-115 |
| 86-74-8 | Carbazole | 1670 | 1440 | 86 | 52-124 |
| 105-60-2 | Caprolactam | 1670 | 1670 | 100 | 16-139 |
| 218-01-9 | Chrysene | 1670 | 1450 | 87 | 51-115 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1670 | 1350 | 81 | 36-131 |
| 111-44-4 | bis(2-Chloroethyl)ether | 1670 | 1420 | 85 | 41-131 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-BS1 | M154395.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 1670 | 1320 | 79 | 22-134 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1670 | 1240 | 74 | 56-118 |
| 121-14-2 | 2,4-Dinitrotoluene | 1670 | 1410 | 85 | 57-131 |
| 606-20-2 | 2,6-Dinitrotoluene | 1670 | 1580 | 95 | 57-132 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 3330 | 2850 | 86 | 10-129 |
| 123-91-1 | 1,4-Dioxane | 1670 | 672 | 40 | 10-110 |
| 53-70-3 | Dibenzo(a,h)anthracene | 1670 | 1450 | 87 | 48-121 |
| 132-64-9 | Dibenzofuran | 1670 | 1330 | 80 | 51-119 |
| 84-74-2 | Di-n-butyl phthalate | 1670 | 1520 | 91 | 59-125 |
| 117-84-0 | Di-n-octyl phthalate | 1670 | 1340 | 80 | 47-147 |
| 84-66-2 | Diethyl phthalate | 1670 | 1330 | 80 | 57-116 |
| 131-11-3 | Dimethyl phthalate | 1670 | 1290 | 77 | 56-116 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1670 | 1380 | 83 | 53-133 |
| 206-44-0 | Fluoranthene | 1670 | 1370 | 82 | 58-117 |
| 86-73-7 | Fluorene | 1670 | 1410 | 85 | 56-114 |
| 118-74-1 | Hexachlorobenzene | 1670 | 1380 | 83 | 50-128 |
| 87-68-3 | Hexachlorobutadiene | 1670 | 1140 | 68 | 43-129 |
| 77-47-4 | Hexachlorocyclopentadiene | 3330 | 2790 | 84 | 15-140 |
| 67-72-1 | Hexachloroethane | 1670 | 1080 | 65 | 43-123 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1670 | 1290 | 77 | 49-124 |
| 78-59-1 | Isophorone | 1670 | 1320 | 79 | 38-128 |
| 91-57-6 | 2-Methylnaphthalene | 1670 | 1250 | 75 | 37-124 |
| 88-74-4 | 2-Nitroaniline | 1670 | 1660 | 100 | 45-144 |
| 99-09-2 | 3-Nitroaniline | 1670 | 1160 | 70 | 10-134 |
| 100-01-6 | 4-Nitroaniline | 1670 | 1560 | 94 | 41-130 |
| 91-20-3 | Naphthalene | 1670 | 1460 | 88 | 44-116 |
| 98-95-3 | Nitrobenzene | 1670 | 1330 | 80 | 36-132 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 1670 | 1460 | 88 | 38-125 |
| 86-30-6 | N-Nitrosodiphenylamine | 1670 | 1230 | 74 | 51-122 |
| 85-01-8 | Phenanthrene | 1670 | 1620 | 97 | 53-119 |
| 129-00-0 | Pyrene | 1670 | 1280 | 77 | 54-124 |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1670 | 1300 | 78 | 45-128 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-BS1 | M154395.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 70% | 23-115% |
| 4165-62-2 | Phenol-d5 | 70% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 96% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 79% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 80% | 36-134% |

8.3.1

8

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-BS1 | 2M111987.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | 1670 | 1390 | 83 | 44-122 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 1670 | 1630 | 98 | 50-123 |
| 120-83-2 | 2,4-Dichlorophenol | 1670 | 1480 | 89 | 48-122 |
| 105-67-9 | 2,4-Dimethylphenol | 1670 | 1790 | 107 | 48-124 |
| 51-28-5 | 2,4-Dinitrophenol | 3330 | 3530 | 106 | 34-146 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1670 | 1860 | 112 | 49-140 |
| 95-48-7 | 2-Methylphenol | 1670 | 1490 | 89 | 40-126 |
| | 3&4-Methylphenol | 1670 | 1620 | 97 | 40-127 |
| 88-75-5 | 2-Nitrophenol | 1670 | 1730 | 104 | 44-133 |
| 100-02-7 | 4-Nitrophenol | 1670 | 1700 | 102 | 35-153 |
| 87-86-5 | Pentachlorophenol | 1670 | 1350 | 81 | 15-149 |
| 108-95-2 | Phenol | 1670 | 1330 | 80 | 50-109 |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 1670 | 1650 | 99 | 44-132 |
| 95-95-4 | 2,4,5-Trichlorophenol | 1670 | 1710 | 103 | 45-124 |
| 88-06-2 | 2,4,6-Trichlorophenol | 1670 | 1810 | 109 | 57-122 |
| 83-32-9 | Acenaphthene | 1670 | 1540 | 92 | 53-119 |
| 208-96-8 | Acenaphthylene | 1670 | 1490 | 89 | 41-125 |
| 98-86-2 | Acetophenone | 1670 | 1310 | 79 | 52-112 |
| 120-12-7 | Anthracene | 1670 | 1380 | 83 | 51-120 |
| 1912-24-9 | Atrazine | 1670 | 1700 | 102 | 49-139 |
| 56-55-3 | Benzo(a)anthracene | 1670 | 1420 | 85 | 54-118 |
| 50-32-8 | Benzo(a)pyrene | 1670 | 1450 | 87 | 55-121 |
| 205-99-2 | Benzo(b)fluoranthene | 1670 | 1540 | 92 | 57-116 |
| 191-24-2 | Benzo(g,h,i)perylene | 1670 | 1530 | 92 | 40-124 |
| 207-08-9 | Benzo(k)fluoranthene | 1670 | 1570 | 94 | 59-116 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1670 | 1450 | 87 | 60-122 |
| 85-68-7 | Butyl benzyl phthalate | 1670 | 1360 | 82 | 51-134 |
| 92-52-4 | 1,1'-Biphenyl | 1670 | 1440 | 86 | 46-122 |
| 100-52-7 | Benzaldehyde | 1670 | 821 | 49 | 14-139 |
| 91-58-7 | 2-Chloronaphthalene | 1670 | 1450 | 87 | 49-120 |
| 106-47-8 | 4-Chloroaniline | 1670 | 692 | 42 | 10-115 |
| 86-74-8 | Carbazole | 1670 | 1350 | 81 | 52-124 |
| 105-60-2 | Caprolactam | 1670 | 1550 | 93 | 16-139 |
| 218-01-9 | Chrysene | 1670 | 1440 | 86 | 51-115 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1670 | 1320 | 79 | 36-131 |
| 111-44-4 | bis(2-Chloroethyl)ether | 1670 | 1330 | 80 | 41-131 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-BS1 | 2M111987.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 1670 | 1430 | 86 | 22-134 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1670 | 1530 | 92 | 56-118 |
| 121-14-2 | 2,4-Dinitrotoluene | 1670 | 1630 | 98 | 57-131 |
| 606-20-2 | 2,6-Dinitrotoluene | 1670 | 1660 | 100 | 57-132 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 3330 | 2220 | 67 | 10-129 |
| 123-91-1 | 1,4-Dioxane | 1670 | 835 | 50 | 10-110 |
| 53-70-3 | Dibenzo(a,h)anthracene | 1670 | 1440 | 86 | 48-121 |
| 132-64-9 | Dibenzofuran | 1670 | 1400 | 84 | 51-119 |
| 84-74-2 | Di-n-butyl phthalate | 1670 | 1530 | 92 | 59-125 |
| 117-84-0 | Di-n-octyl phthalate | 1670 | 1300 | 78 | 47-147 |
| 84-66-2 | Diethyl phthalate | 1670 | 1570 | 94 | 57-116 |
| 131-11-3 | Dimethyl phthalate | 1670 | 1550 | 93 | 56-116 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1670 | 1370 | 82 | 53-133 |
| 206-44-0 | Fluoranthene | 1670 | 1510 | 91 | 58-117 |
| 86-73-7 | Fluorene | 1670 | 1570 | 94 | 56-114 |
| 118-74-1 | Hexachlorobenzene | 1670 | 1430 | 86 | 50-128 |
| 87-68-3 | Hexachlorobutadiene | 1670 | 1500 | 90 | 43-129 |
| 77-47-4 | Hexachlorocyclopentadiene | 3330 | 3110 | 93 | 15-140 |
| 67-72-1 | Hexachloroethane | 1670 | 1280 | 77 | 43-123 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1670 | 1440 | 86 | 49-124 |
| 78-59-1 | Isophorone | 1670 | 1350 | 81 | 38-128 |
| 91-57-6 | 2-Methylnaphthalene | 1670 | 1400 | 84 | 37-124 |
| 88-74-4 | 2-Nitroaniline | 1670 | 1660 | 100 | 45-144 |
| 99-09-2 | 3-Nitroaniline | 1670 | 1080 | 65 | 10-134 |
| 100-01-6 | 4-Nitroaniline | 1670 | 1470 | 88 | 41-130 |
| 91-20-3 | Naphthalene | 1670 | 1360 | 82 | 44-116 |
| 98-95-3 | Nitrobenzene | 1670 | 1450 | 87 | 36-132 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 1670 | 1290 | 77 | 38-125 |
| 86-30-6 | N-Nitrosodiphenylamine | 1670 | 1260 | 76 | 51-122 |
| 85-01-8 | Phenanthrene | 1670 | 1420 | 85 | 53-119 |
| 129-00-0 | Pyrene | 1670 | 1450 | 87 | 54-124 |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1670 | 1350 | 81 | 45-128 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-BS1 | 2M111987.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 82% | 23-115% |
| 4165-62-2 | Phenol-d5 | 87% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 94% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 91% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 85% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 96% | 36-134% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20353-BS | 6P481850.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | 500 | 359 | 72 | 42-103 |
| | 3&4-Methylphenol | 500 | 339 | 68 | 39-110 |
| 87-86-5 | Pentachlorophenol | 500 | 388 | 78 | 30-136 |
| 95-95-4 | 2,4,5-Trichlorophenol | 500 | 406 | 81 | 55-116 |
| 88-06-2 | 2,4,6-Trichlorophenol | 500 | 418 | 84 | 56-115 |
| 106-46-7 | 1,4-Dichlorobenzene | 500 | 292 | 58 | 39-110 |
| 121-14-2 | 2,4-Dinitrotoluene | 500 | 419 | 84 | 57-122 |
| 118-74-1 | Hexachlorobenzene | 500 | 377 | 75 | 49-122 |
| 87-68-3 | Hexachlorobutadiene | 500 | 285 | 57 | 24-112 |
| 67-72-1 | Hexachloroethane | 500 | 251 | 50 | 31-107 |
| 98-95-3 | Nitrobenzene | 500 | 426 | 85 | 44-116 |
| 110-86-1 | Pyridine | 500 | 186 | 37 | 10-110 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 54% | 14-88% |
| 4165-62-2 | Phenol-d5 | 42% | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 76% | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 90% | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 80% | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 78% | 10-126% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-MS | M154405.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |
| OP20268-MSD | M154406.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |
| JC87450-16 | M154401.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Compound | JC87450-16 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | | 1880 | 1330 | 71 | 1830 | 1360 | 74 | 2 | 10-137/34 |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | | 1880 | 1470 | 78 | 1830 | 1440 | 79 | 2 | 11-147/35 |
| 120-83-2 | 2,4-Dichlorophenol | ND | | 1880 | 1470 | 78 | 1830 | 1420 | 78 | 3 | 15-140/34 |
| 105-67-9 | 2,4-Dimethylphenol | ND | | 1880 | 1810 | 96 | 1830 | 1710 | 93 | 6 | 10-151/34 |
| 51-28-5 | 2,4-Dinitrophenol | ND | | 3760 | 2350 | 63 | 3660 | 2100 | 57 | 11 | 10-148/49 |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | | 1880 | 1590 | 85 | 1830 | 1560 | 85 | 2 | 10-150/48 |
| 95-48-7 | 2-Methylphenol | ND | | 1880 | 1560 | 83 | 1830 | 1600 | 87 | 3 | 10-138/33 |
| | 3&4-Methylphenol | ND | | 1880 | 1670 | 89 | 1830 | 1690 | 92 | 1 | 10-143/33 |
| 88-75-5 | 2-Nitrophenol | ND | | 1880 | 1650 | 88 | 1830 | 1630 | 89 | 1 | 10-150/39 |
| 100-02-7 | 4-Nitrophenol | ND | | 1880 | 1160 | 62 | 1830 | 1120 | 61 | 4 | 10-163/38 |
| 87-86-5 | Pentachlorophenol | ND | | 1880 | 1690 | 90 | 1830 | 1750 | 96 | 3 | 10-148/39 |
| 108-95-2 | Phenol | ND | | 1880 | 1300 | 69 | 1830 | 1320 | 72 | 2 | 24-114/32 |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | 1880 | 1440 | 77 | 1830 | 1480 | 81 | 3 | 14-140/38 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 1880 | 1690 | 90 | 1830 | 1710 | 93 | 1 | 10-146/36 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 1880 | 1670 | 89 | 1830 | 1610 | 88 | 4 | 16-148/36 |
| 83-32-9 | Acenaphthene | 19.1 | J | 1880 | 1400 | 73 | 1830 | 1320 | 71 | 6 | 21-136/34 |
| 208-96-8 | Acenaphthylene | ND | | 1880 | 1260 | 67 | 1830 | 1190 | 65 | 6 | 10-143/36 |
| 98-86-2 | Acetophenone | ND | | 1880 | 1180 | 63 | 1830 | 1240 | 68 | 5 | 24-127/31 |
| 120-12-7 | Anthracene | 46.9 | | 1880 | 1380 | 71 | 1830 | 1350 | 71 | 2 | 10-147/39 |
| 1912-24-9 | Atrazine | ND | | 1880 | 1550 | 82 | 1830 | 1540 | 84 | 1 | 10-161/38 |
| 56-55-3 | Benzo(a)anthracene | 164 | | 1880 | 1450 | 68 | 1830 | 1550 | 76 | 7 | 10-151/41 |
| 50-32-8 | Benzo(a)pyrene | 125 | | 1880 | 1370 | 66 | 1830 | 1440 | 72 | 5 | 10-149/40 |
| 205-99-2 | Benzo(b)fluoranthene | 164 | | 1880 | 1470 | 70 | 1830 | 1610 | 79 | 9 | 10-147/42 |
| 191-24-2 | Benzo(g,h,i)perylene | 69.5 | | 1880 | 1490 | 76 | 1830 | 1440 | 75 | 3 | 10-150/41 |
| 207-08-9 | Benzo(k)fluoranthene | 66.5 | | 1880 | 1250 | 63 | 1830 | 1230 | 64 | 2 | 12-142/41 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | 1880 | 1160 | 62 | 1830 | 1100 | 60 | 5 | 26-138/37 |
| 85-68-7 | Butyl benzyl phthalate | ND | | 1880 | 1280 | 68 | 1830 | 1210 | 66 | 6 | 24-143/36 |
| 92-52-4 | 1,1'-Biphenyl | ND | | 1880 | 1320 | 70 | 1830 | 1300 | 71 | 2 | 18-138/32 |
| 100-52-7 | Benzaldehyde | ND | | 1880 | 992 | 53 | 1830 | 975 | 53 | 2 | 10-149/37 |
| 91-58-7 | 2-Chloronaphthalene | ND | | 1880 | 1240 | 66 | 1830 | 1150 | 63 | 8 | 24-130/31 |
| 106-47-8 | 4-Chloroaniline | ND | | 1880 | 661 | 35 | 1830 | 713 | 39 | 8 | 10-111/52 |
| 86-74-8 | Carbazole | 17.3 | J | 1880 | 1410 | 74 | 1830 | 1360 | 73 | 4 | 12-146/39 |
| 105-60-2 | Caprolactam | ND | | 1880 | 1500 | 80 | 1830 | 1560 | 85 | 4 | 10-147/40 |
| 218-01-9 | Chrysene | 160 | | 1880 | 1550 | 74 | 1830 | 1630 | 80 | 5 | 10-151/41 |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | 1880 | 1220 | 65 | 1830 | 1150 | 63 | 6 | 10-144/35 |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | 1880 | 1280 | 68 | 1830 | 1240 | 68 | 3 | 12-142/35 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-MS | M154405.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |
| OP20268-MSD | M154406.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |
| JC87450-16 | M154401.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Compound | JC87450-16 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | 1880 | 1130 | 60 | 1830 | 1130 | 62 | 0 | 10-137/33 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | 1880 | 1190 | 63 | 1830 | 1090 | 60 | 9 | 21-136/35 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 1880 | 1300 | 69 | 1830 | 1170 | 64 | 11 | 14-148/41 |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | 1880 | 1490 | 79 | 1830 | 1400 | 76 | 6 | 14-152/40 |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | 3760 | 2540 | 68 | 3660 | 2570 | 70 | 1 | 10-137/47 |
| 123-91-1 | 1,4-Dioxane | ND | | 1880 | 652 | 35 | 1830 | 633 | 35 | 3 | 10-110/40 |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | 1880 | 1370 | 73 | 1830 | 1300 | 71 | 5 | 10-152/38 |
| 132-64-9 | Dibenzofuran | ND | | 1880 | 1310 | 70 | 1830 | 1250 | 68 | 5 | 17-141/36 |
| 84-74-2 | Di-n-butyl phthalate | ND | | 1880 | 1370 | 73 | 1830 | 1290 | 70 | 6 | 26-137/35 |
| 117-84-0 | Di-n-octyl phthalate | ND | | 1880 | 1150 | 61 | 1830 | 1100 | 60 | 4 | 23-145/36 |
| 84-66-2 | Diethyl phthalate | ND | | 1880 | 1210 | 64 | 1830 | 1140 | 62 | 6 | 25-133/35 |
| 131-11-3 | Dimethyl phthalate | ND | | 1880 | 1220 | 65 | 1830 | 1130 | 62 | 8 | 21-134/36 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 55.8 | J | 1880 | 1330 | 68 | 1830 | 1230 | 64 | 8 | 26-144/39 |
| 206-44-0 | Fluoranthene | 370 | | 1880 | 1830 | 78 | 1830 | 2190 | 99 | 18 | 10-151/44 |
| 86-73-7 | Fluorene | ND | | 1880 | 1290 | 69 | 1830 | 1230 | 67 | 5 | 19-133/36 |
| 118-74-1 | Hexachlorobenzene | ND | | 1880 | 1230 | 65 | 1830 | 1210 | 66 | 2 | 18-142/37 |
| 87-68-3 | Hexachlorobutadiene | ND | | 1880 | 1010 | 54 | 1830 | 946 | 52 | 7 | 16-137/32 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | 3760 | 1810 | 48 | 3660 | 1720 | 47 | 5 | 10-150/50 |
| 67-72-1 | Hexachloroethane | ND | | 1880 | 937 | 50 | 1830 | 896 | 49 | 4 | 10-131/38 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 92.2 | | 1880 | 1330 | 66 | 1830 | 1270 | 64 | 5 | 10-148/41 |
| 78-59-1 | Isophorone | ND | | 1880 | 1220 | 65 | 1830 | 1150 | 63 | 6 | 11-142/33 |
| 91-57-6 | 2-Methylnaphthalene | ND | | 1880 | 1220 | 65 | 1830 | 1120 | 61 | 9 | 10-141/35 |
| 88-74-4 | 2-Nitroaniline | ND | | 1880 | 1700 | 90 | 1830 | 1610 | 88 | 5 | 14-156/38 |
| 99-09-2 | 3-Nitroaniline | ND | | 1880 | 1110 | 59 | 1830 | 1140 | 62 | 3 | 10-144/45 |
| 100-01-6 | 4-Nitroaniline | ND | | 1880 | 1450 | 77 | 1830 | 1400 | 76 | 4 | 10-156/44 |
| 91-20-3 | Naphthalene | ND | | 1880 | 1300 | 69 | 1830 | 1260 | 69 | 3 | 10-136/36 |
| 98-95-3 | Nitrobenzene | ND | | 1880 | 1220 | 65 | 1830 | 1170 | 64 | 4 | 10-142/34 |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | | 1880 | 1350 | 72 | 1830 | 1330 | 73 | 1 | 10-142/31 |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | 1880 | 1160 | 62 | 1830 | 1100 | 60 | 5 | 10-156/37 |
| 85-01-8 | Phenanthrene | 192 | | 1880 | 1780 | 85 | 1830 | 1870 | 92 | 5 | 11-145/45 |
| 129-00-0 | Pyrene | 331 | | 1880 | 1710 | 73 | 1830 | 1940 | 88 | 13 | 11-155/44 |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | 1880 | 1180 | 63 | 1830 | 1110 | 61 | 6 | 23-136/32 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20268-MS | M154405.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |
| OP20268-MSD | M154406.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |
| JC87450-16 | M154401.D | 1 | 05/15/19 | CC | 05/11/19 | OP20268 | EM6594 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-1, JC87535-2, JC87535-3, JC87535-4

| CAS No. | Surrogate Recoveries | MS | MSD | JC87450-16 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 67% | 71% | 57% | 23-115% |
| 4165-62-2 | Phenol-d5 | 69% | 75% | 61% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 95% | 100% | 79% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 79% | 81% | 70% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | 78% | 69% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 81% | 83% | 74% | 36-134% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MS2 | 2M112000.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| OP20269-MSD2 | 2M112001.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| JC87535-8 | 2M112002.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| JC87535-8 | 2M112031.D | 5 | 05/19/19 | CS | 05/12/19 | OP20269 | E2M4981 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | JC87535-8 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | | 2110 | 1570 | 75 | 2010 | 1580 | 78 | 1 | 10-137/34 |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | | 2110 | 1890 | 90 | 2010 | 1880 | 93 | 1 | 11-147/35 |
| 120-83-2 | 2,4-Dichlorophenol | ND | | 2110 | 1720 | 82 | 2010 | 1750 | 87 | 2 | 15-140/34 |
| 105-67-9 | 2,4-Dimethylphenol | ND | | 2110 | 2170 | 103 | 2010 | 2170 | 108 | 0 | 10-151/34 |
| 51-28-5 | 2,4-Dinitrophenol | ND | | 4210 | 1560 | 37 | 4030 | 1840 | 46 | 16 | 10-148/49 |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | | 2110 | 1190 | 56 | 2010 | 1290 | 64 | 8 | 10-150/48 |
| 95-48-7 | 2-Methylphenol | ND | | 2110 | 1680 | 80 | 2010 | 1700 | 84 | 1 | 10-138/33 |
| | 3&4-Methylphenol | ND | | 2110 | 1860 | 88 | 2010 | 1890 | 94 | 2 | 10-143/33 |
| 88-75-5 | 2-Nitrophenol | ND | | 2110 | 2230 | 106 | 2010 | 2200 | 109 | 1 | 10-150/39 |
| 100-02-7 | 4-Nitrophenol | ND | | 2110 | 1610 | 76 | 2010 | 1780 | 88 | 10 | 10-163/38 |
| 87-86-5 | Pentachlorophenol | ND | | 2110 | 1150 | 55 | 2010 | 1260 | 63 | 9 | 10-148/39 |
| 108-95-2 | Phenol | ND | | 2110 | 1460 | 69 | 2010 | 1480 | 74 | 1 | 24-114/32 |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | 2110 | 1600 | 76 | 2010 | 1670 | 83 | 4 | 14-140/38 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 2110 | 1880 | 89 | 2010 | 1920 | 95 | 2 | 10-146/36 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 2110 | 1950 | 93 | 2010 | 2000 | 99 | 3 | 16-148/36 |
| 83-32-9 | Acenaphthene | 1650 | | 2110 | 2850 | 57 | 2010 | 3020 | 68 | 6 | 21-136/34 |
| 208-96-8 | Acenaphthylene | 117 | | 2110 | 1790 | 79 | 2010 | 2030 | 95 | 13 | 10-143/36 |
| 98-86-2 | Acetophenone | ND | | 2110 | 1430 | 68 | 2010 | 1450 | 72 | 1 | 24-127/31 |
| 120-12-7 | Anthracene | 2970 | | 2110 | 4840 | 89 | 2010 | 4240 | 63 | 13 | 10-147/39 |
| 1912-24-9 | Atrazine | ND | | 2110 | 1800 | 85 | 2010 | 1800 | 89 | 0 | 10-161/38 |
| 56-55-3 | Benzo(a)anthracene | 981 | | 2110 | 2860 | 89 | 2010 | 3360 | 118 | 16 | 10-151/41 |
| 50-32-8 | Benzo(a)pyrene | 645 | | 2110 | 2400 | 83 | 2010 | 3090 | 121 | 25 | 10-149/40 |
| 205-99-2 | Benzo(b)fluoranthene | 801 | | 2110 | 2650 | 88 | 2010 | 3340 | 126 | 23 | 10-147/42 |
| 191-24-2 | Benzo(g,h,i)perylene | 271 | | 2110 | 2140 | 89 | 2010 | 2650 | 118 | 21 | 10-150/41 |
| 207-08-9 | Benzo(k)fluoranthene | 273 | | 2110 | 1930 | 79 | 2010 | 2170 | 94 | 12 | 12-142/41 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | 2110 | 1610 | 76 | 2010 | 1620 | 80 | 1 | 26-138/37 |
| 85-68-7 | Butyl benzyl phthalate | ND | | 2110 | 1530 | 73 | 2010 | 1620 | 80 | 6 | 24-143/36 |
| 92-52-4 | 1,1'-Biphenyl | 47.4 | J | 2110 | 1610 | 74 | 2010 | 1700 | 82 | 5 | 18-138/32 |
| 100-52-7 | Benzaldehyde | ND | | 2110 | 1110 | 53 | 2010 | 1010 | 50 | 9 | 10-149/37 |
| 91-58-7 | 2-Chloronaphthalene | ND | | 2110 | 1570 | 75 | 2010 | 1570 | 78 | 0 | 24-130/31 |
| 106-47-8 | 4-Chloroaniline | ND | | 2110 | 960 | 46 | 2010 | 899 | 45 | 7 | 10-111/52 |
| 86-74-8 | Carbazole | 761 | | 2110 | 2150 | 66 | 2010 | 2630 | 93 | 20 | 12-146/39 |
| 105-60-2 | Caprolactam | ND | | 2110 | 1520 | 72 | 2010 | 1660 | 82 | 9 | 10-147/40 |
| 218-01-9 | Chrysene | 1220 | | 2110 | 3210 | 94 | 2010 | 3310 | 104 | 3 | 10-151/41 |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | 2110 | 1510 | 72 | 2010 | 1500 | 75 | 1 | 10-144/35 |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | 2110 | 1480 | 70 | 2010 | 1500 | 75 | 1 | 12-142/35 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MS2 | 2M112000.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| OP20269-MSD2 | 2M112001.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| JC87535-8 | 2M112002.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| JC87535-8 | 2M112031.D | 5 | 05/19/19 | CS | 05/12/19 | OP20269 | E2M4981 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Compound | JC87535-8 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | 2110 | 1640 | 78 | 2010 | 1630 | 81 | 1 | 10-137/33 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | 2110 | 1610 | 76 | 2010 | 1550 | 77 | 4 | 21-136/35 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 2110 | 1720 | 82 | 2010 | 1700 | 84 | 1 | 14-148/41 |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | 2110 | 1880 | 89 | 2010 | 1890 | 94 | 1 | 14-152/40 |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | 4210 | 2840 | 67 | 4030 | 3050 | 76 | 7 | 10-137/47 |
| 123-91-1 | 1,4-Dioxane | ND | | 2110 | 854 | 41 | 2010 | 884 | 44 | 3 | 10-110/40 |
| 53-70-3 | Dibenzo(a,h)anthracene | 90.4 | | 2110 | 1740 | 78 | 2010 | 1940 | 92 | 11 | 10-152/38 |
| 132-64-9 | Dibenzofuran | 536 | | 2110 | 2090 | 74 | 2010 | 2440 | 95 | 15 | 17-141/36 |
| 84-74-2 | Di-n-butyl phthalate | ND | | 2110 | 1710 | 81 | 2010 | 1740 | 86 | 2 | 26-137/35 |
| 117-84-0 | Di-n-octyl phthalate | ND | | 2110 | 1530 | 73 | 2010 | 1500 | 75 | 2 | 23-145/36 |
| 84-66-2 | Diethyl phthalate | ND | | 2110 | 1680 | 80 | 2010 | 1670 | 83 | 1 | 25-133/35 |
| 131-11-3 | Dimethyl phthalate | ND | | 2110 | 1700 | 81 | 2010 | 1700 | 84 | 0 | 21-134/36 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | 2110 | 1620 | 77 | 2010 | 1680 | 83 | 4 | 26-144/39 |
| 206-44-0 | Fluoranthene | 2880 | | 2110 | 4160 | 61 | 2010 | 4650 | 88 | 11 | 10-151/44 |
| 86-73-7 | Fluorene | 1560 | | 2110 | 2930 | 65 | 2010 | 3850 | 114 | 27 | 19-133/36 |
| 118-74-1 | Hexachlorobenzene | ND | | 2110 | 1550 | 74 | 2010 | 1580 | 78 | 2 | 18-142/37 |
| 87-68-3 | Hexachlorobutadiene | ND | | 2110 | 1680 | 80 | 2010 | 1680 | 83 | 0 | 16-137/32 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | 4210 | 1910 | 45 | 4030 | 1460 | 36 | 27 | 10-150/50 |
| 67-72-1 | Hexachloroethane | ND | | 2110 | 1400 | 66 | 2010 | 1370 | 68 | 2 | 10-131/38 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 288 | | 2110 | 2120 | 87 | 2010 | 3130 | 141 | 38 | 10-148/41 |
| 78-59-1 | Isophorone | ND | | 2110 | 1570 | 75 | 2010 | 1560 | 77 | 1 | 11-142/33 |
| 91-57-6 | 2-Methylnaphthalene | 265 | | 2110 | 1900 | 78 | 2010 | 1850 | 79 | 3 | 10-141/35 |
| 88-74-4 | 2-Nitroaniline | ND | | 2110 | 2050 | 97 | 2010 | 1910 | 95 | 7 | 14-156/38 |
| 99-09-2 | 3-Nitroaniline | ND | | 2110 | 1510 | 72 | 2010 | 1430 | 71 | 5 | 10-144/45 |
| 100-01-6 | 4-Nitroaniline | ND | | 2110 | 1660 | 79 | 2010 | 1520 | 76 | 9 | 10-156/44 |
| 91-20-3 | Naphthalene | 587 | | 2110 | 1970 | 66 | 2010 | 2440 | 92 | 21 | 10-136/36 |
| 98-95-3 | Nitrobenzene | ND | | 2110 | 1660 | 79 | 2010 | 1620 | 80 | 2 | 10-142/34 |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | | 2110 | 1450 | 69 | 2010 | 1440 | 72 | 1 | 10-142/31 |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | 2110 | 1490 | 71 | 2010 | 1490 | 74 | 0 | 10-156/37 |
| 85-01-8 | Phenanthrene | 5480 [a] | | 2110 | 4920 | 34 | 2010 | 5280 | 54 | 7 | 11-145/45 |
| 129-00-0 | Pyrene | 2430 | | 2110 | 4130 | 81 | 2010 | 4520 | 104 | 9 | 11-155/44 |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | 2110 | 1600 | 76 | 2010 | 1610 | 80 | 1 | 23-136/32 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20269-MS2 | 2M112000.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| OP20269-MSD2 | 2M112001.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| JC87535-8 | 2M112002.D | 1 | 05/18/19 | CS | 05/12/19 | OP20269 | E2M4980 |
| JC87535-8 | 2M112031.D | 5 | 05/19/19 | CS | 05/12/19 | OP20269 | E2M4981 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12

| CAS No. | Surrogate Recoveries | MS | MSD | JC87535-8 | JC87535-8 | Limits |
|---|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 81% | 78% | 73% | 70% | 23-115% |
| 4165-62-2 | Phenol-d5 | 85% | 82% | 73% | 71% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 92% | 89% | 82% | 66% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 92% | 88% | 88% | 80% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | 79% | 78% | 79% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 93% | 94% | 78% | 75% | 36-134% |

(a) Result is from Run #2.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20353-MS | 6P481858.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |
| OP20353-MSD | 6P481859.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |
| JC87414-5R | 6P481854.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | JC87414-5R ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | ND | | 500 | 394 | 79 | 500 | 391 | 78 | 1 | 47-112/18 |
| | 3&4-Methylphenol | ND | | 500 | 373 | 75 | 500 | 370 | 74 | 1 | 44-113/19 |
| 87-86-5 | Pentachlorophenol | ND | | 500 | 410 | 82 | 500 | 404 | 81 | 1 | 25-151/25 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 500 | 445 | 89 | 500 | 442 | 88 | 1 | 51-124/20 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 500 | 457 | 91 | 500 | 462 | 92 | 1 | 53-120/21 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 500 | 329 | 66 | 500 | 328 | 66 | 0 | 40-105/22 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 500 | 462 | 92 | 500 | 471 | 94 | 2 | 54-123/27 |
| 118-74-1 | Hexachlorobenzene | ND | | 500 | 402 | 80 | 500 | 401 | 80 | 0 | 46-125/24 |
| 87-68-3 | Hexachlorobutadiene | ND | | 500 | 325 | 65 | 500 | 312 | 62 | 4 | 26-121/24 |
| 67-72-1 | Hexachloroethane | ND | | 500 | 291 | 58 | 500 | 288 | 58 | 1 | 35-111/26 |
| 98-95-3 | Nitrobenzene | ND | | 500 | 490 | 98 | 500 | 487 | 97 | 1 | 35-130/25 |
| 110-86-1 | Pyridine | ND | | 500 | 229 | 46 | 500 | 174 | 35 | 27 | 12-102/41 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87414-5R | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 58% | 57% | 45% | 14-88% |
| 4165-62-2 | Phenol-d5 | 43% | 43% | 32% | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 78% | 74% | 66% | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 99% | 101% | 78% | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 86% | 87% | 67% | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 71% | 67% | 80% | 10-126% |

* = Outside of Control Limits.

# Leachate Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20353-LS20 | 6P481858.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |
| JC87414-5R | 6P481854.D | 1 | 05/14/19 | AR | 05/14/19 | OP20353 | E6P2590 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | JC87414-5R ug/l | Q | Spike ug/l | LS ug/l | LS % | Limits |
|---|---|---|---|---|---|---|---|
| 95-48-7 | 2-Methylphenol | ND | | 500 | 394 | 79 | 47-112 |
| | 3&4-Methylphenol | ND | | 500 | 373 | 75 | 44-113 |
| 87-86-5 | Pentachlorophenol | ND | | 500 | 410 | 82 | 25-151 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 500 | 445 | 89 | 51-124 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 500 | 457 | 91 | 53-120 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 500 | 329 | 66 | 40-105 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 500 | 462 | 92 | 54-123 |
| 118-74-1 | Hexachlorobenzene | ND | | 500 | 402 | 80 | 46-125 |
| 87-68-3 | Hexachlorobutadiene | ND | | 500 | 325 | 65 | 26-121 |
| 67-72-1 | Hexachloroethane | ND | | 500 | 291 | 58 | 35-111 |
| 98-95-3 | Nitrobenzene | ND | | 500 | 490 | 98 | 35-130 |
| 110-86-1 | Pyridine | ND | | 500 | 229 | 46 | 12-102 |

| CAS No. | Surrogate Recoveries | LS | JC87414-5R | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 58% | 45% | 14-88% |
| 4165-62-2 | Phenol-d5 | 43% | 32% | 10-110% |
| 118-79-6 | 2,4,6-Tribromophenol | 78% | 66% | 39-149% |
| 4165-60-0 | Nitrobenzene-d5 | 99% | 78% | 32-128% |
| 321-60-8 | 2-Fluorobiphenyl | 86% | 67% | 35-119% |
| 1718-51-0 | Terphenyl-d14 | 71% | 80% | 10-126% |

* = Outside of Control Limits.

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-DFTPP
**Lab File ID:** 2M111867.D
**Instrument ID:** GCMS2M
**Injection Date:** 05/14/19
**Injection Time:** 15:43

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 60005 | 48.1 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1055 | 0.85 | (1.84) [a] | Pass |
| 69 | Mass 69 relative abundance | 57353 | 45.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 284 | 0.23 | (0.50) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 71530 | 57.3 | | Pass |
| 197 | Less than 1.0% of mass 198 | 903 | 0.72 | | Pass |
| 198 | Base peak, 100% relative abundance | 124821 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 8978 | 7.19 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 28403 | 22.8 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 4128 | 3.31 | | Pass |
| 441 | Present, but less than mass 443 | 13616 | 10.9 | (74.2) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 93076 | 74.6 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 18348 | 14.7 | (19.7) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4974-IC4974 | 2M111868.D | 05/14/19 | 16:16 | 00:33 | Initial cal 1 |
| E2M4974-IC4974 | 2M111869.D | 05/14/19 | 16:42 | 00:59 | Initial cal 100 |
| E2M4974-IC4974 | 2M111870.D | 05/14/19 | 17:08 | 01:25 | Initial cal 80 |
| E2M4974-ICC4974 | 2M111871.D | 05/14/19 | 17:34 | 01:51 | Initial cal 50 |
| E2M4974-IC4974 | 2M111872.D | 05/14/19 | 18:00 | 02:17 | Initial cal 25 |
| E2M4974-IC4974 | 2M111873.D | 05/14/19 | 18:26 | 02:43 | Initial cal 10 |
| E2M4974-IC4974 | 2M111874.D | 05/14/19 | 18:52 | 03:09 | Initial cal 5 |
| E2M4974-IC4974 | 2M111875.D | 05/14/19 | 19:18 | 03:35 | Initial cal 2 |
| E2M4974-ICV4974 | 2M111876.D | 05/14/19 | 19:44 | 04:01 | Initial cal verification 50 |
| E2M4974-ICV4974 | 2M111877.D | 05/14/19 | 20:10 | 04:27 | Initial cal verification 50 |
| E2M4974-ICV4974 | 2M111878.D | 05/14/19 | 20:37 | 04:54 | Initial cal verification 50 |
| E2M4974-ICV4974 | 2M111879.D | 05/14/19 | 21:03 | 05:20 | Initial cal verification 50 |
| E2M4974-ICV4974 | 2M111880.D | 05/14/19 | 21:29 | 05:46 | Initial cal verification 50 |
| E2M4974-ICV4974 | 2M111881.D | 05/14/19 | 21:55 | 06:12 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E2M4975-DFTPP | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 2M111882.D | **Injection Time:** | 22:18 |
| **Instrument ID:** | GCMS2M | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 48249 | 41.9 | | Pass |
| 68 | Less than 2.0% of mass 69 | 805 | 0.70 | (1.67) [a] | Pass |
| 69 | Mass 69 relative abundance | 48193 | 41.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 107 | 0.09 | (0.22) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 62832 | 54.6 | | Pass |
| 197 | Less than 1.0% of mass 198 | 616 | 0.54 | | Pass |
| 198 | Base peak, 100% relative abundance | 115138 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 8091 | 7.03 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 29101 | 25.3 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 4676 | 4.06 | | Pass |
| 441 | Present, but less than mass 443 | 16152 | 14.0 | (78.8) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 111061 | 96.5 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 20509 | 17.8 | (18.5) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4975-IC4975 | 2M111883.D | 05/14/19 | 22:48 | 00:30 | Initial cal 100 |
| E2M4975-IC4975 | 2M111884.D | 05/14/19 | 23:14 | 00:56 | Initial cal 80 |
| E2M4975-ICC4975 | 2M111885.D | 05/14/19 | 23:40 | 01:22 | Initial cal 50 |
| E2M4975-IC4975 | 2M111886.D | 05/15/19 | 00:05 | 01:47 | Initial cal 25 |
| E2M4975-IC4975 | 2M111887.D | 05/15/19 | 00:31 | 02:13 | Initial cal 10 |
| E2M4975-IC4975 | 2M111888.D | 05/15/19 | 00:57 | 02:39 | Initial cal 5 |
| E2M4975-IC4975 | 2M111889.D | 05/15/19 | 01:23 | 03:05 | Initial cal 2 |
| E2M4975-IC4975 | 2M111890.D | 05/15/19 | 01:49 | 03:31 | Initial cal 1 |
| E2M4975-ICV4975 | 2M111891.D | 05/15/19 | 02:15 | 03:57 | Initial cal verification 50 |
| E2M4975-ICV4975 | 2M111892.D | 05/15/19 | 02:40 | 04:22 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4976-DFTPP
**Lab File ID:** 2M111893.D
**Instrument ID:** GCMS2M
**Injection Date:** 05/15/19
**Injection Time:** 03:03

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 48944 | 41.4 | | Pass |
| 68 | Less than 2.0% of mass 69 | 871 | 0.74 | (1.77) [a] | Pass |
| 69 | Mass 69 relative abundance | 49163 | 41.6 | | Pass |
| 70 | Less than 2.0% of mass 69 | 234 | 0.20 | (0.48) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 65554 | 55.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 1101 | 0.93 | | Pass |
| 198 | Base peak, 100% relative abundance | 118192 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 8129 | 6.88 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 29376 | 24.9 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 4636 | 3.92 | | Pass |
| 441 | Present, but less than mass 443 | 15365 | 13.0 | (74.1) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 109370 | 92.5 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 20746 | 17.6 | (19.0) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4976-IC4976 | 2M111894.D | 05/15/19 | 03:15 | 00:12 | Initial cal 100 |
| E2M4976-IC4976 | 2M111895.D | 05/15/19 | 03:41 | 00:38 | Initial cal 80 |
| E2M4976-ICC4976 | 2M111896.D | 05/15/19 | 04:07 | 01:04 | Initial cal 50 |
| E2M4976-IC4976 | 2M111897.D | 05/15/19 | 04:33 | 01:30 | Initial cal 25 |
| E2M4976-IC4976 | 2M111898.D | 05/15/19 | 04:58 | 01:55 | Initial cal 10 |
| E2M4976-IC4976 | 2M111899.D | 05/15/19 | 05:24 | 02:21 | Initial cal 5 |
| E2M4976-IC4976 | 2M111900.D | 05/15/19 | 05:50 | 02:47 | Initial cal 2 |
| E2M4976-IC4976 | 2M111901.D | 05/15/19 | 06:16 | 03:13 | Initial cal 1 |
| E2M4976-ICV4976 | 2M111902.D | 05/15/19 | 06:41 | 03:38 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4977-DFTPP
**Lab File ID:** 2M111904.D
**Instrument ID:** GCMS2M
**Injection Date:** 05/15/19
**Injection Time:** 12:04

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 50924 | 42.4 | | Pass |
| 68 | Less than 2.0% of mass 69 | 899 | 0.75 | (1.76) [a] | Pass |
| 69 | Mass 69 relative abundance | 51010 | 42.5 | | Pass |
| 70 | Less than 2.0% of mass 69 | 239 | 0.20 | (0.47) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 67176 | 55.9 | | Pass |
| 197 | Less than 1.0% of mass 198 | 1164 | 0.97 | | Pass |
| 198 | Base peak, 100% relative abundance | 120160 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 8247 | 6.86 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 30504 | 25.4 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 4989 | 4.15 | | Pass |
| 441 | Present, but less than mass 443 | 16062 | 13.4 | (76.1) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 112176 | 93.4 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 21118 | 17.6 | (18.8) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4977-ICV4974 | 2M111905.D | 05/15/19 | 12:16 | 00:12 | Initial cal verification 50 |
| E2M4977-CC4974 | 2M111906.D | 05/15/19 | 12:54 | 00:50 | Continuing cal 50 |
| E2M4977-CC4975 | 2M111907.D | 05/15/19 | 13:20 | 01:16 | Continuing cal 50 |
| OP20380-MB1 | 2M111908.D | 05/15/19 | 13:46 | 01:42 | Method Blank |
| ZZZZZZ | 2M111911.D | 05/15/19 | 15:05 | 03:01 | (unrelated sample) |
| ZZZZZZ | 2M111912.D | 05/15/19 | 15:31 | 03:27 | (unrelated sample) |
| ZZZZZZ | 2M111913.D | 05/15/19 | 15:57 | 03:53 | (unrelated sample) |
| ZZZZZZ | 2M111914.D | 05/15/19 | 16:23 | 04:19 | (unrelated sample) |
| ZZZZZZ | 2M111915.D | 05/15/19 | 16:49 | 04:45 | (unrelated sample) |
| ZZZZZZ | 2M111916.D | 05/15/19 | 17:15 | 05:11 | (unrelated sample) |
| ZZZZZZ | 2M111917.D | 05/15/19 | 17:42 | 05:38 | (unrelated sample) |
| ZZZZZZ | 2M111918.D | 05/15/19 | 18:08 | 06:04 | (unrelated sample) |
| ZZZZZZ | 2M111920.D | 05/15/19 | 19:00 | 06:56 | (unrelated sample) |
| ZZZZZZ | 2M111921.D | 05/15/19 | 19:26 | 07:22 | (unrelated sample) |
| ZZZZZZ | 2M111922.D | 05/15/19 | 19:53 | 07:49 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4980-DFTPP
**Lab File ID:** 2M111982.D
**Instrument ID:** GCMS2M
**Injection Date:** 05/18/19
**Injection Time:** 02:10

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 75685 | 43.3 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1283 | 0.73 | (1.73) [a] | Pass |
| 69 | Mass 69 relative abundance | 74270 | 42.5 | | Pass |
| 70 | Less than 2.0% of mass 69 | 475 | 0.27 | (0.64) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 97533 | 55.7 | | Pass |
| 197 | Less than 1.0% of mass 198 | 1328 | 0.76 | | Pass |
| 198 | Base peak, 100% relative abundance | 174955 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 11922 | 6.81 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 43091 | 24.6 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 6607 | 3.78 | | Pass |
| 441 | Present, but less than mass 443 | 19973 | 11.4 | (72.8) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 142560 | 81.5 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 27453 | 15.7 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4980-CC4974 | 2M111983.D | 05/18/19 | 02:35 | 00:25 | Continuing cal 25 |
| E2M4980-CC4975 | 2M111984.D | 05/18/19 | 03:01 | 00:51 | Continuing cal 25 |
| E2M4980-CC4976 | 2M111985.D | 05/18/19 | 03:27 | 01:17 | Continuing cal 25 |
| OP20269-MB1 | 2M111986.D | 05/18/19 | 03:53 | 01:43 | Method Blank |
| OP20269-BS1 | 2M111987.D | 05/18/19 | 04:20 | 02:10 | Blank Spike |
| OP20465-MB1 | 2M111988.D | 05/18/19 | 04:46 | 02:36 | Method Blank |
| OP20465-BS1 | 2M111989.D | 05/18/19 | 05:12 | 03:02 | Blank Spike |
| OP20465-BSD | 2M111990.D | 05/18/19 | 05:47 | 03:37 | Blank Spike Duplicate |
| ZZZZZZ | 2M111991.D | 05/18/19 | 06:13 | 04:03 | (unrelated sample) |
| ZZZZZZ | 2M111992.D | 05/18/19 | 06:39 | 04:29 | (unrelated sample) |
| ZZZZZZ | 2M111993.D | 05/18/19 | 07:05 | 04:55 | (unrelated sample) |
| ZZZZZZ | 2M111994.D | 05/18/19 | 07:31 | 05:21 | (unrelated sample) |
| OP20269-MS2 | 2M112000.D | 05/18/19 | 10:08 | 07:58 | Matrix Spike |
| OP20269-MSD2 | 2M112001.D | 05/18/19 | 10:34 | 08:24 | Matrix Spike Duplicate |
| JC87535-8 | 2M112002.D | 05/18/19 | 11:00 | 08:50 | S-161(10-12) |
| OP20269-MS | 2M112003.D | 05/18/19 | 11:26 | 09:16 | Matrix Spike |
| OP20269-MSD | 2M112004.D | 05/18/19 | 11:52 | 09:42 | Matrix Spike Duplicate |
| JC87563-7 | 2M112005.D | 05/18/19 | 12:18 | 10:08 | (used for QC only; not part of job JC87535) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4981-DFTPP
**Lab File ID:** 2M112008.D
**Instrument ID:** GCMS2M
**Injection Date:** 05/18/19
**Injection Time:** 18:49

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 78643 | 39.1 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1555 | 0.77 | (1.97) [a] | Pass |
| 69 | Mass 69 relative abundance | 78769 | 39.2 | | Pass |
| 70 | Less than 2.0% of mass 69 | 527 | 0.26 | (0.67) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 104229 | 51.8 | | Pass |
| 197 | Less than 1.0% of mass 198 | 1104 | 0.55 | | Pass |
| 198 | Base peak, 100% relative abundance | 201176 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 13123 | 6.52 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 51480 | 25.6 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 8348 | 4.15 | | Pass |
| 441 | Present, but less than mass 443 | 26211 | 13.0 | (74.3) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 185165 | 92.0 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 35291 | 17.5 | (19.1) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4981-CC4974 | 2M112009.D | 05/18/19 | 19:04 | 00:15 | Continuing cal 50 |
| E2M4981-CC4975 | 2M112010.D | 05/18/19 | 19:30 | 00:41 | Continuing cal 50 |
| E2M4981-CC4976 | 2M112011.D | 05/18/19 | 21:19 | 02:30 | Continuing cal 50 |
| OP20482-MB1 | 2M112012.D | 05/18/19 | 21:45 | 02:56 | Method Blank |
| OP20482-BS1 | 2M112013.D | 05/18/19 | 22:11 | 03:22 | Blank Spike |
| OP20482-BSD | 2M112014.D | 05/18/19 | 22:38 | 03:49 | Blank Spike Duplicate |
| ZZZZZZ | 2M112015.D | 05/18/19 | 23:04 | 04:15 | (unrelated sample) |
| ZZZZZZ | 2M112016.D | 05/18/19 | 23:30 | 04:41 | (unrelated sample) |
| ZZZZZZ | 2M112017.D | 05/18/19 | 23:56 | 05:07 | (unrelated sample) |
| ZZZZZZ | 2M112018.D | 05/19/19 | 00:22 | 05:33 | (unrelated sample) |
| ZZZZZZ | 2M112019.D | 05/19/19 | 00:48 | 05:59 | (unrelated sample) |
| ZZZZZZ | 2M112020.D | 05/19/19 | 01:14 | 06:25 | (unrelated sample) |
| ZZZZZZ | 2M112021.D | 05/19/19 | 01:40 | 06:51 | (unrelated sample) |
| ZZZZZZ | 2M112022.D | 05/19/19 | 02:06 | 07:17 | (unrelated sample) |
| ZZZZZZ | 2M112023.D | 05/19/19 | 02:33 | 07:44 | (unrelated sample) |
| ZZZZZZ | 2M112024.D | 05/19/19 | 02:59 | 08:10 | (unrelated sample) |
| ZZZZZZ | 2M112025.D | 05/19/19 | 03:25 | 08:36 | (unrelated sample) |
| ZZZZZZ | 2M112026.D | 05/19/19 | 03:51 | 09:02 | (unrelated sample) |
| ZZZZZZ | 2M112027.D | 05/19/19 | 04:17 | 09:28 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E2M4981-DFTPP | **Injection Date:** | 05/18/19 |
| **Lab File ID:** | 2M112008.D | **Injection Time:** | 18:49 |
| **Instrument ID:** | GCMS2M | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | 2M112028.D | 05/19/19 | 04:43 | 09:54 | (unrelated sample) |
| ZZZZZZ | 2M112029.D | 05/19/19 | 05:09 | 10:20 | (unrelated sample) |
| JC87535-8 | 2M112031.D | 05/19/19 | 06:01 | 11:12 | S-161(10-12) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E2M4982-DFTPP | **Injection Date:** | 05/19/19 |
| **Lab File ID:** | 2M112034.D | **Injection Time:** | 11:10 |
| **Instrument ID:** | GCMS2M | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 80045 | 40.8 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1389 | 0.71 | (1.74) [a] | Pass |
| 69 | Mass 69 relative abundance | 79640 | 40.6 | | Pass |
| 70 | Less than 2.0% of mass 69 | 482 | 0.25 | (0.61) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 104698 | 53.4 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 196002 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 13334 | 6.80 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 50205 | 25.6 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 7376 | 3.76 | | Pass |
| 441 | Present, but less than mass 443 | 25589 | 13.1 | (74.9) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 176096 | 89.8 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 34170 | 17.4 | (19.4) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E2M4982-CC4974 | 2M112035.D | 05/19/19 | 11:29 | 00:19 | Continuing cal 25 |
| E2M4982-CC4975 | 2M112036.D | 05/19/19 | 12:02 | 00:52 | Continuing cal 25 |
| OP20464-MB1 | 2M112037.D | 05/19/19 | 12:34 | 01:24 | Method Blank |
| OP20464-BS1 | 2M112038.D | 05/19/19 | 13:01 | 01:51 | Blank Spike |
| OP20464-BSD | 2M112039.D | 05/19/19 | 13:27 | 02:17 | Blank Spike Duplicate |
| ZZZZZZ | 2M112040.D | 05/19/19 | 13:54 | 02:44 | (unrelated sample) |
| ZZZZZZ | 2M112041.D | 05/19/19 | 14:20 | 03:10 | (unrelated sample) |
| ZZZZZZ | 2M112042.D | 05/19/19 | 14:47 | 03:37 | (unrelated sample) |
| ZZZZZZ | 2M112043.D | 05/19/19 | 15:13 | 04:03 | (unrelated sample) |
| ZZZZZZ | 2M112044.D | 05/19/19 | 15:40 | 04:30 | (unrelated sample) |
| JC87535-9 | 2M112045.D | 05/19/19 | 16:07 | 04:57 | S-162(5-7) |
| JC87535-11 | 2M112048.D | 05/19/19 | 17:27 | 06:17 | S-160(10-12) |
| JC87535-11 | 2M112049.D | 05/19/19 | 18:47 | 07:37 | S-160(10-12) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-DFTPP
**Lab File ID:** 5P58248.D
**Instrument ID:** GCMS5P
**Injection Date:** 04/08/19
**Injection Time:** 23:58

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 23529 | 35.4 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 31106 | 46.8 | | Pass |
| 70 | Less than 2.0% of mass 69 | 262 | 0.39 | (0.84) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 30894 | 46.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 66418 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 4395 | 6.62 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 16668 | 25.1 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 1813 | 2.73 | | Pass |
| 441 | Present, but less than mass 443 | 7217 | 10.9 | (77.5) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 50432 | 75.9 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 9310 | 14.0 | (18.5) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E5P2761-IC2761 | 5P58249A.D | 04/09/19 | 00:29 | 00:31 | Initial cal 100 |
| E5P2761-IC2761 | 5P58250.D | 04/09/19 | 00:54 | 00:56 | Initial cal 80 |
| E5P2761-ICC2761 | 5P58251.D | 04/09/19 | 01:20 | 01:22 | Initial cal 50 |
| E5P2761-IC2761 | 5P58252.D | 04/09/19 | 01:45 | 01:47 | Initial cal 25 |
| E5P2761-IC2761 | 5P58253.D | 04/09/19 | 02:10 | 02:12 | Initial cal 10 |
| E5P2761-IC2761 | 5P58254.D | 04/09/19 | 02:34 | 02:36 | Initial cal 5 |
| E5P2761-IC2761 | 5P58255.D | 04/09/19 | 02:59 | 03:01 | Initial cal 2 |
| E5P2761-IC2761 | 5P58256.D | 04/09/19 | 03:24 | 03:26 | Initial cal 1 |
| E5P2761-ICV2761 | 5P58257.D | 04/09/19 | 03:50 | 03:52 | Initial cal verification 50 |
| E5P2761-ICV2761 | 5P58259.D | 04/09/19 | 04:39 | 04:41 | Initial cal verification 50 |
| E5P2761-ICV2761 | 5P58260.D | 04/09/19 | 05:04 | 05:06 | Initial cal verification 50 |
| E5P2761-ICV2761 | 5P58261.D | 04/09/19 | 05:29 | 05:31 | Initial cal verification 50 |
| E5P2761-ICV2761 | 5P58262.D | 04/09/19 | 05:55 | 05:57 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E5P2762-DFTPP | **Injection Date:** | 04/09/19 |
| **Lab File ID:** | 5P58263.D | **Injection Time:** | 06:15 |
| **Instrument ID:** | GCMS5P | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 33747 | 41.8 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 41796 | 51.8 | | Pass |
| 70 | Less than 2.0% of mass 69 | 186 | 0.23 | (0.45) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 41473 | 51.4 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 80698 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 5419 | 6.72 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 20801 | 25.8 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 2339 | 2.90 | | Pass |
| 441 | Present, but less than mass 443 | 9063 | 11.2 | (80.1) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 60528 | 75.0 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 11319 | 14.0 | (18.7) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E5P2762-IC2762 | 5P58264.D | 04/09/19 | 06:28 | 00:13 | Initial cal 100 |
| E5P2762-IC2762 | 5P58265.D | 04/09/19 | 06:53 | 00:38 | Initial cal 80 |
| E5P2762-ICC2762 | 5P58266.D | 04/09/19 | 07:18 | 01:03 | Initial cal 50 |
| E5P2762-IC2762 | 5P58267.D | 04/09/19 | 07:43 | 01:28 | Initial cal 25 |
| E5P2762-IC2762 | 5P58268.D | 04/09/19 | 08:08 | 01:53 | Initial cal 10 |
| E5P2762-IC2762 | 5P58269.D | 04/09/19 | 08:32 | 02:17 | Initial cal 5 |
| E5P2762-IC2762 | 5P58270.D | 04/09/19 | 08:57 | 02:42 | Initial cal 2 |
| E5P2762-IC2762 | 5P58271.D | 04/09/19 | 09:37 | 03:22 | Initial cal 1 |
| E5P2762-ICV2762 | 5P58272.D | 04/09/19 | 10:02 | 03:47 | Initial cal verification 50 |
| E5P2762-ICV2762 | 5P58273.D | 04/09/19 | 10:27 | 04:12 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2763-DFTPP
**Lab File ID:** 5P58274.D
**Instrument ID:** GCMS5P
**Injection Date:** 04/09/19
**Injection Time:** 10:54

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 36653 | 42.2 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 46813 | 53.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 168 | 0.19 | (0.36) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 45240 | 52.1 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 86840 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 5619 | 6.47 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 20259 | 23.3 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 1987 | 2.29 | | Pass |
| 441 | Present, but less than mass 443 | 8952 | 10.3 | (82.4) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 58045 | 66.8 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 10863 | 12.5 | (18.7) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E5P2763-IC2763 | 5P58275.D | 04/09/19 | 11:07 | 00:13 | Initial cal 100 |
| E5P2763-IC2763 | 5P58276.D | 04/09/19 | 11:31 | 00:37 | Initial cal 80 |
| E5P2763-ICC2763 | 5P58277.D | 04/09/19 | 11:56 | 01:02 | Initial cal 50 |
| E5P2763-IC2763 | 5P58278.D | 04/09/19 | 12:21 | 01:27 | Initial cal 25 |
| E5P2763-IC2763 | 5P58279.D | 04/09/19 | 12:46 | 01:52 | Initial cal 10 |
| E5P2763-IC2763 | 5P58280.D | 04/09/19 | 13:11 | 02:17 | Initial cal 5 |
| E5P2763-IC2763 | 5P58281.D | 04/09/19 | 13:36 | 02:42 | Initial cal 2 |
| E5P2763-IC2763 | 5P58282.D | 04/09/19 | 14:01 | 03:07 | Initial cal 1 |
| E5P2763-ICV2763 | 5P58283.D | 04/09/19 | 14:26 | 03:32 | Initial cal verification 50 |
| E5P2763-ICV2761 | 5P58284.D | 04/09/19 | 15:10 | 04:16 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E5P2816-DFTPP | **Injection Date:** | 05/16/19 |
| **Lab File ID:** | 5P59676.D | **Injection Time:** | 09:45 |
| **Instrument ID:** | GCMS5P | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 26230 | 36.2 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 35542 | 49.1 | | Pass |
| 70 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 34645 | 47.9 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 72384 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 5176 | 7.15 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 19357 | 26.7 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 2141 | 2.96 | | Pass |
| 441 | Present, but less than mass 443 | 8056 | 11.1 | (79.8) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 52322 | 72.3 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 10089 | 13.9 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E5P2816-CC2761 | 5P59678.D | 05/16/19 | 10:24 | 00:39 | Continuing cal 50 |
| E5P2816-CC2762 | 5P59679.D | 05/16/19 | 10:49 | 01:04 | Continuing cal 50 |
| ZZZZZZ | 5P59682.D | 05/16/19 | 11:57 | 02:12 | (unrelated sample) |
| ZZZZZZ | 5P59683.D | 05/16/19 | 12:19 | 02:34 | (unrelated sample) |
| OP20269-MB1 | 5P59685.D | 05/16/19 | 13:05 | 03:20 | Method Blank |
| ZZZZZZ | 5P59706.D | 05/16/19 | 13:50 | 04:05 | (unrelated sample) |
| ZZZZZZ | 5P59687.D | 05/16/19 | 14:13 | 04:28 | (unrelated sample) |
| ZZZZZZ | 5P59689.D | 05/16/19 | 14:58 | 05:13 | (unrelated sample) |
| JC87535-6 | 5P59690.D | 05/16/19 | 15:21 | 05:36 | SO-DUP-0503 |
| JC87535-9 | 5P59691.D | 05/16/19 | 15:43 | 05:58 | S-162(5-7) |
| JC87535-10 | 5P59692.D | 05/16/19 | 16:06 | 06:21 | S-162(15-17) |
| JC87535-12 | 5P59693.D | 05/16/19 | 16:29 | 06:44 | S-160(13-15) |
| JC87535-5 | 5P59694.D | 05/16/19 | 16:51 | 07:06 | S-156(14-16) |
| ZZZZZZ | 5P59695.D | 05/16/19 | 17:14 | 07:29 | (unrelated sample) |
| ZZZZZZ | 5P59696.D | 05/16/19 | 17:36 | 07:51 | (unrelated sample) |
| ZZZZZZ | 5P59697.D | 05/16/19 | 17:59 | 08:14 | (unrelated sample) |
| JC87535-11 | 5P59704.D | 05/16/19 | 20:37 | 10:52 | S-160(10-12) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E5P2818-DFTPP | **Injection Date:** | 05/17/19 |
| **Lab File ID:** | 5P59741.D | **Injection Time:** | 16:08 |
| **Instrument ID:** | GCMS5P | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 26458 | 37.3 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 35196 | 49.7 | | Pass |
| 70 | Less than 2.0% of mass 69 | 202 | 0.29 | (0.57) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 34842 | 49.2 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 70877 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 4782 | 6.75 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 19633 | 27.7 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 2076 | 2.93 | | Pass |
| 441 | Present, but less than mass 443 | 8146 | 11.5 | (80.1) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 52370 | 73.9 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 10176 | 14.4 | (19.4) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E5P2818-CC2761 | 5P59742.D | 05/17/19 | 16:21 | 00:13 | Continuing cal 50 |
| E5P2818-CC2762 | 5P59743.D | 05/17/19 | 16:43 | 00:35 | Continuing cal 50 |
| JC87535-9 | 5P59745.D | 05/17/19 | 17:29 | 01:21 | S-162(5-7) |
| JC87535-7 | 5P59747.D | 05/17/19 | 18:15 | 02:07 | S-161(5-7) |
| JC87535-7 | 5P59749.D | 05/17/19 | 19:00 | 02:52 | S-161(5-7) |
| ZZZZZZ | 5P59752.D | 05/17/19 | 20:09 | 04:01 | (unrelated sample) |
| ZZZZZZ | 5P59753.D | 05/17/19 | 20:32 | 04:24 | (unrelated sample) |
| ZZZZZZ | 5P59754.D | 05/17/19 | 20:54 | 04:46 | (unrelated sample) |
| ZZZZZZ | 5P59755.D | 05/17/19 | 21:17 | 05:09 | (unrelated sample) |
| ZZZZZZ | 5P59756.D | 05/17/19 | 21:40 | 05:32 | (unrelated sample) |
| ZZZZZZ | 5P59757.D | 05/17/19 | 22:03 | 05:55 | (unrelated sample) |
| ZZZZZZ | 5P59758.D | 05/17/19 | 22:26 | 06:18 | (unrelated sample) |
| ZZZZZZ | 5P59759.D | 05/17/19 | 22:49 | 06:41 | (unrelated sample) |
| ZZZZZZ | 5P59760.D | 05/17/19 | 23:12 | 07:04 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2823-DFTPP
**Lab File ID:** 5P59858.D
**Instrument ID:** GCMS5P
**Injection Date:** 05/21/19
**Injection Time:** 03:22

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 19571 | 31.8 | | Pass |
| 68 | Less than 2.0% of mass 69 | 123 | 0.20 | (0.48) [a] | Pass |
| 69 | Mass 69 relative abundance | 25749 | 41.8 | | Pass |
| 70 | Less than 2.0% of mass 69 | 91 | 0.15 | (0.35) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 27480 | 44.6 | | Pass |
| 197 | Less than 1.0% of mass 198 | 87 | 0.14 | | Pass |
| 198 | Base peak, 100% relative abundance | 61602 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 4418 | 7.17 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 17593 | 28.6 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 2018 | 3.28 | | Pass |
| 441 | Present, but less than mass 443 | 8457 | 13.7 | (81.8) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 53704 | 87.2 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 10339 | 16.8 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E5P2823-CC2761 | 5P59860.D | 05/21/19 | 04:00 | 00:38 | Continuing cal 25 |
| E5P2823-CC2762 | 5P59861.D | 05/21/19 | 04:23 | 01:01 | Continuing cal 25 |
| OP20489-MB1 | 5P59865.D | 05/21/19 | 06:01 | 02:39 | Method Blank |
| OP20489-BS1 | 5P59866.D | 05/21/19 | 06:24 | 03:02 | Blank Spike |
| OP20488-MB1 | 5P59867.D | 05/21/19 | 06:47 | 03:25 | Method Blank |
| OP20488-BS1 | 5P59868.D | 05/21/19 | 07:10 | 03:48 | Blank Spike |
| ZZZZZZ | 5P59869.D | 05/21/19 | 07:33 | 04:11 | (unrelated sample) |
| OP20488-MS | 5P59870.D | 05/21/19 | 07:56 | 04:34 | Matrix Spike |
| OP20488-MSD | 5P59871.D | 05/21/19 | 08:20 | 04:58 | Matrix Spike Duplicate |
| JC88347-1 | 5P59872.D | 05/21/19 | 08:42 | 05:20 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 5P59873.D | 05/21/19 | 09:05 | 05:43 | (unrelated sample) |
| ZZZZZZ | 5P59874.D | 05/21/19 | 09:28 | 06:06 | (unrelated sample) |
| ZZZZZZ | 5P59875.D | 05/21/19 | 09:51 | 06:29 | (unrelated sample) |
| ZZZZZZ | 5P59876.D | 05/21/19 | 10:13 | 06:51 | (unrelated sample) |
| OP20489-MS | 5P59877.D | 05/21/19 | 10:36 | 07:14 | Matrix Spike |
| OP20489-MSD | 5P59878.D | 05/21/19 | 10:59 | 07:37 | Matrix Spike Duplicate |
| JC88253-1 | 5P59879.D | 05/21/19 | 11:22 | 08:00 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 5P59880.D | 05/21/19 | 11:44 | 08:22 | (unrelated sample) |
| JC87535-7 | 5P59885.D | 05/21/19 | 12:07 | 08:45 | S-161(5-7) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-DFTPP
**Lab File ID:** 6P481126.D
**Instrument ID:** GCMS6P
**Injection Date:** 04/16/19
**Injection Time:** 09:34

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 133701 | 36.3 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2251 | 0.61 | (1.65) [a] | Pass |
| 69 | Mass 69 relative abundance | 136031 | 36.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 671 | 0.18 | (0.49) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 189621 | 51.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 428 | 0.12 | | Pass |
| 198 | Base peak, 100% relative abundance | 368448 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 24693 | 6.70 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 103277 | 28.0 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14732 | 4.00 | | Pass |
| 441 | Present, but less than mass 443 | 39477 | 10.7 | (81.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 250821 | 68.1 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 48343 | 13.1 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2562-IC2562 | 6P481127.D | 04/16/19 | 09:55 | 00:21 | Initial cal 100 |
| E6P2562-IC2562 | 6P481128.D | 04/16/19 | 10:18 | 00:44 | Initial cal 80 |
| E6P2562-ICC2562 | 6P481129.D | 04/16/19 | 10:42 | 01:08 | Initial cal 50 |
| E6P2562-IC2562 | 6P481130.D | 04/16/19 | 11:06 | 01:32 | Initial cal 25 |
| E6P2562-IC2562 | 6P481131.D | 04/16/19 | 11:30 | 01:56 | Initial cal 10 |
| E6P2562-IC2562 | 6P481132.D | 04/16/19 | 11:54 | 02:20 | Initial cal 5 |
| E6P2562-IC2562 | 6P481133.D | 04/16/19 | 12:18 | 02:44 | Initial cal 2 |
| E6P2562-IC2562 | 6P481134.D | 04/16/19 | 12:42 | 03:08 | Initial cal 1 |
| E6P2562-ICV2562 | 6P481135.D | 04/16/19 | 13:06 | 03:32 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481136.D | 04/16/19 | 13:29 | 03:55 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481137.D | 04/16/19 | 13:53 | 04:19 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481138.D | 04/16/19 | 14:18 | 04:44 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481139.D | 04/16/19 | 14:42 | 05:08 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481140.D | 04/16/19 | 15:06 | 05:32 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2563-DFTPP
**Lab File ID:** 6P481141.D
**Instrument ID:** GCMS6P
**Injection Date:** 04/16/19
**Injection Time:** 15:25

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 129768 | 35.7 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2510 | 0.69 | (1.85) [a] | Pass |
| 69 | Mass 69 relative abundance | 135637 | 37.3 | | Pass |
| 70 | Less than 2.0% of mass 69 | 674 | 0.19 | (0.50) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 184520 | 50.8 | | Pass |
| 197 | Less than 1.0% of mass 198 | 403 | 0.11 | | Pass |
| 198 | Base peak, 100% relative abundance | 363402 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 24236 | 6.67 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 102661 | 28.2 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14598 | 4.02 | | Pass |
| 441 | Present, but less than mass 443 | 39268 | 10.8 | (85.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 236114 | 65.0 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 45838 | 12.6 | (19.4) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2563-IC2563 | 6P481142.D | 04/16/19 | 15:39 | 00:14 | Initial cal 100 |
| E6P2563-IC2563 | 6P481143.D | 04/16/19 | 16:03 | 00:38 | Initial cal 80 |
| E6P2563-ICC2563 | 6P481144.D | 04/16/19 | 16:27 | 01:02 | Initial cal 50 |
| E6P2563-IC2563 | 6P481145.D | 04/16/19 | 16:51 | 01:26 | Initial cal 25 |
| E6P2563-IC2563 | 6P481146.D | 04/16/19 | 17:15 | 01:50 | Initial cal 10 |
| E6P2563-IC2563 | 6P481147.D | 04/16/19 | 17:39 | 02:14 | Initial cal 5 |
| E6P2563-IC2563 | 6P481148.D | 04/16/19 | 18:03 | 02:38 | Initial cal 2 |
| E6P2563-IC2563 | 6P481149.D | 04/16/19 | 18:28 | 03:03 | Initial cal 1 |
| E6P2563-ICV2563 | 6P481150.D | 04/16/19 | 18:52 | 03:27 | Initial cal verification 50 |
| E6P2563-ICV2563 | 6P481151.D | 04/16/19 | 19:16 | 03:51 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2590-DFTPP
**Lab File ID:** 6P481843.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/14/19
**Injection Time:** 15:47

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 95272 | 34.6 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1140 | 0.41 | (1.07) [a] | Pass |
| 69 | Mass 69 relative abundance | 106565 | 38.7 | | Pass |
| 70 | Less than 2.0% of mass 69 | 318 | 0.12 | (0.30) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 147272 | 53.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 275349 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 17950 | 6.52 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 76896 | 27.9 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 13154 | 4.78 | | Pass |
| 441 | Present, but less than mass 443 | 36767 | 13.4 | (82.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 237309 | 86.2 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 44436 | 16.1 | (18.7) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2590-CC2562 | 6P481844.D | 05/14/19 | 16:00 | 00:13 | Continuing cal 50 |
| E6P2590-CC2563 | 6P481845.D | 05/14/19 | 16:24 | 00:37 | Continuing cal 50 |
| OP20354-MB | 6P481846.D | 05/14/19 | 16:49 | 01:02 | Method Blank |
| OP20353-MB | 6P481846.D | 05/14/19 | 16:49 | 01:02 | Method Blank |
| OP20381-MB | 6P481846.D | 05/14/19 | 16:49 | 01:02 | Method Blank |
| OP20355-MB | 6P481846.D | 05/14/19 | 16:49 | 01:02 | Method Blank |
| OP20353-LB34 | 6P481847.D | 05/14/19 | 17:13 | 01:26 | Leachate Blank |
| OP20354-LB36 | 6P481848.D | 05/14/19 | 17:37 | 01:50 | Leachate Blank |
| OP20355-LB31 | 6P481849.D | 05/14/19 | 18:02 | 02:15 | Leachate Blank |
| OP20353-BS | 6P481850.D | 05/14/19 | 18:26 | 02:39 | Blank Spike |
| OP20354-BS | 6P481850.D | 05/14/19 | 18:26 | 02:39 | Blank Spike |
| OP20355-BS | 6P481850.D | 05/14/19 | 18:26 | 02:39 | Blank Spike |
| OP20381-BS | 6P481850.D | 05/14/19 | 18:26 | 02:39 | Blank Spike |
| OP20381-BSD | 6P481851.D | 05/14/19 | 18:50 | 03:03 | Blank Spike Duplicate |
| ZZZZZZ | 6P481852.D | 05/14/19 | 19:15 | 03:28 | (unrelated sample) |
| JC87414-5R | 6P481854.D | 05/14/19 | 20:03 | 04:16 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 6P481855.D | 05/14/19 | 20:28 | 04:41 | (unrelated sample) |
| ZZZZZZ | 6P481856.D | 05/14/19 | 20:52 | 05:05 | (unrelated sample) |
| ZZZZZZ | 6P481857.D | 05/14/19 | 21:16 | 05:29 | (unrelated sample) |

8.6.16

8

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E6P2590-DFTPP | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 6P481843.D | **Injection Time:** | 15:47 |
| **Instrument ID:** | GCMS6P | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| OP20353-MS | 6P481858.D | 05/14/19 | 21:40 | 05:53 | Matrix Spike |
| OP20353-LS20 | 6P481858.D | 05/14/19 | 21:40 | 05:53 | Leachate Spike |
| OP20353-MSD | 6P481859.D | 05/14/19 | 22:04 | 06:17 | Matrix Spike Duplicate |
| JC87610-2A | 6P481860.D | 05/14/19 | 22:29 | 06:42 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | 6P481861.D | 05/14/19 | 22:53 | 07:06 | (unrelated sample) |
| OP20354-LS22 | 6P481862.D | 05/14/19 | 23:17 | 07:30 | Leachate Spike |
| OP20354-MS | 6P481862.D | 05/14/19 | 23:17 | 07:30 | Matrix Spike |
| OP20354-MSD | 6P481863.D | 05/14/19 | 23:41 | 07:54 | Matrix Spike Duplicate |
| JC87670-5A | 6P481864.D | 05/15/19 | 00:05 | 08:18 | (used for QC only; not part of job JC87535) |
| OP20355-MS | 6P481865.D | 05/15/19 | 00:29 | 08:42 | Matrix Spike |
| OP20355-LS18 | 6P481865.D | 05/15/19 | 00:29 | 08:42 | Leachate Spike |
| OP20355-MSD | 6P481866.D | 05/15/19 | 00:53 | 09:06 | Matrix Spike Duplicate |
| ZZZZZZ | 6P481867.D | 05/15/19 | 01:17 | 09:30 | (unrelated sample) |
| ZZZZZZ | 6P481868.D | 05/15/19 | 01:41 | 09:54 | (unrelated sample) |
| ZZZZZZ | 6P481869.D | 05/15/19 | 02:05 | 10:18 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2591-DFTPP
**Lab File ID:** 6P481873.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/15/19
**Injection Time:** 09:04

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 106480 | 35.4 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2019 | 0.67 | (1.78) [a] | Pass |
| 69 | Mass 69 relative abundance | 113631 | 37.8 | | Pass |
| 70 | Less than 2.0% of mass 69 | 530 | 0.18 | (0.47) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 160946 | 53.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 445 | 0.15 | | Pass |
| 198 | Base peak, 100% relative abundance | 300802 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 19677 | 6.54 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 85264 | 28.3 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14859 | 4.94 | | Pass |
| 441 | Present, but less than mass 443 | 45128 | 15.0 | (81.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 293648 | 97.6 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 55253 | 18.4 | (18.8) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2591-CC2562 | 6P481874.D | 05/15/19 | 09:17 | 00:13 | Continuing cal 25 |
| E6P2591-CC2563 | 6P481875.D | 05/15/19 | 09:41 | 00:37 | Continuing cal 25 |
| OP19978A-MB1 | 6P481877.D | 05/15/19 | 10:30 | 01:26 | Method Blank |
| OP19978A-BS1 | 6P481878.D | 05/15/19 | 10:54 | 01:50 | Blank Spike |
| OP19978A-BSD | 6P481879.D | 05/15/19 | 11:18 | 02:14 | Blank Spike Duplicate |
| OP20224A-MB | 6P481880.D | 05/15/19 | 11:42 | 02:38 | Method Blank |
| OP20224A-BS | 6P481881.D | 05/15/19 | 12:07 | 03:03 | Blank Spike |
| OP20224A-BSD | 6P481882.D | 05/15/19 | 12:31 | 03:27 | Blank Spike Duplicate |
| ZZZZZZ | 6P481883.D | 05/15/19 | 12:55 | 03:51 | (unrelated sample) |
| ZZZZZZ | 6P481884.D | 05/15/19 | 13:19 | 04:15 | (unrelated sample) |
| ZZZZZZ | 6P481885.D | 05/15/19 | 13:44 | 04:40 | (unrelated sample) |
| ZZZZZZ | 6P481886.D | 05/15/19 | 14:08 | 05:04 | (unrelated sample) |
| ZZZZZZ | 6P481887.D | 05/15/19 | 14:32 | 05:28 | (unrelated sample) |
| ZZZZZZ | 6P481888.D | 05/15/19 | 14:57 | 05:53 | (unrelated sample) |
| ZZZZZZ | 6P481889.D | 05/15/19 | 15:21 | 06:17 | (unrelated sample) |
| JC87535-13 | 6P481890.D | 05/15/19 | 15:45 | 06:41 | PCWC-1 |
| JC87535-14 | 6P481891.D | 05/15/19 | 16:09 | 07:05 | PCWC-2 |
| JC87535-15 | 6P481892.D | 05/15/19 | 16:34 | 07:30 | PCWC-3 |
| ZZZZZZ | 6P481893.D | 05/15/19 | 16:58 | 07:54 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | E6P2591-DFTPP | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | 6P481873.D | **Injection Time:** | 09:04 |
| **Instrument ID:** | GCMS6P | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| JC86683-1R | 6P481894.D | 05/15/19 | 17:22 | 08:18 | (used for QC only; not part of job JC87535) |
| OP19978A-DUP | 6P481895.D | 05/15/19 | 17:47 | 08:43 | Duplicate |
| ZZZZZZ | 6P481896.D | 05/15/19 | 18:11 | 09:07 | (unrelated sample) |
| ZZZZZZ | 6P481898.D | 05/15/19 | 19:00 | 09:56 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-DFTPP
**Lab File ID:** M153400.D
**Instrument ID:** GCMSM
**Injection Date:** 04/12/19
**Injection Time:** 16:58

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 83353 | 36.5 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 109417 | 47.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 587 | 0.26 | (0.54) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 110333 | 48.3 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 228245 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 15342 | 6.72 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 60088 | 26.3 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 7944 | 3.48 | | Pass |
| 441 | Present, but less than mass 443 | 22441 | 9.83 | (76.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 151640 | 66.4 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 29258 | 12.8 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6556-IC6556 | M153401A.D | 04/12/19 | 17:56 | 00:58 | Initial cal 100 |
| EM6556-IC6556 | M153402.D | 04/12/19 | 18:24 | 01:26 | Initial cal 80 |
| EM6556-ICC6556 | M153403.D | 04/12/19 | 18:53 | 01:55 | Initial cal 50 |
| EM6556-IC6556 | M153404.D | 04/12/19 | 19:21 | 02:23 | Initial cal 25 |
| EM6556-IC6556 | M153405.D | 04/12/19 | 19:49 | 02:51 | Initial cal 10 |
| EM6556-IC6556 | M153406.D | 04/12/19 | 20:18 | 03:20 | Initial cal 5 |
| EM6556-IC6556 | M153407.D | 04/12/19 | 20:46 | 03:48 | Initial cal 2 |
| EM6556-IC6556 | M153408.D | 04/12/19 | 21:15 | 04:17 | Initial cal 1 |
| EM6556-ICV6556 | M153409.D | 04/12/19 | 21:43 | 04:45 | Initial cal verification 50 |
| EM6556-ICV6556 | M153410.D | 04/12/19 | 22:12 | 05:14 | Initial cal verification 50 |
| EM6556-ICV6556 | M153411.D | 04/12/19 | 22:40 | 05:42 | Initial cal verification 50 |
| EM6556-ICV6556 | M153413.D | 04/12/19 | 23:37 | 06:39 | Initial cal verification 50 |
| EM6556-ICV6556 | M153414.D | 04/13/19 | 00:06 | 07:08 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6557-DFTPP
**Lab File ID:** M153419.D
**Instrument ID:** GCMSM
**Injection Date:** 04/13/19
**Injection Time:** 01:19

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 79824 | 32.2 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1315 | 0.53 | (1.36) [a] | Pass |
| 69 | Mass 69 relative abundance | 96837 | 39.1 | | Pass |
| 70 | Less than 2.0% of mass 69 | 513 | 0.21 | (0.53) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 111752 | 45.1 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 247893 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 17598 | 7.10 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 63149 | 25.5 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 8195 | 3.31 | | Pass |
| 441 | Present, but less than mass 443 | 21483 | 8.67 | (80.5) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 138565 | 55.9 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 26703 | 10.8 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6557-IC6557 | M153420.D | 04/13/19 | 01:52 | 00:33 | Initial cal 100 |
| EM6557-IC6557 | M153421.D | 04/13/19 | 02:20 | 01:01 | Initial cal 80 |
| EM6557-ICC6557 | M153422.D | 04/13/19 | 02:49 | 01:30 | Initial cal 50 |
| EM6557-IC6557 | M153423.D | 04/13/19 | 03:17 | 01:58 | Initial cal 25 |
| EM6557-IC6557 | M153424.D | 04/13/19 | 03:46 | 02:27 | Initial cal 10 |
| EM6557-IC6557 | M153425.D | 04/13/19 | 04:14 | 02:55 | Initial cal 5 |
| EM6557-IC6557 | M153426.D | 04/13/19 | 04:42 | 03:23 | Initial cal 2 |
| EM6557-IC6557 | M153427.D | 04/13/19 | 05:11 | 03:52 | Initial cal 1 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6558-DFTPP
**Lab File ID:** M153431.D
**Instrument ID:** GCMSM
**Injection Date:** 04/14/19
**Injection Time:** 14:31

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 99360 | 32.8 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1999 | 0.66 | (1.64) [a] | Pass |
| 69 | Mass 69 relative abundance | 121985 | 40.2 | | Pass |
| 70 | Less than 2.0% of mass 69 | 727 | 0.24 | (0.60) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 139984 | 46.2 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 303253 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 20557 | 6.78 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 74381 | 24.5 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 9225 | 3.04 | | Pass |
| 441 | Present, but less than mass 443 | 24993 | 8.24 | (75.9) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 162856 | 53.7 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 32909 | 10.9 | (20.2) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6558-IC6558 | M153432.D | 04/14/19 | 14:42 | 00:11 | Initial cal 100 |
| EM6558-IC6558 | M153433.D | 04/14/19 | 15:11 | 00:40 | Initial cal 80 |
| EM6558-ICC6558 | M153434.D | 04/14/19 | 15:39 | 01:08 | Initial cal 50 |
| EM6558-IC6558 | M153435.D | 04/14/19 | 16:08 | 01:37 | Initial cal 25 |
| EM6558-IC6558 | M153436.D | 04/14/19 | 16:37 | 02:06 | Initial cal 10 |
| EM6558-IC6558 | M153437.D | 04/14/19 | 17:05 | 02:34 | Initial cal 5 |
| EM6558-IC6558 | M153438.D | 04/14/19 | 17:34 | 03:03 | Initial cal 2 |
| EM6558-IC6558 | M153439.D | 04/14/19 | 18:02 | 03:31 | Initial cal 1 |
| EM6558-ICV6558 | M153440.D | 04/14/19 | 18:31 | 04:00 | Initial cal verification 50 |
| EM6557-ICV6557 | M153441.D | 04/14/19 | 19:00 | 04:29 | Initial cal verification 50 |
| EM6557-ICV6557 | M153442.D | 04/14/19 | 19:28 | 04:57 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6559-DFTPP
**Lab File ID:** M153443.D
**Instrument ID:** GCMSM
**Injection Date:** 04/15/19
**Injection Time:** 13:54

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 75686 | 33.3 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1135 | 0.50 | (1.18) [a] | Pass |
| 69 | Mass 69 relative abundance | 96290 | 42.4 | | Pass |
| 70 | Less than 2.0% of mass 69 | 481 | 0.21 | (0.50) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 109790 | 48.4 | | Pass |
| 197 | Less than 1.0% of mass 198 | 521 | 0.23 | | Pass |
| 198 | Base peak, 100% relative abundance | 227010 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 15330 | 6.75 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 54288 | 23.9 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 6995 | 3.08 | | Pass |
| 441 | Present, but less than mass 443 | 17393 | 7.66 | (73.0) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 120749 | 53.2 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 23826 | 10.5 | (19.7) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6559-ICV6556 | M153444.D | 04/15/19 | 14:05 | 00:11 | Initial cal verification 50 |
| EM6559-CC6556 | M153445.D | 04/15/19 | 14:34 | 00:40 | Continuing cal 50 |
| EM6559-CC6557 | M153446.D | 04/15/19 | 15:02 | 01:08 | Continuing cal 50 |
| EM6559-CC6558 | M153447.D | 04/15/19 | 15:30 | 01:36 | Continuing cal 50 |
| OP19732-MB1 | M153453.D | 04/15/19 | 18:20 | 04:26 | Method Blank |
| OP19732-BS1 | M153454.D | 04/15/19 | 18:49 | 04:55 | Blank Spike |
| OP19732-BSD | M153455.D | 04/15/19 | 19:17 | 05:23 | Blank Spike Duplicate |
| ZZZZZZ | M153456.D | 04/15/19 | 19:45 | 05:51 | (unrelated sample) |
| ZZZZZZ | M153457.D | 04/15/19 | 20:13 | 06:19 | (unrelated sample) |
| ZZZZZZ | M153458.D | 04/15/19 | 20:41 | 06:47 | (unrelated sample) |
| ZZZZZZ | M153459.D | 04/15/19 | 21:09 | 07:15 | (unrelated sample) |
| JC86204-7 | M153460.D | 04/15/19 | 21:38 | 07:44 | (used for QC only; not part of job JC87535) |
| OP19732-MS | M153461.D | 04/15/19 | 22:06 | 08:12 | Matrix Spike |
| OP19732-MSD | M153462.D | 04/15/19 | 22:34 | 08:40 | Matrix Spike Duplicate |
| ZZZZZZ | M153463.D | 04/15/19 | 23:02 | 09:08 | (unrelated sample) |
| ZZZZZZ | M153464.D | 04/15/19 | 23:30 | 09:36 | (unrelated sample) |
| ZZZZZZ | M153465.D | 04/15/19 | 23:58 | 10:04 | (unrelated sample) |
| ZZZZZZ | M153466.D | 04/16/19 | 00:26 | 10:32 | (unrelated sample) |
| ZZZZZZ | M153467.D | 04/16/19 | 00:54 | 11:00 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | EM6559-DFTPP | **Injection Date:** | 04/15/19 |
| **Lab File ID:** | M153443.D | **Injection Time:** | 13:54 |
| **Instrument ID:** | GCMSM | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | M153468.D | 04/16/19 | 01:22 | 11:28 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6594-DFTPP
**Lab File ID:** M154389.D
**Instrument ID:** GCMSM
**Injection Date:** 05/15/19
**Injection Time:** 08:39

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 71066 | 30.5 | | Pass |
| 68 | Less than 2.0% of mass 69 | 350 | 0.15 | (0.38) [a] | Pass |
| 69 | Mass 69 relative abundance | 91803 | 39.3 | | Pass |
| 70 | Less than 2.0% of mass 69 | 304 | 0.13 | (0.33) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 102096 | 43.8 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 233323 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 15740 | 6.75 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 59805 | 25.6 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 6318 | 2.71 | | Pass |
| 441 | Present, but less than mass 443 | 21930 | 9.40 | (79.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 147976 | 63.4 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 27524 | 11.8 | (18.6) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6594-CC6556 | M154390.D | 05/15/19 | 08:50 | 00:11 | Continuing cal 50 |
| EM6594-CC6557 | M154391.D | 05/15/19 | 09:18 | 00:39 | Continuing cal 50 |
| EM6594-CC6558 | M154392.D | 05/15/19 | 09:47 | 01:08 | Continuing cal 50 |
| OP20268-MB1 | M154394.D | 05/15/19 | 10:43 | 02:04 | Method Blank |
| OP20268-BS1 | M154395.D | 05/15/19 | 11:18 | 02:39 | Blank Spike |
| ZZZZZZ | M154397.D | 05/15/19 | 12:15 | 03:36 | (unrelated sample) |
| ZZZZZZ | M154398.D | 05/15/19 | 12:43 | 04:04 | (unrelated sample) |
| ZZZZZZ | M154399.D | 05/15/19 | 13:12 | 04:33 | (unrelated sample) |
| ZZZZZZ | M154400.D | 05/15/19 | 13:40 | 05:01 | (unrelated sample) |
| JC87450-16 | M154401.D | 05/15/19 | 14:09 | 05:30 | (used for QC only; not part of job JC87535) |
| ZZZZZZ | M154402.D | 05/15/19 | 14:37 | 05:58 | (unrelated sample) |
| ZZZZZZ | M154403.D | 05/15/19 | 15:06 | 06:27 | (unrelated sample) |
| ZZZZZZ | M154404.D | 05/15/19 | 15:34 | 06:55 | (unrelated sample) |
| OP20268-MS | M154405.D | 05/15/19 | 16:03 | 07:24 | Matrix Spike |
| OP20268-MSD | M154406.D | 05/15/19 | 16:31 | 07:52 | Matrix Spike Duplicate |
| ZZZZZZ | M154407.D | 05/15/19 | 17:00 | 08:21 | (unrelated sample) |
| ZZZZZZ | M154408.D | 05/15/19 | 17:29 | 08:50 | (unrelated sample) |
| ZZZZZZ | M154409.D | 05/15/19 | 17:57 | 09:18 | (unrelated sample) |
| ZZZZZZ | M154410.D | 05/15/19 | 18:26 | 09:47 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | EM6594-DFTPP | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | M154389.D | **Injection Time:** | 08:39 |
| **Instrument ID:** | GCMSM | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | M154411.D | 05/15/19 | 18:54 | 10:15 | (unrelated sample) |
| ZZZZZZ | M154412.D | 05/15/19 | 19:23 | 10:44 | (unrelated sample) |
| ZZZZZZ | M154413.D | 05/15/19 | 19:52 | 11:13 | (unrelated sample) |
| ZZZZZZ | M154414.D | 05/15/19 | 20:21 | 11:42 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6595-DFTPP
**Lab File ID:** M154415.D
**Instrument ID:** GCMSM
**Injection Date:** 05/16/19
**Injection Time:** 08:45

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 77848 | 32.4 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 105401 | 43.8 | | Pass |
| 70 | Less than 2.0% of mass 69 | 796 | 0.33 | (0.76) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 109116 | 45.3 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 240618 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 16987 | 7.06 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 57506 | 23.9 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 5856 | 2.43 | | Pass |
| 441 | Present, but less than mass 443 | 24321 | 10.1 | (78.6) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 161160 | 67.0 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 30926 | 12.9 | (19.2) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6595-CC6556 | M154416.D | 05/16/19 | 08:57 | 00:12 | Continuing cal 25 |
| EM6595-CC6557 | M154417.D | 05/16/19 | 09:25 | 00:40 | Continuing cal 25 |
| OP20412-MB | M154420.D | 05/16/19 | 10:51 | 02:06 | Method Blank |
| OP20412-LB38 | M154421.D | 05/16/19 | 11:19 | 02:34 | Leachate Blank |
| OP20412-BS | M154422.D | 05/16/19 | 11:48 | 03:03 | Blank Spike |
| ZZZZZZ | M154438.D | 05/16/19 | 12:16 | 03:31 | (unrelated sample) |
| ZZZZZZ | M154423.D | 05/16/19 | 12:45 | 04:00 | (unrelated sample) |
| TD38572-1 | M154424.D | 05/16/19 | 13:13 | 04:28 | (used for QC only; not part of job JC87535) |
| OP20412-LS24 | M154425.D | 05/16/19 | 13:42 | 04:57 | Leachate Spike |
| OP20412-MS | M154425.D | 05/16/19 | 13:42 | 04:57 | Matrix Spike |
| OP20412-MSD | M154426.D | 05/16/19 | 14:10 | 05:25 | Matrix Spike Duplicate |
| OP20139-MB | M154439.D | 05/16/19 | 14:39 | 05:54 | Method Blank |
| ZZZZZZ | M154440.D | 05/16/19 | 15:08 | 06:23 | (unrelated sample) |
| ZZZZZZ | M154427.D | 05/16/19 | 15:36 | 06:51 | (unrelated sample) |
| ZZZZZZ | M154428.D | 05/16/19 | 16:05 | 07:20 | (unrelated sample) |
| ZZZZZZ | M154429.D | 05/16/19 | 16:34 | 07:49 | (unrelated sample) |
| JC87535-2 | M154430.D | 05/16/19 | 17:03 | 08:18 | S-157(23-25) |
| ZZZZZZ | M154431.D | 05/16/19 | 17:31 | 08:46 | (unrelated sample) |
| ZZZZZZ | M154432.D | 05/16/19 | 18:00 | 09:15 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | EM6595-DFTPP | **Injection Date:** | 05/16/19 |
| **Lab File ID:** | M154415.D | **Injection Time:** | 08:45 |
| **Instrument ID:** | GCMSM | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | M154433.D | 05/16/19 | 18:28 | 09:43 | (unrelated sample) |
| JC87535-1 | M154434.D | 05/16/19 | 18:57 | 10:12 | S-157(7-9) |
| JC87535-4 | M154435.D | 05/16/19 | 19:26 | 10:41 | S-156(7.5-9.5) |
| ZZZZZZ | M154436.D | 05/16/19 | 19:55 | 11:10 | (unrelated sample) |
| JC87535-3 | M154437.D | 05/16/19 | 20:23 | 11:38 | S-156(3-5) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6596-DFTPP
**Lab File ID:** M154446.D
**Instrument ID:** GCMSM
**Injection Date:** 05/17/19
**Injection Time:** 11:41

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 71710 | 31.8 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 98689 | 43.7 | | Pass |
| 70 | Less than 2.0% of mass 69 | 449 | 0.20 | (0.45) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 108717 | 48.2 | | Pass |
| 197 | Less than 1.0% of mass 198 | 597 | 0.26 | | Pass |
| 198 | Base peak, 100% relative abundance | 225642 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 15561 | 6.90 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 52706 | 23.4 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 6974 | 3.09 | | Pass |
| 441 | Present, but less than mass 443 | 25075 | 11.1 | (71.4) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 179946 | 79.7 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 35128 | 15.6 | (19.5) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EM6596-CC6556 | M154448.D | 05/17/19 | 12:23 | 00:42 | Continuing cal 50 |
| EM6596-CC6557 | M154449.D | 05/17/19 | 13:01 | 01:20 | Continuing cal 50 |
| EM6596-CC6558 | M154450.D | 05/17/19 | 13:30 | 01:49 | Continuing cal 50 |
| OP20460-BSD | M154455.D | 05/17/19 | 15:56 | 04:15 | Blank Spike Duplicate |
| OP20466-MB1 | M154456.D | 05/17/19 | 16:25 | 04:44 | Method Blank |
| OP20460-MB1 | M154470.D | 05/17/19 | 16:53 | 05:12 | Method Blank |
| OP20466-BS1 | M154457.D | 05/17/19 | 17:22 | 05:41 | Blank Spike |
| ZZZZZZ | M154458.D | 05/17/19 | 17:51 | 06:10 | (unrelated sample) |
| ZZZZZZ | M154459.D | 05/17/19 | 18:19 | 06:38 | (unrelated sample) |
| JC88289-1 | M154460.D | 05/17/19 | 18:48 | 07:07 | (used for QC only; not part of job JC87535) |
| OP20466-MS | M154462.D | 05/17/19 | 19:46 | 08:05 | Matrix Spike |
| OP20466-MSD | M154463.D | 05/17/19 | 20:15 | 08:34 | Matrix Spike Duplicate |
| OP20460-BS1 | M154471.D | 05/17/19 | 20:43 | 09:02 | Blank Spike |
| JC87535-3 | M154464.D | 05/17/19 | 21:12 | 09:31 | S-156(3-5) |
| JC87535-3 | M154465.D | 05/17/19 | 21:41 | 10:00 | S-156(3-5) |
| ZZZZZZ | M154466.D | 05/17/19 | 22:10 | 10:29 | (unrelated sample) |

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E2M4980-CC4974 | **Injection Date:** | 05/18/19 |
| **Lab File ID:** | 2M111983.D | **Injection Time:** | 02:35 |
| **Instrument ID:** | GCMS2M | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 469515 | 4.76 | 1702380 | 5.87 | 936530 | 7.95 | 1701098 | 10.12 | 1511737 | 14.29 | 1616211 | 16.39 |
| Upper Limit [a] | 939030 | 5.26 | 3404760 | 6.37 | 1873060 | 8.45 | 3402196 | 10.62 | 3023474 | 14.79 | 3232422 | 16.89 |
| Lower Limit [b] | 234758 | 4.26 | 851190 | 5.37 | 468265 | 7.45 | 850549 | 9.62 | 755869 | 13.79 | 808106 | 15.89 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20269-MB1 | 487684 | 4.76 | 1741884 | 5.87 | 914935 | 7.95 | 1598696 | 10.12 | 1369962 | 14.28 | 1334026 | 16.39 |
| OP20269-BS1 | 429671 | 4.76 | 1593366 | 5.87 | 860039 | 7.95 | 1508459 | 10.12 | 1206144 | 14.29 | 1251888 | 16.39 |
| OP20465-MB1 | 406638 | 4.76 | 1448421 | 5.87 | 758934 | 7.95 | 1316436 | 10.12 | 1156168 | 14.28 | 1132152 | 16.39 |
| OP20465-BS1 | 401164 | 4.76 | 1464339 | 5.87 | 778420 | 7.95 | 1339525 | 10.12 | 1102369 | 14.29 | 1154940 | 16.39 |
| OP20465-BSD | 418875 | 4.76 | 1472024 | 5.87 | 802204 | 7.95 | 1385787 | 10.12 | 1108765 | 14.29 | 1173612 | 16.39 |
| ZZZZZZ | 380622 | 4.76 | 1335389 | 5.87 | 716492 | 7.95 | 1261127 | 10.12 | 1169421 | 14.28 | 1155249 | 16.39 |
| ZZZZZZ | 384340 | 4.76 | 1386678 | 5.87 | 748292 | 7.95 | 1292496 | 10.12 | 1236129 | 14.28 | 1255020 | 16.39 |
| ZZZZZZ | 417891 | 4.76 | 1485804 | 5.87 | 798281 | 7.95 | 1382020 | 10.12 | 1301859 | 14.28 | 1345306 | 16.39 |
| ZZZZZZ | 445334 | 4.76 | 1564900 | 5.87 | 817166 | 7.95 | 1409414 | 10.12 | 1245450 | 14.28 | 1268016 | 16.39 |
| OP20269-MS2 | 480650 | 4.76 | 1712956 | 5.87 | 933072 | 7.95 | 1589854 | 10.12 | 1216203 | 14.30 | 1308641 | 16.40 |
| OP20269-MSD2 | 471329 | 4.76 | 1696590 | 5.87 | 931450 | 7.95 | 1569589 | 10.13 | 1195585 | 14.30 | 1399469 | 16.40 |
| JC87535-8 | 537014 | 4.76 | 1877882 | 5.87 | 972524 | 7.95 | 1681239 | 10.12 | 1437501 | 14.30 | 1467468 | 16.40 |
| OP20269-MS | 441437 | 4.76 | 1580462 | 5.87 | 889680 | 7.95 | 1563464 | 10.12 | 1242951 | 14.30 | 1442323 | 16.40 |
| OP20269-MSD | 518184 | 4.76 | 1863900 | 5.87 | 1003373 | 7.95 | 1708476 | 10.12 | 1309722 | 14.30 | 1438954 | 16.40 |
| JC87563-7 | 518828 | 4.76 | 1781980 | 5.87 | 957795 | 7.95 | 1628058 | 10.12 | 1344822 | 14.29 | 1338896 | 16.40 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E2M4981-CC4974 | **Injection Date:** | 05/18/19 |
| **Lab File ID:** | 2M112009.D | **Injection Time:** | 19:04 |
| **Instrument ID:** | GCMS2M | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 395101 | 4.75 | 1424797 | 5.86 | 842367 | 7.94 | 1499037 | 10.11 | 1221300 | 14.28 | 1436695 | 16.39 |
| Upper Limit [a] | 790202 | 5.25 | 2849594 | 6.36 | 1684734 | 8.44 | 2998074 | 10.61 | 2442600 | 14.78 | 2873390 | 16.89 |
| Lower Limit [b] | 197551 | 4.25 | 712399 | 5.36 | 421184 | 7.44 | 749519 | 9.61 | 610650 | 13.78 | 718348 | 15.89 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20482-MB1 | 460018 | 4.75 | 1632885 | 5.86 | 862796 | 7.94 | 1551105 | 10.11 | 1420708 | 14.28 | 1473022 | 16.39 |
| OP20482-BS1 | 435056 | 4.76 | 1549221 | 5.86 | 832727 | 7.94 | 1458537 | 10.11 | 1205249 | 14.28 | 1328719 | 16.39 |
| OP20482-BSD | 467422 | 4.76 | 1665680 | 5.86 | 914992 | 7.94 | 1610488 | 10.11 | 1269279 | 14.28 | 1397712 | 16.39 |
| ZZZZZZ | 435874 | 4.75 | 1540656 | 5.86 | 816837 | 7.94 | 1419877 | 10.11 | 1277519 | 14.28 | 1289649 | 16.39 |
| ZZZZZZ | 433953 | 4.75 | 1560565 | 5.86 | 841640 | 7.94 | 1457888 | 10.11 | 1383189 | 14.28 | 1403832 | 16.39 |
| ZZZZZZ | 418903 | 4.75 | 1476195 | 5.86 | 795562 | 7.94 | 1409585 | 10.11 | 1293613 | 14.28 | 1313472 | 16.39 |
| ZZZZZZ | 402706 | 4.75 | 1430897 | 5.86 | 763081 | 7.94 | 1353691 | 10.11 | 1238041 | 14.28 | 1250133 | 16.39 |
| ZZZZZZ | 429637 | 4.75 | 1535790 | 5.86 | 821161 | 7.94 | 1458481 | 10.11 | 1358374 | 14.28 | 1358567 | 16.39 |
| ZZZZZZ | 415209 | 4.75 | 1466300 | 5.86 | 778514 | 7.94 | 1380707 | 10.11 | 1256539 | 14.28 | 1270877 | 16.39 |
| ZZZZZZ | 419579 | 4.75 | 1495924 | 5.86 | 798684 | 7.94 | 1414474 | 10.11 | 1285761 | 14.28 | 1289365 | 16.39 |
| ZZZZZZ | 405781 | 4.75 | 1439818 | 5.86 | 764745 | 7.94 | 1371691 | 10.11 | 1269292 | 14.28 | 1259938 | 16.39 |
| ZZZZZZ | 395388 | 4.75 | 1424200 | 5.86 | 756144 | 7.94 | 1333090 | 10.11 | 1252499 | 14.28 | 1285539 | 16.39 |
| ZZZZZZ | 404771 | 4.75 | 1422057 | 5.86 | 754579 | 7.94 | 1327980 | 10.11 | 1214192 | 14.28 | 1234125 | 16.39 |
| ZZZZZZ | 405157 | 4.75 | 1425845 | 5.86 | 753846 | 7.94 | 1329025 | 10.11 | 1222383 | 14.28 | 1234508 | 16.39 |
| ZZZZZZ | 423284 | 4.75 | 1500427 | 5.86 | 797429 | 7.94 | 1412612 | 10.11 | 1295782 | 14.28 | 1297085 | 16.39 |
| ZZZZZZ | 402715 | 4.75 | 1428887 | 5.86 | 751834 | 7.94 | 1342209 | 10.11 | 1222676 | 14.28 | 1221006 | 16.39 |
| ZZZZZZ | 427946 | 4.75 | 1519756 | 5.86 | 811480 | 7.94 | 1428627 | 10.11 | 1285045 | 14.28 | 1303391 | 16.39 |
| ZZZZZZ | 395590 | 4.75 | 1417275 | 5.86 | 746932 | 7.94 | 1305387 | 10.11 | 1161585 | 14.28 | 1147896 | 16.39 |
| JC87535-8 | 467481 | 4.75 | 1645443 | 5.86 | 892078 | 7.94 | 1576263 | 10.11 | 1441225 | 14.28 | 1479304 | 16.39 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E2M4982-CC4974 | **Injection Date:** | 05/19/19 |
| **Lab File ID:** | 2M112035.D | **Injection Time:** | 11:29 |
| **Instrument ID:** | GCMS2M | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 371623 | 4.75 | 1437278 | 5.86 | 822543 | 7.93 | 1373124 | 10.10 | 1183323 | 14.27 | 1316155 | 16.38 |
| Upper Limit [a] | 743246 | 5.25 | 2874556 | 6.36 | 1645086 | 8.43 | 2746248 | 10.60 | 2366646 | 14.77 | 2632310 | 16.88 |
| Lower Limit [b] | 185812 | 4.25 | 718639 | 5.36 | 411272 | 7.43 | 686562 | 9.60 | 591662 | 13.77 | 658078 | 15.88 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20464-MB1 | 440394 | 4.75 | 1568747 | 5.85 | 822426 | 7.93 | 1456427 | 10.10 | 1318504 | 14.27 | 1337837 | 16.37 |
| OP20464-BS1 | 405332 | 4.75 | 1459808 | 5.86 | 775108 | 7.93 | 1350036 | 10.10 | 1127998 | 14.27 | 1204736 | 16.38 |
| OP20464-BSD | 479238 | 4.75 | 1719643 | 5.86 | 916705 | 7.93 | 1569748 | 10.10 | 1319859 | 14.27 | 1365889 | 16.38 |
| ZZZZZZ | 419076 | 4.75 | 1472866 | 5.85 | 778566 | 7.93 | 1370892 | 10.10 | 1245168 | 14.26 | 1242895 | 16.37 |
| ZZZZZZ | 422483 | 4.75 | 1526579 | 5.85 | 808418 | 7.93 | 1436768 | 10.10 | 1321729 | 14.27 | 1313832 | 16.37 |
| ZZZZZZ | 423402 | 4.75 | 1509962 | 5.85 | 792795 | 7.93 | 1406678 | 10.10 | 1297963 | 14.27 | 1311860 | 16.38 |
| ZZZZZZ | 445221 | 4.75 | 1594979 | 5.85 | 834510 | 7.93 | 1478971 | 10.10 | 1361460 | 14.27 | 1408331 | 16.37 |
| ZZZZZZ | 435043 | 4.75 | 1560418 | 5.85 | 831609 | 7.93 | 1479368 | 10.10 | 1361349 | 14.27 | 1343639 | 16.38 |
| JC87535-9 | 401871 | 4.75 | 1186125 | 5.86 | 680924 | 7.94 | 1385604 | 10.11 | 1531260 | 14.27 | 1540998 | 16.37 |
| JC87535-11 | 431663 | 4.75 | 1428358 | 5.86 | 826666 | 7.93 | 1501003 | 10.11 | 1325995 | 14.29 | 1501864 | 16.39 |
| JC87535-11 | 405696 | 4.75 | 1464770 | 5.86 | 772474 | 7.93 | 1398836 | 10.10 | 1330996 | 14.27 | 1362497 | 16.38 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E5P2816-CC2761 | **Injection Date:** | 05/16/19 |
| **Lab File ID:** | 5P59678.D | **Injection Time:** | 10:24 |
| **Instrument ID:** | GCMS5P | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 162723 | 3.90 | 615175 | 5.08 | 383844 | 6.76 | 667870 | 8.19 | 647106 | 11.42 | 671479 | 13.39 |
| Upper Limit [a] | 325446 | 4.40 | 1230350 | 5.58 | 767688 | 7.26 | 1335740 | 8.69 | 1294212 | 11.92 | 1342958 | 13.89 |
| Lower Limit [b] | 81362 | 3.40 | 307588 | 4.58 | 191922 | 6.26 | 333935 | 7.69 | 323553 | 10.92 | 335740 | 12.89 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZZZZZZ | 181626 | 3.90 | 688259 | 5.08 | 366599 | 6.76 | 639276 | 8.19 | 634815 | 11.42 | 670417 | 13.39 |
| ZZZZZZ | 192879 | 3.90 | 698539 | 5.08 | 369311 | 6.76 | 640474 | 8.19 | 608420 | 11.42 | 613538 | 13.39 |
| OP20269-MB1 | 195768 | 3.90 | 726204 | 5.08 | 396653 | 6.76 | 713687 | 8.19 | 623823 | 11.42 | 575327 | 13.39 |
| ZZZZZZ | 190267 | 3.90 | 740803 | 5.08 | 371974 | 6.76 | 691800 | 8.19 | 602866 | 11.41 | 555731 | 13.39 |
| ZZZZZZ | 203105 | 3.90 | 762503 | 5.08 | 412437 | 6.76 | 745732 | 8.19 | 701468 | 11.42 | 623317 | 13.39 |
| ZZZZZZ | 176029 | 3.90 | 686847 | 5.09 | 398514 | 6.76 | 747407 | 8.19 | 679783 | 11.42 | 622641 | 13.39 |
| JC87535-6 | 183764 | 3.90 | 679313 | 5.08 | 360999 | 6.76 | 671563 | 8.19 | 627913 | 11.41 | 572974 | 13.39 |
| JC87535-9 | 153829 | 3.90 | 562291 | 5.10 | 366430 | 6.82 | 414574 | 8.27 | 726292 | 11.43 | 751092 | 13.39 |
| JC87535-10 | 198358 | 3.90 | 763831 | 5.08 | 394436 | 6.76 | 688068 | 8.19 | 708692 | 11.42 | 720821 | 13.39 |
| JC87535-12 | 196724 | 3.90 | 729037 | 5.08 | 391410 | 6.76 | 635560 | 8.19 | 633217 | 11.42 | 637064 | 13.39 |
| JC87535-5 | 196950 | 3.90 | 715488 | 5.08 | 363425 | 6.76 | 611679 | 8.19 | 644677 | 11.42 | 607440 | 13.39 |
| ZZZZZZ | 197700 | 3.90 | 736773 | 5.08 | 388723 | 6.76 | 649673 | 8.19 | 610367 | 11.42 | 608016 | 13.39 |
| ZZZZZZ | 182131 | 3.90 | 692101 | 5.08 | 355952 | 6.76 | 627259 | 8.19 | 642632 | 11.43 | 238050* | 13.65 |
| ZZZZZZ | 170879 | 3.90 | 629469 | 5.08 | 324777 | 6.76 | 606385 | 8.19 | 598861 | 11.42 | 643362 | 13.42 |
| JC87535-11 [c] | 185026 | 3.90 | 404071 | 5.12 | 439455 | 6.78 | 545627 | 8.24 | 730871 | 11.56 | 747337 | 13.53 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Dilution required due to viscosity of the extract matrix.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E5P2818-CC2761 | **Injection Date:** | 05/17/19 |
| **Lab File ID:** | 5P59742.D | **Injection Time:** | 16:21 |
| **Instrument ID:** | GCMS5P | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 146711 | 3.87 | 571004 | 5.06 | 364730 | 6.73 | 647633 | 8.16 | 683640 | 11.38 | 724141 | 13.35 |
| Upper Limit [a] | 293422 | 4.37 | 1142008 | 5.56 | 729460 | 7.23 | 1295266 | 8.66 | 1367280 | 11.88 | 1448282 | 13.85 |
| Lower Limit [b] | 73356 | 3.37 | 285502 | 4.56 | 182365 | 6.23 | 323817 | 7.66 | 341820 | 10.88 | 362071 | 12.85 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JC87535-9 | 148538 | 3.87 | 552285 | 5.05 | 344099 | 6.74 | 651835 | 8.17 | 773909 | 11.38 | 722960 | 13.35 |
| JC87535-7 | 179318 | 3.86 | 691052 | 5.05 | 372898 | 6.73 | 667433 | 8.16 | 664704 | 11.37 | 657809 | 13.35 |
| JC87535-7 | 183270 | 3.86 | 679222 | 5.06 | 354857 | 6.73 | 697668 | 8.16 | 706604 | 11.39 | 764181 | 13.36 |
| ZZZZZZ | 188817 | 3.86 | 699070 | 5.05 | 370035 | 6.73 | 653277 | 8.15 | 609454 | 11.37 | 562930 | 13.35 |
| ZZZZZZ | 187675 | 3.86 | 714847 | 5.05 | 389807 | 6.73 | 680695 | 8.15 | 648365 | 11.37 | 599435 | 13.35 |
| ZZZZZZ | 185638 | 3.86 | 707830 | 5.05 | 380598 | 6.73 | 678956 | 8.15 | 616141 | 11.37 | 592788 | 13.35 |
| ZZZZZZ | 172550 | 3.86 | 687015 | 5.05 | 357508 | 6.73 | 644528 | 8.15 | 622965 | 11.37 | 584522 | 13.35 |
| ZZZZZZ | 174468 | 3.86 | 675140 | 5.05 | 355731 | 6.73 | 628379 | 8.15 | 587711 | 11.37 | 592442 | 13.35 |
| ZZZZZZ | 179378 | 3.86 | 671914 | 5.05 | 356785 | 6.73 | 629677 | 8.15 | 590331 | 11.37 | 578214 | 13.35 |
| ZZZZZZ | 134884 | 3.87 | 556323 | 5.07 | 351272 | 6.79 | 384522 | 8.23 | 795752 | 11.39 | 803206 | 13.35 |
| ZZZZZZ | 200038 | 3.86 | 754124 | 5.05 | 393149 | 6.73 | 680859 | 8.15 | 647315 | 11.38 | 640662 | 13.35 |
| ZZZZZZ | 207795 | 3.86 | 741496 | 5.05 | 412534 | 6.73 | 692007 | 8.16 | 656854 | 11.37 | 644690 | 13.35 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E5P2823-CC2761 | **Injection Date:** | 05/21/19 |
| **Lab File ID:** | 5P59860.D | **Injection Time:** | 04:00 |
| **Instrument ID:** | GCMS5P | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 162222 | 3.78 | 614431 | 4.97 | 352022 | 6.65 | 628076 | 8.07 | 688527 | 11.25 | 705691 | 13.21 |
| Upper Limit [a] | 324444 | 4.28 | 1228862 | 5.47 | 704044 | 7.15 | 1256152 | 8.57 | 1377054 | 11.75 | 1411382 | 13.71 |
| Lower Limit [b] | 81111 | 3.28 | 307216 | 4.47 | 176011 | 6.15 | 314038 | 7.57 | 344264 | 10.75 | 352846 | 12.71 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20489-MB1 | 171863 | 3.78 | 640658 | 4.97 | 342075 | 6.64 | 625592 | 8.07 | 648327 | 11.25 | 624806 | 13.21 |
| OP20489-BS1 | 155983 | 3.79 | 576997 | 4.97 | 334497 | 6.65 | 562083 | 8.07 | 576095 | 11.25 | 581878 | 13.21 |
| OP20488-MB1 | 158966 | 3.78 | 591401 | 4.97 | 314712 | 6.64 | 589817 | 8.07 | 621394 | 11.25 | 613353 | 13.21 |
| OP20488-BS1 | 150129 | 3.78 | 550603 | 4.97 | 335804 | 6.65 | 555653 | 8.07 | 577810 | 11.25 | 592590 | 13.21 |
| ZZZZZZ | 174500 | 3.78 | 674217 | 4.97 | 349261 | 6.64 | 684850 | 8.07 | 675964 | 11.25 | 651518 | 13.21 |
| OP20488-MS | 165779 | 3.79 | 613720 | 4.97 | 348568 | 6.65 | 594530 | 8.07 | 619455 | 11.25 | 613156 | 13.21 |
| OP20488-MSD | 162954 | 3.78 | 588658 | 4.97 | 329821 | 6.65 | 553462 | 8.07 | 568856 | 11.25 | 568285 | 13.21 |
| JC88347-1 | 167347 | 3.78 | 620966 | 4.96 | 352297 | 6.64 | 609513 | 8.07 | 602869 | 11.25 | 587708 | 13.21 |
| ZZZZZZ | 171607 | 3.78 | 662619 | 4.96 | 357291 | 6.64 | 659195 | 8.07 | 626421 | 11.25 | 607788 | 13.21 |
| ZZZZZZ | 166488 | 3.78 | 656472 | 4.97 | 358050 | 6.64 | 639212 | 8.07 | 642419 | 11.25 | 626433 | 13.21 |
| ZZZZZZ | 163915 | 3.78 | 640975 | 4.96 | 337707 | 6.64 | 613809 | 8.07 | 623061 | 11.25 | 605110 | 13.21 |
| ZZZZZZ | 180981 | 3.78 | 703649 | 4.96 | 369716 | 6.64 | 681127 | 8.07 | 685711 | 11.25 | 680855 | 13.21 |
| OP20489-MS | 165255 | 3.79 | 610149 | 4.97 | 369729 | 6.65 | 622263 | 8.07 | 622148 | 11.25 | 627674 | 13.21 |
| OP20489-MSD | 169884 | 3.78 | 604515 | 4.97 | 366606 | 6.65 | 585996 | 8.07 | 605780 | 11.25 | 616060 | 13.21 |
| JC88253-1 | 179530 | 3.78 | 685546 | 4.96 | 352798 | 6.64 | 652677 | 8.07 | 646797 | 11.25 | 649862 | 13.21 |
| ZZZZZZ | 170257 | 3.78 | 652394 | 4.96 | 351036 | 6.64 | 640081 | 8.07 | 642240 | 11.25 | 645720 | 13.21 |
| JC87535-7 [c] | 194642 | 3.79 | 532129 | 5.00 | 463584 | 6.65 | 644810 | 8.10 | 837131 | 11.36 | 835551 | 13.32 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Dilution required due to matrix interference.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2590-CC2562 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 6P481844.D | **Injection Time:** | 16:00 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| | IS 1 | | IS 2 | | IS 3 | | IS 4 | | IS 5 | | IS 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT |
| Check Std | 520639 | 4.19 | 2178595 | 5.17 | 1288242 | 6.84 | 2212130 | 8.50 | 1943934 | 11.66 | 2070132 | 13.26 |
| Upper Limit [a] | 1041278 | 4.69 | 4357190 | 5.67 | 2576484 | 7.34 | 4424260 | 9.00 | 3887868 | 12.16 | 4140264 | 13.76 |
| Lower Limit [b] | 260320 | 3.69 | 1089298 | 4.67 | 644121 | 6.34 | 1106065 | 8.00 | 971967 | 11.16 | 1035066 | 12.76 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20355-MB | 481982 | 4.19 | 1816747 | 5.17 | 1001674 | 6.83 | 2050685 | 8.49 | 1853759 | 11.65 | 1679424 | 13.25 |
| OP20381-MB | 481982 | 4.19 | 1816747 | 5.17 | 1001674 | 6.83 | 2050685 | 8.49 | 1853759 | 11.65 | 1679424 | 13.25 |
| OP20353-MB | 481982 | 4.19 | 1816747 | 5.17 | 1001674 | 6.83 | 2050685 | 8.49 | 1853759 | 11.65 | 1679424 | 13.25 |
| OP20354-MB | 481982 | 4.19 | 1816747 | 5.17 | 1001674 | 6.83 | 2050685 | 8.49 | 1853759 | 11.65 | 1679424 | 13.25 |
| OP20353-LB34 | 506474 | 4.19 | 1830935 | 5.16 | 1057032 | 6.83 | 2042043 | 8.49 | 1934479 | 11.65 | 1814881 | 13.25 |
| OP20354-LB36 | 468977 | 4.19 | 1786747 | 5.16 | 981299 | 6.83 | 2036504 | 8.49 | 1826251 | 11.65 | 1830279 | 13.25 |
| OP20355-LB31 | 460026 | 4.19 | 1765670 | 5.16 | 1021289 | 6.83 | 2055254 | 8.49 | 1843927 | 11.65 | 1713721 | 13.25 |
| OP20354-BS | 472675 | 4.19 | 1772109 | 5.17 | 975126 | 6.83 | 1786192 | 8.49 | 1755658 | 11.65 | 1637956 | 13.25 |
| OP20355-BS | 472675 | 4.19 | 1772109 | 5.17 | 975126 | 6.83 | 1786192 | 8.49 | 1755658 | 11.65 | 1637956 | 13.25 |
| OP20381-BS | 472675 | 4.19 | 1772109 | 5.17 | 975126 | 6.83 | 1786192 | 8.49 | 1755658 | 11.65 | 1637956 | 13.25 |
| OP20353-BS | 472675 | 4.19 | 1772109 | 5.17 | 975126 | 6.83 | 1786192 | 8.49 | 1755658 | 11.65 | 1637956 | 13.25 |
| OP20381-BSD | 447606 | 4.19 | 1658334 | 5.17 | 918077 | 6.83 | 1803228 | 8.49 | 1668373 | 11.65 | 1521323 | 13.25 |
| ZZZZZZ | 497419 | 4.19 | 1861320 | 5.17 | 1117174 | 6.83 | 2145813 | 8.49 | 1919190 | 11.64 | 1856354 | 13.25 |
| JC87414-5R | 463097 | 4.19 | 1903362 | 5.16 | 984195 | 6.83 | 2047283 | 8.49 | 1859373 | 11.64 | 1838976 | 13.25 |
| ZZZZZZ | 472471 | 4.19 | 1788509 | 5.16 | 987729 | 6.83 | 1910752 | 8.49 | 1874356 | 11.64 | 1888227 | 13.25 |
| ZZZZZZ | 446898 | 4.19 | 1721030 | 5.16 | 953340 | 6.83 | 1927834 | 8.49 | 1709680 | 11.65 | 1678605 | 13.25 |
| ZZZZZZ | 368227 | 4.19 | 1444404 | 5.16 | 777943 | 6.83 | 1497598 | 8.49 | 1394266 | 11.64 | 1424850 | 13.24 |
| OP20353-MS | 488653 | 4.19 | 1850240 | 5.17 | 1038068 | 6.83 | 1955046 | 8.49 | 1957340 | 11.65 | 1680376 | 13.25 |
| OP20353-LS20 | 488653 | 4.19 | 1850240 | 5.17 | 1038068 | 6.83 | 1955046 | 8.49 | 1957340 | 11.65 | 1680376 | 13.25 |
| OP20353-MSD | 451406 | 4.19 | 1687236 | 5.17 | 925378 | 6.83 | 1839986 | 8.49 | 1812457 | 11.65 | 1583508 | 13.25 |
| JC87610-2A | 397693 | 4.19 | 1541191 | 5.16 | 842897 | 6.83 | 1755242 | 8.49 | 1571611 | 11.64 | 1559913 | 13.24 |
| ZZZZZZ | 438607 | 4.19 | 1654775 | 5.16 | 976970 | 6.83 | 1775848 | 8.49 | 1626807 | 11.64 | 1627067 | 13.24 |
| OP20354-LS22 | 484998 | 4.19 | 1797723 | 5.16 | 988643 | 6.83 | 1926672 | 8.49 | 1791093 | 11.65 | 1629503 | 13.24 |
| OP20354-MS | 484998 | 4.19 | 1797723 | 5.16 | 988643 | 6.83 | 1926672 | 8.49 | 1791093 | 11.65 | 1629503 | 13.24 |
| OP20354-MSD | 529749 | 4.19 | 1888309 | 5.17 | 1089390 | 6.83 | 2042877 | 8.49 | 1892128 | 11.65 | 1445222 | 13.25 |
| JC87670-5A | 518511 | 4.19 | 1975256 | 5.16 | 1001455 | 6.83 | 1942283 | 8.49 | 1765646 | 11.64 | 1850451 | 13.24 |
| OP20355-LS18 | 401695 | 4.19 | 1485940 | 5.16 | 791472 | 6.83 | 1541365 | 8.49 | 1409435 | 11.65 | 1232255 | 13.24 |
| OP20355-MS | 401695 | 4.19 | 1485940 | 5.16 | 791472 | 6.83 | 1541365 | 8.49 | 1409435 | 11.65 | 1232255 | 13.24 |
| OP20355-MSD | 452031 | 4.19 | 1723258 | 5.17 | 978783 | 6.83 | 1829515 | 8.49 | 1898456 | 11.65 | 1575554 | 13.25 |
| ZZZZZZ | 422000 | 4.19 | 1508713 | 5.16 | 780620 | 6.82 | 1429740 | 8.49 | 1205785 | 11.64 | 1111555 | 13.24 |
| ZZZZZZ | 447601 | 4.19 | 1610834 | 5.16 | 828704 | 6.82 | 1494155 | 8.49 | 1209751 | 11.64 | 1207755 | 13.24 |
| ZZZZZZ | 408021 | 4.19 | 1515972 | 5.16 | 782058 | 6.82 | 1398973 | 8.49 | 1166902 | 11.64 | 1069962 | 13.24 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2590-CC2562 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 6P481844.D | **Injection Time:** | 16:00 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| Lab Sample ID | IS 1 AREA | IS 1 RT | IS 2 AREA | IS 2 RT | IS 3 AREA | IS 3 RT | IS 4 AREA | IS 4 RT | IS 5 AREA | IS 5 RT | IS 6 AREA | IS 6 RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

8.7.7

8

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2591-CC2562 | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | 6P481874.D | **Injection Time:** | 09:17 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 562770 | 4.18 | 2305093 | 5.15 | 1357988 | 6.81 | 2400184 | 8.47 | 2110409 | 11.63 | 2328489 | 13.22 |
| Upper Limit [a] | 1125540 | 4.68 | 4610186 | 5.65 | 2715976 | 7.31 | 4800368 | 8.97 | 4220818 | 12.13 | 4656978 | 13.72 |
| Lower Limit [b] | 281385 | 3.68 | 1152547 | 4.65 | 678994 | 6.31 | 1200092 | 7.97 | 1055205 | 11.13 | 1164245 | 12.72 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP19978A-MB1 | 450062 | 4.18 | 1660762 | 5.15 | 896730 | 6.81 | 1861723 | 8.47 | 1571128 | 11.62 | 1650802 | 13.22 |
| OP19978A-BS1 | 424625 | 4.18 | 1643756 | 5.15 | 885420 | 6.81 | 1707307 | 8.47 | 1656123 | 11.62 | 1572419 | 13.22 |
| OP19978A-BSD | 429265 | 4.18 | 1651685 | 5.15 | 890396 | 6.81 | 1696268 | 8.47 | 1646156 | 11.62 | 1644060 | 13.22 |
| OP20224A-MB | 476198 | 4.18 | 1818929 | 5.15 | 982663 | 6.81 | 1935255 | 8.47 | 1802013 | 11.62 | 1585422 | 13.22 |
| OP20224A-BS | 428291 | 4.18 | 1681277 | 5.15 | 915076 | 6.81 | 1780034 | 8.47 | 1772735 | 11.63 | 1527118 | 13.22 |
| OP20224A-BSD | 436505 | 4.18 | 1685241 | 5.15 | 953145 | 6.81 | 1791751 | 8.47 | 1790184 | 11.63 | 1515713 | 13.22 |
| ZZZZZZ | 481418 | 4.18 | 1816755 | 5.15 | 998752 | 6.81 | 2019927 | 8.47 | 1760954 | 11.62 | 1743177 | 13.22 |
| ZZZZZZ | 474517 | 4.18 | 1807096 | 5.15 | 980359 | 6.81 | 1899511 | 8.47 | 1769732 | 11.62 | 1801752 | 13.22 |
| ZZZZZZ | 451037 | 4.18 | 1717306 | 5.15 | 951781 | 6.81 | 1796789 | 8.47 | 1657809 | 11.62 | 1736340 | 13.22 |
| ZZZZZZ | 472910 | 4.18 | 1803985 | 5.15 | 978355 | 6.81 | 1879022 | 8.47 | 1731300 | 11.62 | 1833546 | 13.22 |
| ZZZZZZ | 423904 | 4.18 | 1622596 | 5.15 | 870261 | 6.81 | 1671950 | 8.47 | 1577137 | 11.62 | 1621846 | 13.22 |
| ZZZZZZ | 418229 | 4.18 | 1628215 | 5.15 | 892638 | 6.81 | 1708910 | 8.47 | 1604447 | 11.62 | 1653978 | 13.22 |
| ZZZZZZ | 406333 | 4.18 | 1571112 | 5.15 | 847909 | 6.81 | 1661433 | 8.47 | 1554345 | 11.62 | 1632060 | 13.22 |
| JC87535-13 | 416210 | 4.18 | 1584905 | 5.15 | 851134 | 6.81 | 1645439 | 8.47 | 1525692 | 11.62 | 1563097 | 13.22 |
| JC87535-14 | 403257 | 4.18 | 1582512 | 5.16 | 858728 | 6.81 | 1656972 | 8.47 | 1501624 | 11.62 | 1540514 | 13.22 |
| JC87535-15 | 463911 | 4.18 | 1822748 | 5.16 | 995563 | 6.81 | 1940764 | 8.47 | 1800946 | 11.62 | 1881138 | 13.22 |
| ZZZZZZ | 411859 | 4.18 | 1563220 | 5.15 | 869384 | 6.81 | 1663197 | 8.47 | 1565459 | 11.62 | 1616384 | 13.22 |
| JC86683-1R | 420536 | 4.18 | 1595119 | 5.15 | 847976 | 6.81 | 1553751 | 8.47 | 1409210 | 11.63 | 1427736 | 13.22 |
| OP19978A-DUP | 435043 | 4.18 | 1624206 | 5.15 | 862417 | 6.81 | 1608054 | 8.47 | 1414882 | 11.62 | 1392619 | 13.22 |
| ZZZZZZ | 399012 | 4.18 | 1453880 | 5.15 | 767069 | 6.81 | 1443153 | 8.47 | 1243532 | 11.62 | 1175292 | 13.22 |
| ZZZZZZ | 437179 | 4.18 | 1630602 | 5.15 | 935127 | 6.81 | 1673080 | 8.47 | 1545377 | 11.62 | 1555839 | 13.22 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | EM6594-CC6556 | **Injection Date:** | 05/15/19 |
| **Lab File ID:** | M154390.D | **Injection Time:** | 08:50 |
| **Instrument ID:** | GCMSM | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 332409 | 4.37 | 1150510 | 5.43 | 732667 | 7.63 | 1282345 | 10.17 | 1269747 | 15.28 | 1363842 | 17.88 |
| Upper Limit [a] | 664818 | 4.87 | 2301020 | 5.93 | 1465334 | 8.13 | 2564690 | 10.67 | 2539494 | 15.78 | 2727684 | 18.38 |
| Lower Limit [b] | 166205 | 3.87 | 575255 | 4.93 | 366334 | 7.13 | 641173 | 9.67 | 634874 | 14.78 | 681921 | 17.38 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20268-MB1 | 310081 | 4.37 | 1021556 | 5.42 | 523365 | 7.63 | 1025630 | 10.17 | 987377 | 15.27 | 1090233 | 17.87 |
| OP20268-BS1 | 292428 | 4.37 | 944400 | 5.43 | 528409 | 7.63 | 1017732 | 10.17 | 991888 | 15.28 | 990798 | 17.87 |
| ZZZZZZ | 306096 | 4.37 | 1011436 | 5.42 | 517999 | 7.62 | 1019510 | 10.17 | 940255 | 15.27 | 944797 | 17.87 |
| ZZZZZZ | 316454 | 4.38 | 1047250 | 5.42 | 542896 | 7.62 | 1039139 | 10.17 | 985876 | 15.27 | 999780 | 17.87 |
| ZZZZZZ | 328087 | 4.37 | 1100018 | 5.42 | 561560 | 7.63 | 1084621 | 10.17 | 1015075 | 15.27 | 1020045 | 17.86 |
| ZZZZZZ | 315060 | 4.37 | 1063772 | 5.42 | 539531 | 7.63 | 1023065 | 10.17 | 927523 | 15.27 | 942912 | 17.86 |
| JC87450-16 | 319067 | 4.37 | 1048209 | 5.42 | 535087 | 7.63 | 1012868 | 10.17 | 884151 | 15.27 | 891923 | 17.87 |
| ZZZZZZ | 312567 | 4.37 | 1035881 | 5.42 | 540526 | 7.63 | 1030764 | 10.17 | 898252 | 15.27 | 911271 | 17.86 |
| ZZZZZZ | 293645 | 4.37 | 976928 | 5.42 | 502746 | 7.63 | 953977 | 10.17 | 856540 | 15.27 | 909346 | 17.87 |
| ZZZZZZ | 316347 | 4.37 | 1036587 | 5.42 | 523916 | 7.63 | 988957 | 10.17 | 890209 | 15.27 | 922435 | 17.87 |
| OP20268-MS | 281324 | 4.37 | 888225 | 5.43 | 482094 | 7.63 | 913542 | 10.17 | 830750 | 15.28 | 893250 | 17.87 |
| OP20268-MSD | 262931 | 4.38 | 866298 | 5.42 | 469415 | 7.63 | 891882 | 10.17 | 838498 | 15.28 | 881478 | 17.87 |
| ZZZZZZ | 315834 | 4.37 | 1039879 | 5.42 | 532992 | 7.63 | 1037063 | 10.17 | 948670 | 15.27 | 980901 | 17.87 |
| ZZZZZZ | 325648 | 4.37 | 1102765 | 5.42 | 570549 | 7.63 | 1094405 | 10.17 | 941734 | 15.27 | 925894 | 17.87 |
| ZZZZZZ | 335595 | 4.37 | 1109682 | 5.42 | 561597 | 7.63 | 1049238 | 10.17 | 965934 | 15.27 | 1018807 | 17.87 |
| ZZZZZZ | 313736 | 4.38 | 1063931 | 5.42 | 551774 | 7.62 | 1055644 | 10.17 | 1004227 | 15.27 | 1043554 | 17.87 |
| ZZZZZZ | 360257 | 4.37 | 1183191 | 5.42 | 604907 | 7.63 | 1100396 | 10.17 | 920904 | 15.28 | 973729 | 17.88 |
| ZZZZZZ | 371209 | 4.38 | 1198362 | 5.42 | 609659 | 7.63 | 1164283 | 10.18 | 1032606 | 15.28 | 1080670 | 17.87 |
| ZZZZZZ | 352432 | 4.37 | 1169547 | 5.43 | 588050 | 7.63 | 1126202 | 10.17 | 954590 | 15.27 | 975082 | 17.87 |
| ZZZZZZ | 323326 | 4.38 | 1064428 | 5.42 | 535679 | 7.63 | 1021171 | 10.17 | 945614 | 15.28 | 1020835 | 17.87 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | EM6595-CC6556 | **Injection Date:** | 05/16/19 |
| **Lab File ID:** | M154416.D | **Injection Time:** | 08:57 |
| **Instrument ID:** | GCMSM | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 284264 | 4.37 | 962480 | 5.41 | 550693 | 7.61 | 1092667 | 10.16 | 1086502 | 15.26 | 1119330 | 17.85 |
| Upper Limit [a] | 568528 | 4.87 | 1924960 | 5.91 | 1101386 | 8.11 | 2185334 | 10.66 | 2173004 | 15.76 | 2238660 | 18.35 |
| Lower Limit [b] | 142132 | 3.87 | 481240 | 4.91 | 275347 | 7.11 | 546334 | 9.66 | 543251 | 14.76 | 559665 | 17.35 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20412-MB | 321078 | 4.37 | 1062376 | 5.41 | 569191 | 7.61 | 1145182 | 10.15 | 1135025 | 15.25 | 1189167 | 17.85 |
| OP20412-LB38 | 321467 | 4.37 | 1075962 | 5.41 | 574617 | 7.61 | 1162962 | 10.15 | 1163754 | 15.25 | 1208787 | 17.85 |
| OP20412-BS | 308197 | 4.37 | 1036706 | 5.41 | 566084 | 7.61 | 1159847 | 10.15 | 1163553 | 15.25 | 1199148 | 17.85 |
| ZZZZZZ | 302467 | 4.37 | 984871 | 5.42 | 488784 | 7.62 | 895877 | 10.17 | 968988 | 15.25 | 1119074 | 17.85 |
| ZZZZZZ | 358305 | 4.36 | 1148275 | 5.41 | 592912 | 7.61 | 1184459 | 10.15 | 1266604 | 15.25 | 1281379 | 17.85 |
| TD38572-1 | 236026 | 4.37 | 862888 | 5.42 | 449207 | 7.62 | 1014341 | 10.15 | 1061730 | 15.25 | 1119677 | 17.85 |
| OP20412-MS | 221427 | 4.37 | 814159 | 5.42 | 424623 | 7.62 | 941429 | 10.15 | 964953 | 15.25 | 1014330 | 17.85 |
| OP20412-LS24 | 221427 | 4.37 | 814159 | 5.42 | 424623 | 7.62 | 941429 | 10.15 | 964953 | 15.25 | 1014330 | 17.85 |
| OP20412-MSD | 231187 | 4.37 | 835264 | 5.42 | 439432 | 7.62 | 960994 | 10.15 | 965791 | 15.26 | 1026752 | 17.85 |
| OP20139-MB | 281365 | 4.37 | 969333 | 5.41 | 536253 | 7.61 | 1077364 | 10.15 | 1114959 | 15.26 | 1144415 | 17.85 |
| ZZZZZZ | 310481 | 4.37 | 923531 | 5.42 | 556474 | 7.62 | 1143171 | 10.15 | 1189937 | 15.26 | 1210005 | 17.85 |
| ZZZZZZ | 304702 | 4.37 | 1023631 | 5.41 | 550640 | 7.61 | 1096988 | 10.15 | 1088576 | 15.25 | 1109900 | 17.85 |
| ZZZZZZ | 318483 | 4.37 | 1066845 | 5.42 | 572706 | 7.61 | 1132087 | 10.15 | 1133496 | 15.25 | 1140160 | 17.85 |
| ZZZZZZ | 295358 | 4.37 | 991011 | 5.41 | 532872 | 7.61 | 1044523 | 10.16 | 1023740 | 15.26 | 1051564 | 17.85 |
| JC87535-2 | 310093 | 4.37 | 1024547 | 5.41 | 542988 | 7.61 | 1057541 | 10.15 | 1068923 | 15.26 | 1107910 | 17.85 |
| ZZZZZZ | 292962 | 4.37 | 991213 | 5.41 | 560364 | 7.61 | 1094152 | 10.16 | 1076344 | 15.25 | 1087803 | 17.85 |
| ZZZZZZ | 279539 | 4.37 | 949176 | 5.42 | 520611 | 7.61 | 988333 | 10.15 | 1026724 | 15.25 | 1038648 | 17.85 |
| ZZZZZZ | 289847 | 4.37 | 976064 | 5.41 | 510551 | 7.61 | 986549 | 10.15 | 1022634 | 15.25 | 1043316 | 17.85 |
| JC87535-1 | 288694 | 4.37 | 936076 | 5.42 | 478415 | 7.62 | 892956 | 10.16 | 973820 | 15.25 | 1034590 | 17.85 |
| JC87535-4 | 278276 | 4.37 | 888680 | 5.42 | 452304 | 7.62 | 828484 | 10.17 | 828332 | 15.26 | 906499 | 17.85 |
| ZZZZZZ | 270243 | 4.36 | 913286 | 5.42 | 489455 | 7.61 | 904338 | 10.15 | 902591 | 15.26 | 918628 | 17.86 |
| JC87535-3 [c] | 260452 | 4.37 | 696539 | 5.44 | 483136 | 7.63 | 793437 | 10.26 | 857760 | 15.45 | 760021 | 18.01 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Dilution required due to matrix interference.

# Internal Standard Area Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | EM6596-CC6556 | **Injection Date:** | 05/17/19 |
| **Lab File ID:** | M154448.D | **Injection Time:** | 12:23 |
| **Instrument ID:** | GCMSM | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 247709 | 4.36 | 856301 | 5.40 | 485889 | 7.60 | 972233 | 10.14 | 962501 | 15.24 | 989347 | 17.83 |
| Upper Limit [a] | 495418 | 4.86 | 1712602 | 5.90 | 971778 | 8.10 | 1944466 | 10.64 | 1925002 | 15.74 | 1978694 | 18.33 |
| Lower Limit [b] | 123855 | 3.86 | 428151 | 4.90 | 242945 | 7.10 | 486117 | 9.64 | 481251 | 14.74 | 494674 | 17.33 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20460-BSD | 241814 | 4.36 | 813761 | 5.41 | 439814 | 7.60 | 838754 | 10.14 | 775966 | 15.24 | 796236 | 17.83 |
| OP20466-MB1 | 292054 | 4.36 | 997806 | 5.40 | 503949 | 7.59 | 951441 | 10.14 | 857104 | 15.23 | 860607 | 17.83 |
| OP20460-MB1 | 262572 | 4.36 | 884236 | 5.40 | 465831 | 7.59 | 904843 | 10.14 | 851945 | 15.23 | 889547 | 17.83 |
| OP20466-BS1 | 280084 | 4.36 | 911535 | 5.40 | 478269 | 7.59 | 909275 | 10.14 | 795860 | 15.24 | 799118 | 17.83 |
| ZZZZZZ | 254171 | 4.36 | 889460 | 5.40 | 460480 | 7.59 | 868495 | 10.14 | 803305 | 15.23 | 826218 | 17.82 |
| ZZZZZZ | 292358 | 4.36 | 963902 | 5.40 | 488772 | 7.59 | 901552 | 10.14 | 794715 | 15.23 | 792845 | 17.82 |
| JC88289-1 | 295029 | 4.36 | 1021656 | 5.40 | 510762 | 7.60 | 946474 | 10.13 | 841019 | 15.23 | 852734 | 17.83 |
| OP20466-MS | 280320 | 4.36 | 942057 | 5.41 | 494387 | 7.60 | 916185 | 10.14 | 815592 | 15.23 | 831948 | 17.82 |
| OP20466-MSD | 264222 | 4.36 | 895873 | 5.40 | 470896 | 7.60 | 866394 | 10.13 | 779241 | 15.23 | 788924 | 17.82 |
| OP20460-BS1 | 265850 | 4.36 | 883856 | 5.41 | 470185 | 7.59 | 892714 | 10.14 | 831786 | 15.24 | 836966 | 17.83 |
| JC87535-3 | 293370 | 4.36 | 1090251 | 5.41 | 527270 | 7.60 | 962486 | 10.14 | 926690 | 15.26 | 828389 | 17.84 |
| JC87535-3 | 259418 | 4.36 | 918095 | 5.40 | 473555 | 7.60 | 879096 | 10.13 | 818765 | 15.23 | 817448 | 17.83 |
| ZZZZZZ | 262798 | 4.36 | 933934 | 5.40 | 486088 | 7.59 | 922637 | 10.13 | 834265 | 15.23 | 825696 | 17.82 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

8.7.11

8

# Surrogate Recovery Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8270D **Matrix:** LEACHATE

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 | S5 | S6 |
|---|---|---|---|---|---|---|---|
| JC87535-13 | 6P481890.D | 41 | 31 | 71 | 88 | 75 | 75 |
| JC87535-14 | 6P481891.D | 51 | 38 | 78 | 100 | 83 | 80 |
| JC87535-15 | 6P481892.D | 48 | 36 | 78 | 92 | 79 | 81 |
| OP20353-BS | 6P481850.D | 54 | 42 | 76 | 90 | 80 | 78 |
| OP20353-LB34 | 6P481847.D | 58 | 43 | 79 | 105 | 91 | 90 |
| OP20353-LS20 | 6P481858.D | 58 | 43 | 78 | 99 | 86 | 71 |
| OP20353-MB | 6P481846.D | 60 | 45 | 78 | 105 | 89 | 95 |
| OP20353-MS | 6P481858.D | 58 | 43 | 78 | 99 | 86 | 71 |
| OP20353-MSD | 6P481859.D | 57 | 43 | 74 | 101 | 87 | 67 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = 2-Fluorophenol | 14-88% |
| **S2** = Phenol-d5 | 10-110% |
| **S3** = 2,4,6-Tribromophenol | 39-149% |
| **S4** = Nitrobenzene-d5 | 32-128% |
| **S5** = 2-Fluorobiphenyl | 35-119% |
| **S6** = Terphenyl-d14 | 10-126% |

# Surrogate Recovery Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8270D **Matrix:** SO

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 | S5 | S6 |
|---|---|---|---|---|---|---|---|
| JC87535-1 | M154434.D | 57 | 61 | 94 | 68 | 75 | 70 |
| JC87535-2 | M154430.D | 63 | 66 | 86 | 74 | 77 | 74 |
| JC87535-3 | M154464.D | 60 | 57 | 93 | 58 | 69 | 56 |
| JC87535-3 | M154465.D | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 0* [a] |
| JC87535-3 | M154437.D | 65 | 67 | 113 | 96 | 63 | 51 |
| JC87535-4 | M154435.D | 67 | 72 | 100 | 82 | 82 | 69 |
| JC87535-5 | 5P59694.D | 71 | 78 | 73 | 95 | 81 | 77 |
| JC87535-6 | 5P59690.D | 77 | 85 | 76 | 105 | 87 | 80 |
| JC87535-7 | 5P59749.D | 66 | 66 | 68 | 120 | 108 | 99 |
| JC87535-7 | 5P59747.D | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 0* [a] |
| JC87535-7 | 5P59885.D | 73 | 85 | 90 | 132 | 83 | 72 |
| JC87535-8 | 2M112002.D | 73 | 73 | 82 | 88 | 78 | 78 |
| JC87535-8 | 2M112031.D | 70 | 71 | 66 | 80 | 79 | 75 |
| JC87535-9 | 2M112045.D | 71 | 72 | 65 | 127 | 104 | 82 |
| JC87535-9 | 5P59745.D | 68 | 72 | 73 | 104 | 81 | 70 |
| JC87535-9 | 5P59691.D | 87 | 83 | 142 | 110 | 74 | 82 |
| JC87535-10 | 5P59692.D | 78 | 84 | 76 | 92 | 81 | 71 |
| JC87535-11 | 2M112048.D | 81 | 80 | 56 | 97 | 94 | 105 |
| JC87535-11 | 2M112049.D | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 97 | 102 |
| JC87535-11 | 5P59704.D | 83 | 93 | 119 | 172* [b] | 87 | 83 |
| JC87535-12 | 5P59693.D | 78 | 81 | 81 | 93 | 80 | 74 |
| OP20268-BS1 | M154395.D | 70 | 70 | 96 | 79 | 77 | 80 |
| OP20268-MB1 | M154394.D | 64 | 69 | 80 | 77 | 84 | 76 |
| OP20268-MS | M154405.D | 67 | 69 | 95 | 79 | 77 | 81 |
| OP20268-MSD | M154406.D | 71 | 75 | 100 | 81 | 78 | 83 |
| OP20269-BS1 | 2M111987.D | 82 | 87 | 94 | 91 | 85 | 96 |
| OP20269-MB1 | 5P59685.D | 45 | 51 | 42 | 58 | 52 | 50 |
| OP20269-MB1 | 2M111986.D | 44 | 46 | 35 | 53 | 50 | 51 |
| OP20269-MS2 | 2M112000.D | 81 | 85 | 92 | 92 | 82 | 93 |
| OP20269-MSD2 | 2M112001.D | 78 | 82 | 89 | 88 | 79 | 94 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = 2-Fluorophenol | 23-115% |
| **S2** = Phenol-d5 | 27-114% |
| **S3** = 2,4,6-Tribromophenol | 19-152% |
| **S4** = Nitrobenzene-d5 | 26-134% |
| **S5** = 2-Fluorobiphenyl | 39-124% |
| **S6** = Terphenyl-d14 | 36-134% |

# Surrogate Recovery Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| **Method:** SW846 8270D | **Matrix:** SO |
|---|---|

**Samples and QC shown here apply to the above method**

| **Surrogate Compounds** | **Recovery Limits** |
|---|---|

(a) Outside control limits due to dilution.
(b) Outside control limits due to matrix interference.

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICC4974
**Lab FileID:** 2M111871.D

Response Factor Report MS2M

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Fri May 17 09:17:27 2019
Response via : Initial Calibration

Calibration Files
2 =2m111875.D 5 =2m111874.D 25 =2m111872.D 80 =2m111870.D
100 =2m111869.D 50 =2m111871.D 1 =2m111868.D 10 =2m111873.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 2) 1,4-Dioxane | 0.663 | 0.702 | 0.680 | 0.703 | 0.695 | 0.691 | 0.738 | 0.711 | 0.698 | 3.18 |
| 3) Pyridine | 1.659 | 1.797 | 1.719 | 1.811 | 1.781 | 1.799 | 1.703 | 1.776 | 1.756 | 3.13 |
| 4) N-Nitrosodim | 1.049 | 1.091 | 1.026 | 1.058 | 1.046 | 1.060 | 1.056 | 1.084 | 1.059 | 1.96 |
| 5) 2-Fluorophen | 1.337 | 1.498 | 1.472 | 1.443 | 1.424 | 1.505 | 1.420 | 1.512 | 1.451 | 4.04 |
| 6) Indene | 2.443 | 2.659 | 2.414 | 1.969 | 1.814 | 2.295 | 2.602 | 2.564 | 2.345 | 13.02 |
| 7) Cumene | 3.828 | 4.019 | 3.659 | 3.258 | 3.091 | 3.557 | 3.994 | 3.948 | 3.669 | 9.48 |
| 8) Phenol-d5 | 1.752 | 1.896 | 1.807 | 1.729 | 1.675 | 1.821 | 1.744 | 1.884 | 1.789 | 4.33 |
| 9) Phenol | 1.886 | 2.157 | 2.032 | 1.847 | 1.767 | 1.990 | 1.805 | 2.110 | 1.949 | 7.41 |
| 10) Aniline | 2.424 | 2.458 | 1.951 | 1.802 | 1.713 | 1.875 | 2.477 | 2.270 | 2.121 | 15.03 |
| 11) bis(2-Chloro | 1.551 | 1.676 | 1.525 | 1.406 | 1.378 | 1.504 | 1.586 | 1.614 | 1.530 | 6.59 |
| 12) 2-Chlorophen | 1.449 | 1.625 | 1.539 | 1.495 | 1.430 | 1.552 | 1.476 | 1.596 | 1.520 | 4.58 |
| 13) Decane | 1.477 | 1.552 | 1.414 | 1.164 | 1.097 | 1.308 | 1.649 | 1.514 | 1.397 | 13.81 |
| 14) 1,3-Dichloro | 1.736 | 1.785 | 1.662 | 1.497 | 1.415 | 1.607 | 1.732 | 1.761 | 1.649 | 8.11 |
| 15) 1,4-Dichloro | 1.709 | 1.801 | 1.648 | 1.472 | 1.402 | 1.604 | 1.790 | 1.740 | 1.646 | 8.88 |
| 16) Benzyl alcoh | 0.863 | 0.950 | 0.906 | 0.896 | 0.887 | 0.944 | 0.860 | 0.963 | 0.909 | 4.36 |
| 17) 1,2-Dichloro | 1.620 | 1.718 | 1.549 | 1.435 | 1.368 | 1.528 | 1.627 | 1.640 | 1.561 | 7.40 |
| 18) Acetophenone | 2.151 | 2.225 | 1.954 | 1.414 | 1.337 | 1.722 | 2.289 | 2.112 | 1.901 | 19.42 |
| 19) 2-Methylphen | 1.212 | 1.320 | 1.342 | 1.200 | 1.151 | 1.321 | 1.211 | 1.382 | 1.267 | 6.59 |
| 20) 2,2'-oxybis( | 1.629 | 1.726 | 1.572 | 1.398 | 1.334 | 1.516 | 1.806 | 1.663 | 1.580 | 10.13 |
| 21) 3&4-Methylph | 1.208 | 1.346 | 1.316 | 1.004 | 0.919 | 1.209 | 1.201 | 1.406 | 1.201 | 13.88 |
| 22) n-Nitroso-di | 1.040 | 1.114 | 0.984 | 0.785 | 0.764 | 0.896 | 1.185 | 1.077 | 0.981 | 15.65 |
| 23) Hexachloroet | 0.437 | 0.472 | 0.451 | 0.448 | 0.420 | 0.467 | 0.472 | 0.476 | 0.455 | 4.40 |
| 24) I Naphthalene-d8 | ISTD | | | | | | | | | |
| 25) Nitrobenzene | 0.291 | 0.356 | 0.360 | 0.354 | 0.338 | 0.373 | 0.347 | 0.366 | 0.348 | 7.34 |
| 26) Nitrobenzene | 0.317 | 0.392 | 0.386 | 0.363 | 0.347 | 0.385 | 0.379 | 0.394 | 0.370 | 7.21 |
| 27) Quinoline | 0.741 | 0.798 | 0.751 | 0.737 | 0.724 | 0.765 | 0.724 | 0.794 | 0.754 | 3.86 |
| 28) Isophorone | 0.670 | 0.756 | 0.686 | 0.593 | 0.555 | 0.662 | 0.709 | 0.733 | 0.670 | 10.15 |
| 29) 2-Nitropheno | | 0.128 | 0.152 | 0.165 | 0.144 | 0.170 | | 0.141 | 0.150 | 10.40 |
| 30) 2,4-Dimethyl | | 0.186 | 0.325 | 0.330 | 0.320 | 0.344 | | 0.274 | 0.296 | 19.95 |
| 31) Benzoic acid | 0.050 | 0.086 | 0.128 | 0.187 | 0.157 | 0.176 | 0.060 | 0.104 | 0.118 | 43.84 |
| ---- Quadratic regression ---- Coefficient = 0.9869 | | | | | | | | | | |
| Response Ratio = -0.01579 + 0.20490 *A + -0.01355 *A^2 | | | | | | | | | | |
| 32) bis(2-Chloro | 0.457 | 0.494 | 0.449 | 0.408 | 0.393 | 0.440 | 0.478 | 0.480 | 0.450 | 7.85 |
| 33) 2,4-Dichloro | 0.260 | 0.305 | 0.305 | 0.291 | 0.274 | 0.306 | 0.252 | 0.316 | 0.289 | 8.26 |
| 34) 2,6-Dichloro | 0.274 | 0.306 | 0.300 | 0.271 | 0.252 | 0.293 | 0.274 | 0.309 | 0.285 | 7.12 |
| 35) 1,3,5-Trichl | 0.340 | 0.354 | 0.317 | 0.281 | 0.261 | 0.308 | 0.337 | 0.337 | 0.317 | 10.08 |
| 36) 1,2,4-Trichl | 0.311 | 0.330 | 0.303 | 0.279 | 0.263 | 0.298 | 0.316 | 0.317 | 0.302 | 7.21 |
| 37) 1,2,3-Trichl | 0.315 | 0.328 | 0.299 | 0.274 | 0.258 | 0.295 | 0.316 | 0.312 | 0.300 | 7.90 |
| 38) Naphthalene | 1.185 | 1.238 | 1.122 | 0.982 | 0.930 | 1.084 | 1.226 | 1.200 | 1.121 | 10.25 |
| 39) 4-Chloroanil | 0.462 | 0.504 | 0.453 | 0.386 | 0.360 | 0.431 | 0.484 | 0.492 | 0.446 | 11.51 |
| 40) 2,3-Dichloro | 0.375 | 0.400 | 0.371 | 0.325 | 0.305 | 0.362 | 0.366 | 0.392 | 0.362 | 8.90 |
| 41) Caprolactam | 0.134 | 0.170 | 0.167 | 0.173 | 0.170 | 0.177 | 0.134 | 0.170 | 0.162 | 10.75 |
| 42) Hexachlorobu | 0.159 | 0.163 | 0.152 | 0.139 | 0.129 | 0.149 | 0.149 | 0.160 | 0.150 | 7.70 |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICC4974
**Lab FileID:** 2M111871.D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 43) | 4-Chloro-3-m | 0.232 | 0.304 | 0.312 | 0.302 | 0.291 | 0.317 | 0.235 | 0.314 | 0.288 | 12.04 |
| 44) | 2-Methylnaph | 0.583 | 0.634 | 0.586 | 0.531 | 0.503 | 0.576 | 0.577 | 0.619 | 0.576 | 7.40 |
| 45) | 1-Methylnaph | 0.662 | 0.708 | 0.650 | 0.577 | 0.548 | 0.633 | 0.667 | 0.688 | 0.642 | 8.45 |
| 46) | Dimethylnaph | 0.633 | 0.731 | 0.683 | 0.613 | 0.578 | 0.672 | 0.643 | 0.721 | 0.659 | 7.97 |
| 47) | I Acenaphthene-d10 | ----------ISTD---------- | | | | | | | | | |
| 48) | Hexachlorocy | 0.166 | 0.200 | 0.231 | 0.229 | 0.206 | 0.248 | 0.174 | 0.224 | 0.210 | 13.78 |
| 49) | 2,4,6-Trichl | 0.277 | 0.327 | 0.332 | 0.300 | 0.274 | 0.328 | 0.264 | 0.337 | 0.305 | 9.77 |
| 50) | 2,4,5-Trichl | 0.280 | 0.347 | 0.361 | 0.352 | 0.340 | 0.370 | 0.248 | 0.351 | 0.331 | 13.05 |
| 51) | 2-Fluorobiph | 1.551 | 1.605 | 1.470 | 1.297 | 1.216 | 1.415 | 1.508 | 1.560 | 1.453 | 9.36 |
| 52) | 2-Chloronaph | 1.294 | 1.316 | 1.213 | 1.078 | 1.024 | 1.181 | 1.275 | 1.280 | 1.207 | 8.88 |
| 53) | Biphenyl | 1.756 | 1.809 | 1.681 | 1.421 | 1.325 | 1.596 | 1.715 | 1.764 | 1.633 | 10.70 |
| 54) | 2-Nitroanili | 0.251 | 0.311 | 0.336 | 0.320 | 0.341 | 0.287 | 0.308 | | | 10.99 |
| 55) | Dimethylphth | 1.324 | 1.420 | 1.346 | 1.284 | 1.242 | 1.339 | 1.323 | 1.415 | 1.337 | 4.50 |
| 56) | Acenaphthyle | 1.821 | 2.067 | 1.953 | 1.784 | 1.708 | 1.937 | 1.848 | 2.053 | 1.896 | 6.74 |
| 57) | 2,6-Dinitrot | 0.097 | 0.164 | 0.227 | 0.268 | 0.259 | 0.265 | 0.122 | 0.200 | 0.200 | 33.23 |
| | ---- Quadratic regression ---- Coefficient = 0.9988 | | | | | | | | | | |
| | Response Ratio = -0.01252 + 0.27313 *A + -0.00229 *A^2 | | | | | | | | | | |
| 58) | 3-Nitroanili | 0.269 | 0.318 | 0.344 | 0.333 | 0.347 | 0.301 | 0.319 | | | 9.28 |
| 59) | Acenaphthene | 1.286 | 1.334 | 1.255 | 1.126 | 1.061 | 1.218 | 1.302 | 1.318 | 1.237 | 7.89 |
| 60) | 2,4-Dinitrop | 0.019 | 0.034 | 0.059 | 0.106 | 0.097 | 0.091 | 0.043 | 0.065 | | 52.82 |
| | ---- Quadratic regression ---- Coefficient = 0.9907 | | | | | | | | | | |
| | Response Ratio = -0.02109 + 0.09507 *A + 0.00207 *A^2 | | | | | | | | | | |
| 61) | 4-Nitropheno | 0.138 | 0.162 | 0.181 | 0.176 | 0.181 | 0.153 | 0.165 | | | 10.54 |
| 62) | Dibenzofuran | 1.810 | 1.868 | 1.733 | 1.526 | 1.420 | 1.694 | 1.814 | 1.840 | 1.713 | 9.39 |
| 63) | 2,4-Dinitrot | 0.107 | 0.214 | 0.318 | 0.351 | 0.332 | 0.365 | 0.143 | 0.270 | 0.263 | 37.32 |
| | ---- Quadratic regression ---- Coefficient = 0.9984 | | | | | | | | | | |
| | Response Ratio = -0.02052 + 0.39997 *A + -0.02234 *A^2 | | | | | | | | | | |
| 64) | 2,3,4,6-Tetr | 0.185 | 0.255 | 0.277 | 0.293 | 0.278 | 0.299 | 0.276 | 0.266 | | 14.39 |
| 65) | Diethylphtha | 1.208 | 1.358 | 1.309 | 1.233 | 1.201 | 1.320 | 1.224 | 1.351 | 1.275 | 5.15 |
| 66) | Fluorene | 1.378 | 1.484 | 1.418 | 1.232 | 1.155 | 1.383 | 1.370 | 1.477 | 1.362 | 8.41 |
| 67) | 4-Chlorophen | 0.646 | 0.655 | 0.620 | 0.552 | 0.515 | 0.605 | 0.640 | 0.648 | 0.610 | 8.36 |
| 68) | 4-Nitroanili | 0.299 | 0.341 | 0.352 | 0.344 | 0.353 | 0.324 | 0.335 | | | 6.23 |
| 69) | I Phenanthrene-d10 | ----------ISTD---------- | | | | | | | | | |
| 70) | 4,6-Dinitro- | 0.036 | 0.062 | 0.099 | 0.093 | 0.088 | 0.045 | 0.070 | | | 38.24 |
| | ---- Quadratic regression ---- Coefficient = 0.9938 | | | | | | | | | | |
| | Response Ratio = -0.01376 + 0.09901 *A + 0.00086 *A^2 | | | | | | | | | | |
| 71) | n-Nitrosodip | 0.606 | 0.676 | 0.653 | 0.605 | 0.578 | 0.644 | 0.615 | 0.673 | 0.631 | 5.63 |
| 72) | 1,2-Diphenyl | 0.821 | 0.934 | 0.891 | 0.802 | 0.772 | 0.865 | 0.873 | 0.914 | 0.859 | 6.52 |
| 73) | 2,4,6-Tribro | 0.088 | 0.107 | 0.117 | 0.110 | 0.117 | 0.100 | 0.106 | | | 10.25 |
| 74) | 4-Bromopheny | 0.199 | 0.221 | 0.215 | 0.208 | 0.197 | 0.215 | 0.190 | 0.216 | 0.208 | 5.37 |
| 75) | Hexachlorobe | 0.223 | 0.233 | 0.224 | 0.216 | 0.207 | 0.223 | 0.230 | 0.233 | 0.224 | 4.02 |
| 76) | Pentachlorop | 0.062 | 0.100 | 0.131 | 0.133 | 0.125 | 0.141 | 0.115 | 0.115 | | 23.50 |
| | ---- Quadratic regression ---- Coefficient = 0.9992 | | | | | | | | | | |
| | Response Ratio = -0.01715 + 0.16159 *A + -0.00642 *A^2 | | | | | | | | | | |
| 77) | Phenanthrene | 1.213 | 1.253 | 1.179 | 1.049 | 1.010 | 1.139 | 1.255 | 1.214 | 1.164 | 7.87 |
| 78) | Anthracene | 1.124 | 1.227 | 1.190 | 1.073 | 1.033 | 1.158 | 1.125 | 1.228 | 1.145 | 6.13 |
| 79) | Carbazole | 1.110 | 1.229 | 1.182 | 1.105 | 1.070 | 1.189 | 1.110 | 1.236 | 1.154 | 5.44 |
| 80) | Di-n-butylph | 0.897 | 1.272 | 1.351 | 1.276 | 1.233 | 1.365 | 0.951 | 1.335 | 1.210 | 15.09 |
| 81) | Fluoranthene | 0.951 | 1.182 | 1.193 | 1.118 | 1.075 | 1.194 | 1.034 | 1.204 | 1.119 | 8.25 |
| 82) | Octadecane | 0.424 | 0.596 | 0.607 | 0.512 | 0.487 | 0.581 | 0.474 | 0.611 | 0.537 | 13.31 |
| 83) | I Chrysene-d12 | ----------ISTD---------- | | | | | | | | | |
| 84) | Pyrene | 1.384 | 1.585 | 1.534 | 1.506 | 1.470 | 1.563 | 1.354 | 1.583 | 1.497 | 5.92 |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICC4974
**Lab FileID:** 2M111871.D

```
 85) Terphenyl-d1 0.856 0.992 0.988 0.966 0.928 1.000 0.870 0.989 0.949   6.05
 86) Butylbenzylp 0.348 0.584 0.679 0.726 0.712 0.735 0.369 0.650 0.600  26.18
             ---- Quadratic regression ----  Coefficient =  0.9997
               Response Ratio = -0.02212 + 0.76109 *A + -0.01466 *A^2

 87) Benzo[a]anth 1.085 1.253 1.268 1.164 1.102 1.259 1.332 1.277 1.217   7.36
 88) 3,3'-Dichlor 0.257 0.397 0.445 0.427 0.397 0.462       0.434 0.403  17.06
 89) Chrysene     1.296 1.361 1.322 1.295 1.267 1.341 1.363 1.348 1.324   2.66
 90) bis(2-Ethylh 0.444 0.792 0.936 0.984 0.968 1.001       0.891 0.859  22.84
             ---- Quadratic regression ----  Coefficient =  0.9998
               Response Ratio = -0.02957 + 1.02269 *A + -0.01467 *A^2


 91) I   Perylene-d12          ----------------ISTD---------------------
 92) Di-n-octylph 0.523 1.077 1.418 1.474 1.394 1.534       1.259 1.240  28.29
             ---- Quadratic regression ----  Coefficient =  0.9993
               Response Ratio = -0.09317 + 1.73859 *A + -0.11873 *A^2

 93) Benzo[b]fluo 0.942 1.168 1.240 1.138 1.043 1.199 1.132 1.205 1.133   8.62
 94) Benzo[k]fluo 1.005 1.194 1.227 1.111 1.078 1.220 1.053 1.244 1.142   7.99
 95) Benzo[a]pyre 0.789 1.000 1.067 1.065 1.016 1.100 0.992 1.057 1.011   9.59
 96) Indeno[1,2,3 0.615 0.875 1.014 1.103 1.079 1.076 0.791 0.942 0.937  18.14
 97) Dibenz(a,h)a 0.588 0.837 0.979 0.998 0.959 1.017 0.735 0.911 0.878  17.12
 98) Dibenz[a,h]a 0.760 1.008 1.113 1.119 1.082 1.142 0.883 1.073 1.022  13.12
 99) 7,12-Dimethy       0.255 0.490 0.490 0.460 0.517       0.376 0.432  22.98
             ---- Quadratic regression ----  Coefficient =  0.9997
               Response Ratio = -0.05613 + 0.63451 *A + -0.05997 *A^2

100) Benzo[g,h,i] 0.729 0.923 1.017 1.051 1.026 1.064 0.845 1.005 0.957  12.27

 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M2M4974.M         Fri May 17 09:24:37 2019
```

8.9.1

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111876.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4974\2m111876.D Vial: 10
Acq On : 14 May 2019 7:44 pm Operator: christc2
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 09:06:52 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 127 | 0.00 | 4.80 |
| 4 | t | N-Nitrosodimethylamine | 1.059 | 0.954 | 9.9 | 114 | 0.02 | 2.66 |
| 11 | t | bis(2-Chloroethyl)ether | 1.530 | 1.458 | 4.7 | 123 | 0.00 | 4.59 |
| 14 | t | 1,3-Dichlorobenzene | 1.649 | 1.451 | 12.0 | 114 | 0.00 | 4.76 |
| 15 | t | 1,4-Dichlorobenzene | 1.646 | 1.478 | 10.2 | 117 | 0.00 | 4.81 |
| 17 | t | 1,2-Dichlorobenzene | 1.561 | 1.383 | 11.4 | 115 | 0.00 | 4.94 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.580 | 1.765 | -11.7 | 147 | 0.00 | 5.01 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.981 | 1.005 | -2.4 | 142 | 0.00 | 5.12 |
| 23 | t | Hexachloroethane | 0.455 | 0.414 | 9.0 | 112 | 0.00 | 5.21 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 125 | 0.00 | 5.91 |
| 26 | t | Nitrobenzene | 0.370 | 0.329 | 11.1 | 107 | 0.00 | 5.26 |
| 28 | t | Isophorone | 0.670 | 0.657 | 1.9 | 124 | 0.00 | 5.47 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 32 | t | bis(2-Chloroethoxy)methan | 0.450 | 0.433 | 3.8 | 123 | 0.00 | 5.66 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.302 | 0.274 | 9.3 | 115 | 0.00 | 5.86 |
| 38 | t | Naphthalene | 1.121 | 1.033 | 7.9 | 119 | 0.00 | 5.94 |
| 42 | t | Hexachlorobutadiene | 0.150 | 0.139 | 7.3 | 117 | 0.00 | 6.06 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 122 | 0.00 | 8.00 |
| 48 | t | Hexachlorocyclopentadiene | 0.210 | 0.187 | 11.0 | 110 | 0.00 | 6.88 |
| 52 | t | 2-Chloronaphthalene | 1.207 | 1.072 | 11.2 | 111 | 0.00 | 7.26 |
| 55 | t | Dimethylphthalate | 1.337 | 1.229 | 8.1 | 112 | 0.00 | 7.65 |
| 56 | t | Acenaphthylene | 1.896 | 1.793 | 5.4 | 113 | 0.00 | 7.81 |
| 59 | t | Acenaphthene | 1.237 | 1.088 | 12.0 | 109 | 0.00 | 8.05 |
| 65 | t | Diethylphthalate | 1.275 | 1.167 | 8.5 | 108 | 0.00 | 8.65 |
| 66 | t | Fluorene | 1.362 | 1.244 | 8.7 | 110 | 0.00 | 8.78 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.610 | 0.543 | 11.0 | 110 | 0.00 | 8.79 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 118 | 0.00 | 10.17 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 71 | t | n-Nitrosodiphenylamine | 0.631 | 0.587 | 7.0 | 108 | 0.00 | 8.97 |
| 72 | t | 1,2-Diphenylhydrazine | 0.859 | 0.841 | 2.1 | 115 | 0.00 | 9.02 |
| 74 | t | 4-Bromophenyl-phenylether | 0.208 | 0.199 | 4.3 | 109 | 0.00 | 9.52 |
| 75 | t | Hexachlorobenzene | 0.224 | 0.199 | 11.2 | 105 | 0.00 | 9.60 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111876.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 77 | t | Phenanthrene | 1.164 | 1.042 | 10.5 | 108 | 0.00 | 10.21 |
| 78 | t | Anthracene | 1.145 | 1.068 | 6.7 | 109 | 0.00 | 10.29 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.204 | 0.5 | 104 | 0.00 | 11.18 |
| 81 | t | Fluoranthene | 1.119 | 1.056 | 5.6 | 104 | 0.00 | 12.07 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 14.34 |
| 84 | t | Pyrene | 1.497 | 1.542 | -3.0 | 103 | 0.00 | 12.41 |
| | | | True | Calc. | % Drift | | | |
| 86 | t | Butylbenzylphthalate | 50.000 | 48.455 | 3.1 | 100 | 0.00 | 13.55 |
| | | | AvgRF | CCRF | % Dev | | | |
| 87 | t | Benzo[a]anthracene | 1.217 | 1.132 | 7.0 | 94 | 0.00 | 14.33 |
| 89 | t | Chrysene | 1.324 | 1.259 | 4.9 | 98 | 0.00 | 14.39 |
| | | | True | Calc. | % Drift | | | |
| 90 | t | bis(2-Ethylhexyl)phthalat | 50.000 | 48.544 | 2.9 | 99 | 0.00 | 14.51 |
| | | | AvgRF | CCRF | % Dev | | | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 16.45 |
| | | | True | Calc. | % Drift | | | |
| 92 | t | Di-n-octylphthalate | 50.000 | 45.983 | 8.0 | 96 | 0.00 | 15.49 |
| | | | AvgRF | CCRF | % Dev | | | |
| 93 | t | Benzo[b]fluoranthene | 1.133 | 1.047 | 7.6 | 92 | 0.00 | 15.93 |
| 94 | t | Benzo[k]fluoranthene | 1.142 | 1.115 | 2.4 | 96 | 0.00 | 15.96 |
| 95 | t | Benzo[a]pyrene | 1.011 | 1.003 | 0.8 | 96 | 0.00 | 16.37 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.937 | 0.909 | 3.0 | 89 | 0.00 | 18.02 |
| 98 | t | Dibenz[a,h]anthracene | 1.022 | 0.933 | 8.7 | 86 | 0.00 | 18.06 |
| | | | AvgRF | CCRF | % Dev | | | |
| 100 | t | Benzo[g,h,i]perylene | 0.957 | 0.938 | 2.0 | 93 | 0.00 | 18.47 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111871.D M2M4974.M Wed May 15 09:26:36 2019

8.9.2

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111877.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4974\2m111877.D Vial: 11
Acq On : 14 May 2019 8:10 pm Operator: christc2
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 09:06:52 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 4.80 |
| 2 | t | 1,4-Dioxane | 0.698 | 0.770 | -10.3 | 116 | 0.02 | 2.39 |
| 6 | t | Indene | 2.345 | 2.959 | -26.2 | 134 | 0.00 | 5.00 |
| 7 | t | Cumene | 3.669 | 3.886 | -5.9 | 114 | 0.00 | 4.20 |
| 13 | t | Decane | 1.397 | 1.428 | -2.2 | 114 | 0.00 | 4.68 |
| 18 | t | Acetophenone | 1.901 | 2.319 | -22.0 | 140 | 0.00 | 5.12 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 5.91 |
| 27 | t | Quinoline | 0.754 | 0.858 | -13.8 | 116 | -0.02 | 6.27 |
| 40 | t | 2,3-Dichloroaniline | 0.362 | 0.388 | -7.2 | 111 | 0.00 | 7.01 |
| 41 | t | Caprolactam | 0.162 | 0.185 | -14.2 | 108 | -0.02 | 6.32 |
| 45 | t | 1-Methylnaphthalene | 0.642 | 0.688 | -7.2 | 112 | 0.00 | 6.79 |
| 46 | t | Dimethylnaphthalene | 0.659 | 0.743 | -12.7 | 114 | 0.00 | 7.44 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 8.00 |
| 53 | t | Biphenyl | 1.633 | 1.839 | -12.6 | 113 | 0.00 | 7.25 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 10.17 |
| 82 | t | Octadecane | 0.537 | 0.673 | -25.3 | 111 | 0.00 | 10.13 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 88 | -0.01 | 14.33 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 78 | 0.00 | 16.44 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 53.502 | -7.0 | 83 | -0.01 | 15.93 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111871.D M2M4974.M Wed May 15 09:26:38 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111878.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4974\2m111878.D Vial: 12
Acq On : 14 May 2019 8:37 pm Operator: christc2
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 09:06:52 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 111 | 0.00 | 4.80 |
| 3 | t | Pyridine | 1.756 | 1.835 | -4.5 | 113 | 0.10 | 2.77 |
| 10 | | Aniline | 2.121 | 2.642 | -24.6 | 156 | 0.00 | 4.55 |
| 16 | t | Benzyl alcohol | 0.909 | 1.129 | -24.2 | 132 | 0.00 | 4.90 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 110 | 0.00 | 5.91 |
| 39 | t | 4-Chloroaniline | 0.446 | 0.508 | -13.9 | 129 | 0.00 | 5.98 |
| 44 | t | 2-Methylnaphthalene | 0.576 | 0.651 | -13.0 | 124 | 0.00 | 6.67 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 8.00 |
| 54 | t | 2-Nitroaniline | 0.308 | 0.333 | -8.1 | 102 | 0.00 | 7.40 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 58 | t | 3-Nitroaniline | 0.319 | 0.337 | -5.6 | 102 | 0.00 | 7.94 |
| 62 | t | Dibenzofuran | 1.713 | 1.905 | -11.2 | 118 | 0.00 | 8.28 |
| 68 | t | 4-Nitroaniline | 0.335 | 0.335 | 0.0 | 99 | 0.00 | 8.81 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 112 | 0.00 | 10.17 |
| 79 | t | Carbazole | 1.154 | 1.203 | -4.2 | 113 | 0.00 | 10.55 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111871.D M2M4974.M Wed May 15 09:26:40 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111879.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4974\2m111879.D Vial: 13
Acq On : 14 May 2019 9:03 pm Operator: christc2
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Fri May 17 09:17:27 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 | 4.80 |
| 9 | t | Phenol | 1.949 | 1.847 | 5.2 | 124 | 0.00 | 4.52 |
| 12 | t | 2-Chlorophenol | 1.520 | 1.559 | -2.6 | 134 | 0.00 | 4.64 |
| 19 | t | 2-Methylphenol | 1.267 | 1.364 | -7.7 | 138 | 0.00 | 4.99 |
| 21 | t | 3&4-Methylphenol | 1.201 | 1.444 | -20.2 | 159 | 0.00 | 5.11 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 127 | 0.00 | 5.91 |
| 29 | t | 2-Nitrophenol | 0.150 | 0.165 | -10.0 | 124 | 0.00 | 5.55 |
| 30 | t | 2,4-Dimethylphenol | 0.296 | 0.345 | -16.6 | 128 | 0.00 | 5.58 |
| | | | True | Calc. | % Drift | | | |
| 31 | t | Benzoic acid | 50.000 | 58.306 | -16.6 | 147 | 0.08 | 5.69 |
| | | | AvgRF | CCRF | % Dev | | | |
| 33 | t | 2,4-Dichlorophenol | 0.289 | 0.310 | -7.3 | 129 | 0.00 | 5.77 |
| 34 | t | 2,6-Dichlorophenol | 0.285 | 0.311 | -9.1 | 135 | 0.00 | 5.99 |
| 43 | t | 4-Chloro-3-methylphenol | 0.288 | 0.324 | -12.5 | 130 | 0.00 | 6.49 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 123 | 0.00 | 8.00 |
| 49 | t | 2,4,6-Trichlorophenol | 0.305 | 0.362 | -18.7 | 135 | 0.00 | 7.01 |
| 50 | t | 2,4,5-Trichlorophenol | 0.331 | 0.382 | -15.4 | 127 | 0.00 | 7.05 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 41.473 | 17.1 | 146 | 0.01 | 8.09 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.165 | 0.179 | -8.5 | 121 | 0.01 | 8.19 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.266 | 0.286 | -7.5 | 118 | 0.00 | 8.47 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 117 | 0.00 | 10.17 |
| | | | True | Calc. | % Drift | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111879.D

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 70 | t | 4,6-Dinitro-2-methylpheno | 50.000 | 44.998 | 10.0 | 105 | 0.01 | 8.86 |
| 76 | t | Pentachlorophenol | 50.000 | 53.954 | -7.9 | 154 | 0.00 | 9.90 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111896a.D M2M4974.M Fri May 17 09:25:14 2019

8.9.5

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111880.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4974\2m111880.D Vial: 14
Acq On : 14 May 2019 9:29 pm Operator: christc2
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 09:06:52 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 133 | 0.00 | 4.80 |
| 5 | S | 2-Fluorophenol | 1.451 | 1.408 | 3.0 | 125 | 0.00 | 3.81 |
| 8 | S | Phenol-d5 | 1.789 | 1.737 | 2.9 | 127 | 0.00 | 4.51 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 131 | 0.00 | 5.91 |
| 25 | S | Nitrobenzene-d5 | 0.348 | 0.348 | 0.0 | 122 | 0.00 | 5.25 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 123 | 0.00 | 8.00 |
| 51 | S | 2-Fluorobiphenyl | 1.453 | 1.326 | 8.7 | 116 | 0.00 | 7.12 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 118 | 0.00 | 10.17 |
| | | | True | Calc. | % Drift | | | |
| 73 | S | 2,4,6-Tribromophenol | 0.106 | 0.097 | 8.5 | 98 | 0.00 | 9.12 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 108 | 0.00 | 14.34 |
| 85 | S | Terphenyl-d14 | 0.949 | 1.014 | -6.8 | 110 | 0.00 | 12.72 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111871.D M2M4974.M Wed May 15 09:26:44 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4974-ICV4974
**Lab FileID:** 2M111881.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4974\2m111881.D Vial: 15
Acq On : 14 May 2019 9:55 pm Operator: christc2
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 09:06:52 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 83 I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 119 | 0.00 | 14.34 |
| 88 t | 3,3'-Dichlorobenzidine | 0.403 | 0.383 | 5.0 | 99 | 0.00 | 14.33 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111871.D M2M4974.M Wed May 15 09:26:46 2019

8.9.7

8

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4975-ICC4975
**Lab FileID:** 2M111885.D

Response Factor Report MS2M

Method : C:\MSDCHEM\1\METHODS\M2M4975.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 10:23:07 2019
Response via : Initial Calibration

Calibration Files
2 =2m111889.D 5 =2m111888.D 25 =2m111886.D 80 =2m111884.D
100 =2m111883.D 50 =2m111885.D 1 =2m111890.D 10 =2m111887.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 101) 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 102) Benzaldehyde | 1.321 | 1.324 | 1.311 | 1.138 | 1.058 | 1.219 | 1.284 | 1.300 | 1.244 | 7.92 |
| 103) Acenaphthene-d10a | ISTD | | | | | | | | | |
| 104) 1,2,4,5-Tetr | 0.511 | 0.531 | 0.526 | 0.430 | 0.415 | 0.488 | 0.536 | 0.522 | 0.495 | 9.53 |
| 107) Phenanthrene-d10a | ISTD | | | | | | | | | |
| 108) Atrazine | 0.062 | 0.085 | 0.112 | 0.113 | 0.110 | 0.116 | | 0.099 | 0.100 | 19.77 |
| 109) 1-Chloroocta | | 0.234 | 0.364 | 0.342 | 0.324 | 0.370 | | 0.305 | 0.323 | 15.44 |
| 110) o-terphenyl | 0.514 | 0.553 | 0.574 | 0.481 | 0.462 | 0.540 | 0.452 | 0.560 | 0.517 | 9.12 |
| 111) Pentachloron | | 0.016 | 0.027 | 0.037 | 0.038 | 0.034 | | 0.020 | 0.029# | 32.44 |
| ---- Quadratic regression ---- Coefficient = 0.9990 | | | | | | | | | | |
| Response Ratio = -0.00363 + 0.03488 *A + 0.00178 *A^2 | | | | | | | | | | |
| 112) Naphthalene-d8a | ISTD | | | | | | | | | |
| 113) Hydroquinone | | | 0.320 | 0.382 | 0.353 | 0.357 | | 0.235 | 0.329 | 17.36 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

M2M4974.M Wed May 15 10:25:00 2019

8.9.8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4975-ICV4975
**Lab FileID:** 2M111891.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4975\2m111891.D Vial: 24
Acq On : 15 May 2019 2:15 am Operator: christc2
Sample : icv4975-50 Inst : MS2M
Misc : op13721,e2m4975,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 10:23:07 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 4.80 |
| 102 | Benzaldehyde | 1.244 | 1.193 | 4.1 | 89 | 0.00 | 4.46 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 86 | 0.00 | 8.00 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.495 | 0.495 | 0.0 | 87 | 0.00 | 6.88 |
| 107 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 10.18 |
| 108 | Atrazine | 0.100 | 0.113 | -13.0 | 94 | 0.02 | 9.81 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 111 | Pentachloronitrobenzene | 50.000 | 41.813 | 16.4 | 78 | 0.00 | 9.93 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111885a.D M2M4974.M Wed May 15 10:32:10 2019

8.9.9

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4975-ICV4975
**Lab FileID:** 2M111892.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4975\2m111892.D Vial: 25
Acq On : 15 May 2019 2:40 am Operator: christc2
Sample : icv4975-50 Inst : MS2M
Misc : op13721,e2m4975,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 10:23:07 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 112 | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 117 | 0.00 | 5.91 |
| 113 | Hydroquinone | 0.329 | 0.369 | -12.2 | 121 | 0.03 | 6.33 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111885a.D M2M4974.M Wed May 15 10:32:12 2019

8.9.10

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4976-ICC4976
**Lab FileID:** 2M111896.D

Response Factor Report MS2M

Method : C:\MSDCHEM\1\METHODS\M2M4976.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 11:43:42 2019
Response via : Initial Calibration

Calibration Files
2 =2m111900.D 5 =2m111899.D 25 =2m111897.D 80 =2m111895.D
100 =2m111894.D 50 =2m111896.D 1 =2m111901.D 10 =2m111898.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 105) Chrysene-d12a | ISTD | | | | | | | | | |
| 106) Benzidine | 0.320 | 0.664 | 1.123 | 1.167 | 0.997 | | 0.512 | 0.797 | | 43.79 |

---- Quadratic regression ---- Coefficient = 0.9983
Response Ratio = -0.11290 + 0.90394 *A + 0.12782 *A^2

(#) = Out of Range ### Number of calibration levels exceeded format ###

M2M4974.M Wed May 15 11:45:37 2019

8.9.11

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4976-ICV4976
**Lab FileID:** 2M111902.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4975\2m111902.D Vial: 34
Acq On : 15 May 2019 6:41 am Operator: christc2
Sample : icv4976-50 Inst : MS2M
Misc : op13721,e2m4976,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 11:43:42 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 105 | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 85 | 0.00 | 14.34 |
| | | True | Calc. | % Drift | | | |
| 106 | Benzidine | 50.000 | 38.434 | 23.1 | 60 | 0.01 | 12.32 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111896a.D M2M4974.M Wed May 15 11:45:17 2019

8.9.12

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4977-ICV4974
**Lab FileID:** 2M111905.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4977\2m111905.D Vial: 2
Acq On : 15 May 2019 12:16 pm Operator: angelar
Sample : icv4974-50 Inst : MS2M
Misc : op13721,e2m4977,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Wed May 15 11:43:42 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 47 I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 89 | 0.00 | 8.01 |
| | | True | Calc. | % Drift | | | |
| 57 t | 2,6-Dinitrotoluene | 50.000 | 53.611 | -7.2 | 94 | 0.01 | 7.72 |
| | | True | Calc. | % Drift | | | |
| 63 t | 2,4-Dinitrotoluene | 50.000 | 45.628 | 8.7 | 79 | 0.01 | 8.28 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111896a.D M2M4974.M Wed May 15 12:43:56 2019

8.9.13

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4980-CC4974
**Lab FileID:** 2M111983.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e2m4980\2m111983.d Vial: 2
Acq On : 18 May 2019 2:35 am Operator: chriss2
Sample : cc4974-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Mon May 20 05:37:29 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 167 | 0.00 | 4.76 |
| 2 | t | 1,4-Dioxane | 0.698 | 0.728 | -4.3 | 179 | -0.03 | 2.33 |
| 3 | t | Pyridine | 1.756 | 1.821 | -3.7 | 177 | -0.03 | 2.65 |
| 4 | t | N-Nitrosodimethylamine | 1.059 | 1.054 | 0.5 | 172 | -0.02 | 2.61 |
| 5 | S | 2-Fluorophenol | 1.451 | 1.514 | -4.3 | 172 | 0.12 | 3.89 |
| 6 | t | Indene | 2.345 | 2.422 | -3.3 | 168 | 0.00 | 4.97 |
| 7 | t | Cumene | 3.669 | 3.741 | -2.0 | 171 | 0.00 | 4.17 |
| 8 | S | Phenol-d5 | 1.789 | 1.951 | -9.1 | 181 | 0.13 | 4.61 |
| 9 | t | Phenol | 1.949 | 1.903 | 2.4 | 157 | 0.14 | 4.63 |
| 10 | | Aniline | 2.121 | 2.268 | -6.9 | 194 | 0.00 | 4.52 |
| 11 | t | bis(2-Chloroethyl)ether | 1.530 | 1.570 | -2.6 | 172 | 0.00 | 4.56 |
| 12 | t | 2-Chlorophenol | 1.520 | 1.539 | -1.2 | 167 | 0.06 | 4.66 |
| 13 | t | Decane | 1.397 | 1.617 | -15.7 | 191 | 0.00 | 4.64 |
| 14 | t | 1,3-Dichlorobenzene | 1.649 | 1.647 | 0.1 | 166 | 0.00 | 4.72 |
| 15 | t | 1,4-Dichlorobenzene | 1.646 | 1.647 | -0.1 | 167 | 0.00 | 4.78 |
| 16 | t | Benzyl alcohol | 0.909 | 0.880 | 3.2 | 162 | 0.02 | 4.89 |
| 17 | t | 1,2-Dichlorobenzene | 1.561 | 1.547 | 0.9 | 167 | 0.00 | 4.90 |
| 18 | t | Acetophenone | 1.901 | 1.990 | -4.7 | 170 | 0.00 | 5.08 |
| 19 | t | 2-Methylphenol | 1.267 | 1.396 | -10.2 | 174 | 0.00 | 5.05 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.580 | 1.652 | -4.6 | 176 | 0.00 | 4.98 |
| 21 | t | 3&4-Methylphenol | 1.201 | 1.388 | -15.6 | 176 | 0.10 | 5.17 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.981 | 1.010 | -3.0 | 172 | 0.00 | 5.08 |
| 23 | t | Hexachloroethane | 0.455 | 0.467 | -2.6 | 173 | 0.00 | 5.18 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 158 | 0.00 | 5.87 |
| 25 | S | Nitrobenzene-d5 | 0.348 | 0.427 | -22.7# | 187 | 0.00 | 5.21 |
| 26 | t | Nitrobenzene | 0.370 | 0.437 | -18.1 | 178 | 0.00 | 5.22 |
| 27 | t | Quinoline | 0.754 | 0.805 | -6.8 | 169 | 0.00 | 6.23 |
| 28 | t | Isophorone | 0.670 | 0.740 | -10.4 | 170 | 0.00 | 5.43 |
| 29 | t | 2-Nitrophenol | 0.150 | 0.212 | -41.3# | 220# | 0.00 | 5.51 |
| 30 | t | 2,4-Dimethylphenol | 0.296 | 0.388 | -31.1# | 188 | 0.06 | 5.60 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 31 | t | Benzoic acid | 25.000 | 31.901 | -27.6# | 275 | 0.16 | 5.74 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 32 | t | bis(2-Chloroethoxy)methan | 0.450 | 0.496 | -10.2 | 174 | 0.00 | 5.63 |
| 33 | t | 2,4-Dichlorophenol | 0.289 | 0.324 | -12.1 | 168 | 0.09 | 5.82 |
| 34 | t | 2,6-Dichlorophenol | 0.285 | 0.324 | -13.7 | 171 | 0.03 | 5.98 |
| 35 | | 1,3,5-Trichlorobenzene | 0.317 | 0.341 | -7.6 | 170 | 0.00 | 5.52 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.302 | 0.321 | -6.3 | 167 | 0.00 | 5.81 |
| 37 | | 1,2,3-Trichlorobenzene | 0.300 | 0.320 | -6.7 | 169 | 0.00 | 6.04 |

8.9.14

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4980-CC4974
**Lab FileID:** 2M111983.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | t | Naphthalene | 1.121 | 1.195 | -6.6 | 168 | 0.00 | 5.89 |
| 39 | t | 4-Chloroaniline | 0.446 | 0.488 | -9.4 | 170 | 0.01 | 5.95 |
| 40 | t | 2,3-Dichloroaniline | 0.362 | 0.405 | -11.9 | 172 | 0.01 | 6.97 |
| 41 | t | Caprolactam | 0.162 | 0.190 | -17.3 | 180 | 0.05 | 6.30 |
| 42 | t | Hexachlorobutadiene | 0.150 | 0.166 | -10.7 | 172 | 0.00 | 6.02 |
| 43 | t | 4-Chloro-3-methylphenol | 0.288 | 0.343 | -19.1 | 173 | 0.12 | 6.57 |
| 44 | t | 2-Methylnaphthalene | 0.576 | 0.628 | -9.0 | 169 | 0.00 | 6.63 |
| 45 | t | 1-Methylnaphthalene | 0.642 | 0.698 | -8.7 | 169 | 0.00 | 6.74 |
| 46 | t | Dimethylnaphthalene | 0.659 | 0.748 | -13.5 | 173 | 0.00 | 7.40 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 155 | 0.00 | 7.95 |
| 48 | t | Hexachlorocyclopentadiene | 0.210 | 0.314 | -49.5# | 211# | 0.00 | 6.83 |
| 49 | t | 2,4,6-Trichlorophenol | 0.305 | 0.384 | -25.9# | 180 | 0.04 | 7.01 |
| 50 | t | 2,4,5-Trichlorophenol | 0.331 | 0.393 | -18.7 | 169 | -0.01 | 7.14 |
| 51 | S | 2-Fluorobiphenyl | 1.453 | 1.594 | -9.7 | 168 | 0.00 | 7.08 |
| 52 | t | 2-Chloronaphthalene | 1.207 | 1.321 | -9.4 | 169 | 0.00 | 7.22 |
| 53 | t | Biphenyl | 1.633 | 1.808 | -10.7 | 167 | 0.00 | 7.20 |
| 54 | t | 2-Nitroaniline | 0.308 | 0.415 | -34.7# | 207# | 0.02 | 7.36 |
| 55 | t | Dimethylphthalate | 1.337 | 1.479 | -10.6 | 171 | 0.00 | 7.60 |
| 56 | t | Acenaphthylene | 1.896 | 2.194 | -15.7 | 174 | 0.00 | 7.75 |
| | | | True | Calc. | % Drift | | | |
| 57 | t | 2,6-Dinitrotoluene | 25.000 | 32.271 | -29.1# | 226 | 0.00 | 7.67 |
| | | | AvgRF | CCRF | % Dev | | | |
| 58 | t | 3-Nitroaniline | 0.319 | 0.388 | -21.6# | 190 | 0.03 | 7.91 |
| 59 | t | Acenaphthene | 1.237 | 1.388 | -12.2 | 172 | 0.00 | 8.00 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 69.921 | -39.8# | 316 | 0.03 | 8.05 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.165 | 0.189 | -14.5 | 181 | 0.00 | 8.45 |
| 62 | t | Dibenzofuran | 1.713 | 1.907 | -11.3 | 171 | 0.00 | 8.24 |
| | | | True | Calc. | % Drift | | | |
| 63 | t | 2,4-Dinitrotoluene | 25.000 | 31.171 | -24.7# | 217 | 0.01 | 8.23 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.266 | 0.322 | -21.1# | 181 | 0.05 | 8.46 |
| 65 | t | Diethylphthalate | 1.275 | 1.446 | -13.4 | 171 | 0.00 | 8.60 |
| 66 | t | Fluorene | 1.362 | 1.575 | -15.6 | 172 | 0.00 | 8.72 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.610 | 0.691 | -13.3 | 173 | 0.00 | 8.74 |
| 68 | t | 4-Nitroaniline | 0.335 | 0.399 | -19.1 | 182 | 0.04 | 8.79 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 177 | 0.00 | 10.12 |
| | | | True | Calc. | % Drift | | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 25.000 | 35.170 | -40.7# | 340 | 0.01 | 8.82 |
| | | | AvgRF | CCRF | % Dev | | | |
| 71 | t | n-Nitrosodiphenylamine | 0.631 | 0.636 | -0.8 | 172 | 0.00 | 8.92 |
| 72 | t | 1,2-Diphenylhydrazine | 0.859 | 0.856 | 0.3 | 170 | 0.00 | 8.97 |
| 73 | S | 2,4,6-Tribromophenol | 0.106 | 0.115 | -8.5 | 191 | 0.02 | 9.09 |
| 74 | t | 4-Bromophenyl-phenylether | 0.208 | 0.216 | -3.8 | 178 | 0.00 | 9.47 |
| 75 | t | Hexachlorobenzene | 0.224 | 0.225 | -0.4 | 178 | 0.00 | 9.55 |
| | | | True | Calc. | % Drift | | | |
| 76 | t | Pentachlorophenol | 50.000 | 41.653 | 16.7 | 156 | 0.05 | 9.90 |

8.9.14

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4980-CC4974
**Lab FileID:** 2M111983.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 77 | t | Phenanthrene | 1.164 | 1.167 | -0.3 | 175 | 0.00 | 10.16 |
| 78 | t | Anthracene | 1.145 | 1.194 | -4.3 | 177 | 0.00 | 10.23 |
| 79 | t | Carbazole | 1.154 | 1.209 | -4.8 | 181 | 0.03 | 10.52 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.342 | -10.9 | 176 | 0.00 | 11.12 |
| 81 | t | Fluoranthene | 1.119 | 1.217 | -8.8 | 181 | 0.02 | 12.01 |
| 82 | t | Octadecane | 0.537 | 0.591 | -10.1 | 172 | 0.00 | 10.07 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 191 | 0.00 | 14.29 |
| 84 | t | Pyrene | 1.497 | 1.443 | 3.6 | 180 | -0.01 | 12.35 |
| 85 | S | Terphenyl-d14 | 0.949 | 0.928 | 2.2 | 180 | 0.00 | 12.66 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 86 | t | Butylbenzylphthalate | 25.000 | 22.821 | 8.7 | 184 | 0.00 | 13.49 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.217 | 1.198 | 1.6 | 181 | 0.00 | 14.27 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.403 | 0.407 | -1.0 | 175 | 0.00 | 14.28 |
| 89 | t | Chrysene | 1.324 | 1.262 | 4.7 | 183 | 0.00 | 14.33 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 90 | t | bis(2-Ethylhexyl)phthalat | 25.000 | 23.035 | 7.9 | 181 | -0.01 | 14.45 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 191 | 0.00 | 16.39 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 92 | t | Di-n-octylphthalate | 25.000 | 23.156 | 7.4 | 188 | 0.00 | 15.43 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 93 | t | Benzo[b]fluoranthene | 1.133 | 1.175 | -3.7 | 181 | 0.00 | 15.87 |
| 94 | t | Benzo[k]fluoranthene | 1.142 | 1.217 | -6.6 | 190 | 0.00 | 15.91 |
| 95 | t | Benzo[a]pyrene | 1.011 | 1.088 | -7.6 | 195 | 0.00 | 16.31 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.937 | 0.965 | -3.0 | 182 | -0.01 | 17.94 |
| 97 | t | Dibenz(a,h)acridine | 0.878 | 0.934 | -6.4 | 182 | 0.00 | 17.59 |
| 98 | t | Dibenz[a,h]anthracene | 1.022 | 1.066 | -4.3 | 183 | -0.01 | 17.98 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 99 | t | 7,12-Dimethylbenz(a)anthr | 25.000 | 27.447 | -9.8 | 219 | 0.00 | 15.87 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 100 | t | Benzo[g,h,i]perylene | 0.957 | 0.982 | -2.6 | 185 | -0.01 | 18.38 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111897a.D M2M4974.M Mon May 20 05:44:00 2019

8.9.14

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4980-CC4975
**Lab FileID:** 2M111984.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e2m4980\2m111984.d Vial: 3
Acq On : 18 May 2019 3:01 am Operator: chriss2
Sample : cc4975-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Mon May 20 05:37:29 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 120 | 0.00 | 4.76 |
| 102 | Benzaldehyde | 1.244 | 1.228 | 1.3 | 112 | 0.00 | 4.43 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 117 | 0.00 | 7.95 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.495 | 0.512 | -3.4 | 114 | 0.00 | 6.83 |
| | | AvgRF | CCRF | % Dev | | | |
| 107 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 117 | 0.00 | 10.12 |
| 108 | Atrazine | 0.100 | 0.120 | -20.0 | 125 | 0.01 | 9.75 |
| 109 s | 1-Chlorooctadecane | 0.323 | 0.377 | -16.7 | 121 | 0.00 | 11.95 |
| 110 s | o-terphenyl | 0.517 | 0.596 | -15.3 | 122 | 0.00 | 10.76 |
| | | True | Calc. | % Drift | | | |
| 111 | Pentachloronitrobenzene | 25.000 | 29.910 | -19.6 | 161 | 0.00 | 9.87 |
| | | AvgRF | CCRF | % Dev | | | |
| 112 | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 115 | 0.00 | 5.87 |
| 113 | Hydroquinone | 0.329 | 0.347 | -5.5 | 124 | 0.14 | 6.40 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111897a.D M2M4974.M Mon May 20 05:44:03 2019

8.9.15

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4980-CC4976
**Lab FileID:** 2M111985.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e2m4980\2m111985.d Vial: 4
Acq On : 18 May 2019 3:27 am Operator: chriss2
Sample : cc4976-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Mon May 20 05:37:29 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 105 | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 165 | 0.00 | 14.28 |
| | | True | Calc. | % Drift | | | |
| 106 | Benzidine | 25.000 | 24.703 | 1.2 | 196 | 0.00 | 12.27 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111897a.D M2M4974.M Mon May 20 05:44:06 2019

8.9.16

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4981-CC4974
**Lab FileID:** 2M112009.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\mi...lc\e2m4981\2m112009.d Vial: 2
Acq On : 18 May 2019 7:04 pm Operator: chriss2
Sample : cc4974-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Sun May 19 23:42:39 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 132 | -0.04 | 4.75 |
| 2 | t | 1,4-Dioxane | 0.698 | 0.692 | 0.9 | 132 | -0.06 | 2.32 |
| 3 | t | Pyridine | 1.756 | 1.775 | -1.1 | 130 | -0.06 | 2.64 |
| 4 | t | N-Nitrosodimethylamine | 1.059 | 1.028 | 2.9 | 128 | -0.05 | 2.60 |
| 5 | S | 2-Fluorophenol | 1.451 | 1.480 | -2.0 | 130 | 0.07 | 3.87 |
| 6 | t | Indene | 2.345 | 2.253 | 3.9 | 129 | -0.04 | 4.96 |
| 7 | t | Cumene | 3.669 | 3.496 | 4.7 | 130 | -0.04 | 4.15 |
| 8 | S | Phenol-d5 | 1.789 | 1.800 | -0.6 | 130 | 0.08 | 4.58 |
| 9 | t | Phenol | 1.949 | 1.902 | 2.4 | 126 | 0.08 | 4.60 |
| 10 | | Aniline | 2.121 | 1.916 | 9.7 | 135 | -0.03 | 4.51 |
| 11 | t | bis(2-Chloroethyl)ether | 1.530 | 1.457 | 4.8 | 128 | -0.04 | 4.55 |
| 12 | t | 2-Chlorophenol | 1.520 | 1.505 | 1.0 | 128 | 0.01 | 4.65 |
| 13 | t | Decane | 1.397 | 1.262 | 9.7 | 127 | -0.04 | 4.63 |
| 14 | t | 1,3-Dichlorobenzene | 1.649 | 1.560 | 5.4 | 128 | -0.04 | 4.71 |
| 15 | t | 1,4-Dichlorobenzene | 1.646 | 1.553 | 5.7 | 128 | -0.04 | 4.77 |
| 16 | t | Benzyl alcohol | 0.909 | 0.864 | 5.0 | 121 | -0.02 | 4.88 |
| 17 | t | 1,2-Dichlorobenzene | 1.561 | 1.451 | 7.0 | 125 | -0.04 | 4.89 |
| 18 | t | Acetophenone | 1.901 | 1.773 | 6.7 | 136 | -0.04 | 5.07 |
| 19 | t | 2-Methylphenol | 1.267 | 1.343 | -6.0 | 134 | 0.04 | 5.03 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.580 | 1.476 | 6.6 | 128 | -0.04 | 4.97 |
| 21 | t | 3&4-Methylphenol | 1.201 | 1.375 | -14.5 | 150 | 0.05 | 5.15 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.981 | 0.913 | 6.9 | 134 | -0.04 | 5.07 |
| 23 | t | Hexachloroethane | 0.455 | 0.455 | 0.0 | 128 | -0.04 | 5.17 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 121 | -0.05 | 5.86 |
| 25 | S | Nitrobenzene-d5 | 0.348 | 0.399 | -14.7 | 130 | -0.04 | 5.20 |
| 26 | t | Nitrobenzene | 0.370 | 0.405 | -9.5 | 128 | -0.04 | 5.22 |
| 27 | t | Quinoline | 0.754 | 0.755 | -0.1 | 120 | -0.04 | 6.23 |
| 28 | t | Isophorone | 0.670 | 0.675 | -0.7 | 124 | -0.04 | 5.43 |
| 29 | t | 2-Nitrophenol | 0.150 | 0.199 | -32.7# | 142 | -0.04 | 5.50 |
| 30 | t | 2,4-Dimethylphenol | 0.296 | 0.347 | -17.2 | 122 | 0.01 | 5.58 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 31 | t | Benzoic acid | 50.000 | 82.072 | -64.1# | 192 | 0.11 | 5.72 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 32 | t | bis(2-Chloroethoxy)methan | 0.450 | 0.423 | 6.0 | 117 | -0.04 | 5.62 |
| 33 | t | 2,4-Dichlorophenol | 0.289 | 0.307 | -6.2 | 122 | 0.03 | 5.79 |
| 34 | t | 2,6-Dichlorophenol | 0.285 | 0.301 | -5.6 | 124 | -0.02 | 5.97 |
| 35 | | 1,3,5-Trichlorobenzene | 0.317 | 0.309 | 2.5 | 121 | -0.04 | 5.51 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.302 | 0.295 | 2.3 | 120 | -0.05 | 5.81 |
| 37 | | 1,2,3-Trichlorobenzene | 0.300 | 0.303 | -1.0 | 124 | -0.05 | 6.03 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** E2M4981-CC4974
**Account:** BBLNYS Arcadis **Lab FileID:** 2M112009.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | t | Naphthalene | 1.121 | 1.062 | 5.3 | 119 | -0.05 | 5.88 |
| 39 | t | 4-Chloroaniline | 0.446 | 0.423 | 5.2 | 119 | -0.04 | 5.94 |
| 40 | t | 2,3-Dichloroaniline | 0.362 | 0.383 | -5.8 | 128 | -0.04 | 6.96 |
| 41 | t | Caprolactam | 0.162 | 0.176 | -8.6 | 120 | 0.00 | 6.30 |
| 42 | t | Hexachlorobutadiene | 0.150 | 0.156 | -4.0 | 127 | -0.05 | 6.02 |
| 43 | t | 4-Chloro-3-methylphenol | 0.288 | 0.327 | -13.5 | 125 | 0.05 | 6.54 |
| 44 | t | 2-Methylnaphthalene | 0.576 | 0.568 | 1.4 | 120 | -0.05 | 6.63 |
| 45 | t | 1-Methylnaphthalene | 0.642 | 0.627 | 2.3 | 120 | -0.05 | 6.74 |
| 46 | t | Dimethylnaphthalene | 0.659 | 0.662 | -0.5 | 119 | -0.05 | 7.39 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 126 | -0.06 | 7.94 |
| 48 | t | Hexachlorocyclopentadiene | 0.210 | 0.275 | -31.0# | 139 | -0.05 | 6.82 |
| 49 | t | 2,4,6-Trichlorophenol | 0.305 | 0.356 | -16.7 | 136 | -0.02 | 6.99 |
| 50 | t | 2,4,5-Trichlorophenol | 0.331 | 0.379 | -14.5 | 129 | -0.08 | 7.11 |
| 51 | S | 2-Fluorobiphenyl | 1.453 | 1.367 | 5.9 | 122 | -0.05 | 7.06 |
| 52 | t | 2-Chloronaphthalene | 1.207 | 1.135 | 6.0 | 121 | -0.05 | 7.21 |
| 53 | t | Biphenyl | 1.633 | 1.501 | 8.1 | 118 | -0.05 | 7.19 |
| 54 | t | 2-Nitroaniline | 0.308 | 0.362 | -17.5 | 133 | -0.03 | 7.36 |
| 55 | t | Dimethylphthalate | 1.337 | 1.310 | 2.0 | 123 | -0.05 | 7.59 |
| 56 | t | Acenaphthylene | 1.896 | 1.869 | 1.4 | 121 | -0.05 | 7.75 |
| | | | True | Calc. | % Drift | | | |
| 57 | t | 2,6-Dinitrotoluene | 50.000 | 58.357 | -16.7 | 145 | -0.04 | 7.67 |
| | | | AvgRF | CCRF | % Dev | | | |
| 58 | t | 3-Nitroaniline | 0.319 | 0.365 | -14.4 | 132 | -0.03 | 7.91 |
| 59 | t | Acenaphthene | 1.237 | 1.170 | 5.4 | 121 | -0.06 | 7.98 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 150.901 | -50.9# | 202 | -0.03 | 8.05 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.165 | 0.201 | -21.8# | 140 | 0.22 | 8.40 |
| 62 | t | Dibenzofuran | 1.713 | 1.569 | 8.4 | 117 | -0.05 | 8.23 |
| | | | True | Calc. | % Drift | | | |
| 63 | t | 2,4-Dinitrotoluene | 50.000 | 55.391 | -10.8 | 135 | -0.04 | 8.22 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.266 | 0.304 | -14.3 | 128 | -0.02 | 8.45 |
| 65 | t | Diethylphthalate | 1.275 | 1.268 | 0.5 | 121 | -0.05 | 8.59 |
| 66 | t | Fluorene | 1.362 | 1.324 | 2.8 | 121 | -0.05 | 8.72 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.610 | 0.595 | 2.5 | 124 | -0.06 | 8.73 |
| 68 | t | 4-Nitroaniline | 0.335 | 0.357 | -6.6 | 127 | -0.01 | 8.79 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 138 | -0.06 | 10.11 |
| | | | True | Calc. | % Drift | | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 50.000 | 69.449 | -38.9# | 200 | -0.03 | 8.82 |
| | | | AvgRF | CCRF | % Dev | | | |
| 71 | t | n-Nitrosodiphenylamine | 0.631 | 0.592 | 6.2 | 127 | -0.05 | 8.91 |
| 72 | t | 1,2-Diphenylhydrazine | 0.859 | 0.777 | 9.5 | 124 | -0.05 | 8.96 |
| 73 | S | 2,4,6-Tribromophenol | 0.106 | 0.118 | -11.3 | 139 | -0.04 | 9.09 |
| 74 | t | 4-Bromophenyl-phenylether | 0.208 | 0.206 | 1.0 | 132 | -0.06 | 9.46 |
| 75 | t | Hexachlorobenzene | 0.224 | 0.223 | 0.4 | 138 | -0.05 | 9.54 |
| | | | True | Calc. | % Drift | | | |
| 76 | t | Pentachlorophenol | 100.000 | 94.845 | 5.2 | 129 | -0.01 | 9.89 |

8.9.17

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4981-CC4974
**Lab FileID:** 2M112009.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 77 | t | Phenanthrene | 1.164 | 1.081 | 7.1 | 131 | -0.05 | 10.15 |
| 78 | t | Anthracene | 1.145 | 1.113 | 2.8 | 132 | -0.06 | 10.23 |
| 79 | t | Carbazole | 1.154 | 1.152 | 0.2 | 133 | -0.03 | 10.51 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.286 | -6.3 | 130 | -0.06 | 11.12 |
| 81 | t | Fluoranthene | 1.119 | 1.162 | -3.8 | 134 | -0.05 | 12.01 |
| 82 | t | Octadecane | 0.537 | 0.523 | 2.6 | 124 | -0.06 | 10.06 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 140 | -0.05 | 14.28 |
| 84 | t | Pyrene | 1.497 | 1.488 | 0.6 | 133 | -0.05 | 12.35 |
| 85 | S | Terphenyl-d14 | 0.949 | 0.971 | -2.3 | 136 | -0.05 | 12.66 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 86 | t | Butylbenzylphthalate | 50.000 | 49.140 | 1.7 | 136 | -0.05 | 13.49 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.217 | 1.267 | -4.1 | 141 | -0.05 | 14.27 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.403 | 0.473 | -17.4 | 143 | -0.05 | 14.27 |
| 89 | t | Chrysene | 1.324 | 1.308 | 1.2 | 137 | -0.05 | 14.32 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 90 | t | bis(2-Ethylhexyl)phthalat | 50.000 | 50.595 | -1.2 | 139 | -0.06 | 14.45 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 149 | -0.05 | 16.39 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 92 | t | Di-n-octylphthalate | 50.000 | 47.201 | 5.6 | 139 | -0.05 | 15.43 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 93 | t | Benzo[b]fluoranthene | 1.133 | 1.140 | -0.6 | 142 | -0.05 | 15.87 |
| 94 | t | Benzo[k]fluoranthene | 1.142 | 1.080 | 5.4 | 132 | -0.04 | 15.92 |
| 95 | t | Benzo[a]pyrene | 1.011 | 1.051 | -4.0 | 142 | -0.05 | 16.31 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.937 | 1.080 | -15.3 | 149 | -0.06 | 17.94 |
| 97 | t | Dibenz(a,h)acridine | 0.878 | 0.994 | -13.2 | 145 | -0.06 | 17.59 |
| 98 | t | Dibenz[a,h]anthracene | 1.022 | 1.129 | -10.5 | 147 | -0.06 | 17.98 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 48.978 | 2.0 | 145 | -0.04 | 15.88 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 100 | t | Benzo[g,h,i]perylene | 0.957 | 1.019 | -6.5 | 143 | -0.06 | 18.39 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111896a.D M2M4974.M Mon May 20 03:55:24 2019

8.9.17

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4981-CC4975
**Lab FileID:** 2M112010.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\mi...lc\e2m4981\2m112010.d Vial: 3
Acq On : 18 May 2019 7:30 pm Operator: chriss2
Sample : cc4975-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Sun May 19 23:42:39 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 127 | -0.04 | 4.75 |
| 102 | Benzaldehyde | 1.244 | 1.201 | 3.5 | 125 | -0.04 | 4.42 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 123 | -0.06 | 7.94 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.495 | 0.500 | -1.0 | 126 | -0.05 | 6.82 |
| 105 | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 112 | -0.06 | 14.27 |
| | ---------- True | Calc. | % Drift | ---------- | | | |
| 106 | Benzidine | ----------NA---------- | | | | | |
| | ---------- AvgRF | CCRF | % Dev | ---------- | | | |
| 107 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 127 | -0.06 | 10.11 |
| 108 | Atrazine | 0.100 | 0.121 | -21.0# | 132 | -0.04 | 9.75 |
| 109 s | 1-Chlorooctadecane | 0.323 | 0.352 | -9.0 | 120 | -0.06 | 11.95 |
| 110 s | o-terphenyl | 0.517 | 0.557 | -7.7 | 131 | -0.06 | 10.75 |
| | ---------- True | Calc. | % Drift | ---------- | | | |
| 111 | Pentachloronitrobenzene | 50.000 | 60.298 | -20.6# | 156 | -0.06 | 9.87 |
| | ---------- AvgRF | CCRF | % Dev | ---------- | | | |
| 112 | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 125 | -0.05 | 5.86 |
| 113 | Hydroquinone | 0.329 | 0.393 | -19.5 | 138 | 0.08 | 6.37 |
| 114 | Chrysene-d12b | 1.000 | 1.000 | 0.0 | 138 | -0.06 | 14.27 |
| 115 | 2,3,7,8-TCDD | ----------NA---------- | | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111896a.D M2M4974.M Mon May 20 03:55:27 2019

8.9.18

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4981-CC4976
**Lab FileID:** 2M112011.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\mi...lc\e2m4981\2m112011.d Vial: 4
Acq On : 18 May 2019 9:19 pm Operator: chriss2
Sample : cc4976-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Sun May 19 23:42:39 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 105 | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 90 | -0.06 | 14.28 |
| | | True | Calc. | % Drift | | | |
| 106 | Benzidine | 50.000 | 45.574 | 8.9 | 78 | -0.04 | 12.27 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111896a.D M2M4974.M Mon May 20 03:55:30 2019

8.9.19

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4982-CC4974
**Lab FileID:** 2M112035.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4982\2m112035.D Vial: 2
Acq On : 19 May 2019 11:29 am Operator: carolb
Sample : cc4974-25 Inst : MS2M
Misc : op13721,e2m4982,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Mon May 20 10:31:43 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 132 | -0.05 | 4.75 |
| 2 | t | 1,4-Dioxane | 0.698 | 0.723 | -3.6 | 141 | -0.06 | 2.31 |
| 3 | t | Pyridine | 1.756 | 1.834 | -4.4 | 141 | -0.07 | 2.62 |
| 4 | t | N-Nitrosodimethylamine | 1.059 | 1.071 | -1.1 | 138 | -0.06 | 2.59 |
| 5 | S | 2-Fluorophenol | 1.451 | 1.516 | -4.5 | 136 | 0.06 | 3.87 |
| 6 | t | Indene | 2.345 | 2.509 | -7.0 | 138 | -0.05 | 4.95 |
| 7 | t | Cumene | 3.669 | 3.882 | -5.8 | 140 | -0.05 | 4.15 |
| 8 | S | Phenol-d5 | 1.789 | 1.880 | -5.1 | 138 | -0.07 | 4.58 |
| 9 | t | Phenol | 1.949 | 2.007 | -3.0 | 131 | 0.08 | 4.59 |
| 10 | | Aniline | 2.121 | 2.061 | 2.8 | 140 | -0.04 | 4.50 |
| 11 | t | bis(2-Chloroethyl)ether | 1.530 | 1.563 | -2.2 | 136 | -0.05 | 4.54 |
| 12 | t | 2-Chlorophenol | 1.520 | 1.584 | -4.2 | 136 | 0.00 | 4.64 |
| 13 | t | Decane | 1.397 | 1.546 | -10.7 | 145 | -0.05 | 4.63 |
| 14 | t | 1,3-Dichlorobenzene | 1.649 | 1.698 | -3.0 | 135 | -0.05 | 4.71 |
| 15 | t | 1,4-Dichlorobenzene | 1.646 | 1.700 | -3.3 | 137 | -0.05 | 4.76 |
| 16 | t | Benzyl alcohol | 0.909 | 0.936 | -3.0 | 137 | -0.03 | 4.87 |
| 17 | t | 1,2-Dichlorobenzene | 1.561 | 1.598 | -2.4 | 137 | -0.05 | 4.88 |
| 18 | t | Acetophenone | 1.901 | 2.064 | -8.6 | 140 | -0.05 | 5.06 |
| 19 | t | 2-Methylphenol | 1.267 | 1.389 | -9.6 | 137 | -0.08 | 5.02 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.580 | 1.748 | -10.6 | 147 | -0.05 | 4.96 |
| 21 | t | 3&4-Methylphenol | 1.201 | 1.469 | -22.3# | 148 | 0.03 | 5.14 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.981 | 1.066 | -8.7 | 143 | -0.05 | 5.06 |
| 23 | t | Hexachloroethane | 0.455 | 0.490 | -7.7 | 144 | -0.05 | 5.16 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 133 | -0.05 | 5.86 |
| 25 | S | Nitrobenzene-d5 | 0.348 | 0.407 | -17.0 | 150 | -0.05 | 5.19 |
| 26 | t | Nitrobenzene | 0.370 | 0.422 | -14.1 | 146 | -0.05 | 5.21 |
| 27 | t | Quinoline | 0.754 | 0.779 | -3.3 | 138 | -0.05 | 6.21 |
| 28 | t | Isophorone | 0.670 | 0.723 | -7.9 | 140 | -0.05 | 5.42 |
| 29 | t | 2-Nitrophenol | 0.150 | 0.201 | -34.0# | 176 | -0.05 | 5.49 |
| 30 | t | 2,4-Dimethylphenol | 0.296 | 0.343 | -15.9 | 140 | -0.02 | 5.57 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 31 | t | Benzoic acid | 25.000 | 33.980 | -35.9# | 248 | 0.08 | 5.68 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 32 | t | bis(2-Chloroethoxy)methan | 0.450 | 0.465 | -3.3 | 138 | -0.05 | 5.61 |
| 33 | t | 2,4-Dichlorophenol | 0.289 | 0.316 | -9.3 | 138 | 0.02 | 5.78 |
| 34 | t | 2,6-Dichlorophenol | 0.285 | 0.313 | -9.8 | 139 | -0.03 | 5.96 |
| 35 | | 1,3,5-Trichlorobenzene | 0.317 | 0.330 | -4.1 | 139 | -0.05 | 5.50 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.302 | 0.317 | -5.0 | 139 | -0.06 | 5.80 |
| 37 | | 1,2,3-Trichlorobenzene | 0.300 | 0.312 | -4.0 | 139 | -0.06 | 6.02 |

8.9.20

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4982-CC4974
**Lab FileID:** 2M112035.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | t | Naphthalene | 1.121 | 1.150 | -2.6 | 137 | -0.06 | 5.87 |
| 39 | t | 4-Chloroaniline | 0.446 | 0.461 | -3.4 | 136 | -0.05 | 5.93 |
| 40 | t | 2,3-Dichloroaniline | 0.362 | 0.394 | -8.8 | 141 | -0.05 | 6.96 |
| 41 | t | Caprolactam | 0.162 | 0.191 | -17.9 | 153 | -0.02 | 6.28 |
| 42 | t | Hexachlorobutadiene | 0.150 | 0.166 | -10.7 | 146 | -0.06 | 6.01 |
| 43 | t | 4-Chloro-3-methylphenol | 0.288 | 0.337 | -17.0 | 144 | 0.04 | 6.53 |
| 44 | t | 2-Methylnaphthalene | 0.576 | 0.602 | -4.5 | 137 | -0.06 | 6.62 |
| 45 | t | 1-Methylnaphthalene | 0.642 | 0.672 | -4.7 | 138 | -0.06 | 6.73 |
| 46 | t | Dimethylnaphthalene | 0.659 | 0.713 | -8.2 | 139 | -0.06 | 7.38 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 136 | -0.07 | 7.93 |
| 48 | t | Hexachlorocyclopentadiene | 0.210 | 0.278 | -32.4# | 164 | -0.06 | 6.81 |
| 49 | t | 2,4,6-Trichlorophenol | 0.305 | 0.365 | -19.7 | 150 | -0.03 | 6.98 |
| 50 | t | 2,4,5-Trichlorophenol | 0.331 | 0.376 | -13.6 | 142 | -0.09 | 7.10 |
| 51 | S | 2-Fluorobiphenyl | 1.453 | 1.510 | -3.9 | 140 | -0.06 | 7.05 |
| 52 | t | 2-Chloronaphthalene | 1.207 | 1.229 | -1.8 | 138 | -0.06 | 7.20 |
| 53 | t | Biphenyl | 1.633 | 1.691 | -3.6 | 137 | -0.06 | 7.18 |
| 54 | t | 2-Nitroaniline | 0.308 | 0.386 | -25.3# | 169 | -0.05 | 7.34 |
| 55 | t | Dimethylphthalate | 1.337 | 1.388 | -3.8 | 141 | -0.06 | 7.58 |
| 56 | t | Acenaphthylene | 1.896 | 2.004 | -5.7 | 140 | -0.06 | 7.74 |
| | | | True | Calc. | % Drift | | | |
| 57 | t | 2,6-Dinitrotoluene | 25.000 | 29.691 | -18.8 | 181 | -0.05 | 7.66 |
| | | | AvgRF | CCRF | % Dev | | | |
| 58 | t | 3-Nitroaniline | 0.319 | 0.364 | -14.1 | 156 | -0.04 | 7.89 |
| 59 | t | Acenaphthene | 1.237 | 1.277 | -3.2 | 139 | -0.07 | 7.97 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 61.910 | -23.8# | 240 | -0.04 | 8.03 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.165 | 0.174 | -5.5 | 147 | -0.10 | 8.39 |
| 62 | t | Dibenzofuran | 1.713 | 1.775 | -3.6 | 140 | -0.07 | 8.21 |
| | | | True | Calc. | % Drift | | | |
| 63 | t | 2,4-Dinitrotoluene | 25.000 | 29.360 | -17.4 | 179 | -0.06 | 8.21 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.266 | 0.302 | -13.5 | 149 | -0.03 | 8.43 |
| 65 | t | Diethylphthalate | 1.275 | 1.366 | -7.1 | 142 | -0.06 | 8.58 |
| 66 | t | Fluorene | 1.362 | 1.459 | -7.1 | 140 | -0.06 | 8.71 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.610 | 0.644 | -5.6 | 142 | -0.07 | 8.72 |
| 68 | t | 4-Nitroaniline | 0.335 | 0.362 | -8.1 | 145 | -0.03 | 8.77 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 143 | -0.07 | 10.10 |
| | | | True | Calc. | % Drift | | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 25.000 | 33.330 | -33.3# | 258 | -0.05 | 8.80 |
| | | | AvgRF | CCRF | % Dev | | | |
| 71 | t | n-Nitrosodiphenylamine | 0.631 | 0.640 | -1.4 | 140 | -0.06 | 8.90 |
| 72 | t | 1,2-Diphenylhydrazine | 0.859 | 0.877 | -2.1 | 141 | -0.06 | 8.95 |
| 73 | S | 2,4,6-Tribromophenol | 0.106 | 0.116 | -9.4 | 156 | -0.05 | 9.07 |
| 74 | t | 4-Bromophenyl-phenylether | 0.208 | 0.218 | -4.8 | 145 | -0.07 | 9.44 |
| 75 | t | Hexachlorobenzene | 0.224 | 0.231 | -3.1 | 147 | -0.06 | 9.53 |
| | | | True | Calc. | % Drift | | | |
| 76 | t | Pentachlorophenol | 50.000 | 44.202 | 11.6 | 134 | -0.03 | 9.87 |

8.9.20

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4982-CC4974
**Lab FileID:** 2M112035.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 77 | t | Phenanthrene | 1.164 | 1.186 | -1.9 | 144 | -0.07 | 10.13 |
| 78 | t | Anthracene | 1.145 | 1.187 | -3.7 | 142 | -0.07 | 10.21 |
| 79 | t | Carbazole | 1.154 | 1.233 | -6.8 | 149 | -0.04 | 10.50 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.405 | -16.1 | 149 | -0.07 | 11.11 |
| 81 | t | Fluoranthene | 1.119 | 1.248 | -11.5 | 149 | -0.07 | 11.99 |
| 82 | t | Octadecane | 0.537 | 0.621 | -15.6 | 146 | -0.07 | 10.05 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 150 | -0.07 | 14.27 |
| 84 | t | Pyrene | 1.497 | 1.526 | -1.9 | 149 | -0.07 | 12.34 |
| 85 | S | Terphenyl-d14 | 0.949 | 0.983 | -3.6 | 149 | -0.06 | 12.65 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 86 | t | Butylbenzylphthalate | 25.000 | 24.681 | 1.3 | 156 | -0.06 | 13.48 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.217 | 1.303 | -7.1 | 154 | -0.07 | 14.25 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.403 | 0.471 | -16.9 | 158 | -0.06 | 14.26 |
| 89 | t | Chrysene | 1.324 | 1.320 | 0.3 | 149 | -0.07 | 14.31 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 90 | t | bis(2-Ethylhexyl)phthalat | 25.000 | 24.881 | 0.5 | 154 | -0.07 | 14.44 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 156 | -0.06 | 16.38 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 92 | t | Di-n-octylphthalate | 25.000 | 24.472 | 2.1 | 163 | -0.06 | 15.42 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 93 | t | Benzo[b]fluoranthene | 1.133 | 1.226 | -8.2 | 154 | -0.06 | 15.85 |
| 94 | t | Benzo[k]fluoranthene | 1.142 | 1.227 | -7.4 | 156 | -0.06 | 15.89 |
| 95 | t | Benzo[a]pyrene | 1.011 | 1.089 | -7.7 | 159 | -0.07 | 16.29 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.937 | 1.041 | -11.1 | 160 | -0.09 | 17.92 |
| 97 | t | Dibenz(a,h)acridine | 0.878 | 0.991 | -12.9 | 158 | -0.08 | 17.56 |
| 98 | t | Dibenz[a,h]anthracene | 1.022 | 1.124 | -10.0 | 157 | -0.09 | 17.96 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 99 | t | 7,12-Dimethylbenz(a)anthr | 25.000 | 26.763 | -7.1 | 174 | -0.06 | 15.86 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 100 | t | Benzo[g,h,i]perylene | 0.957 | 1.038 | -8.5 | 159 | -0.09 | 18.36 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111897a.D M2M4974.M Mon May 20 10:34:29 2019

8.9.20

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E2M4982-CC4975
**Lab FileID:** 2M112036.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E2M4982\2m112036.D Vial: 3
Acq On : 19 May 2019 12:02 pm Operator: carolb
Sample : cc4975-25 Inst : MS2M
Misc : op13721,e2m4982,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M4974.M (RTE Integrator)
Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
Last Update : Mon May 20 10:31:43 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 119 | -0.05 | 4.75 |
| 102 | Benzaldehyde | 1.244 | 1.192 | 4.2 | 108 | -0.04 | 4.42 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 119 | -0.07 | 7.93 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.495 | 0.517 | -4.4 | 117 | -0.06 | 6.81 |
| 105 | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 138 | -0.07 | 14.26 |
| | ---------- True | Calc. | % Drift | ---------- | | | |
| 106 | Benzidine | ----------NA---------- | | | | | |
| | ---------- AvgRF | CCRF | % Dev | ---------- | | | |
| 107 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 121 | -0.07 | 10.10 |
| 108 | Atrazine | 0.100 | 0.113 | -13.0 | 122 | -0.05 | 9.74 |
| 109 s | 1-Chlorooctadecane | 0.323 | 0.371 | -14.9 | 123 | -0.07 | 11.94 |
| 110 s | o-terphenyl | 0.517 | 0.551 | -6.6 | 116 | -0.07 | 10.74 |
| | ---------- True | Calc. | % Drift | ---------- | | | |
| 111 | Pentachloronitrobenzene | 25.000 | 29.201 | -16.8 | 161 | -0.07 | 9.86 |
| | ---------- AvgRF | CCRF | % Dev | ---------- | | | |
| 112 | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 118 | -0.06 | 5.85 |
| 113 | Hydroquinone | 0.329 | 0.353 | -7.3 | 130 | 0.06 | 6.36 |
| 114 | Chrysene-d12b | 1.000 | 1.000 | 0.0 | 129 | -0.07 | 14.26 |
| 115 | 2,3,7,8-TCDD | ----------NA---------- | | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m111897a.D M2M4974.M Mon May 20 10:35:44 2019

8.9.21

8

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICC2761
**Lab FileID:** 5P58251.D

Response Factor Report MS5P

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

Calibration Files
2 =5p58255.D 5 =5p58254.D 25 =5p58252.D 80 =5p58250.D
100 =5p58249a.D 50 =5p58251.D 1 =5p58256.D 10 =5p58253.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 2) 1,4-Dioxane | 0.714 | 0.847 | 0.853 | 0.875 | 0.881 | 0.885 | 0.838 | 0.844 | 0.842 | 6.53 |
| 3) Pyridine | 1.703 | 1.850 | 2.151 | 2.155 | 2.076 | 2.171 | 1.290 | 2.128 | 1.940 | 16.12 |
| 4) N-Nitrosodim | 1.047 | 1.092 | 1.218 | 1.236 | 1.218 | 1.218 | 0.927 | 1.093 | 1.131 | 9.75 |
| 5) 2-Fluorophen | 1.414 | 1.431 | 1.646 | 1.658 | 1.630 | 1.706 | 1.419 | 1.559 | 1.558 | 7.70 |
| 6) Indene | 2.529 | 2.427 | 2.473 | 2.385 | 2.318 | 2.490 | 2.356 | 2.511 | 2.436 | 3.17 |
| 7) Cumene | 3.869 | 3.932 | 4.005 | 3.739 | 3.638 | 4.007 | 3.903 | 4.006 | 3.887 | 3.50 |
| 8) Phenol-d5 | 1.942 | 1.942 | 2.005 | 1.984 | 1.919 | 2.056 | 1.828 | 2.010 | 1.961 | 3.56 |
| 9) Phenol | 2.050 | 2.206 | 2.209 | 2.059 | 1.978 | 2.206 | 2.215 | 2.248 | 2.146 | 4.70 |
| 10) Aniline | 2.464 | 2.399 | 2.288 | 2.066 | 1.944 | 2.174 | 2.472 | 2.435 | 2.280 | 8.76 |
| 11) bis(2-Chloro | 1.516 | 1.613 | 1.498 | 1.419 | 1.360 | 1.484 | 1.577 | 1.551 | 1.502 | 5.51 |
| 12) 2-Chlorophen | 1.436 | 1.427 | 1.478 | 1.393 | 1.376 | 1.476 | 1.485 | 1.507 | 1.447 | 3.24 |
| 13) Decane | 1.431 | 1.331 | 1.274 | 1.117 | 1.056 | 1.233 | 1.503 | 1.369 | 1.289 | 11.76 |
| 14) 1,3-Dichloro | 1.654 | 1.641 | 1.632 | 1.541 | 1.515 | 1.619 | 1.477 | 1.691 | 1.596 | 4.75 |
| 15) 1,4-Dichloro | 1.681 | 1.550 | 1.584 | 1.507 | 1.459 | 1.566 | 1.627 | 1.587 | 1.570 | 4.36 |
| 16) Benzyl alcoh | 0.892 | 0.915 | 0.943 | 0.905 | 0.901 | 0.971 | 0.870 | 0.939 | 0.917 | 3.51 |
| 17) 1,2-Dichloro | 1.630 | 1.516 | 1.569 | 1.533 | 1.492 | 1.596 | 1.624 | 1.592 | 1.569 | 3.23 |
| 18) Acetophenone | 2.206 | 2.175 | 2.175 | 2.097 | 2.074 | 2.202 | 2.217 | 2.197 | 2.168 | 2.46 |
| 19) 2-Methylphen | 1.292 | 1.313 | 1.441 | 1.363 | 1.293 | 1.389 | 1.334 | 1.408 | 1.354 | 4.08 |
| 20) 2,2'-oxybis( | 1.686 | 1.566 | 1.525 | 1.439 | 1.354 | 1.517 | 1.681 | 1.561 | 1.541 | 7.26 |
| 21) 3&4-Methylph | 1.442 | 1.337 | 1.506 | 1.488 | 1.411 | 1.546 | 1.399 | 1.500 | 1.453 | 4.73 |
| 22) n-Nitroso-di | 1.214 | 1.222 | 1.171 | 1.087 | 1.052 | 1.144 | 1.196 | 1.201 | 1.161 | 5.34 |
| 23) Hexachloroet | 0.562 | 0.570 | 0.574 | 0.524 | 0.517 | 0.559 | 0.590 | 0.572 | 0.558 | 4.51 |
| 24) I Naphthalene-d8 | ISTD | | | | | | | | | |
| 25) Nitrobenzene | 0.448 | 0.456 | 0.485 | 0.463 | 0.446 | 0.476 | 0.457 | 0.478 | 0.464 | 3.14 |
| 26) Nitrobenzene | 0.464 | 0.470 | 0.475 | 0.435 | 0.416 | 0.453 | 0.455 | 0.463 | 0.454 | 4.28 |
| 27) Quinoline | 0.678 | 0.723 | 0.781 | 0.777 | 0.759 | 0.790 | 0.662 | 0.758 | 0.741 | 6.56 |
| 28) Isophorone | 0.842 | 0.871 | 0.876 | 0.820 | 0.774 | 0.847 | 0.855 | 0.879 | 0.845 | 4.12 |
| 29) 2-Nitropheno | 0.187 | 0.194 | 0.221 | 0.214 | 0.206 | 0.218 | 0.179 | 0.217 | 0.204 | 7.75 |
| 30) 2,4-Dimethyl | 0.285 | 0.313 | 0.390 | 0.398 | 0.389 | 0.405 | | 0.350 | 0.361 | 12.92 |
| 31) Benzoic acid | | 0.268 | 0.366 | 0.327 | 0.313 | 0.371 | | 0.315 | 0.327 | 11.62 |
| 32) bis(2-Chloro | 0.482 | 0.480 | 0.507 | 0.495 | 0.469 | 0.504 | 0.499 | 0.517 | 0.494 | 3.24 |
| 33) 2,4-Dichloro | 0.305 | 0.318 | 0.331 | 0.327 | 0.319 | 0.332 | 0.272 | 0.328 | 0.317 | 6.29 |
| 34) 2,6-Dichloro | 0.292 | 0.294 | 0.317 | 0.306 | 0.299 | 0.312 | 0.299 | 0.313 | 0.304 | 3.07 |
| 35) 1,3,5-Trichl | 0.365 | 0.364 | 0.366 | 0.334 | 0.322 | 0.355 | 0.349 | 0.363 | 0.352 | 4.67 |
| 36) 1,2,4-Trichl | 0.332 | 0.344 | 0.345 | 0.322 | 0.310 | 0.338 | 0.361 | 0.354 | 0.338 | 4.92 |
| 37) 1,2,3-Trichl | 0.330 | 0.327 | 0.329 | 0.301 | 0.292 | 0.322 | 0.331 | 0.343 | 0.322 | 5.20 |
| 38) Naphthalene | 1.018 | 1.017 | 1.028 | 0.967 | 0.939 | 1.017 | 1.039 | 1.040 | 1.008 | 3.56 |
| 39) 4-Chloroanil | 0.412 | 0.445 | 0.441 | 0.409 | 0.382 | 0.428 | 0.442 | 0.446 | 0.426 | 5.33 |
| 40) 2,3-Dichloro | 0.406 | 0.407 | 0.420 | 0.413 | 0.402 | 0.416 | 0.399 | 0.417 | 0.410 | 1.87 |
| 41) Caprolactam | 0.174 | 0.182 | 0.196 | 0.202 | 0.193 | 0.202 | 0.141 | 0.192 | 0.185 | 10.90 |
| 42) Hexachlorobu | 0.207 | 0.191 | 0.202 | 0.192 | 0.187 | 0.199 | 0.183 | 0.204 | 0.196 | 4.38 |
| 43) 4-Chloro-3-m | 0.307 | 0.364 | 0.395 | 0.381 | 0.379 | 0.397 | 0.310 | 0.388 | 0.365 | 10.00 |
| 44) 2-Methylnaph | 0.571 | 0.593 | 0.613 | 0.565 | 0.555 | 0.595 | 0.623 | 0.616 | 0.591 | 4.31 |
| 45) 1-Methylnaph | 0.673 | 0.663 | 0.671 | 0.633 | 0.610 | 0.653 | 0.670 | 0.687 | 0.657 | 3.79 |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICC2761
**Lab FileID:** 5P58251.D

```
46) Dimethylnaph 0.627 0.643 0.653 0.604 0.592 0.639 0.630 0.667 0.632   3.91

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.110 0.170 0.264 0.298 0.293 0.296       0.218 0.236  31.06
         ----- Quadratic regression -----                Coefficient =  0.9995
              Response Ratio = -0.03649 + 0.31179 *A + -0.00188 *A^2

49) 2,4,6-Trichl 0.399 0.405 0.402 0.387 0.378 0.403 0.342 0.407 0.390   5.65
50) 2,4,5-Trichl 0.383 0.432 0.424 0.427 0.420 0.443 0.357 0.423 0.414   6.98
51) 2-Fluorobiph 1.508 1.455 1.400 1.252 1.209 1.353 1.485 1.460 1.390   7.94
52) 2-Chloronaph 1.223 1.218 1.170 1.074 1.009 1.126 1.285 1.236 1.168   7.90
53) Biphenyl     1.576 1.541 1.534 1.400 1.321 1.509 1.549 1.544 1.497   5.93
54) 2-Nitroanili 0.417 0.446 0.469 0.447 0.422 0.468 0.389 0.460 0.440   6.39
55) Dimethylphth 1.413 1.404 1.428 1.414 1.336 1.471 1.460 1.455 1.423   3.02
56) Acenaphthyle 1.933 1.957 1.913 1.722 1.661 1.821 1.905 1.937 1.856   5.96
57) 2,6-Dinitrot 0.263 0.292 0.322 0.315 0.309 0.330 0.264 0.324 0.302   8.75
58) 3-Nitroanili 0.278 0.320 0.362 0.357 0.347 0.362 0.240 0.357 0.328  13.93
59) Acenaphthene 1.186 1.194 1.165 1.101 1.065 1.163 1.186 1.176 1.155   4.03
60) 2,4-Dinitrop 0.035 0.088 0.173 0.203 0.198 0.194       0.111 0.143  46.06
         ----- Quadratic regression -----                Coefficient =  0.9991
              Response Ratio = -0.03254 + 0.20712 *A + -0.00005 *A^2

61) 4-Nitropheno 0.149 0.159 0.199 0.189 0.185 0.195       0.180 0.180  10.41
62) Dibenzofuran 1.780 1.784 1.763 1.665 1.618 1.775 1.732 1.783 1.738   3.62
63) 2,4-Dinitrot 0.346 0.413 0.435 0.407 0.393 0.424 0.310 0.427 0.394  11.17
64) 2,3,4,6-Tetr 0.343 0.354 0.392 0.395 0.395 0.405 0.313 0.376 0.372   8.65
65) Diethylphtha 1.354 1.396 1.419 1.349 1.283 1.399 1.334 1.406 1.367   3.37
66) Fluorene     1.354 1.393 1.399 1.342 1.270 1.408 1.385 1.431 1.373   3.67
67) 4-Chlorophen 0.696 0.661 0.636 0.594 0.570 0.620 0.613 0.671 0.633   6.62
68) 4-Nitroanili 0.292 0.333 0.339 0.340 0.333 0.348 0.262 0.323 0.321   9.13

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.112 0.154 0.162 0.163 0.166       0.139 0.149  13.88
71) n-Nitrosodip 0.588 0.605 0.592 0.568 0.548 0.590 0.618 0.607 0.589   3.79
72) 1,2-Diphenyl 0.989 1.018 0.955 0.846 0.793 0.902 0.985 0.999 0.936   8.67
73) 2,4,6-Tribro 0.089 0.112 0.123 0.129 0.127 0.129 0.095 0.119 0.115  13.50
74) 4-Bromopheny 0.248 0.246 0.260 0.255 0.250 0.269 0.229 0.262 0.252   4.90
75) Hexachlorobe 0.248 0.260 0.253 0.248 0.247 0.258 0.246 0.256 0.252   2.15
76) Pentachlorop 0.105 0.139 0.173 0.182 0.178 0.183       0.158 0.160  18.02
77) Phenanthrene 1.137 1.113 1.087 1.050 1.010 1.076 1.096 1.080 1.081   3.57
78) Anthracene   1.183 1.185 1.145 1.080 1.047 1.132 1.144 1.161 1.135   4.28
79) Carbazole    1.127 1.196 1.182 1.124 1.089 1.166 1.155 1.163 1.150   3.03
80) Di-n-butylph 1.388 1.447 1.495 1.409 1.372 1.474 1.359 1.496 1.430   3.86
81) Fluoranthene 1.290 1.355 1.400 1.328 1.280 1.410 1.295 1.386 1.343   3.88
82) Octadecane   0.624 0.634 0.583 0.513 0.485 0.557 0.598 0.621 0.577   9.45

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.504 1.542 1.556 1.516 1.494 1.515 1.492 1.543 1.520   1.59
85) Terphenyl-d1 1.002 0.997 1.015 1.049 1.040 1.047 0.967 1.025 1.018   2.78
86) Butylbenzylp 0.647 0.677 0.728 0.747 0.730 0.747 0.581 0.705 0.695   8.32
87) Benzo[a]anth 1.373 1.351 1.406 1.439 1.431 1.455 1.344 1.377 1.397   3.00
88) 3,3'-Dichlor 0.418 0.446 0.492 0.494 0.480 0.491 0.345 0.476 0.455  11.40
89) Chrysene     1.309 1.260 1.276 1.298 1.296 1.298 1.315 1.266 1.290   1.55
90) bis(2-Ethylh 0.832 0.901 0.962 0.980 0.973 0.973 0.790 0.960 0.921   7.95

91) I   Perylene-d12          ----------------ISTD---------------------
92) Di-n-octylph 1.273 1.459 1.543 1.478 1.389 1.514 1.195 1.548 1.425   9.11
93) Benzo[b]fluo 1.238 1.263 1.250 1.194 1.135 1.242 1.196 1.252 1.221   3.55
94) Benzo[k]fluo 1.121 1.247 1.089 1.042 0.995 1.100 1.112 1.237 1.118   7.80
95) Benzo[a]pyre 1.024 1.101 1.116 1.106 1.043 1.122 1.056 1.134 1.088   3.75
```

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICC2761
**Lab FileID:** 5P58251.D

```
 96) Indeno[1,2,3 0.927 0.959 1.007 1.001 1.009 1.042 0.889 0.951 0.973   5.17
 97) Dibenz(a,h)a 0.869 0.941 0.971 0.957 0.927 0.987 0.799 0.950 0.925   6.71
 98) Dibenz[a,h]a 0.946 1.035 1.047 1.004 0.960 1.036 0.999 1.024 1.006   3.68
 99) 7,12-Dimethy 0.398 0.415 0.522 0.518 0.499 0.536 0.332 0.488 0.463  15.81
100) Benzo[g,h,i] 0.914 0.985 1.019 1.013 0.980 1.031 0.916 1.000 0.982   4.57


 ----------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M5P2761.M         Tue Apr 09 13:55:33 2019   RPT1
```

8.9.22

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICV2761
**Lab FileID:** 5P58257.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58257.D Vial: 10
Acq On : 9 Apr 2019 3:50 am Operator: chriss2
Sample : icv2761-50 Inst : MS5P
Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 13:37:16 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 111 | 0.00 | 4.10 |
| 4 | t | N-Nitrosodimethylamine | 1.131 | 1.189 | -5.1 | 108 | 0.00 | 1.78 |
| 11 | t | bis(2-Chloroethyl)ether | 1.502 | 1.591 | -5.9 | 119 | 0.00 | 3.88 |
| 14 | t | 1,3-Dichlorobenzene | 1.596 | 1.530 | 4.1 | 104 | 0.00 | 4.05 |
| 15 | t | 1,4-Dichlorobenzene | 1.570 | 1.476 | 6.0 | 104 | 0.00 | 4.12 |
| 17 | t | 1,2-Dichlorobenzene | 1.569 | 1.416 | 9.8 | 98 | 0.00 | 4.25 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.541 | 1.767 | -14.7 | 129 | 0.00 | 4.37 |
| 22 | t | n-Nitroso-di-n-propylamin | 1.161 | 1.167 | -0.5 | 113 | 0.00 | 4.50 |
| 23 | t | Hexachloroethane | 0.558 | 0.530 | 5.0 | 105 | 0.00 | 4.56 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 5.29 |
| 26 | t | Nitrobenzene | 0.454 | 0.440 | 3.1 | 101 | 0.00 | 4.63 |
| 28 | t | Isophorone | 0.845 | 0.832 | 1.5 | 103 | 0.00 | 4.86 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.494 | 0.505 | -2.2 | 105 | 0.00 | 5.09 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.338 | 0.324 | 4.1 | 100 | 0.00 | 5.24 |
| 38 | t | Naphthalene | 1.008 | 0.981 | 2.7 | 101 | 0.00 | 5.31 |
| 42 | t | Hexachlorobutadiene | 0.196 | 0.194 | 1.0 | 102 | 0.00 | 5.45 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 6.97 |
| | | | True | Calc. | % Drift | | | |
| 48 | t | Hexachlorocyclopentadiene | 50.000 | 43.433 | 13.1 | 87 | 0.00 | 6.14 |
| 52 | t | 2-Chloronaphthalene | 1.168 | 1.175 | -0.6 | 105 | 0.00 | 6.44 |
| 55 | t | Dimethylphthalate | 1.423 | 1.329 | 6.6 | 90 | 0.00 | 6.75 |
| 56 | t | Acenaphthylene | 1.856 | 1.691 | 8.9 | 93 | 0.00 | 6.83 |
| 57 | t | 2,6-Dinitrotoluene | 0.302 | 0.280 | 7.3 | 85 | 0.00 | 6.80 |
| 59 | t | Acenaphthene | 1.155 | 1.017 | 11.9 | 88 | 0.00 | 7.01 |
| 63 | t | 2,4-Dinitrotoluene | 0.394 | 0.378 | 4.1 | 89 | 0.00 | 7.19 |
| 65 | t | Diethylphthalate | 1.367 | 1.282 | 6.2 | 92 | 0.00 | 7.44 |
| 66 | t | Fluorene | 1.373 | 1.261 | 8.2 | 90 | 0.00 | 7.51 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.633 | 0.562 | 11.2 | 91 | 0.00 | 7.52 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 8.42 |
| 71 | t | n-Nitrosodiphenylamine | 0.589 | 0.516 | 12.4 | 90 | 0.00 | 7.65 |
| 72 | t | 1,2-Diphenylhydrazine | 0.936 | 0.837 | 10.6 | 95 | 0.00 | 7.67 |
| 74 | t | 4-Bromophenyl-phenylether | 0.252 | 0.221 | 12.3 | 84 | 0.00 | 7.99 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.204 | 19.0 | 81 | 0.00 | 8.05 |

8.9.23

8

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICV2761
**Lab FileID:** 5P58257.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 77 | t | Phenanthrene | 1.081 | 0.936 | 13.4 | 89 | 0.00 | 8.44 |
| 78 | t | Anthracene | 1.135 | 0.966 | 14.9 | 87 | 0.00 | 8.49 |
| 80 | t | Di-n-butylphthalate | 1.430 | 1.257 | 12.1 | 87 | 0.00 | 9.11 |
| 81 | t | Fluoranthene | 1.343 | 1.150 | 14.4 | 84 | 0.00 | 9.78 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 85 | 0.01 | 11.73 |
| 84 | t | Pyrene | 1.520 | 1.478 | 2.8 | 83 | 0.00 | 10.06 |
| 86 | t | Butylbenzylphthalate | 0.695 | 0.713 | -2.6 | 81 | 0.00 | 11.03 |
| 87 | t | Benzo[a]anthracene | 1.397 | 1.338 | 4.2 | 78 | 0.00 | 11.71 |
| 89 | t | Chrysene | 1.290 | 1.195 | 7.4 | 78 | 0.02 | 11.77 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.921 | 0.937 | -1.7 | 82 | 0.00 | 11.92 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 81 | 0.00 | 13.71 |
| 92 | t | Di-n-octylphthalate | 1.425 | 1.487 | -4.4 | 79 | 0.00 | 12.86 |
| 93 | t | Benzo[b]fluoranthene | 1.221 | 1.095 | 10.3 | 71 | 0.01 | 13.21 |
| 94 | t | Benzo[k]fluoranthene | 1.118 | 1.124 | -0.5 | 82 | 0.01 | 13.25 |
| 95 | t | Benzo[a]pyrene | 1.088 | 1.082 | 0.6 | 78 | 0.00 | 13.63 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.973 | 0.976 | -0.3 | 75 | 0.00 | 15.00 |
| 98 | t | Dibenz[a,h]anthracene | 1.006 | 0.937 | 6.9 | 73 | 0.01 | 15.04 |
| 100 | t | Benzo[g,h,i]perylene | 0.982 | 0.986 | -0.4 | 77 | 0.02 | 15.33 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58251.D M5P2761.M Tue Apr 09 13:56:04 2019 RPT1

8.9.23

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICV2761
**Lab FileID:** 5P58259.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58259.D Vial: 12
Acq On : 9 Apr 2019 4:39 am Operator: chriss2
Sample : icv2761-50 Inst : MS5P
Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 13:37:16 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 4.10 |
| 3 | t | Pyridine | 1.940 | 2.102 | -8.4 | 100 | 0.07 | 1.91 |
| 10 | | Aniline | 2.280 | 2.687 | -17.9 | 127 | 0.00 | 3.82 |
| 16 | t | Benzyl alcohol | 0.917 | 1.099 | -19.8 | 117 | 0.00 | 4.26 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 113 | 0.00 | 5.29 |
| 39 | t | 4-Chloroaniline | 0.426 | 0.361 | 15.3 | 95 | 0.00 | 5.38 |
| 44 | t | 2-Methylnaphthalene | 0.591 | 0.534 | 9.6 | 101 | 0.00 | 5.97 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 6.97 |
| 54 | t | 2-Nitroaniline | 0.440 | 0.466 | -5.9 | 100 | 0.00 | 6.56 |
| 58 | t | 3-Nitroaniline | 0.328 | 0.339 | -3.4 | 94 | 0.00 | 6.96 |
| 62 | t | Dibenzofuran | 1.738 | 1.712 | 1.5 | 97 | 0.00 | 7.18 |
| 68 | t | 4-Nitroaniline | 0.321 | 0.331 | -3.1 | 95 | 0.00 | 7.56 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 8.42 |
| 79 | t | Carbazole | 1.150 | 1.055 | 8.3 | 93 | 0.00 | 8.68 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58251.D M5P2761.M Tue Apr 09 13:56:08 2019 RPT1

8.9.24
8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICV2761
**Lab FileID:** 5P58260.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58260.D Vial: 13
Acq On : 9 Apr 2019 5:04 am Operator: chriss2
Sample : icv2761-50 Inst : MS5P
Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 13:37:16 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 99 | 0.00 | 4.10 |
| 9 | t | Phenol | 2.146 | 2.337 | -8.9 | 105 | 0.00 | 3.86 |
| 12 | t | 2-Chlorophenol | 1.447 | 1.527 | -5.5 | 103 | 0.00 | 3.92 |
| 19 | t | 2-Methylphenol | 1.354 | 1.542 | -13.9 | 110 | 0.00 | 4.39 |
| 21 | t | 3&4-Methylphenol | 1.453 | 1.618 | -11.4 | 104 | 0.00 | 4.54 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 94 | 0.00 | 5.29 |
| 29 | t | 2-Nitrophenol | 0.204 | 0.224 | -9.8 | 96 | 0.00 | 4.94 |
| 30 | t | 2,4-Dimethylphenol | 0.361 | 0.440 | -21.9 | 102 | 0.00 | 5.02 |
| 31 | t | Benzoic acid | 0.327 | 0.337 | -3.1 | 85 | 0.07 | 5.19 |
| 33 | t | 2,4-Dichlorophenol | 0.317 | 0.312 | 1.6 | 88 | 0.00 | 5.18 |
| 34 | t | 2,6-Dichlorophenol | 0.304 | 0.331 | -8.9 | 99 | 0.00 | 5.39 |
| 43 | t | 4-Chloro-3-methylphenol | 0.365 | 0.393 | -7.7 | 93 | 0.00 | 5.89 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 49 | t | 2,4,6-Trichlorophenol | 0.390 | 0.428 | -9.7 | 98 | 0.00 | 6.27 |
| 50 | t | 2,4,5-Trichlorophenol | 0.414 | 0.430 | -3.9 | 90 | 0.00 | 6.31 |
| | | ---------- | True | Calc. | % Drift | | ---------- | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 42.934 | 14.1 | 77 | -0.02 | 7.06 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 61 | t | 4-Nitrophenol | 0.180 | 0.201 | -11.7 | 95 | -0.01 | 7.20 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.372 | 0.350 | 5.9 | 80 | 0.00 | 7.32 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 87 | 0.00 | 8.41 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.149 | 0.156 | -4.7 | 82 | 0.00 | 7.58 |
| 76 | t | Pentachlorophenol | 0.160 | 0.190 | -18.8 | 92 | 0.00 | 8.25 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58251.D M5P2761.M Tue Apr 09 13:56:10 2019 RPT1

8.9.25

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICV2761
**Lab FileID:** 5P58261.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58261.D Vial: 14
Acq On : 9 Apr 2019 5:29 am Operator: chriss2
Sample : icv2761-50 Inst : MS5P
Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 13:37:16 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 109 | 0.00 | 4.09 |
| 5 | S | 2-Fluorophenol | 1.558 | 1.485 | 4.7 | 95 | 0.00 | 2.99 |
| 8 | S | Phenol-d5 | 1.961 | 1.833 | 6.5 | 97 | 0.00 | 3.84 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 5.29 |
| 25 | S | Nitrobenzene-d5 | 0.464 | 0.462 | 0.4 | 102 | 0.00 | 4.61 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 6.97 |
| 51 | S | 2-Fluorobiphenyl | 1.390 | 1.315 | 5.4 | 94 | 0.00 | 6.34 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 89 | 0.00 | 8.41 |
| 73 | S | 2,4,6-Tribromophenol | 0.115 | 0.109 | 5.2 | 76 | 0.00 | 7.74 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 83 | 0.00 | 11.72 |
| 85 | S | Terphenyl-d14 | 1.018 | 0.973 | 4.4 | 78 | 0.00 | 10.31 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58251.D M5P2761.M Tue Apr 09 13:56:12 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2761-ICV2761
**Lab FileID:** 5P58262.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58262.D Vial: 15
Acq On : 9 Apr 2019 5:55 am Operator: chriss2
Sample : icv2761-50 Inst : MS5P
Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 13:37:16 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 83 I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 147 | 0.00 | 11.72 |
| 88 t | 3,3'-Dichlorobenzidine | 0.455 | 0.444 | 2.4 | 133 | 0.00 | 11.73 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58251.D M5P2761.M Tue Apr 09 13:56:14 2019 RPT1

8.9.27

8

# Initial Calibration Summary



**Job Number:** JC87535 **Sample:** E5P2762-ICC2762
**Account:** BBLNYS Arcadis **Lab FileID:** 5P58266.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Response Factor Report MS5P

Method : C:\MSDCHEM\1\METHODS\M5P2762.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 15:26:27 2019
Response via : Initial Calibration

Calibration Files
2 =5p58270.D 5 =5p58269.D 25 =5p58267.D 80 =5p58265.D
100 =5p58264.D 50 =5p58266.D 1 =5p58271.D 10 =5p58268.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 101) 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 102) Benzaldehyde | 1.232 | 1.324 | 1.355 | 1.276 | 1.201 | 1.289 | 1.478 | 1.359 | 1.314 | 6.59 |
| 103) Acenaphthene-d10a | ISTD | | | | | | | | | |
| 104) 1,2,4,5-Tetr | 0.616 | 0.597 | 0.569 | 0.517 | 0.506 | 0.548 | 0.648 | 0.591 | 0.574 | 8.47 |
| 105) Chrysene-d12a | ISTD | | | | | | | | | |
| 106) 1-chloroocta | 0.442 | 0.452 | 0.423 | 0.367 | 0.344 | 0.397 | 0.448 | 0.460 | 0.417 | 10.35 |
| 107) Phenanthrene-d10a | ISTD | | | | | | | | | |
| 108) o-terphenyl | 0.634 | 0.630 | 0.623 | 0.558 | 0.530 | 0.591 | 0.684 | 0.646 | 0.612 | 8.14 |
| 109) Atrazine | 0.104 | 0.115 | 0.116 | 0.107 | 0.105 | 0.114 | 0.109 | 0.115 | 0.111 | 4.53 |
| 110) Pentachloron | 0.041 | 0.040 | 0.045 | 0.042 | 0.041 | 0.043 | 0.046 | 0.043 | 0.043 | 5.17 |
| 111) I Naphthalene-d8a | ISTD | | | | | | | | | |
| 112) Hydroquinone | | | 0.327 | 0.368 | 0.362 | 0.351 | | 0.260 | 0.334 | 13.21 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

M5P2761.M Tue Apr 09 15:29:55 2019 RPT1

8.9.28

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2762-ICV2762
**Lab FileID:** 5P58272.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2762\5p58272.D Vial: 24
Acq On : 9 Apr 2019 10:02 am Operator: chriss2
Sample : icv2762-50 Inst : MS5P
Misc : op12947,e5p2762,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 15:26:27 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4b | 1.000 | 1.000 | 0.0 | 64 | 0.00 | 4.09 |
| 102 | Benzaldehyde | 1.314 | 1.337 | -1.8 | 66 | 0.00 | 3.70 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 65 | 0.00 | 6.97 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.574 | 0.551 | 4.0 | 66 | 0.00 | 6.14 |
| 107 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 65 | 0.00 | 8.41 |
| 109 | Atrazine | 0.111 | 0.117 | -5.4 | 66 | 0.00 | 8.19 |
| 110 | Pentachloronitrobenzene | 0.043 | 0.042 | 2.3 | 63 | 0.00 | 8.26 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58266a.D M5P2761.M Tue Apr 09 15:32:58 2019 RPT1

8.9.29

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2762-ICV2762
**Lab FileID:** 5P58273.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2762\5p58273.D Vial: 25
Acq On : 9 Apr 2019 10:27 am Operator: chriss2
Sample : icv2762-50 Inst : MS5P
Misc : op12947,e5p2762,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 15:26:27 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 75 | 0.00 | 5.29 |
| 112 | Hydroquinone | 0.334 | 0.353 | -5.7 | 75 | 0.00 | 5.78 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58266a.D M5P2761.M Tue Apr 09 15:33:00 2019 RPT1

8.9.30

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2763-ICV2761
**Lab FileID:** 5P58284.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2763\5p58284.D Vial: 35
Acq On : 9 Apr 2019 3:10 pm Operator: yujiac
Sample : icv2761-50 Inst : MS5P
Misc : op12947,e5p2763,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Tue Apr 09 15:57:26 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 92 | 0.00 | 4.09 |
| 2 | t | 1,4-Dioxane | 0.842 | 0.824 | 2.1 | 86 | 0.00 | 1.54 |
| 6 | t | Indene | 2.436 | 2.659 | -9.2 | 98 | 0.00 | 4.33 |
| 7 | t | Cumene | 3.887 | 3.858 | 0.7 | 89 | 0.00 | 3.38 |
| 13 | t | Decane | 1.289 | 1.250 | 3.0 | 93 | 0.00 | 3.98 |
| 18 | t | Acetophenone | 2.168 | 2.120 | 2.2 | 89 | 0.00 | 4.47 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 95 | 0.00 | 5.28 |
| 27 | t | Quinoline | 0.741 | 0.659 | 11.1 | 80 | 0.00 | 5.62 |
| 40 | t | 2,3-Dichloroaniline | 0.410 | 0.308 | 24.9 | 71 | 0.00 | 6.26 |
| 41 | t | Caprolactam | 0.185 | 0.150 | 18.9 | 71 | 0.01 | 5.70 |
| 45 | t | 1-Methylnaphthalene | 0.657 | 0.542 | 17.5 | 79 | 0.00 | 6.07 |
| 46 | t | Dimethylnaphthalene | 0.632 | 0.524 | 17.1 | 78 | 0.00 | 6.58 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 87 | 0.00 | 6.97 |
| 53 | t | Biphenyl | 1.497 | 1.389 | 7.2 | 80 | 0.00 | 6.43 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 77 | 0.00 | 8.41 |
| 82 | t | Octadecane | 0.577 | 0.591 | -2.4 | 81 | 0.00 | 8.38 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 66 | 0.00 | 13.70 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.463 | 0.520 | -12.3 | 64 | 0.00 | 13.21 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58277a.D M5P2761.M Tue Apr 09 16:01:13 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2816-CC2761
**Lab FileID:** 5P59678.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2816\5p59678.D Vial: 2
Acq On : 16 May 2019 10:24 am Operator: christc2
Sample : cc2761-50 Inst : MS5P
Misc : op12947,e5p2816,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Thu May 16 12:11:21 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 108 | -0.06 | 3.90 |
| 2 | t | 1,4-Dioxane | 0.842 | 0.812 | 3.6 | 99 | -0.02 | 1.34 |
| 3 | t | Pyridine | 1.940 | 2.144 | -10.5 | 107 | 0.00 | 1.62 |
| 4 | t | N-Nitrosodimethylamine | 1.131 | 1.333 | -17.9 | 118 | -0.01 | 1.58 |
| 5 | S | 2-Fluorophenol | 1.558 | 1.641 | -5.3 | 104 | -0.03 | 2.79 |
| 6 | t | Indene | 2.436 | 2.523 | -3.6 | 109 | -0.07 | 4.13 |
| 7 | t | Cumene | 3.887 | 4.352 | -12.0 | 117 | -0.05 | 3.17 |
| 8 | S | Phenol-d5 | 1.961 | 2.025 | -3.3 | 106 | -0.04 | 3.66 |
| 9 | t | Phenol | 2.146 | 2.350 | -9.5 | 115 | -0.04 | 3.67 |
| 10 | | Aniline | 2.280 | 2.420 | -6.1 | 120 | -0.04 | 3.62 |
| 11 | t | bis(2-Chloroethyl)ether | 1.502 | 1.865 | -24.2# | 136 | -0.05 | 3.68 |
| 12 | t | 2-Chlorophenol | 1.447 | 1.411 | 2.5 | 103 | -0.05 | 3.73 |
| 13 | t | Decane | 1.289 | 1.712 | -32.8# | 150 | -0.06 | 3.78 |
| 14 | t | 1,3-Dichlorobenzene | 1.596 | 1.545 | 3.2 | 103 | -0.06 | 3.84 |
| 15 | t | 1,4-Dichlorobenzene | 1.570 | 1.530 | 2.5 | 106 | -0.06 | 3.91 |
| 16 | t | Benzyl alcohol | 0.917 | 0.947 | -3.3 | 105 | -0.05 | 4.07 |
| 17 | t | 1,2-Dichlorobenzene | 1.569 | 1.550 | 1.2 | 105 | -0.06 | 4.05 |
| 18 | t | Acetophenone | 2.168 | 2.378 | -9.7 | 117 | -0.06 | 4.29 |
| 19 | t | 2-Methylphenol | 1.354 | 1.534 | -13.3 | 119 | -0.05 | 4.21 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.541 | 2.116 | -37.3# | 151 | -0.06 | 4.17 |
| 21 | t | 3&4-Methylphenol | 1.453 | 1.521 | -4.7 | 106 | -0.05 | 4.36 |
| 22 | t | n-Nitroso-di-n-propylamin | 1.161 | 1.395 | -20.2# | 132 | -0.05 | 4.31 |
| 23 | t | Hexachloroethane | 0.558 | 0.545 | 2.3 | 105 | -0.07 | 4.35 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 105 | 0.12 | 5.08 |
| 25 | S | Nitrobenzene-d5 | 0.464 | 0.563 | -21.3# | 124 | -0.04 | 4.42 |
| 26 | t | Nitrobenzene | 0.454 | 0.554 | -22.0# | 128 | -0.05 | 4.44 |
| 27 | t | Quinoline | 0.741 | 0.850 | -14.7 | 113 | -0.05 | 5.45 |
| 28 | t | Isophorone | 0.845 | 1.055 | -24.9# | 131 | -0.05 | 4.67 |
| 29 | t | 2-Nitrophenol | 0.204 | 0.219 | -7.4 | 105 | -0.05 | 4.74 |
| 30 | t | 2,4-Dimethylphenol | 0.361 | 0.490 | -35.7# | 127 | -0.05 | 4.84 |
| 31 | t | Benzoic acid | 0.327 | 0.392 | -19.9 | 111 | 0.00 | 5.03 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.494 | 0.554 | -12.1 | 115 | -0.06 | 4.89 |
| 33 | t | 2,4-Dichlorophenol | 0.317 | 0.338 | -6.6 | 107 | 0.12 | 5.00 |
| 34 | t | 2,6-Dichlorophenol | 0.304 | 0.322 | -5.9 | 108 | -0.05 | 5.19 |
| 35 | | 1,3,5-Trichlorobenzene | 0.352 | 0.352 | 0.0 | 104 | 0.12 | 4.74 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.338 | 0.324 | 4.1 | 101 | -0.06 | 5.04 |
| 37 | | 1,2,3-Trichlorobenzene | 0.322 | 0.313 | 2.8 | 102 | -0.06 | 5.25 |
| 38 | t | Naphthalene | 1.008 | 1.060 | -5.2 | 109 | -0.06 | 5.10 |
| 39 | t | 4-Chloroaniline | 0.426 | 0.432 | -1.4 | 106 | -0.05 | 5.19 |
| 40 | t | 2,3-Dichloroaniline | 0.410 | 0.428 | -4.4 | 108 | -0.07 | 6.05 |
| 41 | t | Caprolactam | 0.185 | 0.276 | -49.2# | 143 | -0.03 | 5.56 |

8.9.32

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2816-CC2761
**Lab FileID:** 5P59678.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.196 | 0.198 | -1.0 | 105 | -0.07 | 5.24 |
| 43 | t | 4-Chloro-3-methylphenol | 0.365 | 0.447 | -22.5# | 118 | -0.05 | 5.72 |
| 44 | t | 2-Methylnaphthalene | 0.591 | 0.624 | -5.6 | 110 | -0.07 | 5.77 |
| 45 | t | 1-Methylnaphthalene | 0.657 | 0.697 | -6.1 | 112 | -0.07 | 5.86 |
| 46 | t | Dimethylnaphthalene | 0.632 | 0.660 | -4.4 | 108 | -0.07 | 6.37 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 111 | -0.06 | 6.76 |
| | | | True | Calc. | % Drift | | | |
| 48 | t | Hexachlorocyclopentadiene | 100.000 | 84.999 | 15.0 | 93 | -0.06 | 5.93 |
| | | | AvgRF | CCRF | % Dev | | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.390 | 0.378 | 3.1 | 104 | -0.05 | 6.08 |
| 50 | t | 2,4,5-Trichlorophenol | 0.414 | 0.417 | -0.7 | 105 | -0.04 | 6.13 |
| 51 | S | 2-Fluorobiphenyl | 1.390 | 1.332 | 4.2 | 109 | -0.06 | 6.13 |
| 52 | t | 2-Chloronaphthalene | 1.168 | 1.110 | 5.0 | 110 | -0.06 | 6.23 |
| 53 | t | Biphenyl | 1.497 | 1.489 | 0.5 | 110 | -0.05 | 6.23 |
| 54 | t | 2-Nitroaniline | 0.440 | 0.523 | -18.9 | 124 | -0.05 | 6.36 |
| 55 | t | Dimethylphthalate | 1.423 | 1.505 | -5.8 | 114 | -0.06 | 6.55 |
| 56 | t | Acenaphthylene | 1.856 | 1.804 | 2.8 | 110 | -0.06 | 6.62 |
| 57 | t | 2,6-Dinitrotoluene | 0.302 | 0.333 | -10.3 | 112 | -0.05 | 6.60 |
| 58 | t | 3-Nitroaniline | 0.328 | 0.342 | -4.3 | 105 | -0.05 | 6.77 |
| 59 | t | Acenaphthene | 1.155 | 1.149 | 0.5 | 110 | -0.06 | 6.79 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 101.871 | -1.9 | 113 | -0.05 | 6.89 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.180 | 0.216 | -20.0# | 123 | -0.03 | 7.03 |
| 62 | t | Dibenzofuran | 1.738 | 1.709 | 1.7 | 107 | -0.07 | 6.96 |
| 63 | t | 2,4-Dinitrotoluene | 0.394 | 0.457 | -16.0 | 120 | -0.05 | 7.01 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.372 | 0.364 | 2.2 | 100 | -0.06 | 7.11 |
| 65 | t | Diethylphthalate | 1.367 | 1.476 | -8.0 | 117 | -0.06 | 7.23 |
| 66 | t | Fluorene | 1.373 | 1.401 | -2.0 | 111 | -0.06 | 7.29 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.633 | 0.619 | 2.2 | 111 | -0.07 | 7.30 |
| 68 | t | 4-Nitroaniline | 0.321 | 0.359 | -11.8 | 114 | -0.04 | 7.37 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 113 | -0.07 | 8.19 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.149 | 0.164 | -10.1 | 112 | -0.05 | 7.41 |
| 71 | t | n-Nitrosodiphenylamine | 0.589 | 0.577 | 2.0 | 110 | -0.06 | 7.43 |
| 72 | t | 1,2-Diphenylhydrazine | 0.936 | 1.047 | -11.9 | 131 | -0.07 | 7.46 |
| 73 | S | 2,4,6-Tribromophenol | 0.115 | 0.113 | 1.7 | 99 | -0.06 | 7.53 |
| 74 | t | 4-Bromophenyl-phenylether | 0.252 | 0.244 | 3.2 | 102 | -0.07 | 7.77 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.235 | 6.7 | 103 | -0.07 | 7.83 |
| 76 | t | Pentachlorophenol | 0.160 | 0.164 | -2.5 | 102 | -0.06 | 8.05 |
| 77 | t | Phenanthrene | 1.081 | 1.057 | 2.2 | 111 | -0.07 | 8.21 |
| 78 | t | Anthracene | 1.135 | 1.160 | -2.2 | 116 | -0.08 | 8.26 |
| 79 | t | Carbazole | 1.150 | 1.199 | -4.3 | 116 | -0.07 | 8.45 |
| 80 | t | Di-n-butylphthalate | 1.430 | 1.538 | -7.6 | 118 | -0.08 | 8.86 |
| 81 | t | Fluoranthene | 1.343 | 1.351 | -0.6 | 108 | -0.08 | 9.51 |
| 82 | t | Octadecane | 0.577 | 0.707 | -22.5# | 143 | -0.08 | 8.16 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 120 | -0.11 | 11.42 |
| 84 | t | Pyrene | 1.520 | 1.361 | 10.5 | 108 | -0.10 | 9.77 |
| 85 | S | Terphenyl-d14 | 1.018 | 0.948 | 6.9 | 108 | -0.11 | 10.02 |
| 86 | t | Butylbenzylphthalate | 0.695 | 0.689 | 0.9 | 110 | -0.12 | 10.73 |
| 87 | t | Benzo[a]anthracene | 1.397 | 1.256 | 10.1 | 103 | -0.11 | 11.41 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.455 | 0.434 | 4.6 | 106 | -0.11 | 11.42 |
| 89 | t | Chrysene | 1.290 | 1.117 | 13.4 | 103 | -0.11 | 11.46 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.921 | 0.901 | 2.2 | 111 | -0.12 | 11.61 |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2816-CC2761
**Lab FileID:** 5P59678.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 107 | -0.11 | 13.39 |
| 92 | t | Di-n-octylphthalate | 1.425 | 1.562 | -9.6 | 110 | -0.12 | 12.53 |
| 93 | t | Benzo[b]fluoranthene | 1.221 | 1.116 | 8.6 | 96 | -0.10 | 12.91 |
| 94 | t | Benzo[k]fluoranthene | 1.118 | 1.112 | 0.5 | 108 | -0.10 | 12.94 |
| 95 | t | Benzo[a]pyrene | 1.088 | 1.112 | -2.2 | 106 | -0.10 | 13.32 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.973 | 1.032 | -6.1 | 106 | -0.10 | 14.69 |
| 97 | t | Dibenz(a,h)acridine | 0.925 | 0.958 | -3.6 | 104 | -0.11 | 14.44 |
| 98 | t | Dibenz[a,h]anthracene | 1.006 | 1.023 | -1.7 | 105 | -0.11 | 14.71 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.463 | 0.574 | -24.0# | 114 | -0.11 | 12.89 |
| 100 | t | Benzo[g,h,i]perylene | 0.982 | 0.988 | -0.6 | 102 | -0.10 | 14.98 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58695.D M5P2761.M Thu May 16 12:24:00 2019 RPT1

8.9.32

8

# Continuing Calibration Summary



**Job Number:** JC87535 **Sample:** E5P2816-CC2762
**Account:** BBLNYS Arcadis **Lab FileID:** 5P59679.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2816\5p59679.D Vial: 3
Acq On : 16 May 2019 10:49 am Operator: christc2
Sample : cc2762-50 Inst : MS5P
Misc : op12947,e5p2816,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Thu May 16 12:11:21 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | | 1,4-Dichlorobenzene-d4b | 1.000 | 1.000 | 0.0 | 85 | -0.06 | 3.90 |
| 102 | | Benzaldehyde | 1.314 | 1.392 | -5.9 | 92 | -0.13 | 3.50 |
| 103 | | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 87 | -0.06 | 6.76 |
| 104 | | 1,2,4,5-Tetrachlorobenzen | 0.574 | 0.554 | 3.5 | 88 | -0.14 | 5.94 |
| 105 | | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 88 | -0.11 | 11.41 |
| 106 | s | 1-chlorooctadecane | 0.417 | 0.527 | -26.4# | 117 | -0.15 | 9.47 |
| 107 | | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 89 | -0.07 | 8.19 |
| 108 | s | o-terphenyl | 0.612 | 0.651 | -6.4 | 99 | -0.30 | 8.60 |
| 109 | | Atrazine | 0.111 | 0.128 | -15.3 | 100 | -0.26 | 7.98 |
| 110 | | Pentachloronitrobenzene | 0.043 | 0.046 | -7.0 | 95 | -0.27 | 8.04 |
| 111 | I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 88 | -0.06 | 5.08 |
| 112 | | Hydroquinone | 0.334 | 0.430 | -28.7# | 108 | -0.06 | 5.61 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58695.D M5P2761.M Thu May 16 12:24:02 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2818-CC2761
**Lab FileID:** 5P59742.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2818\5p59742.D Vial: 2
Acq On : 17 May 2019 4:21 pm Operator: christc2
Sample : cc2761-50 Inst : MS5P
Misc : op12947,e5p2818,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Fri May 17 12:57:01 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 97 | -0.09 | 3.87 |
| 2 | t | 1,4-Dioxane | 0.842 | 0.906 | -7.6 | 100 | -0.05 | 1.31 |
| 3 | t | Pyridine | 1.940 | 2.176 | -12.2 | 98 | -0.03 | 1.59 |
| 4 | t | N-Nitrosodimethylamine | 1.131 | 1.470 | -30.0# | 118 | -0.05 | 1.55 |
| 5 | S | 2-Fluorophenol | 1.558 | 1.701 | -9.2 | 97 | -0.07 | 2.75 |
| 6 | t | Indene | 2.436 | 2.573 | -5.6 | 101 | -0.09 | 4.10 |
| 7 | t | Cumene | 3.887 | 4.409 | -13.4 | 107 | -0.08 | 3.14 |
| 8 | S | Phenol-d5 | 1.961 | 2.079 | -6.0 | 98 | -0.08 | 3.62 |
| 9 | t | Phenol | 2.146 | 2.374 | -10.6 | 105 | -0.07 | 3.64 |
| 10 | | Aniline | 2.280 | 2.528 | -10.9 | 113 | -0.08 | 3.59 |
| 11 | t | bis(2-Chloroethyl)ether | 1.502 | 1.801 | -19.9 | 118 | -0.08 | 3.65 |
| 12 | t | 2-Chlorophenol | 1.447 | 1.419 | 1.9 | 94 | -0.08 | 3.70 |
| 13 | t | Decane | 1.289 | 1.764 | -36.9# | 139 | -0.09 | 3.75 |
| 14 | t | 1,3-Dichlorobenzene | 1.596 | 1.546 | 3.1 | 93 | -0.09 | 3.81 |
| 15 | t | 1,4-Dichlorobenzene | 1.570 | 1.536 | 2.2 | 96 | -0.09 | 3.88 |
| 16 | t | Benzyl alcohol | 0.917 | 1.010 | -10.1 | 101 | -0.08 | 4.03 |
| 17 | t | 1,2-Dichlorobenzene | 1.569 | 1.554 | 1.0 | 95 | -0.09 | 4.02 |
| 18 | t | Acetophenone | 2.168 | 2.453 | -13.1 | 108 | -0.08 | 4.26 |
| 19 | t | 2-Methylphenol | 1.354 | 1.545 | -14.1 | 108 | -0.08 | 4.17 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.541 | 2.148 | -39.4# | 138 | -0.09 | 4.15 |
| 21 | t | 3&4-Methylphenol | 1.453 | 1.580 | -8.7 | 100 | -0.09 | 4.32 |
| 22 | t | n-Nitroso-di-n-propylamin | 1.161 | 1.474 | -27.0# | 125 | -0.08 | 4.28 |
| 23 | t | Hexachloroethane | 0.558 | 0.531 | 4.8 | 92 | -0.10 | 4.32 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 97 | -0.09 | 5.06 |
| 25 | S | Nitrobenzene-d5 | 0.464 | 0.569 | -22.6# | 116 | -0.07 | 4.39 |
| 26 | t | Nitrobenzene | 0.454 | 0.563 | -24.0# | 121 | -0.07 | 4.41 |
| 27 | t | Quinoline | 0.741 | 0.877 | -18.4 | 108 | -0.06 | 5.43 |
| 28 | t | Isophorone | 0.845 | 1.041 | -23.2# | 120 | -0.08 | 4.64 |
| 29 | t | 2-Nitrophenol | 0.204 | 0.214 | -4.9 | 96 | -0.08 | 4.71 |
| 30 | t | 2,4-Dimethylphenol | 0.361 | 0.486 | -34.6# | 117 | -0.07 | 4.81 |
| 31 | t | Benzoic acid | 0.327 | 0.391 | -19.6 | 103 | -0.03 | 5.02 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.494 | 0.538 | -8.9 | 104 | -0.08 | 4.87 |
| 33 | t | 2,4-Dichlorophenol | 0.317 | 0.336 | -6.0 | 99 | -0.07 | 4.97 |
| 34 | t | 2,6-Dichlorophenol | 0.304 | 0.321 | -5.6 | 100 | -0.09 | 5.16 |
| 35 | | 1,3,5-Trichlorobenzene | 0.352 | 0.338 | 4.0 | 93 | -0.09 | 4.71 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.338 | 0.318 | 5.9 | 92 | -0.08 | 5.01 |
| 37 | | 1,2,3-Trichlorobenzene | 0.322 | 0.310 | 3.7 | 94 | -0.09 | 5.22 |
| 38 | t | Naphthalene | 1.008 | 1.050 | -4.2 | 101 | -0.09 | 5.07 |
| 39 | t | 4-Chloroaniline | 0.426 | 0.423 | 0.7 | 96 | -0.08 | 5.16 |
| 40 | t | 2,3-Dichloroaniline | 0.410 | 0.431 | -5.1 | 101 | -0.09 | 6.03 |
| 41 | t | Caprolactam | 0.185 | 0.134 | 27.6# | 65 | -0.05 | 5.54 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** E5P2818-CC2761
**Account:** BBLNYS Arcadis **Lab FileID:** 5P59742.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.196 | 0.194 | 1.0 | 95 | -0.09 | 5.21 |
| 43 | t | 4-Chloro-3-methylphenol | 0.365 | 0.468 | -28.2# | 115 | -0.08 | 5.69 |
| 44 | t | 2-Methylnaphthalene | 0.591 | 0.640 | -8.3 | 105 | -0.10 | 5.74 |
| 45 | t | 1-Methylnaphthalene | 0.657 | 0.721 | -9.7 | 108 | -0.10 | 5.83 |
| 46 | t | Dimethylnaphthalene | 0.632 | 0.685 | -8.4 | 104 | -0.10 | 6.35 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 106 | -0.09 | 6.73 |
| | | ---------- | True | Calc. | % Drift | | ---------- | |
| 48 | t | Hexachlorocyclopentadiene | 100.000 | 84.671 | 15.3 | 88 | -0.08 | 5.90 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 49 | t | 2,4,6-Trichlorophenol | 0.390 | 0.377 | 3.3 | 99 | -0.08 | 6.05 |
| 50 | t | 2,4,5-Trichlorophenol | 0.414 | 0.416 | -0.5 | 99 | -0.07 | 6.10 |
| 51 | S | 2-Fluorobiphenyl | 1.390 | 1.332 | 4.2 | 104 | -0.09 | 6.11 |
| 52 | t | 2-Chloronaphthalene | 1.168 | 1.117 | 4.4 | 105 | -0.09 | 6.20 |
| 53 | t | Biphenyl | 1.497 | 1.495 | 0.1 | 105 | -0.08 | 6.20 |
| 54 | t | 2-Nitroaniline | 0.440 | 0.539 | -22.5# | 122 | -0.08 | 6.34 |
| 55 | t | Dimethylphthalate | 1.423 | 1.500 | -5.4 | 108 | -0.08 | 6.52 |
| 56 | t | Acenaphthylene | 1.856 | 1.828 | 1.5 | 106 | -0.09 | 6.59 |
| 57 | t | 2,6-Dinitrotoluene | 0.302 | 0.339 | -12.3 | 109 | -0.07 | 6.58 |
| 58 | t | 3-Nitroaniline | 0.328 | 0.336 | -2.4 | 98 | -0.07 | 6.74 |
| 59 | t | Acenaphthene | 1.155 | 1.161 | -0.5 | 105 | -0.09 | 6.76 |
| | | ---------- | True | Calc. | % Drift | | ---------- | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 96.854 | 3.1 | 102 | -0.08 | 6.86 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 61 | t | 4-Nitrophenol | 0.180 | 0.249 | -38.3# | 135 | -0.07 | 7.00 |
| 62 | t | Dibenzofuran | 1.738 | 1.729 | 0.5 | 103 | -0.09 | 6.94 |
| 63 | t | 2,4-Dinitrotoluene | 0.394 | 0.470 | -19.3 | 117 | -0.08 | 6.98 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.372 | 0.371 | 0.3 | 97 | -0.09 | 7.09 |
| 65 | t | Diethylphthalate | 1.367 | 1.513 | -10.7 | 114 | -0.09 | 7.21 |
| 66 | t | Fluorene | 1.373 | 1.420 | -3.4 | 106 | -0.09 | 7.26 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.633 | 0.623 | 1.6 | 106 | -0.10 | 7.28 |
| 68 | t | 4-Nitroaniline | 0.321 | 0.356 | -10.9 | 108 | -0.07 | 7.34 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 109 | -0.10 | 8.16 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.149 | 0.158 | -6.0 | 105 | -0.07 | 7.38 |
| 71 | t | n-Nitrosodiphenylamine | 0.589 | 0.569 | 3.4 | 106 | -0.09 | 7.41 |
| 72 | t | 1,2-Diphenylhydrazine | 0.936 | 1.070 | -14.3 | 130 | -0.10 | 7.43 |
| 73 | S | 2,4,6-Tribromophenol | 0.115 | 0.113 | 1.7 | 96 | -0.09 | 7.51 |
| 74 | t | 4-Bromophenyl-phenylether | 0.252 | 0.245 | 2.8 | 100 | -0.10 | 7.75 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.239 | 5.2 | 101 | -0.10 | 7.80 |
| 76 | t | Pentachlorophenol | 0.160 | 0.168 | -5.0 | 101 | -0.09 | 8.02 |
| 77 | t | Phenanthrene | 1.081 | 1.061 | 1.9 | 108 | -0.10 | 8.19 |
| 78 | t | Anthracene | 1.135 | 1.175 | -3.5 | 114 | -0.10 | 8.23 |
| 79 | t | Carbazole | 1.150 | 1.190 | -3.5 | 112 | -0.10 | 8.43 |
| 80 | t | Di-n-butylphthalate | 1.430 | 1.557 | -8.9 | 116 | -0.11 | 8.83 |
| 81 | t | Fluoranthene | 1.343 | 1.372 | -2.2 | 107 | -0.12 | 9.47 |
| 82 | t | Octadecane | 0.577 | 0.711 | -23.2# | 140 | -0.11 | 8.13 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 127 | -0.14 | 11.38 |
| 84 | t | Pyrene | 1.520 | 1.259 | 17.2 | 105 | -0.13 | 9.74 |
| 85 | S | Terphenyl-d14 | 1.018 | 0.901 | 11.5 | 109 | -0.14 | 9.99 |
| 86 | t | Butylbenzylphthalate | 0.695 | 0.676 | 2.7 | 114 | -0.15 | 10.70 |
| 87 | t | Benzo[a]anthracene | 1.397 | 1.233 | 11.7 | 107 | -0.14 | 11.37 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.455 | 0.421 | 7.5 | 109 | -0.15 | 11.39 |
| 89 | t | Chrysene | 1.290 | 1.123 | 12.9 | 109 | -0.14 | 11.42 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.921 | 0.904 | 1.8 | 118 | -0.16 | 11.57 |

8.9.34

8

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2818-CC2761
**Lab FileID:** 5P59742.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 115 | -0.15 | 13.35 |
| 92 | t | Di-n-octylphthalate | 1.425 | 1.530 | -7.4 | 116 | -0.16 | 12.50 |
| 93 | t | Benzo[b]fluoranthene | 1.221 | 1.101 | 9.8 | 102 | -0.13 | 12.87 |
| 94 | t | Benzo[k]fluoranthene | 1.118 | 1.077 | 3.7 | 113 | -0.14 | 12.90 |
| 95 | t | Benzo[a]pyrene | 1.088 | 1.109 | -1.9 | 114 | -0.14 | 13.28 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.973 | 1.237 | -27.1# | 137 | -0.14 | 14.66 |
| 97 | t | Dibenz(a,h)acridine | 0.925 | 0.943 | -1.9 | 110 | -0.15 | 14.40 |
| 98 | t | Dibenz[a,h]anthracene | 1.006 | 1.008 | -0.2 | 112 | -0.15 | 14.68 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.463 | 0.561 | -21.2# | 120 | -0.15 | 12.85 |
| 100 | t | Benzo[g,h,i]perylene | 0.982 | 0.993 | -1.1 | 111 | -0.14 | 14.94 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58695.D M5P2761.M Fri May 17 17:27:58 2019 RPT1

8.9.34

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2818-CC2762
**Lab FileID:** 5P59743.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2818\5p59743.D Vial: 3
Acq On : 17 May 2019 4:43 pm Operator: christc2
Sample : cc2762-50 Inst : MS5P
Misc : op12947,e5p2818,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Fri May 17 12:57:01 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | | 1,4-Dichlorobenzene-d4b | 1.000 | 1.000 | 0.0 | 104 | -0.09 | 3.86 |
| 102 | | Benzaldehyde | 1.314 | 1.419 | -8.0 | 115 | -0.16 | 3.47 |
| 103 | | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 104 | -0.09 | 6.73 |
| 104 | | 1,2,4,5-Tetrachlorobenzen | 0.574 | 0.580 | -1.0 | 110 | -0.17 | 5.90 |
| 105 | | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 104 | -0.15 | 11.38 |
| 106 | s | 1-chlorooctadecane | 0.417 | 0.539 | -29.3# | 141 | -0.18 | 9.44 |
| 107 | | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 107 | -0.10 | 8.16 |
| 108 | s | o-terphenyl | 0.612 | 0.646 | -5.6 | 116 | -0.34 | 8.57 |
| 109 | | Atrazine | 0.111 | 0.129 | -16.2 | 121 | -0.28 | 7.96 |
| 110 | | Pentachloronitrobenzene | 0.043 | 0.045 | -4.7 | 112 | -0.29 | 8.01 |
| 111 | I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 106 | -0.09 | 5.05 |
| 112 | | Hydroquinone | 0.334 | 0.439 | -31.4# | 132 | -0.09 | 5.58 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58695.D M5P2761.M Fri May 17 17:28:00 2019 RPT1

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2823-CC2761
**Lab FileID:** 5P59860.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2823\5p59860.D Vial: 2
Acq On : 21 May 2019 4:00 am Operator: chriss2
Sample : cc2761-25 Inst : MS5P
Misc : op12947,e5p2823,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Mon May 20 13:06:01 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 100 | -0.17 | 3.78 |
| 2 | t | 1,4-Dioxane | 0.842 | 0.820 | 2.6 | 96 | -0.12 | 1.24 |
| 3 | t | Pyridine | 1.940 | 1.684 | 13.2 | 78 | -0.12 | 1.51 |
| 4 | t | N-Nitrosodimethylamine | 1.131 | 1.177 | -4.1 | 96 | -0.12 | 1.48 |
| 5 | S | 2-Fluorophenol | 1.558 | 1.552 | 0.4 | 94 | -0.15 | 2.67 |
| 8 | S | Phenol-d5 | 1.961 | 1.828 | 6.8 | 91 | -0.16 | 3.54 |
| 9 | t | Phenol | 2.146 | 2.034 | 5.2 | 92 | -0.16 | 3.55 |
| 10 | | Aniline | 2.280 | 2.426 | -6.4 | 106 | -0.16 | 3.51 |
| 11 | t | bis(2-Chloroethyl)ether | 1.502 | 1.586 | -5.6 | 105 | -0.16 | 3.58 |
| 12 | t | 2-Chlorophenol | 1.447 | 1.312 | 9.3 | 88 | -0.16 | 3.61 |
| 13 | t | Decane | 1.289 | 1.422 | -10.3 | 111 | -0.17 | 3.67 |
| 14 | t | 1,3-Dichlorobenzene | 1.596 | 1.450 | 9.1 | 89 | -0.17 | 3.73 |
| 15 | t | 1,4-Dichlorobenzene | 1.570 | 1.414 | 9.9 | 89 | -0.17 | 3.80 |
| 16 | t | Benzyl alcohol | 0.917 | 0.970 | -5.8 | 103 | -0.16 | 3.95 |
| 17 | t | 1,2-Dichlorobenzene | 1.569 | 1.435 | 8.5 | 91 | -0.17 | 3.94 |
| 18 | t | Acetophenone | 2.168 | 2.117 | 2.4 | 97 | -0.16 | 4.18 |
| 19 | t | 2-Methylphenol | 1.354 | 1.430 | -5.6 | 99 | -0.16 | 4.09 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 1.541 | 1.964 | -27.4# | 128 | -0.16 | 4.07 |
| 21 | t | 3&4-Methylphenol | 1.453 | 1.437 | 1.1 | 95 | -0.16 | 4.25 |
| 22 | t | n-Nitroso-di-n-propylamin | 1.161 | 1.256 | -8.2 | 107 | -0.17 | 4.20 |
| 23 | t | Hexachloroethane | 0.558 | 0.511 | 8.4 | 89 | -0.18 | 4.24 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 100 | -0.17 | 4.97 |
| 25 | S | Nitrobenzene-d5 | 0.464 | 0.590 | -27.2# | 122 | -0.15 | 4.31 |
| 26 | t | Nitrobenzene | 0.454 | 0.475 | -4.6 | 100 | -0.15 | 4.33 |
| 28 | t | Isophorone | 0.845 | 0.935 | -10.7 | 107 | -0.16 | 4.56 |
| 29 | t | 2-Nitrophenol | 0.204 | 0.200 | 2.0 | 90 | -0.16 | 4.63 |
| 30 | t | 2,4-Dimethylphenol | 0.361 | 0.446 | -23.5# | 114 | -0.16 | 4.72 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.494 | 0.495 | -0.2 | 98 | -0.16 | 4.79 |
| 33 | t | 2,4-Dichlorophenol | 0.317 | 0.305 | 3.8 | 92 | -0.16 | 4.88 |
| 34 | t | 2,6-Dichlorophenol | 0.304 | 0.260 | 14.5 | 82 | -0.17 | 5.08 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.338 | 0.319 | 5.6 | 92 | -0.17 | 4.93 |
| 38 | t | Naphthalene | 1.008 | 0.994 | 1.4 | 97 | -0.17 | 4.99 |
| 39 | t | 4-Chloroaniline | 0.426 | 0.410 | 3.8 | 93 | -0.16 | 5.08 |
| 41 | t | Caprolactam | 0.185 | 0.188 | -1.6 | 96 | -0.17 | 5.42 |
| 42 | t | Hexachlorobutadiene | 0.196 | 0.178 | 9.2 | 88 | -0.18 | 5.12 |
| 43 | t | 4-Chloro-3-methylphenol | 0.365 | 0.383 | -4.9 | 97 | -0.17 | 5.61 |
| 44 | t | 2-Methylnaphthalene | 0.591 | 0.619 | -4.7 | 101 | -0.18 | 5.65 |
| 45 | t | 1-Methylnaphthalene | 0.657 | 0.616 | 6.2 | 92 | -0.18 | 5.74 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 97 | -0.18 | 6.65 |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2823-CC2761
**Lab FileID:** 5P59860.D

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | t | Hexachlorocyclopentadiene | 25.000 | 16.404 | 34.4# | 54 | -0.17 | 5.81 |
| | | | AvgRF | CCRF | % Dev | | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.390 | 0.368 | 5.6 | 89 | -0.16 | 5.96 |
| 50 | t | 2,4,5-Trichlorophenol | 0.414 | 0.418 | -1.0 | 96 | -0.16 | 6.02 |
| 51 | S | 2-Fluorobiphenyl | 1.390 | 1.647 | -18.5 | 114 | -0.17 | 6.02 |
| 52 | t | 2-Chloronaphthalene | 1.168 | 0.859 | 26.5# | 71 | -0.16 | 6.13 |
| 53 | t | Biphenyl | 1.497 | 1.403 | 6.3 | 89 | -0.17 | 6.11 |
| 54 | t | 2-Nitroaniline | 0.440 | 0.473 | -7.5 | 98 | -0.16 | 6.26 |
| 55 | t | Dimethylphthalate | 1.423 | 1.407 | 1.1 | 96 | -0.16 | 6.44 |
| 56 | t | Acenaphthylene | 1.856 | 1.750 | 5.7 | 89 | -0.18 | 6.51 |
| 57 | t | 2,6-Dinitrotoluene | 0.302 | 0.309 | -2.3 | 93 | -0.16 | 6.50 |
| 58 | t | 3-Nitroaniline | 0.328 | 0.314 | 4.3 | 84 | -0.16 | 6.66 |
| 59 | t | Acenaphthene | 1.155 | 1.124 | 2.7 | 94 | -0.18 | 6.67 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 25.000 | 20.654 | 17.4 | 66 | -0.14 | 6.80 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.180 | 0.120 | 33.3# | 59 | -0.15 | 6.92 |
| 62 | t | Dibenzofuran | 1.738 | 1.667 | 4.1 | 92 | -0.18 | 6.85 |
| 63 | t | 2,4-Dinitrotoluene | 0.394 | 0.430 | -9.1 | 96 | -0.16 | 6.89 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.372 | 0.361 | 3.0 | 89 | -0.17 | 7.00 |
| 65 | t | Diethylphthalate | 1.367 | 1.459 | -6.7 | 100 | -0.17 | 7.12 |
| 66 | t | Fluorene | 1.373 | 1.310 | 4.6 | 91 | -0.18 | 7.18 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.633 | 0.612 | 3.3 | 94 | -0.19 | 7.19 |
| 68 | t | 4-Nitroaniline | 0.321 | 0.361 | -12.5 | 104 | -0.16 | 7.25 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 102 | -0.19 | 8.07 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.149 | 0.114 | 23.5# | 76 | -0.15 | 7.30 |
| 71 | t | n-Nitrosodiphenylamine | 0.589 | 0.672 | -14.1 | 115 | -0.18 | 7.32 |
| 72 | t | 1,2-Diphenylhydrazine | 0.936 | 0.970 | -3.6 | 103 | -0.18 | 7.35 |
| 73 | S | 2,4,6-Tribromophenol | 0.115 | 0.115 | 0.0 | 95 | -0.18 | 7.42 |
| 74 | t | 4-Bromophenyl-phenylether | 0.252 | 0.228 | 9.5 | 89 | -0.19 | 7.66 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.228 | 9.5 | 92 | -0.18 | 7.72 |
| 76 | t | Pentachlorophenol | 0.160 | 0.136 | 15.0 | 80 | -0.18 | 7.93 |
| 77 | t | Phenanthrene | 1.081 | 1.024 | 5.3 | 96 | -0.19 | 8.09 |
| 78 | t | Anthracene | 1.135 | 1.120 | 1.3 | 99 | -0.19 | 8.14 |
| 79 | t | Carbazole | 1.150 | 1.142 | 0.7 | 98 | -0.19 | 8.33 |
| 80 | t | Di-n-butylphthalate | 1.430 | 1.464 | -2.4 | 100 | -0.21 | 8.74 |
| 81 | t | Fluoranthene | 1.343 | 1.313 | 2.2 | 95 | -0.23 | 9.36 |
| 82 | t | Octadecane | 0.577 | 0.598 | -3.6 | 104 | -0.19 | 8.05 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 120 | -0.27 | 11.25 |
| 84 | t | Pyrene | 1.520 | 1.182 | 22.2# | 91 | -0.25 | 9.62 |
| 85 | S | Terphenyl-d14 | 1.018 | 1.018 | 0.0 | 120 | -0.26 | 9.87 |
| 86 | t | Butylbenzylphthalate | 0.695 | 0.611 | 12.1 | 100 | -0.27 | 10.58 |
| 87 | t | Benzo[a]anthracene | 1.397 | 1.103 | 21.0# | 94 | -0.28 | 11.24 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.455 | 0.418 | 8.1 | 102 | -0.28 | 11.26 |
| 89 | t | Chrysene | 1.290 | 1.042 | 19.2 | 98 | -0.28 | 11.28 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.921 | 0.848 | 7.9 | 106 | -0.28 | 11.45 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 109 | -0.29 | 13.21 |
| 92 | t | Di-n-octylphthalate | 1.425 | 1.497 | -5.1 | 106 | -0.28 | 12.37 |
| 93 | t | Benzo[b]fluoranthene | 1.221 | 1.061 | 13.1 | 93 | -0.28 | 12.73 |
| 94 | t | Benzo[k]fluoranthene | 1.118 | 1.018 | 8.9 | 102 | -0.28 | 12.76 |
| 95 | t | Benzo[a]pyrene | 1.088 | 1.114 | -2.4 | 109 | -0.28 | 13.14 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.973 | 1.034 | -6.3 | 112 | -0.28 | 14.51 |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2823-CC2761
**Lab FileID:** 5P59860.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 97 | t | Dibenz(a,h)acridine | 0.925 | 0.880 | 4.9 | 99 | -0.23 | 14.32 |
| 98 | t | Dibenz[a,h]anthracene | 1.006 | 0.997 | 0.9 | 104 | -0.29 | 14.53 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.463 | 0.498 | -7.6 | 104 | -0.30 | 12.71 |
| 100 | t | Benzo[g,h,i]perylene | 0.982 | 1.051 | -7.0 | 113 | -0.29 | 14.79 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

5p58278a.D M5P2761.M Tue May 21 09:32:03 2019 RPT1

8.9.36

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E5P2823-CC2762
**Lab FileID:** 5P59861.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2823\5p59861.D Vial: 3
Acq On : 21 May 2019 4:23 am Operator: chriss2
Sample : cc2762-25 Inst : MS5P
Misc : op12947,e5p2823,1000,,,1,1 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Mon May 20 13:06:01 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4b | 1.000 | 1.000 | 0.0 | 111 | -0.16 | 3.79 |
| 102 | Benzaldehyde | 1.314 | 1.279 | 2.7 | 105 | -0.23 | 3.40 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 102 | -0.18 | 6.65 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.574 | 0.612 | -6.6 | 110 | -0.25 | 5.82 |
| 107 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 112 | -0.19 | 8.07 |
| 109 | Atrazine | 0.111 | 0.115 | -3.6 | 111 | -0.37 | 7.87 |
| 110 | Pentachloronitrobenzene | 0.043 | 0.038 | 11.6 | 94 | -0.39 | 7.92 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p58278a.D M5P2761.M Tue May 21 09:32:05 2019 RPT1

8.9.37

8

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICC2562
**Lab FileID:** 6P481129.D

Response Factor Report MS6P

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

Calibration Files
2 =6p481133.D 5 =6p481132.D 25 =6p481130.D 80 =6p481128.D
100 =6p481127.D 50 =6p481129.D 1 =6p481134.D 10 =6p481131.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 2) 1,4-Dioxane | 0.507 | 0.517 | 0.531 | 0.535 | 0.516 | 0.545 | 0.522 | 0.540 | 0.527 | 2.50 |
| 3) Pyridine | 0.956 | 1.065 | 1.279 | 1.285 | 1.239 | 1.288 | | 1.272 | 1.198 | 11.09 |
| 4) N-Nitrosodim | 0.665 | 0.691 | 0.766 | 0.742 | 0.723 | 0.748 | 0.499 | 0.751 | 0.698 | 12.47 |
| 5) 2-Fluorophen | 0.975 | 1.137 | 1.280 | 1.294 | 1.267 | 1.326 | 0.856 | 1.226 | 1.170 | 14.52 |
| 6) Indene | 2.226 | 2.253 | 2.221 | 2.064 | 1.997 | 2.189 | 2.143 | 2.257 | 2.169 | 4.35 |
| 7) Cumene | 3.240 | 3.194 | 3.159 | 2.901 | 2.782 | 3.095 | 3.218 | 3.268 | 3.107 | 5.63 |
| 8) Phenol-d5 | 1.361 | 1.468 | 1.510 | 1.418 | 1.379 | 1.483 | 1.299 | 1.512 | 1.429 | 5.42 |
| 9) Phenol | 1.713 | 1.778 | 1.823 | 1.681 | 1.632 | 1.796 | 1.694 | 1.835 | 1.744 | 4.24 |
| 10) Aniline | 1.610 | 1.766 | 1.558 | 1.420 | 1.307 | 1.491 | | 1.742 | 1.556 | 10.69 |
| 11) bis(2-Chloro | 1.258 | 1.218 | 1.241 | 1.185 | 1.174 | 1.221 | 1.127 | 1.241 | 1.208 | 3.60 |
| 12) 2-Chlorophen | 1.308 | 1.414 | 1.431 | 1.390 | 1.353 | 1.454 | 1.263 | 1.451 | 1.383 | 5.03 |
| 13) Decane | 1.155 | 1.114 | 1.077 | 0.953 | 0.902 | 1.028 | 1.136 | 1.127 | 1.061 | 8.71 |
| 14) 1,3-Dichloro | 1.584 | 1.588 | 1.594 | 1.533 | 1.475 | 1.588 | 1.620 | 1.631 | 1.577 | 3.19 |
| 15) 1,4-Dichloro | 1.620 | 1.613 | 1.621 | 1.536 | 1.493 | 1.622 | 1.755 | 1.650 | 1.614 | 4.80 |
| 16) Benzyl alcoh | 0.676 | 0.713 | 0.796 | 0.758 | 0.753 | 0.807 | | 0.754 | 0.751 | 6.02 |
| 17) 1,2-Dichloro | 1.486 | 1.497 | 1.526 | 1.399 | 1.367 | 1.492 | 1.526 | 1.567 | 1.482 | 4.52 |
| 18) Acetophenone | 1.854 | 1.904 | 1.917 | 1.806 | 1.795 | 1.905 | 1.744 | 1.948 | 1.859 | 3.84 |
| 19) 2-Methylphen | 1.144 | 1.191 | 1.239 | 1.170 | 1.149 | 1.224 | 1.026 | 1.248 | 1.174 | 6.11 |
| 20) 2,2'-oxybis( | 0.417 | 0.432 | 0.438 | 0.435 | 0.427 | 0.442 | 0.418 | 0.439 | 0.431 | 2.21 |
| 21) 3&4-Methylph | 1.166 | 1.217 | 1.340 | 1.262 | 1.242 | 1.320 | 1.011 | 1.316 | 1.234 | 8.71 |
| 22) n-Nitroso-di | 0.819 | 0.846 | 0.864 | 0.799 | 0.791 | 0.843 | 0.808 | 0.883 | 0.832 | 3.93 |
| 23) Hexachloroet | 0.519 | 0.553 | 0.571 | 0.586 | 0.581 | 0.587 | 0.535 | 0.574 | 0.563 | 4.48 |
| 24) I Naphthalene-d8 | ISTD | | | | | | | | | |
| 25) Nitrobenzene | 0.337 | 0.344 | 0.344 | 0.324 | 0.313 | 0.342 | 0.307 | 0.352 | 0.333 | 4.88 |
| 26) Nitrobenzene | 0.343 | 0.360 | 0.354 | 0.325 | 0.311 | 0.343 | 0.312 | 0.362 | 0.339 | 6.06 |
| 27) Quinoline | 0.676 | 0.741 | 0.754 | 0.744 | 0.728 | 0.767 | 0.632 | 0.763 | 0.726 | 6.54 |
| 28) Isophorone | 0.587 | 0.612 | 0.600 | 0.545 | 0.523 | 0.581 | 0.560 | 0.622 | 0.579 | 5.86 |
| 29) 2-Nitropheno | 0.177 | 0.205 | 0.214 | 0.200 | 0.189 | 0.215 | 0.168 | 0.216 | 0.198 | 9.29 |
| 30) 2,4-Dimethyl | | 0.247 | 0.316 | 0.322 | 0.317 | 0.331 | | 0.281 | 0.302 | 10.54 |
| 31) Benzoic acid | | | 0.304 | 0.325 | 0.315 | 0.326 | | 0.257 | 0.305 | 9.36 |
| 32) bis(2-Chloro | 0.374 | 0.388 | 0.372 | 0.347 | 0.332 | 0.369 | 0.340 | 0.387 | 0.364 | 5.88 |
| 33) 2,4-Dichloro | 0.268 | 0.308 | 0.316 | 0.305 | 0.293 | 0.319 | 0.262 | 0.319 | 0.299 | 7.49 |
| 34) 2,6-Dichloro | 0.283 | 0.303 | 0.308 | 0.294 | 0.287 | 0.309 | 0.273 | 0.310 | 0.296 | 4.63 |
| 35) 1,3,5-Trichl | 0.359 | 0.366 | 0.364 | 0.338 | 0.319 | 0.355 | 0.365 | 0.367 | 0.354 | 4.87 |
| 36) 1,2,4-Trichl | 0.348 | 0.347 | 0.345 | 0.335 | 0.324 | 0.347 | 0.344 | 0.348 | 0.342 | 2.49 |
| 37) 1,2,3-Trichl | 0.335 | 0.347 | 0.348 | 0.336 | 0.327 | 0.346 | 0.340 | 0.346 | 0.340 | 2.20 |
| 38) Naphthalene | 1.086 | 1.111 | 1.056 | 0.946 | 0.891 | 1.022 | 1.116 | 1.106 | 1.042 | 8.01 |
| 39) 4-Chloroanil | 0.434 | 0.452 | 0.426 | 0.384 | 0.374 | 0.411 | 0.419 | 0.457 | 0.420 | 7.05 |
| 40) 2,3-Dichloro | 0.372 | 0.381 | 0.392 | 0.380 | 0.364 | 0.391 | 0.365 | 0.389 | 0.379 | 2.93 |
| 41) Caprolactam | 0.109 | 0.129 | 0.138 | 0.134 | 0.138 | 0.139 | 0.099 | 0.137 | 0.128 | 11.86 |
| 42) Hexachlorobu | 0.184 | 0.195 | 0.197 | 0.197 | 0.191 | 0.200 | 0.194 | 0.198 | 0.195 | 2.54 |
| 43) 4-Chloro-3-m | 0.279 | 0.305 | 0.324 | 0.315 | 0.313 | 0.328 | 0.265 | 0.325 | 0.307 | 7.53 |
| 44) 2-Methylnaph | 0.590 | 0.614 | 0.602 | 0.554 | 0.535 | 0.590 | 0.604 | 0.624 | 0.589 | 5.12 |
| 45) 1-Methylnaph | 0.697 | 0.702 | 0.671 | 0.611 | 0.587 | 0.649 | 0.656 | 0.693 | 0.658 | 6.34 |

8.9.38

8

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICC2562
**Lab FileID:** 6P481129.D

```
46) Dimethylnaph 0.678 0.727 0.719 0.670 0.651 0.708 0.726 0.724 0.700   4.23

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy       0.128 0.233 0.299 0.298 0.280       0.179 0.236  29.77
         ----- Quadratic regression -----               Coefficient =  0.9993
              Response Ratio = -0.05520 + 0.29029 *A + 0.00428 *A^2

49) 2,4,6-Trichl 0.338 0.363 0.390 0.398 0.400 0.398 0.308 0.390 0.373   9.08
50) 2,4,5-Trichl 0.349 0.377 0.419 0.431 0.429 0.431 0.331 0.409 0.397  10.02
51) 2-Fluorobiph 1.464 1.454 1.426 1.331 1.300 1.400 1.463 1.467 1.413   4.60
52) 2-Chloronaph 1.198 1.208 1.194 1.133 1.095 1.185 1.202 1.222 1.180   3.67
53) Biphenyl     1.589 1.575 1.567 1.441 1.384 1.517 1.569 1.597 1.530   5.08
54) 2-Nitroanili 0.273 0.312 0.336 0.320 0.311 0.335 0.236 0.332 0.307  11.47
55) Dimethylphth 1.364 1.396 1.387 1.331 1.320 1.390 1.360 1.414 1.370   2.39
56) Acenaphthyle 1.825 1.873 1.881 1.741 1.687 1.842 1.795 1.918 1.820   4.21
57) 2,6-Dinitrot 0.269 0.303 0.329 0.339 0.334 0.342 0.236 0.328 0.310  12.38
58) 3-Nitroanili 0.297 0.338 0.358 0.365 0.357 0.373 0.244 0.363 0.337  13.17
59) Acenaphthene 1.236 1.251 1.234 1.146 1.110 1.214 1.216 1.261 1.208   4.40
60) 2,4-Dinitrop 0.066 0.119 0.197 0.221 0.225 0.220       0.165 0.173  35.24
         ----- Quadratic regression -----               Coefficient =  0.9998
              Response Ratio = -0.02391 + 0.22118 *A + 0.00178 *A^2

61) 4-Nitropheno       0.155 0.176 0.177 0.175 0.184       0.169 0.173   5.84
62) Dibenzofuran 1.738 1.744 1.709 1.574 1.544 1.665 1.728 1.759 1.683   4.85
63) 2,4-Dinitrot 0.370 0.434 0.462 0.460 0.461 0.469 0.320 0.466 0.430  12.84
64) 2,3,4,6-Tetr 0.289 0.307 0.341 0.362 0.367 0.358 0.246 0.328 0.325  12.99
65) Diethylphtha 1.329 1.382 1.388 1.322 1.293 1.369 1.308 1.416 1.351   3.23
66) Fluorene     1.383 1.400 1.393 1.303 1.259 1.372 1.363 1.454 1.366   4.40
67) 4-Chlorophen 0.688 0.702 0.695 0.692 0.678 0.704 0.671 0.711 0.693   1.97
68) 4-Nitroanili       0.323 0.358 0.368 0.365 0.372       0.353 0.357   4.98

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.114 0.158 0.169 0.169 0.169       0.148 0.154  14.05
71) n-Nitrosodip 0.546 0.558 0.570 0.545 0.531 0.562 0.531 0.577 0.553   3.11
72) 1,2-Diphenyl 0.624 0.660 0.659 0.591 0.563 0.636 0.599 0.676 0.626   6.29
73) 2,4,6-Tribro       0.108 0.125 0.139 0.145 0.135       0.119 0.129  10.80
74) 4-Bromopheny 0.200 0.209 0.223 0.226 0.224 0.227 0.194 0.217 0.215   5.84
75) Hexachlorobe 0.233 0.243 0.257 0.270 0.268 0.263 0.235 0.252 0.252   5.69
76) Pentachlorop 0.093 0.115 0.155 0.177 0.178 0.169       0.140 0.147  22.23
         ----- Quadratic regression -----               Coefficient =  0.9998
              Response Ratio = -0.01244 + 0.16584 *A + 0.00311 *A^2

77) Phenanthrene 1.111 1.089 1.071 1.026 0.984 1.062 1.127 1.121 1.074   4.62
78) Anthracene   1.054 1.116 1.121 1.047 1.010 1.088 1.039 1.142 1.077   4.32
79) Carbazole    1.010 1.048 1.059 0.999 0.950 1.050 0.955 1.086 1.020   4.85
80) Di-n-butylph 1.122 1.223 1.279 1.178 1.132 1.264 1.017 1.312 1.191   8.23
81) Fluoranthene 1.117 1.188 1.209 1.146 1.122 1.215 1.099 1.240 1.167   4.52
82) Octadecane   0.366 0.384 0.381 0.331 0.312 0.360 0.353 0.393 0.360   7.66

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.329 1.346 1.379 1.305 1.265 1.353 1.308 1.376 1.333   2.91
85) Terphenyl-d1 0.891 0.914 0.946 0.972 0.947 0.965 0.889 0.930 0.932   3.39
86) Butylbenzylp 0.508 0.580 0.635 0.612 0.589 0.630 0.425 0.617 0.574  12.67
87) Benzo[a]anth 1.235 1.250 1.303 1.276 1.230 1.321 1.279 1.298 1.274   2.61
88) 3,3'-Dichlor 0.407 0.451 0.519 0.534 0.511 0.541 0.371 0.496 0.479  13.08
89) Chrysene     1.251 1.270 1.255 1.252 1.228 1.285 1.209 1.245 1.249   1.86
90) bis(2-Ethylh 0.678 0.807 0.883 0.841 0.817 0.876 0.587 0.863 0.794  13.34

91) I   Perylene-d12          ----------------ISTD---------------------
92) Di-n-octylph 0.906 1.138 1.329 1.228 1.163 1.307       1.270 1.192  12.11
```

8.9.38

8

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICC2562
**Lab FileID:** 6P481129.D

```
 93) Benzo[b]fluo 1.077 1.098 1.280 1.410 1.426 1.310 0.966 1.205 1.222  13.50
 94) Benzo[k]fluo 1.026 1.122 1.101 1.055 0.970 1.187 1.077 1.113 1.082   6.10
 95) Benzo[a]pyre 0.888 0.962 1.057 1.087 1.080 1.099 0.838 1.019 1.004   9.78
 96) Indeno[1,2,3 1.167 1.241 1.398 1.489 1.466 1.499 1.124 1.337 1.340  11.05
 97) Dibenz(a,h)a 0.832 0.915 1.039 1.110 1.098 1.110 0.774 0.997 0.984  13.31
 98) Dibenz[a,h]a 1.039 1.103 1.224 1.337 1.295 1.343 1.001 1.161 1.188  11.22
 99) 7,12-Dimethy       0.319 0.514 0.588 0.586 0.583       0.416 0.501  22.28
          ----- Quadratic regression -----                Coefficient =  0.9997
               Response Ratio = -0.04819 + 0.62160 *A + -0.00574 *A^2

100) Benzo[g,h,i] 0.950 0.978 1.077 1.141 1.134 1.145 0.902 1.035 1.045   9.01


 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M6P2562.M         Tue Apr 16 16:13:42 2019   ACLIMS
```

8.9.38

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481135.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481135.D Vial: 10
Acq On : 16 Apr 2019 1:06 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
Last Update : Tue Apr 16 15:28:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 81 | 0.00 | 4.32 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.724 | -3.7 | 78 | 0.02 | 2.10 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.199 | 0.7 | 79 | 0.00 | 4.14 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.503 | 4.7 | 76 | 0.00 | 4.28 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.583 | 1.9 | 79 | 0.00 | 4.33 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.468 | 0.9 | 79 | 0.00 | 4.45 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.501 | -16.2 | 92 | 0.00 | 4.53 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.847 | -1.8 | 81 | -0.01 | 4.63 |
| 23 | t | Hexachloroethane | 0.563 | 0.552 | 2.0 | 76 | 0.00 | 4.69 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 5.31 |
| 26 | t | Nitrobenzene | 0.339 | 0.325 | 4.1 | 75 | 0.00 | 4.75 |
| 28 | t | Isophorone | 0.579 | 0.579 | 0.0 | 79 | -0.01 | 4.93 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.358 | 1.6 | 77 | 0.00 | 5.12 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.330 | 3.5 | 75 | 0.00 | 5.27 |
| 38 | t | Naphthalene | 1.042 | 1.012 | 2.9 | 78 | 0.00 | 5.33 |
| 42 | t | Hexachlorobutadiene | 0.195 | 0.191 | 2.1 | 76 | 0.00 | 5.44 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 78 | 0.00 | 6.99 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.102 | 6.6 | 72 | 0.00 | 6.42 |
| 55 | t | Dimethylphthalate | 1.370 | 1.268 | 7.4 | 71 | 0.00 | 6.74 |
| 56 | t | Acenaphthylene | 1.820 | 1.753 | 3.7 | 74 | 0.00 | 6.84 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.292 | 5.8 | 66 | 0.00 | 6.79 |
| 59 | t | Acenaphthene | 1.208 | 1.111 | 8.0 | 71 | 0.00 | 7.03 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.394 | 8.4 | 65 | 0.00 | 7.24 |
| 65 | t | Diethylphthalate | 1.351 | 1.241 | 8.1 | 70 | 0.00 | 7.51 |
| 66 | t | Fluorene | 1.366 | 1.286 | 5.9 | 73 | 0.00 | 7.60 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.653 | 5.8 | 72 | 0.00 | 7.61 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 75 | 0.00 | 8.67 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.502 | 9.2 | 67 | -0.01 | 7.75 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.619 | 1.1 | 73 | 0.00 | 7.79 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.215 | 0.0 | 71 | 0.00 | 8.16 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.240 | 4.8 | 68 | 0.00 | 8.23 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 77 | t | Phenanthrene | 1.074 | 1.008 | 6.1 | 71 | 0.00 | 8.69 |

8.9.39

8

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481135.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 78 | t | Anthracene | 1.077 | 1.052 | 2.3 | 72 | 0.00 | 8.75 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.150 | 3.4 | 68 | 0.00 | 9.42 |
| 81 | t | Fluoranthene | 1.167 | 1.118 | 4.2 | 69 | 0.00 | 10.10 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 11.82 |
| 84 | t | Pyrene | 1.333 | 1.349 | -1.2 | 68 | 0.00 | 10.36 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.594 | -3.5 | 64 | 0.00 | 11.21 |
| 87 | t | Benzo[a]anthracene | 1.274 | 1.217 | 4.5 | 63 | 0.00 | 11.81 |
| 89 | t | Chrysene | 1.249 | 1.211 | 3.0 | 64 | 0.00 | 11.85 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 0.833 | -4.9 | 65 | 0.00 | 11.92 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 67 | 0.00 | 13.42 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.224 | -2.7 | 63 | 0.00 | 12.66 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.062 | 13.1 | 54 | -0.01 | 13.03 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.121 | -3.6 | 63 | -0.01 | 13.05 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.013 | -0.9 | 62 | 0.00 | 13.36 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.278 | 4.6 | 57 | 0.00 | 14.46 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.097 | 7.7 | 55 | 0.00 | 14.47 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.037 | 0.8 | 61 | 0.00 | 14.73 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

6p481129.D M6P2562.M Tue Apr 16 15:43:13 2019 ACLIMS

8.9.39

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481136.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481136.D Vial: 11
Acq On : 16 Apr 2019 1:29 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
Last Update : Tue Apr 16 15:28:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 4.32 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.493 | 6.5 | 71 | 0.02 | 1.79 |
| 6 | t | Indene | 2.169 | 2.230 | -2.8 | 80 | 0.00 | 4.51 |
| 7 | t | Cumene | 3.107 | 2.885 | 7.1 | 74 | 0.00 | 3.72 |
| 13 | t | Decane | 1.061 | 0.953 | 10.2 | 73 | 0.00 | 4.22 |
| 18 | t | Acetophenone | 1.859 | 1.737 | 6.6 | 72 | 0.00 | 4.62 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 75 | 0.00 | 5.31 |
| 27 | t | Quinoline | 0.726 | 0.680 | 6.3 | 67 | -0.03 | 5.62 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.326 | 14.0 | 63 | 0.00 | 6.22 |
| 41 | t | Caprolactam | 0.128 | 0.113 | 11.7 | 61 | -0.04 | 5.69 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.588 | 10.6 | 68 | 0.00 | 6.04 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.653 | 6.7 | 69 | 0.00 | 6.56 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 6.99 |
| | | | True | Calc. | % Drift | | | |
| 48 | t | Hexachlorocyclopentadiene | 50.000 | 44.526 | 10.9 | 61 | 0.00 | 6.10 |
| 53 | t | Biphenyl | 1.530 | 1.464 | 4.3 | 70 | 0.00 | 6.40 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 8.66 |
| 82 | t | Octadecane | 0.360 | 0.348 | 3.3 | 66 | 0.00 | 8.62 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 62 | -0.01 | 11.82 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 56 | 0.00 | 13.42 |
| | | | True | Calc. | % Drift | | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 42.786 | 14.4 | 47 | -0.01 | 13.01 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 15:43:15 2019 ACLIMS

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481137.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481137.D Vial: 12
Acq On : 16 Apr 2019 1:53 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
Last Update : Tue Apr 16 15:28:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 77 | 0.00 | 4.32 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.167 | 0.3 | 68 | 0.00 | 3.36 |
| 8 | S | Phenol-d5 | 1.429 | 1.402 | 1.9 | 73 | 0.00 | 4.09 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 5.31 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.292 | 12.3 | 62 | 0.00 | 4.74 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 67 | 0.00 | 6.99 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.357 | 4.0 | 65 | 0.00 | 6.30 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 65 | 0.00 | 8.66 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.115 | 10.9 | 55 | -0.01 | 7.87 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 55 | -0.01 | 11.82 |
| 85 | S | Terphenyl-d14 | 0.932 | 1.021 | -9.5 | 59 | 0.00 | 10.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 15:44:54 2019 ACLIMS

8.9.41

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481138.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481138.D Vial: 13
Acq On : 16 Apr 2019 2:18 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update : Tue Apr 16 16:05:20 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 4.32 |
| 3 | t | Pyridine | 1.198 | 1.186 | 1.0 | 63 | 0.14 | 2.25 |
| 10 | | Aniline | 1.556 | 1.927 | -23.8 | 88 | 0.00 | 4.09 |
| 16 | t | Benzyl alcohol | 0.751 | 0.880 | -17.2 | 74 | 0.00 | 4.45 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 69 | 0.00 | 5.31 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.416 | 1.0 | 69 | 0.00 | 5.38 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.581 | 1.4 | 67 | 0.00 | 5.94 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 70 | 0.00 | 6.99 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.264 | 14.0 | 55 | -0.01 | 6.54 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.321 | 4.7 | 60 | 0.00 | 6.98 |
| 62 | t | Dibenzofuran | 1.683 | 1.629 | 3.2 | 68 | 0.00 | 7.22 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.316 | 11.5 | 59 | -0.02 | 7.65 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 67 | 0.00 | 8.67 |
| 79 | t | Carbazole | 1.020 | 0.935 | 8.3 | 60 | 0.00 | 8.97 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 16:12:00 2019 ACLIMS

8.9.42

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481139.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481139.D Vial: 14
Acq On : 16 Apr 2019 2:42 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update : Tue Apr 16 16:05:20 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 4.32 |
| 9 | t | Phenol | 1.744 | 1.634 | 6.3 | 66 | 0.00 | 4.10 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.457 | -5.4 | 72 | 0.00 | 4.18 |
| 19 | t | 2-Methylphenol | 1.174 | 1.221 | -4.0 | 72 | -0.01 | 4.53 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.292 | -4.7 | 71 | 0.00 | 4.65 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 70 | 0.00 | 5.31 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.216 | -9.1 | 70 | 0.00 | 5.00 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.348 | -15.2 | 73 | 0.00 | 5.05 |
| 31 | t | Benzoic acid | 0.305 | 0.235 | 23.0 | 50 | -0.02 | 5.20 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.318 | -6.4 | 70 | 0.00 | 5.21 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.323 | -9.1 | 73 | 0.00 | 5.39 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.312 | -1.6 | 66 | -0.02 | 5.83 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 64 | 0.00 | 6.99 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.425 | -13.9 | 69 | 0.00 | 6.23 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.448 | -12.8 | 67 | -0.02 | 6.27 |
| | | ---------- | True | Calc. | % Drift | | ---------- | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 44.876 | 10.2 | 54 | 0.00 | 7.10 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.163 | 5.8 | 57 | -0.02 | 7.21 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.343 | -5.5 | 62 | 0.00 | 7.37 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 63 | 0.00 | 8.67 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.151 | 1.9 | 57 | -0.01 | 7.69 |
| | | ---------- | True | Calc. | % Drift | | ---------- | |
| 76 | t | Pentachlorophenol | 50.000 | 52.246 | -4.5 | 63 | 0.00 | 8.47 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 16:12:02 2019 ACLIMS

8.9.43

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481140.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481140.D Vial: 15
Acq On : 16 Apr 2019 3:06 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update : Tue Apr 16 16:05:20 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 83 I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 116 | 0.00 | 11.82 |
| 88 t | 3,3'-Dichlorobenzidine | 0.479 | 0.487 | -1.7 | 104 | 0.00 | 11.81 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 16:13:30 2019 ACLIMS

8.9.4.4

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2563-ICC2563
**Lab FileID:** 6P481144.D

Response Factor Report MS6P

Method : C:\MSDCHEM\1\METHODS\M6P2563.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration

Calibration Files
2 =6p481148.D 5 =6p481147.D 25 =6p481145.D 80 =6p481143.D
100 =6p481142.D 50 =6p481144.D 1 =6p481149.D 10 =6p481146.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg %RSD |
|---|---|---|---|---|---|---|---|---|---|
| 101) 1,4-Dichlorobenzene-d | ISTD | | | | | | | | |
| 102) Benzaldehyde | 0.939 | 0.911 | 1.115 | 1.020 | 1.017 | 1.074 | 0.883 | 0.983 | 0.993 8.04 |
| 103) Acenaphthene-d10a | ISTD | | | | | | | | |
| 104) 1,2,4,5-Tetr | 0.510 | 0.526 | 0.568 | 0.540 | 0.544 | 0.549 | 0.503 | 0.530 | 0.534 3.98 |
| 105) Phenanthrene-d10a | ISTD | | | | | | | | |
| 106) 1-chloroocta | 0.200 | 0.232 | 0.283 | 0.267 | 0.234 | 0.265 | 0.183 | 0.248 | 0.239 14.37 |
| 107) o-terphenyl | 0.539 | 0.560 | 0.622 | 0.637 | 0.594 | 0.612 | 0.546 | 0.558 | 0.584 6.43 |
| 108) Atrazine | 0.072 | 0.091 | 0.115 | 0.119 | 0.117 | 0.117 | 0.072 | 0.099 | 0.100 20.08 |

----- Quadratic regression ----- Coefficient = 0.9998
Response Ratio = -0.00312 + 0.12068 *A + -0.00070 *A^2

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 111) I Naphthalene-d8a | ISTD | | | | | | | | |
| 112) Hydroquinone | 0.310 | 0.331 | 0.328 | 0.336 | | | 0.231 | 0.307 | 14.27 |
| 113) Phenanthrene-d10b | ISTD | | | | | | | | |
| 114) Pentachloron | 0.039 | 0.052 | 0.055 | 0.054 | 0.052 | | 0.042 | 0.049# | 13.84 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

M6P2562.M Wed Apr 17 09:04:49 2019 ACLIMS

8.9.45

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2563-ICV2563
**Lab FileID:** 6P481150.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481150.D Vial: 24
Acq On : 16 Apr 2019 6:52 pm Operator: angelar
Sample : icv2563-50 Inst : MS6P
Misc : op17006,e6p2563,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update : Wed Apr 17 09:00:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 4.32 |
| 102 | Benzaldehyde | 0.993 | 1.075 | -8.3 | 103 | -0.03 | 4.00 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 6.99 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.524 | 1.9 | 101 | 0.00 | 6.11 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 8.67 |
| | | True | Calc. | % Drift | | | |
| 108 | Atrazine | 50.000 | 49.867 | 0.3 | 107 | 0.01 | 8.40 |
| | | AvgRF | CCRF | % Dev | | | |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 8.67 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.042# | 14.3 | 86 | 0.00 | 8.49 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481144a.D M6P2562.M Wed Apr 17 09:07:17 2019 ACLIMS

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2563-ICV2563
**Lab FileID:** 6P481151.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481151.D Vial: 25
Acq On : 16 Apr 2019 7:16 pm Operator: angelar
Sample : icv2563-50 Inst : MS6P
Misc : op17006,e6p2563,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update : Wed Apr 17 09:00:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 5.31 |
| 112 T | Hydroquinone | 0.307 | 0.322 | -4.9 | 92 | -0.04 | 5.71 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481144a.D M6P2562.M Wed Apr 17 09:07:19 2019 ACLIMS

8.9.47

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2590-CC2562
**Lab FileID:** 6P481844.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e6p2590\6p481844.d Vial: 2
Acq On : 14 May 2019 4:00 pm Operator: angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
Last Update : Wed May 15 05:39:18 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 4.19 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.545 | -3.4 | 79 | 0.00 | 1.60 |
| 3 | t | Pyridine | 1.198 | 1.427 | -19.1 | 87 | -0.13 | 1.91 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.803 | -15.0 | 85 | -0.13 | 1.89 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.302 | -11.3 | 78 | -0.04 | 3.21 |
| 6 | t | Indene | 2.169 | 2.446 | -12.8 | 88 | 0.00 | 4.38 |
| 7 | t | Cumene | 3.107 | 3.615 | -16.4 | 92 | -0.03 | 3.58 |
| 8 | S | Phenol-d5 | 1.429 | 1.687 | -18.1 | 90 | 0.00 | 3.98 |
| 9 | t | Phenol | 1.744 | 1.884 | -8.0 | 83 | 0.00 | 3.98 |
| 10 | | Aniline | 1.556 | 1.812 | -16.5 | 96 | 0.00 | 3.96 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.335 | -10.5 | 86 | 0.00 | 4.01 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.488 | -7.6 | 81 | 0.00 | 4.05 |
| 13 | t | Decane | 1.061 | 1.274 | -20.1# | 98 | 0.00 | 4.09 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.609 | -2.0 | 80 | 0.00 | 4.15 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.658 | -2.7 | 81 | 0.00 | 4.20 |
| 16 | t | Benzyl alcohol | 0.751 | 0.930 | -23.8# | 91 | 0.00 | 4.32 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.572 | -6.1 | 83 | 0.00 | 4.32 |
| 18 | t | Acetophenone | 1.859 | 2.183 | -17.4 | 90 | 0.01 | 4.50 |
| 19 | t | 2-Methylphenol | 1.174 | 1.375 | -17.1 | 89 | 0.02 | 4.42 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.473 | -9.7 | 85 | 0.01 | 4.41 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.455 | -17.9 | 87 | 0.02 | 4.54 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 1.044 | -25.5# | 98 | 0.01 | 4.51 |
| 23 | t | Hexachloroethane | 0.563 | 0.543 | 3.6 | 73 | 0.00 | 4.56 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 82 | 0.00 | 5.17 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.394 | -18.3 | 94 | 0.00 | 4.62 |
| 26 | t | Nitrobenzene | 0.339 | 0.403 | -18.9 | 96 | 0.00 | 4.63 |
| 27 | t | Quinoline | 0.726 | 0.764 | -5.2 | 81 | 0.00 | 5.49 |
| 28 | t | Isophorone | 0.579 | 0.683 | -18.0 | 96 | 0.00 | 4.81 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.219 | -10.6 | 83 | 0.00 | 4.87 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.371 | -22.8# | 92 | 0.01 | 4.93 |
| 31 | t | Benzoic acid | 0.305 | 0.342 | -12.1 | 86 | 0.03 | 5.10 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.405 | -11.3 | 90 | 0.00 | 4.98 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.301 | -0.7 | 77 | 0.01 | 5.08 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.305 | -3.0 | 81 | 0.01 | 5.26 |
| 35 | | 1,3,5-Trichlorobenzene | 0.354 | 0.336 | 5.1 | 77 | 0.00 | 4.87 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.313 | 8.5 | 74 | 0.00 | 5.13 |
| 37 | | 1,2,3-Trichlorobenzene | 0.340 | 0.316 | 7.1 | 75 | 0.00 | 5.31 |
| 38 | t | Naphthalene | 1.042 | 1.104 | -6.0 | 88 | 0.00 | 5.18 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.443 | -5.5 | 88 | 0.01 | 5.25 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.372 | 1.8 | 78 | 0.02 | 6.08 |
| 41 | t | Caprolactam | 0.128 | 0.153 | -19.5 | 90 | 0.03 | 5.59 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** E6P2590-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481844.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.195 | 0.180 | 7.7 | 74 | 0.00 | 5.30 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.357 | -16.3 | 89 | 0.03 | 5.72 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.625 | -6.1 | 87 | 0.02 | 5.80 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.700 | -6.4 | 88 | 0.01 | 5.89 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.723 | -3.3 | 83 | 0.03 | 6.41 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 6.84 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 100.000 | 77.670 | 22.3# | 59 | -0.01 | 5.95 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.367 | 1.6 | 73 | 0.00 | 6.09 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.393 | 1.0 | 72 | 0.00 | 6.15 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.461 | -3.4 | 82 | 0.00 | 6.16 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.190 | -0.8 | 79 | 0.00 | 6.27 |
| 53 | t | Biphenyl | 1.530 | 1.653 | -8.0 | 86 | 0.00 | 6.25 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.406 | -32.2# | 95 | 0.00 | 6.40 |
| 55 | t | Dimethylphthalate | 1.370 | 1.400 | -2.2 | 79 | 0.00 | 6.58 |
| 56 | t | Acenaphthylene | 1.820 | 1.954 | -7.4 | 84 | 0.00 | 6.69 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.331 | -6.8 | 76 | 0.01 | 6.65 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.387 | -14.8 | 82 | 0.02 | 6.84 |
| 59 | t | Acenaphthene | 1.208 | 1.309 | -8.4 | 85 | 0.00 | 6.87 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 87.098 | 12.9 | 67 | 0.03 | 6.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.208 | -20.2# | 89 | 0.00 | 7.09 |
| 62 | t | Dibenzofuran | 1.683 | 1.746 | -3.7 | 83 | 0.00 | 7.06 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.457 | -6.3 | 77 | 0.02 | 7.10 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.306 | 5.8 | 67 | 0.02 | 7.23 |
| 65 | t | Diethylphthalate | 1.351 | 1.472 | -9.0 | 85 | 0.02 | 7.35 |
| 66 | t | Fluorene | 1.366 | 1.464 | -7.2 | 84 | 0.00 | 7.43 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.665 | 4.0 | 74 | 0.01 | 7.45 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.368 | -3.1 | 78 | 0.03 | 7.51 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 73 | 0.00 | 8.50 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.155 | -0.6 | 67 | 0.00 | 7.56 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.616 | -11.4 | 80 | -0.01 | 7.59 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.836 | -33.5# | 96 | -0.01 | 7.63 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.122 | 5.4 | 66 | -0.01 | 7.71 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.213 | 0.9 | 69 | 0.00 | 8.00 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.249 | 1.2 | 69 | 0.00 | 8.07 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 76 | t | Pentachlorophenol | 100.000 | 88.680 | 11.3 | 64 | 0.00 | 8.32 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.151 | -7.2 | 79 | 0.00 | 8.53 |
| 78 | t | Anthracene | 1.077 | 1.165 | -8.2 | 78 | 0.00 | 8.59 |
| 79 | t | Carbazole | 1.020 | 1.112 | -9.0 | 78 | 0.01 | 8.80 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.457 | -22.3# | 84 | 0.02 | 9.26 |
| 81 | t | Fluoranthene | 1.167 | 1.227 | -5.1 | 74 | 0.02 | 9.93 |
| 82 | t | Octadecane | 0.360 | 0.493 | -36.9# | 100 | 0.00 | 8.46 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 11.66 |
| 84 | t | Pyrene | 1.333 | 1.464 | -9.8 | 73 | -0.02 | 10.20 |
| 85 | S | Terphenyl-d14 | 0.932 | 0.974 | -4.5 | 69 | -0.02 | 10.42 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.764 | -33.1# | 82 | 0.00 | 11.04 |

8.9.48

8

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** E6P2590-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481844.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.274 | 1.380 | -8.3 | 71 | 0.00 | 11.65 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.479 | 0.543 | -13.4 | 68 | 0.00 | 11.64 |
| 89 | t | Chrysene | 1.249 | 1.239 | 0.8 | 65 | 0.00 | 11.69 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 1.068 | -34.5# | 83 | 0.00 | 11.76 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 63 | 0.00 | 13.26 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.658 | -39.1# | 80 | 0.00 | 12.50 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.326 | -8.5 | 64 | 0.00 | 12.87 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.193 | -10.3 | 63 | 0.00 | 12.90 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.118 | -11.4 | 64 | 0.00 | 13.20 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.527 | -14.0 | 64 | 0.00 | 14.29 |
| 97 | t | Dibenz(a,h)acridine | 0.984 | 1.108 | -12.6 | 63 | 0.00 | 14.07 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.391 | -17.1 | 65 | 0.00 | 14.30 |
| | | | True | Calc. | % Drift | | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 50.391 | -0.8 | 63 | -0.01 | 12.85 |
| | | | AvgRF | CCRF | % Dev | | | |
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.130 | -8.1 | 62 | -0.02 | 14.54 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481200a.D M6P2562.M Wed May 15 05:49:51 2019

8.9.48

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2590-CC2563
**Lab FileID:** 6P481845.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e6p2590\6p481845.d Vial: 3
Acq On : 14 May 2019 4:24 pm Operator: angelar
Sample : cc2563-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
Last Update : Wed May 15 05:39:18 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 4.19 |
| 102 | Benzaldehyde | 0.993 | 1.173 | -18.1 | 114 | -0.04 | 3.87 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 6.83 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.508 | 4.9 | 97 | -0.01 | 5.96 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 8.50 |
| 106 S | 1-chlorooctadecane | 0.239 | 0.328 | -37.2# | 128 | 0.03 | 9.88 |
| 107 S | o-terphenyl | 0.584 | 0.613 | -5.0 | 103 | 0.00 | 8.97 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 108 | Atrazine | 50.000 | 49.911 | 0.2 | 104 | 0.02 | 8.24 |
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 5.17 |
| 112 T | Hydroquinone | 0.307 | 0.372 | -21.2# | 118 | 0.00 | 5.60 |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 8.50 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.047# | 4.1 | 94 | 0.00 | 8.32 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481200a.D M6P2562.M Wed May 15 05:49:58 2019

8.9.49

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2591-CC2562
**Lab FileID:** 6P481874.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2591\6p481874.D Vial: 2
Acq On : 15 May 2019 9:17 am Operator: angelar
Sample : cc2562-25 Inst : MS6P
Misc : op17006,e6p2591,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
Last Update : Mon May 06 09:58:38 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 76 | -0.07 | 4.18 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.579 | -9.9 | 82 | -0.15 | 1.59 |
| 3 | t | Pyridine | 1.198 | 1.293 | -7.9 | 76 | 0.00 | 1.90 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.782 | -12.0 | 77 | 0.00 | 1.88 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.276 | -9.1 | 75 | -0.04 | 3.20 |
| 6 | t | Indene | 2.169 | 2.407 | -11.0 | 82 | -0.07 | 4.37 |
| 7 | t | Cumene | 3.107 | 3.613 | -16.3 | 86 | -0.09 | 3.57 |
| 8 | S | Phenol-d5 | 1.429 | 1.680 | -17.6 | 84 | -0.07 | 3.96 |
| 9 | t | Phenol | 1.744 | 1.856 | -6.4 | 77 | -0.06 | 3.97 |
| 10 | | Aniline | 1.556 | 1.879 | -20.8# | 91 | -0.07 | 3.95 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.311 | -8.5 | 80 | -0.07 | 4.00 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.478 | -6.9 | 78 | -0.07 | 4.04 |
| 13 | t | Decane | 1.061 | 1.244 | -17.2 | 87 | -0.08 | 4.07 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.621 | -2.8 | 77 | -0.07 | 4.14 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.650 | -2.2 | 77 | -0.07 | 4.19 |
| 16 | t | Benzyl alcohol | 0.751 | 0.876 | -16.6 | 83 | -0.06 | 4.31 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.556 | -5.0 | 77 | -0.07 | 4.31 |
| 18 | t | Acetophenone | 1.859 | 2.126 | -14.4 | 84 | -0.06 | 4.49 |
| 19 | t | 2-Methylphenol | 1.174 | 1.361 | -15.9 | 83 | -0.06 | 4.41 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.459 | -6.5 | 79 | -0.06 | 4.40 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.427 | -15.6 | 80 | -0.05 | 4.52 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.997 | -19.8 | 87 | -0.06 | 4.50 |
| 23 | t | Hexachloroethane | 0.563 | 0.537 | 4.6 | 71 | -0.07 | 4.55 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 78 | -0.08 | 5.15 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.382 | -14.7 | 86 | -0.07 | 4.60 |
| 26 | t | Nitrobenzene | 0.339 | 0.397 | -17.1 | 87 | -0.07 | 4.62 |
| 27 | t | Quinoline | 0.726 | 0.771 | -6.2 | 79 | -0.09 | 5.48 |
| 28 | t | Isophorone | 0.579 | 0.667 | -15.2 | 87 | -0.07 | 4.80 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.218 | -10.1 | 79 | -0.07 | 4.86 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.353 | -16.9 | 87 | -0.06 | 4.92 |
| 31 | t | Benzoic acid | 0.305 | 0.343 | -12.5 | 88 | -0.06 | 5.07 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.395 | -8.5 | 83 | -0.07 | 4.97 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.299 | 0.0 | 74 | -0.07 | 5.06 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.301 | -1.7 | 76 | -0.07 | 5.24 |
| 35 | | 1,3,5-Trichlorobenzene | 0.354 | 0.337 | 4.8 | 72 | -0.07 | 4.86 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.317 | 7.3 | 71 | -0.07 | 5.11 |
| 37 | | 1,2,3-Trichlorobenzene | 0.340 | 0.318 | 6.5 | 71 | -0.08 | 5.29 |
| 38 | t | Naphthalene | 1.042 | 1.112 | -6.7 | 82 | -0.08 | 5.17 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.441 | -5.0 | 80 | -0.07 | 5.24 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.374 | 1.3 | 74 | -0.08 | 6.05 |
| 41 | t | Caprolactam | 0.128 | 0.147 | -14.8 | 83 | -0.08 | 5.56 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** E6P2591-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481874.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.195 | 0.180 | 7.7 | 71 | -0.08 | 5.28 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.357 | -16.3 | 86 | -0.07 | 5.70 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.610 | -3.6 | 79 | -0.08 | 5.78 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.693 | -5.3 | 80 | -0.08 | 5.87 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.720 | -2.9 | 78 | -0.08 | 6.39 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 75 | -0.10 | 6.81 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 50.000 | 37.946 | 24.1# | 58 | -0.10 | 5.93 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.365 | 2.1 | 70 | -0.09 | 6.07 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.391 | 1.5 | 70 | -0.08 | 6.12 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.448 | -2.5 | 76 | -0.09 | 6.13 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.202 | -1.9 | 75 | -0.10 | 6.25 |
| 53 | t | Biphenyl | 1.530 | 1.629 | -6.5 | 78 | -0.09 | 6.23 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.416 | -35.5# | 93 | -0.09 | 6.38 |
| 55 | t | Dimethylphthalate | 1.370 | 1.418 | -3.5 | 77 | -0.09 | 6.56 |
| 56 | t | Acenaphthylene | 1.820 | 1.971 | -8.3 | 78 | -0.10 | 6.66 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.333 | -7.4 | 76 | -0.09 | 6.63 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.375 | -11.3 | 78 | -0.09 | 6.81 |
| 59 | t | Acenaphthene | 1.208 | 1.298 | -7.5 | 79 | -0.10 | 6.85 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 45.478 | 9.0 | 70 | -0.07 | 6.94 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.209 | -20.8# | 89 | -0.10 | 7.07 |
| 62 | t | Dibenzofuran | 1.683 | 1.826 | -8.5 | 80 | -0.10 | 7.03 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.487 | -13.3 | 79 | -0.08 | 7.08 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.304 | 6.5 | 67 | -0.09 | 7.20 |
| 65 | t | Diethylphthalate | 1.351 | 1.515 | -12.1 | 82 | -0.09 | 7.33 |
| 66 | t | Fluorene | 1.366 | 1.437 | -5.2 | 77 | -0.10 | 7.41 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.661 | 4.6 | 71 | -0.09 | 7.42 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.349 | 2.2 | 73 | -0.08 | 7.49 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 72 | -0.11 | 8.47 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.149 | 3.2 | 68 | -0.09 | 7.54 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.597 | -8.0 | 76 | -0.11 | 7.57 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.804 | -28.4# | 88 | -0.11 | 7.60 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.122 | 5.4 | 70 | -0.09 | 7.69 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.212 | 1.4 | 69 | -0.11 | 7.97 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.241 | 4.4 | 68 | -0.11 | 8.04 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 76 | t | Pentachlorophenol | 50.000 | 43.916 | 12.2 | 65 | -0.10 | 8.30 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.113 | -3.6 | 75 | -0.11 | 8.50 |
| 78 | t | Anthracene | 1.077 | 1.157 | -7.4 | 75 | -0.11 | 8.56 |
| 79 | t | Carbazole | 1.020 | 1.091 | -7.0 | 75 | -0.10 | 8.78 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.542 | -29.5# | 87 | -0.09 | 9.23 |
| 81 | t | Fluoranthene | 1.167 | 1.245 | -6.7 | 75 | -0.10 | 9.91 |
| 82 | t | Octadecane | 0.360 | 0.481 | -33.6# | 91 | -0.10 | 8.43 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 69 | -0.11 | 11.63 |
| 84 | t | Pyrene | 1.333 | 1.435 | -7.7 | 72 | -0.09 | 10.16 |
| 85 | S | Terphenyl-d14 | 0.932 | 0.980 | -5.2 | 71 | -0.09 | 10.39 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.760 | -32.4# | 83 | -0.11 | 11.01 |

8.9.50

8

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** E6P2591-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481874.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.274 | 1.348 | -5.8 | 71 | -0.11 | 11.61 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.479 | 0.516 | -7.7 | 69 | -0.12 | 11.61 |
| 89 | t | Chrysene | 1.249 | 1.297 | -3.8 | 71 | -0.11 | 11.65 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 1.059 | -33.4# | 83 | -0.13 | 11.73 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 67 | -0.11 | 13.22 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.660 | -39.3# | 83 | -0.12 | 12.47 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.234 | -1.0 | 64 | -0.11 | 12.83 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.216 | -12.4 | 73 | -0.11 | 12.86 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.093 | -8.9 | 69 | -0.11 | 13.16 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.409 | -5.1 | 67 | -0.12 | 14.24 |
| 97 | t | Dibenz(a,h)acridine | 0.984 | 1.002 | -1.8 | 64 | -0.32 | 14.02 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.231 | -3.6 | 67 | -0.12 | 14.25 |
| | | | True | Calc. | % Drift | | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 25.000 | 25.385 | -1.5 | 71 | -0.30 | 12.81 |
| | | | AvgRF | CCRF | % Dev | | | |
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.038 | 0.7 | 64 | -0.11 | 14.49 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481201a.D M6P2562.M Wed May 15 15:14:41 2019 ACLIMS

8.9.50

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2591-CC2563
**Lab FileID:** 6P481875.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2591\6p481875.D Vial: 3
Acq On : 15 May 2019 9:41 am Operator: angelar
Sample : cc2563-25 Inst : MS6P
Misc : op17006,e6p2591,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
Last Update : Mon May 06 09:58:38 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 83 | -0.07 | 4.18 |
| 102 | Benzaldehyde | 0.993 | 1.222 | -23.1# | 91 | -0.10 | 3.86 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 85 | -0.10 | 6.81 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.501 | 6.2 | 75 | -0.10 | 5.94 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 84 | -0.11 | 8.47 |
| 106 S | 1-chlorooctadecane | 0.239 | 0.373 | -56.1# | 110 | -0.09 | 9.85 |
| 107 S | o-terphenyl | 0.584 | 0.620 | -6.2 | 84 | -0.10 | 8.95 |
| | | True | Calc. | % Drift | | | |
| 108 | Atrazine | 25.000 | 26.647 | -6.6 | 90 | -0.09 | 8.21 |
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 85 | -0.08 | 5.15 |
| 112 T | Hydroquinone | 0.307 | 0.373 | -21.5# | 102 | -0.09 | 5.58 |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 84 | -0.11 | 8.47 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.046# | 6.1 | 75 | -0.10 | 8.30 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481201a.D M6P2562.M Wed May 15 15:14:44 2019 ACLIMS

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICC6556
**Lab FileID:** M153403.D

Response Factor Report MSM

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 11:48:45 2019
Response via : Initial Calibration

Calibration Files
2 =m153407.D 5 =m153406.D 100 =m153401a.D 50 =m153403.D
1 =m153408.D 10 =m153405.D 80 =m153402.D 25 =m153404.D

| Compound | 2 | 5 | 100 | 50 | 1 | 10 | 80 | 25 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 2) 1,4-Dioxane | 0.708 | 0.743 | 0.878 | 0.834 | 0.754 | 0.769 | 0.838 | 0.806 | 0.791 | 7.22 |
| 3) Pyridine | 1.719 | 1.899 | 2.080 | 1.986 | 1.599 | 1.929 | 2.017 | 2.015 | 1.906 | 8.67 |
| 4) N-Nitrosodim | 0.611 | 0.658 | 0.748 | 0.726 | 0.596 | 0.660 | 0.712 | 0.712 | 0.678 | 8.19 |
| 5) 2-Fluorophen | 1.392 | 1.557 | 1.642 | 1.697 | 1.337 | 1.606 | 1.626 | 1.654 | 1.564 | 8.32 |
| 6) Indene | 2.197 | 2.273 | 1.875 | 2.043 | 2.326 | 2.246 | 1.879 | 2.081 | 2.115 | 8.25 |
| 7) Cumene | 3.772 | 3.943 | 3.403 | 3.707 | 3.790 | 3.993 | 3.431 | 3.854 | 3.737 | 5.83 |
| 8) Phenol-d5 | 1.761 | 1.954 | 1.939 | 2.047 | 1.803 | 2.022 | 1.926 | 1.997 | 1.931 | 5.25 |
| 9) Phenol | 2.008 | 2.159 | 1.806 | 2.027 | 2.088 | 2.201 | 1.835 | 2.112 | 2.030 | 7.08 |
| 10) Aniline | 2.230 | 2.299 | | 1.746 | 2.255 | 2.178 | 1.604 | 1.919 | 2.033 | 13.60 |
| 11) bis(2-Chloro | 1.442 | 1.502 | 1.304 | 1.367 | 1.444 | 1.477 | 1.291 | 1.404 | 1.404 | 5.53 |
| 12) 2-Chlorophen | 1.342 | 1.505 | 1.320 | 1.415 | 1.325 | 1.493 | 1.323 | 1.431 | 1.394 | 5.56 |
| 13) Decane | 1.149 | 1.177 | 0.887 | 0.992 | 1.191 | 1.157 | 0.904 | 1.063 | 1.065 | 11.59 |
| 14) 1,3-Dichloro | 1.704 | 1.742 | 1.423 | 1.582 | 1.760 | 1.682 | 1.435 | 1.629 | 1.620 | 8.08 |
| 15) 1,4-Dichloro | 1.545 | 1.528 | 1.346 | 1.462 | 1.480 | 1.533 | 1.382 | 1.491 | 1.471 | 4.92 |
| 16) Benzyl alcoh | 0.716 | 0.815 | 0.858 | 0.887 | 0.795 | 0.828 | 0.836 | 0.838 | 0.822 | 6.20 |
| 17) 1,2-Dichloro | 1.478 | 1.541 | 1.289 | 1.452 | 1.528 | 1.552 | 1.324 | 1.480 | 1.455 | 6.77 |
| 18) Acetophenone | 1.906 | 1.989 | 1.617 | 1.746 | 2.053 | 1.960 | 1.627 | 1.824 | 1.840 | 8.97 |
| 19) 2-Methylphen | 1.157 | 1.289 | 1.049 | 1.152 | 1.225 | 1.264 | 1.052 | 1.202 | 1.174 | 7.63 |
| 20) 2,2'-oxybis( | 0.347 | 0.382 | 0.334 | 0.356 | 0.421 | 0.370 | 0.335 | 0.358 | 0.363 | 7.84 |
| 21) 3&4-Methylph | 1.176 | 1.253 | 1.052 | 1.174 | 1.212 | 1.284 | 1.084 | 1.208 | 1.180 | 6.68 |
| 22) n-Nitroso-di | 0.983 | 1.035 | 0.775 | 0.855 | 0.991 | 1.011 | 0.778 | 0.915 | 0.918 | 11.35 |
| 23) Hexachloroet | 0.615 | 0.653 | 0.576 | 0.628 | 0.629 | 0.644 | 0.590 | 0.637 | 0.621 | 4.29 |
| 24) I Naphthalene-d8 | ISTD | | | | | | | | | |
| 25) Nitrobenzene | 0.405 | 0.451 | 0.411 | 0.428 | 0.422 | 0.451 | 0.411 | 0.436 | 0.427 | 4.23 |
| 26) Nitrobenzene | 0.423 | 0.440 | 0.377 | 0.407 | 0.412 | 0.450 | 0.385 | 0.420 | 0.414 | 6.01 |
| 27) Quinoline | 0.727 | 0.785 | 0.726 | 0.777 | 0.735 | 0.801 | 0.739 | 0.772 | 0.758 | 3.87 |
| 28) Isophorone | 0.769 | 0.806 | 0.711 | 0.775 | 0.767 | 0.826 | 0.729 | 0.801 | 0.773 | 5.02 |
| 29) 2-Nitropheno | 0.156 | 0.189 | 0.192 | 0.216 | 0.144 | 0.215 | 0.205 | 0.216 | 0.192 | 14.59 |
| 30) 2,4-Dimethyl | 0.268 | 0.310 | 0.342 | 0.348 | 0.251 | 0.321 | 0.347 | 0.351 | 0.317 | 12.19 |
| 31) Benzoic acid | | 0.168 | 0.256 | 0.297 | | 0.239 | 0.292 | 0.262 | 0.252 | 18.58 |
| 32) bis(2-Chloro | 0.476 | 0.495 | 0.432 | 0.456 | 0.503 | 0.488 | 0.438 | 0.463 | 0.469 | 5.55 |
| 33) 2,4-Dichloro | 0.318 | 0.354 | 0.303 | 0.339 | 0.331 | 0.350 | 0.318 | 0.348 | 0.333 | 5.47 |
| 34) 2,6-Dichloro | 0.297 | 0.328 | 0.277 | 0.303 | 0.288 | 0.324 | 0.285 | 0.312 | 0.302 | 6.18 |
| 35) 1,3,5-Trichl | 0.456 | 0.454 | 0.341 | 0.390 | 0.474 | 0.450 | 0.355 | 0.421 | 0.418 | 12.02 |
| 36) 1,2,4-Trichl | 0.439 | 0.438 | 0.348 | 0.390 | 0.434 | 0.433 | 0.364 | 0.408 | 0.407 | 8.83 |
| 37) 1,2,3-Trichl | 0.403 | 0.405 | 0.315 | 0.351 | 0.442 | 0.402 | 0.328 | 0.374 | 0.378 | 11.49 |
| 38) Naphthalene | 0.990 | 1.041 | 0.871 | 0.955 | 1.062 | 1.027 | 0.900 | 0.989 | 0.979 | 6.87 |
| 39) 4-Chloroanil | 0.451 | 0.466 | 0.383 | 0.434 | 0.432 | 0.467 | 0.399 | 0.441 | 0.434 | 6.85 |
| 40) 2,3-Dichloro | 0.432 | 0.459 | 0.379 | 0.418 | 0.416 | 0.458 | 0.395 | 0.436 | 0.424 | 6.62 |
| 41) Caprolactam | 0.133 | 0.160 | 0.163 | 0.166 | 0.122 | 0.165 | 0.164 | 0.159 | 0.154 | 10.90 |
| 42) Hexachlorobu | 0.245 | 0.261 | 0.213 | 0.234 | 0.261 | 0.260 | 0.220 | 0.245 | 0.242 | 7.75 |
| 43) 4-Chloro-3-m | 0.311 | 0.354 | 0.344 | 0.372 | 0.286 | 0.369 | 0.352 | 0.367 | 0.344 | 8.87 |
| 44) 2-Methylnaph | 0.614 | 0.662 | 0.549 | 0.614 | 0.649 | 0.668 | 0.575 | 0.637 | 0.621 | 6.76 |
| 45) 1-Methylnaph | 0.822 | 0.839 | 0.690 | 0.768 | 0.854 | 0.835 | 0.713 | 0.795 | 0.790 | 7.72 |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICC6556
**Lab FileID:** M153403.D

```
46) Dimethylnaph 0.710 0.748 0.603 0.672 0.698 0.746 0.624 0.699 0.687   7.63

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.348 0.400 0.384 0.414 0.335 0.419 0.397 0.415 0.389   8.17
49) 2,4,6-Trichl 0.448 0.456 0.391 0.426 0.418 0.474 0.404 0.447 0.433   6.49
50) 2,4,5-Trichl 0.470 0.471 0.434 0.465 0.442 0.509 0.458 0.467 0.465   4.87
51) 2-Fluorobiph 1.636 1.609 1.284 1.377 1.646 1.579 1.311 1.454 1.487  10.04
52) 2-Chloronaph 1.385 1.362 1.026 1.108 1.411 1.306 1.054 1.193 1.231  12.62
53) Biphenyl     1.718 1.712 1.406 1.518 1.746 1.720 1.431 1.605 1.607   8.64
54) 2-Nitroanili 0.238 0.328 0.375 0.374 0.254 0.359 0.371 0.356 0.332  16.70
55) Dimethylphth 1.523 1.567 1.384 1.472 1.580 1.595 1.408 1.498 1.503   5.21
56) Acenaphthyle 2.012 2.074 1.715 1.849 2.035 2.078 1.751 1.942 1.932   7.46
57) 2,6-Dinitrot 0.208 0.271 0.307 0.330 0.195 0.308 0.314 0.320 0.282  18.60
58) 3-Nitroanili 0.258 0.324 0.368 0.376       0.367 0.371 0.366 0.347  12.41
59) Acenaphthene 1.184 1.223 1.081 1.142 1.219 1.222 1.112 1.177 1.170   4.59
60) 2,4-Dinitrop 0.037 0.065 0.162 0.168       0.101 0.170 0.133 0.119  44.46
          ----- Quadratic regression -----              Coefficient =  0.9976
               Response Ratio = -0.03138 + 0.18187 *A + -0.00221 *A^2

61) 4-Nitropheno       0.151 0.212 0.209       0.183 0.205 0.196 0.193  11.89
62) Dibenzofuran 1.894 1.911 1.525 1.637 1.871 1.865 1.554 1.736 1.749   9.08
63) 2,4-Dinitrot 0.224 0.340 0.380 0.398 0.229 0.399 0.381 0.397 0.344  21.80
          ----- Quadratic regression -----              Coefficient =  0.9999
               Response Ratio = -0.00674 + 0.41733 *A + -0.01431 *A^2

64) 2,3,4,6-Tetr 0.354 0.432 0.430 0.461 0.292 0.459 0.441 0.459 0.416  14.64
65) Diethylphtha 1.430 1.511 1.380 1.463 1.412 1.539 1.399 1.488 1.453   3.92
66) Fluorene     1.516 1.533 1.303 1.397 1.567 1.528 1.331 1.438 1.452   6.88
67) 4-Chlorophen 0.802 0.818 0.646 0.699 0.848 0.799 0.666 0.752 0.754   9.97
68) 4-Nitroanili 0.258 0.325 0.333 0.335 0.222 0.338 0.328 0.334 0.309  14.20

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.040 0.064 0.119 0.126       0.091 0.127 0.108 0.096  34.65
          ----- Quadratic regression -----              Coefficient =  0.9979
               Response Ratio = -0.01033 + 0.14209 *A + -0.00691 *A^2

71) n-Nitrosodip 0.547 0.581 0.465 0.508 0.565 0.574 0.479 0.534 0.532   8.25
72) 1,2-Diphenyl 0.746 0.781 0.656 0.692 0.763 0.791 0.668 0.735 0.729   7.05
73) 2,4,6-Tribro 0.105 0.140 0.134 0.148 0.112 0.148 0.141 0.148 0.135  12.52
74) 4-Bromopheny 0.273 0.289 0.243 0.269 0.287 0.294 0.254 0.275 0.273   6.54
75) Hexachlorobe 0.336 0.325 0.254 0.282 0.343 0.323 0.264 0.299 0.303  11.10
76) Pentachlorop 0.114 0.167 0.168 0.186       0.185 0.175 0.188 0.169  15.31
77) Phenanthrene 1.093 1.072 0.832 0.913 1.139 1.050 0.861 0.975 0.992  11.50
78) Anthracene   1.096 1.138 0.912 1.003 1.077 1.134 0.941 1.056 1.045   8.13
79) Carbazole    1.008 1.095 0.897 0.986 0.992 1.090 0.928 1.038 1.004   7.00
80) Di-n-butylph 1.063 1.269 1.168 1.274 1.029 1.350 1.206 1.321 1.210   9.67
81) Fluoranthene 1.306 1.426 1.155 1.283 1.315 1.441 1.201 1.362 1.311   7.63
82) Octadecane   0.318 0.339 0.293 0.313 0.325 0.346 0.304 0.330 0.321   5.47

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.449 1.522 1.423 1.470 1.454 1.535 1.390 1.474 1.465   3.28
85) Terphenyl-d1 1.025 1.080 1.100 1.104 1.041 1.111 1.071 1.098 1.079   2.90
86) Butylbenzylp 0.422 0.545 0.671 0.671       0.609 0.656 0.638 0.602  15.09
87) Benzo[a]anth 1.245 1.356 1.360 1.463 1.305 1.401 1.408 1.419 1.370   5.07
88) 3,3'-Dichlor 0.325 0.417 0.525 0.516       0.457 0.509 0.488 0.463  15.43
89) Chrysene     1.227 1.229 1.237 1.216 1.232 1.224 1.177 1.196 1.217   1.70
90) bis(2-Ethylh 0.429 0.641 0.885 0.849       0.736 0.822 0.795 0.737  21.41
          ----- Quadratic regression -----              Coefficient =  0.9986
               Response Ratio = -0.01303 + 0.78239 *A + 0.03842 *A^2
```

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICC6556
**Lab FileID:** M153403.D

```
 91) I   Perylene-d12          ----------------ISTD--------------------
 92) Di-n-octylph 0.593 0.938 1.309 1.353       1.204 1.308 1.292 1.142  24.47
          ----- Quadratic regression -----                Coefficient =  0.9998
               Response Ratio = -0.05184 + 1.42207 *A + -0.03846 *A^2

 93) Benzo[b]fluo 1.115 1.346 1.253 1.322 0.999 1.407 1.283 1.357 1.260  10.92
 94) Benzo[k]fluo 1.279 1.297 1.061 1.153 1.238 1.296 1.064 1.208 1.200   8.13
 95) Benzo[a]pyre 0.955 1.160 1.036 1.200 0.887 1.245 1.147 1.219 1.106  11.88
 96) Indeno[1,2,3 0.695 0.937 1.073 1.100 0.589 1.099 1.069 1.119 0.960  21.46
          ----- Quadratic regression -----                Coefficient =  0.9999
               Response Ratio = -0.01582 + 1.14231 *A + -0.02711 *A^2

 97) Dibenz(a,h)a 0.719 0.949 1.041 1.109       1.095 1.056 1.131 1.014  14.13
 98) Dibenz[a,h]a 0.822 1.081 1.067 1.108 0.708 1.172 1.069 1.129 1.020  16.04
 99) 7,12-Dimethy 0.350 0.395 0.534 0.542       0.490 0.525 0.546 0.483  16.29
100) Benzo[g,h,i] 0.883 1.072 1.069 1.118 0.845 1.179 1.072 1.154 1.049  11.58

 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MM6556.M          Mon Apr 15 12:00:07 2019
```

8.9.52

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICV6556
**Lab FileID:** M153409.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6556\m153409.D Vial: 10
Acq On : 12 Apr 2019 9:43 pm Operator: christc2
Sample : icv6556-50 Inst : MSM
Misc : op17006,em6556,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 11:20:55 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 4.59 |
| 4 | t | N-Nitrosodimethylamine | 0.678 | 0.565 | 16.7 | 76 | 0.01 | 2.42 |
| 11 | t | bis(2-Chloroethyl)ether | 1.404 | 1.437 | -2.4 | 102 | 0.00 | 4.39 |
| 14 | t | 1,3-Dichlorobenzene | 1.620 | 1.516 | 6.4 | 93 | 0.00 | 4.55 |
| 15 | t | 1,4-Dichlorobenzene | 1.471 | 1.383 | 6.0 | 92 | 0.00 | 4.60 |
| 17 | t | 1,2-Dichlorobenzene | 1.455 | 1.349 | 7.3 | 90 | 0.00 | 4.72 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.363 | 0.401 | -10.5 | 110 | 0.00 | 4.80 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.918 | 0.943 | -2.7 | 107 | 0.00 | 4.91 |
| 23 | t | Hexachloroethane | 0.621 | 0.560 | 9.8 | 87 | 0.00 | 5.00 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 5.70 |
| 26 | t | Nitrobenzene | 0.414 | 0.373 | 9.9 | 83 | 0.00 | 5.04 |
| 28 | t | Isophorone | 0.773 | 0.707 | 8.5 | 82 | 0.00 | 5.25 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.469 | 0.458 | 2.3 | 91 | 0.00 | 5.46 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.407 | 0.384 | 5.7 | 89 | 0.00 | 5.64 |
| 38 | t | Naphthalene | 0.979 | 0.926 | 5.4 | 87 | 0.00 | 5.72 |
| 42 | t | Hexachlorobutadiene | 0.242 | 0.234 | 3.3 | 90 | 0.00 | 5.86 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 7.99 |
| 48 | t | Hexachlorocyclopentadiene | 0.389 | 0.377 | 3.1 | 81 | 0.00 | 6.73 |
| 52 | t | 2-Chloronaphthalene | 1.231 | 1.176 | 4.5 | 95 | 0.00 | 7.15 |
| 55 | t | Dimethylphthalate | 1.503 | 1.333 | 11.3 | 81 | 0.00 | 7.61 |
| 56 | t | Acenaphthylene | 1.932 | 1.650 | 14.6 | 80 | 0.00 | 7.76 |
| 57 | t | 2,6-Dinitrotoluene | 0.282 | 0.244 | 13.5 | 66 | 0.00 | 7.68 |
| 59 | t | Acenaphthene | 1.170 | 0.994 | 15.0 | 78 | 0.00 | 8.04 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 63 | t | 2,4-Dinitrotoluene | 50.000 | 38.321 | 23.4 | 68 | 0.00 | 8.33 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 65 | t | Diethylphthalate | 1.453 | 1.283 | 11.7 | 79 | 0.00 | 8.79 |
| 66 | t | Fluorene | 1.452 | 1.263 | 13.0 | 81 | 0.00 | 8.90 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.754 | 0.629 | 16.6 | 81 | 0.00 | 8.94 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 85 | 0.00 | 10.57 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICV6556
**Lab FileID:** M153409.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 71 | t | n-Nitrosodiphenylamine | 0.532 | 0.445 | 16.4 | 74 | 0.00 | 9.15 |
| 72 | t | 1,2-Diphenylhydrazine | 0.729 | 0.634 | 13.0 | 78 | 0.00 | 9.21 |
| 74 | t | 4-Bromophenyl-phenylether | 0.273 | 0.245 | 10.3 | 77 | 0.00 | 9.80 |
| 75 | t | Hexachlorobenzene | 0.303 | 0.254 | 16.2 | 76 | 0.00 | 9.89 |
| 77 | t | Phenanthrene | 0.992 | 0.904 | 8.9 | 84 | 0.00 | 10.62 |
| 78 | t | Anthracene | 1.045 | 0.924 | 11.6 | 78 | 0.00 | 10.71 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.104 | 8.8 | 74 | 0.00 | 11.88 |
| 81 | t | Fluoranthene | 1.311 | 1.142 | 12.9 | 76 | 0.00 | 12.89 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 15.71 |
| 84 | t | Pyrene | 1.465 | 1.357 | 7.4 | 73 | 0.00 | 13.31 |
| 86 | t | Butylbenzylphthalate | 0.602 | 0.596 | 1.0 | 70 | 0.00 | 14.80 |
| 87 | t | Benzo[a]anthracene | 1.370 | 1.292 | 5.7 | 70 | 0.00 | 15.69 |
| 89 | t | Chrysene | 1.217 | 1.090 | 10.4 | 71 | 0.00 | 15.75 |
| | | | True | Calc. | % Drift | | | |
| 90 | t | bis(2-Ethylhexyl)phthalat | 50.000 | 45.228 | 9.5 | 68 | 0.00 | 16.03 |
| | | | AvgRF | CCRF | % Dev | | | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 75 | 0.00 | 18.30 |
| | | | True | Calc. | % Drift | | | |
| 92 | t | Di-n-octylphthalate | 50.000 | 44.043 | 11.9 | 65 | 0.00 | 17.25 |
| | | | AvgRF | CCRF | % Dev | | | |
| 93 | t | Benzo[b]fluoranthene | 1.260 | 1.158 | 8.1 | 66 | 0.00 | 17.67 |
| 94 | t | Benzo[k]fluoranthene | 1.200 | 1.130 | 5.8 | 74 | -0.01 | 17.72 |
| 95 | t | Benzo[a]pyrene | 1.106 | 1.111 | -0.5 | 70 | 0.00 | 18.20 |
| | | | True | Calc. | % Drift | | | |
| 96 | t | Indeno[1,2,3-cd]pyrene | 50.000 | 46.704 | 6.6 | 70 | -0.01 | 19.96 |
| | | | AvgRF | CCRF | % Dev | | | |
| 98 | t | Dibenz[a,h]anthracene | 1.020 | 0.964 | 5.5 | 66 | 0.00 | 20.02 |
| 100 | t | Benzo[g,h,i]perylene | 1.049 | 1.073 | -2.3 | 72 | 0.00 | 20.38 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153403.D MM6556.M Mon Apr 15 11:24:59 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICV6556
**Lab FileID:** M153410.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6556\m153410.D Vial: 11
Acq On : 12 Apr 2019 10:12 pm Operator: christc2
Sample : icv6556-50 Inst : MSM
Misc : op17006,em6556,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 11:20:55 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 4.59 |
| 2 | t | 1,4-Dioxane | 0.791 | 0.669 | 15.4 | 83 | 0.02 | 2.14 |
| 6 | t | Indene | 2.115 | 2.248 | -6.3 | 114 | 0.00 | 4.79 |
| 7 | t | Cumene | 3.737 | 3.309 | 11.5 | 92 | 0.00 | 4.00 |
| 13 | t | Decane | 1.065 | 0.918 | 13.8 | 96 | 0.00 | 4.48 |
| 18 | t | Acetophenone | 1.840 | 1.709 | 7.1 | 101 | 0.00 | 4.90 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 5.70 |
| 27 | t | Quinoline | 0.758 | 0.648 | 14.5 | 88 | -0.02 | 6.07 |
| 40 | t | 2,3-Dichloroaniline | 0.424 | 0.327 | 22.9 | 83 | 0.00 | 6.87 |
| 41 | t | Caprolactam | 0.154 | 0.115 | 25.3 | 74 | -0.04 | 6.14 |
| 45 | t | 1-Methylnaphthalene | 0.790 | 0.638 | 19.2 | 88 | 0.00 | 6.63 |
| 46 | t | Dimethylnaphthalene | 0.687 | 0.576 | 16.2 | 91 | 0.00 | 7.36 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 7.99 |
| 53 | t | Biphenyl | 1.607 | 1.507 | 6.2 | 90 | 0.00 | 7.13 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 10.57 |
| 82 | t | Octadecane | 0.321 | 0.314 | 2.2 | 91 | 0.00 | 10.61 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 105 | -0.02 | 15.70 |
| | | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 77 | 0.00 | 18.30 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.483 | 0.387 | 19.9 | 55 | -0.02 | 17.68 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153403.D MM6556.M Mon Apr 15 11:34:24 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICV6556
**Lab FileID:** M153411.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6556\m153411.D Vial: 12
Acq On : 12 Apr 2019 10:40 pm Operator: christc2
Sample : icv6556-50 Inst : MSM
Misc : op17006,em6556,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 11:38:00 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 4.59 |
| 9 | t | Phenol | 2.030 | 1.988 | 2.1 | 99 | 0.00 | 4.34 |
| 12 | t | 2-Chlorophenol | 1.394 | 1.399 | -0.4 | 99 | 0.00 | 4.43 |
| 19 | t | 2-Methylphenol | 1.174 | 1.239 | -5.5 | 108 | 0.00 | 4.78 |
| 21 | t | 3&4-Methylphenol | 1.180 | 1.273 | -7.9 | 109 | 0.00 | 4.91 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 91 | 0.00 | 5.70 |
| 29 | t | 2-Nitrophenol | 0.192 | 0.214 | -11.5 | 90 | 0.00 | 5.33 |
| 30 | t | 2,4-Dimethylphenol | 0.317 | 0.372 | -17.4 | 97 | 0.00 | 5.37 |
| 31 | t | Benzoic acid | 0.252 | 0.240 | 4.8 | 74 | -0.02 | 5.48 |
| 33 | t | 2,4-Dichlorophenol | 0.333 | 0.329 | 1.2 | 88 | 0.00 | 5.55 |
| 34 | t | 2,6-Dichlorophenol | 0.302 | 0.324 | -7.3 | 97 | 0.00 | 5.78 |
| 43 | t | 4-Chloro-3-methylphenol | 0.344 | 0.347 | -0.9 | 85 | -0.02 | 6.32 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 92 | 0.00 | 7.99 |
| 49 | t | 2,4,6-Trichlorophenol | 0.433 | 0.467 | -7.9 | 101 | 0.00 | 6.88 |
| 50 | t | 2,4,5-Trichlorophenol | 0.465 | 0.447 | 3.9 | 89 | -0.01 | 6.93 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 37.761 | 24.5 | 76 | -0.02 | 8.10 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.193 | 0.172 | 10.9 | 76 | -0.02 | 8.25 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | t | 2,3,4,6-Tetrachlorophenol | 0.416 | 0.402 | 3.4 | 81 | 0.00 | 8.54 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 81 | 0.00 | 10.57 |
| | | | True | Calc. | % Drift | | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 50.000 | 46.695 | 6.6 | 75 | -0.02 | 9.01 |
| 76 | t | Pentachlorophenol | 0.169 | 0.216 | -27.8 | 94 | 0.00 | 10.26 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153403.D MM6556.M Mon Apr 15 11:41:07 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICV6556
**Lab FileID:** M153413.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6556\m153413.D Vial: 14
Acq On : 12 Apr 2019 11:37 pm Operator: christc2
Sample : icv6556-50 Inst : MSM
Misc : op17006,em6556,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 11:48:45 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 4.59 |
| 5 | S | 2-Fluorophenol | 1.564 | 1.346 | 13.9 | 85 | 0.00 | 3.61 |
| 8 | S | Phenol-d5 | 1.931 | 1.610 | 16.6 | 84 | 0.00 | 4.32 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 5.70 |
| 25 | S | Nitrobenzene-d5 | 0.427 | 0.382 | 10.5 | 91 | 0.00 | 5.03 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 93 | 0.00 | 7.99 |
| 51 | S | 2-Fluorobiphenyl | 1.487 | 1.360 | 8.5 | 92 | 0.00 | 7.00 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 85 | 0.00 | 10.57 |
| 73 | S | 2,4,6-Tribromophenol | 0.135 | 0.136 | -0.7 | 78 | 0.00 | 9.32 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 85 | -0.01 | 15.70 |
| 85 | S | Terphenyl-d14 | 1.079 | 1.040 | 3.6 | 80 | 0.00 | 13.74 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153403.D MM6556.M Mon Apr 15 11:56:06 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6556-ICV6556
**Lab FileID:** M153414.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6556\m153414.D Vial: 15
Acq On : 13 Apr 2019 12:06 am Operator: christc2
Sample : icv6556-50 Inst : MSM
Misc : op17006,em6556,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 11:48:45 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 83 I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 155 | 0.00 | 15.71 |
| 88 t | 3,3'-Dichlorobenzidine | 0.463 | 0.428 | 7.6 | 129 | 0.00 | 15.73 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153403.D MM6556.M Mon Apr 15 11:59:07 2019

8.9.57

8

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6557-ICC6557
**Lab FileID:** M153422.D

Response Factor Report MSM

Method : C:\MSDCHEM\1\METHODS\MM6557.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 12:52:14 2019
Response via : Initial Calibration

Calibration Files
2 =m153426.D 5 =m153425.D 100 =m153420.D 50 =m153422.D
1 =m153427.D 10 =m153424.D 80 =m153421.D 25 =m153423.D

| Compound | 2 | 5 | 100 | 50 | 1 | 10 | 80 | 25 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 101) I 1,4-Dichlorobenzene-d | ISTD | | | | | | | | | |
| 102) Benzaldehyde | 1.151 | 1.145 | 1.016 | 1.112 | 1.161 | 1.125 | 1.076 | 1.194 | 1.122 | 4.93 |
| 103) I Acenaphthene-d10a | ISTD | | | | | | | | | |
| 104) 1,2,4,5-Tetr | 0.709 | 0.733 | 0.583 | 0.654 | 0.751 | 0.705 | 0.610 | 0.718 | 0.683 | 8.87 |
| 105) Atrazine | 0.138 | 0.163 | 0.196 | 0.213 | | 0.186 | 0.202 | 0.214 | 0.187 | 14.95 |
| 108) Chrysene-d12b | ISTD | | | | | | | | | |
| 109) 1-chloroocta | | 0.208 | 0.240 | 0.265 | | 0.238 | 0.246 | 0.280 | 0.246 | 9.95 |
| 110) I Phenanthrene-d10a | ISTD | | | | | | | | | |
| 111) o-terphenyl | 0.576 | 0.606 | 0.551 | 0.609 | 0.568 | 0.607 | 0.572 | 0.661 | 0.594 | 5.80 |
| 112) Pentachloron | | 0.033 | 0.052 | 0.054 | | 0.041 | 0.053 | 0.051 | 0.047# | 18.00 |
| 113) I Naphthalene-d8a | ISTD | | | | | | | | | |
| 114) Hydroquinone | | | 0.353 | 0.351 | | 0.240 | 0.356 | 0.328 | 0.326 | 15.05 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

MM6556.M Mon Apr 15 12:56:13 2019

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6558-ICC6558
**Lab FileID:** M153434.D

Response Factor Report MSM

Method : C:\MSDCHEM\1\METHODS\MM6558.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 13:37:21 2019
Response via : Initial Calibration

Calibration Files
2 =m153438.D 5 =m153437.D 100 =m153432.D 50 =m153434.D
1 =m153439.D 10 =m153436.D 80 =m153433.D 25 =m153435.D

| Compound | 2 | 5 | 100 | 50 | 1 | 10 | 80 | 25 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 106) I Chrysene-d12a | ISTD | | | | | | | | | |
| 107) Benzidine | 0.823 | 0.831 | | | 0.519 | 0.856 | 0.747 | 0.755 | | 18.30 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

MM6556.M Mon Apr 15 13:38:55 2019

8.9.59

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6558-ICV6558
**Lab FileID:** M153440.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6557\m153440.D Vial: 20
Acq On : 14 Apr 2019 6:31 pm Operator: chriss2
Sample : icv6558-50 Inst : MSM
Misc : op17006,em6558,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 13:37:21 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 106 | I | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 132 | 0.00 | 15.70 |
| 107 | t | Benzidine | 0.755 | 0.656 | 13.1 | 104 | 0.01 | 13.24 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Mon Apr 15 13:39:26 2019

8.9.60

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6557-ICV6557
**Lab FileID:** M153441.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6557\m153441.D Vial: 21
Acq On : 14 Apr 2019 7:00 pm Operator: chriss2
Sample : icv6557-50 Inst : MSM
Misc : op17006,em6557,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 12:52:14 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | I | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 4.59 |
| 102 | t | Benzaldehyde | 1.122 | 1.084 | 3.4 | 99 | 0.00 | 4.26 |
| 103 | I | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 7.99 |
| 104 | I | 1,2,4,5-Tetrachlorobenzen | 0.683 | 0.641 | 6.1 | 101 | 0.00 | 6.73 |
| 105 | t | Atrazine | 0.187 | 0.205 | -9.6 | 99 | 0.01 | 10.19 |
| 110 | I | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 10.57 |
| 112 | | Pentachloronitrobenzene | 0.047 | 0.047# | 0.0 | 86 | 0.00 | 10.29 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153422a.D MM6556.M Mon Apr 15 12:56:40 2019

8.9.61

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6557-ICV6557
**Lab FileID:** M153442.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6557\m153442.D Vial: 22
Acq On : 14 Apr 2019 7:28 pm Operator: chriss2
Sample : icv6557-50 Inst : MSM
Misc : op17006,em6557,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 12:52:14 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 113 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 116 | 0.00 | 5.69 |
| 114 | Hydroquinone | 0.326 | 0.304 | 6.7 | 101 | 0.00 | 6.14 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153422a.D MM6556.M Mon Apr 15 12:56:42 2019

8.9.62

8

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6559-ICV6556
**Lab FileID:** M153444.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6559\m153444.D Vial: 2
Acq On : 15 Apr 2019 2:05 pm Operator: christc2
Sample : icv6556-50 Inst : MSM
Misc : op17006,em6559,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Apr 15 13:37:21 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 99 | 0.00 | 4.59 |
| 3 | t | Pyridine | 1.906 | 1.645 | 13.7 | 82 | 0.08 | 2.53 |
| 10 | t | Aniline | 2.033 | 2.248 | -10.6 | 127 | 0.00 | 4.35 |
| 16 | t | Benzyl alcohol | 0.822 | 0.855 | -4.0 | 95 | 0.00 | 4.70 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 5.69 |
| 39 | t | 4-Chloroaniline | 0.434 | 0.404 | 6.9 | 94 | 0.00 | 5.77 |
| 44 | t | 2-Methylnaphthalene | 0.621 | 0.527 | 15.1 | 86 | 0.00 | 6.50 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 7.99 |
| 54 | t | 2-Nitroaniline | 0.332 | 0.313 | 5.7 | 75 | -0.01 | 7.30 |
| 58 | t | 3-Nitroaniline | 0.347 | 0.328 | 5.5 | 78 | -0.01 | 7.93 |
| 62 | t | Dibenzofuran | 1.749 | 1.620 | 7.4 | 89 | 0.00 | 8.32 |
| 68 | t | 4-Nitroaniline | 0.309 | 0.317 | -2.6 | 85 | -0.02 | 8.95 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 83 | -0.01 | 10.57 |
| 79 | t | Carbazole | 1.004 | 0.941 | 6.3 | 79 | -0.01 | 11.05 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Mon Apr 15 14:54:07 2019

8.9.63

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6594-CC6556
**Lab FileID:** M154390.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jonkm\em6594\m154390.d Vial: 2
Acq On : 15 May 2019 8:50 am Operator: christc2
Sample : cc6556-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\mm6556.m (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Thu May 16 12:56:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 126 | 0.00 | 4.37 |
| 2 | t | 1,4-Dioxane | 0.791 | 0.654 | 17.3 | 99 | 0.00 | 1.83 |
| 3 | t | Pyridine | 1.906 | 1.591 | 16.5 | 101 | 0.00 | 2.18 |
| 4 | t | N-Nitrosodimethylamine | 0.678 | 0.524 | 22.7# | 91 | 0.00 | 2.15 |
| 5 | S | 2-Fluorophenol | 1.564 | 1.345 | 14.0 | 100 | 0.00 | 3.45 |
| 6 | t | Indene | 2.115 | 2.188 | -3.5 | 135 | 0.00 | 4.57 |
| 7 | t | Cumene | 3.737 | 3.259 | 12.8 | 111 | 0.00 | 3.77 |
| 8 | S | Phenol-d5 | 1.931 | 1.727 | 10.6 | 107 | 0.00 | 4.20 |
| 9 | t | Phenol | 2.030 | 1.849 | 8.9 | 115 | 0.00 | 4.21 |
| 10 | t | Aniline | 2.033 | 1.730 | 14.9 | 125 | 0.00 | 4.15 |
| 11 | t | bis(2-Chloroethyl)ether | 1.404 | 1.439 | -2.5 | 133 | 0.00 | 4.19 |
| 12 | t | 2-Chlorophenol | 1.394 | 1.352 | 3.0 | 121 | 0.00 | 4.25 |
| 13 | t | Decane | 1.065 | 1.138 | -6.9 | 145 | 0.00 | 4.26 |
| 14 | t | 1,3-Dichlorobenzene | 1.620 | 1.535 | 5.2 | 122 | 0.00 | 4.33 |
| 15 | t | 1,4-Dichlorobenzene | 1.471 | 1.476 | -0.3 | 127 | 0.00 | 4.38 |
| 16 | t | Benzyl alcohol | 0.822 | 0.864 | -5.1 | 123 | 0.00 | 4.51 |
| 17 | t | 1,2-Dichlorobenzene | 1.455 | 1.572 | -8.0 | 137 | 0.00 | 4.50 |
| 18 | t | Acetophenone | 1.840 | 1.889 | -2.7 | 137 | 0.00 | 4.68 |
| 19 | t | 2-Methylphenol | 1.174 | 1.323 | -12.7 | 145 | 0.00 | 4.62 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.363 | 0.332 | 8.5 | 118 | 0.00 | 4.58 |
| 21 | t | 3&4-Methylphenol | 1.180 | 1.442 | -22.2# | 155 | 0.00 | 4.75 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.918 | 0.997 | -8.6 | 147 | 0.00 | 4.69 |
| 23 | t | Hexachloroethane | 0.621 | 0.585 | 5.8 | 118 | 0.00 | 4.75 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 121 | 0.00 | 5.43 |
| 25 | S | Nitrobenzene-d5 | 0.427 | 0.405 | 5.2 | 115 | 0.00 | 4.80 |
| 26 | t | Nitrobenzene | 0.414 | 0.401 | 3.1 | 120 | 0.00 | 4.82 |
| 27 | t | Quinoline | 0.758 | 0.740 | 2.4 | 116 | 0.00 | 5.80 |
| 28 | t | Isophorone | 0.773 | 0.765 | 1.0 | 120 | 0.00 | 5.01 |
| 29 | t | 2-Nitrophenol | 0.192 | 0.243 | -26.6# | 137 | 0.00 | 5.08 |
| 30 | t | 2,4-Dimethylphenol | 0.317 | 0.336 | -6.0 | 117 | 0.00 | 5.16 |
| 31 | t | Benzoic acid | 0.252 | 0.338 | -34.1# | 138 | 0.00 | 5.33 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.469 | 0.476 | -1.5 | 127 | 0.00 | 5.21 |
| 33 | t | 2,4-Dichlorophenol | 0.333 | 0.341 | -2.4 | 122 | 0.00 | 5.33 |
| 34 | t | 2,6-Dichlorophenol | 0.302 | 0.335 | -10.9 | 134 | 0.00 | 5.53 |
| 35 | t | 1,3,5-Trichlorobenzene | 0.418 | 0.422 | -1.0 | 131 | 0.00 | 5.09 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.407 | 0.365 | 10.3 | 114 | 0.00 | 5.37 |
| 37 | t | 1,2,3-Trichlorobenzene | 0.378 | 0.352 | 6.9 | 122 | 0.00 | 5.59 |
| 38 | t | Naphthalene | 0.979 | 1.044 | -6.6 | 133 | 0.00 | 5.45 |
| 39 | t | 4-Chloroaniline | 0.434 | 0.450 | -3.7 | 126 | 0.00 | 5.53 |
| 40 | t | 2,3-Dichloroaniline | 0.424 | 0.428 | -0.9 | 124 | 0.00 | 6.57 |
| 41 | t | Caprolactam | 0.154 | 0.175 | -13.6 | 129 | 0.00 | 5.90 |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6594-CC6556
**Lab FileID:** M154390.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.242 | 0.208 | 14.0 | 108 | 0.00 | 5.57 |
| 43 | t | 4-Chloro-3-methylphenol | 0.344 | 0.320 | 7.0 | 105 | 0.00 | 6.11 |
| 44 | t | 2-Methylnaphthalene | 0.621 | 0.597 | 3.9 | 118 | 0.00 | 6.20 |
| 45 | t | 1-Methylnaphthalene | 0.790 | 0.809 | -2.4 | 128 | 0.00 | 6.32 |
| 46 | t | Dimethylnaphthalene | 0.687 | 0.683 | 0.6 | 123 | 0.00 | 7.02 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 127 | 0.00 | 7.63 |
| 48 | t | Hexachlorocyclopentadiene | 0.389 | 0.393 | -1.0 | 121 | 0.00 | 6.40 |
| 49 | t | 2,4,6-Trichlorophenol | 0.433 | 0.409 | 5.5 | 122 | 0.00 | 6.60 |
| 50 | t | 2,4,5-Trichlorophenol | 0.465 | 0.482 | -3.7 | 131 | 0.00 | 6.67 |
| 51 | S | 2-Fluorobiphenyl | 1.487 | 1.357 | 8.7 | 125 | 0.00 | 6.68 |
| 52 | t | 2-Chloronaphthalene | 1.231 | 1.113 | 9.6 | 128 | 0.00 | 6.82 |
| 53 | t | Biphenyl | 1.607 | 1.547 | 3.7 | 129 | 0.00 | 6.81 |
| 54 | t | 2-Nitroaniline | 0.332 | 0.340 | -2.4 | 115 | 0.00 | 7.01 |
| 55 | t | Dimethylphthalate | 1.503 | 1.229 | 18.2 | 106 | 0.00 | 7.28 |
| 56 | t | Acenaphthylene | 1.932 | 1.759 | 9.0 | 121 | 0.00 | 7.41 |
| 57 | t | 2,6-Dinitrotoluene | 0.282 | 0.287 | -1.8 | 110 | 0.00 | 7.36 |
| 58 | t | 3-Nitroaniline | 0.347 | 0.360 | -3.7 | 122 | 0.00 | 7.63 |
| 59 | t | Acenaphthene | 1.170 | 1.144 | 2.2 | 127 | 0.00 | 7.68 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 119.988 | -20.0 | 150 | 0.00 | 7.79 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.193 | 0.125 | 35.2# | 76 | 0.00 | 8.08 |
| 62 | t | Dibenzofuran | 1.749 | 1.610 | 7.9 | 125 | 0.00 | 7.96 |
| | | | True | Calc. | % Drift | | | |
| 63 | t | 2,4-Dinitrotoluene | 50.000 | 47.778 | 4.4 | 120 | 0.00 | 7.99 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | t | 2,3,4,6-Tetrachlorophenol | 0.416 | 0.419 | -0.7 | 115 | 0.00 | 8.21 |
| 65 | t | Diethylphthalate | 1.453 | 1.238 | 14.8 | 107 | 0.00 | 8.43 |
| 66 | t | Fluorene | 1.452 | 1.356 | 6.6 | 123 | 0.00 | 8.52 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.754 | 0.622 | 17.5 | 113 | 0.00 | 8.56 |
| 68 | t | 4-Nitroaniline | 0.309 | 0.330 | -6.8 | 125 | 0.00 | 8.66 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 108 | 0.00 | 10.17 |
| | | | True | Calc. | % Drift | | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 50.000 | 63.657 | -27.3# | 136 | 0.00 | 8.69 |
| | | | AvgRF | CCRF | % Dev | | | |
| 71 | t | n-Nitrosodiphenylamine | 0.532 | 0.522 | 1.9 | 111 | 0.00 | 8.79 |
| 72 | t | 1,2-Diphenylhydrazine | 0.729 | 0.745 | -2.2 | 116 | 0.00 | 8.83 |
| 73 | S | 2,4,6-Tribromophenol | 0.135 | 0.163 | -20.7# | 119 | 0.00 | 8.96 |
| 74 | t | 4-Bromophenyl-phenylether | 0.273 | 0.265 | 2.9 | 106 | 0.00 | 9.42 |
| 75 | t | Hexachlorobenzene | 0.303 | 0.317 | -4.6 | 122 | 0.00 | 9.49 |
| 76 | t | Pentachlorophenol | 0.169 | 0.206 | -21.9# | 119 | 0.00 | 9.91 |
| 77 | t | Phenanthrene | 0.992 | 1.134 | -14.3 | 134 | 0.00 | 10.22 |
| 78 | t | Anthracene | 1.045 | 1.072 | -2.6 | 115 | 0.00 | 10.31 |
| 79 | t | Carbazole | 1.004 | 1.037 | -3.3 | 114 | 0.00 | 10.69 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.326 | -9.6 | 112 | 0.00 | 11.49 |
| 81 | t | Fluoranthene | 1.311 | 1.312 | -0.1 | 110 | 0.00 | 12.48 |
| 82 | t | Octadecane | 0.321 | 0.428 | -33.3# | 148 | 0.00 | 10.21 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 123 | 0.00 | 15.28 |
| 84 | t | Pyrene | 1.465 | 1.344 | 8.3 | 112 | 0.00 | 12.89 |
| 85 | S | Terphenyl-d14 | 1.079 | 1.000 | 7.3 | 111 | 0.00 | 13.32 |
| 86 | t | Butylbenzylphthalate | 0.602 | 0.623 | -3.5 | 114 | 0.00 | 14.39 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** EM6594-CC6556
**Account:** BBLNYS Arcadis **Lab FileID:** M154390.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.370 | 1.376 | -0.4 | 115 | 0.00 | 15.26 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.463 | 0.574 | -24.0# | 136 | 0.00 | 15.32 |
| 89 | t | Chrysene | 1.217 | 1.290 | -6.0 | 130 | 0.00 | 15.33 |
| | | | True | Calc. | % Drift | | | |
| 90 | t | bis(2-Ethylhexyl)phthalat | 50.000 | 51.786 | -3.6 | 123 | 0.00 | 15.62 |
| | | | AvgRF | CCRF | % Dev | | | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 114 | 0.00 | 17.88 |
| | | | True | Calc. | % Drift | | | |
| 92 | t | Di-n-octylphthalate | 50.000 | 52.059 | -4.1 | 117 | 0.00 | 16.83 |
| | | | AvgRF | CCRF | % Dev | | | |
| 93 | t | Benzo[b]fluoranthene | 1.260 | 1.364 | -8.3 | 117 | 0.00 | 17.25 |
| 94 | t | Benzo[k]fluoranthene | 1.200 | 1.160 | 3.3 | 115 | 0.00 | 17.30 |
| 95 | t | Benzo[a]pyrene | 1.106 | 1.130 | -2.2 | 107 | 0.00 | 17.78 |
| | | | True | Calc. | % Drift | | | |
| 96 | t | Indeno[1,2,3-cd]pyrene | 50.000 | 45.869 | 8.3 | 104 | 0.00 | 19.51 |
| | | | AvgRF | CCRF | % Dev | | | |
| 97 | t | Dibenz(a,h)acridine | 1.014 | 0.979 | 3.5 | 101 | 0.00 | 19.20 |
| 98 | t | Dibenz[a,h]anthracene | 1.020 | 1.063 | -4.2 | 109 | 0.00 | 19.55 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.483 | 0.607 | -25.7# | 128 | 0.00 | 17.26 |
| 100 | t | Benzo[g,h,i]perylene | 1.049 | 1.004 | 4.3 | 102 | 0.00 | 19.89 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m154390.d mm6556.m Thu May 16 13:27:15 2019

8.9.4

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6594-CC6557
**Lab FileID:** M154391.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jonkm\em6594\m154391.d Vial: 3
Acq On : 15 May 2019 9:18 am Operator: christc2
Sample : cc6557-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue May 14 11:13:06 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | I | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 123 | 0.00 | 4.37 |
| 102 | t | Benzaldehyde | 1.122 | 1.166 | -3.9 | 129 | -0.01 | 4.05 |
| 103 | I | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 125 | 0.00 | 7.62 |
| 104 | I | 1,2,4,5-Tetrachlorobenzen | 0.683 | 0.658 | 3.7 | 126 | -0.01 | 6.41 |
| 105 | t | Atrazine | 0.187 | 0.244 | -30.5# | 144 | 0.12 | 9.83 |
| 106 | I | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 112 | 0.01 | 15.27 |
| 108 | | Chrysene-d12b | 1.000 | 1.000 | 0.0 | 133 | 0.01 | 15.27 |
| 109 | s | 1-chlorooctadecane | 0.246 | 0.339 | -37.8# | 171 | -0.05 | 12.52 |
| 110 | I | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 139 | 0.00 | 10.17 |
| 111 | s | o-terphenyl | 0.594 | 0.638 | -7.4 | 146 | 0.03 | 10.98 |
| 112 | | Pentachloronitrobenzene | 0.047 | 0.057 | -21.3# | 147 | 0.00 | 9.89 |
| 113 | I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 125 | 0.00 | 5.42 |
| 114 | | Hydroquinone | 0.326 | 0.411 | -26.1# | 147 | 0.15 | 5.98 |
| 115 | | Chrysene-d12c | 1.000 | 1.000 | 0.0 | 133 | 0.01 | 15.27 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Thu May 16 12:49:35 2019

8.9.95

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6594-CC6558
**Lab FileID:** M154392.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jonkm\em6594\m154392.d Vial: 4
Acq On : 15 May 2019 9:47 am Operator: christc2
Sample : cc6558-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue May 14 11:13:06 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 106 | I | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 136 | 0.01 | 15.27 |
| 107 | t | Benzidine | 0.755 | 0.889 | -17.7 | 145 | 0.00 | 12.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Thu May 16 12:49:38 2019

8.9.66

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6595-CC6556
**Lab FileID:** M154416.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6595\m154416.D Vial: 2
Acq On : 16 May 2019 8:57 am Operator: christc2
Sample : cc6556-25 Inst : MSM
Misc : op17006,em6595,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Thu May 16 11:40:46 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 4.37 |
| 2 | t | 1,4-Dioxane | 0.791 | 0.621 | 21.5# | 79 | -0.10 | 1.82 |
| 3 | t | Pyridine | 1.906 | 1.505 | 21.0# | 76 | -0.15 | 2.18 |
| 4 | t | N-Nitrosodimethylamine | 0.678 | 0.501 | 26.1# | 72 | -0.06 | 2.14 |
| 5 | S | 2-Fluorophenol | 1.564 | 1.298 | 17.0 | 80 | 0.00 | 3.44 |
| 6 | t | Indene | 2.115 | 2.056 | 2.8 | 101 | 0.11 | 4.55 |
| 7 | t | Cumene | 3.737 | 3.084 | 17.5 | 82 | -0.04 | 3.76 |
| 8 | S | Phenol-d5 | 1.931 | 1.633 | 15.4 | 84 | 0.07 | 4.18 |
| 9 | t | Phenol | 2.030 | 1.768 | 12.9 | 86 | 0.07 | 4.19 |
| 10 | t | Aniline | 2.033 | 2.032 | 0.0 | 108 | 0.00 | 4.14 |
| 11 | t | bis(2-Chloroethyl)ether | 1.404 | 1.385 | 1.4 | 101 | 0.00 | 4.18 |
| 12 | t | 2-Chlorophenol | 1.394 | 1.313 | 5.8 | 94 | 0.02 | 4.24 |
| 13 | t | Decane | 1.065 | 1.140 | -7.0 | 110 | 0.00 | 4.25 |
| 14 | t | 1,3-Dichlorobenzene | 1.620 | 1.440 | 11.1 | 91 | 0.00 | 4.32 |
| 15 | t | 1,4-Dichlorobenzene | 1.471 | 1.382 | 6.1 | 95 | 0.00 | 4.38 |
| 16 | t | Benzyl alcohol | 0.822 | 0.823 | -0.1 | 101 | 0.03 | 4.49 |
| 17 | t | 1,2-Dichlorobenzene | 1.455 | 1.429 | 1.8 | 99 | 0.00 | 4.49 |
| 18 | t | Acetophenone | 1.840 | 1.745 | 5.2 | 98 | 0.00 | 4.67 |
| 19 | t | 2-Methylphenol | 1.174 | 1.208 | -2.9 | 103 | 0.06 | 4.61 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.363 | 0.333 | 8.3 | 95 | -0.01 | 4.57 |
| 21 | t | 3&4-Methylphenol | 1.180 | 1.292 | -9.5 | 110 | 0.06 | 4.73 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.918 | 0.972 | -5.9 | 109 | 0.00 | 4.68 |
| 23 | t | Hexachloroethane | 0.621 | 0.517 | 16.7 | 83 | 0.00 | 4.75 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 5.41 |
| 25 | S | Nitrobenzene-d5 | 0.427 | 0.387 | 9.4 | 89 | 0.00 | 4.79 |
| 26 | t | Nitrobenzene | 0.414 | 0.398 | 3.9 | 95 | 0.01 | 4.80 |
| 27 | t | Quinoline | 0.758 | 0.721 | 4.9 | 93 | 0.00 | 5.78 |
| 28 | t | Isophorone | 0.773 | 0.757 | 2.1 | 94 | 0.00 | 5.00 |
| 29 | t | 2-Nitrophenol | 0.192 | 0.223 | -16.1 | 103 | 0.00 | 5.07 |
| 30 | t | 2,4-Dimethylphenol | 0.317 | 0.345 | -8.8 | 98 | 0.00 | 5.15 |
| 31 | t | Benzoic acid | 0.252 | 0.324 | -28.6# | 123 | 0.06 | 5.28 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.469 | 0.458 | 2.3 | 99 | 0.00 | 5.19 |
| 33 | t | 2,4-Dichlorophenol | 0.333 | 0.324 | 2.7 | 93 | 0.04 | 5.32 |
| 34 | t | 2,6-Dichlorophenol | 0.302 | 0.315 | -4.3 | 101 | 0.02 | 5.52 |
| 35 | t | 1,3,5-Trichlorobenzene | 0.418 | 0.379 | 9.3 | 90 | 0.00 | 5.08 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.407 | 0.358 | 12.0 | 88 | 0.00 | 5.36 |
| 37 | t | 1,2,3-Trichlorobenzene | 0.378 | 0.337 | 10.8 | 90 | 0.00 | 5.58 |
| 38 | t | Naphthalene | 0.979 | 0.985 | -0.6 | 99 | 0.00 | 5.43 |
| 39 | t | 4-Chloroaniline | 0.434 | 0.435 | -0.2 | 99 | 0.02 | 5.51 |
| 40 | t | 2,3-Dichloroaniline | 0.424 | 0.408 | 3.8 | 93 | 0.02 | 6.55 |
| 41 | t | Caprolactam | 0.154 | 0.182 | -18.2 | 114 | 0.00 | 5.86 |

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** EM6595-CC6556
**Account:** BBLNYS Arcadis **Lab FileID:** M154416.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.242 | 0.191 | 21.1# | 78 | 0.00 | 5.56 |
| 43 | t | 4-Chloro-3-methylphenol | 0.344 | 0.315 | 8.4 | 86 | 0.09 | 6.09 |
| 44 | t | 2-Methylnaphthalene | 0.621 | 0.573 | 7.7 | 90 | 0.00 | 6.18 |
| 45 | t | 1-Methylnaphthalene | 0.790 | 0.743 | 5.9 | 93 | 0.00 | 6.30 |
| 46 | t | Dimethylnaphthalene | 0.687 | 0.632 | 8.0 | 90 | 0.00 | 7.00 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 95 | 0.00 | 7.61 |
| 48 | t | Hexachlorocyclopentadiene | 0.389 | 0.378 | 2.8 | 86 | -0.02 | 6.38 |
| 49 | t | 2,4,6-Trichlorophenol | 0.433 | 0.428 | 1.2 | 91 | 0.02 | 6.58 |
| 50 | t | 2,4,5-Trichlorophenol | 0.465 | 0.472 | -1.5 | 96 | -0.05 | 6.65 |
| 51 | S | 2-Fluorobiphenyl | 1.487 | 1.373 | 7.7 | 89 | -0.02 | 6.66 |
| 52 | t | 2-Chloronaphthalene | 1.231 | 1.188 | 3.5 | 94 | -0.01 | 6.80 |
| 53 | t | Biphenyl | 1.607 | 1.586 | 1.3 | 93 | 0.00 | 6.79 |
| 54 | t | 2-Nitroaniline | 0.332 | 0.375 | -13.0 | 100 | 0.02 | 6.98 |
| 55 | t | Dimethylphthalate | 1.503 | 1.339 | 10.9 | 85 | 0.00 | 7.26 |
| 56 | t | Acenaphthylene | 1.932 | 1.932 | 0.0 | 94 | 0.00 | 7.39 |
| 57 | t | 2,6-Dinitrotoluene | 0.282 | 0.321 | -13.8 | 95 | 0.01 | 7.34 |
| 58 | t | 3-Nitroaniline | 0.347 | 0.394 | -13.5 | 102 | 0.04 | 7.61 |
| 59 | t | Acenaphthene | 1.170 | 1.153 | 1.5 | 93 | 0.00 | 7.66 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 61.647 | -23.3# | 139 | 0.00 | 7.77 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.193 | 0.143 | 25.9# | 69 | 0.19 | 8.05 |
| 62 | t | Dibenzofuran | 1.749 | 1.722 | 1.5 | 94 | 0.01 | 7.94 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 63 | t | 2,4-Dinitrotoluene | 25.000 | 25.509 | -2.0 | 97 | 0.03 | 7.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 64 | t | 2,3,4,6-Tetrachlorophenol | 0.416 | 0.405 | 2.6 | 83 | 0.05 | 8.19 |
| 65 | t | Diethylphthalate | 1.453 | 1.316 | 9.4 | 84 | 0.03 | 8.41 |
| 66 | t | Fluorene | 1.452 | 1.390 | 4.3 | 91 | 0.00 | 8.51 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.754 | 0.658 | 12.7 | 83 | 0.03 | 8.54 |
| 68 | t | 4-Nitroaniline | 0.309 | 0.367 | -18.8 | 104 | 0.10 | 8.62 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 93 | 0.00 | 10.16 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 25.000 | 29.807 | -19.2 | 127 | 0.00 | 8.66 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 71 | t | n-Nitrosodiphenylamine | 0.532 | 0.502 | 5.6 | 88 | -0.02 | 8.77 |
| 72 | t | 1,2-Diphenylhydrazine | 0.729 | 0.733 | -0.5 | 93 | -0.03 | 8.81 |
| 73 | S | 2,4,6-Tribromophenol | 0.135 | 0.142 | -5.2 | 89 | -0.02 | 8.93 |
| 74 | t | 4-Bromophenyl-phenylether | 0.273 | 0.236 | 13.6 | 80 | -0.03 | 9.39 |
| 75 | t | Hexachlorobenzene | 0.303 | 0.273 | 9.9 | 85 | -0.02 | 9.47 |
| 76 | t | Pentachlorophenol | 0.169 | 0.166 | 1.8 | 82 | 0.03 | 9.88 |
| 77 | t | Phenanthrene | 0.992 | 1.028 | -3.6 | 99 | 0.00 | 10.19 |
| 78 | t | Anthracene | 1.045 | 1.064 | -1.8 | 94 | 0.00 | 10.29 |
| 79 | t | Carbazole | 1.004 | 1.015 | -1.1 | 91 | 0.10 | 10.66 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.236 | -2.1 | 87 | 0.11 | 11.47 |
| 81 | t | Fluoranthene | 1.311 | 1.171 | 10.7 | 80 | 0.04 | 12.45 |
| 82 | t | Octadecane | 0.321 | 0.416 | -29.6# | 118 | 0.01 | 10.19 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 100 | 0.00 | 15.26 |
| 84 | t | Pyrene | 1.465 | 1.226 | 16.3 | 83 | -0.05 | 12.86 |
| 85 | S | Terphenyl-d14 | 1.079 | 0.855 | 20.8# | 78 | -0.03 | 13.30 |
| 86 | t | Butylbenzylphthalate | 0.602 | 0.542 | 10.0 | 85 | 0.02 | 14.37 |

8.9.67

8

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** EM6595-CC6556
**Account:** BBLNYS Arcadis **Lab FileID:** M154416.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.370 | 1.163 | 15.1 | 82 | 0.00 | 15.24 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.463 | 0.440 | 5.0 | 90 | 0.00 | 15.30 |
| 89 | t | Chrysene | 1.217 | 1.050 | 13.7 | 88 | 0.00 | 15.30 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 90 | t | bis(2-Ethylhexyl)phthalat | 25.000 | 24.262 | 3.0 | 96 | 0.03 | 15.59 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 92 | 0.00 | 17.85 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 92 | t | Di-n-octylphthalate | 25.000 | 23.906 | 4.4 | 90 | -0.01 | 16.81 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 93 | t | Benzo[b]fluoranthene | 1.260 | 1.185 | 6.0 | 81 | -0.02 | 17.22 |
| 94 | t | Benzo[k]fluoranthene | 1.200 | 1.017 | 15.3 | 78 | -0.03 | 17.26 |
| 95 | t | Benzo[a]pyrene | 1.106 | 1.046 | 5.4 | 79 | 0.00 | 17.75 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 96 | t | Indeno[1,2,3-cd]pyrene | 25.000 | 21.523 | 13.9 | 78 | 0.00 | 19.48 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 97 | t | Dibenz(a,h)acridine | 1.014 | 0.924 | 8.9 | 75 | 0.03 | 19.18 |
| 98 | t | Dibenz[a,h]anthracene | 1.020 | 0.987 | 3.2 | 81 | 0.00 | 19.52 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.483 | 0.543 | -12.4 | 92 | -0.03 | 17.23 |
| 100 | t | Benzo[g,h,i]perylene | 1.049 | 0.969 | 7.6 | 78 | -0.03 | 19.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153435A.D MM6556.M Thu May 16 12:46:49 2019

8.9.67

8

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6595-CC6557
**Lab FileID:** M154417.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6595\m154417.D Vial: 3
Acq On : 16 May 2019 9:25 am Operator: christc2
Sample : cc6557-25 Inst : MSM
Misc : op17006,em6595,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Thu May 16 11:40:46 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | I | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 147 | 0.00 | 4.36 |
| 102 | t | Benzaldehyde | 1.122 | 1.126 | -0.4 | 139 | -0.01 | 4.04 |
| 103 | I | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 147 | 0.00 | 7.61 |
| 104 | I | 1,2,4,5-Tetrachlorobenzen | 0.683 | 0.661 | 3.2 | 135 | -0.01 | 6.39 |
| 105 | t | Atrazine | 0.187 | 0.219 | -17.1 | 150 | -0.02 | 9.81 |
| 108 | | Chrysene-d12b | 1.000 | 1.000 | 0.0 | 146 | 0.00 | 15.25 |
| 109 | s | 1-chlorooctadecane | 0.246 | 0.368 | -49.6# | 192 | -0.06 | 12.50 |
| 110 | I | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 148 | 0.00 | 10.15 |
| 111 | s | o-terphenyl | 0.594 | 0.635 | -6.9 | 142 | 0.02 | 10.97 |
| 112 | | Pentachloronitrobenzene | 0.047 | 0.057 | -21.3# | 165 | 0.00 | 9.88 |
| 113 | I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 144 | 0.00 | 5.41 |
| 114 | | Hydroquinone | 0.326 | 0.435 | -33.4# | 192 | 0.10 | 5.96 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153435A.D MM6556.M Thu May 16 12:46:51 2019

8.9.68

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6596-CC6556
**Lab FileID:** M154448.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6596\m154448.D Vial: 2
Acq On : 17 May 2019 12:23 pm Operator: christc2
Sample : cc6556-50 Inst : MSM
Misc : op17006,em6596,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Fri May 17 16:02:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 94 | 0.00 | 4.36 |
| 2 | t | 1,4-Dioxane | 0.791 | 0.649 | 18.0 | 73 | -0.10 | 1.82 |
| 3 | t | Pyridine | 1.906 | 1.646 | 13.6 | 78 | -0.16 | 2.17 |
| 4 | t | N-Nitrosodimethylamine | 0.678 | 0.511 | 24.6# | 66 | -0.07 | 2.13 |
| 5 | S | 2-Fluorophenol | 1.564 | 1.386 | 11.4 | 77 | -0.02 | 3.43 |
| 6 | t | Indene | 2.115 | 2.236 | -5.7 | 103 | 0.10 | 4.54 |
| 7 | t | Cumene | 3.737 | 3.257 | 12.8 | 83 | -0.04 | 3.76 |
| 8 | S | Phenol-d5 | 1.931 | 1.915 | 0.8 | 88 | 0.05 | 4.17 |
| 9 | t | Phenol | 2.030 | 1.895 | 6.7 | 88 | 0.05 | 4.18 |
| 10 | t | Aniline | 2.033 | 2.306 | -13.4 | 124 | 0.00 | 4.13 |
| 11 | t | bis(2-Chloroethyl)ether | 1.404 | 1.497 | -6.6 | 103 | 0.00 | 4.17 |
| 12 | t | 2-Chlorophenol | 1.394 | 1.389 | 0.4 | 92 | 0.00 | 4.23 |
| 13 | t | Decane | 1.065 | 1.145 | -7.5 | 109 | -0.01 | 4.25 |
| 14 | t | 1,3-Dichlorobenzene | 1.620 | 1.518 | 6.3 | 90 | -0.01 | 4.32 |
| 15 | t | 1,4-Dichlorobenzene | 1.471 | 1.453 | 1.2 | 94 | 0.00 | 4.37 |
| 16 | t | Benzyl alcohol | 0.822 | 0.909 | -10.6 | 96 | 0.02 | 4.49 |
| 17 | t | 1,2-Dichlorobenzene | 1.455 | 1.589 | -9.2 | 103 | 0.00 | 4.48 |
| 18 | t | Acetophenone | 1.840 | 1.916 | -4.1 | 103 | 0.00 | 4.66 |
| 19 | t | 2-Methylphenol | 1.174 | 1.326 | -12.9 | 108 | 0.05 | 4.60 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.363 | 0.344 | 5.2 | 91 | -0.01 | 4.57 |
| 21 | t | 3&4-Methylphenol | 1.180 | 1.376 | -16.6 | 110 | 0.05 | 4.72 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.918 | 0.984 | -7.2 | 108 | 0.00 | 4.67 |
| 23 | t | Hexachloroethane | 0.621 | 0.479 | 22.9# | 72 | -0.02 | 4.74 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 90 | -0.02 | 5.40 |
| 25 | S | Nitrobenzene-d5 | 0.427 | 0.393 | 8.0 | 83 | 0.00 | 4.79 |
| 26 | t | Nitrobenzene | 0.414 | 0.395 | 4.6 | 88 | 0.00 | 4.80 |
| 27 | t | Quinoline | 0.758 | 0.773 | -2.0 | 90 | -0.02 | 5.77 |
| 28 | t | Isophorone | 0.773 | 0.787 | -1.8 | 92 | 0.00 | 4.99 |
| 29 | t | 2-Nitrophenol | 0.192 | 0.243 | -26.6# | 102 | 0.00 | 5.06 |
| 30 | t | 2,4-Dimethylphenol | 0.317 | 0.354 | -11.7 | 92 | -0.02 | 5.14 |
| 31 | t | Benzoic acid | 0.252 | 0.328 | -30.2# | 100 | 0.06 | 5.29 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.469 | 0.474 | -1.1 | 94 | 0.00 | 5.19 |
| 33 | t | 2,4-Dichlorophenol | 0.333 | 0.320 | 3.9 | 85 | 0.02 | 5.31 |
| 34 | t | 2,6-Dichlorophenol | 0.302 | 0.315 | -4.3 | 94 | 0.00 | 5.51 |
| 35 | t | 1,3,5-Trichlorobenzene | 0.418 | 0.388 | 7.2 | 90 | -0.02 | 5.07 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.407 | 0.338 | 17.0 | 78 | -0.01 | 5.36 |
| 37 | t | 1,2,3-Trichlorobenzene | 0.378 | 0.330 | 12.7 | 85 | -0.02 | 5.57 |
| 38 | t | Naphthalene | 0.979 | 1.063 | -8.6 | 101 | -0.01 | 5.43 |
| 39 | t | 4-Chloroaniline | 0.434 | 0.487 | -12.2 | 101 | 0.00 | 5.50 |
| 40 | t | 2,3-Dichloroaniline | 0.424 | 0.413 | 2.6 | 89 | 0.00 | 6.54 |
| 41 | t | Caprolactam | 0.154 | 0.179 | -16.2 | 98 | 0.00 | 5.87 |

8.9.69

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** EM6596-CC6556
**Account:** BBLNYS Arcadis **Lab FileID:** M154448.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.242 | 0.178 | 26.4# | 69 | -0.02 | 5.55 |
| 43 | t | 4-Chloro-3-methylphenol | 0.344 | 0.334 | 2.9 | 81 | 0.06 | 6.08 |
| 44 | t | 2-Methylnaphthalene | 0.621 | 0.601 | 3.2 | 88 | -0.02 | 6.17 |
| 45 | t | 1-Methylnaphthalene | 0.790 | 0.788 | 0.3 | 93 | -0.02 | 6.29 |
| 46 | t | Dimethylnaphthalene | 0.687 | 0.654 | 4.8 | 88 | 0.00 | 7.00 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 84 | -0.02 | 7.60 |
| 48 | t | Hexachlorocyclopentadiene | 0.389 | 0.356 | 8.5 | 72 | -0.03 | 6.38 |
| 49 | t | 2,4,6-Trichlorophenol | 0.433 | 0.401 | 7.4 | 79 | 0.00 | 6.56 |
| 50 | t | 2,4,5-Trichlorophenol | 0.465 | 0.453 | 2.6 | 82 | -0.06 | 6.63 |
| 51 | S | 2-Fluorobiphenyl | 1.487 | 1.409 | 5.2 | 86 | -0.02 | 6.65 |
| 52 | t | 2-Chloronaphthalene | 1.231 | 1.181 | 4.1 | 90 | -0.02 | 6.79 |
| 53 | t | Biphenyl | 1.607 | 1.688 | -5.0 | 94 | -0.02 | 6.78 |
| 54 | t | 2-Nitroaniline | 0.332 | 0.389 | -17.2 | 87 | 0.00 | 6.98 |
| 55 | t | Dimethylphthalate | 1.503 | 1.378 | 8.3 | 79 | 0.00 | 7.25 |
| 56 | t | Acenaphthylene | 1.932 | 2.034 | -5.3 | 93 | -0.02 | 7.38 |
| 57 | t | 2,6-Dinitrotoluene | 0.282 | 0.329 | -16.7 | 84 | 0.00 | 7.33 |
| 58 | t | 3-Nitroaniline | 0.347 | 0.418 | -20.5# | 93 | 0.03 | 7.59 |
| 59 | t | Acenaphthene | 1.170 | 1.243 | -6.2 | 92 | -0.02 | 7.65 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 118.117 | -18.1 | 98 | -0.01 | 7.76 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.193 | 0.147 | 23.8# | 59 | 0.17 | 8.03 |
| 62 | t | Dibenzofuran | 1.749 | 1.764 | -0.9 | 91 | 0.00 | 7.93 |
| | | | True | Calc. | % Drift | | | |
| 63 | t | 2,4-Dinitrotoluene | 50.000 | 52.216 | -4.4 | 87 | 0.02 | 7.96 |
| | | | AvgRF | CCRF | % Dev | | | |
| 64 | t | 2,3,4,6-Tetrachlorophenol | 0.416 | 0.389 | 6.5 | 71 | 0.03 | 8.18 |
| 65 | t | Diethylphthalate | 1.453 | 1.416 | 2.5 | 81 | 0.02 | 8.40 |
| 66 | t | Fluorene | 1.452 | 1.460 | -0.6 | 88 | -0.02 | 8.49 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.754 | 0.647 | 14.2 | 78 | 0.01 | 8.53 |
| 68 | t | 4-Nitroaniline | 0.309 | 0.388 | -25.6# | 98 | 0.09 | 8.61 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 82 | -0.02 | 10.14 |
| | | | True | Calc. | % Drift | | | |
| 70 | t | 4,6-Dinitro-2-methylpheno | 50.000 | 54.354 | -8.7 | 88 | -0.01 | 8.65 |
| | | | AvgRF | CCRF | % Dev | | | |
| 71 | t | n-Nitrosodiphenylamine | 0.532 | 0.522 | 1.9 | 84 | -0.03 | 8.75 |
| 72 | t | 1,2-Diphenylhydrazine | 0.729 | 0.774 | -6.2 | 92 | -0.04 | 8.80 |
| 73 | S | 2,4,6-Tribromophenol | 0.135 | 0.154 | -14.1 | 86 | -0.03 | 8.92 |
| 74 | t | 4-Bromophenyl-phenylether | 0.273 | 0.227 | 16.8 | 69 | -0.03 | 9.38 |
| 75 | t | Hexachlorobenzene | 0.303 | 0.268 | 11.6 | 78 | -0.03 | 9.46 |
| 76 | t | Pentachlorophenol | 0.169 | 0.175 | -3.6 | 77 | 0.02 | 9.87 |
| 77 | t | Phenanthrene | 0.992 | 1.084 | -9.3 | 97 | -0.01 | 10.18 |
| 78 | t | Anthracene | 1.045 | 1.064 | -1.8 | 87 | 0.00 | 10.28 |
| 79 | t | Carbazole | 1.004 | 1.057 | -5.3 | 88 | 0.09 | 10.65 |
| 80 | t | Di-n-butylphthalate | 1.210 | 1.346 | -11.2 | 87 | 0.09 | 11.45 |
| 81 | t | Fluoranthene | 1.311 | 1.203 | 8.2 | 77 | 0.03 | 12.43 |
| 82 | t | Octadecane | 0.321 | 0.435 | -35.5# | 114 | 0.00 | 10.18 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 93 | -0.02 | 15.24 |
| 84 | t | Pyrene | 1.465 | 1.213 | 17.2 | 77 | -0.06 | 12.85 |
| 85 | S | Terphenyl-d14 | 1.079 | 0.878 | 18.6 | 74 | -0.04 | 13.29 |
| 86 | t | Butylbenzylphthalate | 0.602 | 0.609 | -1.2 | 85 | 0.00 | 14.36 |

8.9.69

8

# Continuing Calibration Summary

**Job Number:** JC87535 **Sample:** EM6596-CC6556
**Account:** BBLNYS Arcadis **Lab FileID:** M154448.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.370 | 1.181 | 13.8 | 75 | -0.03 | 15.22 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.463 | 0.468 | -1.1 | 84 | -0.03 | 15.28 |
| 89 | t | Chrysene | 1.217 | 1.082 | 11.1 | 83 | -0.02 | 15.29 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 90 | t | bis(2-Ethylhexyl)phthalat | 50.000 | 50.678 | -1.4 | 91 | 0.00 | 15.57 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 83 | -0.02 | 17.83 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 92 | t | Di-n-octylphthalate | 50.000 | 52.685 | -5.4 | 86 | -0.03 | 16.79 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 93 | t | Benzo[b]fluoranthene | 1.260 | 1.246 | 1.1 | 78 | -0.03 | 17.20 |
| 94 | t | Benzo[k]fluoranthene | 1.200 | 1.032 | 14.0 | 74 | -0.03 | 17.26 |
| 95 | t | Benzo[a]pyrene | 1.106 | 1.076 | 2.7 | 74 | -0.02 | 17.73 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 96 | t | Indeno[1,2,3-cd]pyrene | 50.000 | 45.571 | 8.9 | 75 | 0.00 | 19.46 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 97 | t | Dibenz(a,h)acridine | 1.014 | 0.963 | 5.0 | 72 | 0.02 | 19.16 |
| 98 | t | Dibenz[a,h]anthracene | 1.020 | 1.017 | 0.3 | 76 | -0.01 | 19.51 |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 0.483 | 0.554 | -14.7 | 84 | -0.04 | 17.21 |
| 100 | t | Benzo[g,h,i]perylene | 1.049 | 0.978 | 6.8 | 72 | -0.04 | 19.84 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Fri May 17 16:05:51 2019

8.9.69

8

# Continuing Calibration Summary



**Job Number:** JC87535 **Sample:** EM6596-CC6557
**Account:** BBLNYS Arcadis **Lab FileID:** M154449.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6596\m154449.D Vial: 3
Acq On : 17 May 2019 1:01 pm Operator: christc2
Sample : cc6557-50 Inst : MSM
Misc : op17006,em6596,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Fri May 17 16:02:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | I | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 135 | 0.00 | 4.36 |
| 102 | t | Benzaldehyde | 1.122 | 1.147 | -2.2 | 139 | -0.03 | 4.03 |
| 103 | I | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 131 | -0.02 | 7.59 |
| 104 | I | 1,2,4,5-Tetrachlorobenzen | 0.683 | 0.578 | 15.4 | 115 | -0.03 | 6.38 |
| 105 | t | Atrazine | 0.187 | 0.199 | -6.4 | 122 | -0.03 | 9.80 |
| 108 | | Chrysene-d12b | 1.000 | 1.000 | 0.0 | 124 | -0.03 | 15.23 |
| 109 | s | 1-chlorooctadecane | 0.246 | 0.383 | -55.7# | 179 | 0.00 | 12.48 |
| 110 | I | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 131 | -0.02 | 10.14 |
| 111 | s | o-terphenyl | 0.594 | 0.603 | -1.5 | 130 | 0.00 | 10.95 |
| 112 | | Pentachloronitrobenzene | 0.047 | 0.053 | -12.8 | 128 | -0.02 | 9.86 |
| 113 | I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 137 | -0.02 | 5.40 |
| 114 | | Hydroquinone | 0.326 | 0.399 | -22.4# | 156 | 0.08 | 5.94 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Fri May 17 16:05:54 2019

8.9.70

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EM6596-CC6558
**Lab FileID:** M154450.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM6596\m154450.D Vial: 4
Acq On : 17 May 2019 1:30 pm Operator: christc2
Sample : cc6558-50 Inst : MSM
Misc : op17006,em6596,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM6556.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Fri May 17 22:26:03 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 106 | I | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 92 | -0.03 | 15.23 |
| 107 | t | Benzidine | 0.755 | 1.009 | -33.6# | 112 | -0.09 | 12.81 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
m153434A.D MM6556.M Mon May 20 10:51:53 2019

8.9.71

8

## MS Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/17/19 15:08

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154434.d
Acq On : 16 May 2019 6:57 pm
Operator : christc2
Sample : jc87535-1 Inst : MSM
Misc : op20268,em6595,32.4,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:27:32 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

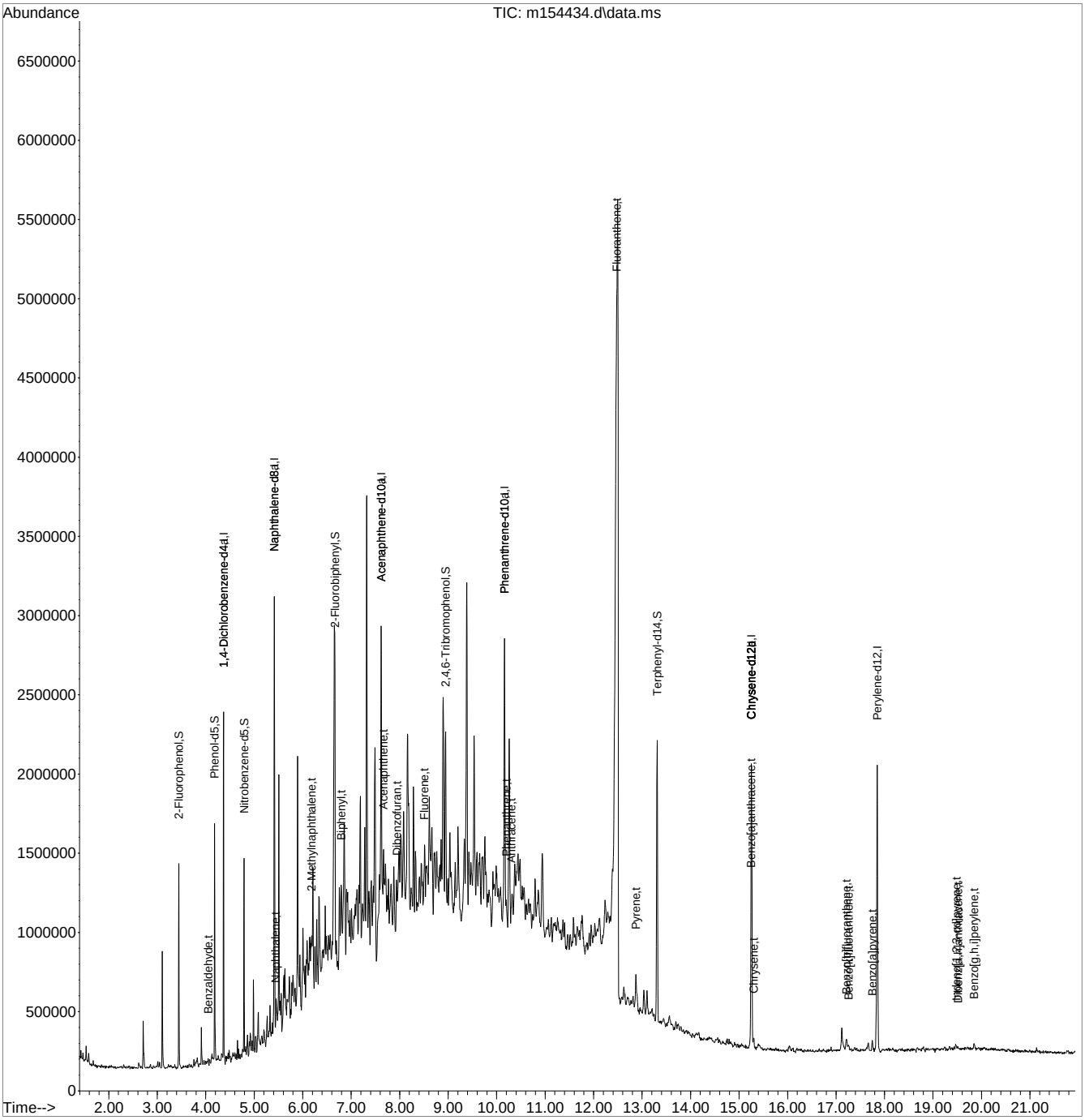
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.369 | 152 | 288694 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.416 | 136 | 936076 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.616 | 164 | 478415 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.164 | 188 | 892956 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.254 | 240 | 973820 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.850 | 264 | 1034590 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.369 | 152 | 288694 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.616 | 164 | 478415 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.254 | 240 | 973820 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.254 | 240 | 973820 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.164 | 188 | 892956 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.416 | 136 | 936076 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.254 | 240 | 973820 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.445 | 112 | 318964 | 28.26 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 56.52% | | |
| 8) Phenol-d5 | 4.182 | 99 | 422859 | 30.34 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 60.68% | | |
| 25) Nitrobenzene-d5 | 4.791 | 82 | 340690 | 34.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 68.24% | | |
| 51) 2-Fluorobiphenyl | 6.665 | 172 | 666648 | 37.48 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 74.96% | | |
| 73) 2,4,6-Tribromophenol | 8.946 | 330 | 141885 | 47.23 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 94.46% | | |
| 85) Terphenyl-d14 | 13.310 | 244 | 923346 | 35.16 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 70.32% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.437 | 128 | 23954m | 1.05 | ppm | |
| 44) 2-Methylnaphthalene | 6.185 | 141 | 9313 | 0.64 | ppm | 91 |
| 53) Biphenyl | 6.794 | 154 | 4709 | 0.25 | ppm | 84 |
| 59) Acenaphthene | 7.664 | 153 | 39209 | 2.80 | ppm | 93 |
| 62) Dibenzofuran | 7.947 | 168 | 12467 | 0.60 | ppm | 78 |
| 66) Fluorene | 8.508 | 166 | 13047 | 0.75 | ppm | 94 |
| 77) Phenanthrene | 10.201 | 178 | 52171 | 2.36 | ppm | 90 |
| 78) Anthracene | 10.297 | 178 | 40231 | 1.73 | ppm | 80 |
| 81) Fluoranthene | 12.471 | 202 | 100716 | 3.44 | ppm | 97 |
| 84) Pyrene | 12.872 | 202 | 98789 | 2.77 | ppm | 95 |
| 87) Benzo[a]anthracene | 15.243 | 228 | 44965 | 1.35 | ppm | 99 |
| 89) Chrysene | 15.302 | 228 | 48560 | 1.64 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 17.214 | 252 | 55043 | 1.69 | ppm | 94 |
| 94) Benzo[k]fluoranthene | 17.257 | 252 | 19454 | 0.63 | ppm | 94 |
| 95) Benzo[a]pyrene | 17.748 | 252 | 36410 | 1.27 | ppm | 89 |
| 96) Indeno[1,2,3-cd]pyrene | 19.479 | 276 | 22377 | 1.31 | ppm | 88 |
| 98) Dibenz[a,h]anthracene | 19.516 | 278 | 7242 | 0.27 | ppm | 62 |
| 100) Benzo[g,h,i]perylene | 19.847 | 276 | 25268 | 0.93 | ppm | 81 |
| 102) Benzaldehyde | 4.048 | 105 | 4615 | 0.57 | ppm # | 53 |

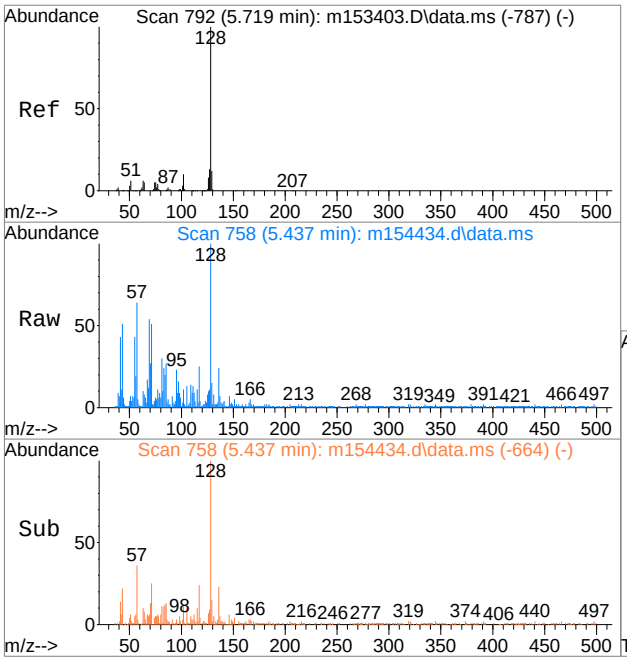
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154434.d
Acq On : 16 May 2019 6:57 pm
Operator : christc2
Sample : jc87535-1 Inst : MSM
Misc : op20268,em6595,32.4,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:27:32 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

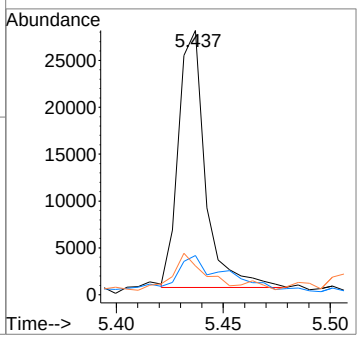


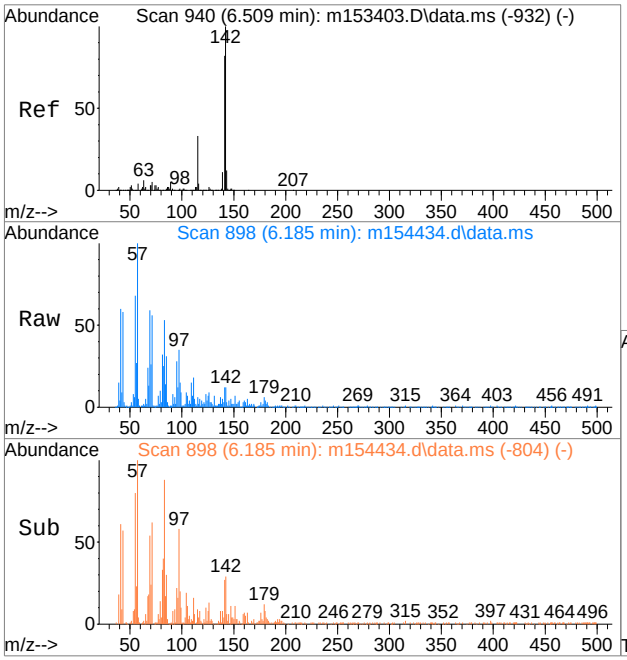



#38
Naphthalene
Concen: 1.05 ppm m
RT: 5.437 min Scan# 758
Delta R.T. 0.003 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:128 Resp: 23954

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 14.8 | 0.0 | 40.7 |
| 127 | 11.0 | 0.0 | 42.8 |

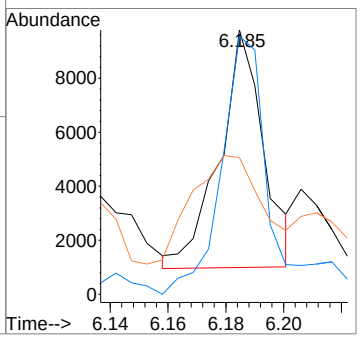


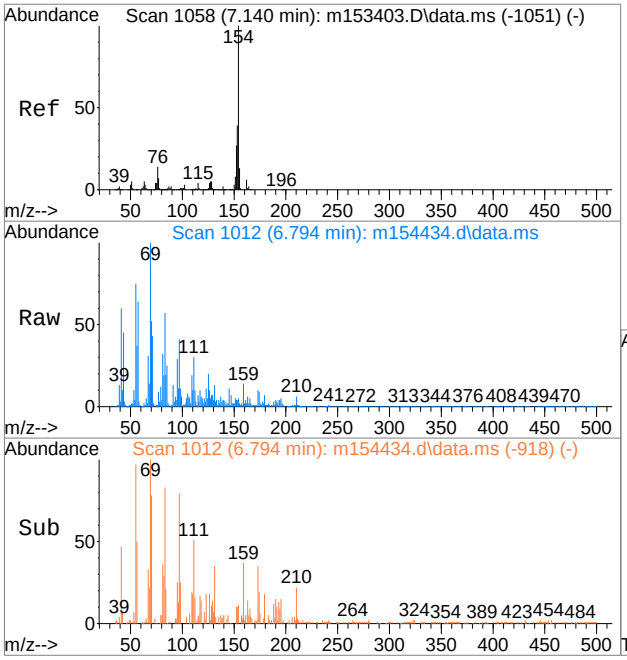




#44
2-Methylnaphthalene
Concen: 0.64 ppm
RT: 6.185 min Scan# 898
Delta R.T. 0.003 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:141 Resp: 9313

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 118.8 | 96.2 | 156.2 |
| 115 | 42.7 | 1.8 | 61.8 |

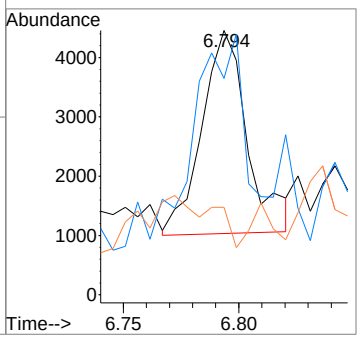


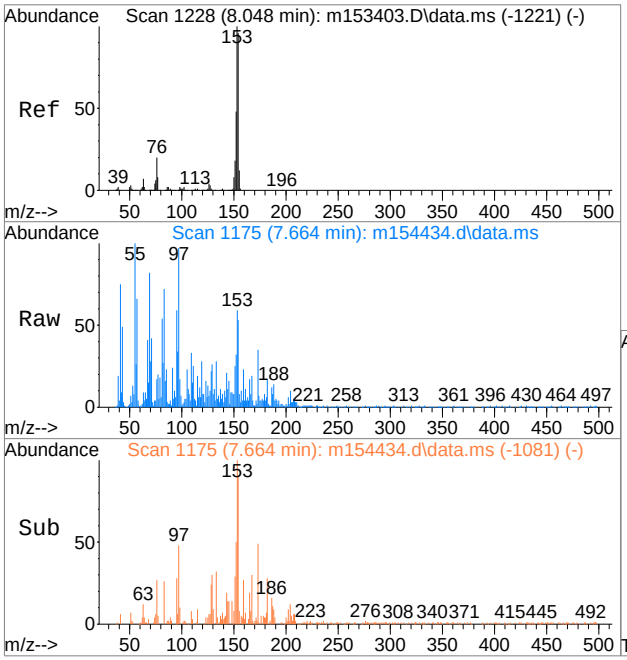



#53
Biphenyl
Concen: 0.25 ppm
RT: 6.794 min Scan# 1012
Delta R.T. 0.003 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:154 Resp: 4709

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 48.2 | 8.5 | 68.5 |
| 155 | 7.4 | 0.0 | 43.2 |

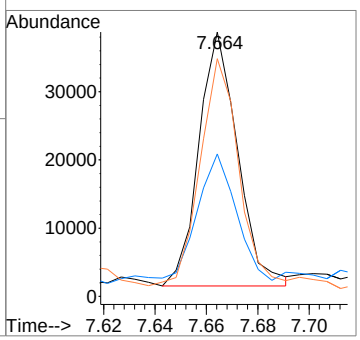


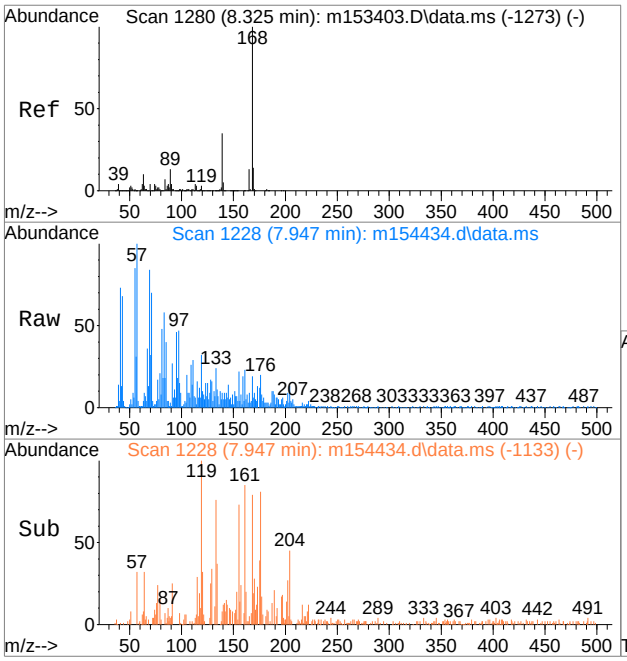




#59
Acenaphthene
Concen: 2.80 ppm
RT: 7.664 min Scan# 1175
Delta R.T. 0.003 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:153 Resp: 39209

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 48.6 | 17.3 | 77.3 |
| 154 | 89.3 | 68.8 | 128.8 |

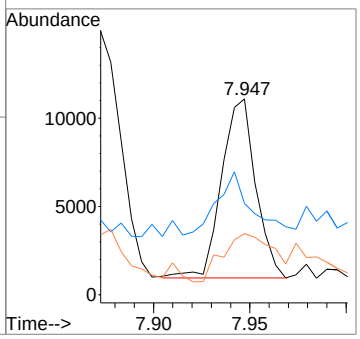


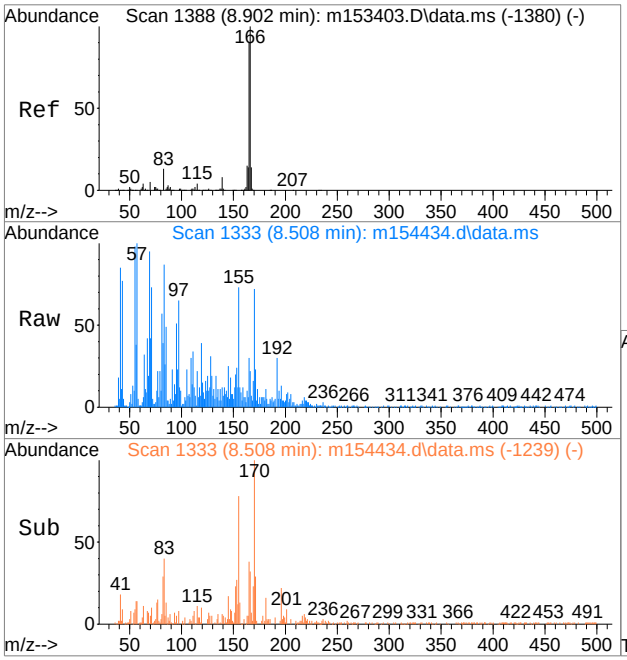



#62
Dibenzofuran
Concen: 0.60 ppm
RT: 7.947 min Scan# 1228
Delta R.T. 0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:168 Resp: 12467

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 15.8 | 0.0 | 59.2 |
| 169 | 20.8 | 0.0 | 43.8 |

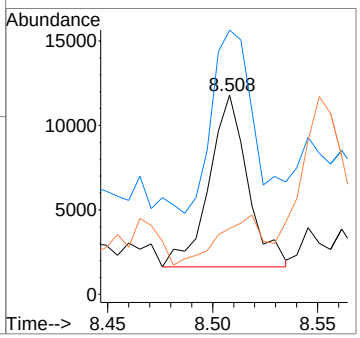


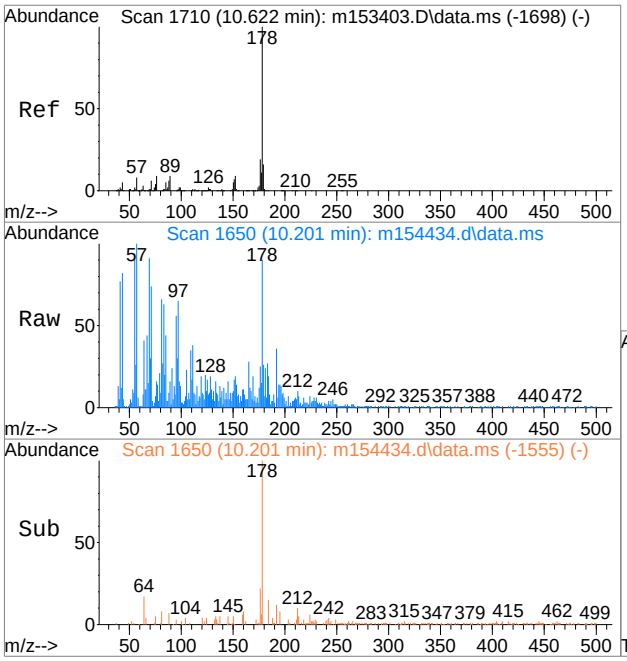




#66
Fluorene
Concen: 0.75 ppm
RT: 8.508 min Scan# 1333
Delta R.T. 0.003 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:166 Resp: 13047

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 94.8 | 61.8 | 121.8 |
| 167 | 1.9 | 0.0 | 42.9 |

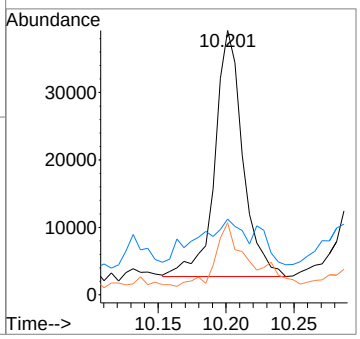


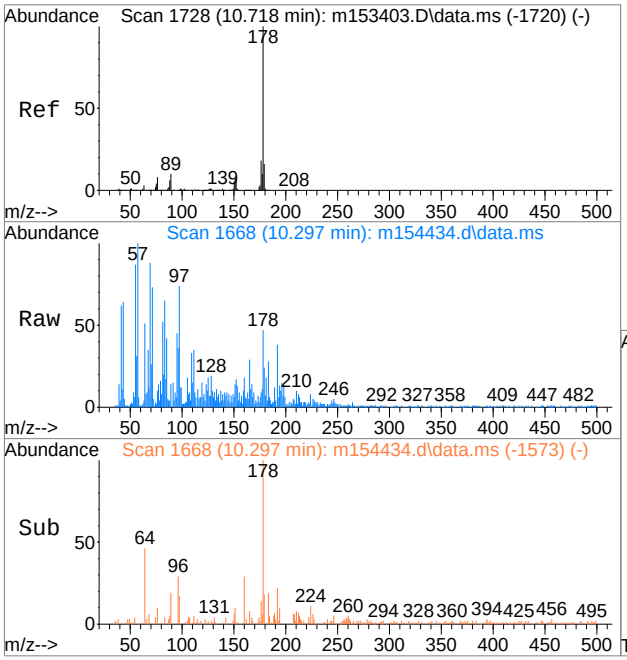



#77
Phenanthrene
Concen: 2.36 ppm
RT: 10.201 min Scan# 1650
Delta R.T. 0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:178 Resp: 52171

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 18.1 | 0.0 | 45.4 |
| 176 | 23.9 | 0.0 | 47.8 |

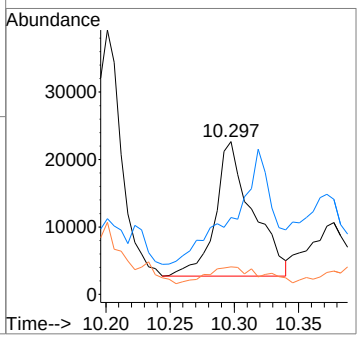


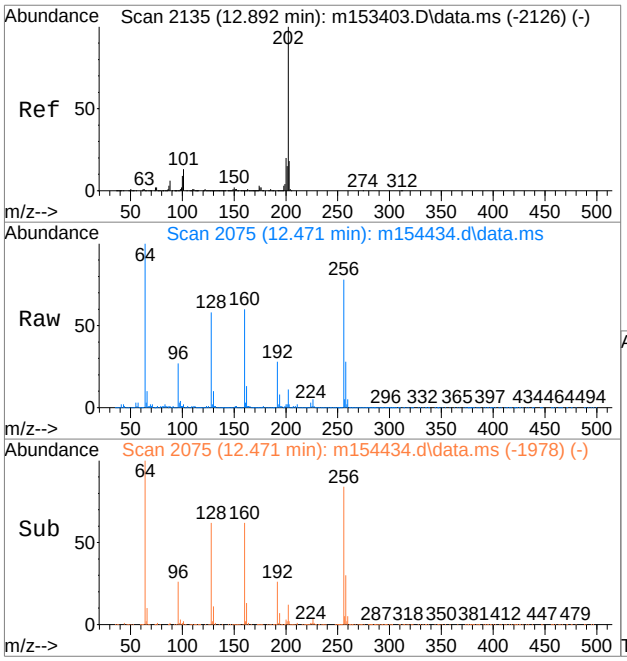




#78
Anthracene
Concen: 1.73 ppm
RT: 10.297 min Scan# 1668
Delta R.T. 0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:178 Resp: 40231

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 23.4 | 0.0 | 45.0 |
| 176 | 8.6 | 0.0 | 47.6 |

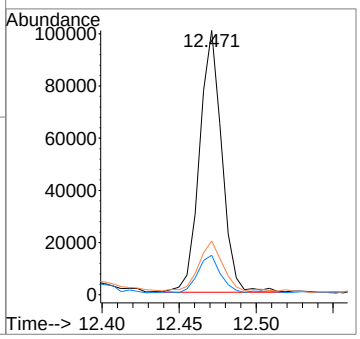


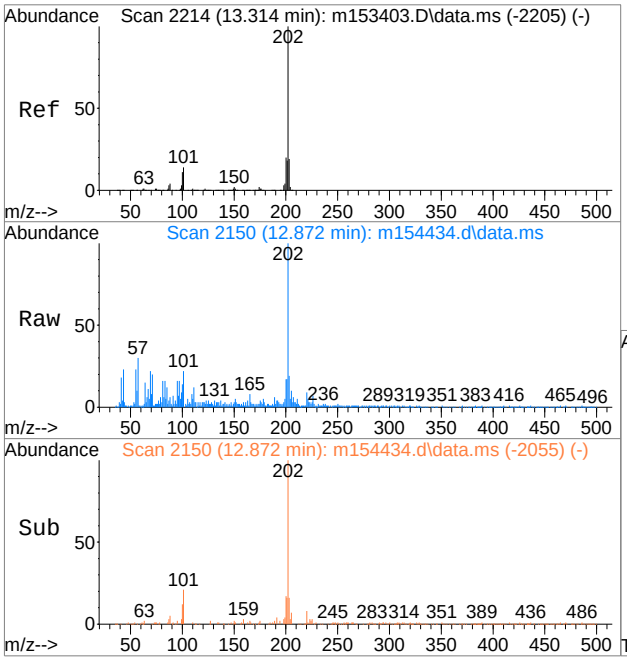



#81
Fluoranthene
Concen: 3.44 ppm
RT: 12.471 min Scan# 2075
Delta R.T. 0.019 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:202 Resp: 100716

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.3 | 0.0 | 44.9 |
| 203 | 18.8 | 0.0 | 47.3 |

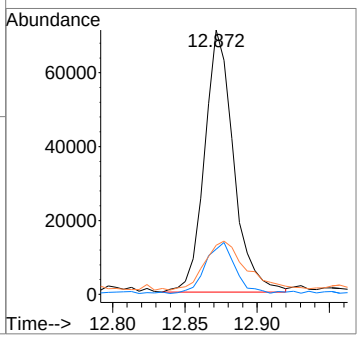


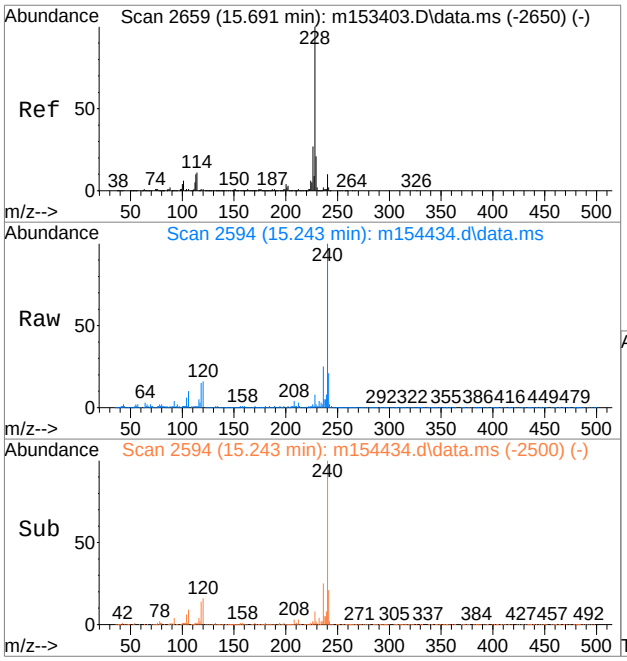




#84
Pyrene
Concen: 2.77 ppm
RT: 12.872 min Scan# 2150
Delta R.T. 0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:202 Resp: 98789

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 16.5 | 0.0 | 49.9 |
| 203 | 16.2 | 0.0 | 47.3 |

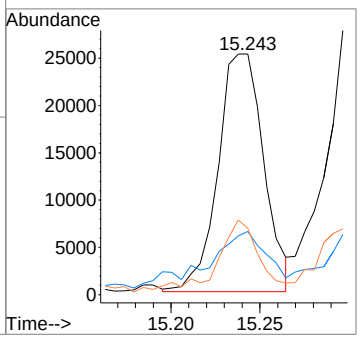


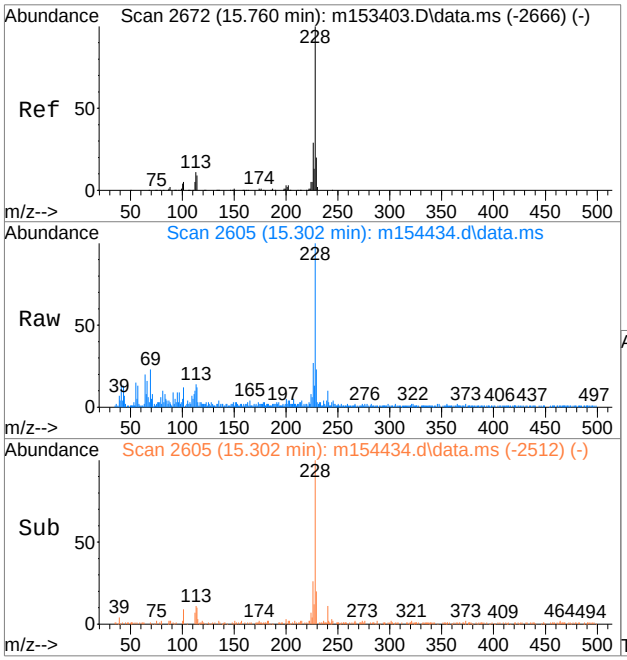



#87
Benzo[a]anthracene
Concen: 1.35 ppm
RT: 15.243 min Scan# 2594
Delta R.T. 0.003 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:228 Resp: 44965

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.9 | 0.0 | 49.8 |
| 226 | 25.6 | 0.0 | 54.8 |

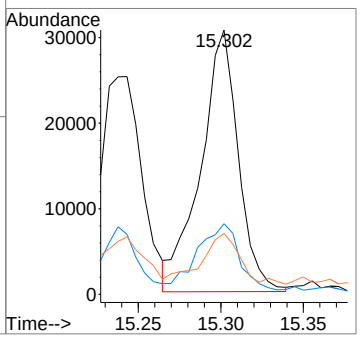


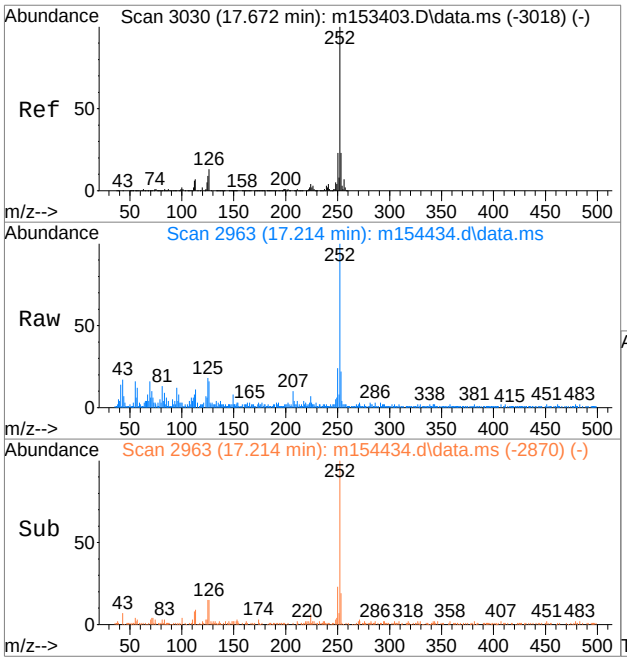




#89
Chrysene
Concen: 1.64 ppm
RT: 15.302 min Scan# 2605
Delta R.T. -0.002 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:228 Resp: 48560

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 25.8 | 0.0 | 57.7 |
| 229 | 19.7 | 0.0 | 49.8 |

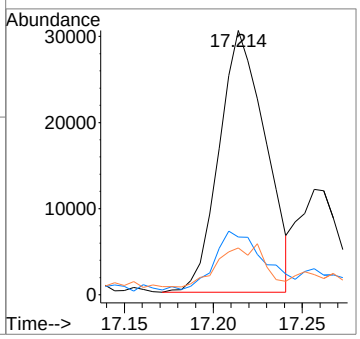


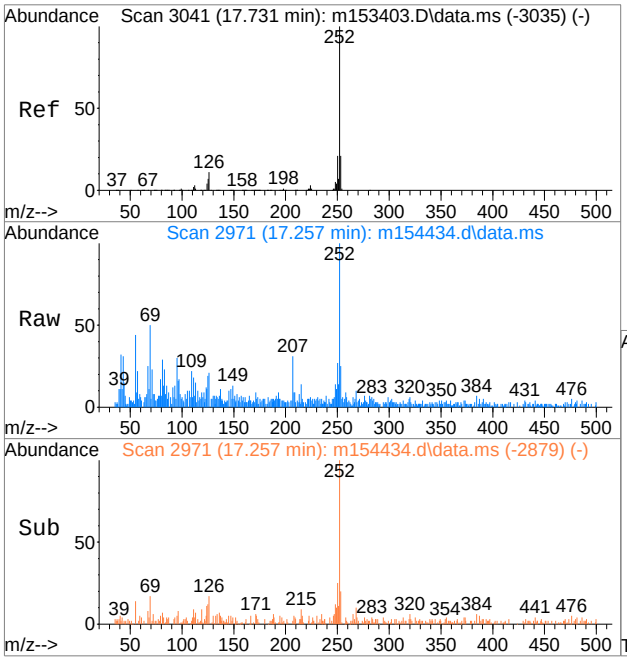



#93
Benzo[b]fluoranthene
Concen: 1.69 ppm
RT: 17.214 min Scan# 2963
Delta R.T. -0.002 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:252 Resp: 55043

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 19.2 | 0.0 | 52.5 |
| 125 | 15.4 | 0.0 | 43.9 |

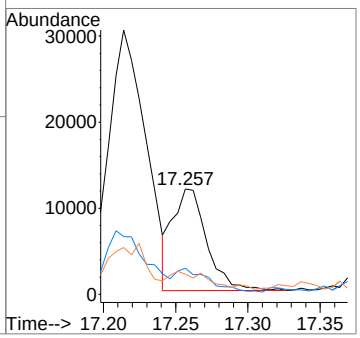


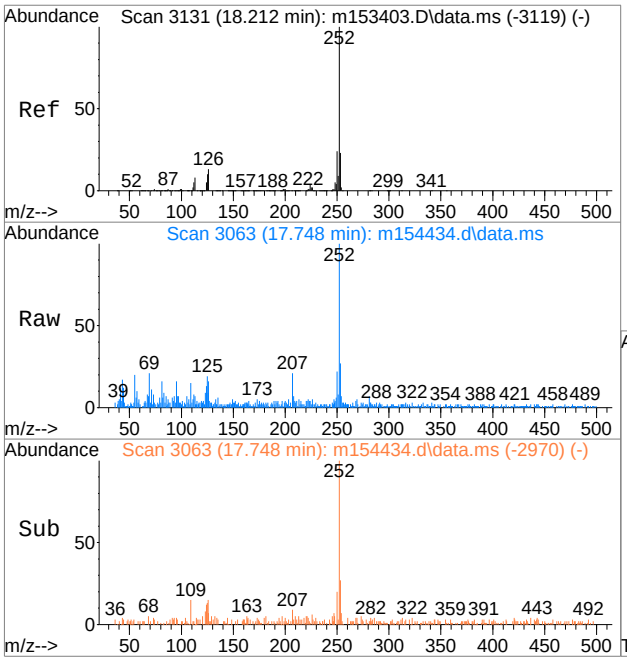




#94
Benzo[k]fluoranthene
Concen: 0.63 ppm
RT: 17.257 min Scan# 2971
Delta R.T. -0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:252 Resp: 19454

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 17.8 | 0.0 | 52.0 |
| 125 | 12.5 | 0.0 | 42.2 |

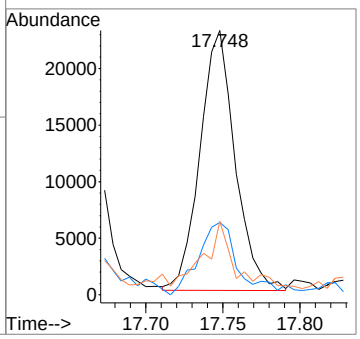


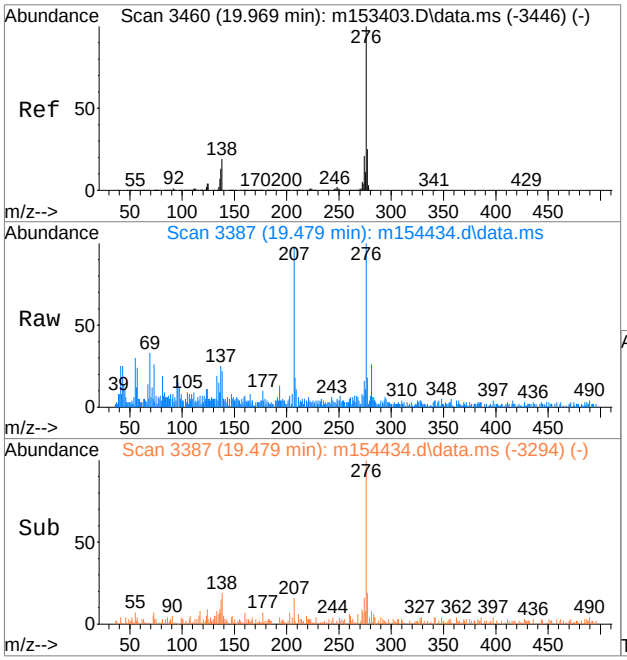



#95
Benzo[a]pyrene
Concen: 1.27 ppm
RT: 17.748 min Scan# 3063
Delta R.T. -0.002 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:252 Resp: 36410

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 25.1 | 0.0 | 52.6 |
| 125 | 22.7 | 0.0 | 44.0 |

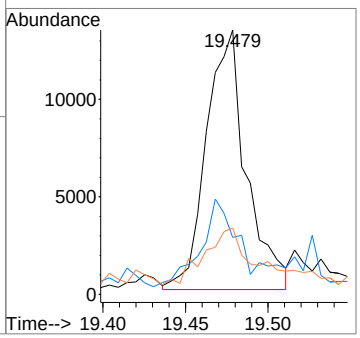


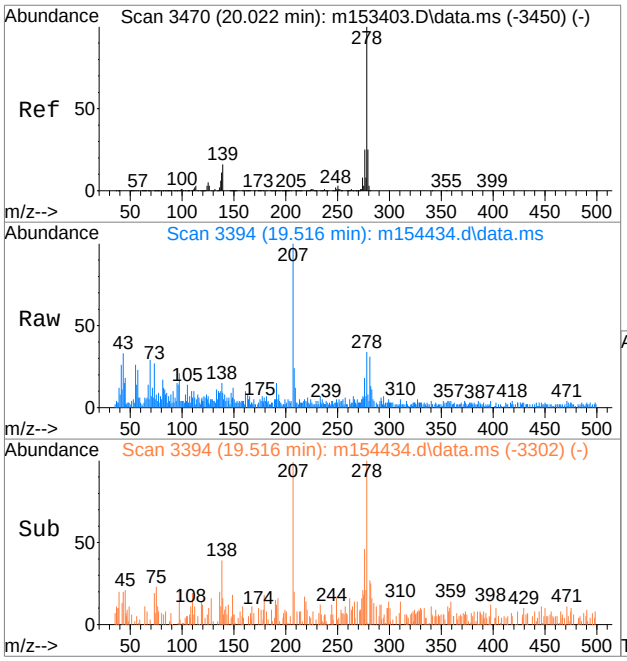




#96
Indeno[1,2,3-cd]pyrene
Concen: 1.31 ppm
RT: 19.479 min Scan# 3387
Delta R.T. -0.002 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:276 Resp: 22377

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 15.3 | 0.0 | 52.7 |
| 137 | 20.3 | 0.0 | 47.0 |

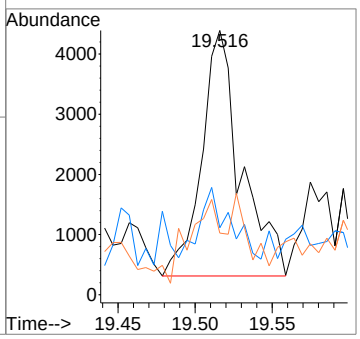


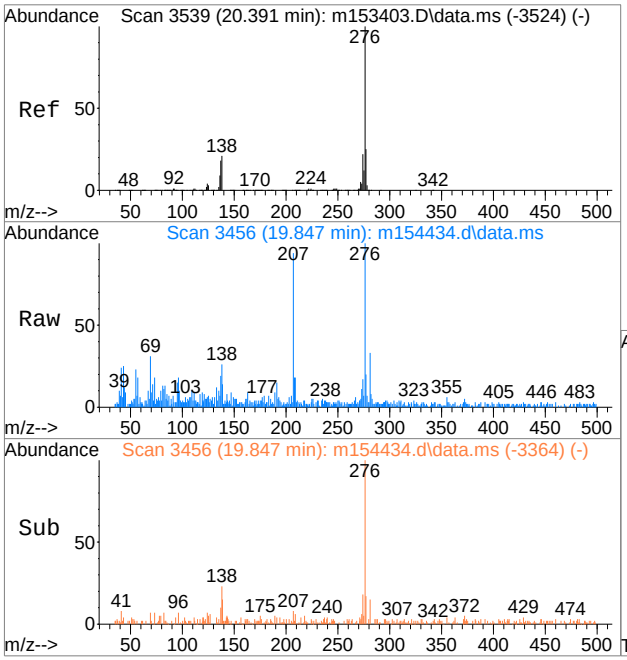



#98
Dibenz[a,h]anthracene
Concen: 0.27 ppm
RT: 19.516 min Scan# 3394
Delta R.T. -0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:278 Resp: 7242

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 0.0 | 0.0 | 51.1 |
| 279 | 8.3 | 0.0 | 54.7 |

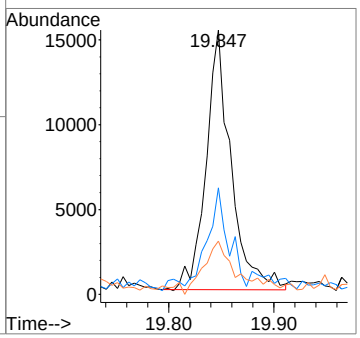


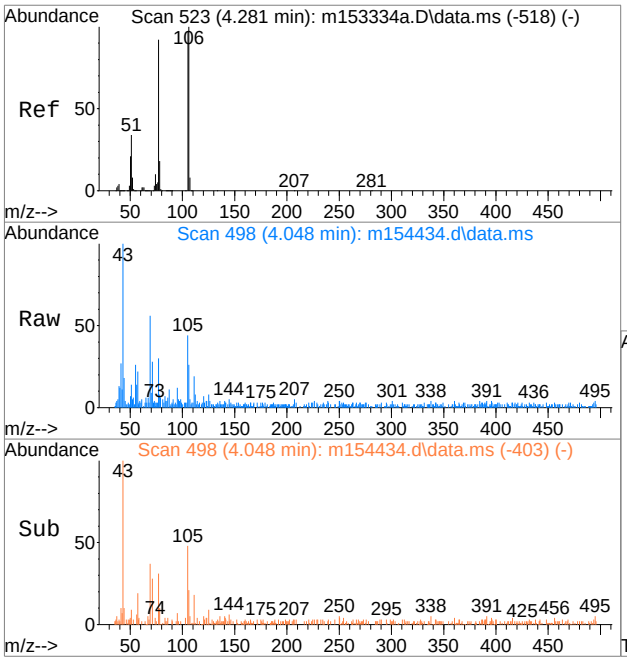




#100
Benzo[g,h,i]perylene
Concen: 0.93 ppm
RT: 19.847 min Scan# 3456
Delta R.T. -0.008 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:276 Resp: 25268

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 37.7 | 0.0 | 54.5 |
| 277 | 17.2 | 0.0 | 52.4 |

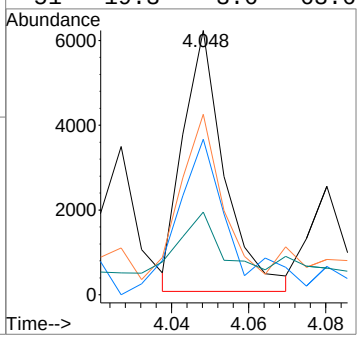





#102
Benzaldehyde
Concen: 0.57 ppm
RT: 4.048 min Scan# 498
Delta R.T. 0.005 min
Lab File: m154434.d
Acq: 16 May 2019 6:57 pm

Tgt Ion:105 Resp: 4615

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 106 | 51.1 | 77.0 | 137.0# |
| 77 | 56.5 | 73.5 | 133.5# |
| 51 | 19.3 | 3.6 | 63.6 |



# Manual Integration Approval Summary



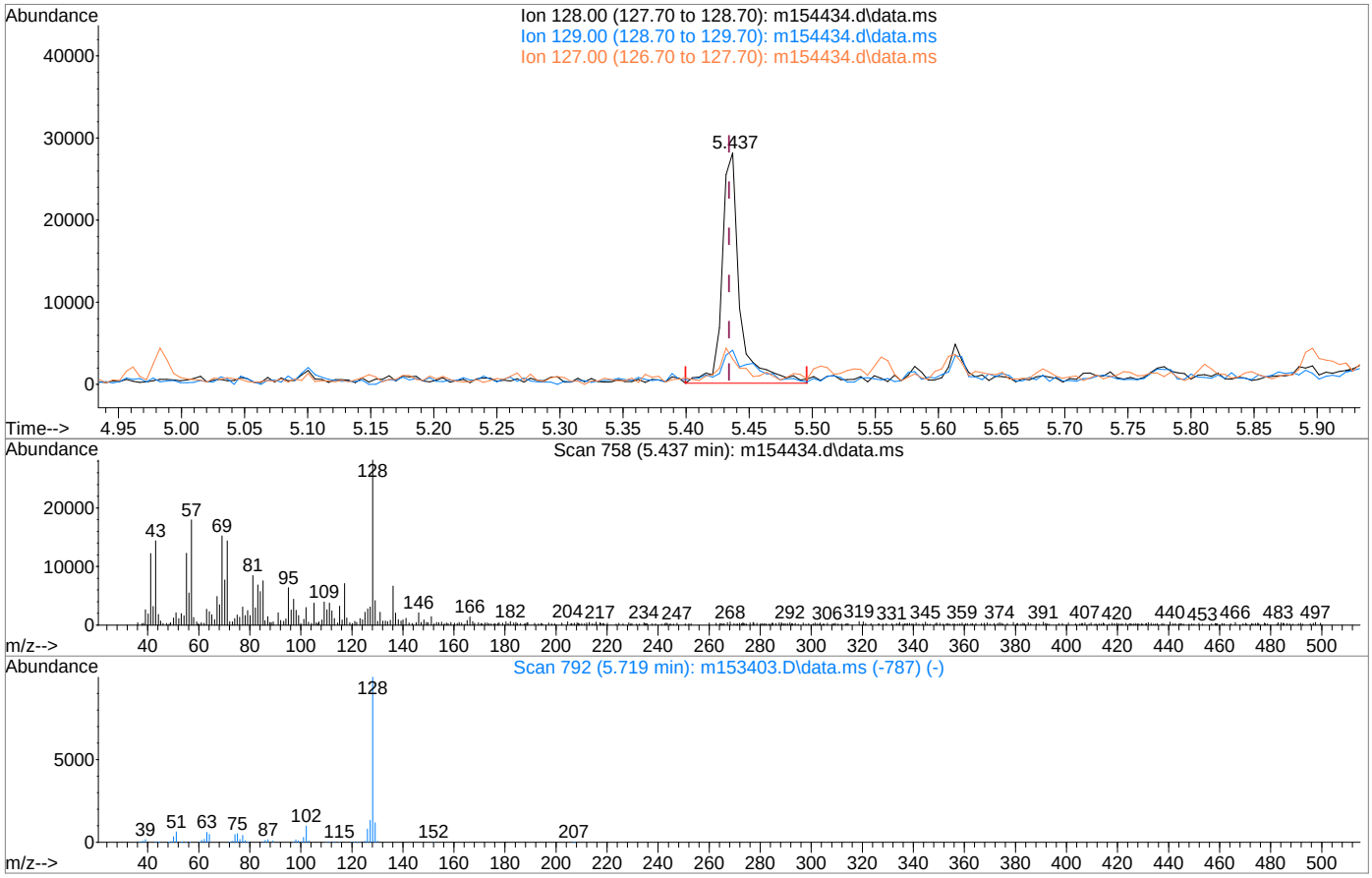
**Sample Number:** JC87535-1
**Lab FileID:** M154434.D
**Injection Time:** 05/16/19 18:57
**Method:** SW846 8270D
**Analyst approved:** 05/17/19 10:13 Jon Kreigmor Mamanta
**Supervisor approved:** 05/17/19 15:08 Kristi Schollenberger

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.44 | Poor instrument integration |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154434.d
Acq On    : 16 May 2019   6:57 pm
Operator  : christc2
Sample    : jc87535-1                                  Inst    : MSM
Misc      : op20268,em6595,32.4,,,1,1
ALS Vial  : 20   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 07:52:26 2019
Quant Title  : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration
```




TIC: m154434.d\data.ms

(38) Naphthalene (t)

5.437min (+0.003) 1.22ppm

response 27940

| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 10.70 | 13.40 |
| 127.00 | 12.80 | 8.54 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154430.d
Acq On : 16 May 2019 5:03 pm
Operator : christc2
Sample : jc87535-2 Inst : MSM
Misc : op20268,em6595,30.5,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 08:46:14 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.365 | 152 | 310093 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.412 | 136 | 1024547 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.612 | 164 | 542988 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.155 | 188 | 1057541 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.255 | 240 | 1068923 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.851 | 264 | 1107910 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.365 | 152 | 310093 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.612 | 164 | 542988 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.255 | 240 | 1069582 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.255 | 240 | 1069814 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.155 | 188 | 1057541 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.412 | 136 | 1024547 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.255 | 240 | 1068948 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.446 | 112 | 380661 | 31.40 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 62.80% | | |
| 8) Phenol-d5 | 4.183 | 99 | 492519 | 32.90 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 65.80% | | |
| 25) Nitrobenzene-d5 | 4.792 | 82 | 402356 | 36.81 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 73.62% | | |
| 51) 2-Fluorobiphenyl | 6.662 | 172 | 777706 | 38.52 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.04% | | |
| 73) 2,4,6-Tribromophenol | 8.937 | 330 | 153603 | 43.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 86.34% | | |
| 85) Terphenyl-d14 | 13.306 | 244 | 1059758 | 36.77 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 73.54% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |

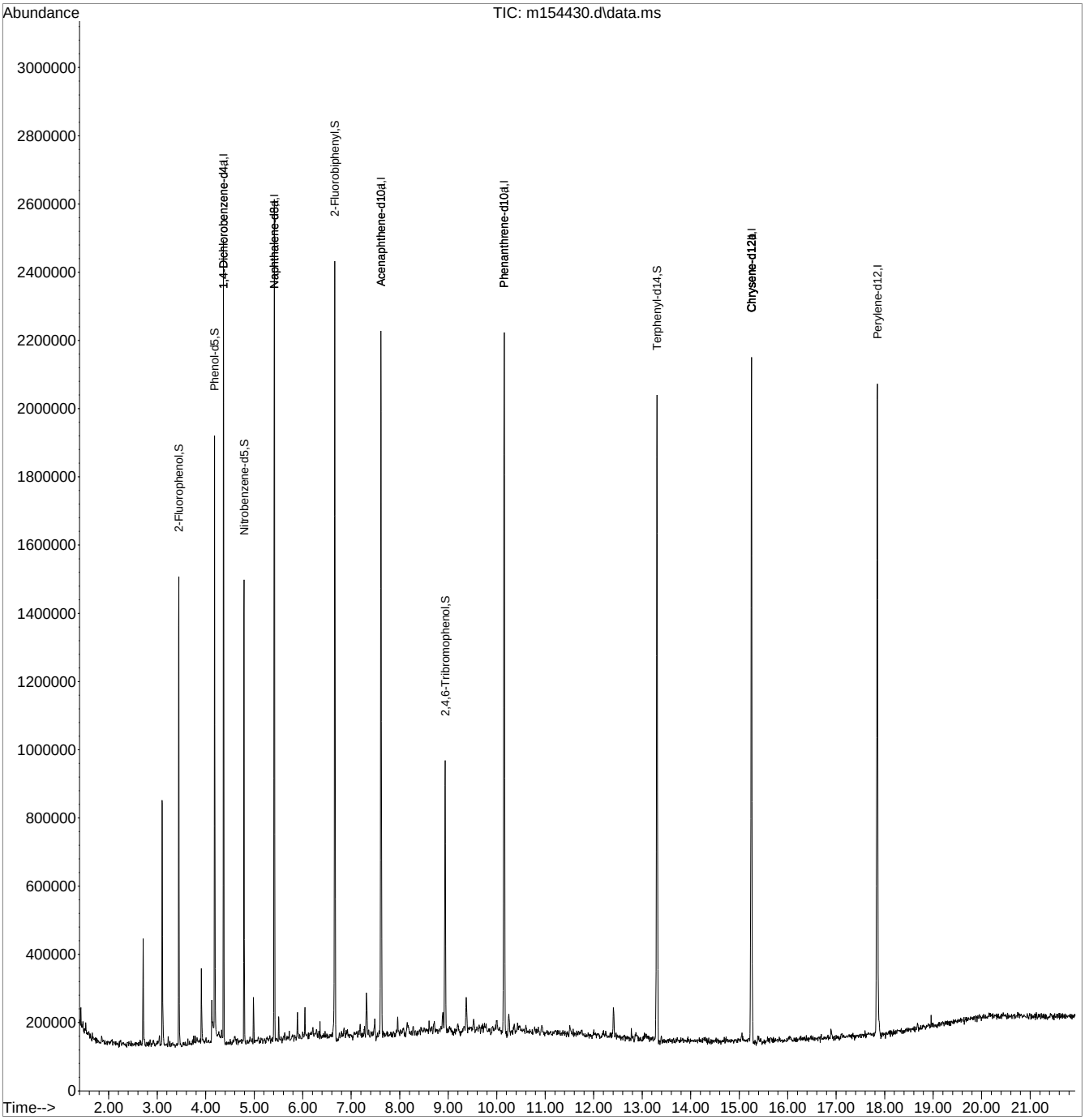
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154430.d
Acq On : 16 May 2019 5:03 pm
Operator : christc2
Sample : jc87535-2 Inst : MSM
Misc : op20268,em6595,30.5,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 08:46:14 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/20/19 12:41

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-17-2019\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 20 12:43:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.371 | 152 | 260452 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.445 | 136 | 696539 | 40.00 | ppm | 0.02 |
| 47) Acenaphthene-d10 | 7.629 | 164 | 483136 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.262 | 188 | 793437m | 40.00 | ppm | 0.09 |
| 83) Chrysene-d12 | 15.454 | 240 | 857760 | 40.00 | ppm | 0.17 |
| 91) Perylene-d12 | 18.012 | 264 | 760021 | 40.00 | ppm | 0.14 |
| 101) 1,4-Dichlorobenzene-d4a | 4.371 | 152 | 260452 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.629 | 164 | 483136 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.454 | 240 | 857760 | 40.00 | ppm | 0.17 |
| 108) Chrysene-d12b | 15.454 | 240 | 857760 | 40.00 | ppm | # 0.17 |
| 110) Phenanthrene-d10a | 10.262 | 188 | 793437m | 40.00 | ppm | 0.09 |
| 113) Naphthalene-d8a | 5.445 | 136 | 696539 | 40.00 | ppm | 0.02 |
| 115) Chrysene-d12c | 15.454 | 240 | 857760 | 40.00 | ppm | 0.17 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.447 | 112 | 66412 | 6.52 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 13.04% | | | |
| 8) Phenol-d5 | 4.190 | 99 | 84720 | 6.74 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 13.48% | | | |
| 25) Nitrobenzene-d5 | 4.799 | 82 | 71263 | 9.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 19.18% | | | |
| 51) 2-Fluorobiphenyl | 6.673 | 172 | 113545 | 6.32 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 12.64% | | | |
| 73) 2,4,6-Tribromophenol | 8.991 | 330 | 30249 | 11.33 | ppm | 0.04 |
| Spiked Amount 50.000 | | | Recovery = 22.66% | | | |
| 85) Terphenyl-d14 | 13.382 | 244 | 116938m | 5.06 | ppm | 0.06 |
| Spiked Amount 50.000 | | | Recovery = 10.12% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.195 | 94 | 181654 | 13.75 | ppm | 75 |
| 18) Acetophenone | 4.681 | 105 | 115206 | 9.61 | ppm | 98 |
| 19) 2-Methylphenol | 4.612 | 108 | 103368 | 13.53 | ppm | 97 |
| 21) 3&4-Methylphenol | 4.740 | 108 | 277284 | 36.08 | ppm | 87 |
| 30) 2,4-Dimethylphenol | 5.188 | 107 | 165179 | 29.89 | ppm | 90 |
| 38) Naphthalene | 5.461 | 128 | 45933335m | 2693.31 | ppm | |
| 44) 2-Methylnaphthalene | 6.246 | 141 | 13835864 | 1279.42 | ppm | 97 |
| 53) Biphenyl | 6.823 | 154 | 7497674 | 386.29 | ppm | 94 |
| 56) Acenaphthylene | 7.442 | 152 | 15279151 | 654.71 | ppm | 85 |
| 59) Acenaphthene | 7.693 | 153 | 3120513 | 220.83 | ppm | 96 |
| 62) Dibenzofuran | 8.014 | 168 | 26323098 | 1245.96 | ppm | 82 |
| 66) Fluorene | 8.607 | 166 | 32362916 | 1845.83 | ppm | 96 |
| 77) Phenanthrene | 10.428 | 178 | 88896274m | 4518.82 | ppm | |
| 78) Anthracene | 10.487 | 178 | 24078255m | 1161.95 | ppm | |
| 79) Carbazole | 10.791 | 167 | 17278186 | 867.29 | ppm | 92 |
| 81) Fluoranthene | 12.677 | 202 | 69476776 | 2671.67 | ppm | 86 |

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-17-2019\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 20 12:43:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

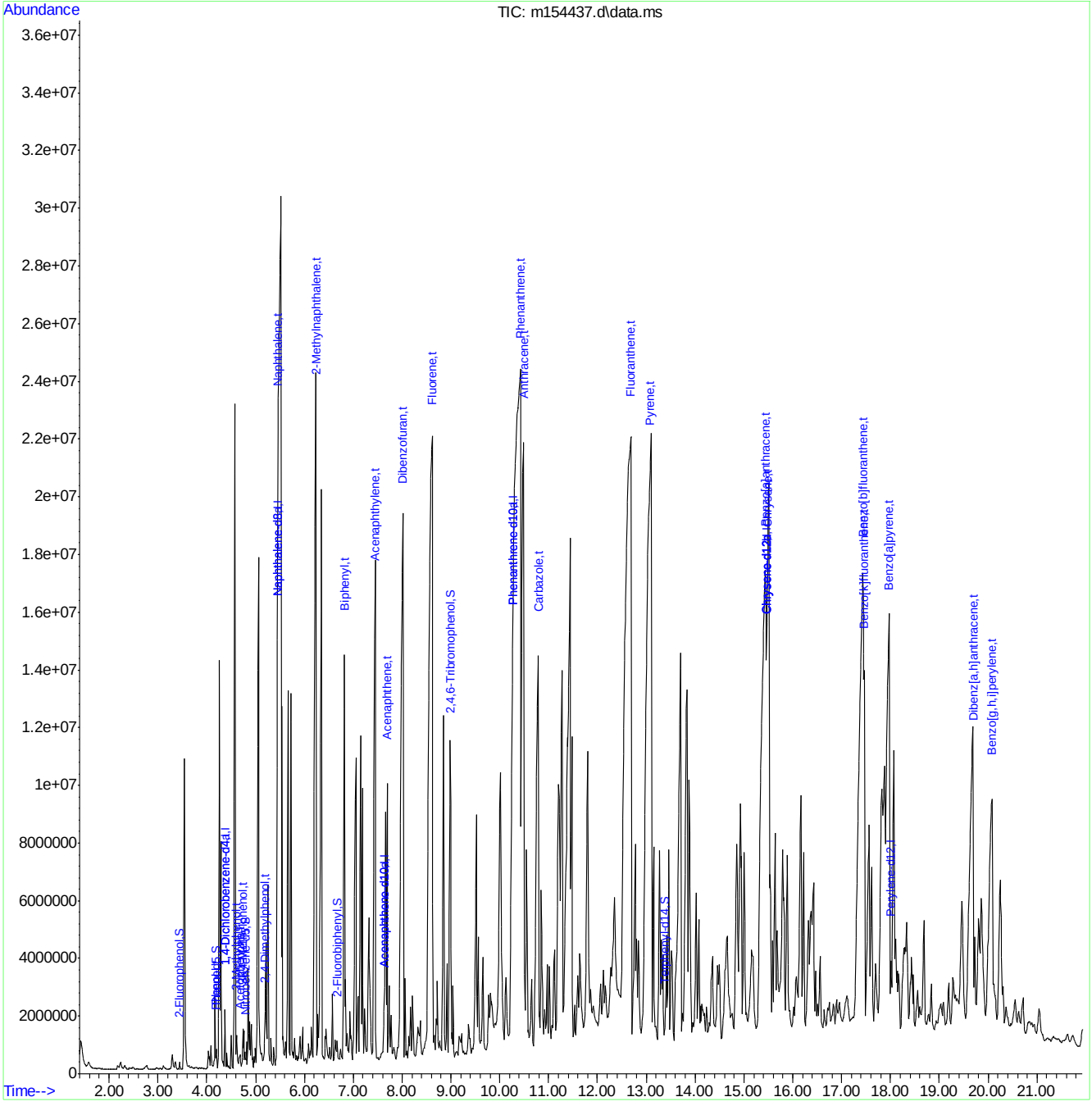
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 84) | Pyrene | 13.077 | 202 | 53546120 | 1704.88 | ppm | 87 |
| 87) | Benzo[a]anthracene | 15.438 | 228 | 42064679 | 1432.31 | ppm | 84 |
| 89) | Chrysene | 15.486 | 228 | 18840470 | 721.72 | ppm | 88 |
| 93) | Benzo[b]fluoranthene | 17.430 | 252 | 40275818m | 1682.07 | ppm | |
| 94) | Benzo[k]fluoranthene | 17.462 | 252 | 3405584m | 149.42 | ppm | |
| 95) | Benzo[a]pyrene | 17.964 | 252 | 21043933m | 1001.24 | ppm | |
| 96) | Indeno[1,2,3-cd]pyrene | 19.679 | 276 | 15312063m | Below Cal | | |
| 98) | Dibenz[a,h]anthracene | 19.695 | 278 | 5854113 | 302.20 | ppm | 85 |
| 100) | Benzo[g,h,i]perylene | 20.079 | 276 | 13064501 | 655.39 | ppm | 95 |

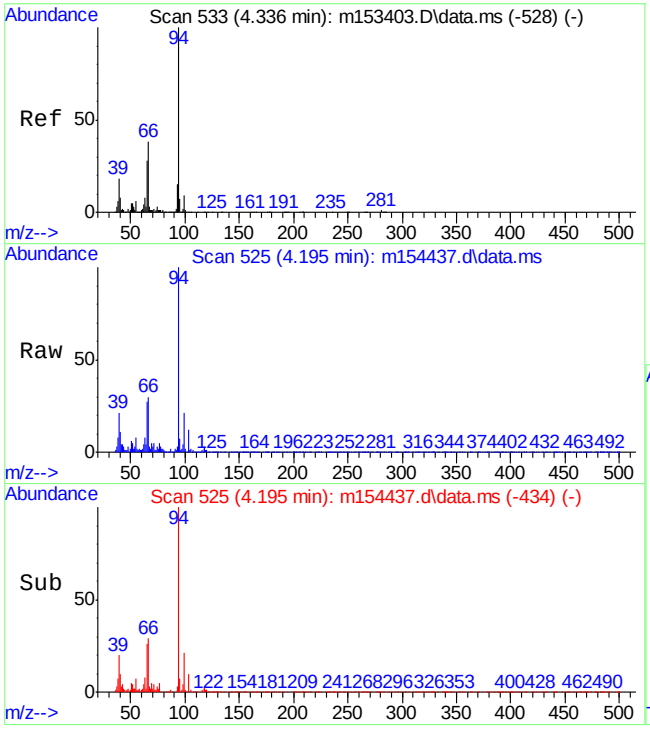
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-17-2019\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 20 12:43:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

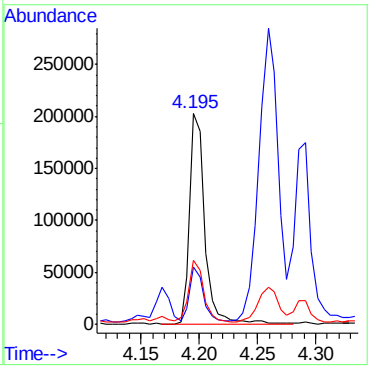


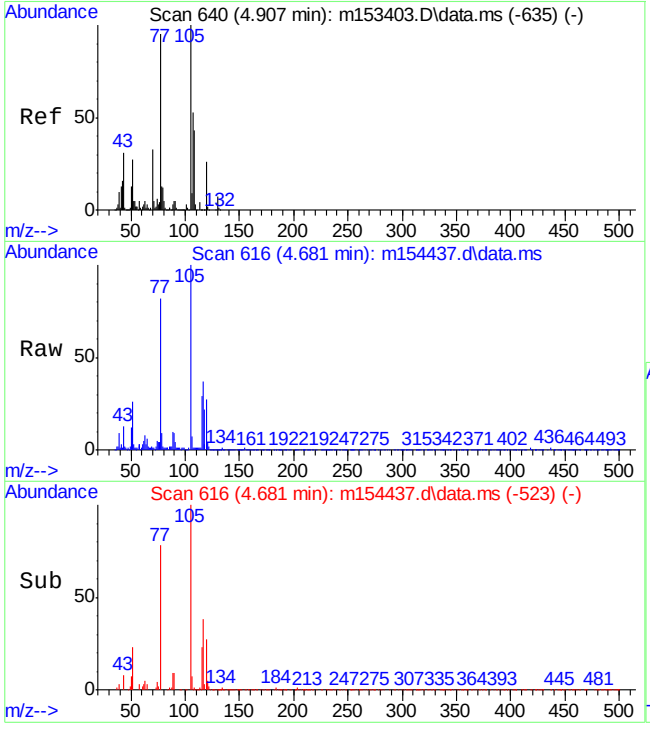



#9
Phenol
Concen: 13.75 ppm
RT: 4.195 min Scan# 525
Delta R.T. -0.013 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion: 94 Resp: 181654

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 0.0 | 0.0 | 53.5 |
| 66 | 25.6 | 0.0 | 58.4 |

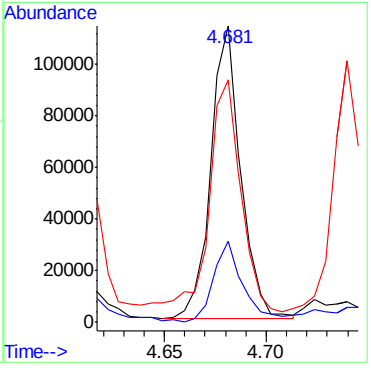


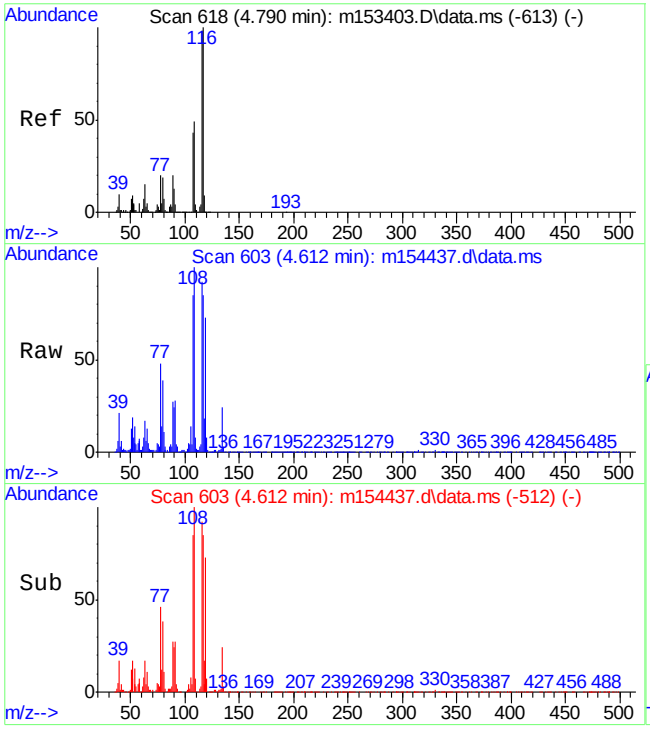




#18
Acetophenone
Concen: 9.61 ppm
RT: 4.681 min Scan# 616
Delta R.T. -0.002 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:105 Resp: 115206

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 26.5 | 0.0 | 58.1 |
| 77 | 77.9 | 46.3 | 106.3 |

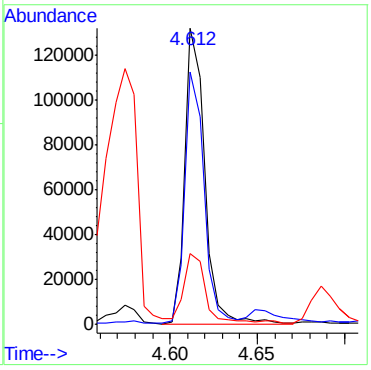


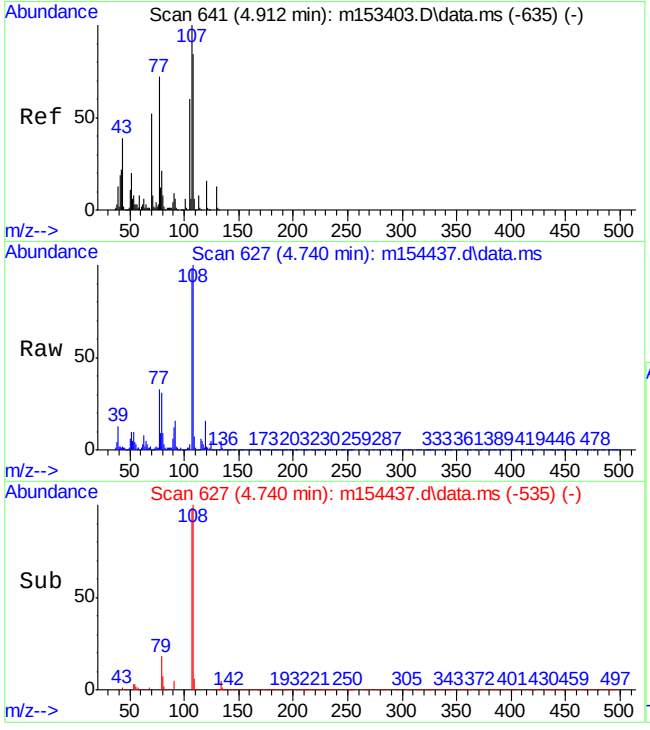



#19
2-Methylphenol
Concen: 13.53 ppm
RT: 4.612 min Scan# 603
Delta R.T. -0.013 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:108 Resp: 103368

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 84.4 | 51.0 | 111.0 |
| 90 | 22.6 | 0.0 | 52.0 |

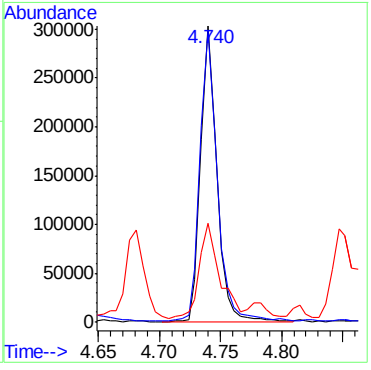


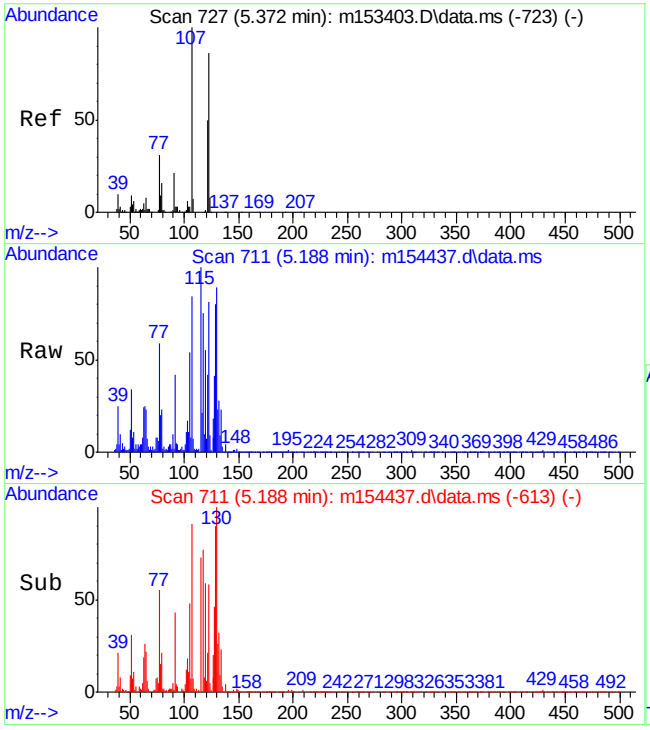




#21
3&4-Methylphenol
Concen: 36.08 ppm
RT: 4.740 min Scan# 627
Delta R.T. -0.007 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:108 Resp: 277284

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 98.2 | 83.1 | 143.1 |
| 77 | 30.3 | 0.0 | 56.7 |

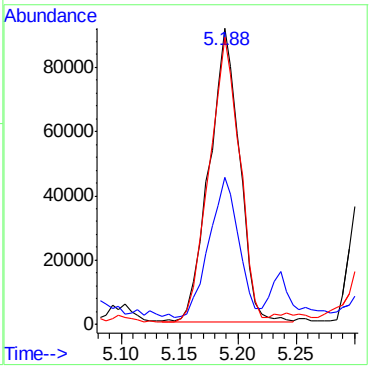


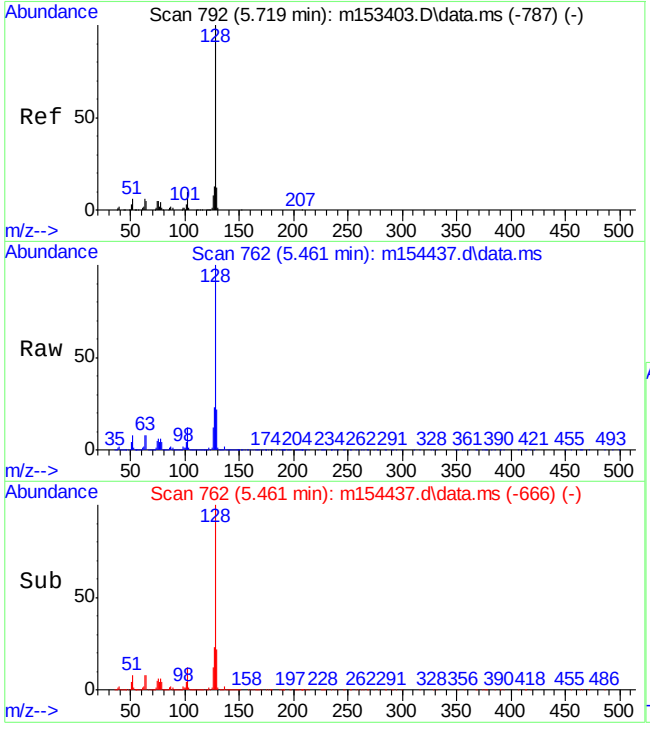



#30
2,4-Dimethylphenol
Concen: 29.89 ppm
RT: 5.188 min Scan# 711
Delta R.T. 0.025 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:107 Resp: 165179

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 45.6 | 25.4 | 85.4 |
| 122 | 96.3 | 73.9 | 133.9 |

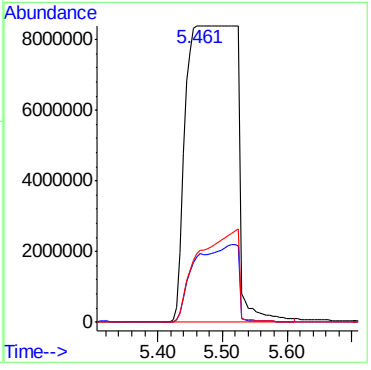


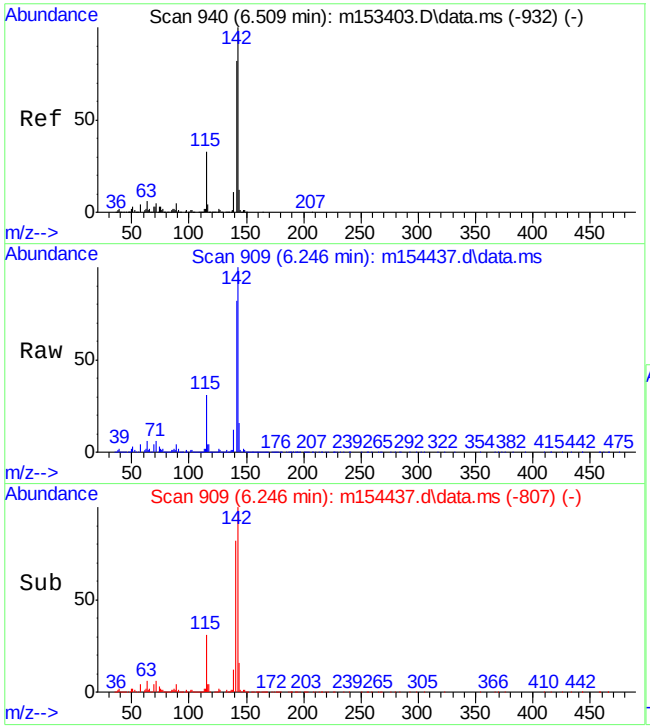




#38
Naphthalene
Concen: 2693.31 ppm m
RT: 5.461 min Scan# 762
Delta R.T. 0.014 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:128 Resp:45933335

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 22.1 | 0.0 | 41.5 |
| 127 | 23.3 | 0.0 | 42.9 |

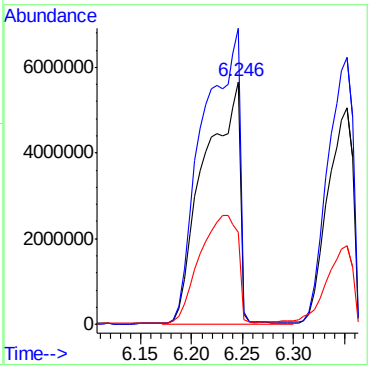


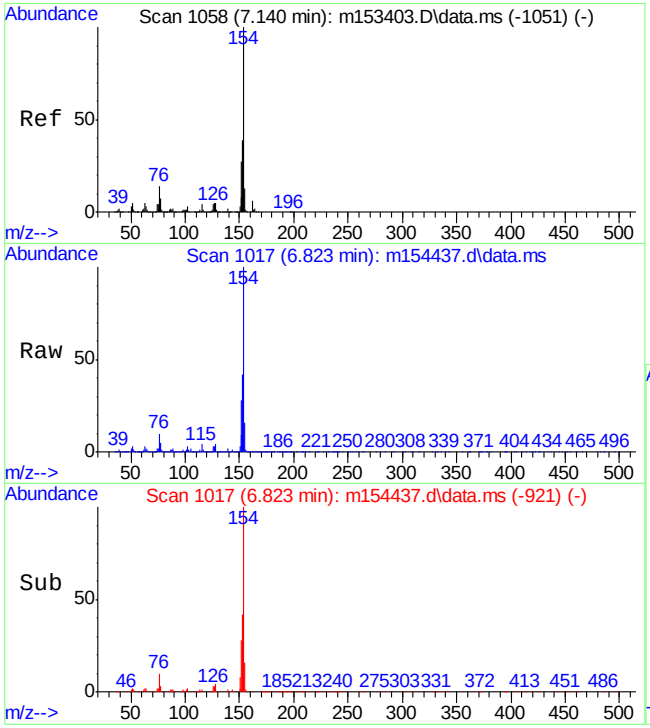



#44
2-Methylnaphthalene
Concen: 1279.42 ppm
RT: 6.246 min Scan# 909
Delta R.T. 0.046 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:141 Resp:13835864

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 122.0 | 92.7 | 152.7 |
| 115 | 37.4 | 0.5 | 60.5 |

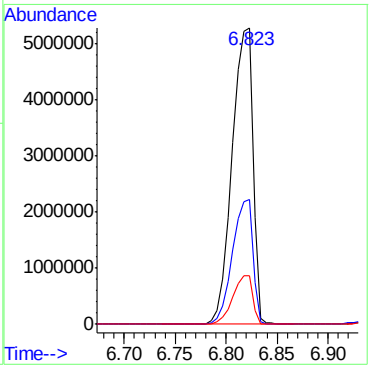


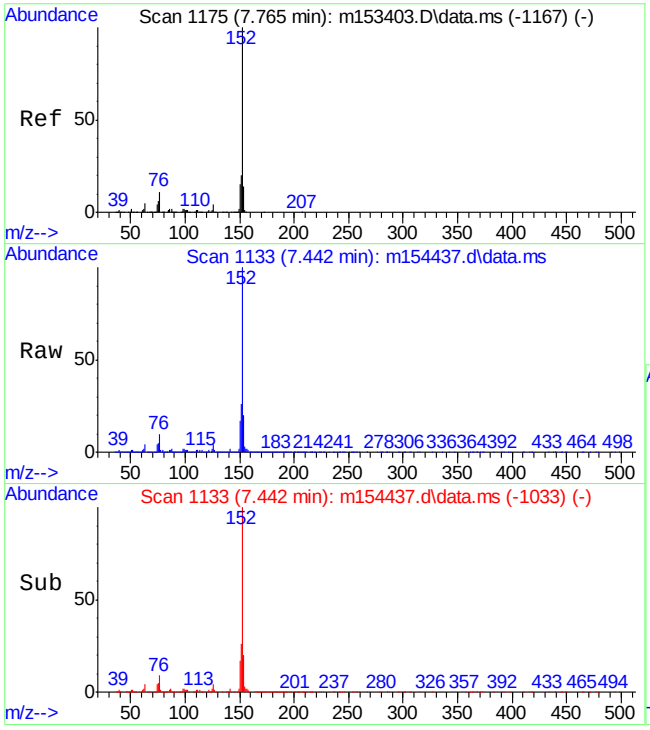




#53
Biphenyl
Concen: 386.29 ppm
RT: 6.823 min Scan# 1017
Delta R.T. 0.014 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:154 Resp: 7497674

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 42.0 | 8.5 | 68.5 |
| 155 | 16.3 | 0.0 | 43.4 |

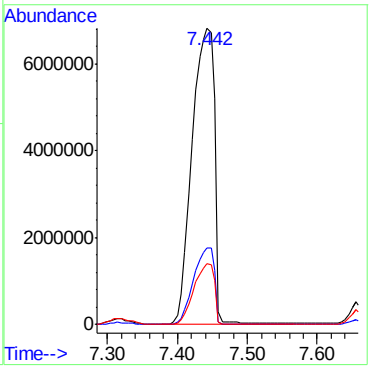


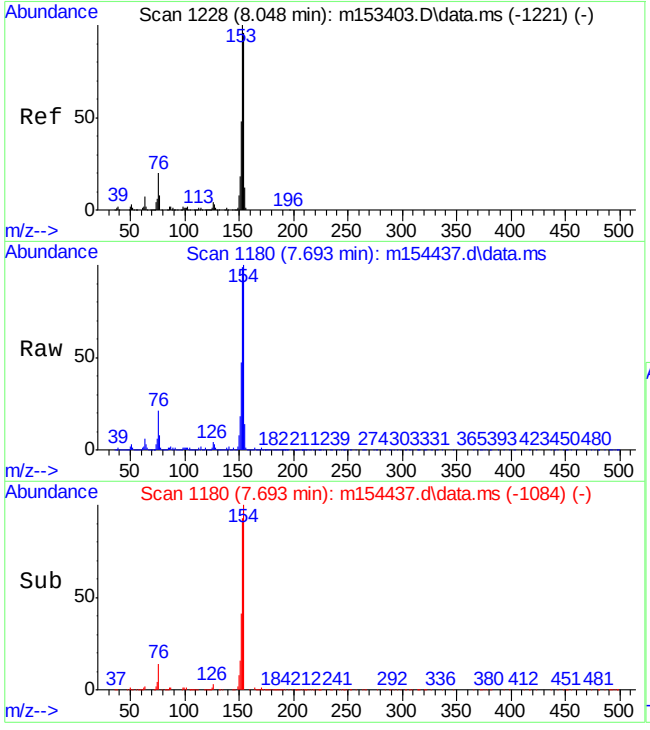



#56
Acenaphthylene
Concen: 654.71 ppm
RT: 7.442 min Scan# 1133
Delta R.T. 0.036 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:152 Resp:15279151

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 25.9 | 0.0 | 50.0 |
| 153 | 20.5 | 0.0 | 43.3 |

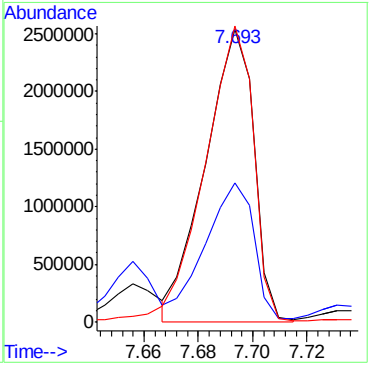


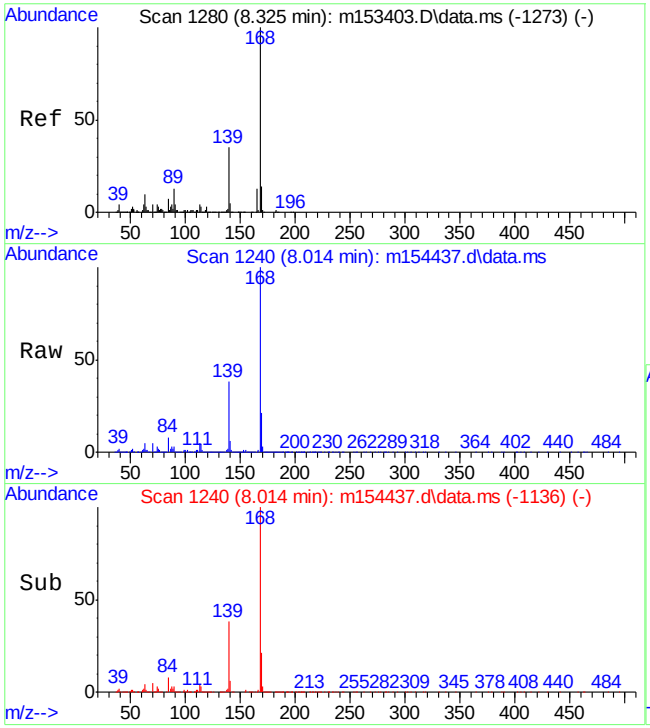




#59
Acenaphthene
Concen: 220.83 ppm
RT: 7.693 min Scan# 1180
Delta R.T. 0.014 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:153 Resp: 3120513

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.0 | 17.3 | 77.3 |
| 154 | 102.3 | 67.3 | 127.3 |

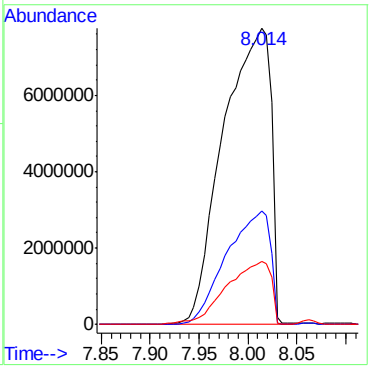


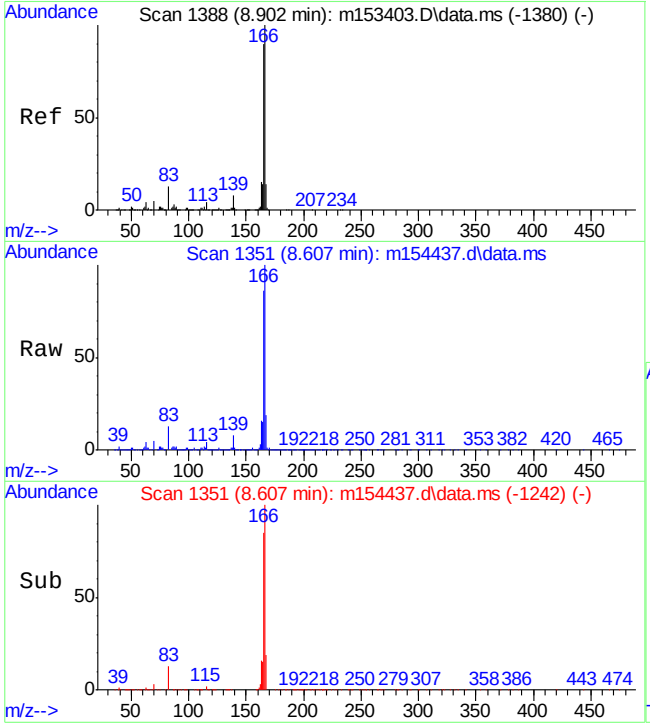



#62
Dibenzofuran
Concen: 1245.96 ppm
RT: 8.014 min Scan# 1240
Delta R.T. 0.057 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:168 Resp:26323098

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.4 | 0.0 | 58.8 |
| 169 | 21.3 | 0.0 | 43.7 |

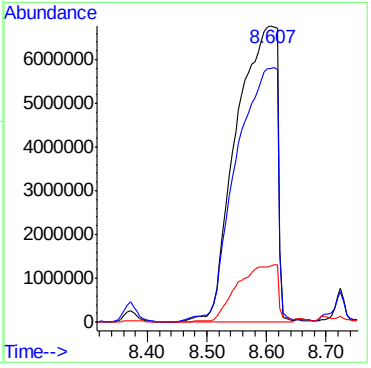


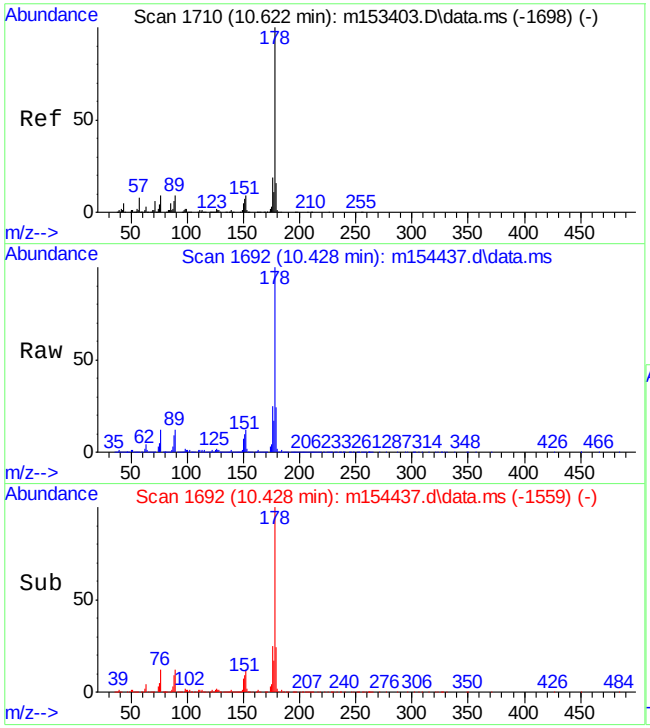




#66
Fluorene
Concen: 1845.83 ppm
RT: 8.607 min Scan# 1351
Delta R.T. 0.084 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:166 Resp:32362916

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 85.5 | 57.8 | 117.8 |
| 167 | 18.6 | 0.0 | 43.5 |

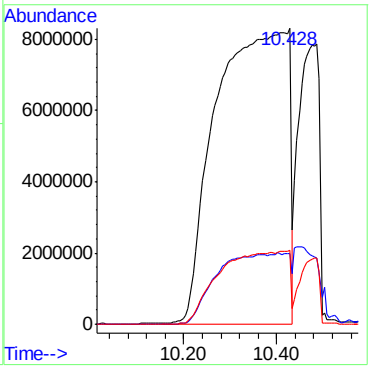


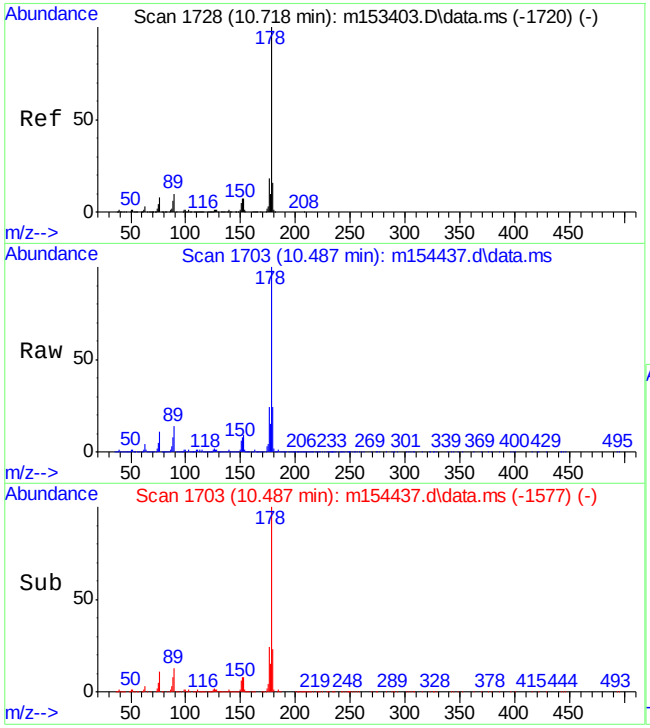



#77
Phenanthrene
Concen: 4518.82 ppm m
RT: 10.428 min Scan# 1692
Delta R.T. 0.212 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:178 Resp:88896274

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 24.0 | 0.0 | 45.9 |
| 176 | 25.2 | 0.0 | 48.1 |

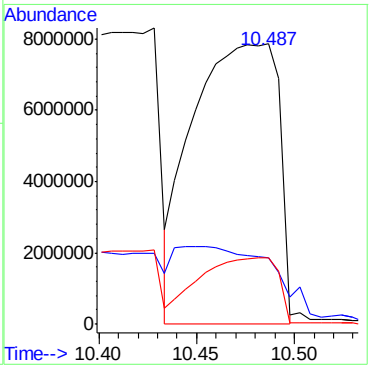


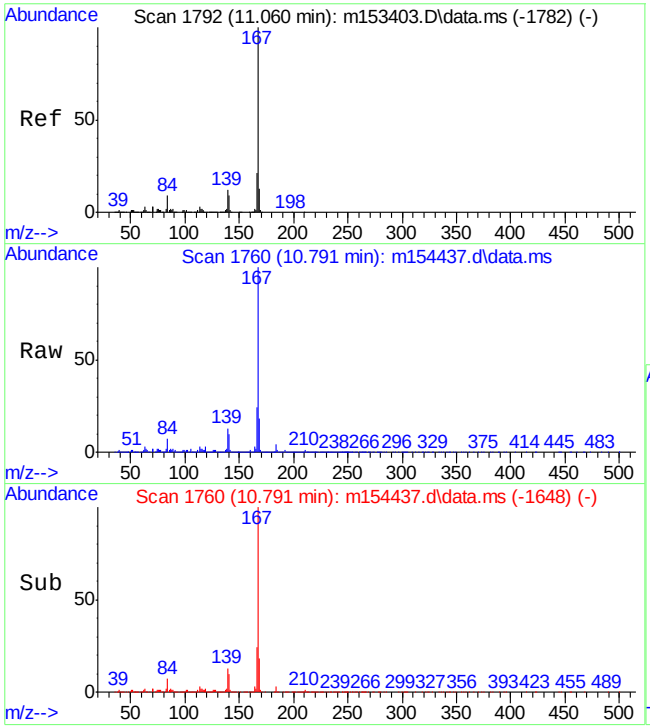




#78
Anthracene
Concen: 1161.95 ppm m
RT: 10.487 min Scan# 1703
Delta R.T. 0.174 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:178 Resp:24078255

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 23.5 | 0.0 | 46.3 |
| 176 | 23.6 | 0.0 | 48.3 |

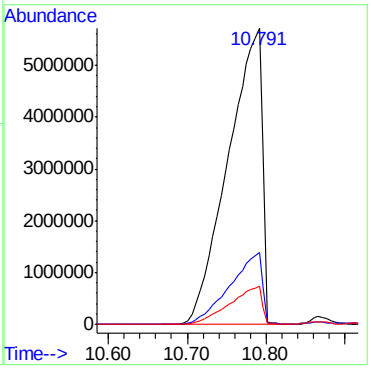


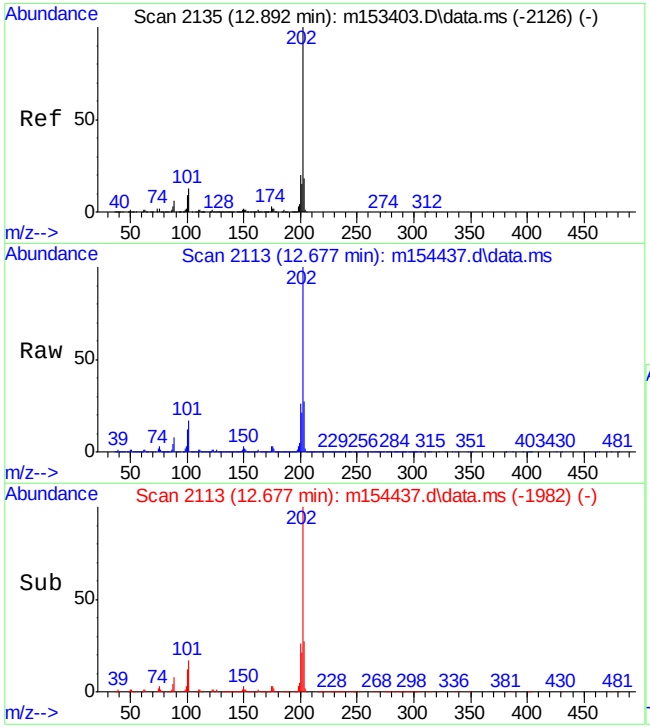



#79
Carbazole
Concen: 867.29 ppm
RT: 10.791 min Scan# 1760
Delta R.T. 0.100 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:167 Resp:17278186

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 24.0 | 0.0 | 50.2 |
| 139 | 12.7 | 0.0 | 40.3 |

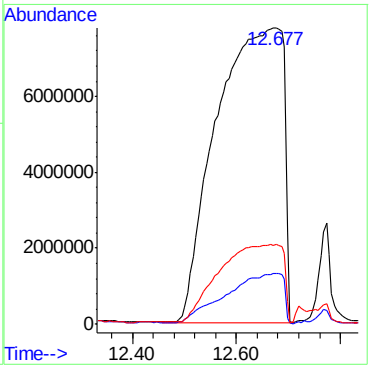


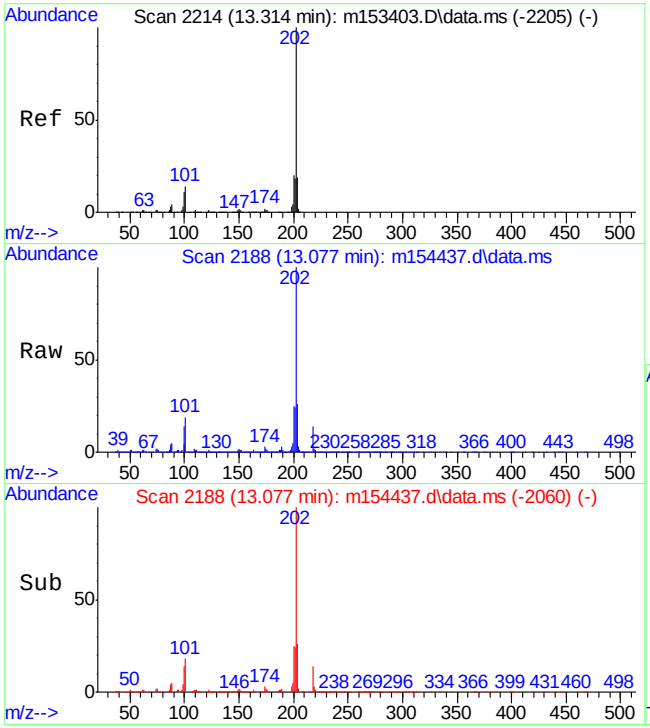




#81
Fluoranthene
Concen: 2671.67 ppm
RT: 12.677 min Scan# 2113
Delta R.T. 0.201 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:202 Resp:69476776

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 16.8 | 0.0 | 44.2 |
| 203 | 26.3 | 0.0 | 47.5 |

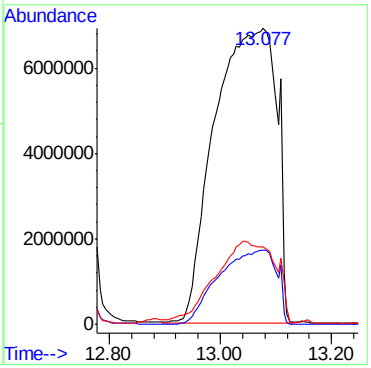


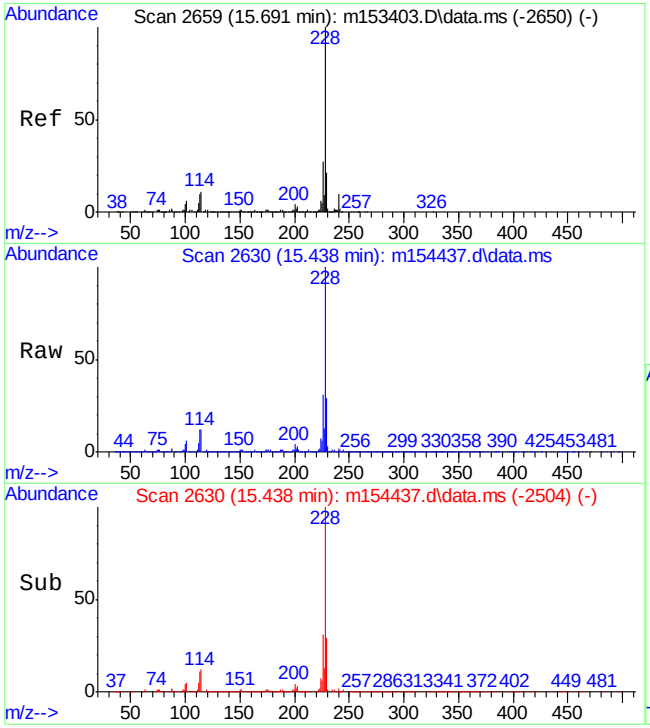



#84
Pyrene
Concen: 1704.88 ppm
RT: 13.077 min Scan# 2188
Delta R.T. 0.185 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:202 Resp:53546120

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 25.0 | 0.0 | 49.7 |
| 203 | 25.5 | 0.0 | 48.8 |

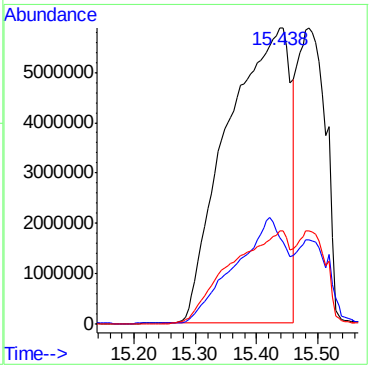


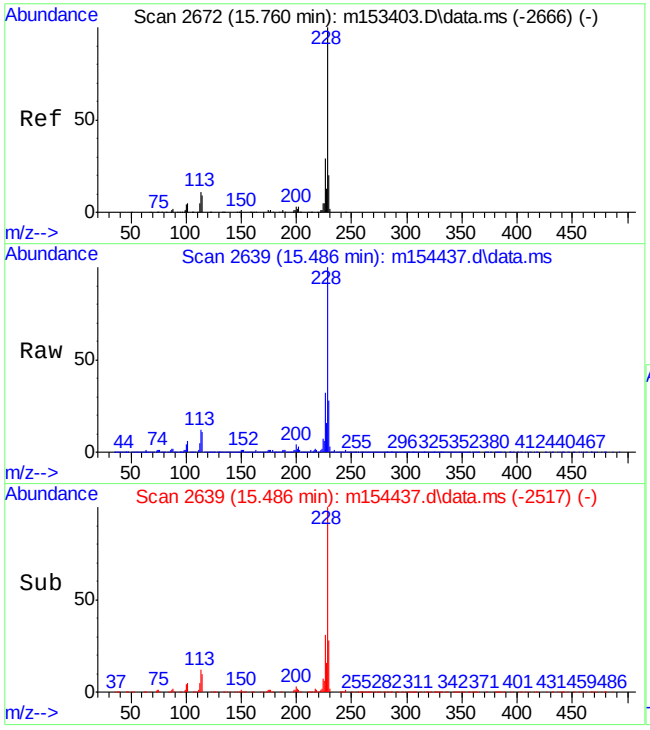




#87
Benzo[a]anthracene
Concen: 1432.31 ppm
RT: 15.438 min Scan# 2630
Delta R.T. 0.174 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:228 Resp:42064679

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 30.2 | 0.0 | 50.6 |
| 226 | 31.9 | 0.0 | 55.5 |

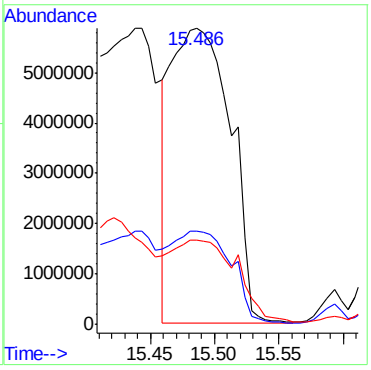


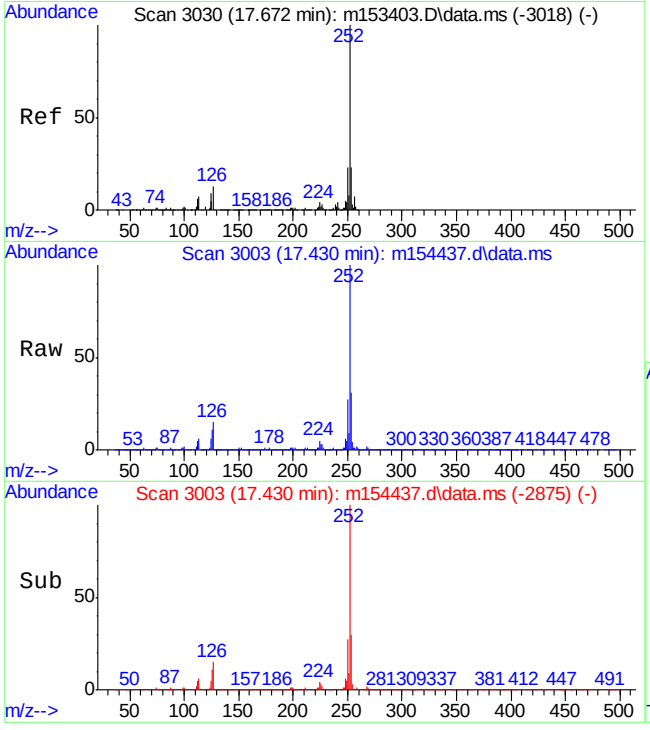



#89
Chrysene
Concen: 721.72 ppm
RT: 15.486 min Scan# 2639
Delta R.T. 0.153 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:228 Resp:18840470

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 32.2 | 0.0 | 57.9 |
| 229 | 28.3 | 0.0 | 50.5 |

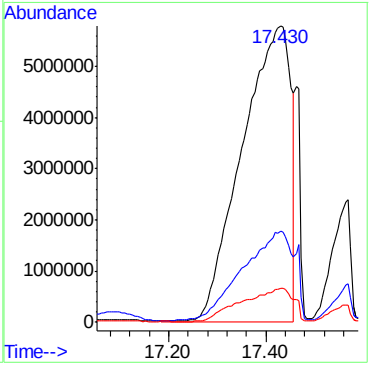


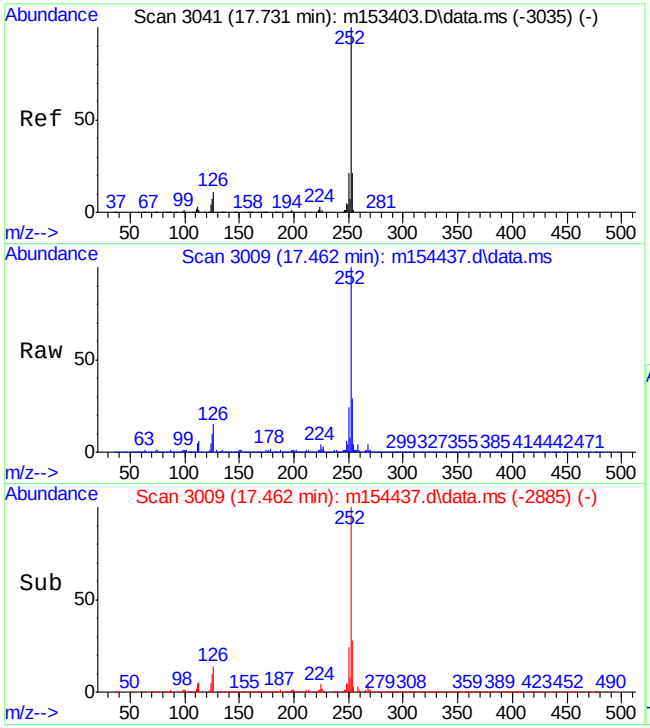




#93
Benzo[b]fluoranthene
Concen: 1682.07 ppm m
RT: 17.430 min Scan# 3003
Delta R.T. 0.185 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:252 Resp:40275818

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 30.6 | 0.0 | 52.8 |
| 125 | 11.4 | 0.0 | 43.5 |

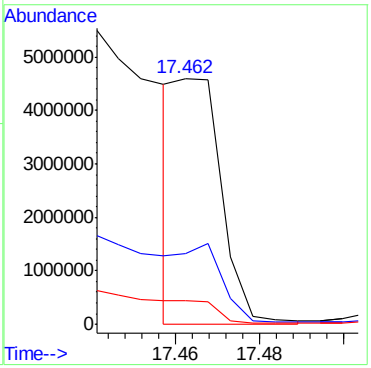


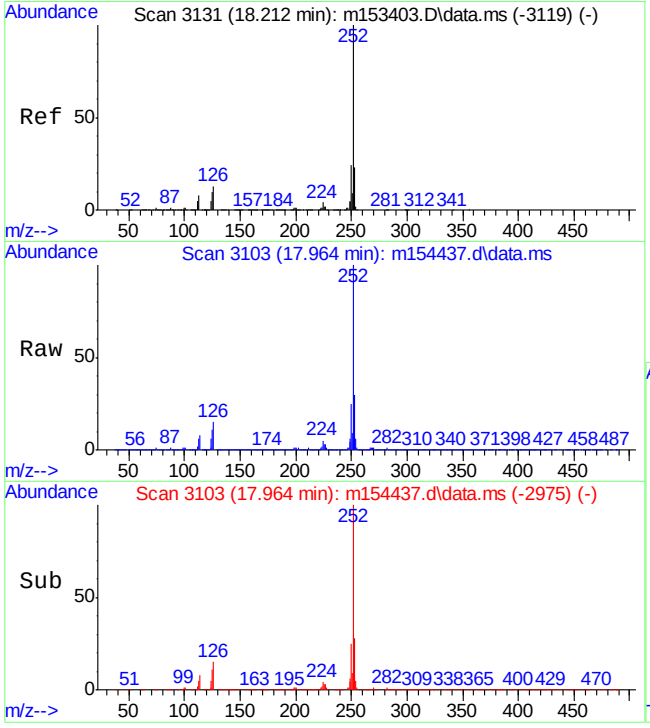



#94
Benzo[k]fluoranthene
Concen: 149.42 ppm m
RT: 17.462 min Scan# 3009
Delta R.T. 0.164 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:252 Resp: 3405584

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 28.9 | 0.0 | 52.9 |
| 125 | 9.8 | 0.0 | 42.4 |

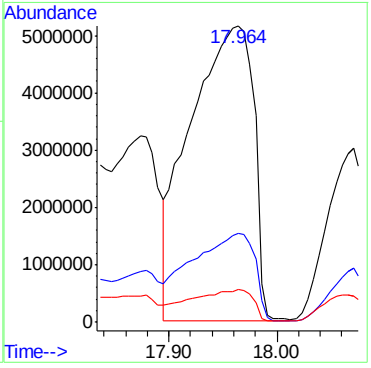


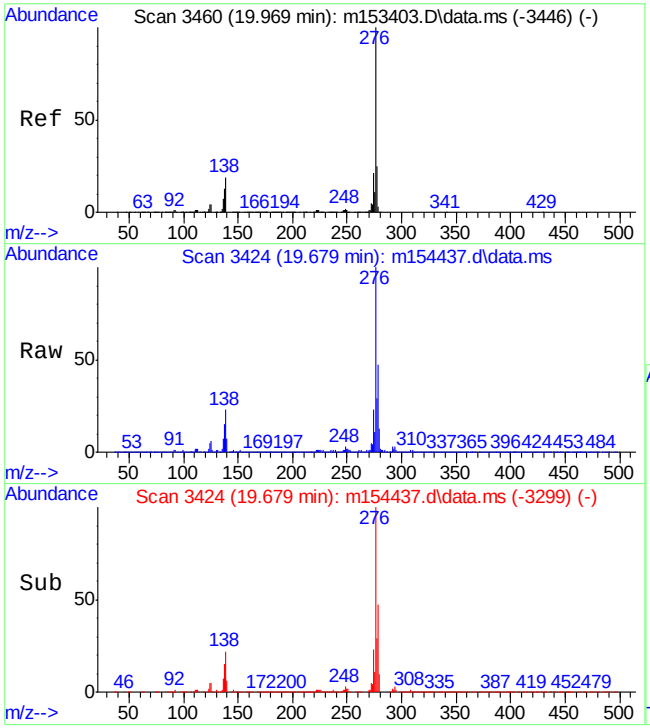




#95
Benzo[a]pyrene
Concen: 1001.24 ppm m
RT: 17.964 min Scan# 3103
Delta R.T. 0.185 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:252 Resp:21043933

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 29.8 | 0.0 | 52.4 |
| 125 | 11.0 | 0.0 | 42.7 |

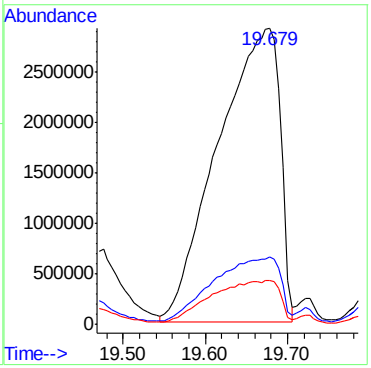


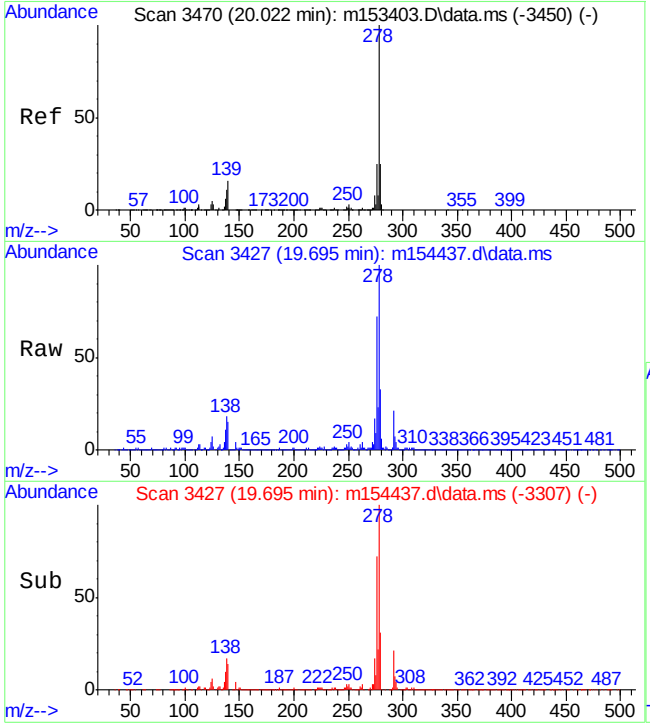



#96
Indeno[1,2,3-cd]pyrene
Concen: Below Cal m
RT: 19.679 min Scan# 3424
Delta R.T. 0.169 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:276 Resp:15312063

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 22.6 | 0.0 | 52.5 |
| 137 | 15.0 | 0.0 | 46.2 |

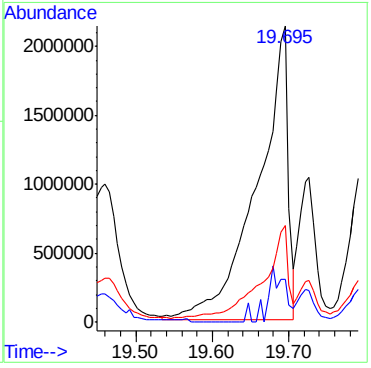


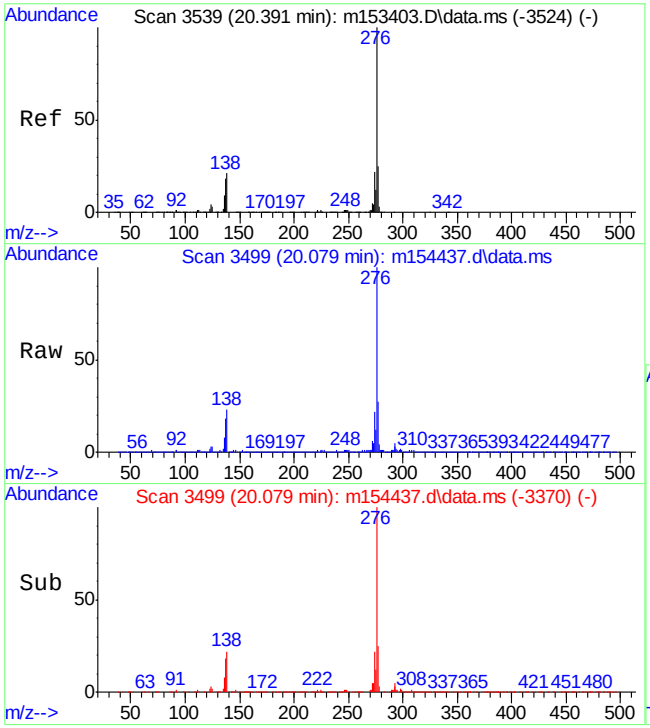




#98
Dibenz[a,h]anthracene
Concen: 302.20 ppm
RT: 19.695 min Scan# 3427
Delta R.T. 0.142 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:278 Resp: 5854113

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 13.1 | 0.0 | 50.4 |
| 279 | 32.0 | 0.0 | 54.9 |

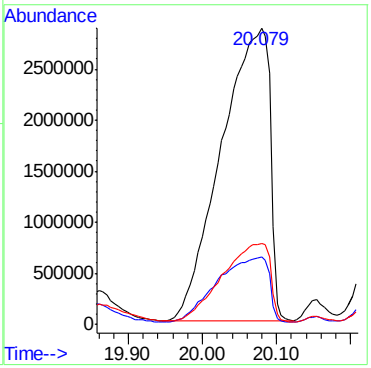





#100
Benzo[g,h,i]perylene
Concen: 655.39 ppm
RT: 20.079 min Scan# 3499
Delta R.T. 0.190 min
Lab File: m154437.d
Acq: 16 May 2019 8:23 pm

Tgt Ion:276 Resp:13064501

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 22.2 | 0.0 | 54.4 |
| 277 | 26.7 | 0.0 | 54.1 |



# Manual Integration Approval Summary



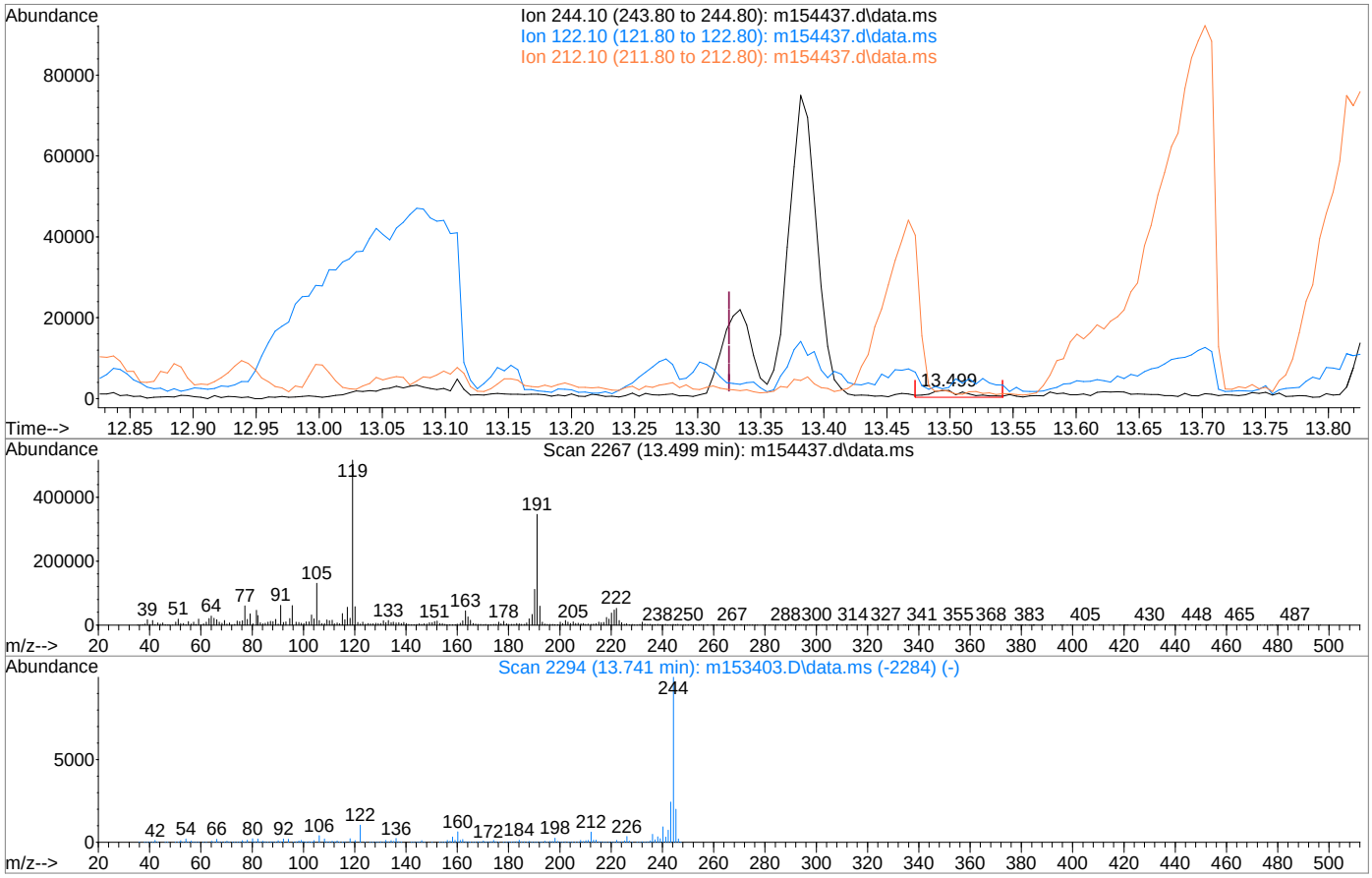
**Sample Number:** JC87535-3
**Lab FileID:** M154437.D
**Injection Time:** 05/16/19 20:23
**Method:** SW846 8270D
**Analyst approved:** 05/17/19 10:20 Jon Kreigmor Mamanta
**Supervisor approved:** 05/20/19 12:41 Kristi Schollenberger

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.46 | Poor instrument integration |
| Phenanthrene-d10 | 1517-22-2 | | 10.26 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 10.43 | Poor instrument integration |
| Anthracene | 120-12-7 | | 10.49 | Missed peak |
| Terphenyl-d14 | 1718-51-0 | | 13.38 | Missed peak |
| Benzo(b)fluoranthene | 205-99-2 | | 17.43 | Overlapping peak |
| Benzo(k)fluoranthene | 207-08-9 | | 17.46 | Overlapping peak |
| Benzo(a)pyrene | 50-32-8 | | 17.96 | Missed peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:48:50 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(85) Terphenyl-d14 (S)

13.499min (+0.174) 0.15ppm

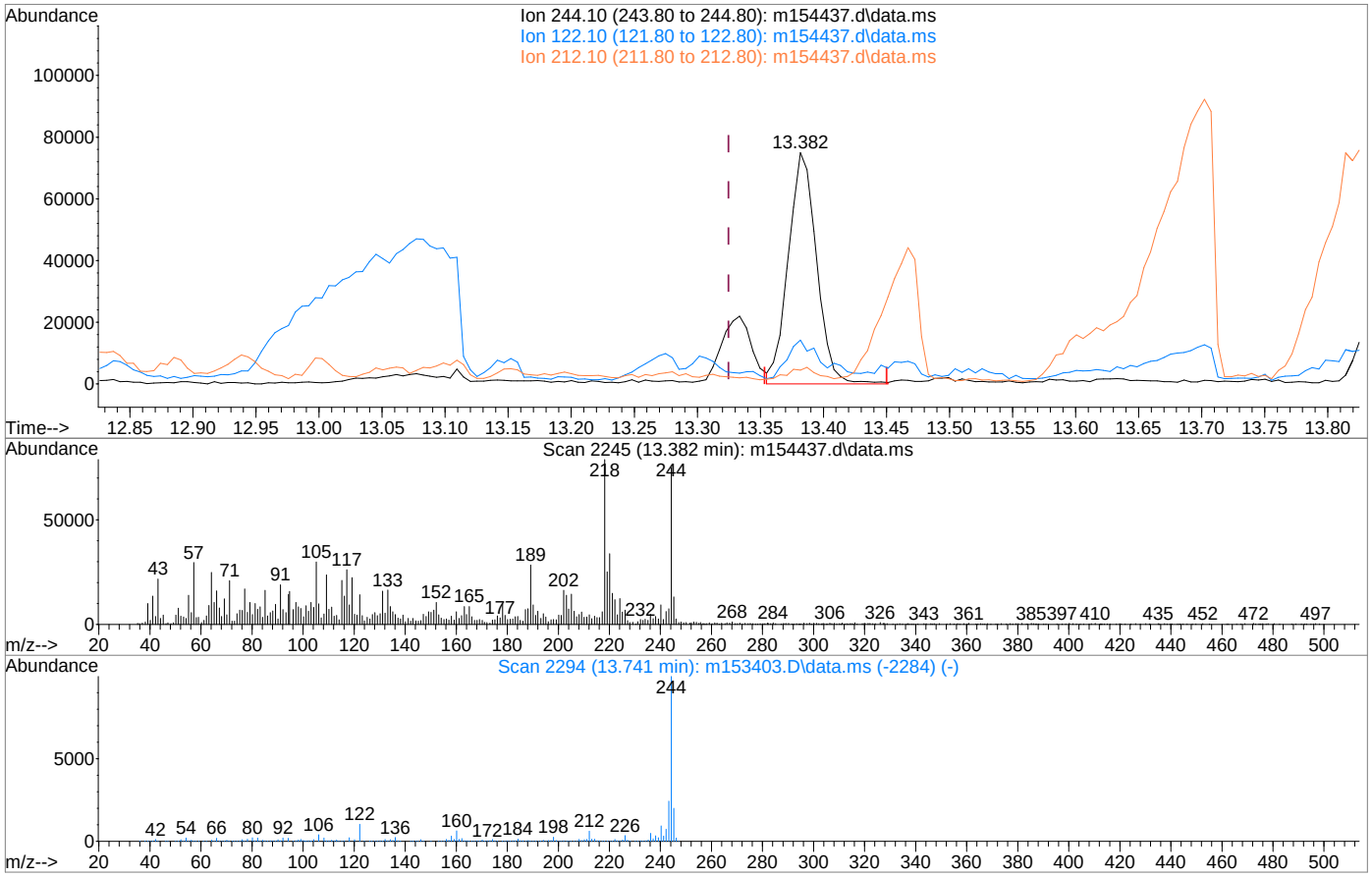
response 3449

| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.10 | 12.40 | 0.00 |
| 212.10 | 4.90 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:48:50 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(85) Terphenyl-d14 (S)

13.382min (+0.057) 5.06ppm m

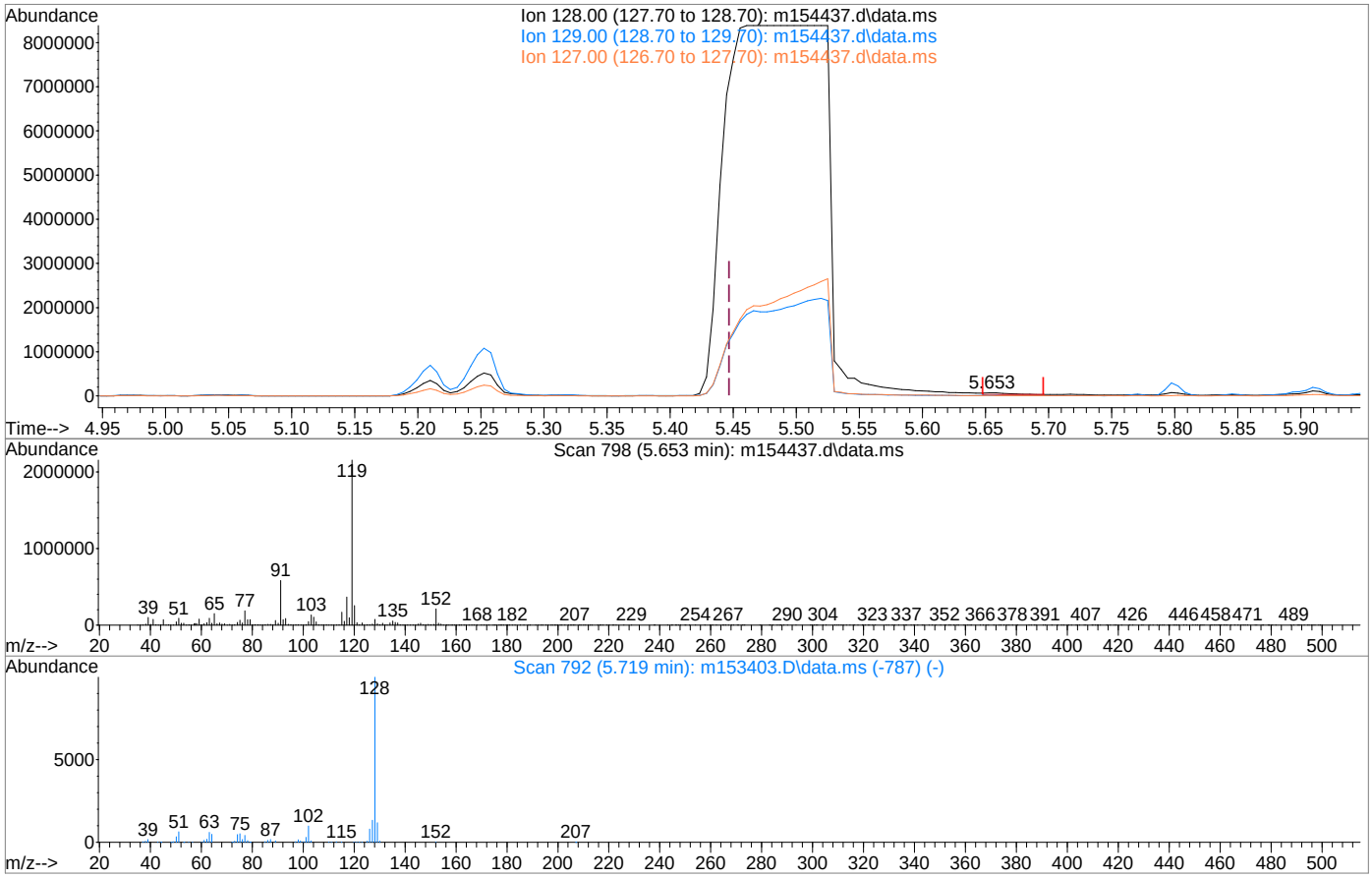
response 116938

| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.10 | 12.40 | 18.92 |
| 212.10 | 4.90 | 6.01 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:52:07 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(38) Naphthalene (t)

5.653min (+0.206) 2.81ppm

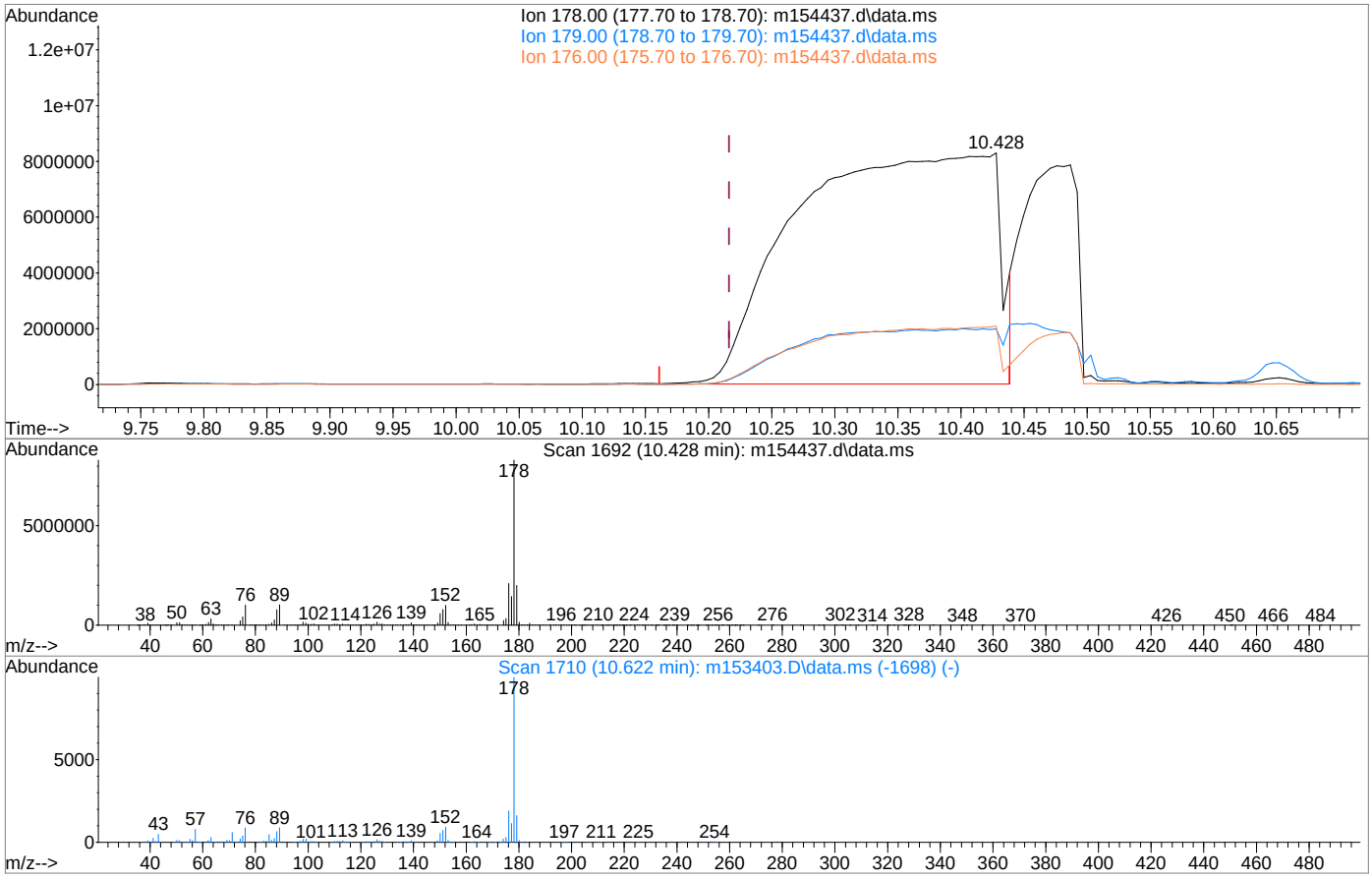
response 47962

| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.50 | 28.58 |
| 127.00 | 12.90 | 20.96 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:52:07 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(77) Phenanthrene (t)

10.428min (+0.212) 9433.17ppm

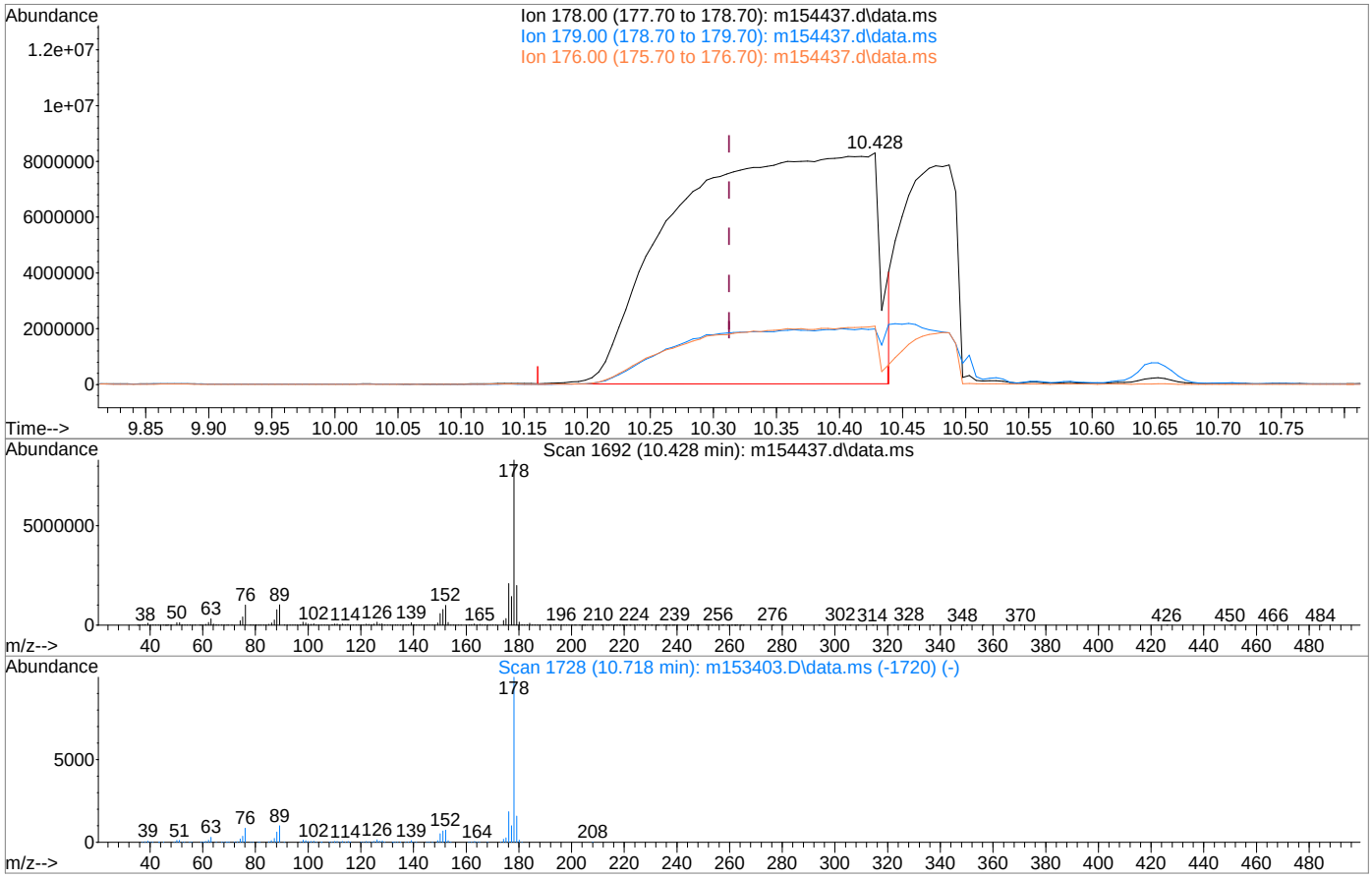
response 90023287

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 14.50 |
| 176.00 | 18.10 | 27.66 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:52:07 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(78) Anthracene (t)

10.428min (+0.116) 8953.38ppm

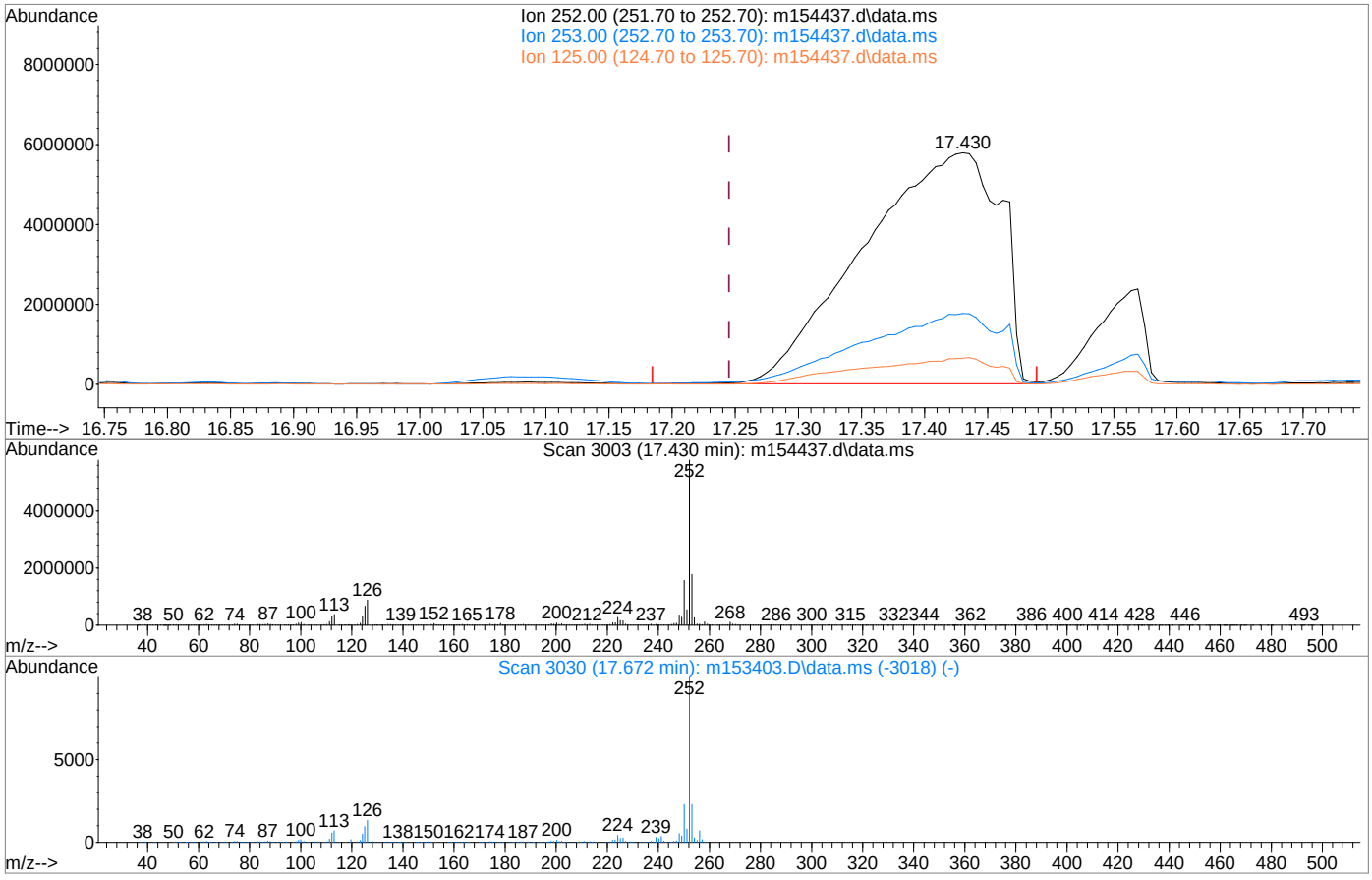
response 90004115

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 16.30 | 14.50 |
| 176.00 | 18.30 | 27.66 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:52:07 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(93) Benzo[b]fluoranthene (t)

17.430min (+0.185) 1819.96ppm

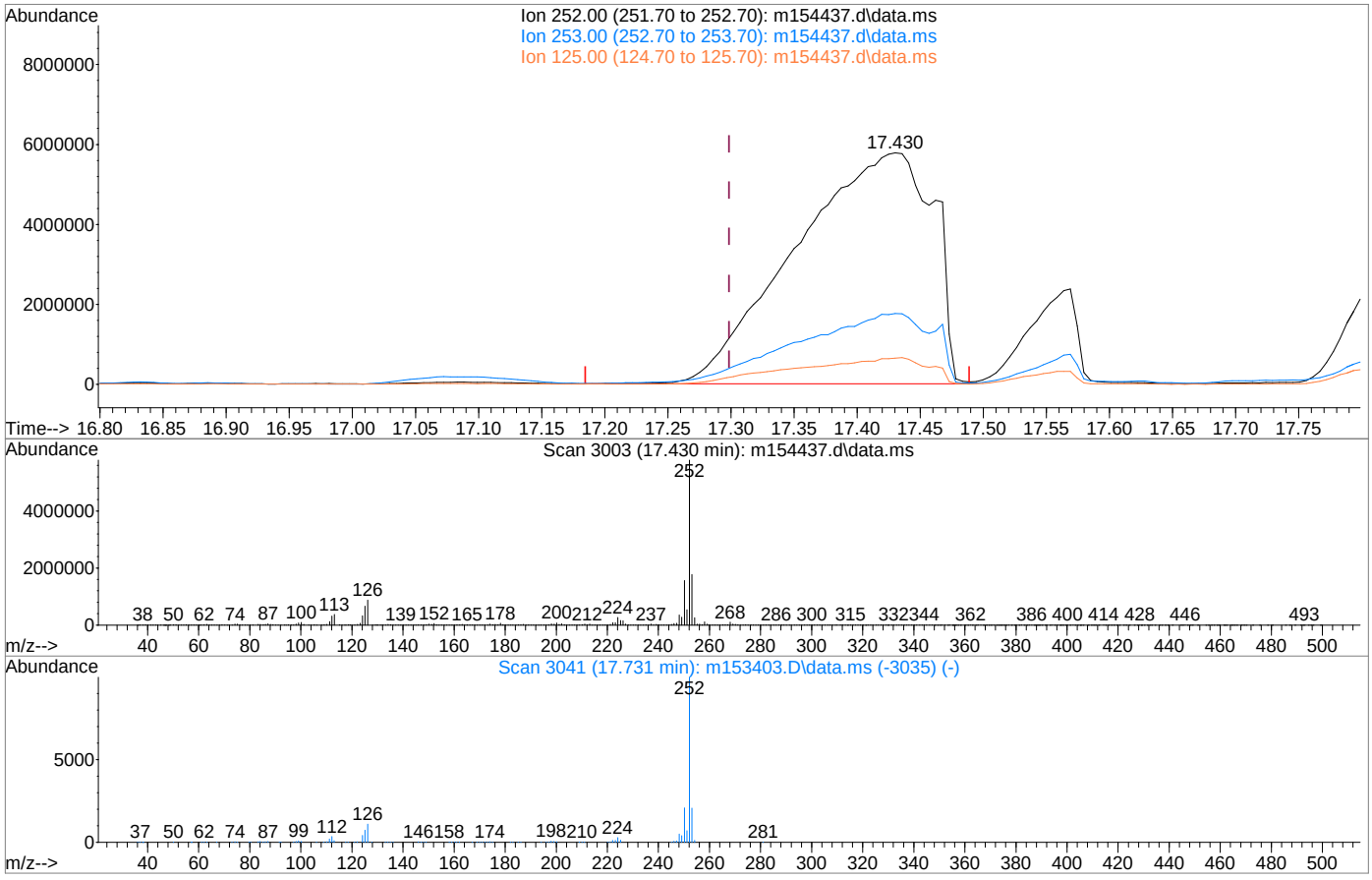
response 43577517

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.80 | 30.31 |
| 125.00 | 13.50 | 11.26 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:52:07 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(94) Benzo[k]fluoranthene (t)

17.430min (+0.132) 1911.98ppm

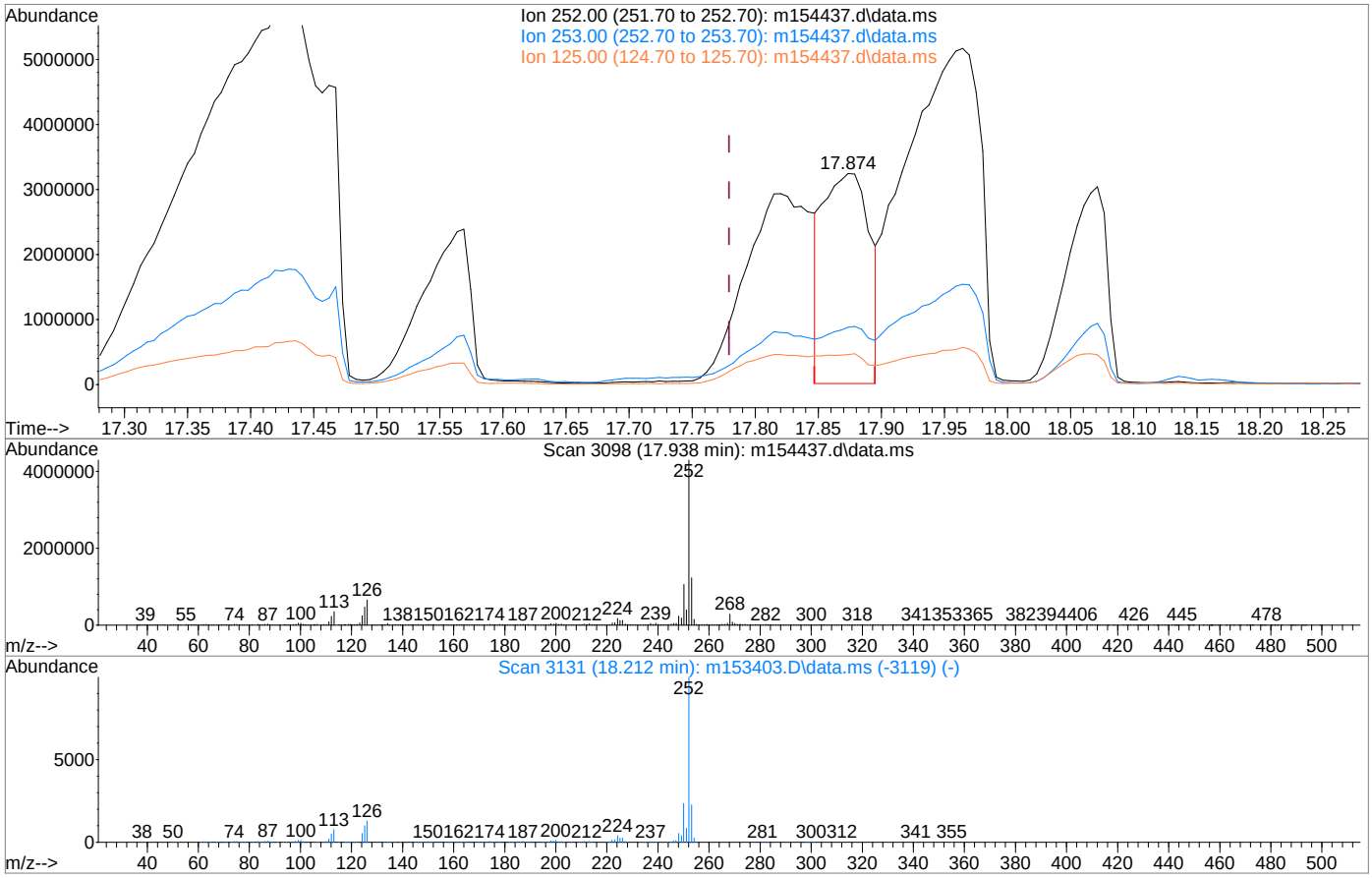
response 43577517

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.90 | 30.31 |
| 125.00 | 12.40 | 11.26 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:52:07 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(95) Benzo[a]pyrene (t)

17.874min (+0.094) 390.56ppm

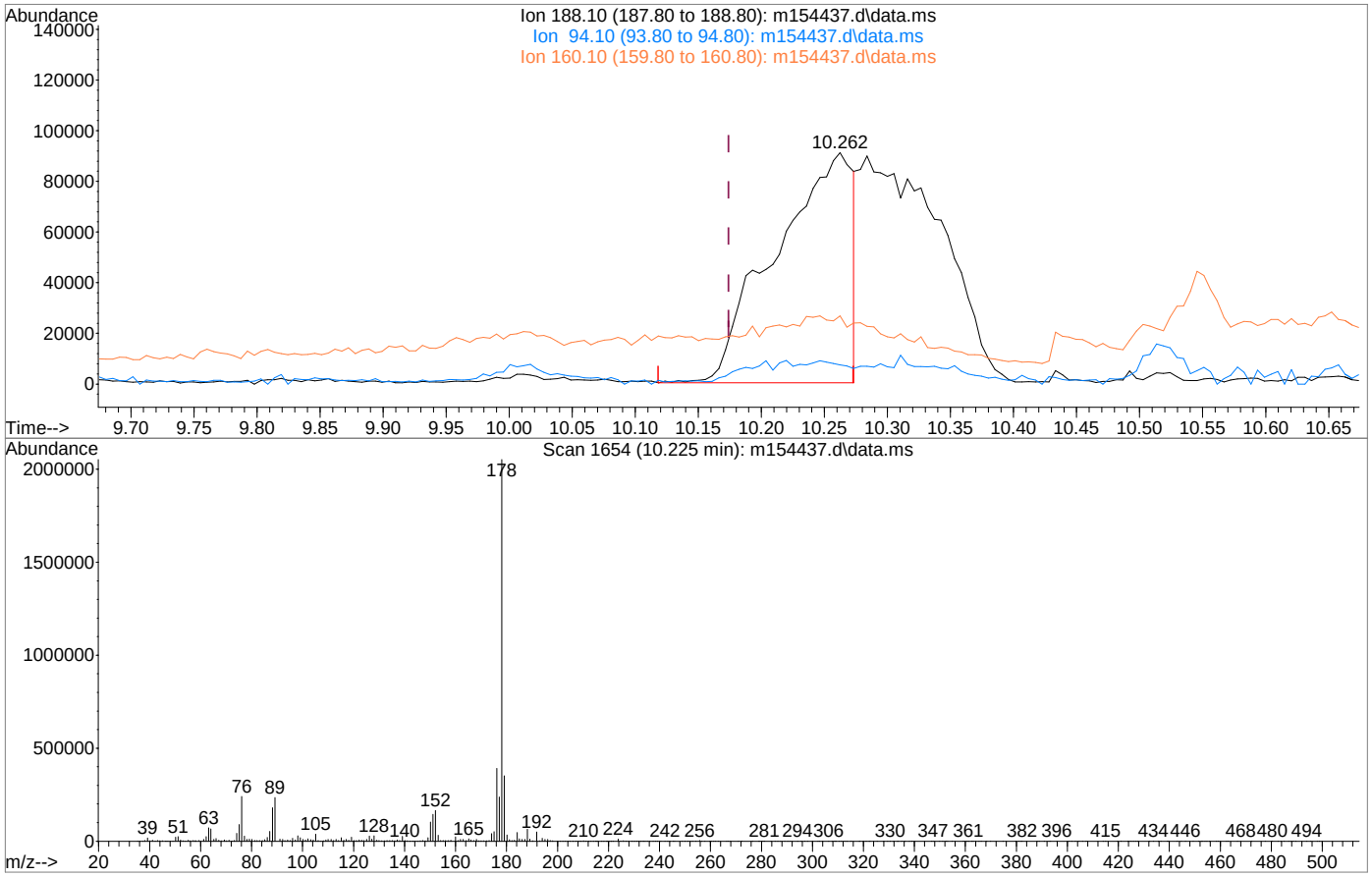
response 8208699

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.40 | 22.44 |
| 125.00 | 12.70 | 11.04 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 10:03:05 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(69) Phenanthrene-d10 (I)

10.262min (+0.088) 40.00ppm

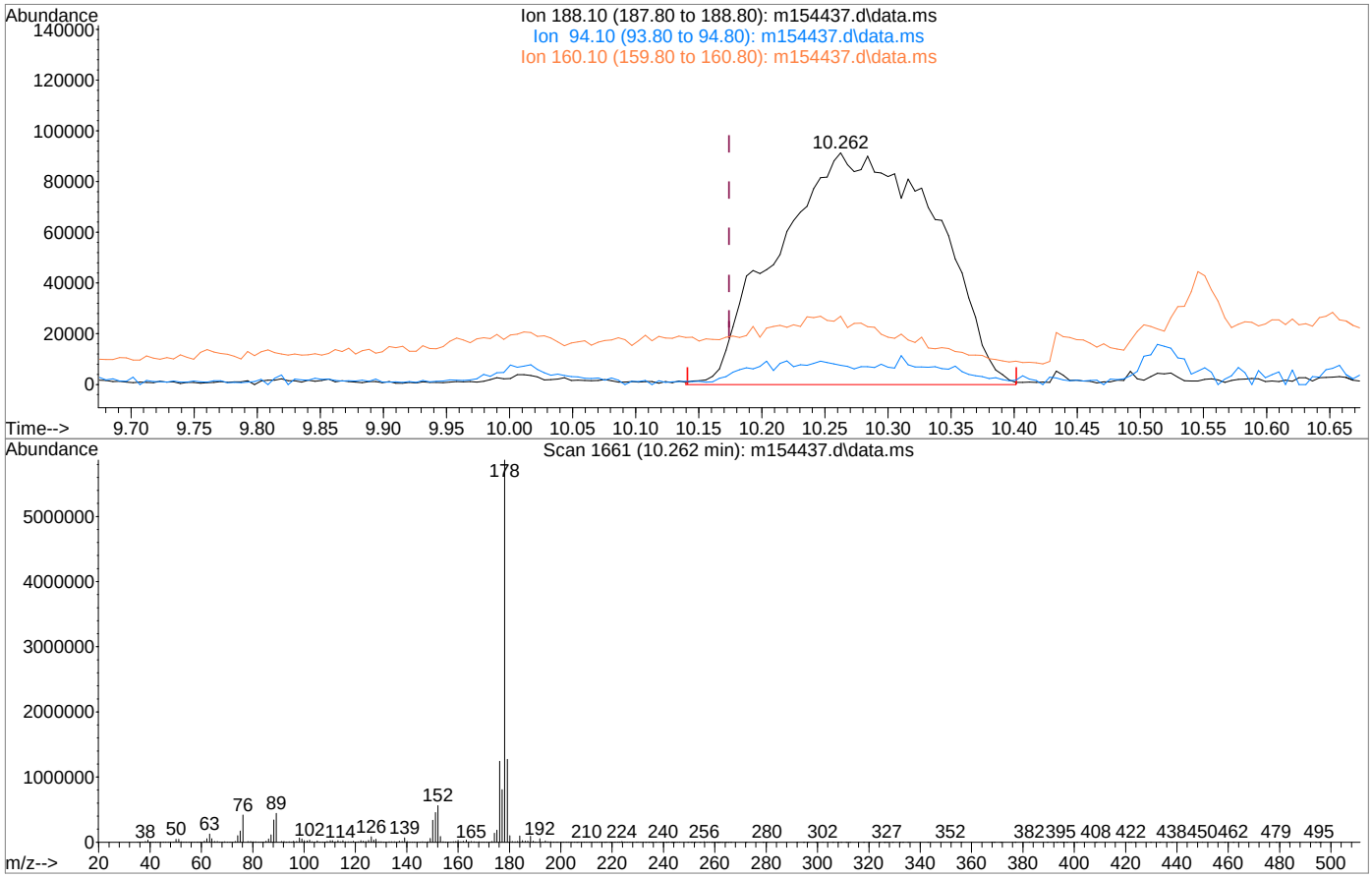
response 384903

| Ion | Exp% | Act% |
|---|---|---|
| 188.10 | 100 | 100 |
| 94.10 | 12.90 | 7.75 |
| 160.10 | 7.40 | 10.97 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 10:03:05 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(69) Phenanthrene-d10 (I)

10.262min (+0.088) 40.00ppm m

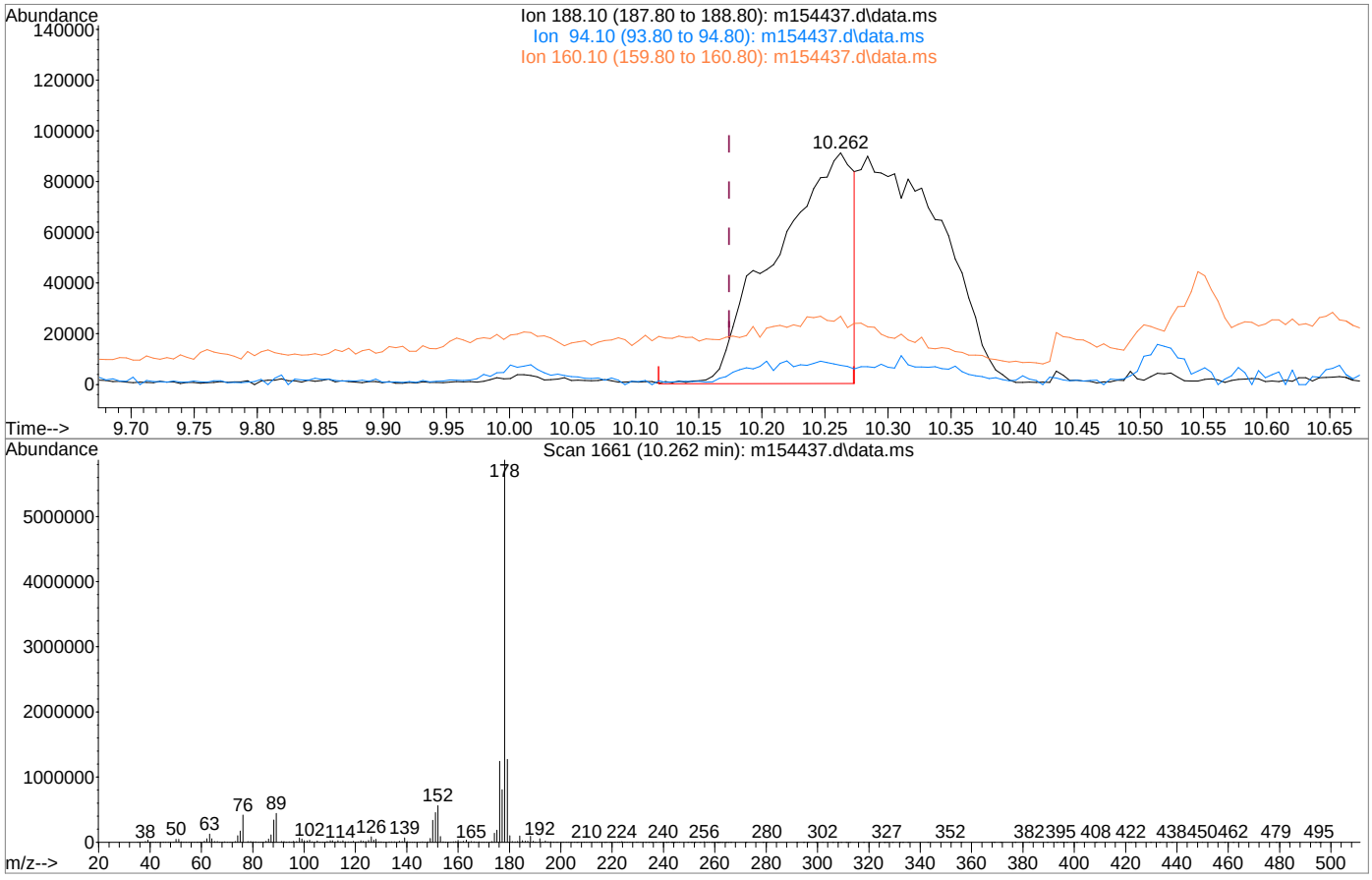
response 793437

| Ion | Exp% | Act% |
|---|---|---|
| 188.10 | 100 | 100 |
| 94.10 | 12.90 | 8.31 |
| 160.10 | 7.40 | 29.40 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 10:03:05 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(110) Phenanthrene-d10a (I)

10.262min (+0.088) 40.00ppm

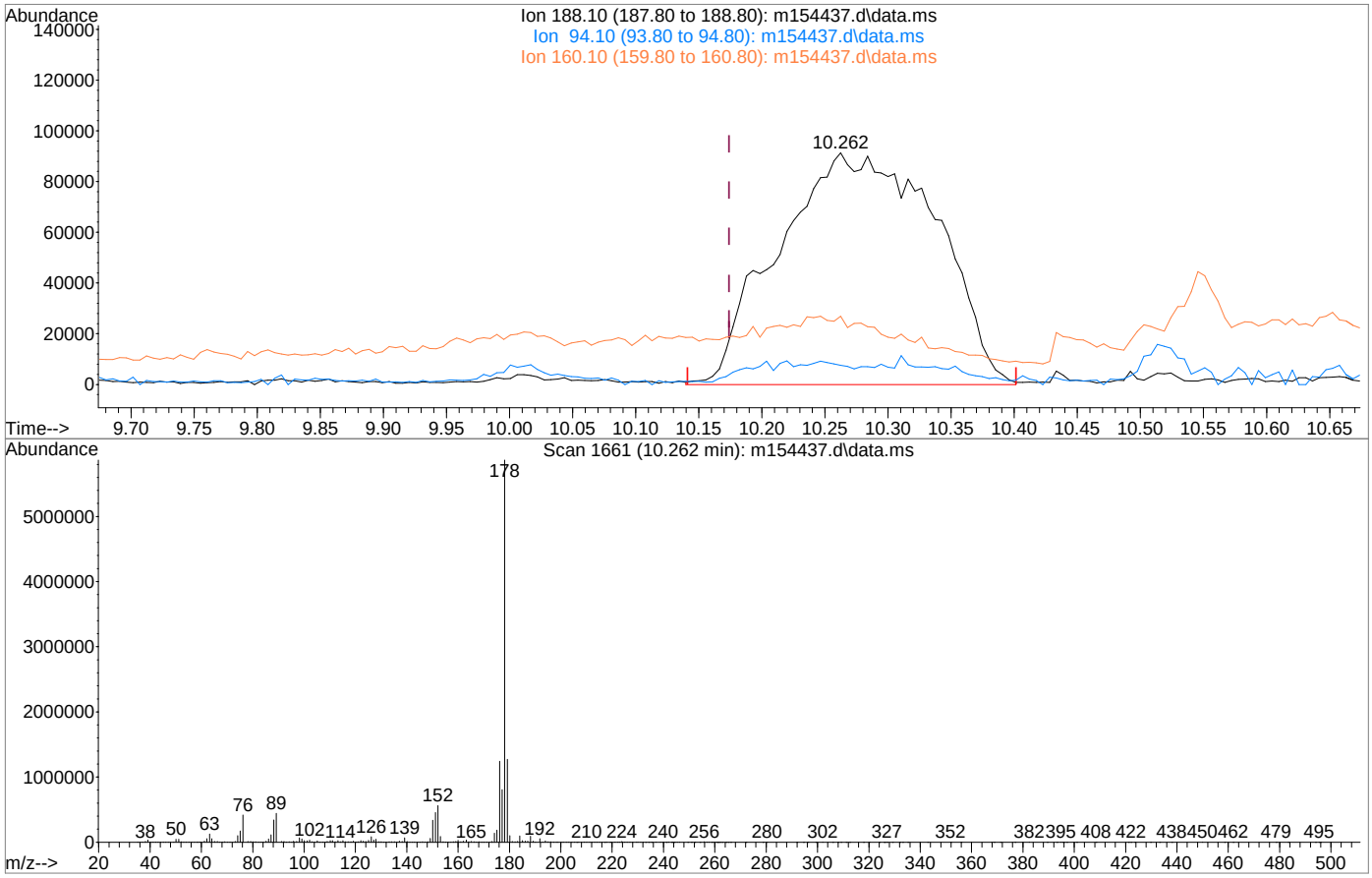
response 386051

| Ion | Exp% | Act% |
|---|---|---|
| 188.10 | 100 | 100 |
| 94.10 | 12.90 | 7.75 |
| 160.10 | 7.40 | 10.97 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 10:03:05 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(110) Phenanthrene-d10a (I)

10.262min (+0.088) 40.00ppm m

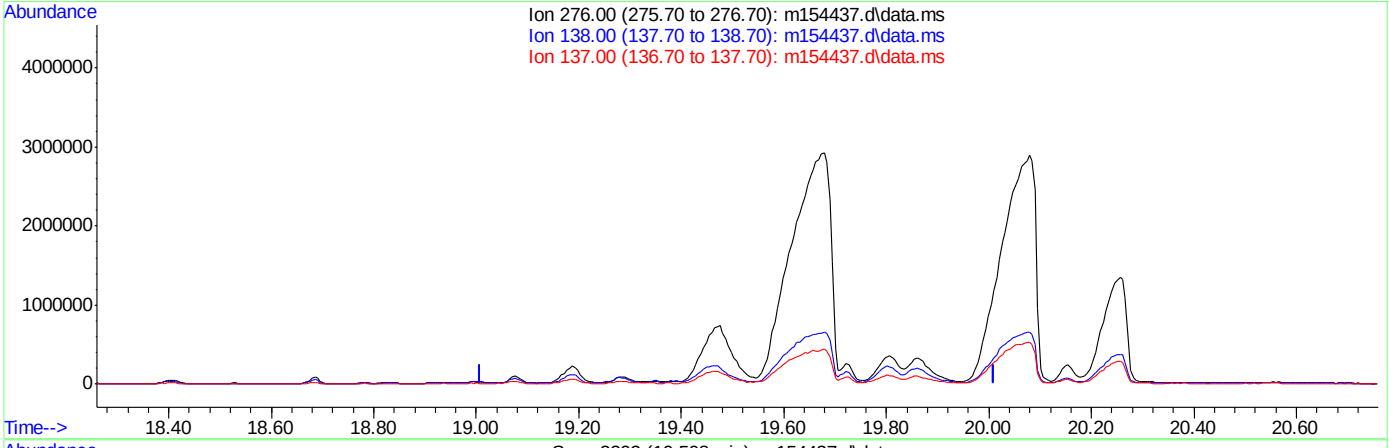
response 793437

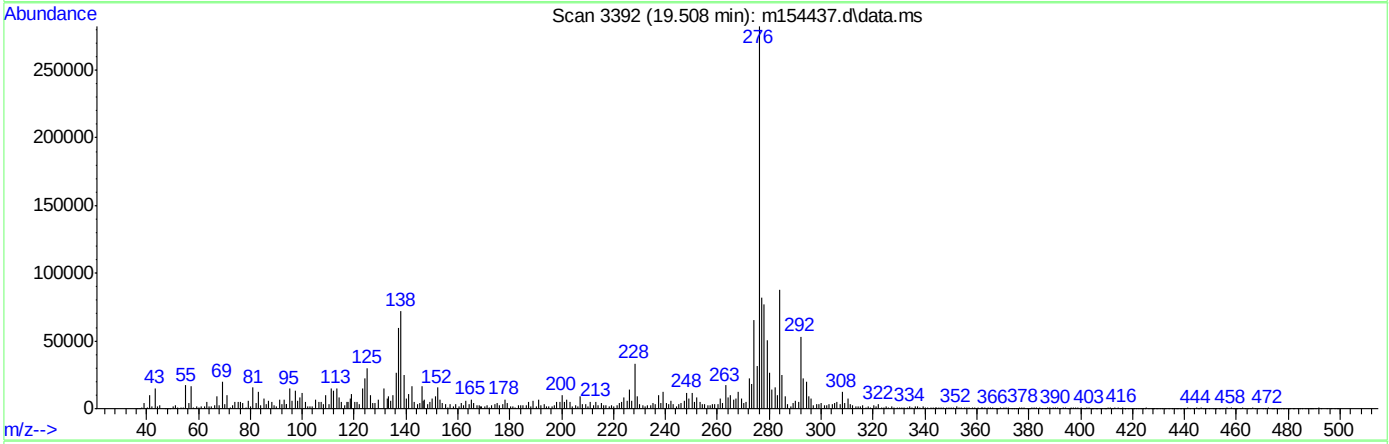
| Ion | Exp% | Act% |
|---|---|---|
| 188.10 | 100 | 100 |
| 94.10 | 12.90 | 8.31 |
| 160.10 | 7.40 | 29.40 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-17-2019\jonkm\em6595\
Data File : m154437.d
Acq On : 16 May 2019 8:23 pm
Operator : christc2
Sample : jc87535-3
Misc : op20268,em6595,30.9,,,1,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 17 10:18:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154437.d\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

19.510min 0.00ppm d

response 0

| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 0.00 |
| 138.00 | 22.50 | 0.00 |
| 137.00 | 16.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/20/19 12:41

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154464.d
Acq On : 17 May 2019 9:12 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,50
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:24:47 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.357 | 152 | 293370 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.409 | 136 | 1090251 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.599 | 164 | 527270 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.141 | 188 | 962486 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.258 | 240 | 926690 | 40.00 | ppm | 0.03 |
| 91) Perylene-d12 | 17.838 | 264 | 828389 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.357 | 152 | 293370 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.599 | 164 | 527161 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.258 | 240 | 925915 | 40.00 | ppm | 0.03 |
| 108) Chrysene-d12b | 15.258 | 240 | 926054 | 40.00 | ppm | 0.03 |
| 110) Phenanthrene-d10a | 10.141 | 188 | 962486 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.409 | 136 | 1090251 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.258 | 240 | 926690 | 40.00 | ppm | 0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.433 | 112 | 6879 | 0.60 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.20% | | |
| 8) Phenol-d5 | 4.170 | 99 | 8126 | 0.57 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.14% | | |
| 25) Nitrobenzene-d5 | 4.784 | 82 | 6723 | 0.58 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.16% | | |
| 51) 2-Fluorobiphenyl | 6.643 | 172 | 13515 | 0.69 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.38% | | |
| 73) 2,4,6-Tribromophenol | 8.918 | 330 | 3027 | 0.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.86% | | |
| 85) Terphenyl-d14 | 13.287 | 244 | 14031 | 0.56 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.12% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.181 | 94 | 18404 | 1.24 | ppm | 72 |
| 18) Acetophenone | 4.667 | 105 | 10756 | 0.80 | ppm | 96 |
| 19) 2-Methylphenol | 4.597 | 108 | 11059 | 1.28 | ppm | 89 |
| 21) 3&4-Methylphenol | 4.720 | 108 | 28175 | 3.25 | ppm | 81 |
| 30) 2,4-Dimethylphenol | 5.142 | 107 | 18136 | 2.10 | ppm | 90 |
| 38) Naphthalene | 5.436 | 128 | 13354040 | 500.25 | ppm | 73 |
| 44) 2-Methylnaphthalene | 6.178 | 141 | 2290290 | 135.31 | ppm | 93 |
| 53) Biphenyl | 6.776 | 154 | 771057 | 36.40 | ppm | 98 |
| 56) Acenaphthylene | 7.380 | 152 | 1610952 | 63.25 | ppm | 99 |
| 59) Acenaphthene | 7.647 | 153 | 273924 | 17.76 | ppm | 96 |
| 62) Dibenzofuran | 7.936 | 168 | 3895675 | 168.96 | ppm | 99 |
| 66) Fluorene | 8.507 | 166 | 5211261 | 272.35 | ppm | 95 |
| 77) Phenanthrene | 10.227 | 178 | 18835133 | 789.28 | ppm | 85 |
| 78) Anthracene | 10.302 | 178 | 4484194 | 178.39 | ppm | 98 |
| 79) Carbazole | 10.654 | 167 | 2041041 | 84.46 | ppm | 99 |
| 81) Fluoranthene | 12.481 | 202 | 13542323 | 429.29 | ppm | 89 |
| 84) Pyrene | 12.887 | 202 | 9390180 | 276.74 | ppm | 91 |
| 87) Benzo[a]anthracene | 15.247 | 228 | 4122939 | 129.94 | ppm | 99 |
| 89) Chrysene | 15.312 | 228 | 3590642 | 127.32 | ppm | 95 |
| 93) Benzo[b]fluoranthene | 17.224 | 252 | 3435437 | 131.64 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 17.261 | 252 | 1173077 | 47.22 | ppm | 95 |
| 95) Benzo[a]pyrene | 17.758 | 252 | 2403734 | 104.93 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 19.472 | 276 | 1261382 | 55.72 | ppm | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154464.d
Acq On : 17 May 2019 9:12 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,50
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:24:47 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration

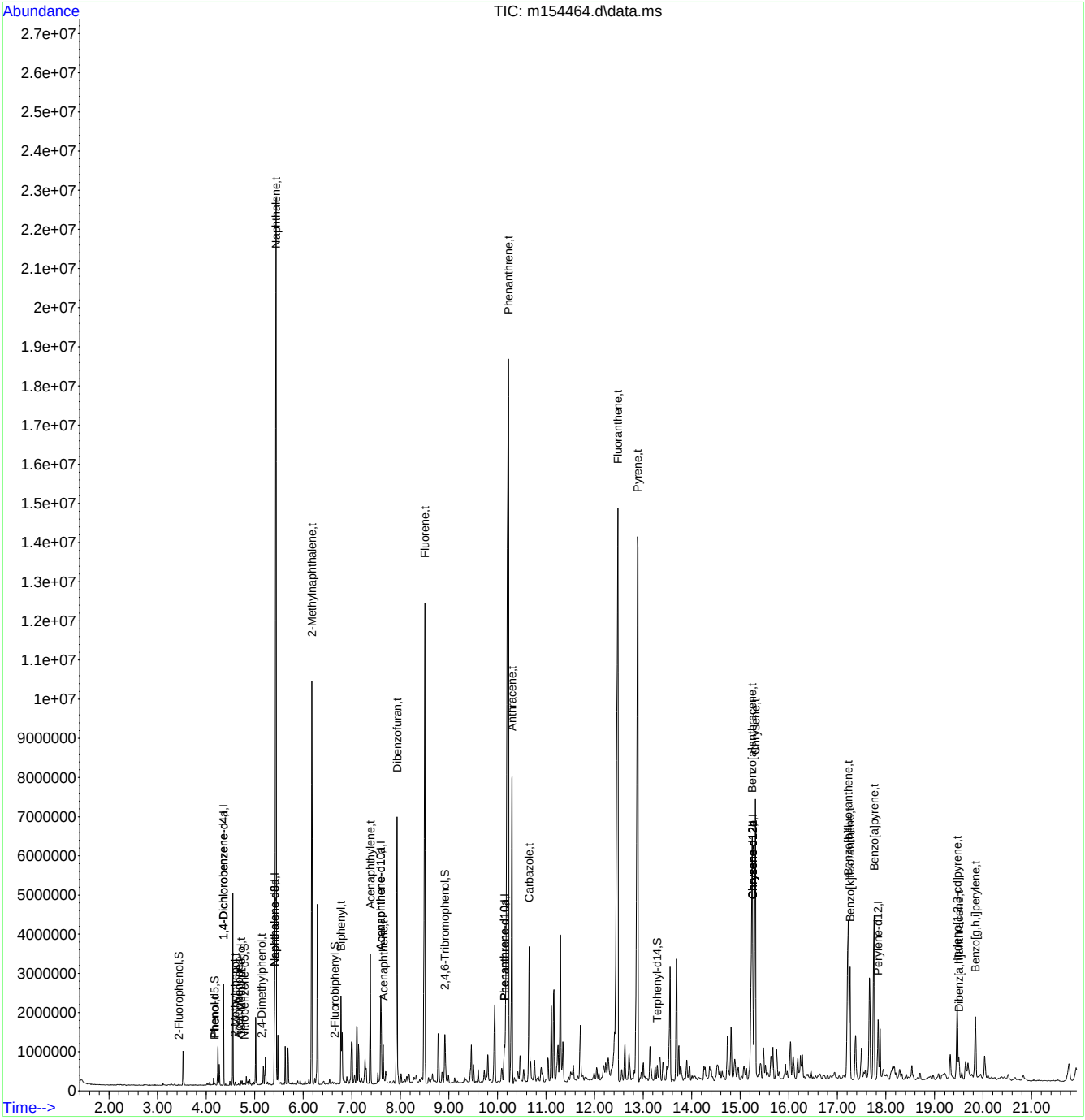
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 19.504 | 278 | 301948m | 14.30 | ppm | |
| 100) | Benzo[g,h,i]perylene | 19.846 | 276 | 1067285 | 49.12 | ppm | 96 |

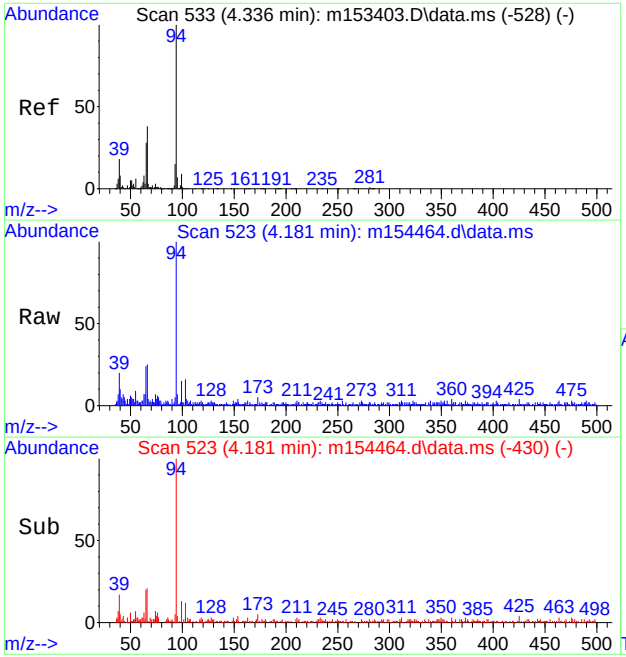
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154464.d
Acq On : 17 May 2019 9:12 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,50
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:24:47 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration

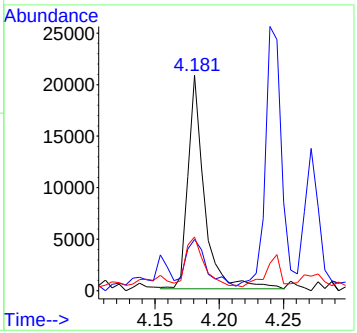


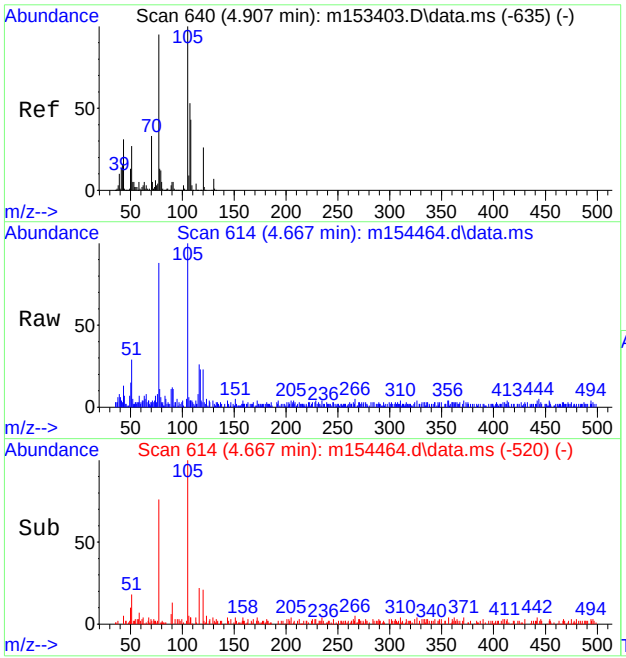



#9
Phenol
Concen: 1.24 ppm
RT: 4.181 min Scan# 523
Delta R.T. -0.001 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion: 94 Resp: 18404

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 0.0 | 0.0 | 54.0 |
| 66 | 20.0 | 0.0 | 54.0 |

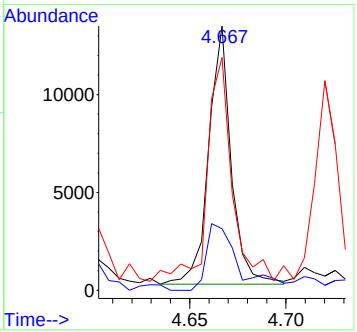


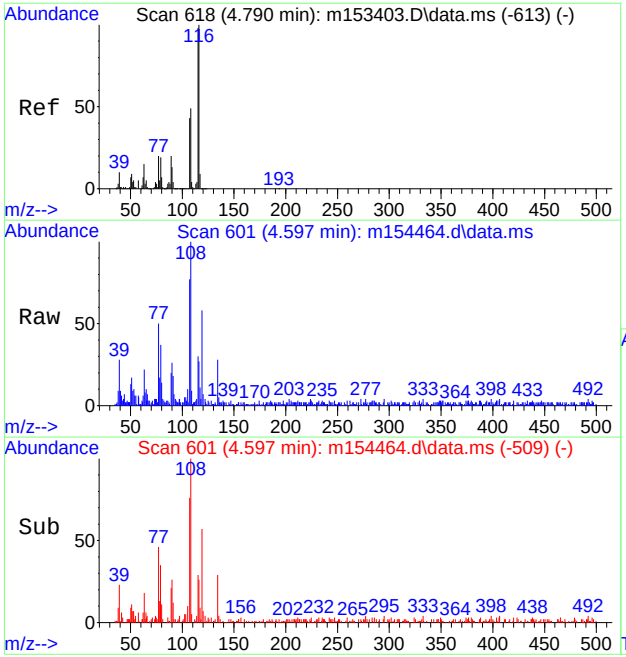




#18
Acetophenone
Concen: 0.80 ppm
RT: 4.667 min Scan# 614
Delta R.T. 0.004 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:105 Resp: 10756

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 21.5 | 0.0 | 56.7 |
| 77 | 81.9 | 50.6 | 110.6 |

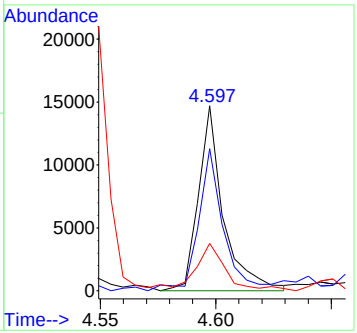


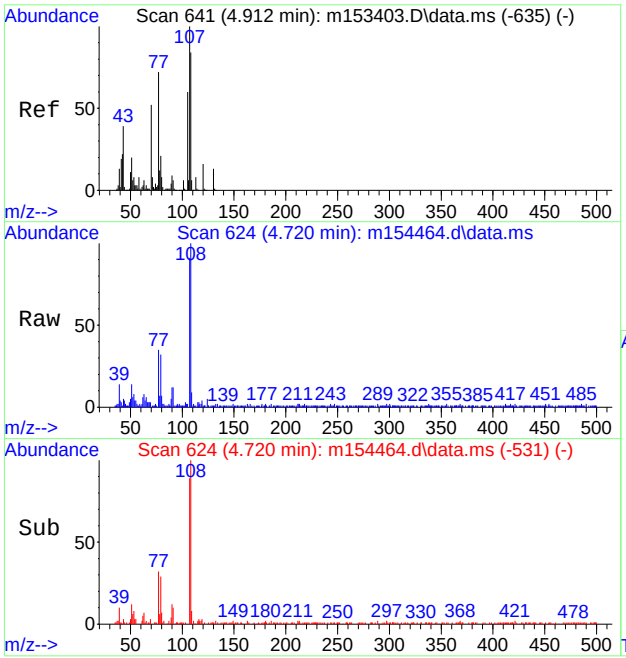



#19
2-Methylphenol
Concen: 1.28 ppm
RT: 4.597 min Scan# 601
Delta R.T. -0.006 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:108 Resp: 11059

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 73.6 | 54.7 | 114.7 |
| 90 | 23.6 | 0.0 | 51.2 |

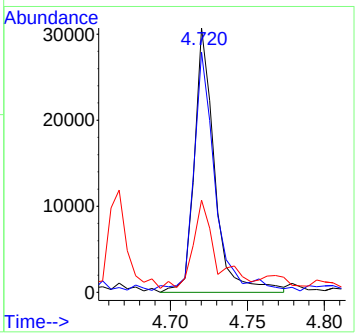


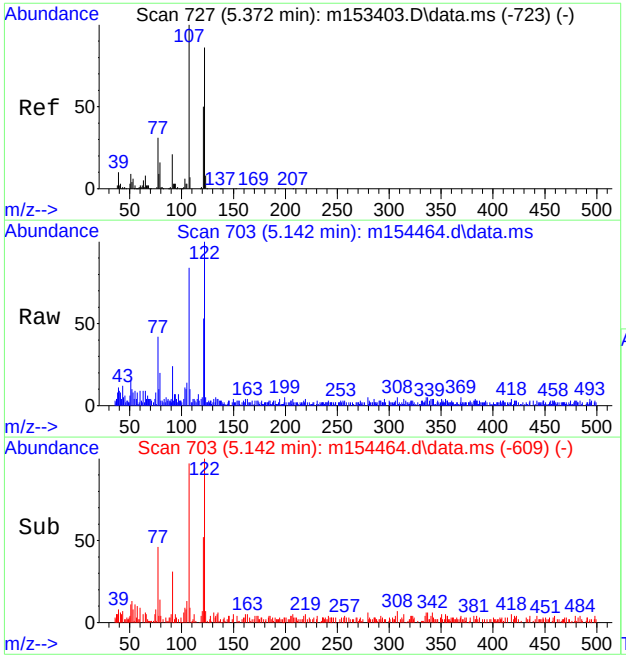




#21
3&4-Methylphenol
Concen: 3.25 ppm
RT: 4.720 min Scan# 624
Delta R.T. -0.001 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:108 Resp: 28175

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 89.8 | 84.0 | 144.0 |
| 77 | 31.5 | 0.0 | 58.4 |

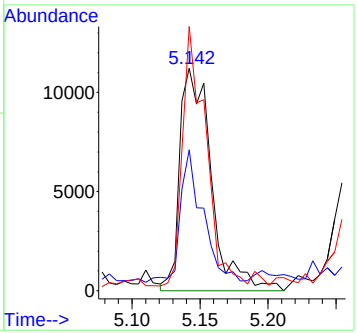


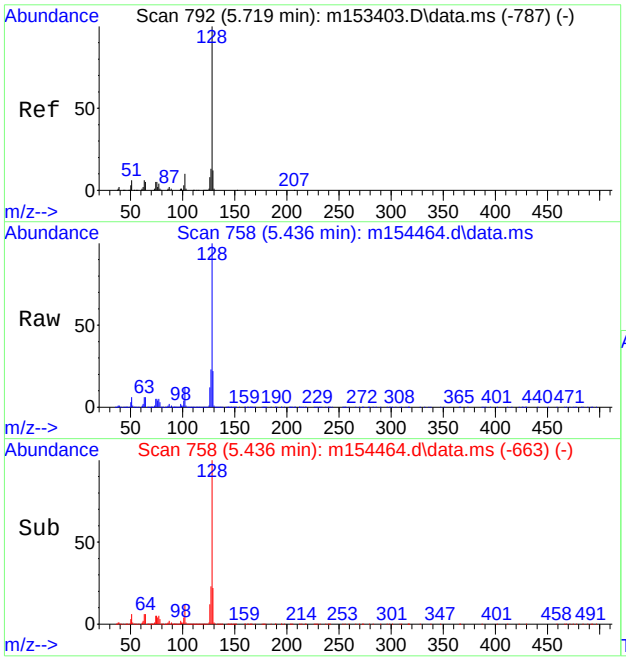



#30
2,4-Dimethylphenol
Concen: 2.10 ppm
RT: 5.142 min Scan# 703
Delta R.T. 0.004 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:107 Resp: 18136

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 57.6 | 25.4 | 85.4 |
| 122 | 116.6 | 72.6 | 132.6 |

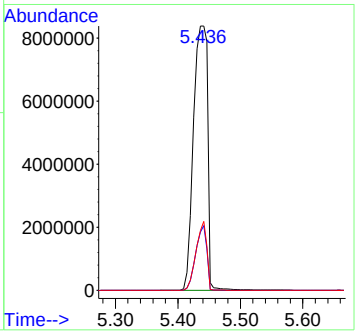


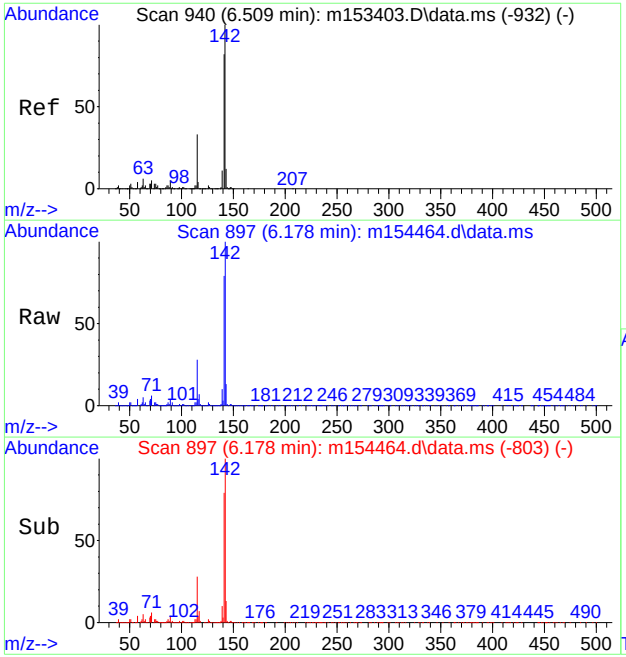




#38
Naphthalene
Concen: 500.25 ppm
RT: 5.436 min Scan# 758
Delta R.T. 0.010 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:128 Resp:13354040

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 22.1 | 0.0 | 41.0 |
| 127 | 22.6 | 0.0 | 42.9 |

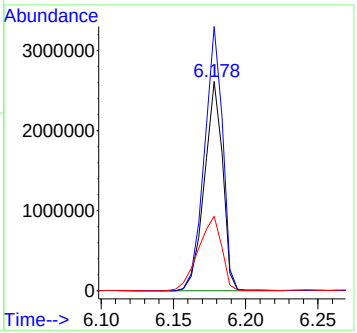


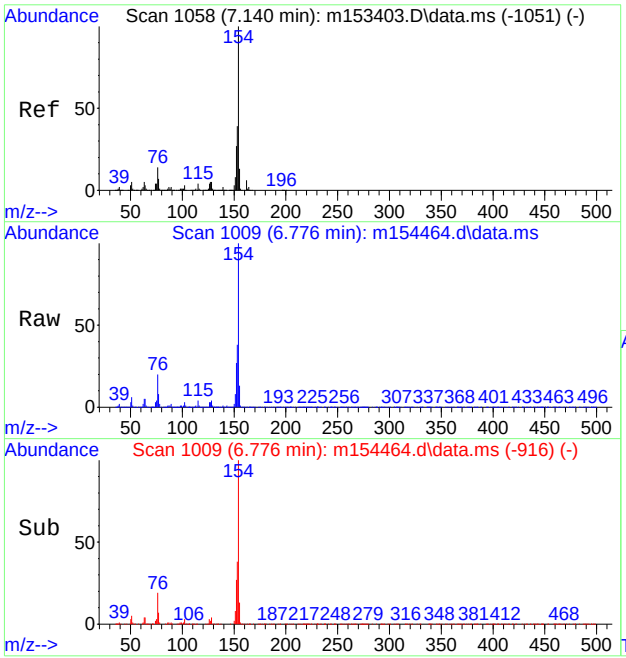



#44
2-Methylnaphthalene
Concen: 135.31 ppm
RT: 6.178 min Scan# 897
Delta R.T. 0.004 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:141 Resp: 2290290

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 126.3 | 89.0 | 149.0 |
| 115 | 35.5 | 1.6 | 61.6 |

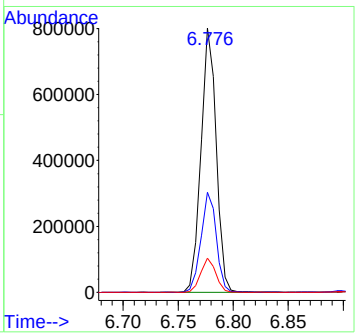


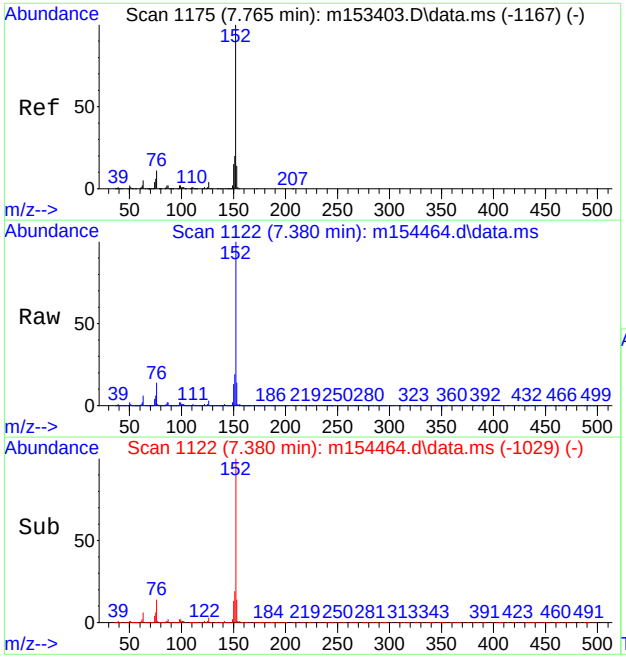




#53
Biphenyl
Concen: 36.40 ppm
RT: 6.776 min Scan# 1009
Delta R.T. -0.001 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:154 Resp: 771057

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 37.8 | 9.4 | 69.4 |
| 155 | 12.9 | 0.0 | 43.5 |

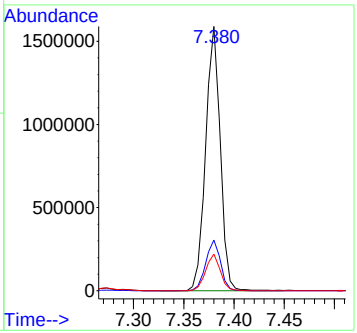


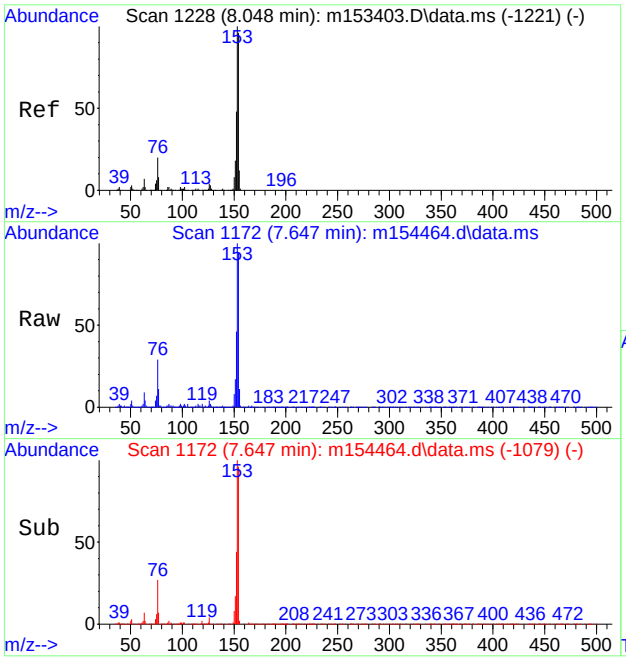



#56
Acenaphthylene
Concen: 63.25 ppm
RT: 7.380 min Scan# 1122
Delta R.T. -0.001 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:152 Resp: 1610952

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 19.1 | 0.0 | 50.0 |
| 153 | 13.9 | 0.0 | 44.2 |

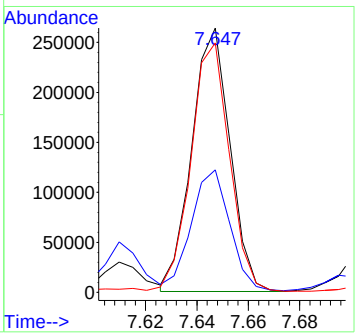


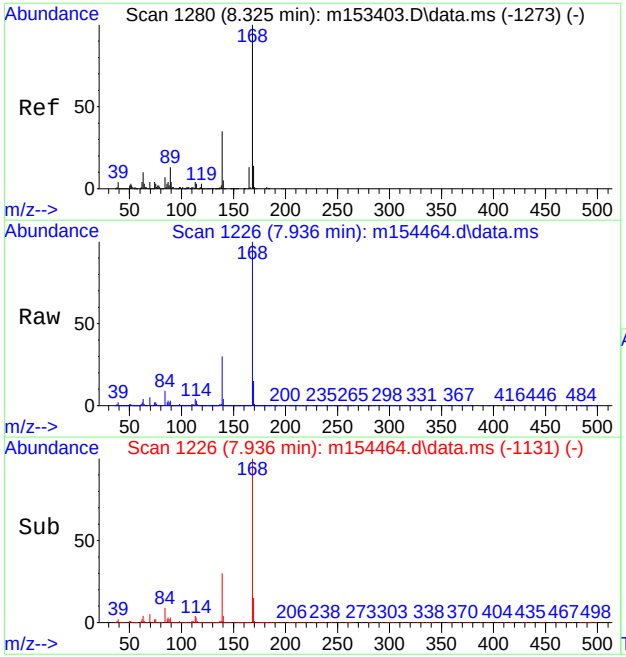




#59
Acenaphthene
Concen: 17.76 ppm
RT: 7.647 min Scan# 1172
Delta R.T. -0.001 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:153 Resp: 273924

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 45.2 | 18.0 | 78.0 |
| 154 | 94.5 | 67.7 | 127.7 |

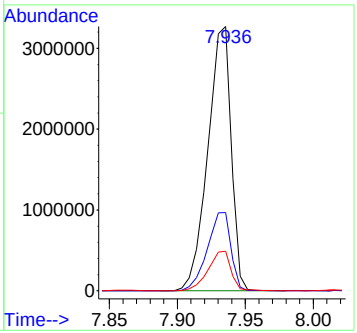


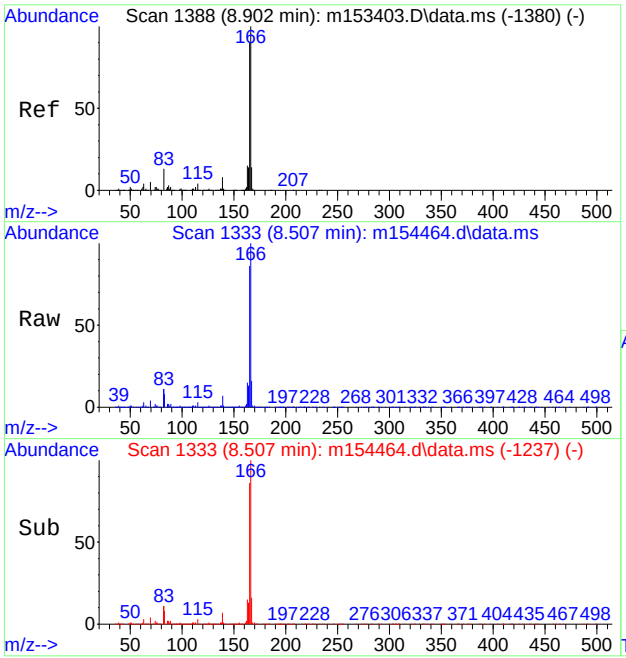



#62
Dibenzofuran
Concen: 168.96 ppm
RT: 7.936 min Scan# 1226
Delta R.T. 0.010 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:168 Resp: 3895675

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 29.6 | 0.0 | 58.8 |
| 169 | 15.0 | 0.0 | 44.3 |

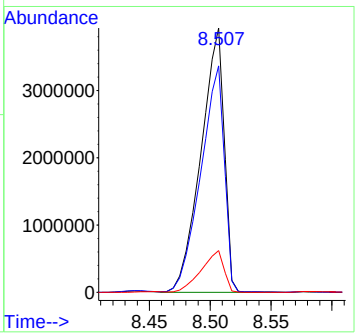


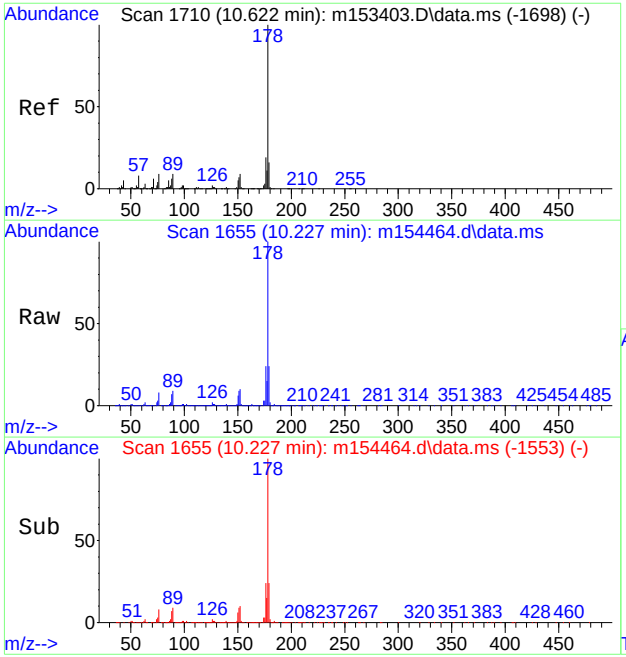




#66
Fluorene
Concen: 272.35 ppm
RT: 8.507 min Scan# 1333
Delta R.T. 0.015 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:166 Resp: 5211261

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 85.5 | 59.8 | 119.8 |
| 167 | 15.7 | 0.0 | 43.1 |

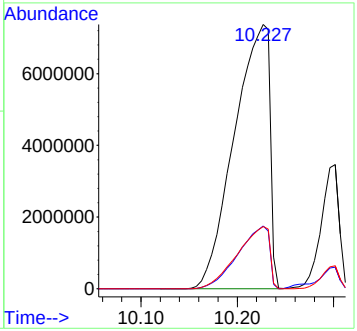


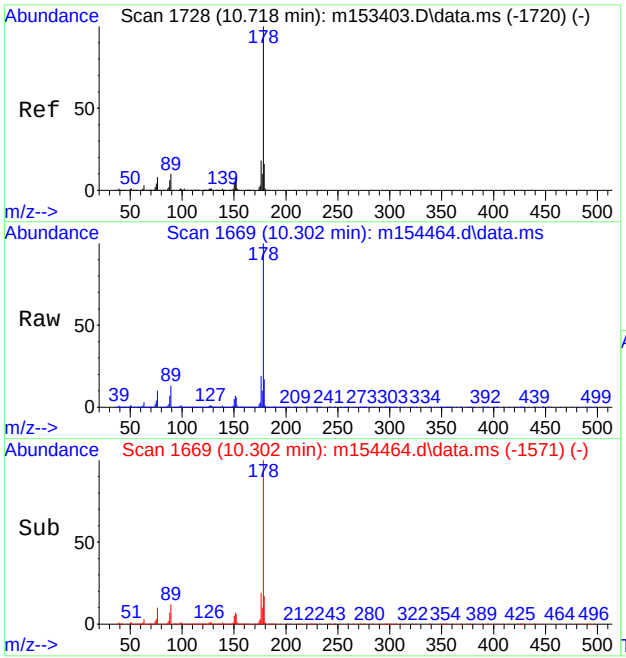



#77
Phenanthrene
Concen: 789.28 ppm
RT: 10.227 min Scan# 1655
Delta R.T. 0.047 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:178 Resp:18835133

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 23.7 | 0.0 | 46.1 |
| 176 | 23.6 | 0.0 | 47.8 |

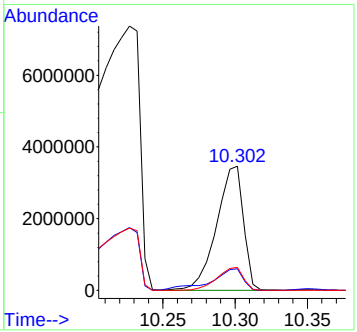


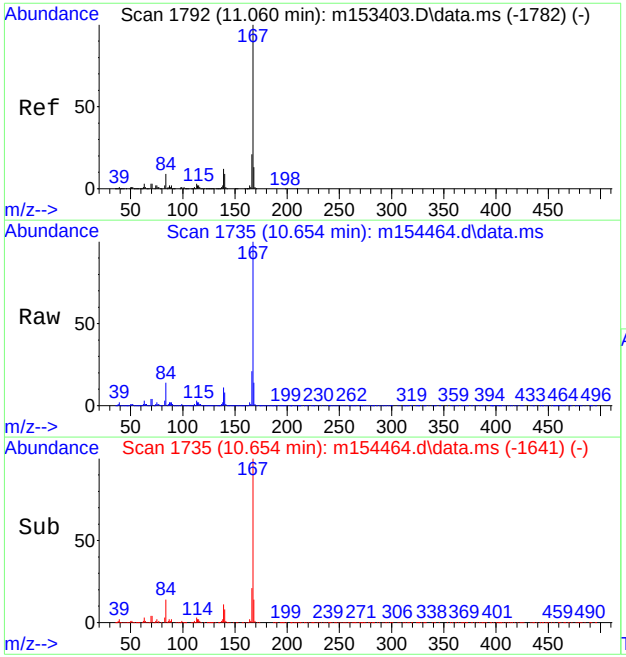




#78
Anthracene
Concen: 178.39 ppm
RT: 10.302 min Scan# 1669
Delta R.T. 0.026 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:178 Resp: 4484194

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 17.2 | 0.0 | 45.8 |
| 176 | 18.6 | 0.0 | 48.0 |

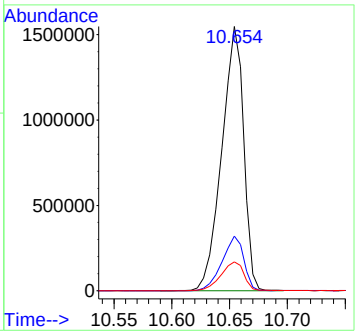


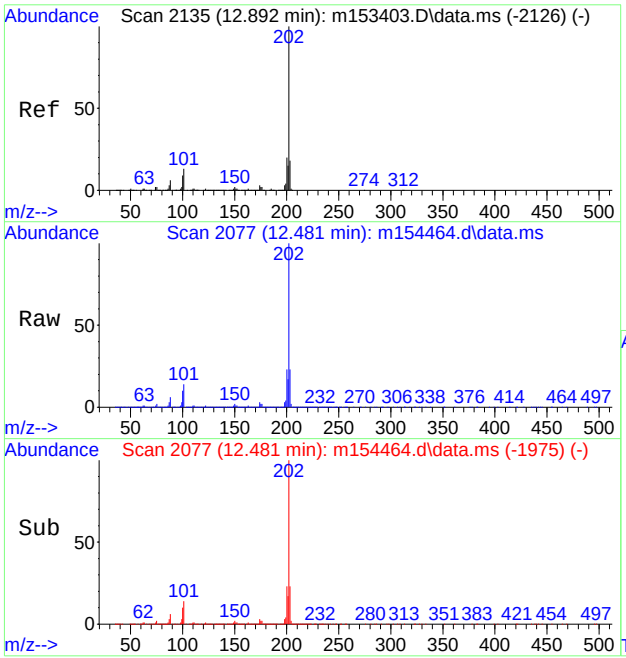



#79
Carbazole
Concen: 84.46 ppm
RT: 10.654 min Scan# 1735
Delta R.T. 0.004 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:167 Resp: 2041041

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.7 | 0.0 | 50.1 |
| 139 | 10.8 | 0.0 | 40.7 |

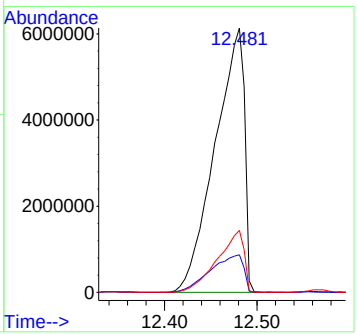


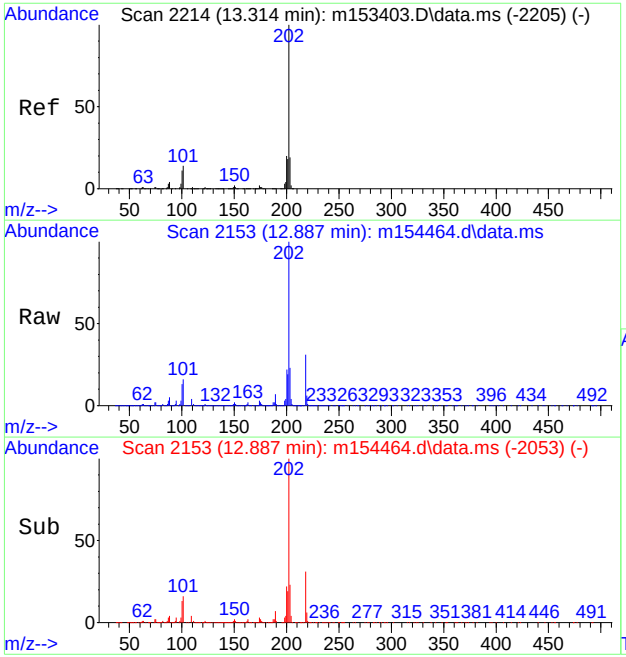




#81
Fluoranthene
Concen: 429.29 ppm
RT: 12.481 min Scan# 2077
Delta R.T. 0.047 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:202 Resp:13542323

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.2 | 0.0 | 48.4 |
| 203 | 23.5 | 0.0 | 47.6 |

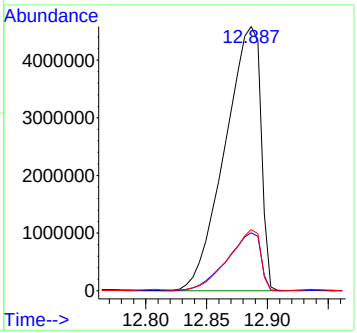


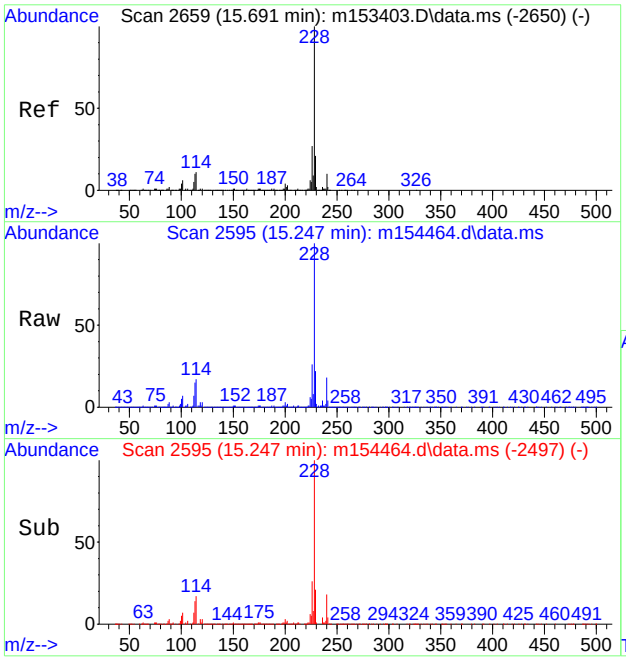



#84
Pyrene
Concen: 276.74 ppm
RT: 12.887 min Scan# 2153
Delta R.T. 0.036 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:202 Resp: 9390180

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.9 | 0.0 | 49.1 |
| 203 | 22.9 | 0.0 | 47.5 |

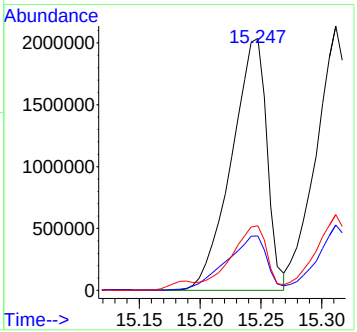


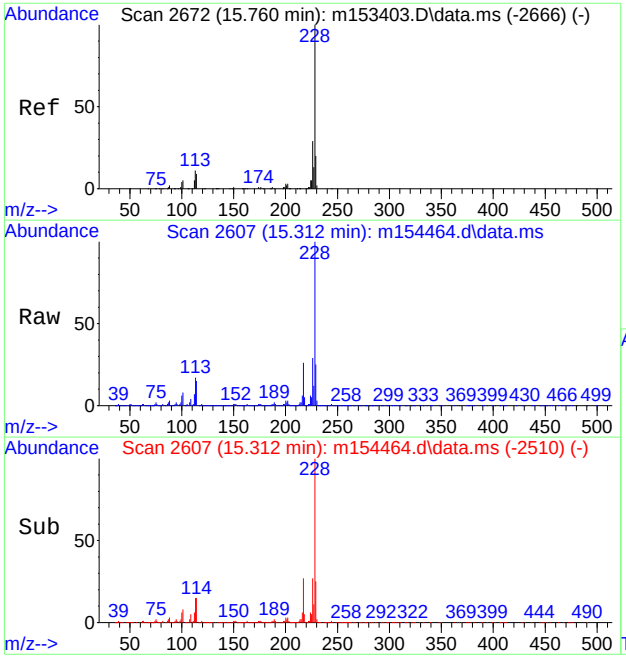




#87
Benzo[a]anthracene
Concen: 129.94 ppm
RT: 15.247 min Scan# 2595
Delta R.T. 0.026 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:228 Resp: 4122939

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.4 | 0.0 | 50.1 |
| 226 | 25.1 | 0.0 | 55.2 |

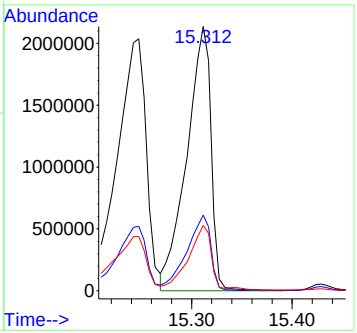


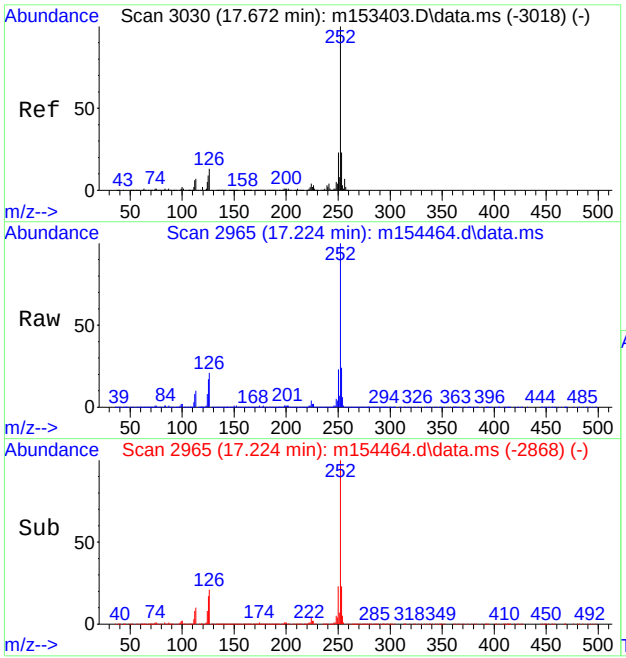



#89
Chrysene
Concen: 127.32 ppm
RT: 15.312 min Scan# 2607
Delta R.T. 0.020 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:228 Resp: 3590642

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.4 | 0.0 | 58.0 |
| 229 | 24.4 | 0.0 | 49.4 |

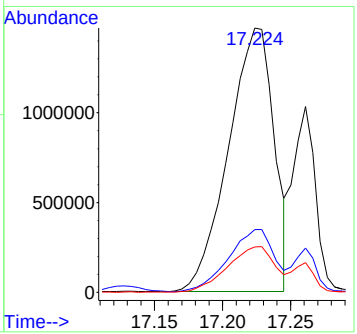


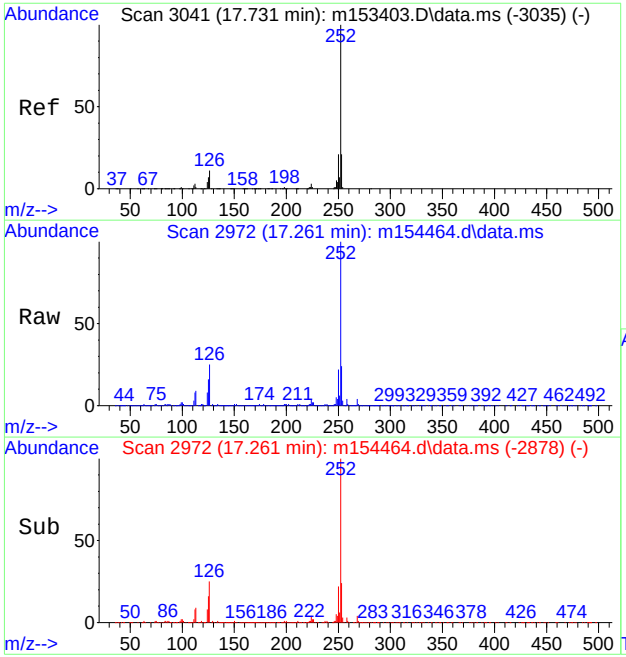




#93
Benzo[b]fluoranthene
Concen: 131.64 ppm
RT: 17.224 min Scan# 2965
Delta R.T. 0.020 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:252 Resp: 3435437

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.6 | 0.0 | 53.6 |
| 125 | 16.7 | 0.0 | 44.2 |

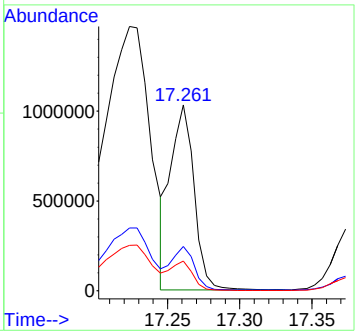


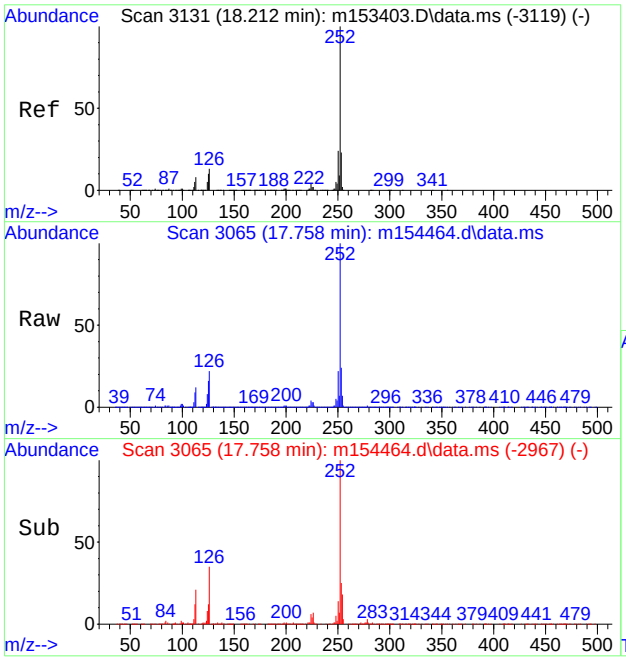



#94
Benzo[k]fluoranthene
Concen: 47.22 ppm
RT: 17.261 min Scan# 2972
Delta R.T. 0.004 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:252 Resp: 1173077

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.7 | 0.0 | 51.5 |
| 125 | 15.1 | 0.0 | 42.6 |

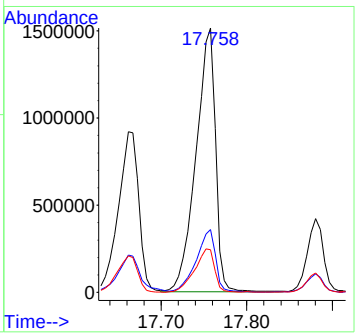


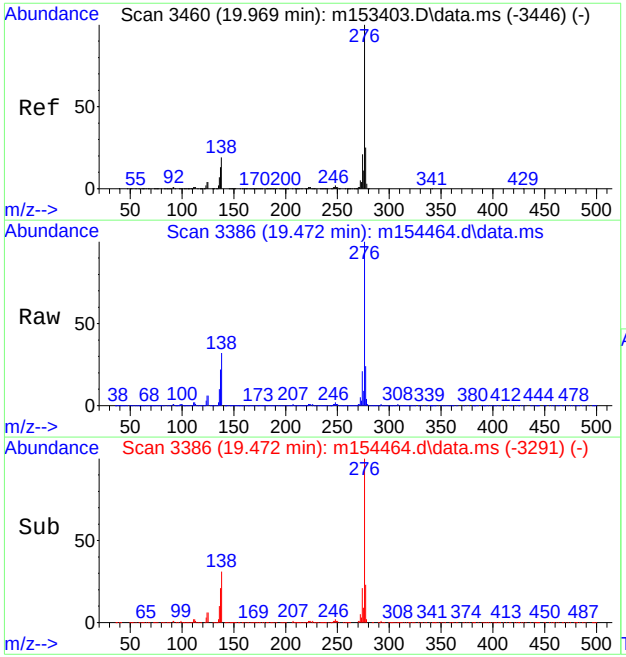




#95
Benzo[a]pyrene
Concen: 104.93 ppm
RT: 17.758 min Scan# 3065
Delta R.T. 0.026 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:252 Resp: 2403734

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.3 | 0.0 | 51.7 |
| 125 | 16.0 | 0.0 | 45.3 |

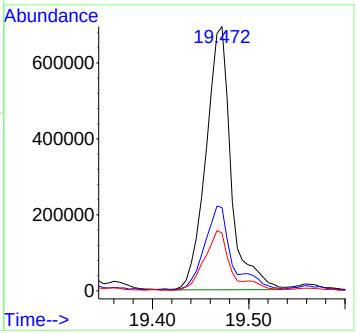


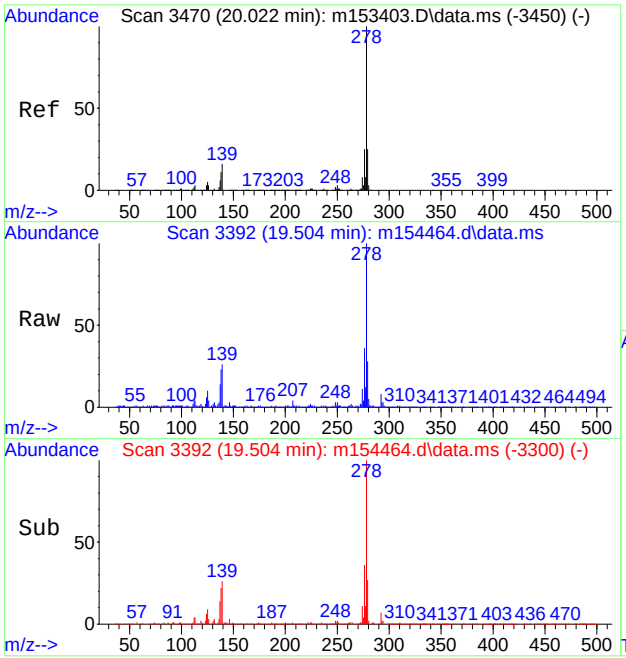



#96
Indeno[1,2,3-cd]pyrene
Concen: 55.72 ppm
RT: 19.472 min Scan# 3386
Delta R.T. 0.010 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:276 Resp: 1261382

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 31.2 | 0.0 | 56.8 |
| 137 | 21.7 | 0.0 | 49.1 |

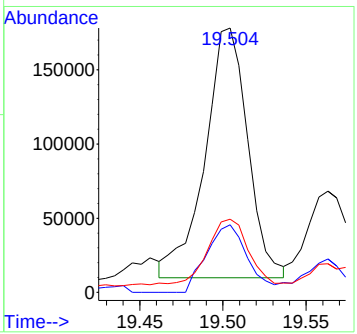


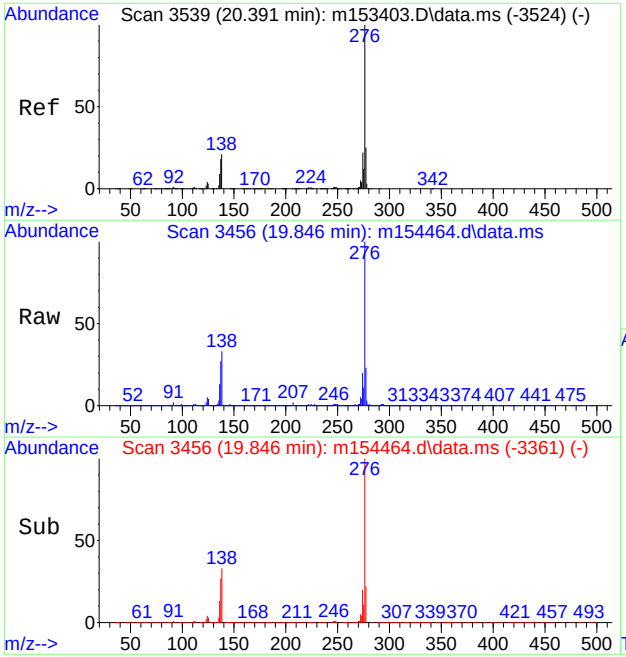




#98
Dibenz[a,h]anthracene
Concen: 14.30 ppm m
RT: 19.504 min Scan# 3392
Delta R.T. -0.006 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:278 Resp: 301948

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 25.5 | 0.0 | 51.0 |
| 279 | 27.7 | 0.0 | 55.4 |

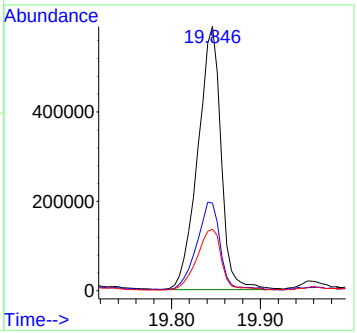





#100
Benzo[g,h,i]perylene
Concen: 49.12 ppm
RT: 19.846 min Scan# 3456
Delta R.T. 0.010 min
Lab File: m154464.d
Acq: 17 May 2019 9:12 pm

Tgt Ion:276 Resp: 1067285

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 32.9 | 0.2 | 60.2 |
| 277 | 23.1 | 0.0 | 54.1 |



# Manual Integration Approval Summary



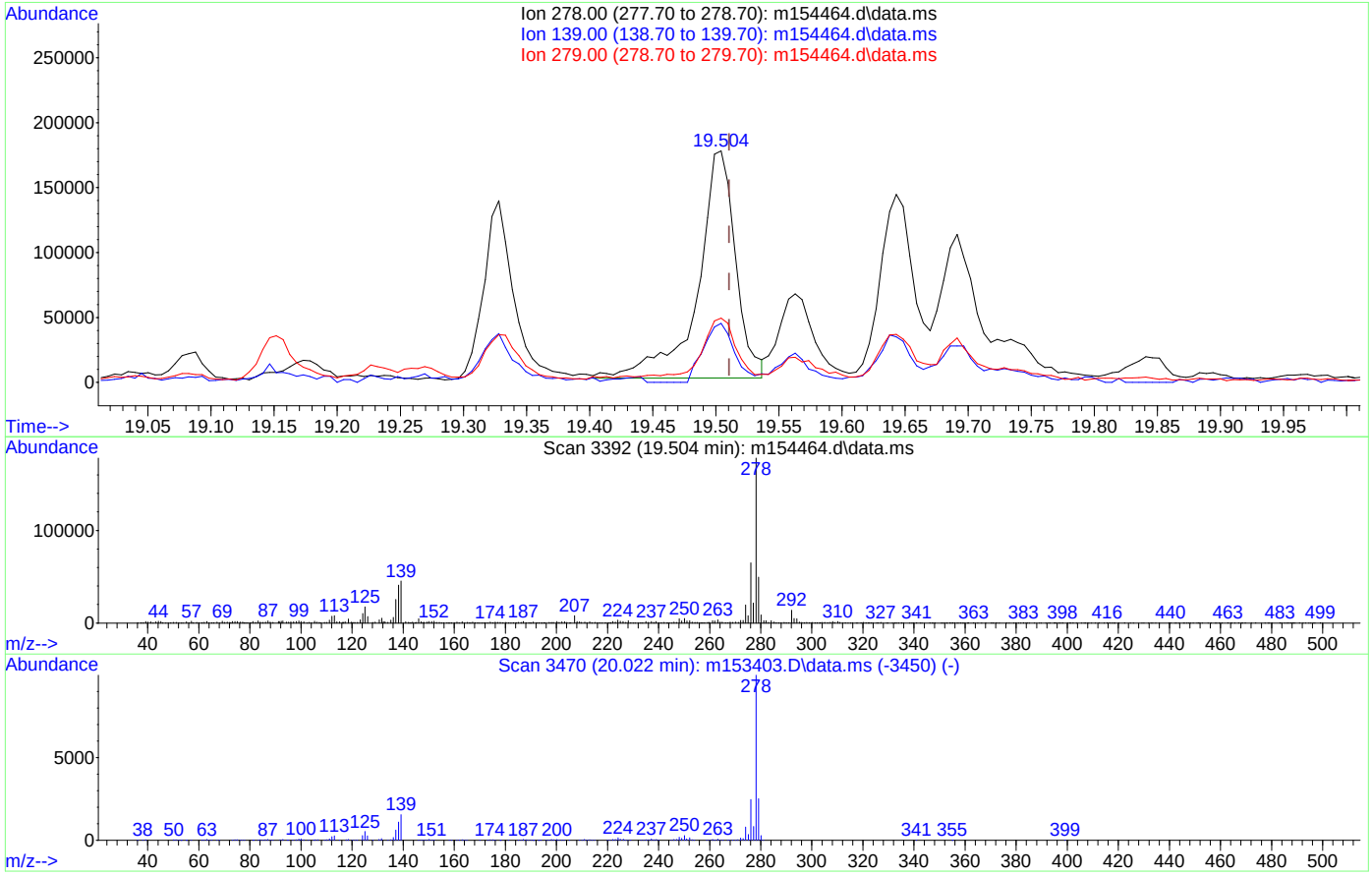
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-3 | **Method:** | SW846 8270D |
| **Lab FileID:** | M154464.D | **Analyst approved:** | 05/19/19 23:31 Michelle Co |
| **Injection Time:** | 05/17/19 21:12 | **Supervisor approved:** | 05/20/19 12:41 Kristi Schollenberger |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Dibenzo(a,h)anthracene | 53-70-3 | | 19.50 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154464.d
Acq On : 17 May 2019 9:12 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,50
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:14:37 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration




TIC: m154464.d\data.ms

(98) Dibenz[a,h]anthracene (t)

19.504min (-0.006) 17.35ppm

response 366278

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 21.00 | 24.17 |
| 279.00 | 25.40 | 26.33 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/20/19 12:41

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154465.d
Acq On : 17 May 2019 9:41 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,500
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:30:11 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration

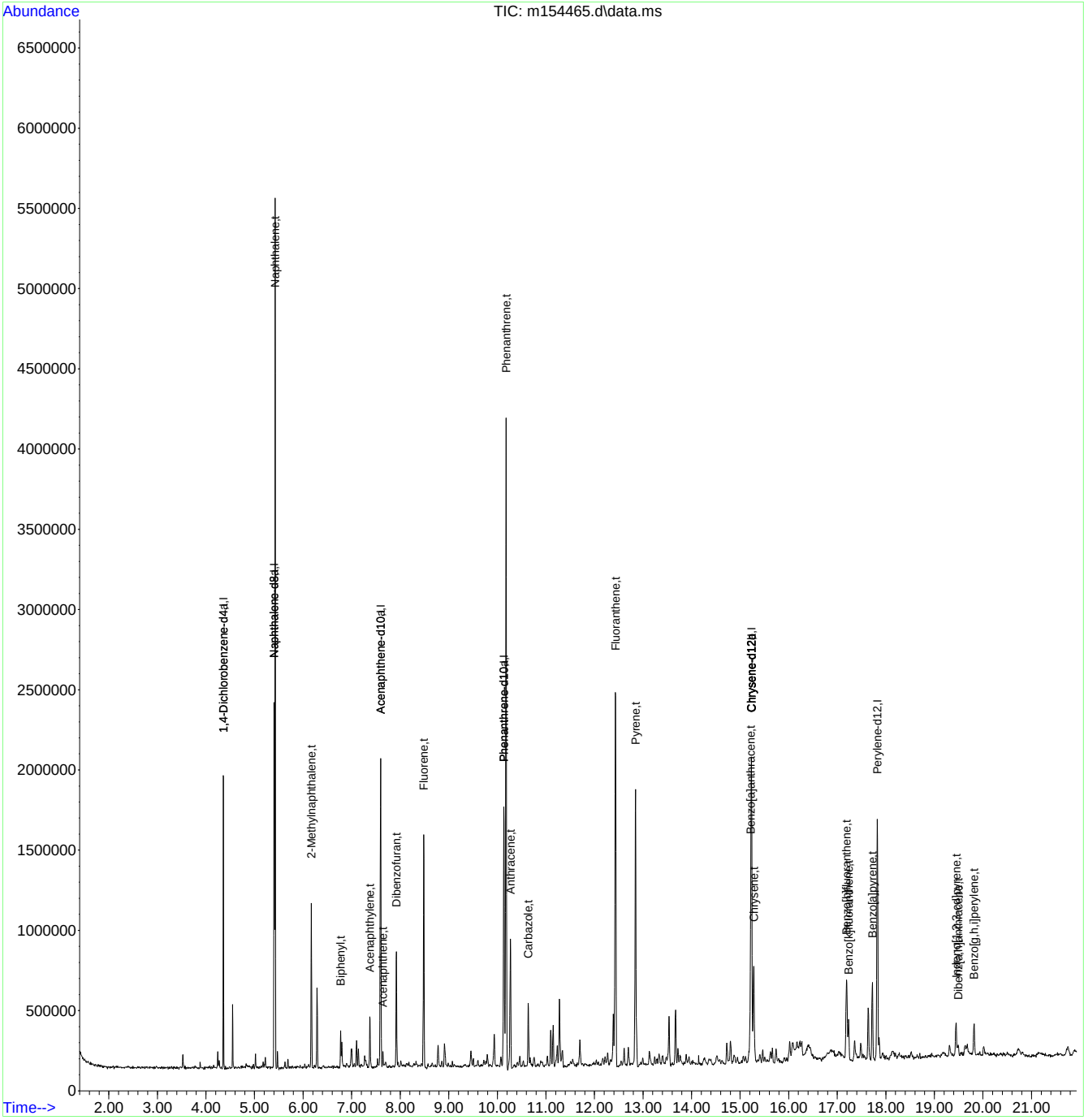
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.360 | 152 | 259418 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.402 | 136 | 918095 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.597 | 164 | 473555 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.134 | 188 | 879096 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.235 | 240 | 818765 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.825 | 264 | 817448 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.360 | 152 | 259418 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.597 | 164 | 473031 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.235 | 240 | 817082 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.235 | 240 | 817316 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.134 | 188 | 879096 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.402 | 136 | 918095 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.235 | 240 | 818765 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.423 | 128 | 2073723 | 92.25 | ppm | 98 |
| 44) 2-Methylnaphthalene | 6.171 | 141 | 224185 | 15.73 | ppm | 98 |
| 53) Biphenyl | 6.774 | 154 | 79368 | 4.17 | ppm | 95 |
| 56) Acenaphthylene | 7.373 | 152 | 164249 | 7.18 | ppm | 97 |
| 59) Acenaphthene | 7.640 | 153 | 30136 | 2.18 | ppm | 93 |
| 62) Dibenzofuran | 7.923 | 168 | 380421 | 18.37 | ppm | 99 |
| 66) Fluorene | 8.484 | 166 | 488216 | 28.41 | ppm | 98 |
| 77) Phenanthrene | 10.182 | 178 | 2025205 | 92.92 | ppm | 98 |
| 78) Anthracene | 10.268 | 178 | 432811 | 18.85 | ppm | 99 |
| 79) Carbazole | 10.636 | 167 | 223438 | 10.12 | ppm | 100 |
| 81) Fluoranthene | 12.436 | 202 | 1320672 | 45.84 | ppm | 100 |
| 84) Pyrene | 12.847 | 202 | 924705 | 30.84 | ppm | 98 |
| 87) Benzo[a]anthracene | 15.219 | 228 | 427562 | 15.25 | ppm | 100 |
| 89) Chrysene | 15.283 | 228 | 340061 | 13.65 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.190 | 252 | 347266 | 13.48 | ppm | 94 |
| 94) Benzo[k]fluoranthene | 17.232 | 252 | 134050 | 5.47 | ppm | 95 |
| 95) Benzo[a]pyrene | 17.724 | 252 | 250356 | 11.07 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 19.449 | 276 | 137062 | 6.45 | ppm | 95 |
| 98) Dibenz[a,h]anthracene | 19.492 | 278 | 31545m | 1.51 | ppm | |
| 100) Benzo[g,h,i]perylene | 19.817 | 276 | 118027 | 5.50 | ppm | 97 |

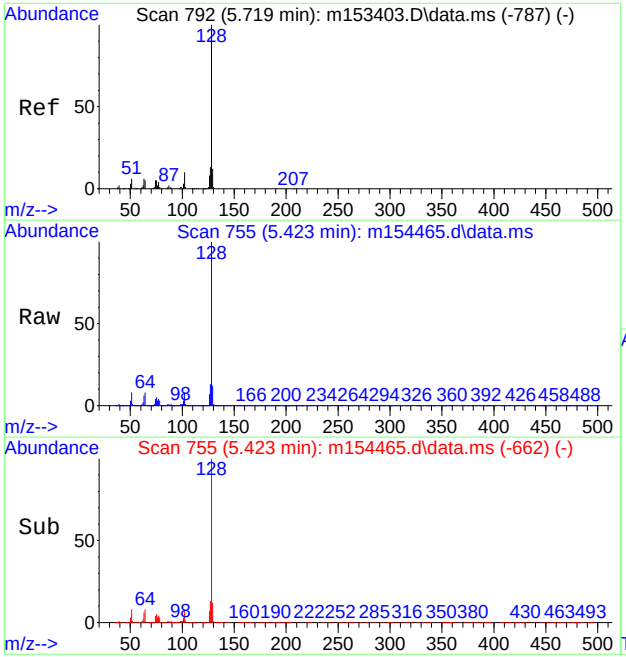
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154465.d
Acq On : 17 May 2019 9:41 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,500
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:30:11 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration

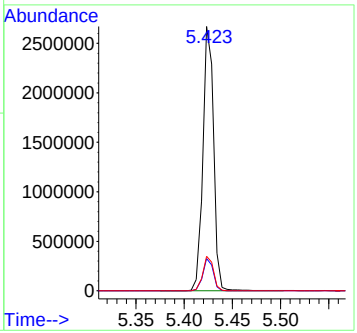


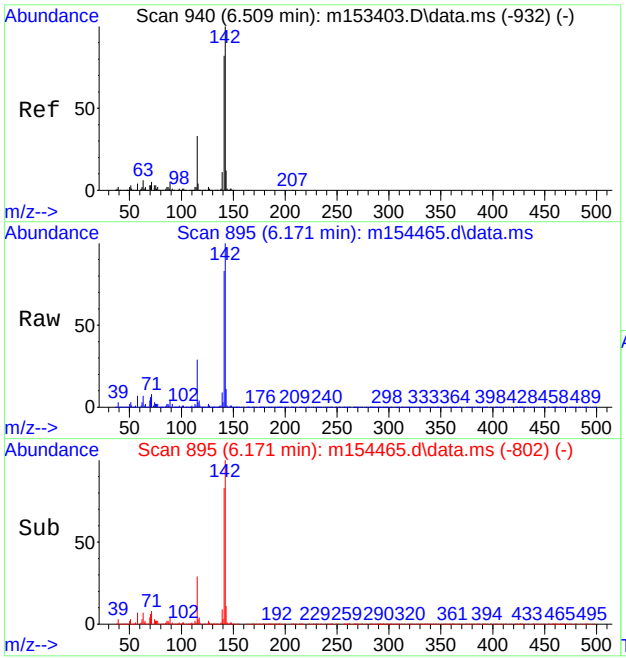



#38
Naphthalene
Concen: 92.25 ppm
RT: 5.423 min Scan# 755
Delta R.T. -0.003 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:128 Resp: 2073723

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 12.2 | 0.0 | 41.0 |
| 127 | 13.0 | 0.0 | 42.9 |

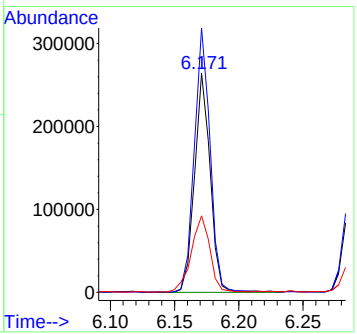


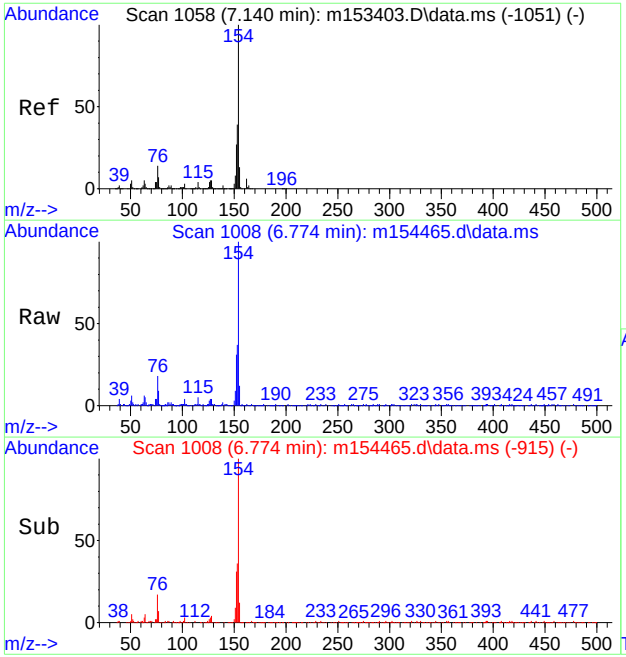




#44
2-Methylnaphthalene
Concen: 15.73 ppm
RT: 6.171 min Scan# 895
Delta R.T. -0.003 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:141 Resp: 224185

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 120.6 | 89.0 | 149.0 |
| 115 | 34.8 | 1.6 | 61.6 |

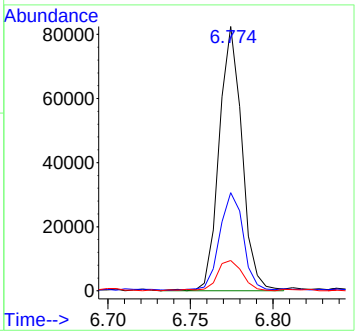


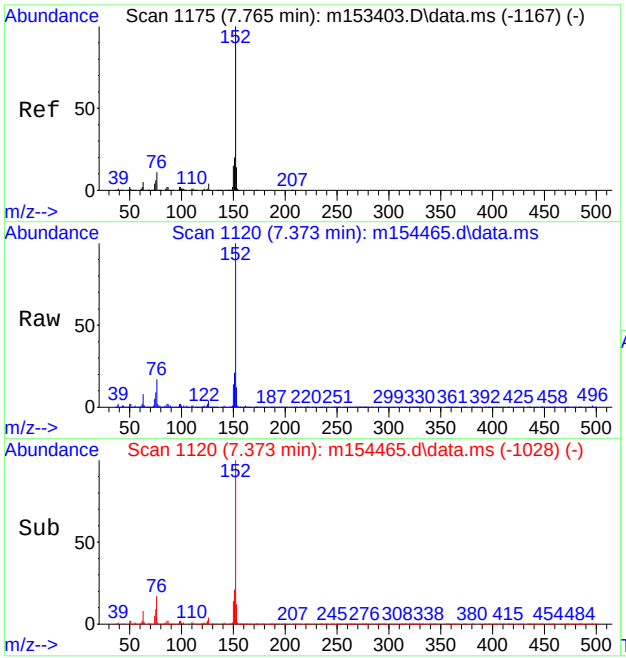



#53
Biphenyl
Concen: 4.17 ppm
RT: 6.774 min Scan# 1008
Delta R.T. -0.003 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:154 Resp: 79368

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 36.6 | 9.4 | 69.4 |
| 155 | 11.3 | 0.0 | 43.5 |

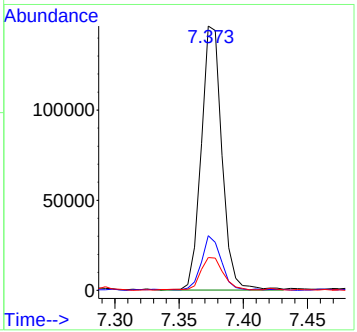


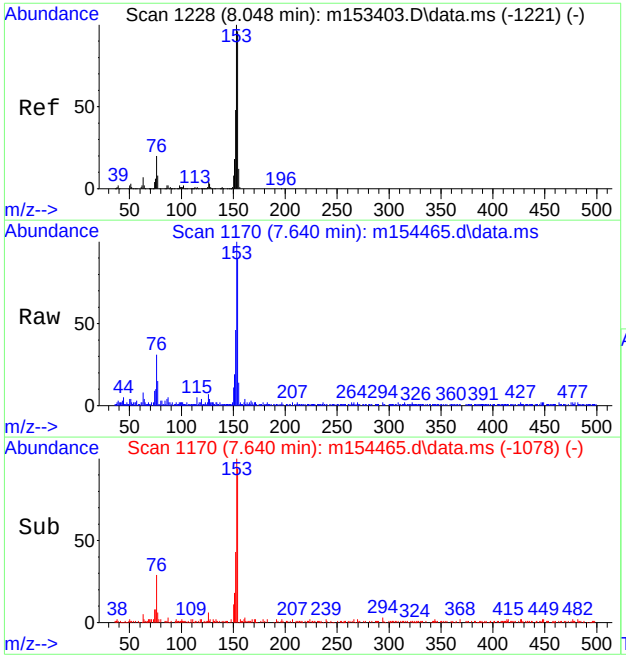




#56
Acenaphthylene
Concen: 7.18 ppm
RT: 7.373 min Scan# 1120
Delta R.T. -0.008 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:152 Resp: 164249

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 20.5 | 0.0 | 50.0 |
| 153 | 12.2 | 0.0 | 44.2 |

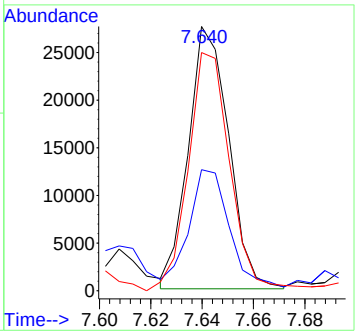


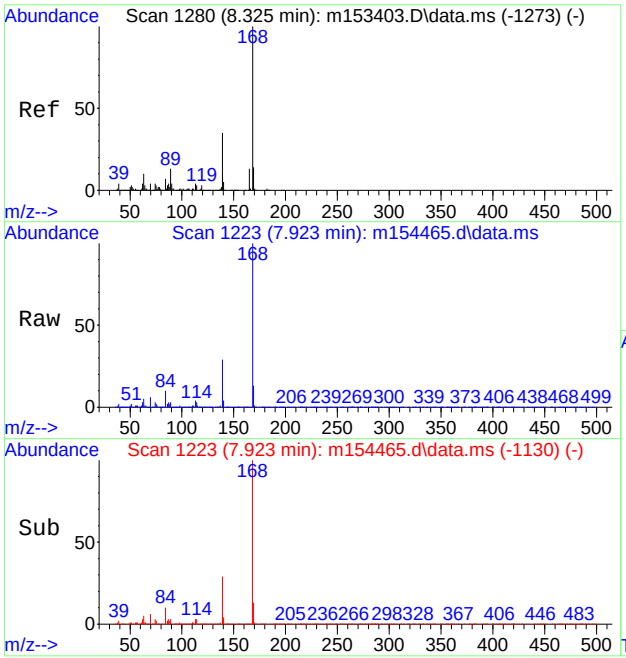



#59
Acenaphthene
Concen: 2.18 ppm
RT: 7.640 min Scan# 1170
Delta R.T. -0.008 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:153 Resp: 30136

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 44.3 | 18.0 | 78.0 |
| 154 | 90.3 | 67.7 | 127.7 |

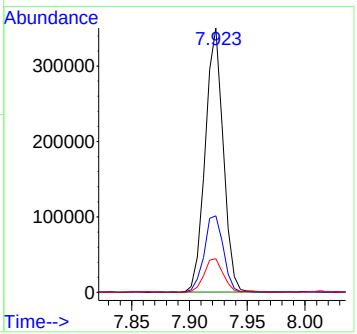


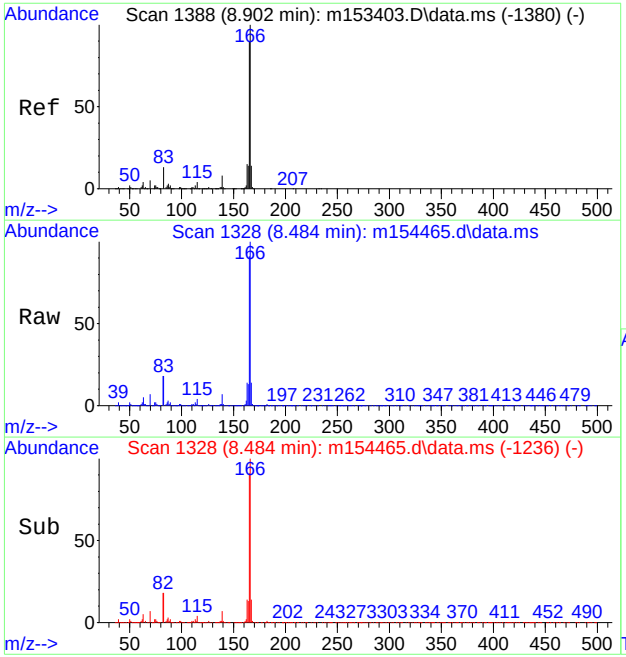




#62
Dibenzofuran
Concen: 18.37 ppm
RT: 7.923 min Scan# 1223
Delta R.T. -0.003 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:168 Resp: 380421

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 28.9 | 0.0 | 58.8 |
| 169 | 12.6 | 0.0 | 44.3 |

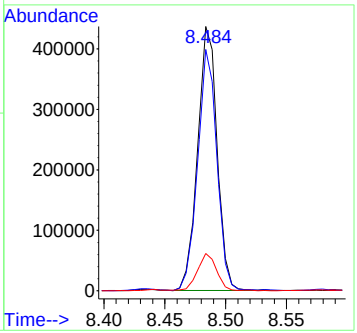


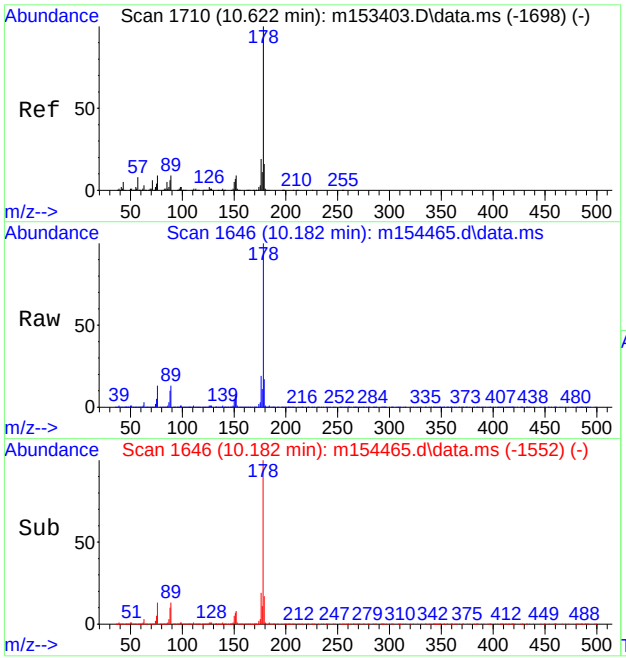



#66
Fluorene
Concen: 28.41 ppm
RT: 8.484 min Scan# 1328
Delta R.T. -0.008 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:166 Resp: 488216

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 91.1 | 59.8 | 119.8 |
| 167 | 14.0 | 0.0 | 43.1 |

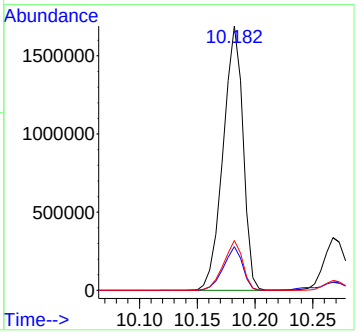


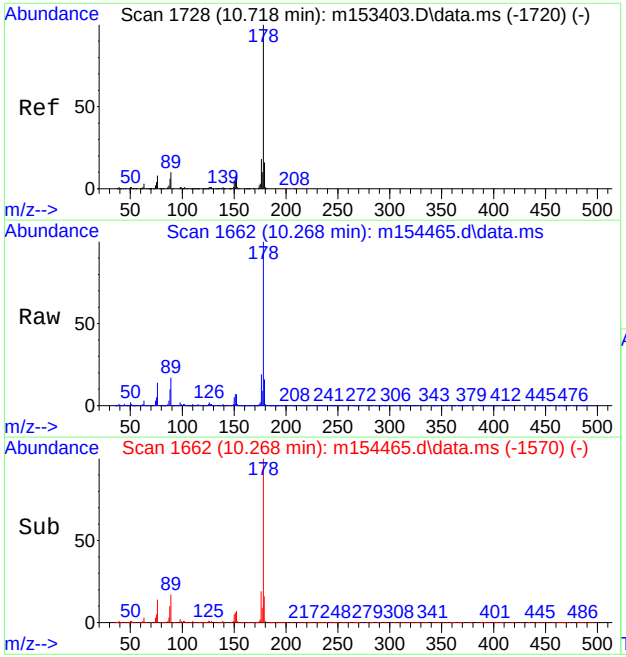




#77
Phenanthrene
Concen: 92.92 ppm
RT: 10.182 min Scan# 1646
Delta R.T. 0.002 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:178 Resp: 2025205

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.5 | 0.0 | 46.1 |
| 176 | 18.9 | 0.0 | 47.8 |

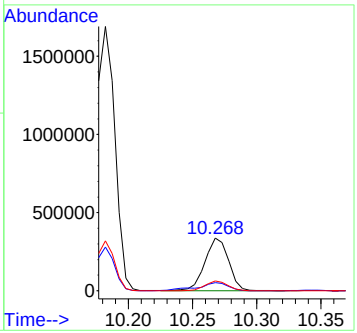


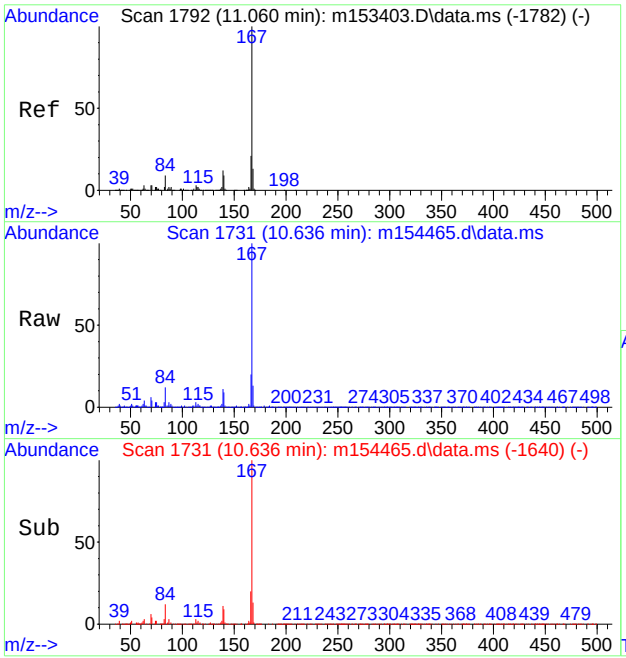



#78
Anthracene
Concen: 18.85 ppm
RT: 10.268 min Scan# 1662
Delta R.T. -0.008 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:178 Resp: 432811

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.4 | 0.0 | 45.8 |
| 176 | 18.5 | 0.0 | 48.0 |

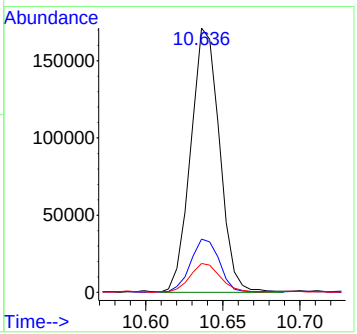


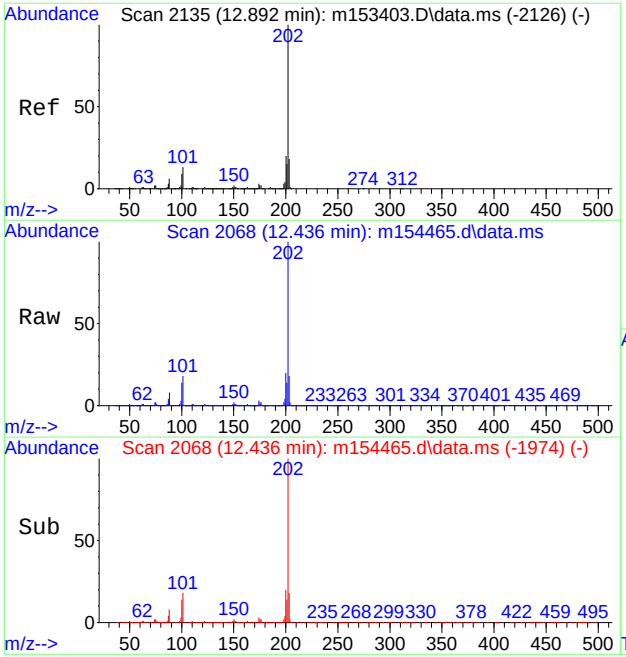




#79
Carbazole
Concen: 10.12 ppm
RT: 10.636 min Scan# 1731
Delta R.T. -0.014 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:167 Resp: 223438

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.0 | 0.0 | 50.1 |
| 139 | 10.7 | 0.0 | 40.7 |

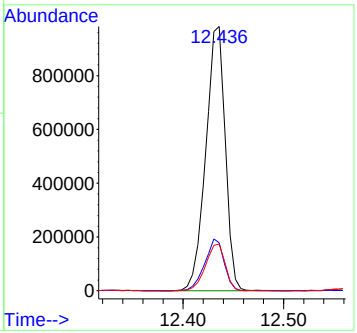


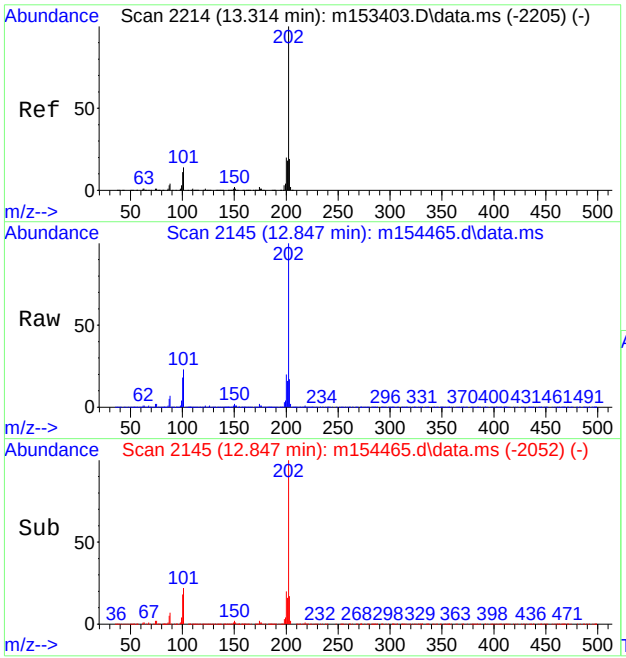



#81
Fluoranthene
Concen: 45.84 ppm
RT: 12.436 min Scan# 2068
Delta R.T. 0.002 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:202 Resp: 1320672

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 18.2 | 0.0 | 48.4 |
| 203 | 17.7 | 0.0 | 47.6 |

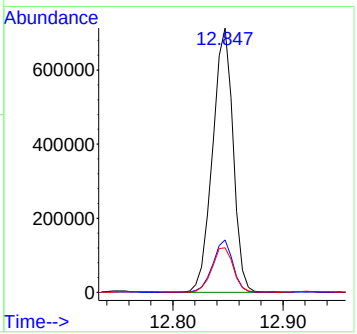


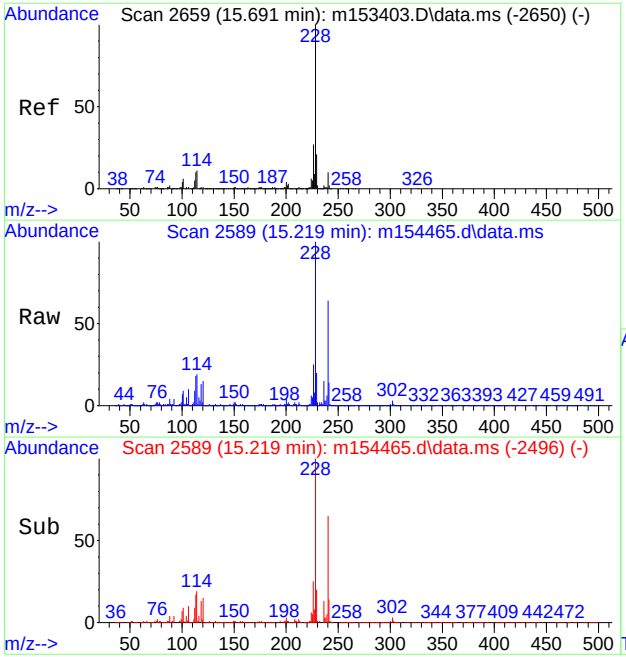




#84
Pyrene
Concen: 30.84 ppm
RT: 12.847 min Scan# 2145
Delta R.T. -0.003 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:202 Resp: 924705

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 19.8 | 0.0 | 49.1 |
| 203 | 16.7 | 0.0 | 47.5 |

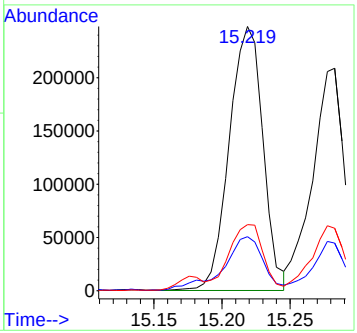


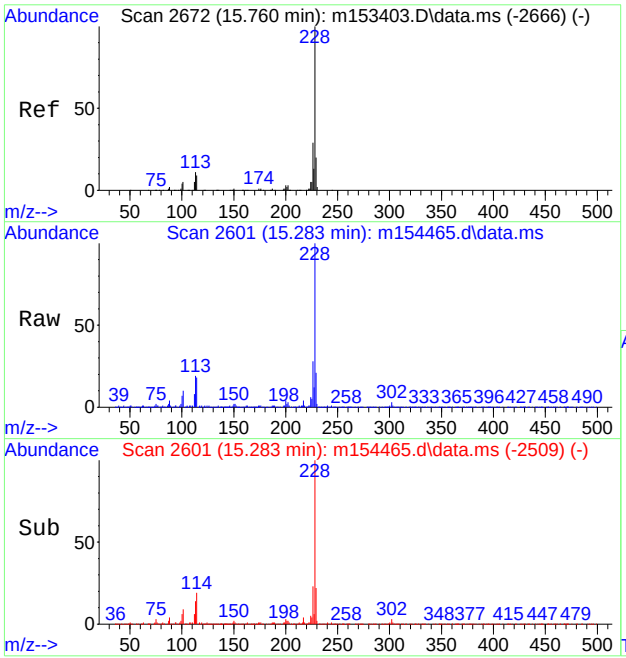



#87
Benzo[a]anthracene
Concen: 15.25 ppm
RT: 15.219 min Scan# 2589
Delta R.T. -0.003 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:228 Resp: 427562

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.0 | 0.0 | 50.1 |
| 226 | 24.9 | 0.0 | 55.2 |

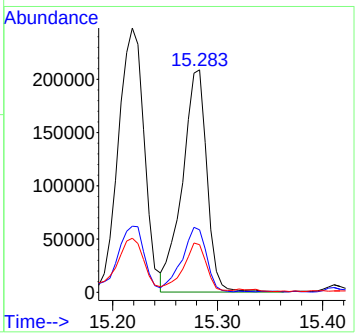


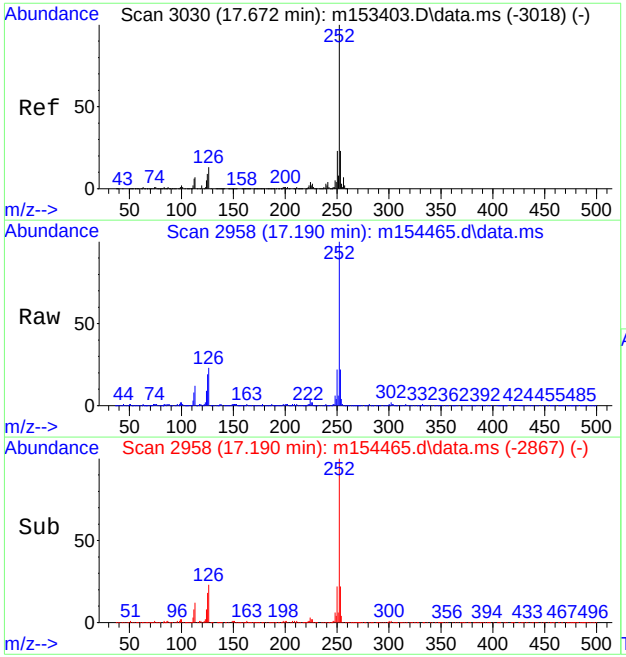




#89
Chrysene
Concen: 13.65 ppm
RT: 15.283 min Scan# 2601
Delta R.T. -0.008 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:228 Resp: 340061

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.1 | 0.0 | 58.0 |
| 229 | 20.8 | 0.0 | 49.4 |

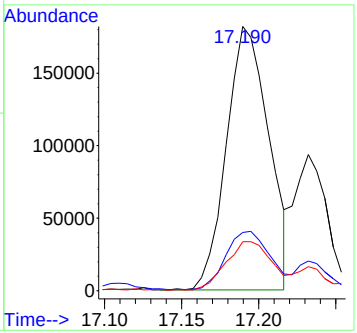


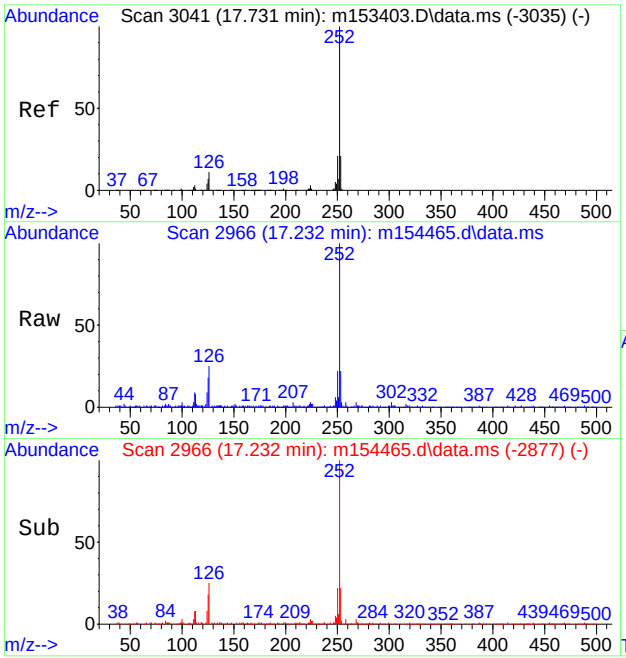



#93
Benzo[b]fluoranthene
Concen: 13.48 ppm
RT: 17.190 min Scan# 2958
Delta R.T. -0.014 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:252 Resp: 347266

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.9 | 0.0 | 53.6 |
| 125 | 18.3 | 0.0 | 44.2 |

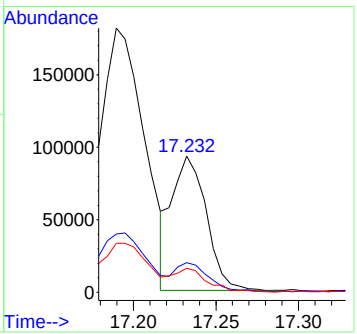


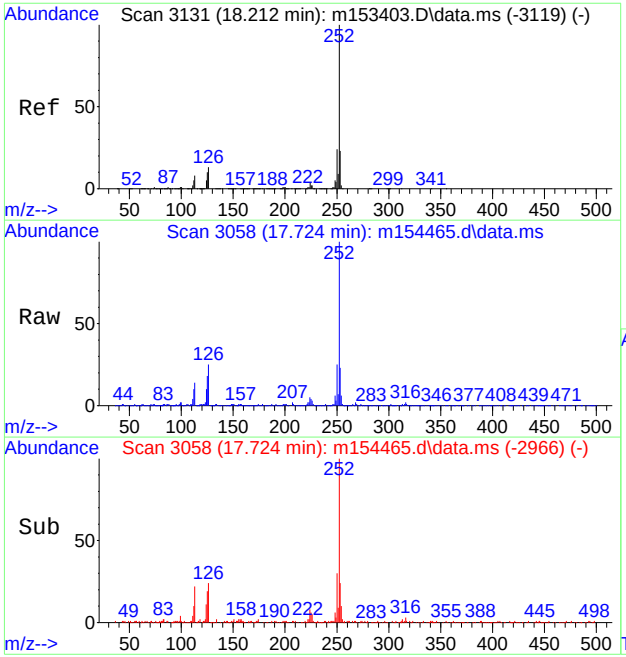




#94
Benzo[k]fluoranthene
Concen: 5.47 ppm
RT: 17.232 min Scan# 2966
Delta R.T. -0.024 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:252 Resp: 134050

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.9 | 0.0 | 51.5 |
| 125 | 17.0 | 0.0 | 42.6 |

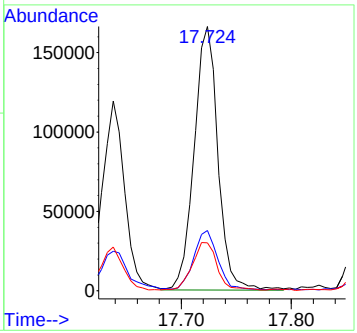


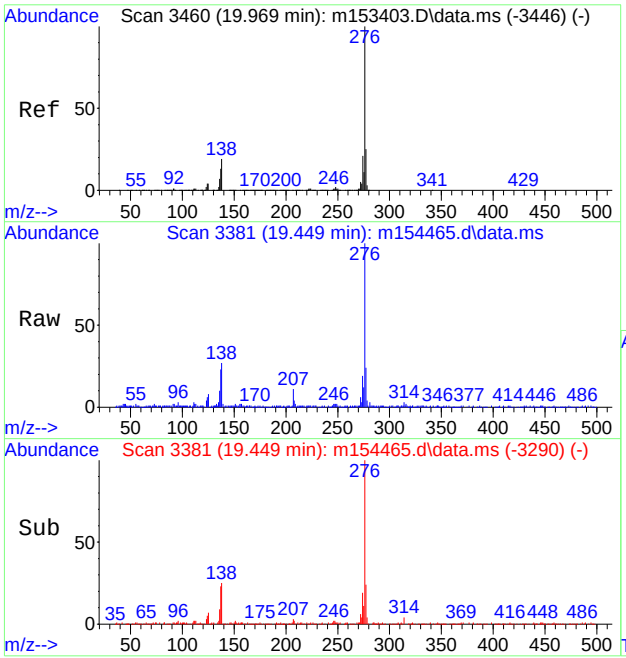



#95
Benzo[a]pyrene
Concen: 11.07 ppm
RT: 17.724 min Scan# 3058
Delta R.T. -0.008 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:252 Resp: 250356

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.3 | 0.0 | 51.7 |
| 125 | 17.8 | 0.0 | 45.3 |

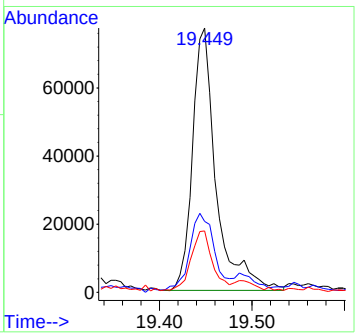


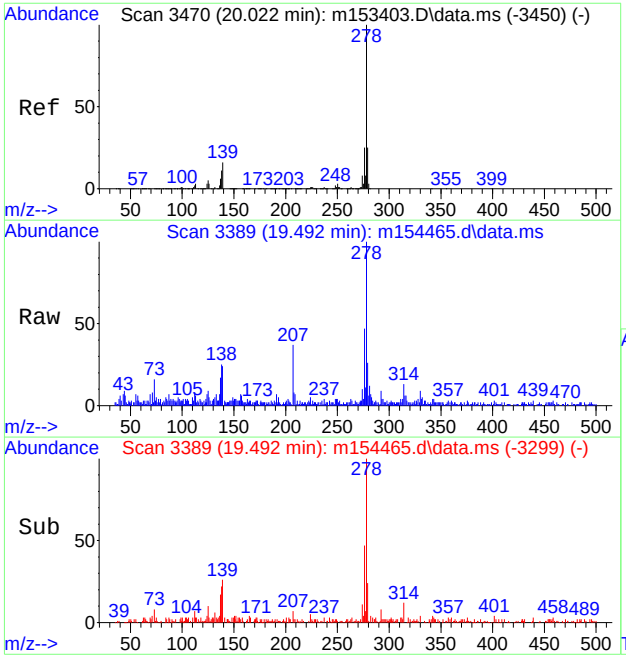




#96
Indeno[1,2,3-cd]pyrene
Concen: 6.45 ppm
RT: 19.449 min Scan# 3381
Delta R.T. -0.014 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:276 Resp: 137062

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.7 | 0.0 | 56.8 |
| 137 | 22.8 | 0.0 | 49.1 |

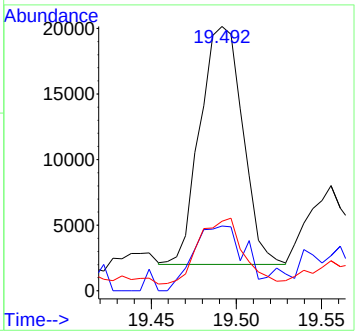


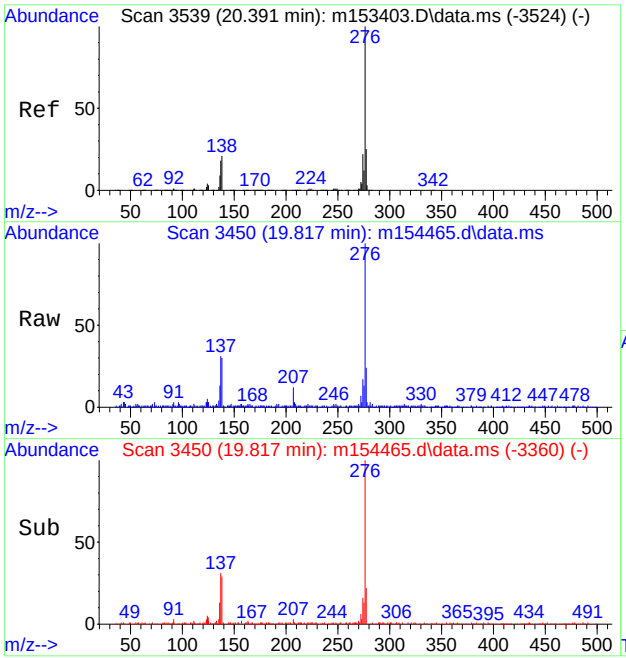



#98
Dibenz[a,h]anthracene
Concen: 1.51 ppm m
RT: 19.492 min Scan# 3389
Delta R.T. -0.019 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:278 Resp: 31545

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 24.5 | 0.0 | 51.0 |
| 279 | 26.3 | 0.0 | 55.4 |

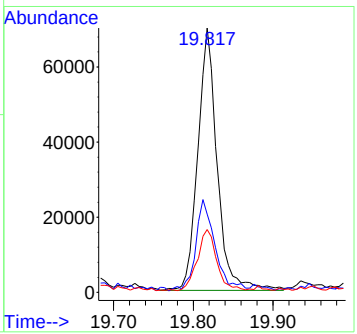



#100
Benzo[g,h,i]perylene
Concen: 5.50 ppm
RT: 19.817 min Scan# 3450
Delta R.T. -0.019 min
Lab File: m154465.d
Acq: 17 May 2019 9:41 pm

Tgt Ion:276 Resp: 118027

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 28.4 | 0.2 | 60.2 |
| 277 | 23.1 | 0.0 | 54.1 |



# Manual Integration Approval Summary



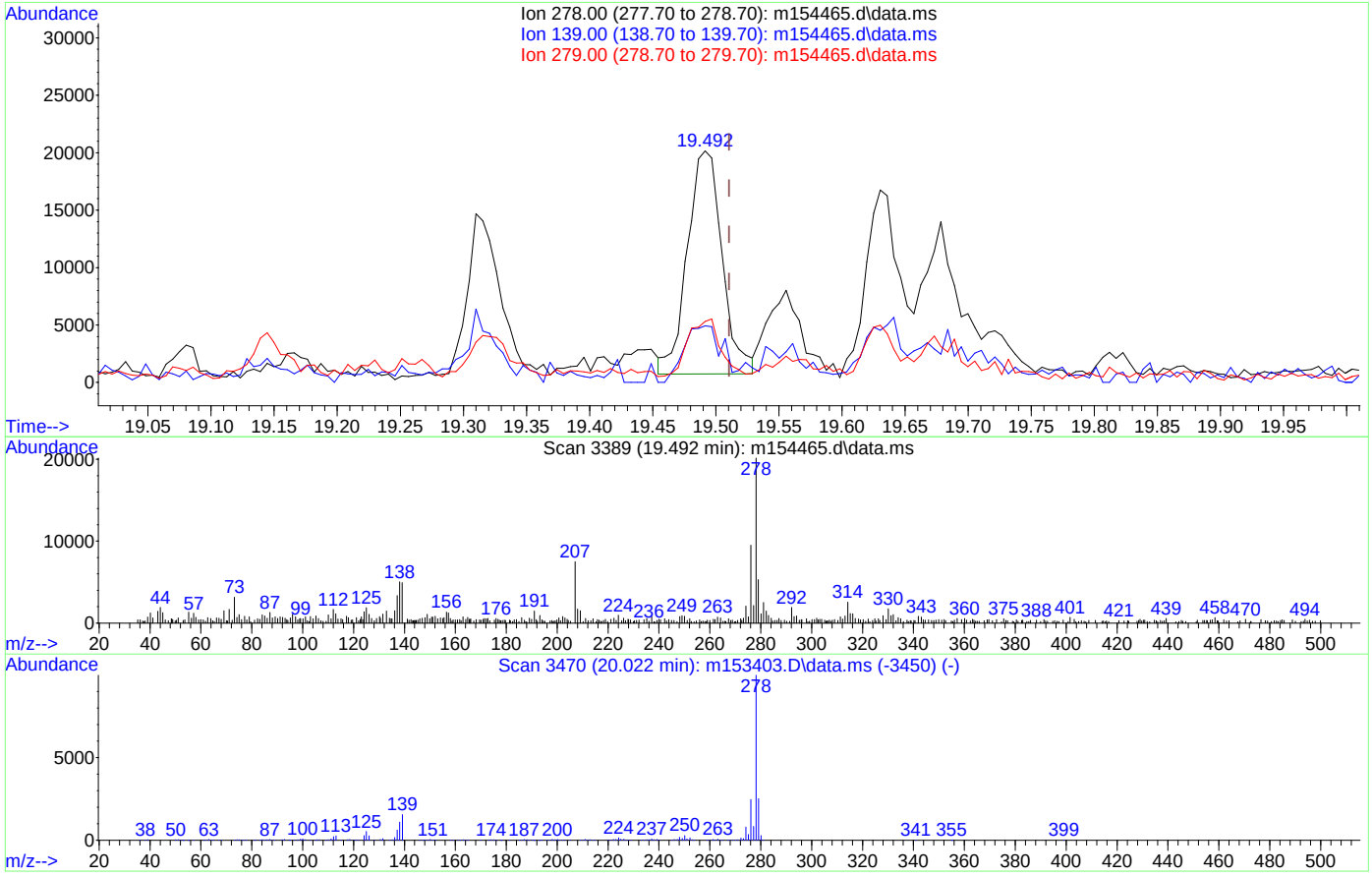
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-3 | **Method:** | SW846 8270D |
| **Lab FileID:** | M154465.D | **Analyst approved:** | 05/19/19 23:31 Michelle Co |
| **Injection Time:** | 05/17/19 21:41 | **Supervisor approved:** | 05/20/19 12:41 Kristi Schollenberger |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Dibenzo(a,h)anthracene | 53-70-3 | | 19.49 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\em6596\
Data File : m154465.d
Acq On : 17 May 2019 9:41 pm
Operator : christc2
Sample : jc87535-3 Inst : MSM
Misc : op20268,em6596,30.9,,,1,500
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 19 22:14:55 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Sun May 19 22:13:12 2019
Response via : Initial Calibration




TIC: m154465.d\data.ms

(98) Dibenz[a,h]anthracene (t)

19.492min (-0.019) 1.79ppm

response 37324

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 21.00 | 23.80 |
| 279.00 | 25.40 | 25.85 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/17/19 15:08

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154435.d
Acq On : 16 May 2019 7:26 pm
Operator : christc2
Sample : jc87535-4 Inst : MSM
Misc : op20268,em6595,30.8,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:34:50 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

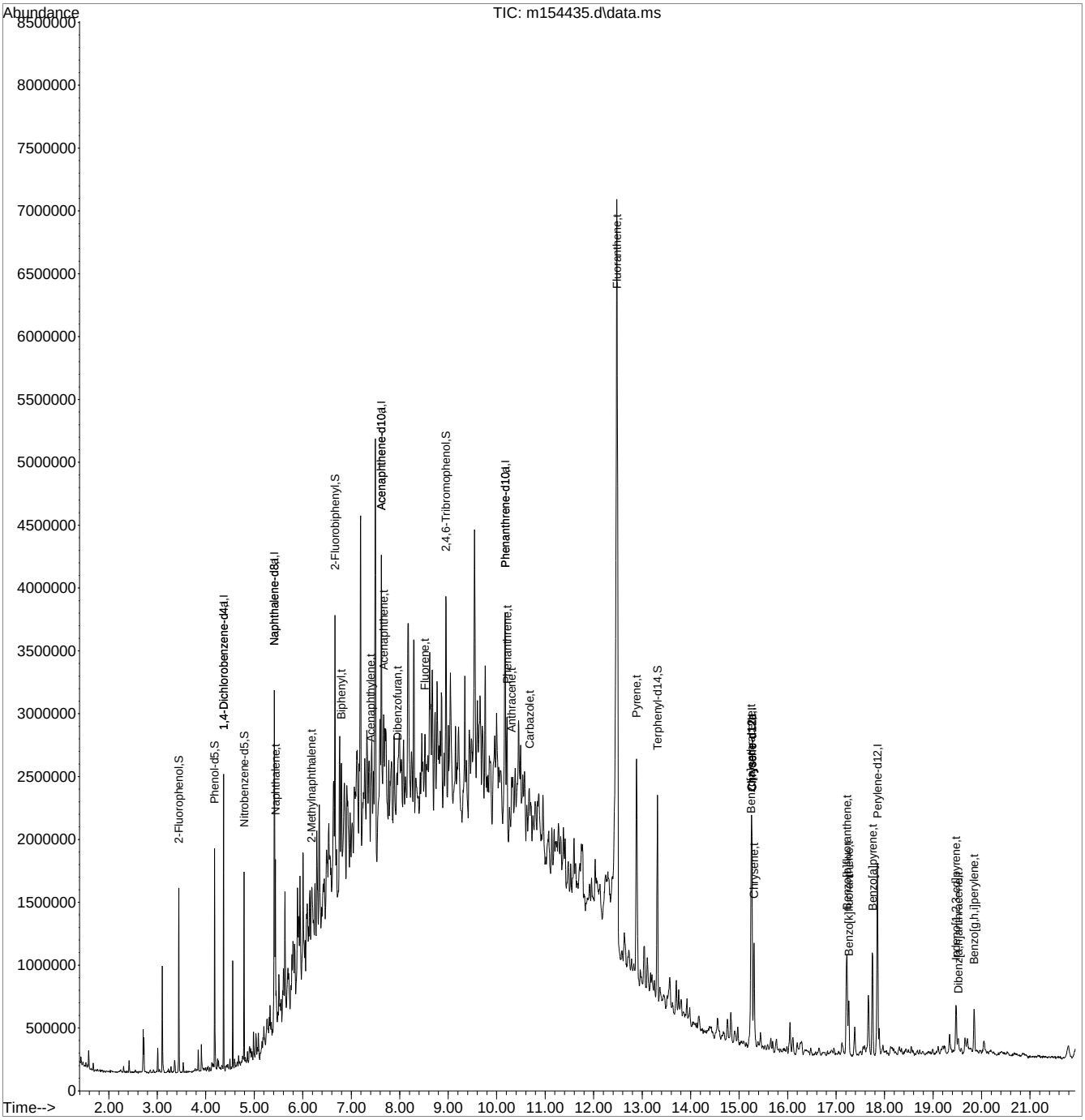
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.368 | 152 | 278276 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.415 | 136 | 888680 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.621 | 164 | 452304 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.174 | 188 | 828484 | 40.00 | ppm | 0.02 |
| 83) Chrysene-d12 | 15.264 | 240 | 828332 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.855 | 264 | 906499 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.368 | 152 | 278276 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.621 | 164 | 452304 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.264 | 240 | 828332 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.264 | 240 | 829428 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.174 | 188 | 828484 | 40.00 | ppm | 0.02 |
| 113) Naphthalene-d8a | 5.415 | 136 | 888721 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.264 | 240 | 831539 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.444 | 112 | 362558 | 33.33 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 66.66% | | |
| 8) Phenol-d5 | 4.181 | 99 | 483318 | 35.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 71.94% | | |
| 25) Nitrobenzene-d5 | 4.790 | 82 | 386334 | 40.75 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 81.50% | | |
| 51) 2-Fluorobiphenyl | 6.665 | 172 | 687587 | 40.89 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 81.78% | | |
| 73) 2,4,6-Tribromophenol | 8.951 | 330 | 139724 | 50.13 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 100.26% | | |
| 85) Terphenyl-d14 | 13.315 | 244 | 775225 | 34.71 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 69.42% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.437 | 128 | 531212 | 24.41 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.184 | 141 | 29535 | 2.14 | ppm | 81 |
| 53) Biphenyl | 6.793 | 154 | 13375 | 0.74 | ppm | 77 |
| 56) Acenaphthylene | 7.402 | 152 | 77566 | 3.55 | ppm | 92 |
| 59) Acenaphthene | 7.669 | 153 | 113304 | 8.56 | ppm | 93 |
| 62) Dibenzofuran | 7.952 | 168 | 25101 | 1.27 | ppm | 91 |
| 66) Fluorene | 8.518 | 166 | 48696 | 2.97 | ppm | 99 |
| 77) Phenanthrene | 10.217 | 178 | 409734 | 19.95 | ppm | 99 |
| 78) Anthracene | 10.308 | 178 | 199769 | 9.23 | ppm | 96 |
| 79) Carbazole | 10.676 | 167 | 24225m | 1.16 | ppm | |
| 81) Fluoranthene | 12.476 | 202 | 1223800 | 45.07 | ppm | 97 |
| 84) Pyrene | 12.882 | 202 | 964783 | 31.81 | ppm | 98 |
| 87) Benzo[a]anthracene | 15.248 | 228 | 621289 | 21.91 | ppm | 98 |
| 89) Chrysene | 15.307 | 228 | 496260 | 19.69 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 17.224 | 252 | 614113 | 21.50 | ppm | 96 |
| 94) Benzo[k]fluoranthene | 17.262 | 252 | 240321 | 8.84 | ppm | 99 |
| 95) Benzo[a]pyrene | 17.753 | 252 | 480206 | 19.16 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 19.473 | 276 | 273366 | 11.19 | ppm | 96 |
| 98) Dibenz[a,h]anthracene | 19.521 | 278 | 63045m | 2.73 | ppm | |
| 100) Benzo[g,h,i]perylene | 19.847 | 276 | 227233 | 9.56 | ppm | 99 |

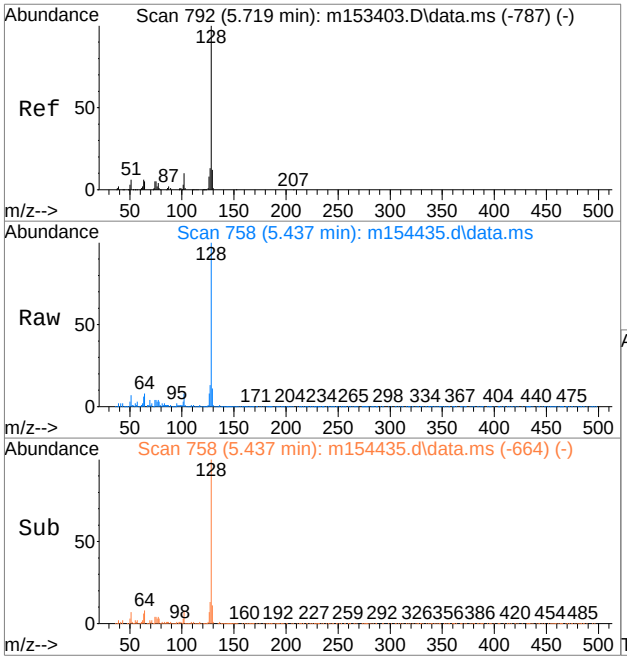
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154435.d
Acq On : 16 May 2019 7:26 pm
Operator : christc2
Sample : jc87535-4 Inst : MSM
Misc : op20268,em6595,30.8,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 09:34:50 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration

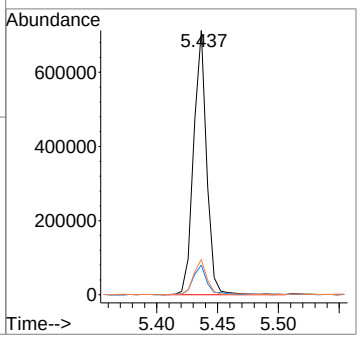


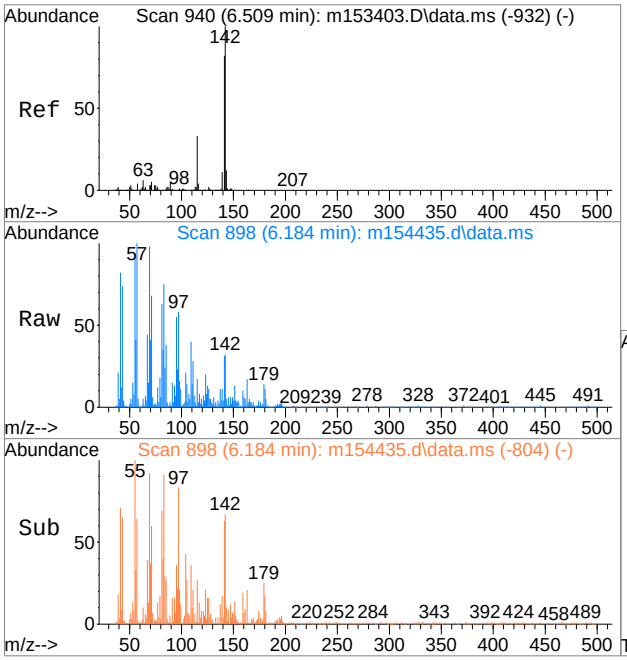



#38
Naphthalene
Concen: 24.41 ppm
RT: 5.437 min Scan# 758
Delta R.T. 0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:128 Resp: 531212

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.2 | 0.0 | 40.7 |
| 127 | 13.2 | 0.0 | 42.8 |

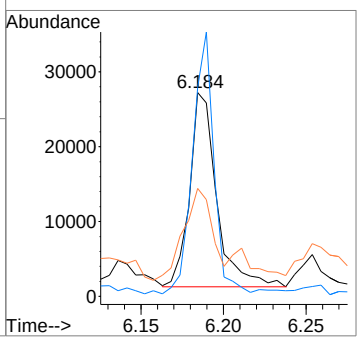


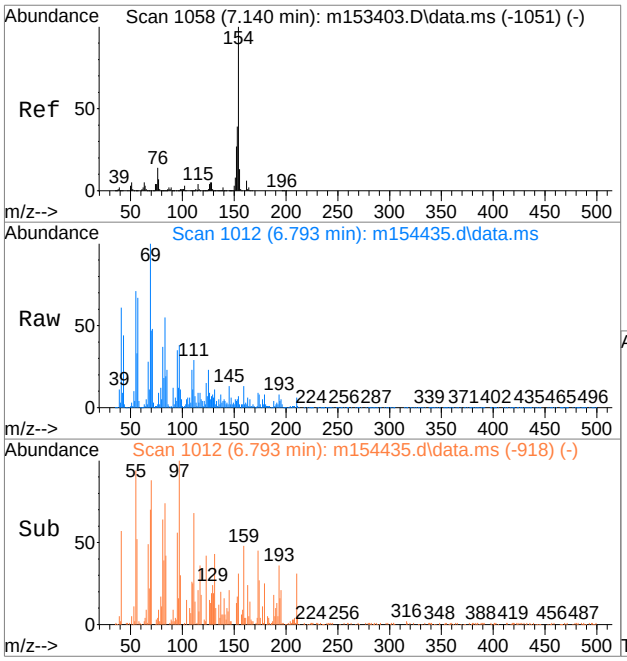




#44
2-Methylnaphthalene
Concen: 2.14 ppm
RT: 6.184 min Scan# 898
Delta R.T. 0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:141 Resp: 29535

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 105.8 | 96.2 | 156.2 |
| 115 | 44.9 | 1.8 | 61.8 |

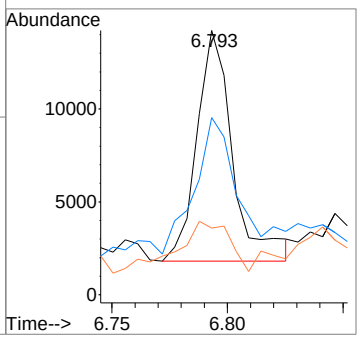


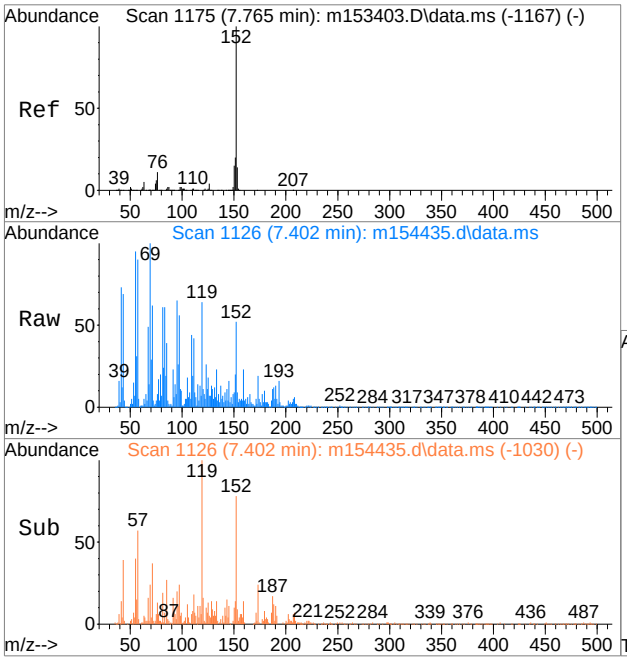



#53
Biphenyl
Concen: 0.74 ppm
RT: 6.793 min Scan# 1012
Delta R.T. 0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:154 Resp: 13375

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 57.1 | 8.5 | 68.5 |
| 155 | 13.3 | 0.0 | 43.2 |

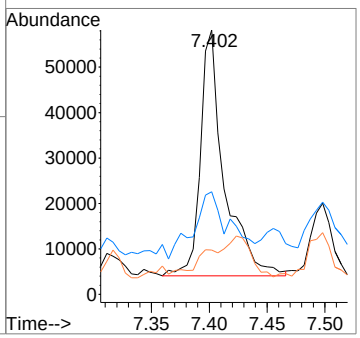


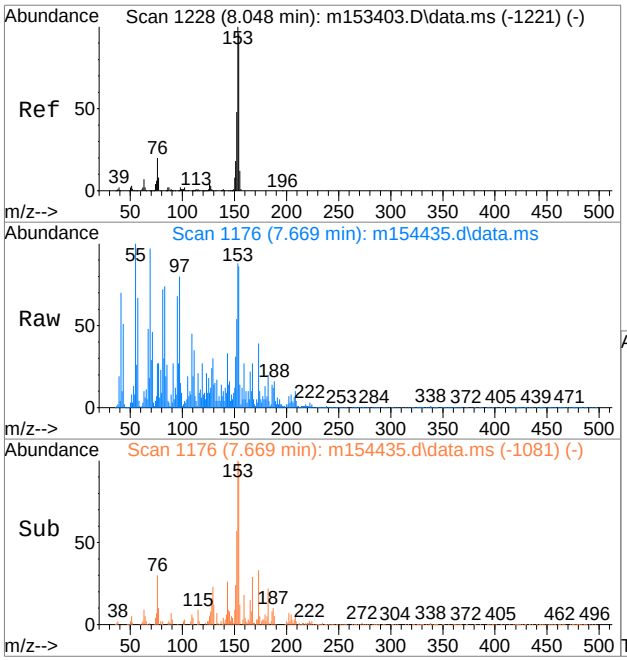




#56
Acenaphthylene
Concen: 3.55 ppm
RT: 7.402 min Scan# 1126
Delta R.T. 0.013 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:152 Resp: 77566

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 21.5 | 0.0 | 49.5 |
| 153 | 8.2 | 0.0 | 43.4 |

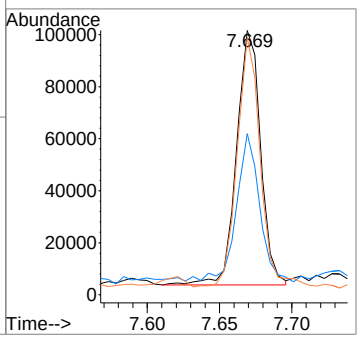


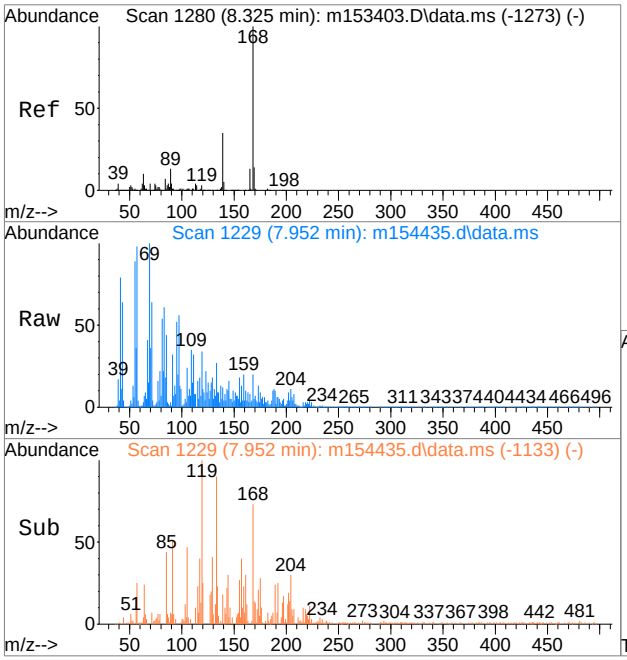



#59
Acenaphthene
Concen: 8.56 ppm
RT: 7.669 min Scan# 1176
Delta R.T. 0.008 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:153 Resp: 113304

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 57.3 | 17.3 | 77.3 |
| 154 | 96.0 | 68.8 | 128.8 |

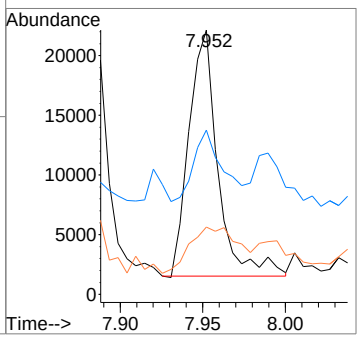


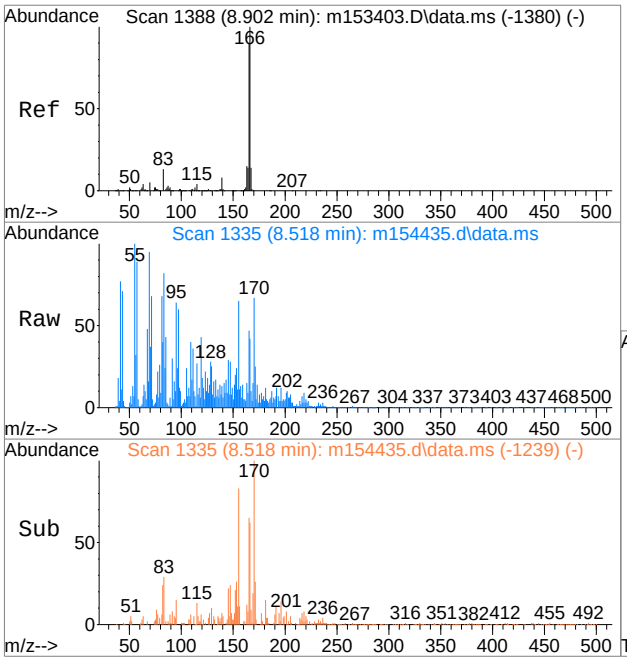




#62
Dibenzofuran
Concen: 1.27 ppm
RT: 7.952 min Scan# 1229
Delta R.T. 0.013 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:168 Resp: 25101

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 22.8 | 0.0 | 59.2 |
| 169 | 15.3 | 0.0 | 43.8 |

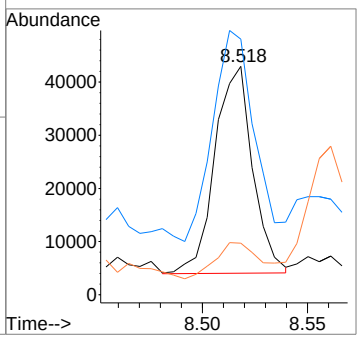


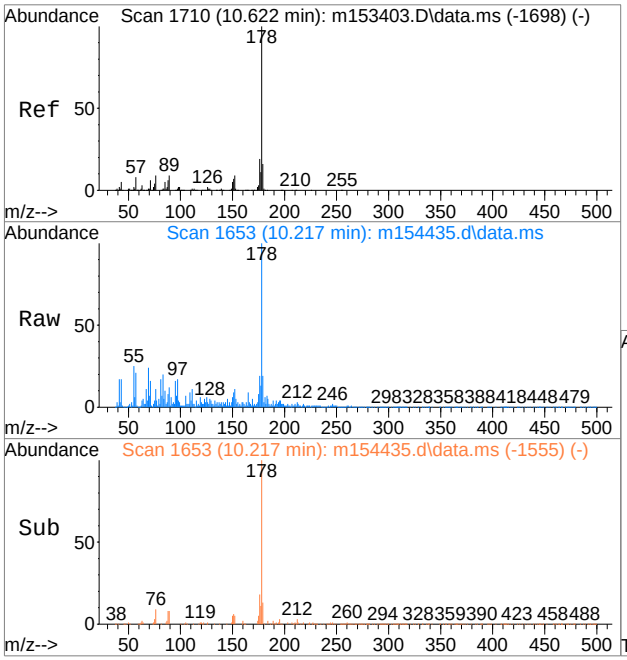



#66
Fluorene
Concen: 2.97 ppm
RT: 8.518 min Scan# 1335
Delta R.T. 0.013 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:166 Resp: 48696

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 91.4 | 61.8 | 121.8 |
| 167 | 11.7 | 0.0 | 42.9 |

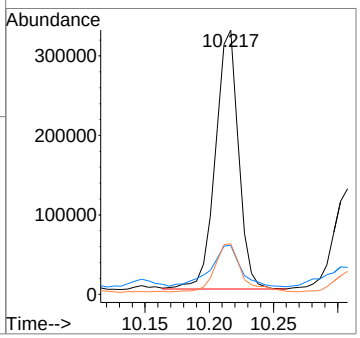


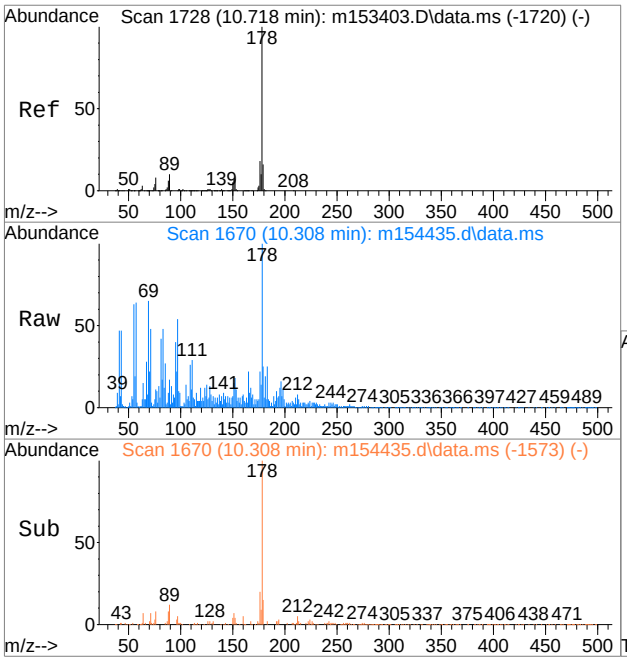




#77
Phenanthrene
Concen: 19.95 ppm
RT: 10.217 min Scan# 1653
Delta R.T. 0.024 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:178 Resp: 409734

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.6 | 0.0 | 45.4 |
| 176 | 18.4 | 0.0 | 47.8 |

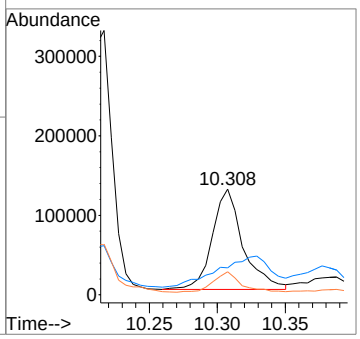


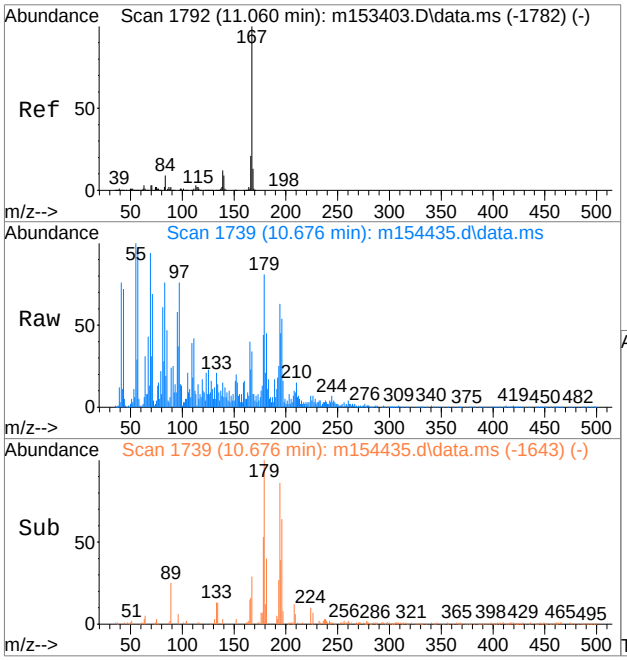



#78
Anthracene
Concen: 9.23 ppm
RT: 10.308 min Scan# 1670
Delta R.T. 0.019 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:178 Resp: 199769

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.1 | 0.0 | 45.0 |
| 176 | 20.5 | 0.0 | 47.6 |

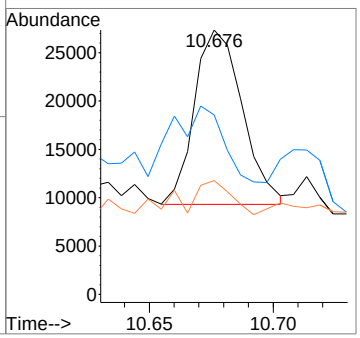


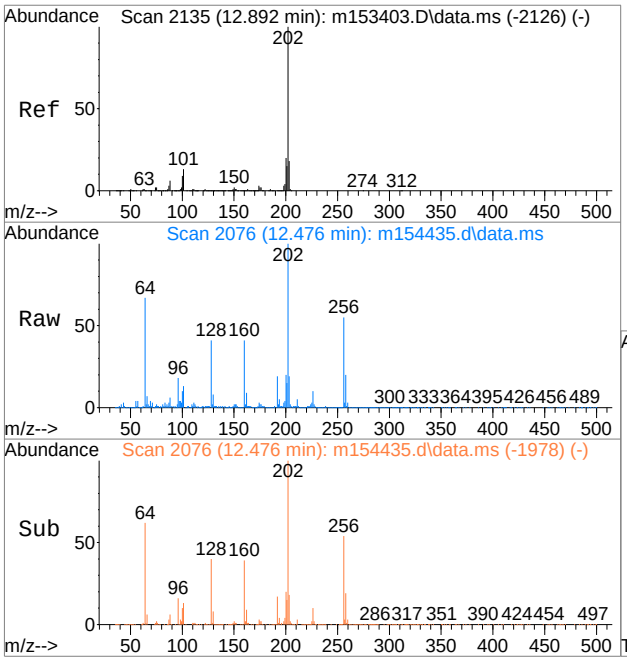




#79
Carbazole
Concen: 1.16 ppm m
RT: 10.676 min Scan# 1739
Delta R.T. 0.013 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:167 Resp: 24225

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 67.8 | 0.0 | 49.9# |
| 139 | 43.0 | 0.0 | 40.4# |

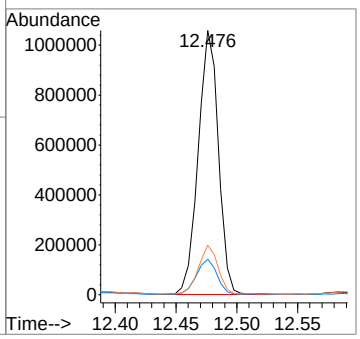


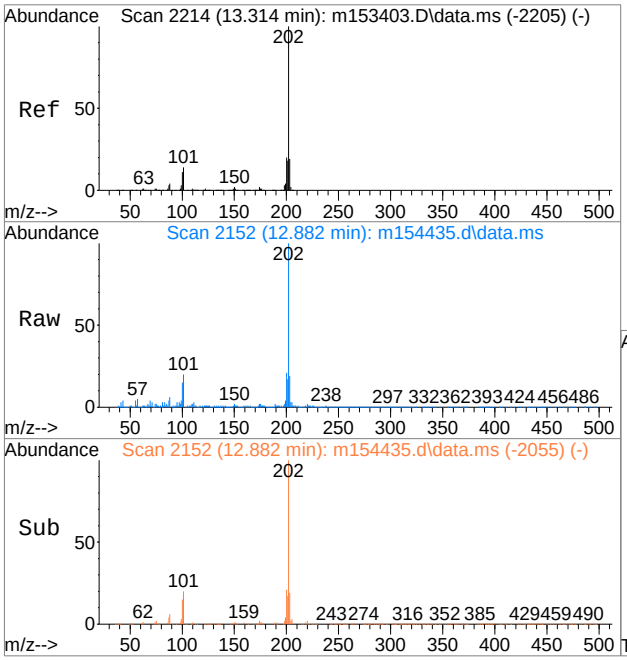



#81
Fluoranthene
Concen: 45.07 ppm
RT: 12.476 min Scan# 2076
Delta R.T. 0.024 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:202 Resp: 1223800

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.3 | 0.0 | 44.9 |
| 203 | 18.5 | 0.0 | 47.3 |

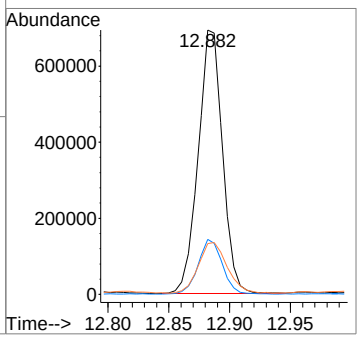


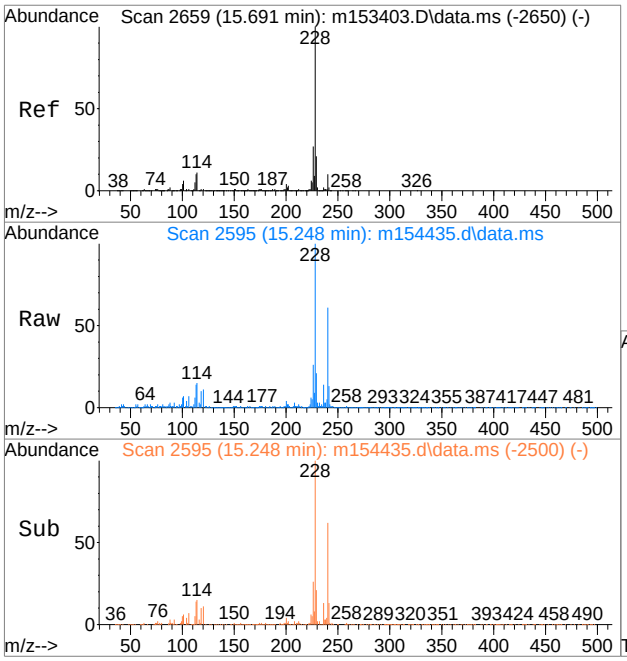




#84
Pyrene
Concen: 31.81 ppm
RT: 12.882 min Scan# 2152
Delta R.T. 0.019 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:202 Resp: 964783

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.7 | 0.0 | 49.9 |
| 203 | 18.7 | 0.0 | 47.3 |

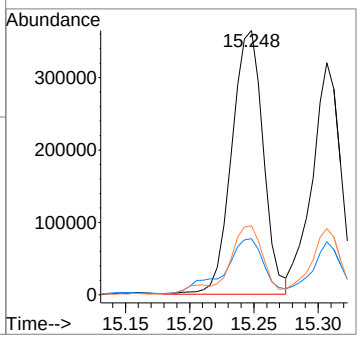


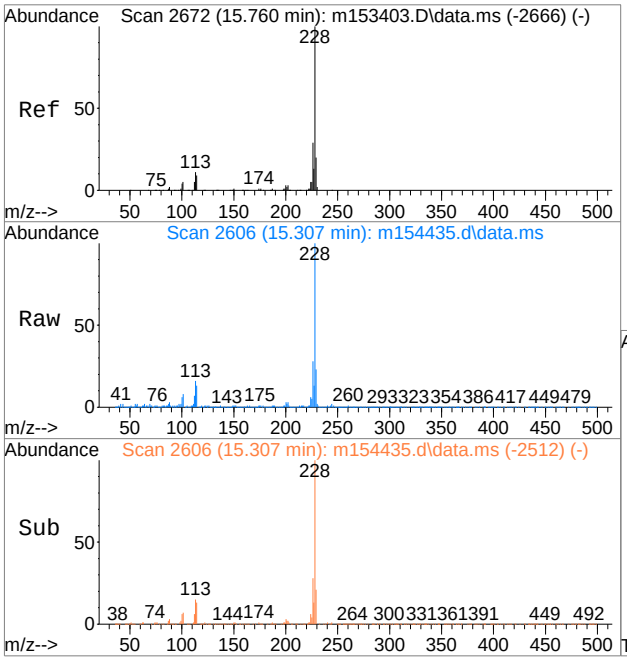



#87
Benzo[a]anthracene
Concen: 21.91 ppm
RT: 15.248 min Scan# 2595
Delta R.T. 0.008 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:228 Resp: 621289

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.6 | 0.0 | 49.8 |
| 226 | 25.7 | 0.0 | 54.8 |

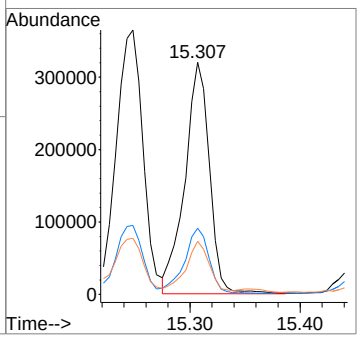


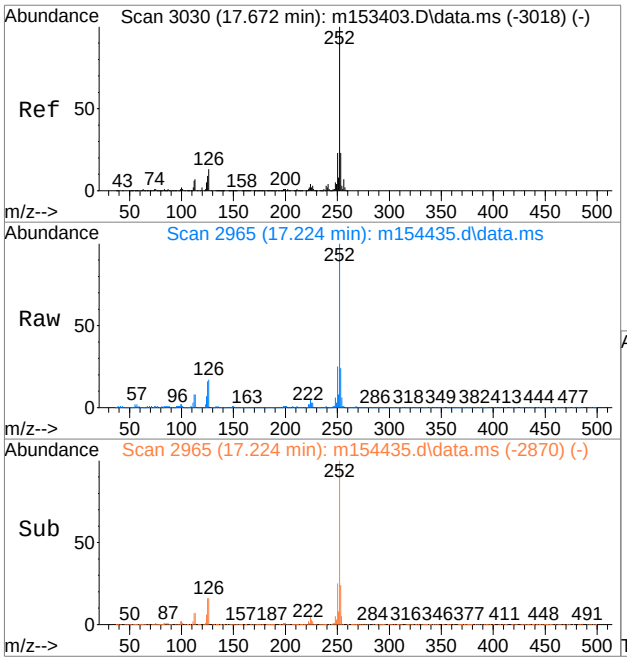




#89
Chrysene
Concen: 19.69 ppm
RT: 15.307 min Scan# 2606
Delta R.T. 0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:228 Resp: 496260

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 27.8 | 0.0 | 57.7 |
| 229 | 21.9 | 0.0 | 49.8 |

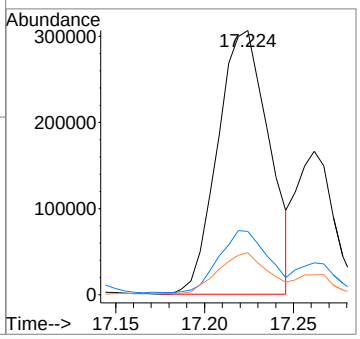


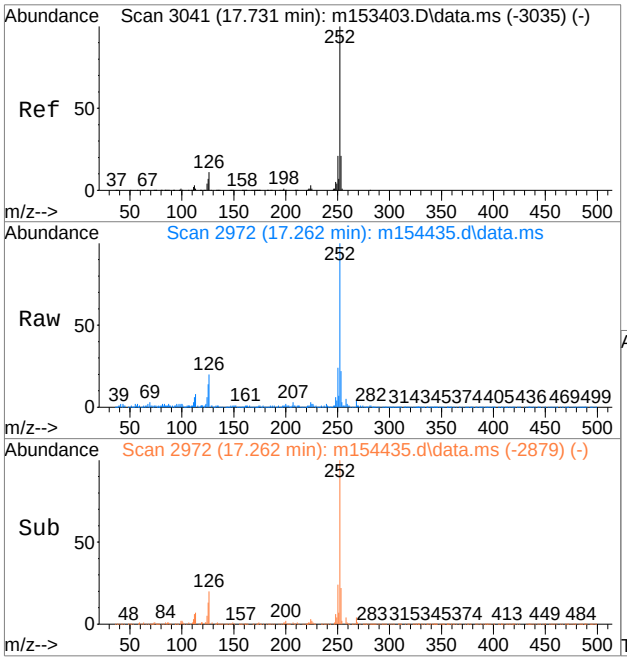



#93
Benzo[b]fluoranthene
Concen: 21.50 ppm
RT: 17.224 min Scan# 2965
Delta R.T. 0.008 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:252 Resp: 614113

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.2 | 0.0 | 52.5 |
| 125 | 15.8 | 0.0 | 43.9 |

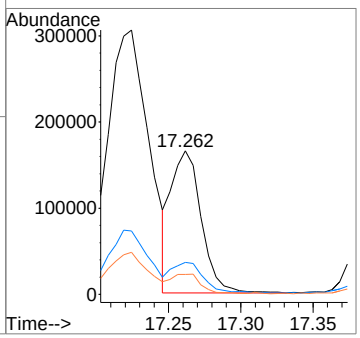


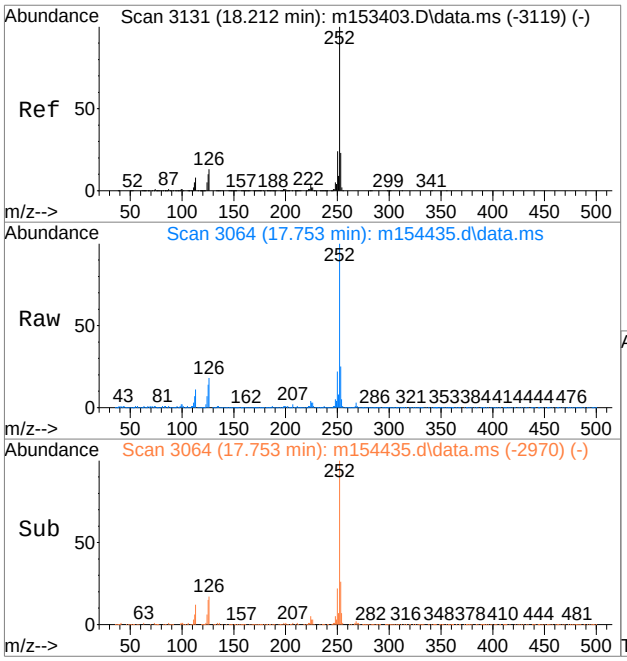




#94
Benzo[k]fluoranthene
Concen: 8.84 ppm
RT: 17.262 min Scan# 2972
Delta R.T. -0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:252 Resp: 240321

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.5 | 0.0 | 52.0 |
| 125 | 13.1 | 0.0 | 42.2 |

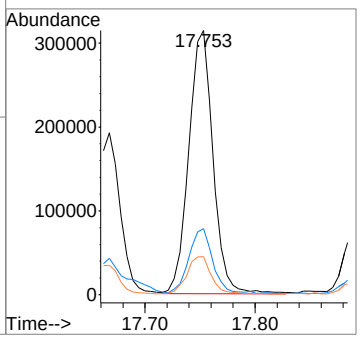


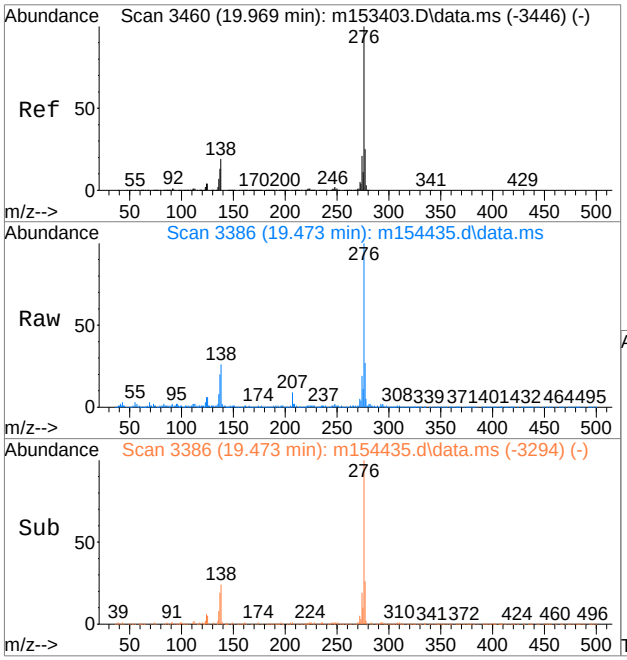



#95
Benzo[a]pyrene
Concen: 19.16 ppm
RT: 17.753 min Scan# 3064
Delta R.T. 0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:252 Resp: 480206

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.5 | 0.0 | 52.6 |
| 125 | 14.2 | 0.0 | 44.0 |

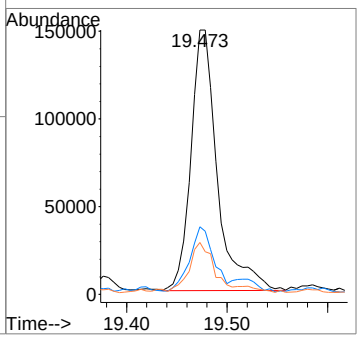


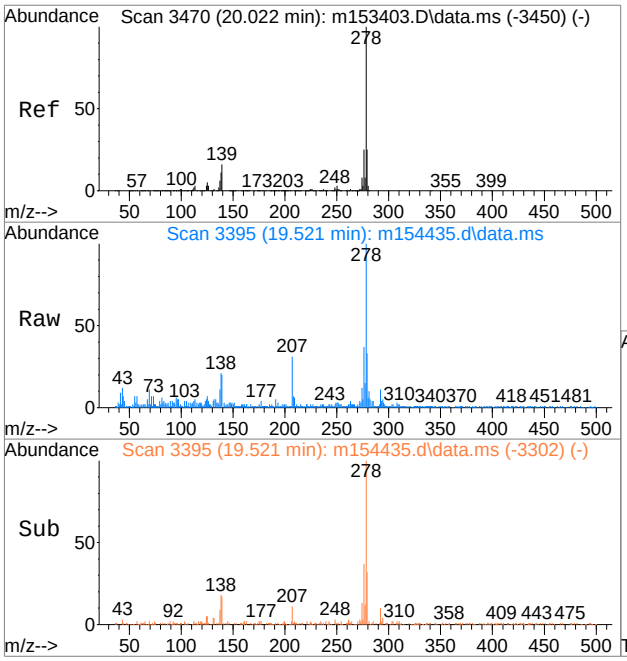




#96
Indeno[1,2,3-cd]pyrene
Concen: 11.19 ppm
RT: 19.473 min Scan# 3386
Delta R.T. -0.008 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:276 Resp: 273366

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.7 | 0.0 | 52.7 |
| 137 | 18.6 | 0.0 | 47.0 |

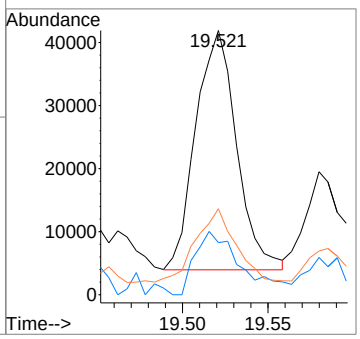


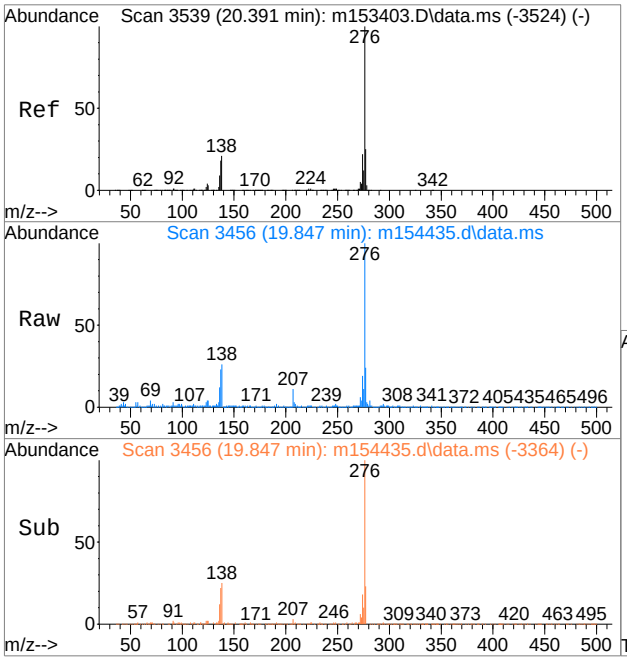



#98
Dibenz[a,h]anthracene
Concen: 2.73 ppm m
RT: 19.521 min Scan# 3395
Delta R.T. -0.003 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:278 Resp: 63045

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 19.7 | 0.0 | 51.1 |
| 279 | 32.6 | 0.0 | 54.7 |

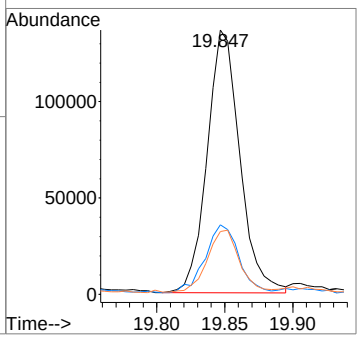



#100
Benzo[g,h,i]perylene
Concen: 9.56 ppm
RT: 19.847 min Scan# 3456
Delta R.T. -0.008 min
Lab File: m154435.d
Acq: 16 May 2019 7:26 pm

Tgt Ion:276 Resp: 227233

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.3 | 0.0 | 54.5 |
| 277 | 22.6 | 0.0 | 52.4 |



# Manual Integration Approval Summary



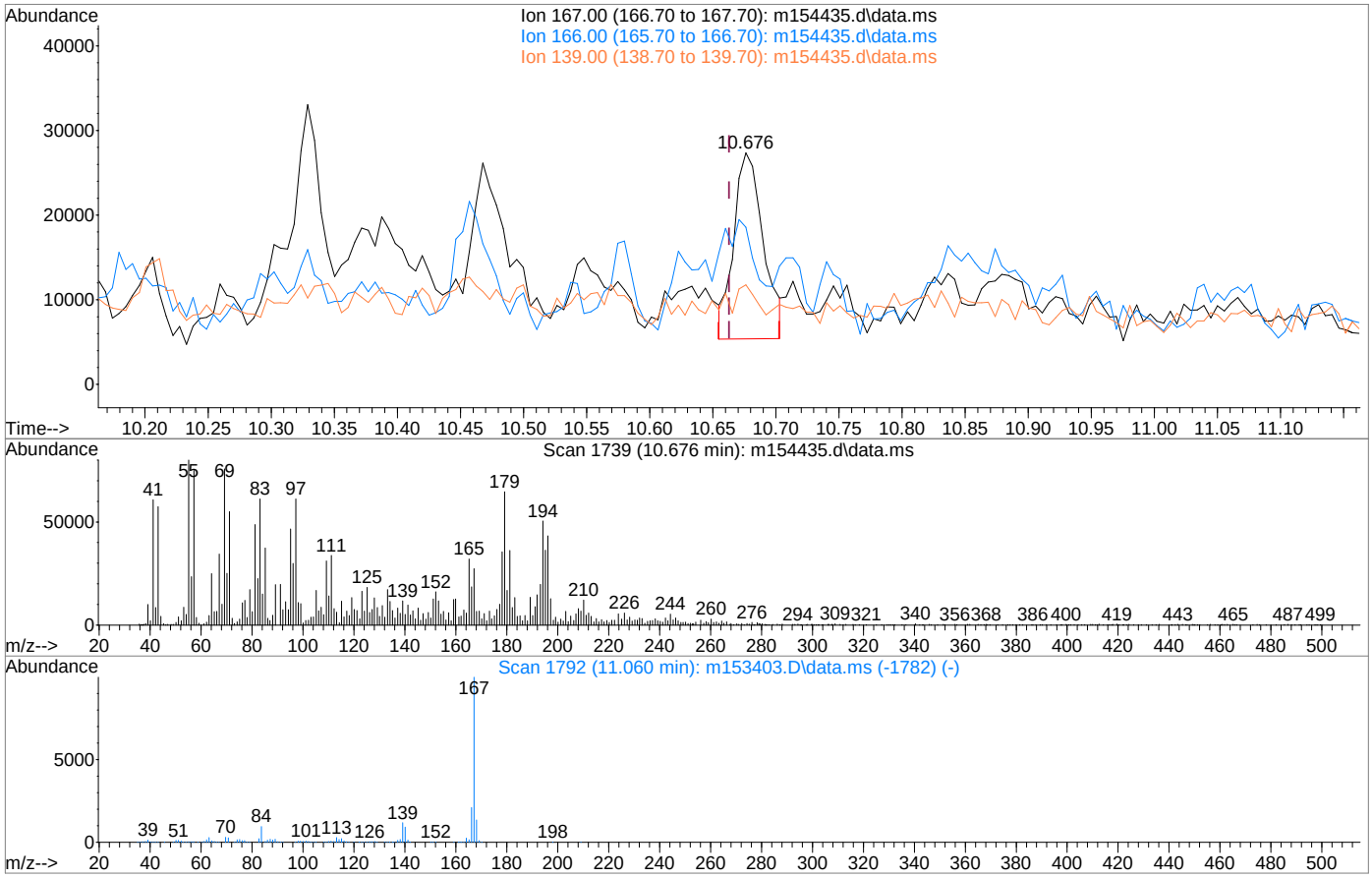
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-4 | **Method:** | SW846 8270D |
| **Lab FileID:** | M154435.D | **Analyst approved:** | 05/17/19 10:13 Jon Kreigmor Mamanta |
| **Injection Time:** | 05/16/19 19:26 | **Supervisor approved:** | 05/17/19 15:08 Kristi Schollenberger |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Carbazole | 86-74-8 | | 10.68 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 19.52 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154435.d
Acq On : 16 May 2019 7:26 pm
Operator : christc2
Sample : jc87535-4 Inst : MSM
Misc : op20268,em6595,30.8,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 07:52:41 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154435.d\data.ms

(79) Carbazole (t)

10.676min (+0.013) 1.71ppm

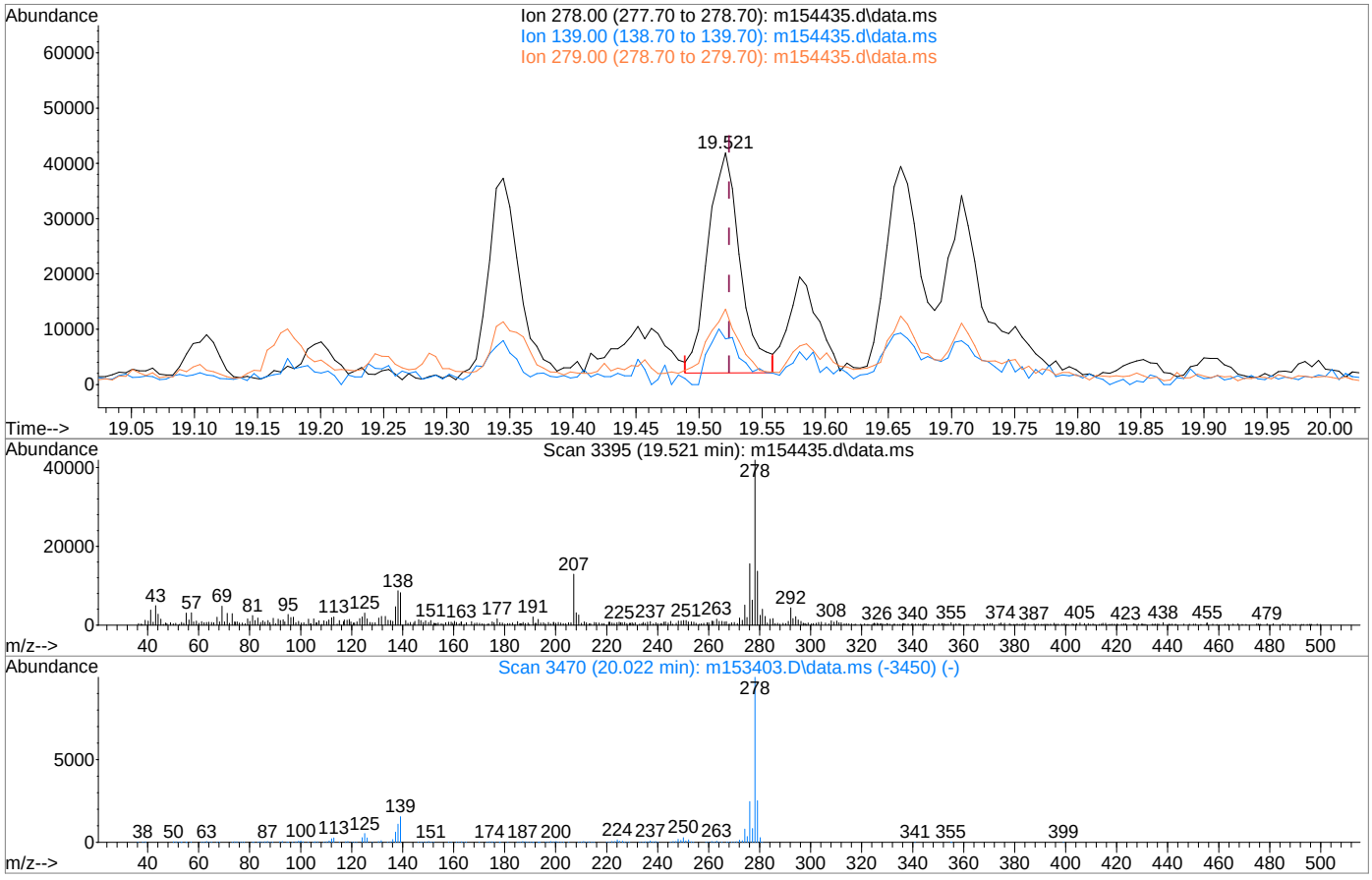
response 35548

| Ion | Exp% | Act% |
|---|---|---|
| 167.00 | 100 | 100 |
| 166.00 | 19.90 | 21.63 |
| 139.00 | 10.40 | 14.99 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6595\
Data File : m154435.d
Acq On : 16 May 2019 7:26 pm
Operator : christc2
Sample : jc87535-4 Inst : MSM
Misc : op20268,em6595,30.8,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 17 07:52:41 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 07:50:10 2019
Response via : Initial Calibration




TIC: m154435.d\data.ms

(98) Dibenz[a,h]anthracene (t)

19.521min (-0.003) 3.07ppm

response 70914

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 21.10 | 18.01 |
| 279.00 | 24.70 | 30.32 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59694.d
Acq On : 16 May 2019 4:51 pm
Operator : christc2
Sample : jc87535-5 Inst : MS5P
Misc : op20269,e5p2816,30.4,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:07:17 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 196950 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.076 | 136 | 715488 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 363425 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 611679 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.418 | 240 | 644677 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.394 | 264 | 607440 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 196950 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 363425 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.418 | 240 | 644677 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 611679 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.076 | 136 | 715488 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.418 | 240 | 644684 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 196950 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.418 | 240 | 644677 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.418 | 240 | 644684 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.790 | 112 | 271514 | 35.40 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 70.80% | | |
| 8) Phenol-d5 | 3.661 | 99 | 377485 | 39.10 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.20% | | |
| 25) Nitrobenzene-d5 | 4.419 | 82 | 395776 | 47.71 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 95.42% | | |
| 51) 2-Fluorobiphenyl | 6.134 | 172 | 510986 | 40.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 80.90% | | |
| 73) 2,4,6-Tribromophenol | 7.534 | 330 | 64752 | 36.73 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 73.46% | | |
| 85) Terphenyl-d14 | 10.023 | 244 | 629763 | 38.39 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 76.78% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.098 | 128 | 30019 | 1.66 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.771 | 141 | 3251 | 0.31 | ppm | 80 |
| 53) Biphenyl | 6.225 | 154 | 2232 | 0.16 | ppm | 96 |
| 56) Acenaphthylene | 6.620 | 152 | 2801 | 0.17 | ppm | 94 |
| 62) Dibenzofuran | 6.962 | 168 | 4437 | 0.28 | ppm | 96 |
| 66) Fluorene | 7.288 | 166 | 5850 | 0.47 | ppm | 83 |
| 77) Phenanthrene | 8.207 | 178 | 23067 | 1.40 | ppm | 96 |
| 78) Anthracene | 8.260 | 178 | 5772 | 0.33 | ppm | 91 |
| 79) Carbazole | 8.453 | 167 | 3109 | 0.18 | ppm | 82 |
| 81) Fluoranthene | 9.516 | 202 | 26251 | 1.28 | ppm | 98 |
| 84) Pyrene | 9.778 | 202 | 22745 | 0.93 | ppm | 95 |
| 87) Benzo[a]anthracene | 11.402 | 228 | 12671 | 0.56 | ppm | 94 |
| 89) Chrysene | 11.455 | 228 | 11214 | 0.54 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 12.903 | 252 | 11742 | 0.63 | ppm | 82 |
| 94) Benzo[k]fluoranthene | 12.935 | 252 | 3636 | 0.21 | ppm | 70 |
| 95) Benzo[a]pyrene | 13.320 | 252 | 7962 | 0.48 | ppm | 85 |
| 96) Indeno[1,2,3-cd]pyrene | 14.692 | 276 | 4711 | 0.32 | ppm | 77 |
| 100) Benzo[g,h,i]perylene | 14.986 | 276 | 5363 | 0.36 | ppm | 94 |
| 102) Benzaldehyde | 3.527 | 105 | 2876 | 0.44 | ppm | 82 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59694.d
Acq On : 16 May 2019 4:51 pm
Operator : christc2
Sample : jc87535-5 Inst : MS5P
Misc : op20269,e5p2816,30.4,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:07:17 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

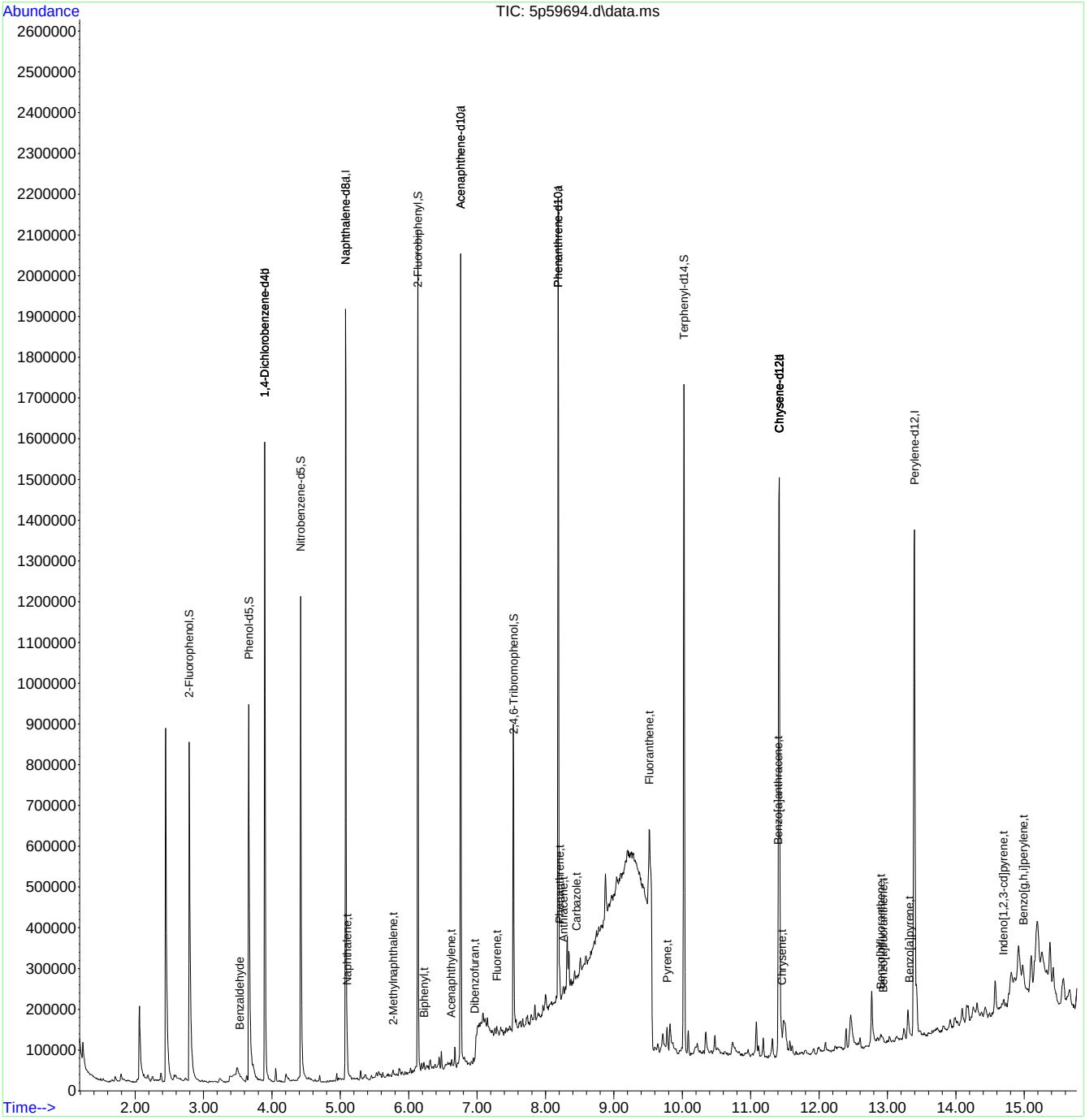
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

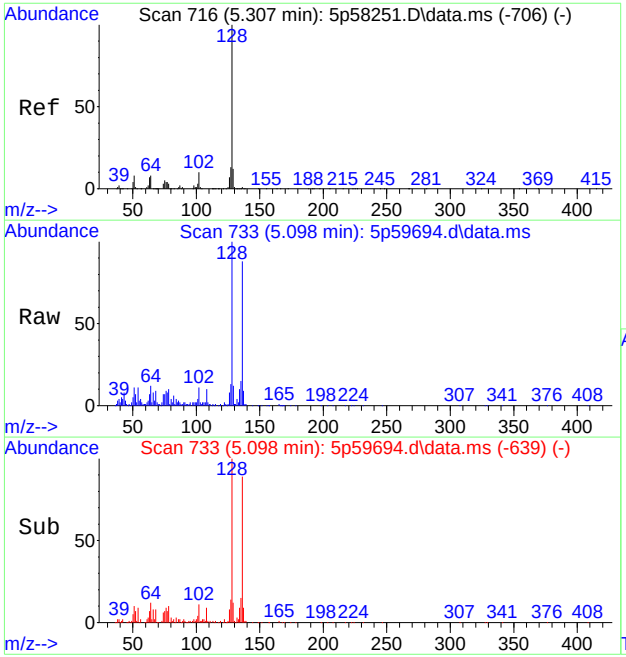
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59694.d
Acq On : 16 May 2019 4:51 pm
Operator : christc2
Sample : jc87535-5 Inst : MS5P
Misc : op20269,e5p2816,30.4,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:07:17 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration



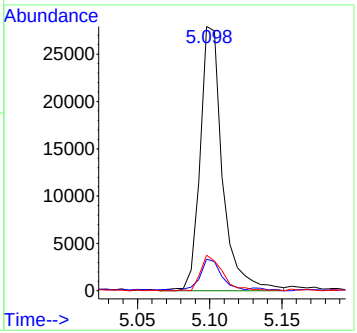

M5P2761.M Fri May 17 01:11:17 2019 Page: 3

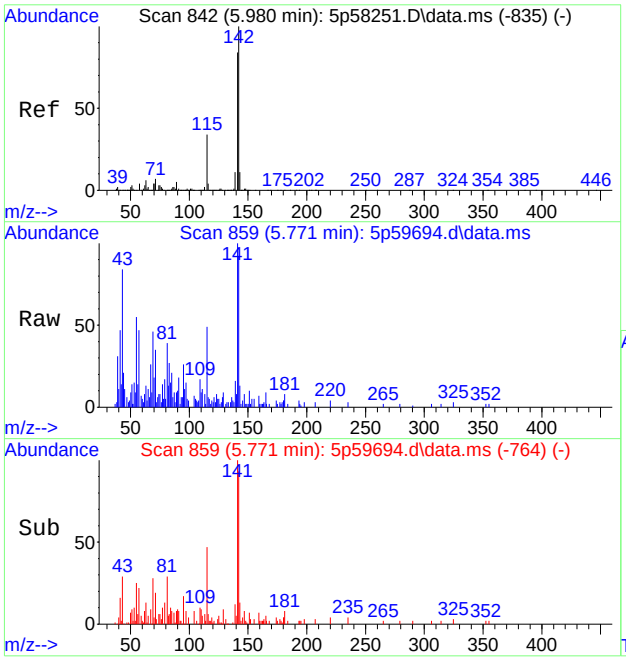



#38
Naphthalene
Concen: 1.66 ppm
RT: 5.098 min Scan# 733
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:128 Resp: 30019

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.9 | 0.0 | 41.4 |
| 127 | 13.6 | 0.0 | 43.4 |

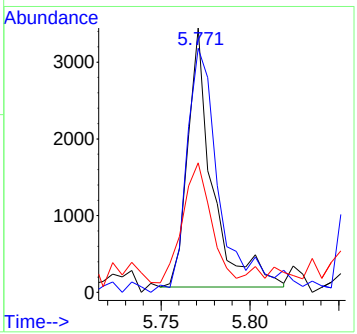


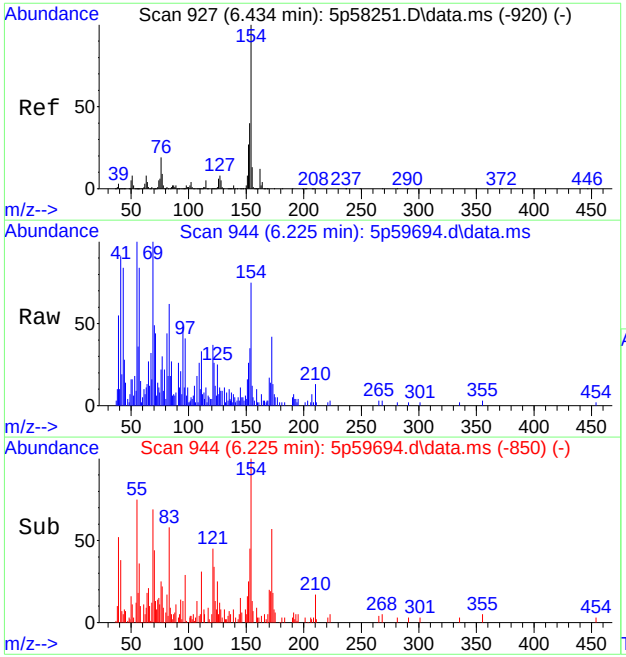




#44
2-Methylnaphthalene
Concen: 0.31 ppm
RT: 5.771 min Scan# 859
Delta R.T. 0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:141 Resp: 3251

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 89.2 | 87.7 | 147.7 |
| 115 | 44.6 | 19.2 | 79.2 |

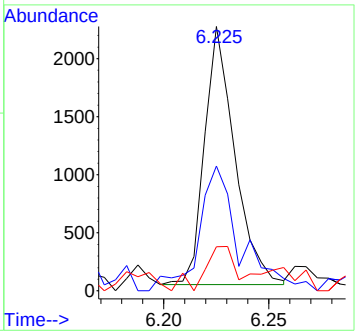


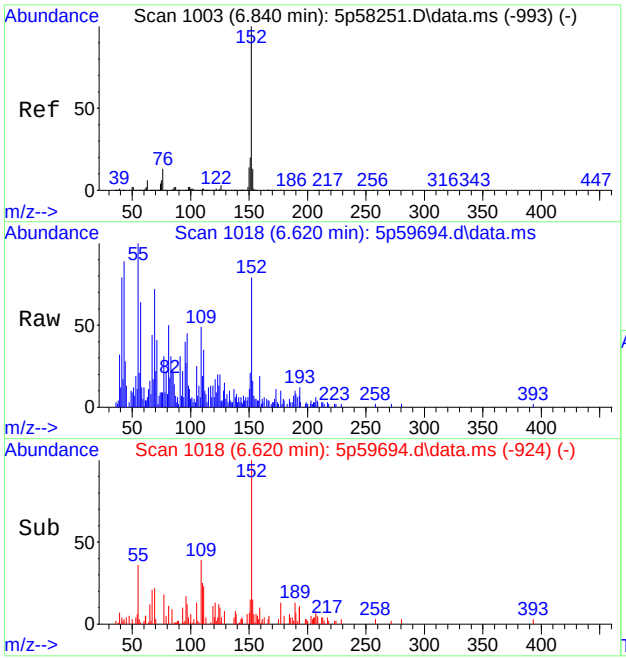



#53
Biphenyl
Concen: 0.16 ppm
RT: 6.225 min Scan# 944
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:154 Resp: 2232

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 41.4 | 10.3 | 70.3 |
| 155 | 18.3 | 0.0 | 43.6 |

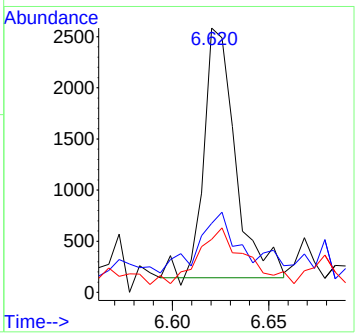


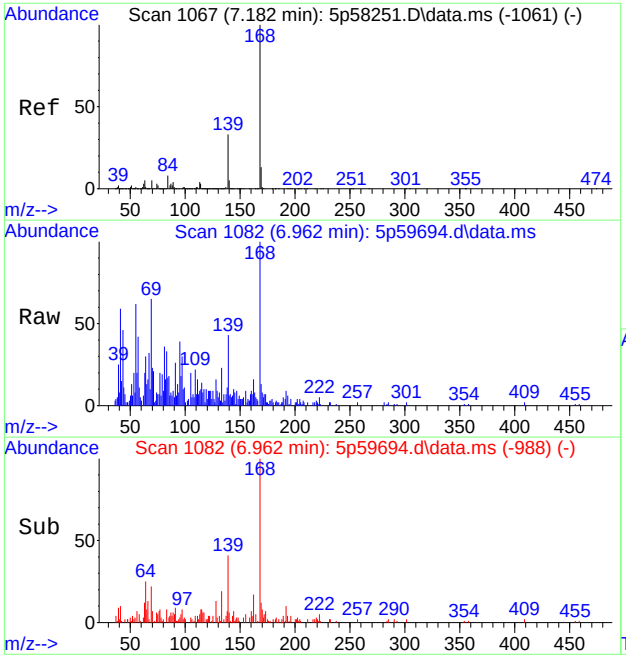




#56
Acenaphthylene
Concen: 0.17 ppm
RT: 6.620 min Scan# 1018
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:152 Resp: 2801

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 18.5 | 0.0 | 50.6 |
| 153 | 10.5 | 0.0 | 43.5 |

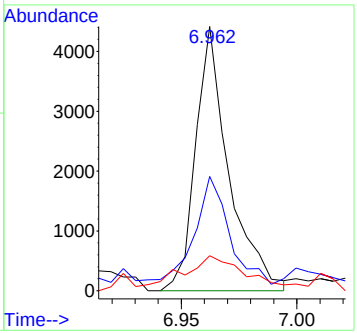


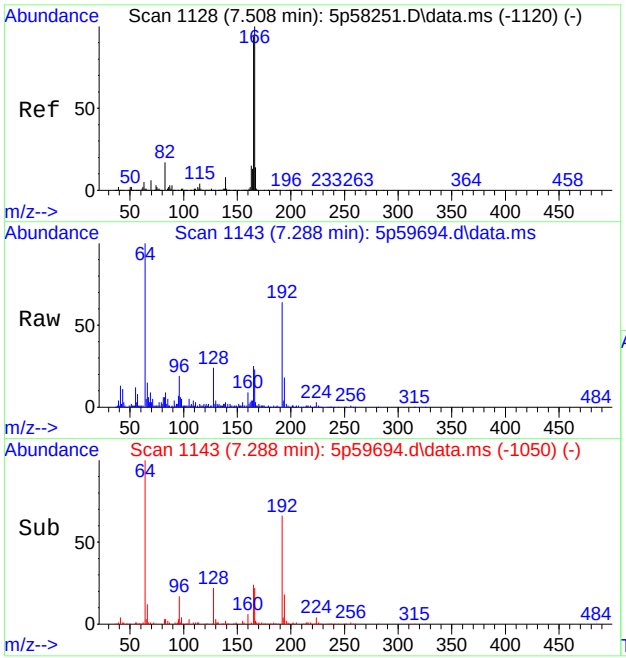



#62
Dibenzofuran
Concen: 0.28 ppm
RT: 6.962 min Scan# 1082
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:168 Resp: 4437

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.6 | 6.9 | 66.9 |
| 169 | 10.6 | 0.0 | 44.0 |

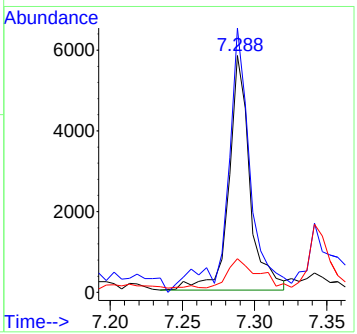


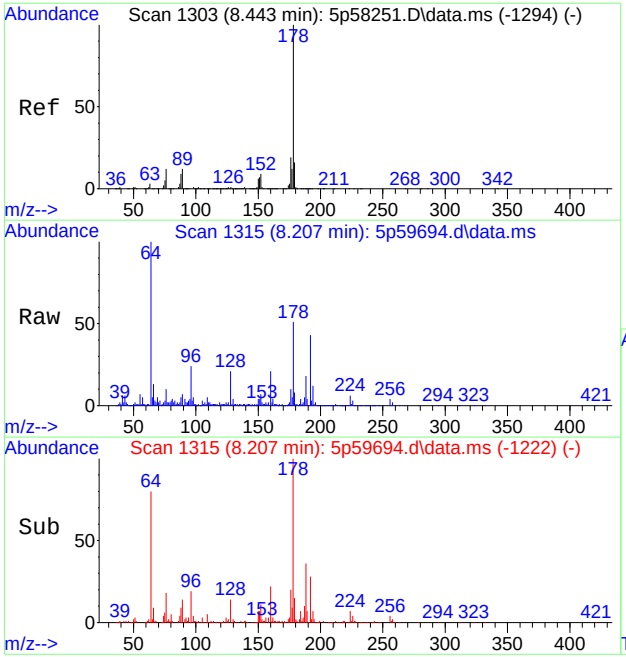




#66
Fluorene
Concen: 0.47 ppm
RT: 7.288 min Scan# 1143
Delta R.T. -0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:166 Resp: 5850

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 108.7 | 60.8 | 120.8 |
| 167 | 11.5 | 0.0 | 43.5 |

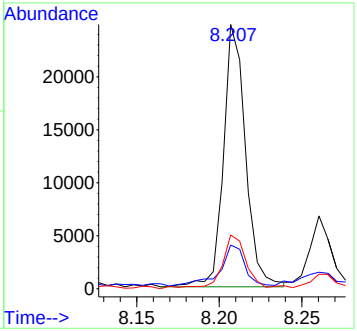


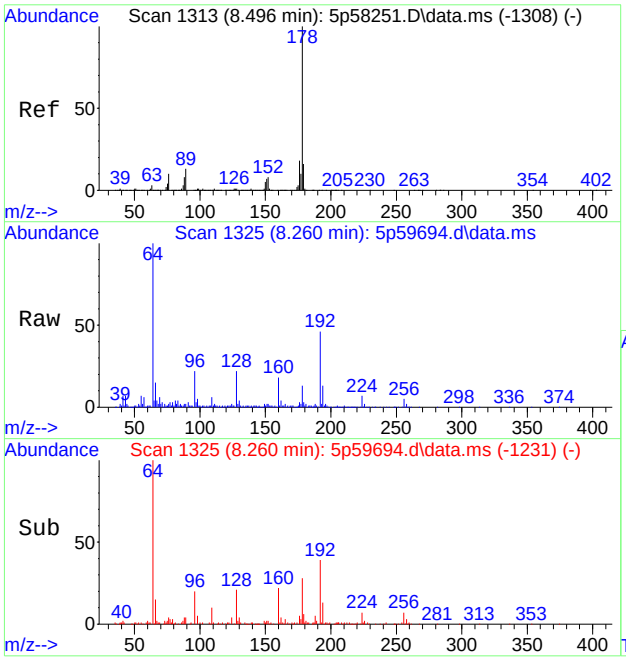



#77
Phenanthrene
Concen: 1.40 ppm
RT: 8.207 min Scan# 1315
Delta R.T. -0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:178 Resp: 23067

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 13.8 | 0.0 | 45.5 |
| 176 | 20.0 | 0.0 | 48.6 |

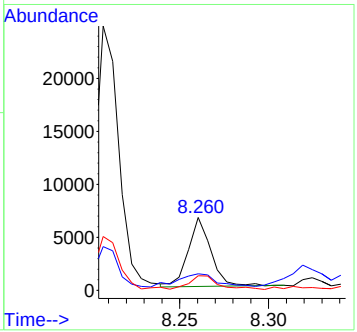


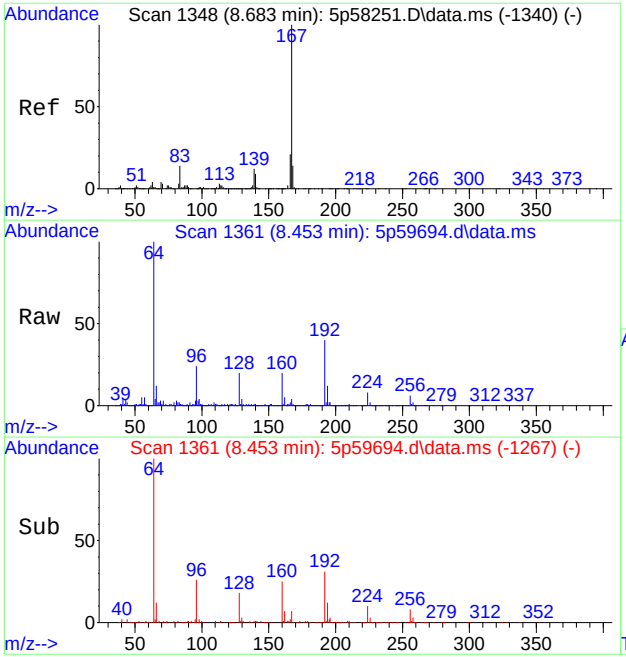




#78
Anthracene
Concen: 0.33 ppm
RT: 8.260 min Scan# 1325
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:178 Resp: 5772

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 8.5 | 0.0 | 45.8 |
| 176 | 18.2 | 0.0 | 47.8 |

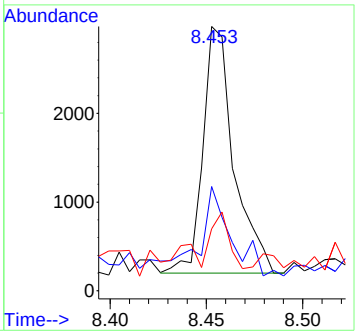


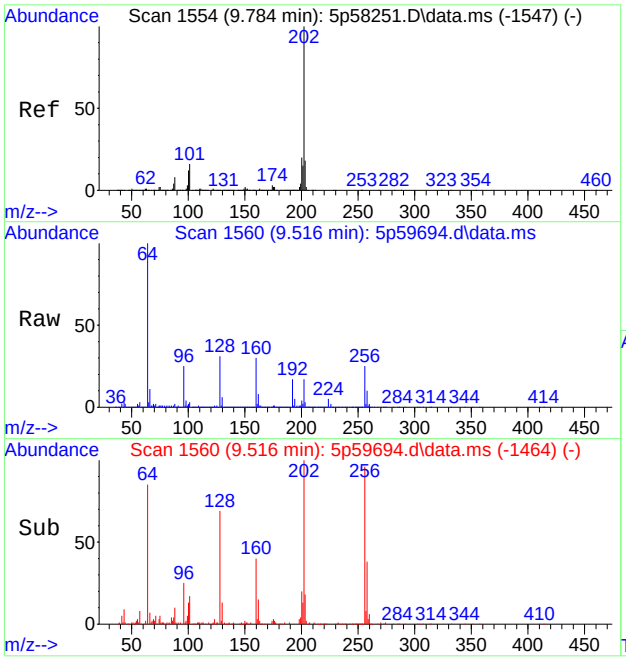



#79
Carbazole
Concen: 0.18 ppm
RT: 8.453 min Scan# 1361
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:167 Resp: 3109

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 33.2 | 0.0 | 50.6 |
| 139 | 14.6 | 0.0 | 43.0 |

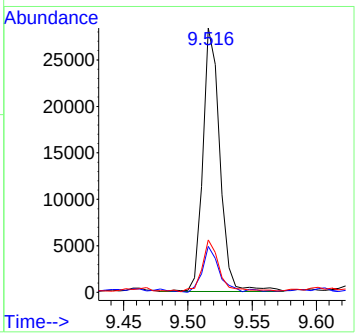


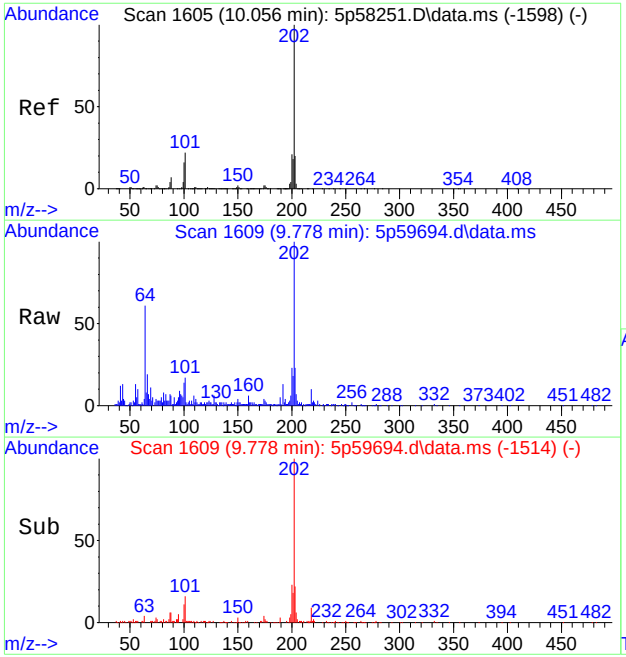




#81
Fluoranthene
Concen: 1.28 ppm
RT: 9.516 min Scan# 1560
Delta R.T. 0.011 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:202 Resp: 26251

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 16.3 | 0.0 | 46.8 |
| 203 | 19.2 | 0.0 | 47.6 |

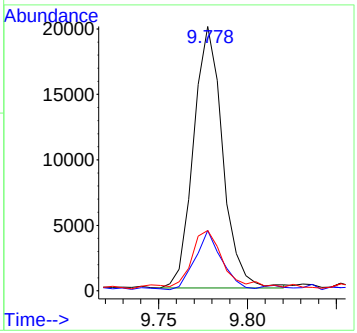


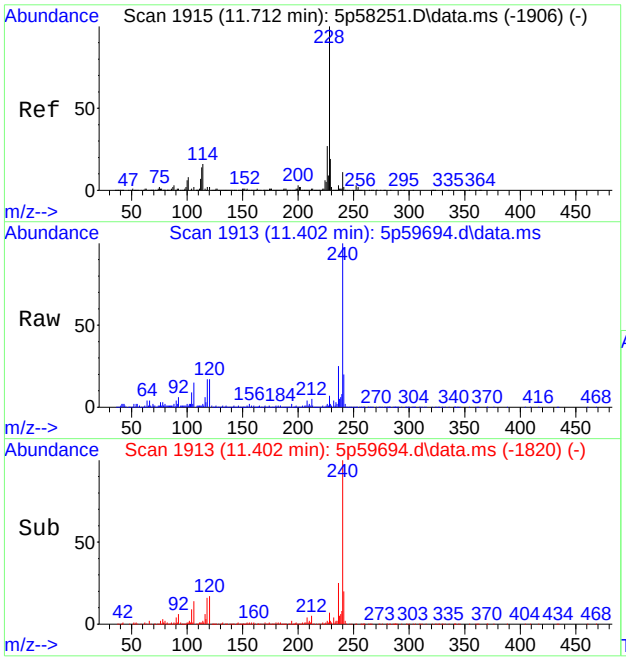



#84
Pyrene
Concen: 0.93 ppm
RT: 9.778 min Scan# 1609
Delta R.T. 0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:202 Resp: 22745

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 22.1 | 0.0 | 50.0 |
| 203 | 21.5 | 0.0 | 48.8 |

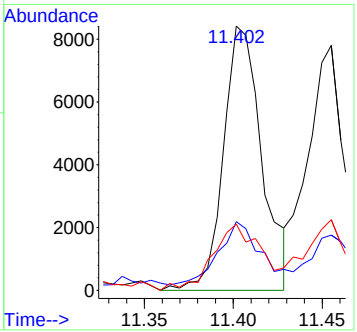


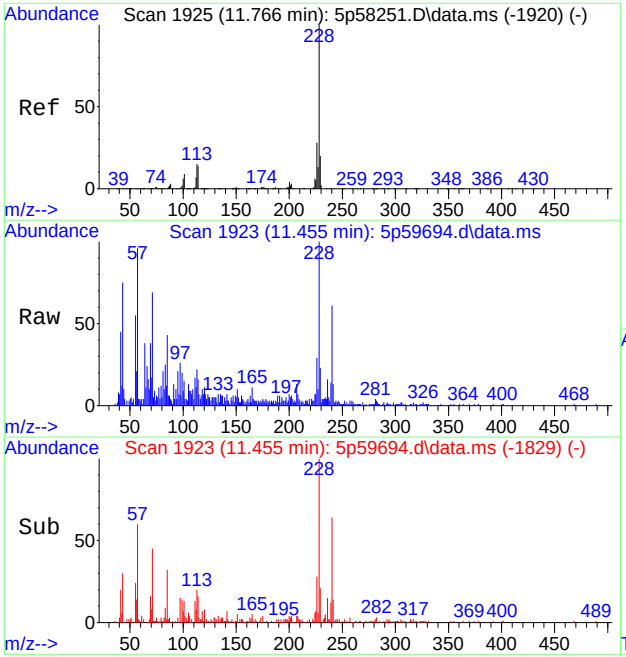




#87
Benzo[a]anthracene
Concen: 0.56 ppm
RT: 11.402 min Scan# 1913
Delta R.T. -0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:228 Resp: 12671

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 23.3 | 0.0 | 50.1 |
| 226 | 23.5 | 0.0 | 56.3 |

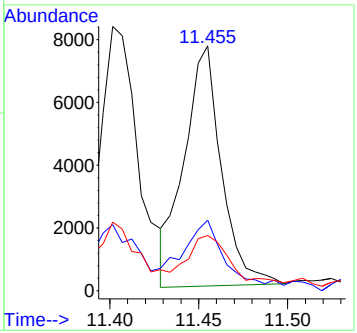


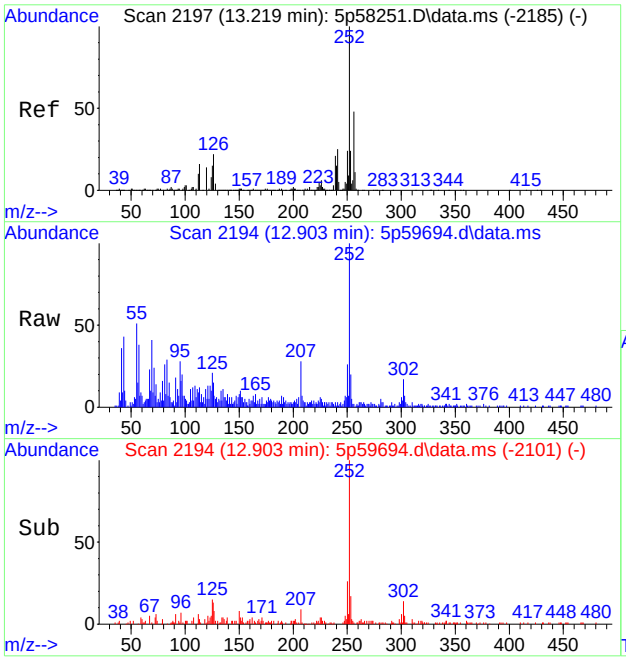



#89
Chrysene
Concen: 0.54 ppm
RT: 11.455 min Scan# 1923
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:228 Resp: 11214

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 26.9 | 0.0 | 58.4 |
| 229 | 19.3 | 0.0 | 49.9 |

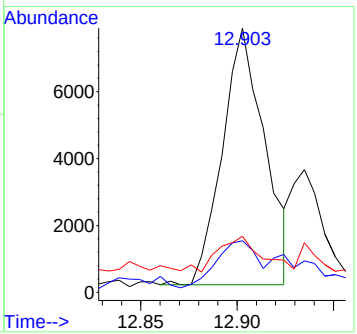


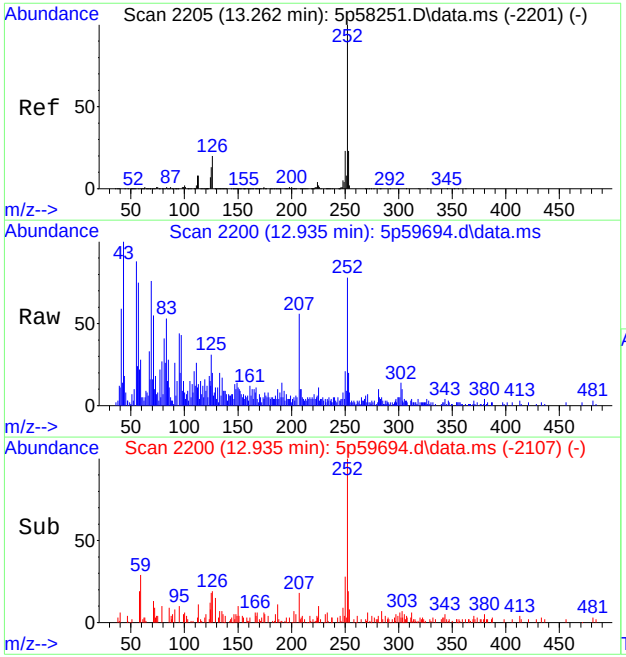




#93
Benzo[b]fluoranthene
Concen: 0.63 ppm
RT: 12.903 min Scan# 2194
Delta R.T. -0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:252 Resp: 11742

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 11.3 | 0.0 | 52.9 |
| 125 | 9.8 | 0.0 | 42.9 |

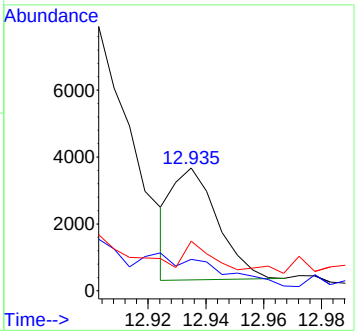


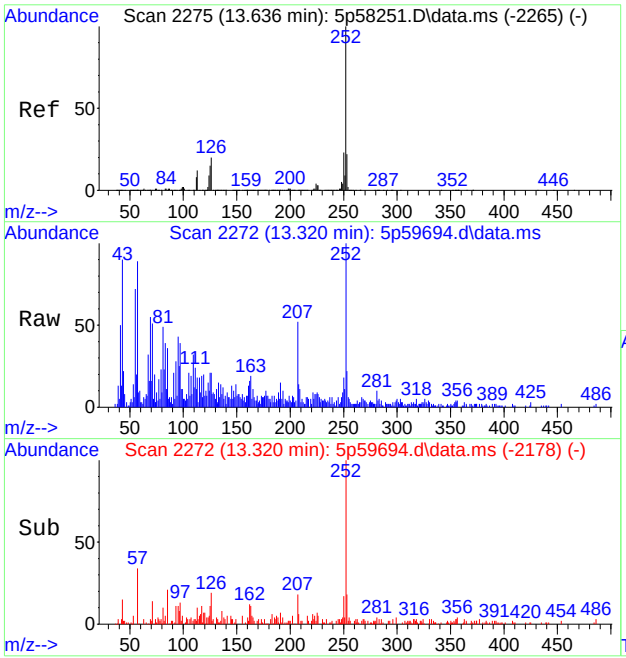



#94
Benzo[k]fluoranthene
Concen: 0.21 ppm
RT: 12.935 min Scan# 2200
Delta R.T. -0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:252 Resp: 3636

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 13.6 | 0.0 | 52.7 |
| 125 | 33.1 | 0.0 | 43.4 |

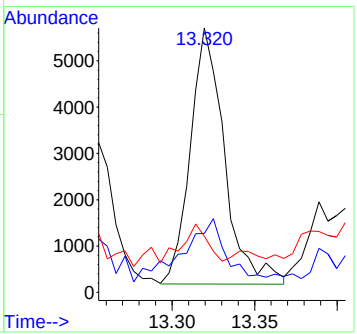


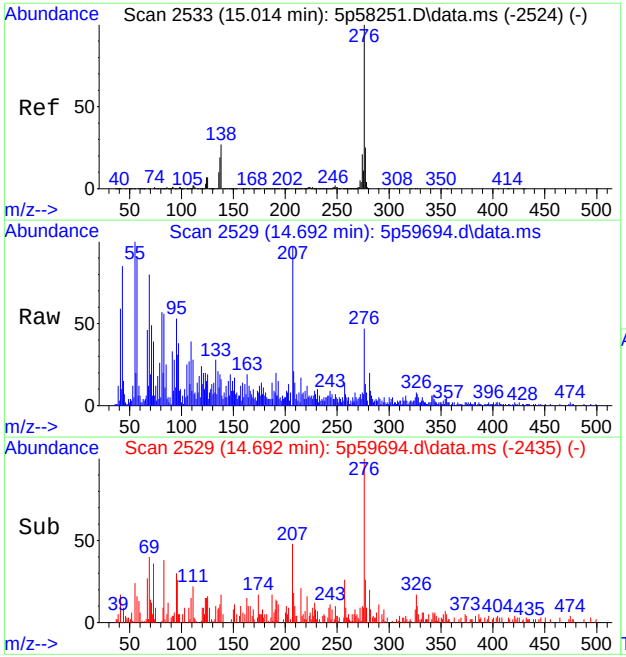




#95
Benzo[a]pyrene
Concen: 0.48 ppm
RT: 13.320 min Scan# 2272
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:252 Resp: 7962

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 13.8 | 0.0 | 52.4 |
| 125 | 9.7 | 0.0 | 44.0 |

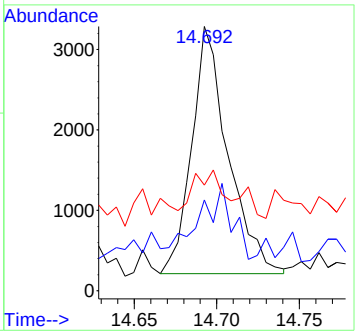


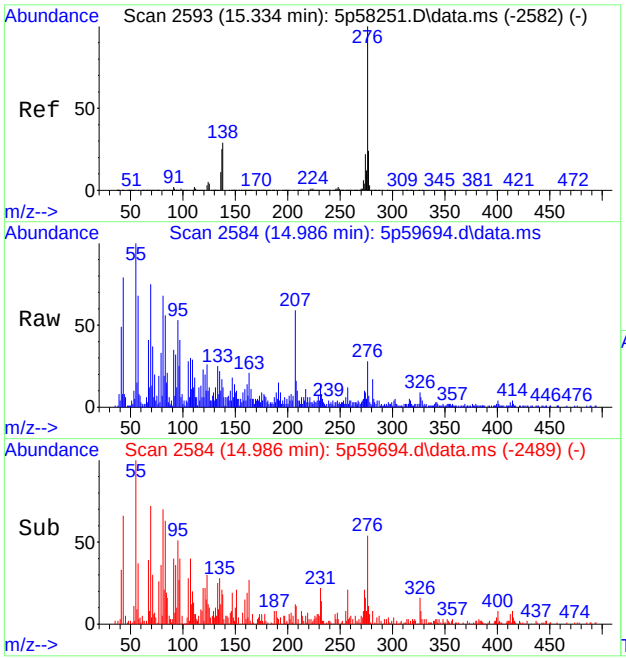



#96
Indeno[1,2,3-cd]pyrene
Concen: 0.32 ppm
RT: 14.692 min Scan# 2529
Delta R.T. -0.000 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:276 Resp: 4711

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 19.7 | 0.0 | 55.3 |
| 137 | 0.0 | 0.0 | 47.6 |

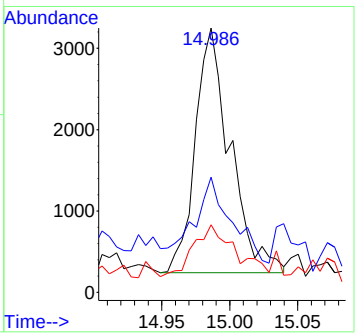


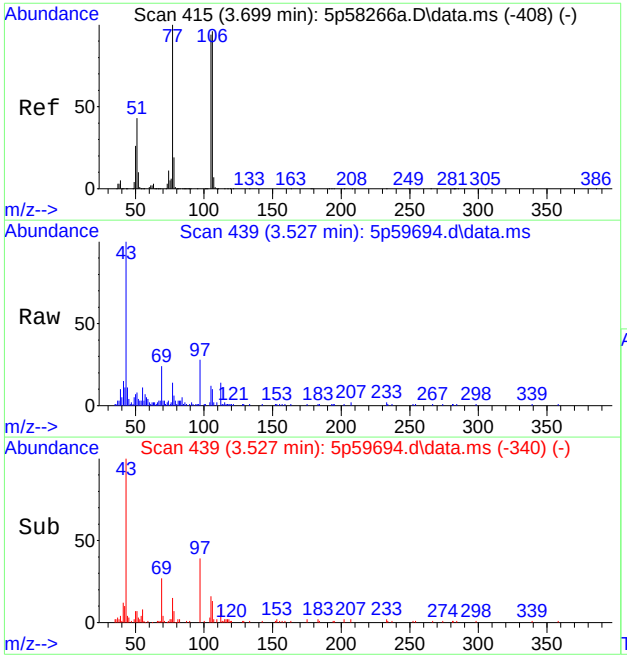




#100
Benzo[g,h,i]perylene
Concen: 0.36 ppm
RT: 14.986 min Scan# 2584
Delta R.T. 0.005 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:276 Resp: 5363

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.4 | 0.0 | 57.0 |
| 277 | 21.2 | 0.0 | 54.6 |

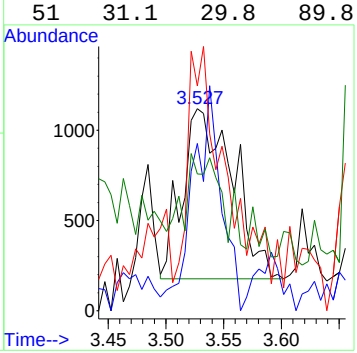





#102
Benzaldehyde
Concen: 0.44 ppm
RT: 3.527 min Scan# 439
Delta R.T. 0.027 min
Lab File: 5p59694.d
Acq: 16 May 2019 4:51 pm

Tgt Ion:105 Resp: 2876

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 106 | 90.8 | 68.4 | 128.4 |
| 77 | 102.6 | 91.4 | 151.4 |
| 51 | 31.1 | 29.8 | 89.8 |



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59690.D
Acq On : 16 May 2019 3:21 pm
Operator : christc2
Sample : jc87535-6
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 16 17:04:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 183764 | 40.00 | ppm | -0.06 |
| 24) Naphthalene-d8 | 5.077 | 136 | 679313 | 40.00 | ppm | -0.06 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 360999 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 671563 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 11.412 | 240 | 627913 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.394 | 264 | 572974 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 183764 | 40.00 | ppm | -0.06 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 360999 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 11.412 | 240 | 627913 | 40.00 | ppm | -0.11 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 671563 | 40.00 | ppm | -0.07 |
| 111) Naphthalene-d8a | 5.077 | 136 | 679313 | 40.00 | ppm | -0.06 |
| 113) Chrysene-d12b | 11.412 | 240 | 627913 | 40.00 | ppm | -0.11 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 183764 | 40.00 | ppm | -0.06 |
| 117) Chrysene-d12c | 11.412 | 240 | 627913 | 40.00 | ppm | -0.11 |
| 119) Chrysene-d12d | 11.412 | 240 | 627913 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.790 | 112 | 276303 | 38.61 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = | 77.22% | | |
| 8) Phenol-d5 | 3.661 | 99 | 381816 | 42.39 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = | 84.78% | | |
| 25) Nitrobenzene-d5 | 4.419 | 82 | 413927 | 52.56 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 105.12% | | |
| 51) 2-Fluorobiphenyl | 6.134 | 172 | 548498 | 43.72 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 87.44% | | |
| 73) 2,4,6-Tribromophenol | 7.534 | 330 | 73306 | 37.87 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 75.74% | | |
| 85) Terphenyl-d14 | 10.023 | 244 | 636856 | 39.86 | ppm | -0.11 |
| Spiked Amount 50.000 | | | Recovery = | 79.72% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.098 | 128 | 39858 | 2.33 | ppm | 97 |
| 44) 2-Methylnaphthalene | 5.771 | 141 | 3155 | 0.31 | ppm | 87 |
| 56) Acenaphthylene | 6.626 | 152 | 2375 | 0.14 | ppm | 86 |
| 62) Dibenzofuran | 6.962 | 168 | 3172 | 0.20 | ppm | 87 |
| 66) Fluorene | 7.294 | 166 | 3275 | 0.26 | ppm | 84 |
| 77) Phenanthrene | 8.207 | 178 | 15916 | 0.88 | ppm | 99 |
| 78) Anthracene | 8.261 | 178 | 4290 | 0.23 | ppm | 96 |
| 79) Carbazole | 8.458 | 167 | 2411 | 0.12 | ppm | 93 |
| 81) Fluoranthene | 9.505 | 202 | 13104 | 0.58 | ppm | 93 |
| 84) Pyrene | 9.778 | 202 | 10642 | 0.45 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.402 | 228 | 6833 | 0.31 | ppm | 96 |
| 89) Chrysene | 11.455 | 228 | 4854 | 0.24 | ppm | 95 |
| 93) Benzo[b]fluoranthene | 12.903 | 252 | 4943 | 0.28 | ppm | 90 |
| 96) Indeno[1,2,3-cd]pyrene | 14.698 | 276 | 1994 | 0.14 | ppm | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59690.D
Acq On : 16 May 2019 3:21 pm
Operator : christc2
Sample : jc87535-6
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 16 17:04:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

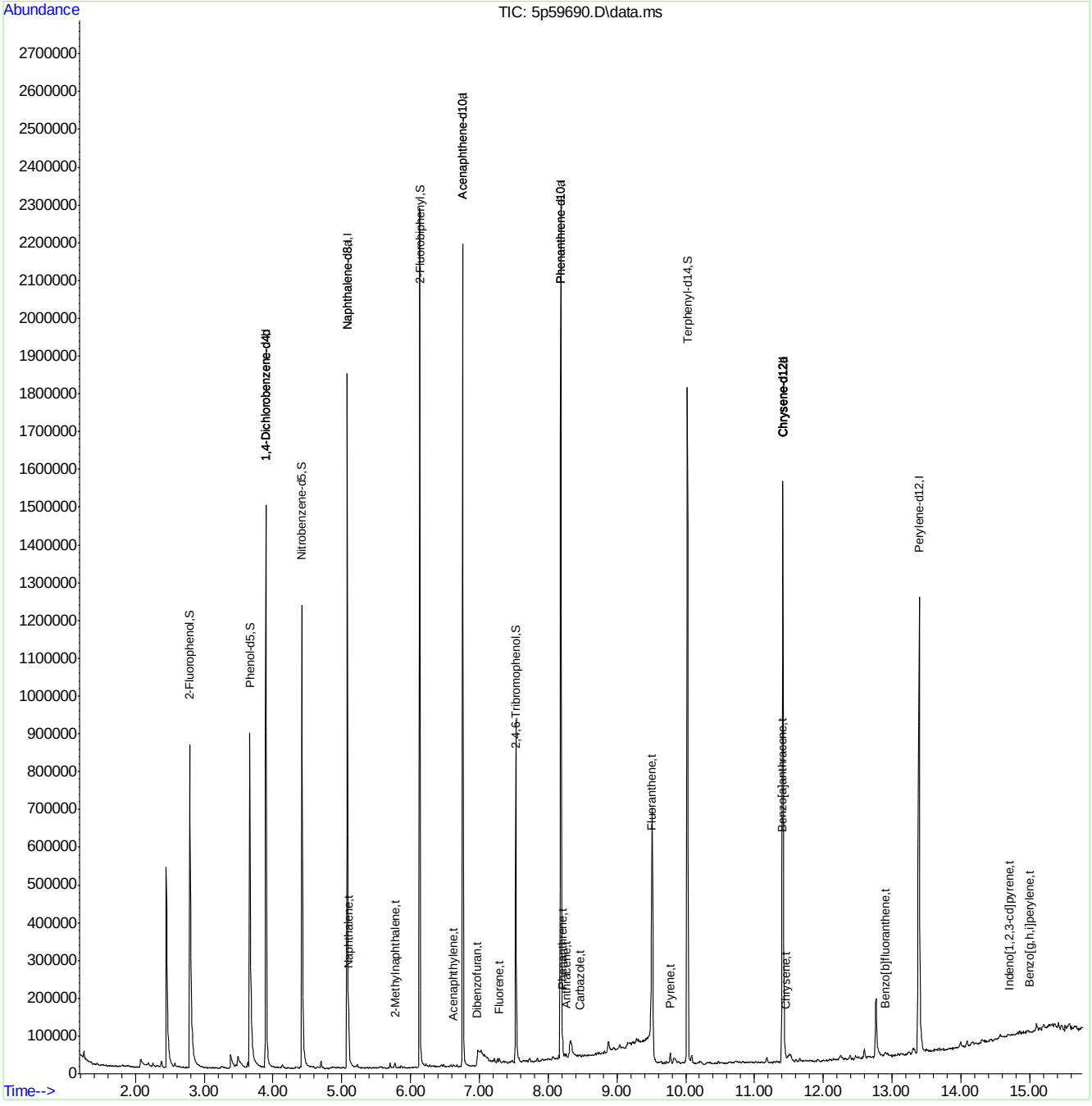
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 100) Benzo[g,h,i]perylene | 14.992 | 276 | 2191 | 0.16 | ppm | 84 |

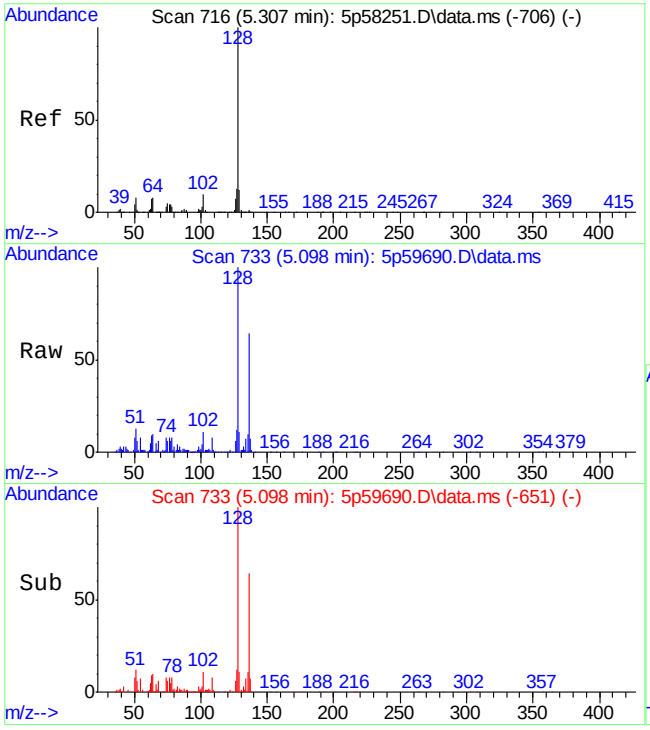
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59690.D
Acq On : 16 May 2019 3:21 pm
Operator : christc2
Sample : jc87535-6
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 16 17:04:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

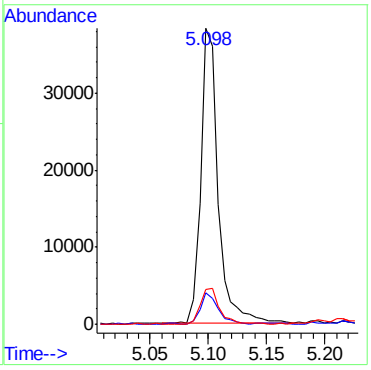


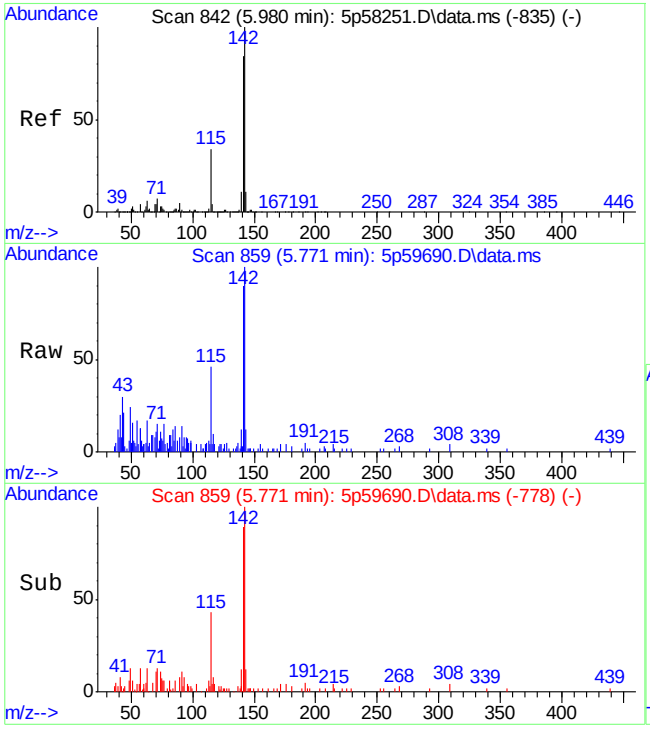



#38
Naphthalene
Concen: 2.33 ppm
RT: 5.098 min Scan# 733
Delta R.T. -0.064 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:128 Resp: 39858

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 10.7 | 0.0 | 41.7 |
| 127 | 11.6 | 0.0 | 43.1 |

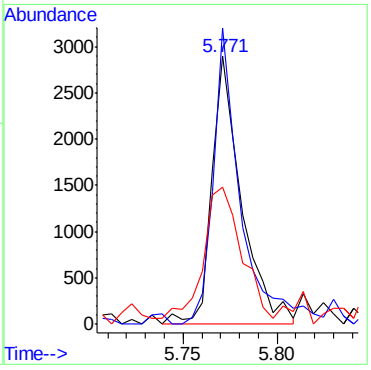


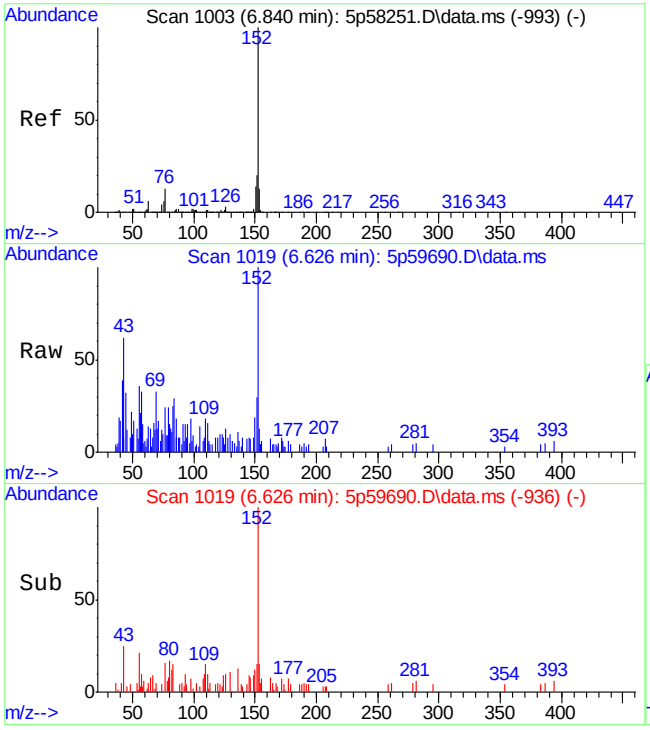




#44
2-Methylnaphthalene
Concen: 0.31 ppm
RT: 5.771 min Scan# 859
Delta R.T. -0.065 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:141 Resp: 3155

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 109.1 | 89.9 | 149.9 |
| 115 | 54.0 | 10.7 | 70.7 |

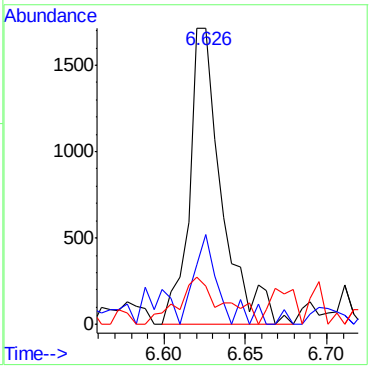


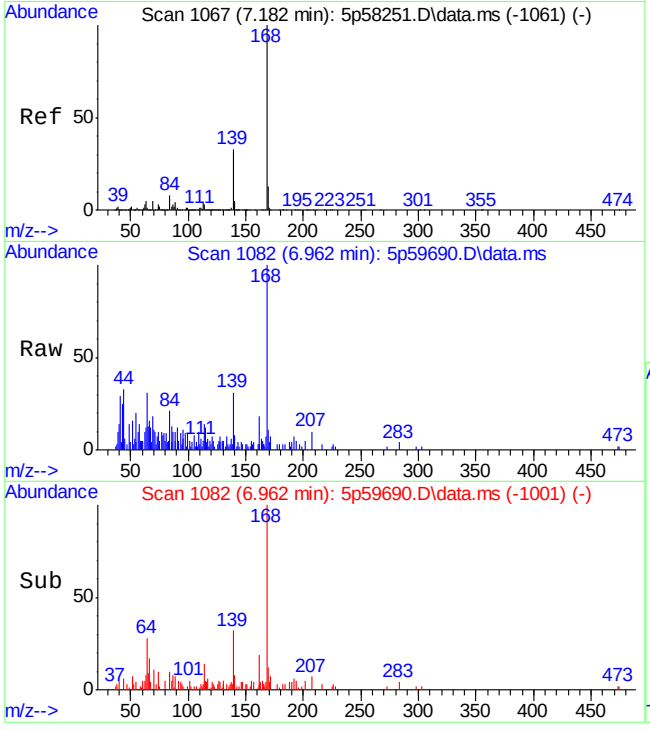



#56
Acenaphthylene
Concen: 0.14 ppm
RT: 6.626 min Scan# 1019
Delta R.T. -0.058 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:152 Resp: 2375

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 24.5 | 0.0 | 50.5 |
| 153 | 5.0 | 0.0 | 43.4 |

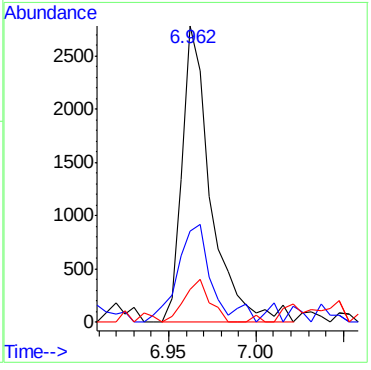


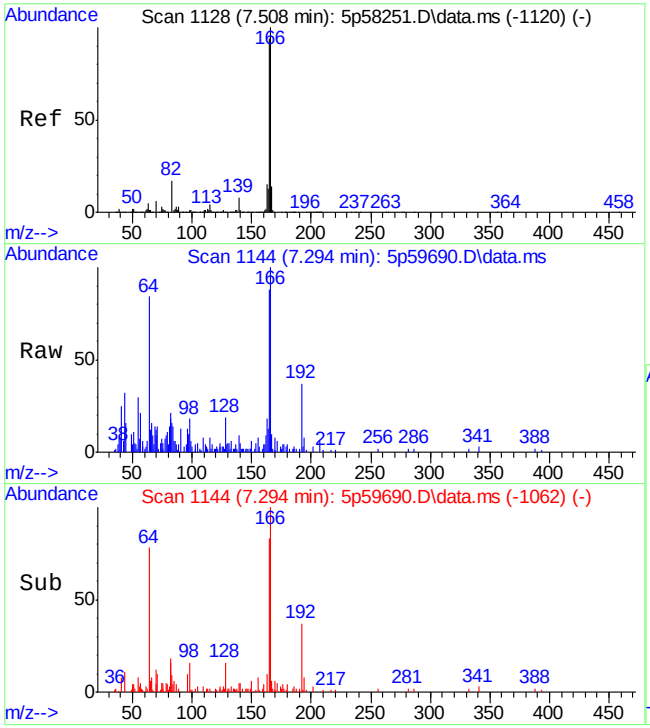




#62
Dibenzofuran
Concen: 0.20 ppm
RT: 6.962 min Scan# 1082
Delta R.T. -0.065 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:168 Resp: 3172

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 25.4 | 3.2 | 63.2 |
| 169 | 8.2 | 0.0 | 42.9 |

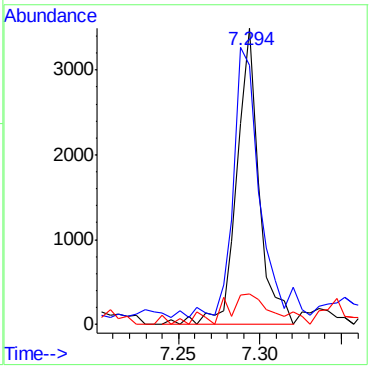


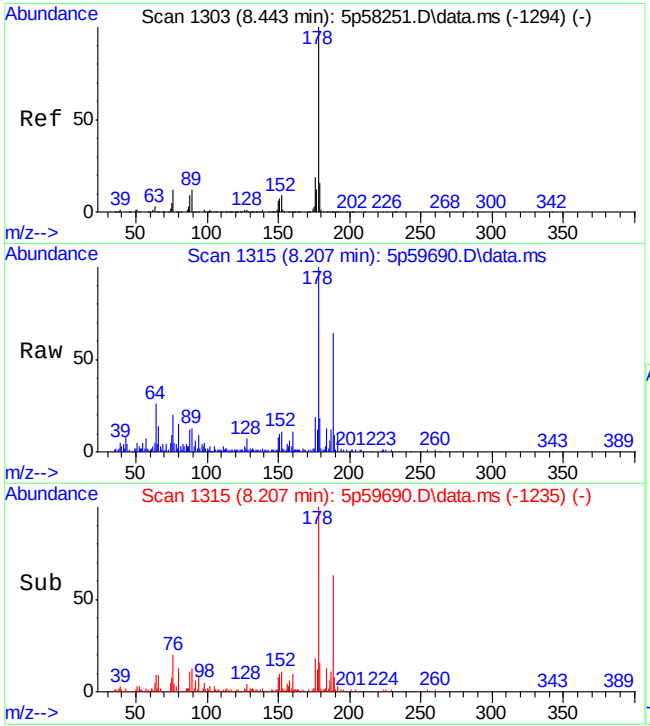



#66
Fluorene
Concen: 0.26 ppm
RT: 7.294 min Scan# 1144
Delta R.T. -0.062 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:166 Resp: 3275

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 79.5 | 64.3 | 124.3 |
| 167 | 6.9 | 0.0 | 43.8 |

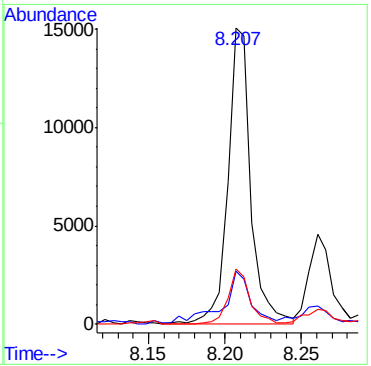


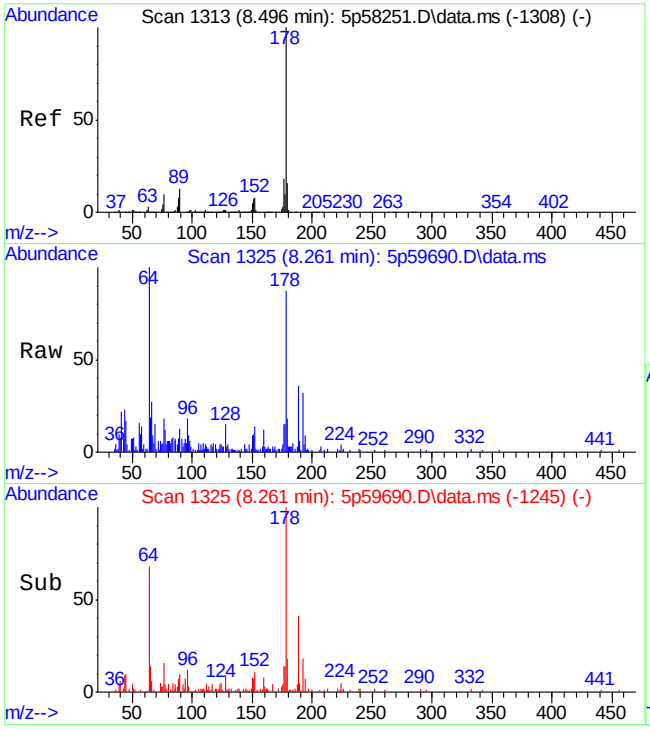




#77
Phenanthrene
Concen: 0.88 ppm
RT: 8.207 min Scan# 1315
Delta R.T. -0.075 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:178 Resp: 15916

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.8 | 0.0 | 45.8 |
| 176 | 18.5 | 0.0 | 48.5 |

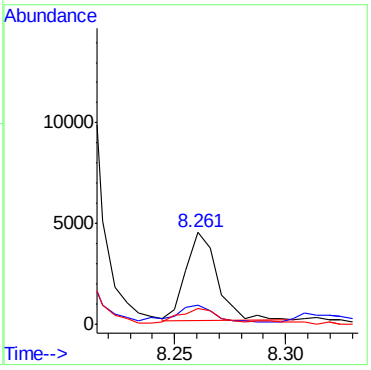


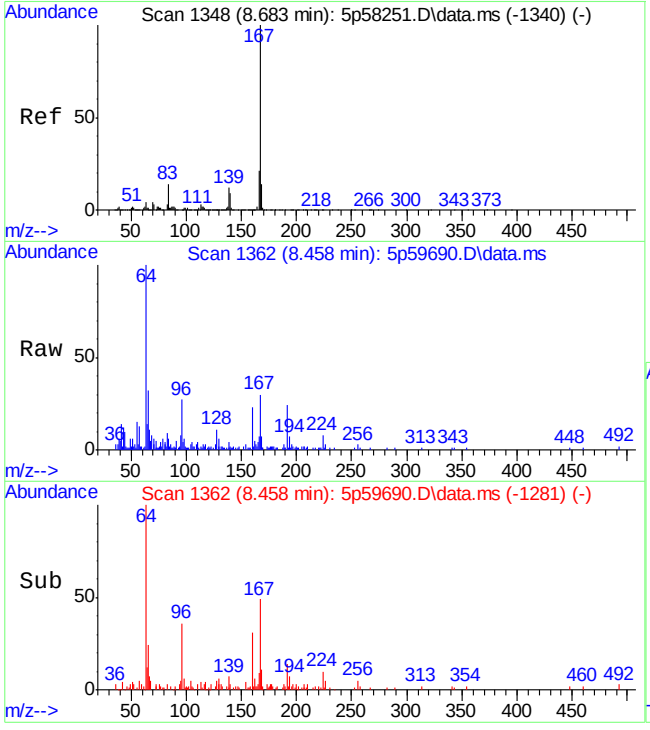



#78
Anthracene
Concen: 0.23 ppm
RT: 8.261 min Scan# 1325
Delta R.T. -0.075 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:178 Resp: 4290

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.0 | 0.0 | 45.6 |
| 176 | 15.3 | 0.0 | 48.3 |

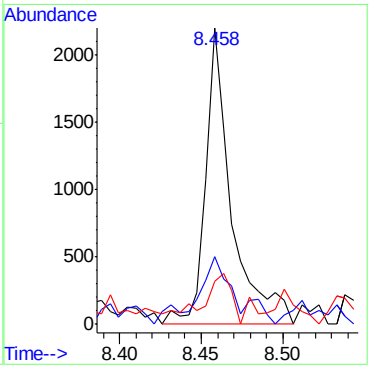


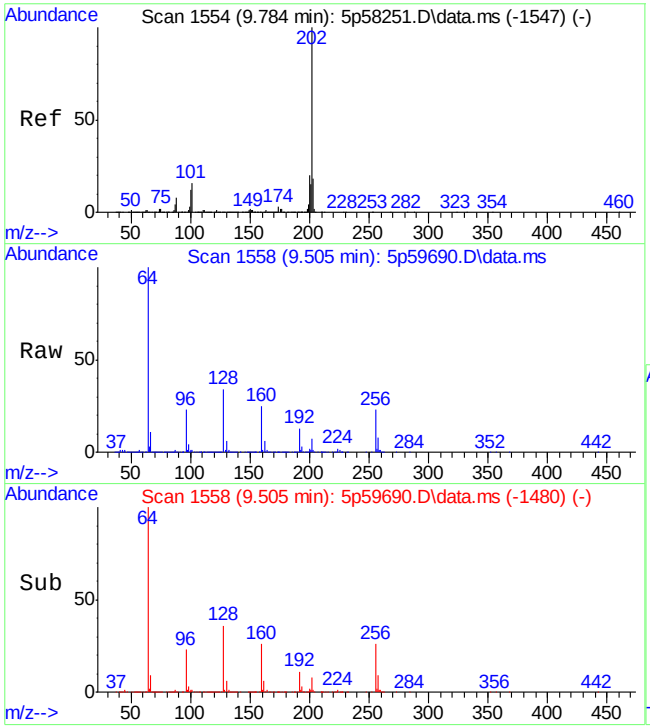




#79
Carbazole
Concen: 0.12 ppm
RT: 8.458 min Scan# 1362
Delta R.T. -0.066 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:167 Resp: 2411

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 18.5 | 0.0 | 50.7 |
| 139 | 7.8 | 0.0 | 42.4 |

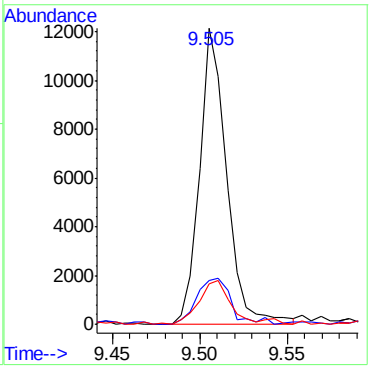


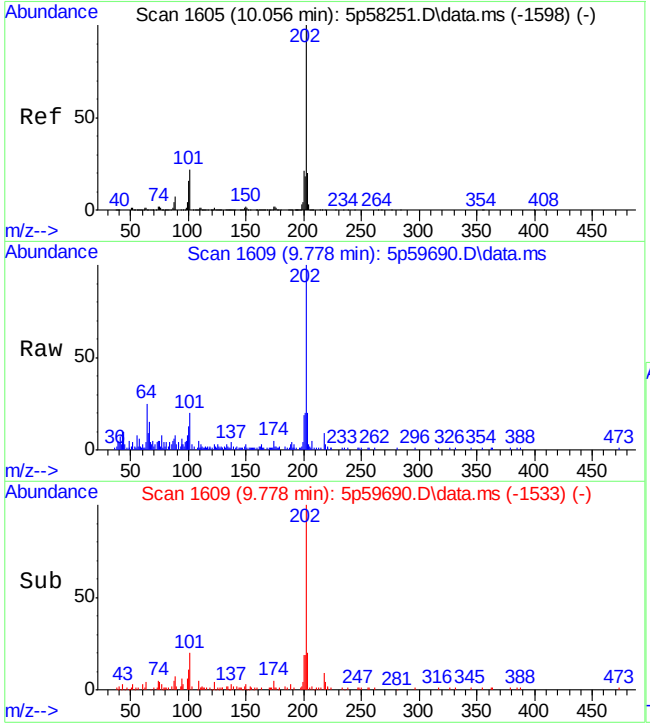



#81
Fluoranthene
Concen: 0.58 ppm
RT: 9.505 min Scan# 1558
Delta R.T. -0.084 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:202 Resp: 13104

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.4 | 0.0 | 46.5 |
| 203 | 13.6 | 0.0 | 47.7 |

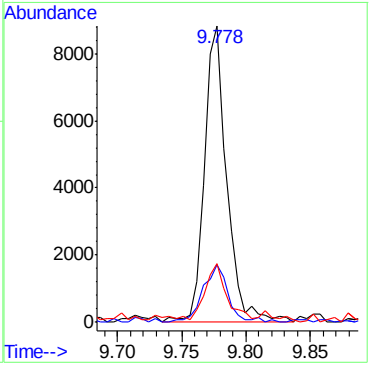


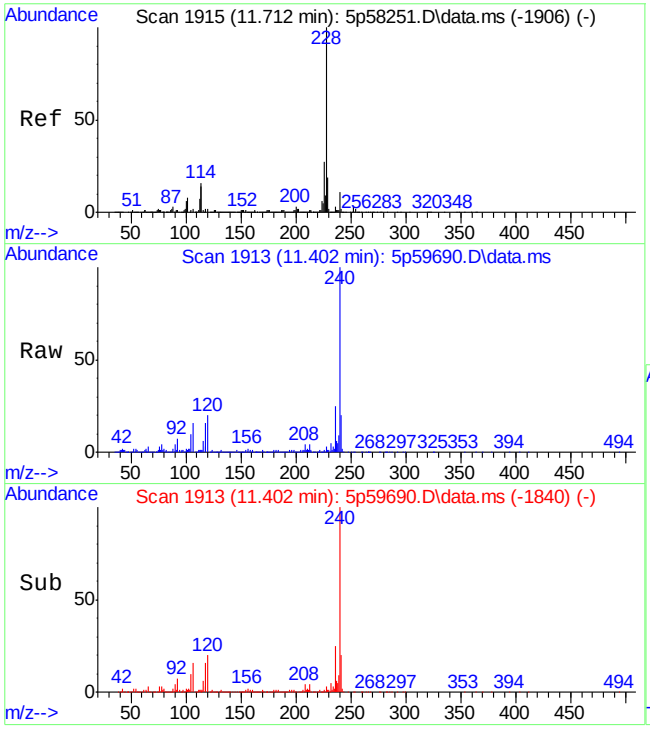




#84
Pyrene
Concen: 0.45 ppm
RT: 9.778 min Scan# 1609
Delta R.T. -0.093 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:202 Resp: 10642

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 18.9 | 0.0 | 50.6 |
| 203 | 18.6 | 0.0 | 49.5 |

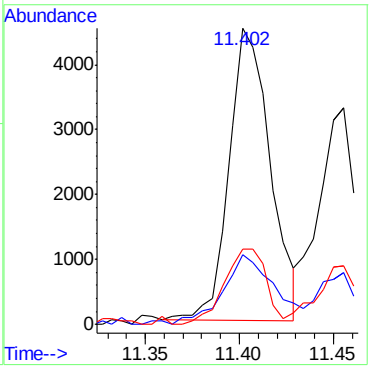


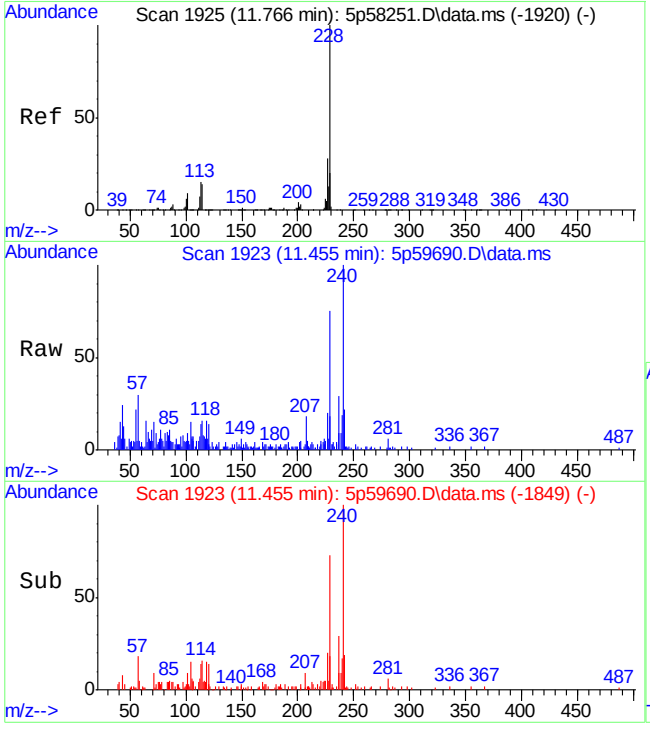



#87
Benzo[a]anthracene
Concen: 0.31 ppm
RT: 11.402 min Scan# 1913
Delta R.T. -0.112 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:228 Resp: 6833

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.5 | 0.0 | 49.3 |
| 226 | 24.6 | 0.0 | 56.3 |

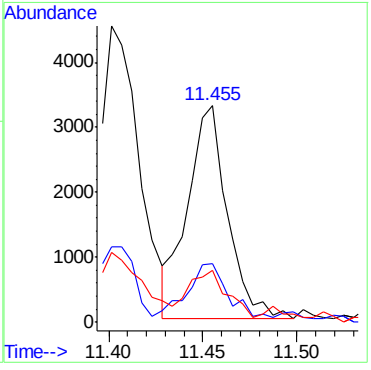


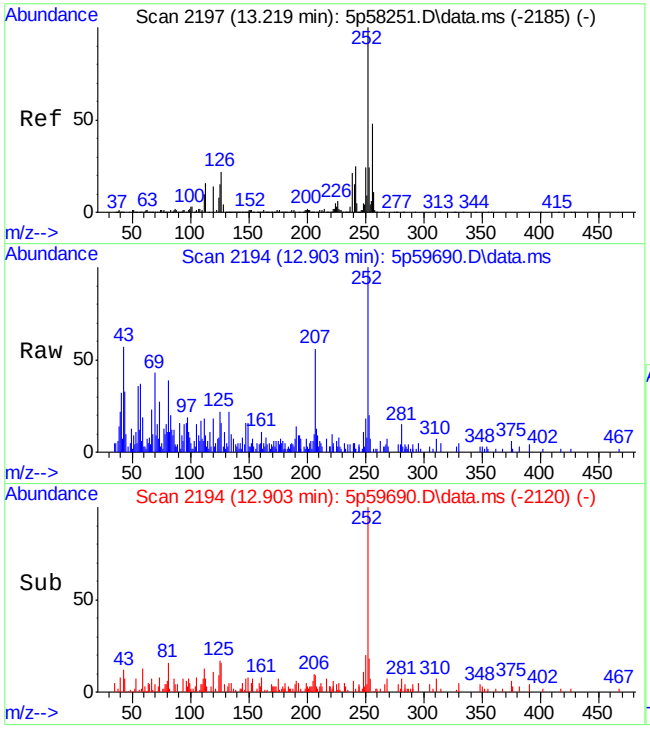




#89
Chrysene
Concen: 0.24 ppm
RT: 11.455 min Scan# 1923
Delta R.T. -0.107 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:228 Resp: 4854

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 24.2 | 0.0 | 58.6 |
| 229 | 19.6 | 0.0 | 49.0 |

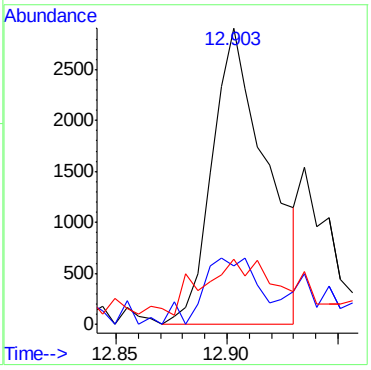


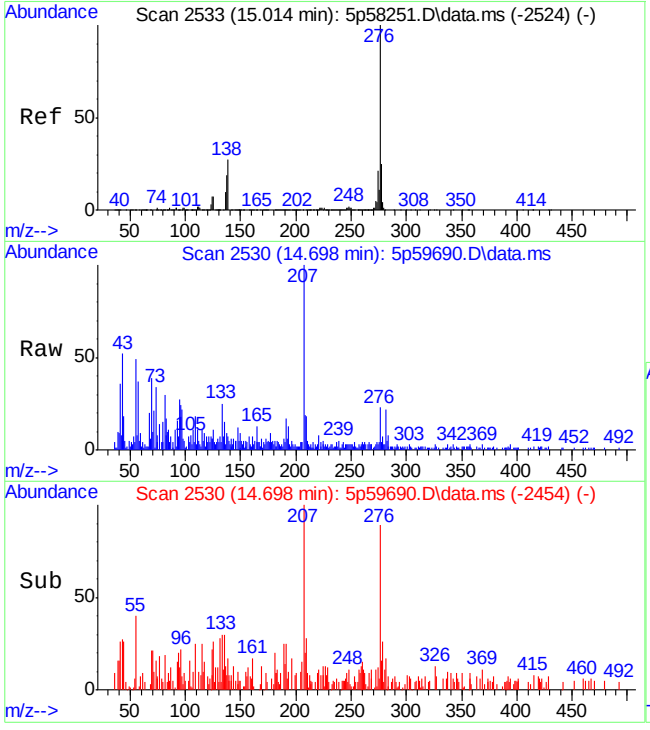



#93
Benzo[b]fluoranthene
Concen: 0.28 ppm
RT: 12.903 min Scan# 2194
Delta R.T. -0.103 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:252 Resp: 4943

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 17.7 | 0.0 | 54.7 |
| 125 | 17.2 | 0.0 | 45.6 |

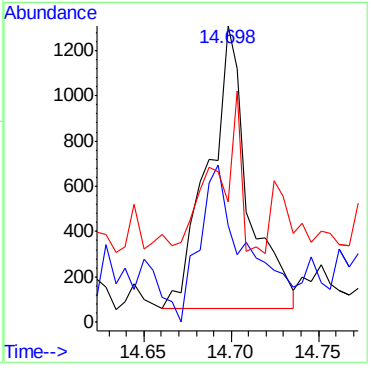


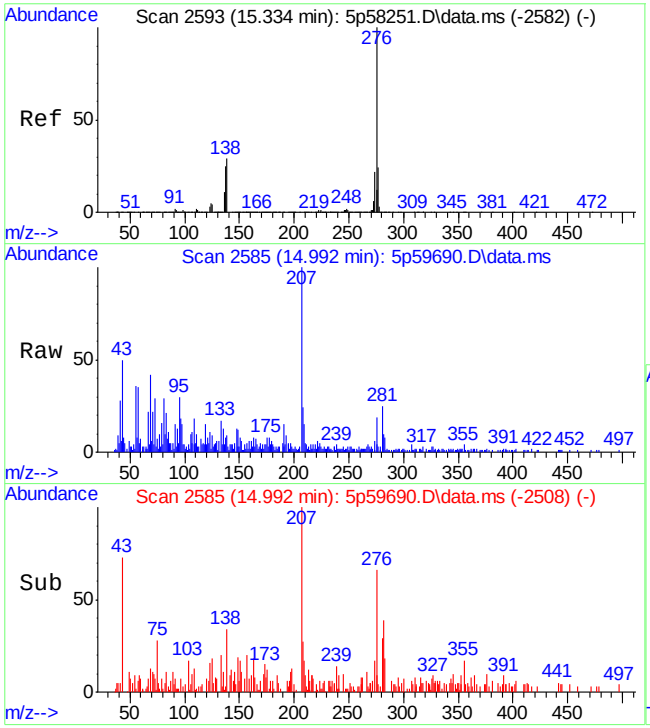




#96
Indeno[1,2,3-cd]pyrene
Concen: 0.14 ppm
RT: 14.698 min Scan# 2530
Delta R.T. -0.095 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:276 Resp: 1994

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.5 | 0.0 | 56.9 |
| 137 | 11.5 | 0.0 | 49.4 |

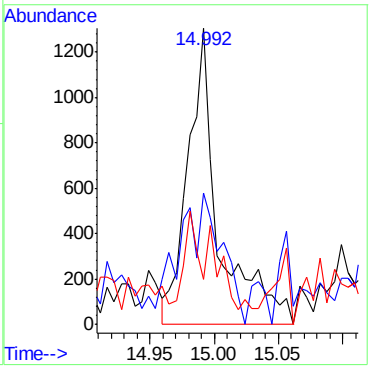





#100
Benzo[g,h,i]perylene
Concen: 0.16 ppm
RT: 14.992 min Scan# 2585
Delta R.T. -0.091 min
Lab File: 5p59690.D
Acq: 16 May 19 3:21 pm

Tgt Ion:276 Resp: 2191

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 26.6 | 0.0 | 59.0 |
| 277 | 8.9 | 0.0 | 53.7 |



Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-20-2019\jeryllr\e5p2818\
Data File : 5p59747.d
Acq On : 17 May 2019 6:15 pm
Operator : christc2
Sample : jc87535-7
Misc : op20269,e5p2818,30.6,,,1,500
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 21 15:30:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 00:38:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.864 | 152 | 179318 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.050 | 136 | 691052 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.727 | 164 | 372898 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.159 | 188 | 667433 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.375 | 240 | 664704 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.352 | 264 | 657809 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 3.864 | 152 | 179318 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.727 | 164 | 372898 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.375 | 240 | 664704 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.159 | 188 | 667433 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.050 | 136 | 691052 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.375 | 240 | 664668 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 3.864 | 152 | 179318 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.375 | 240 | 664704 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.375 | 240 | 664668 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.071 | 128 | 821230 | 47.15 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.739 | 141 | 99024 | 9.69 | ppm | 99 |
| 53) Biphenyl | 6.198 | 154 | 40018 | 2.87 | ppm | 96 |
| 56) Acenaphthylene | 6.588 | 152 | 272933 | 15.77 | ppm | 99 |
| 59) Acenaphthene | 6.759 | 153 | 29541 | 2.74 | ppm | 95 |
| 62) Dibenzofuran | 6.930 | 168 | 194614 | 12.01 | ppm | 95 |
| 66) Fluorene | 7.261 | 166 | 235670 | 18.42 | ppm | 96 |
| 77) Phenanthrene | 8.180 | 178 | 856580 | 47.48 | ppm | 99 |
| 78) Anthracene | 8.228 | 178 | 207771 | 10.97 | ppm | 98 |
| 79) Carbazole | 8.421 | 167 | 121167 | 6.31 | ppm | 99 |
| 81) Fluoranthene | 9.473 | 202 | 672750 | 30.02 | ppm | 98 |
| 84) Pyrene | 9.735 | 202 | 485385 | 19.22 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.364 | 228 | 234404 | 10.10 | ppm | 95 |
| 89) Chrysene | 11.412 | 228 | 169895 | 7.93 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-20-2019\jeryllr\e5p2818\
Data File : 5p59747.d
Acq On : 17 May 2019 6:15 pm
Operator : christc2
Sample : jc87535-7
Misc : op20269,e5p2818,30.6,,,1,500
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 21 15:30:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 00:38:34 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 93) | Benzo[b]fluoranthene | 12.860 | 252 | 214068 | 10.66 | ppm | 97 |
| 94) | Benzo[k]fluoranthene | 12.892 | 252 | 81251 | 4.42 | ppm | 97 |
| 95) | Benzo[a]pyrene | 13.277 | 252 | 163982 | 9.17 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.650 | 276 | 84345 | 5.27 | ppm | 98 |
| 98) | Dibenz[a,h]anthracene | 14.671 | 278 | 22062 | 1.33 | ppm | 95 |
| 100) | Benzo[g,h,i]perylene | 14.938 | 276 | 82614 | 5.11 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

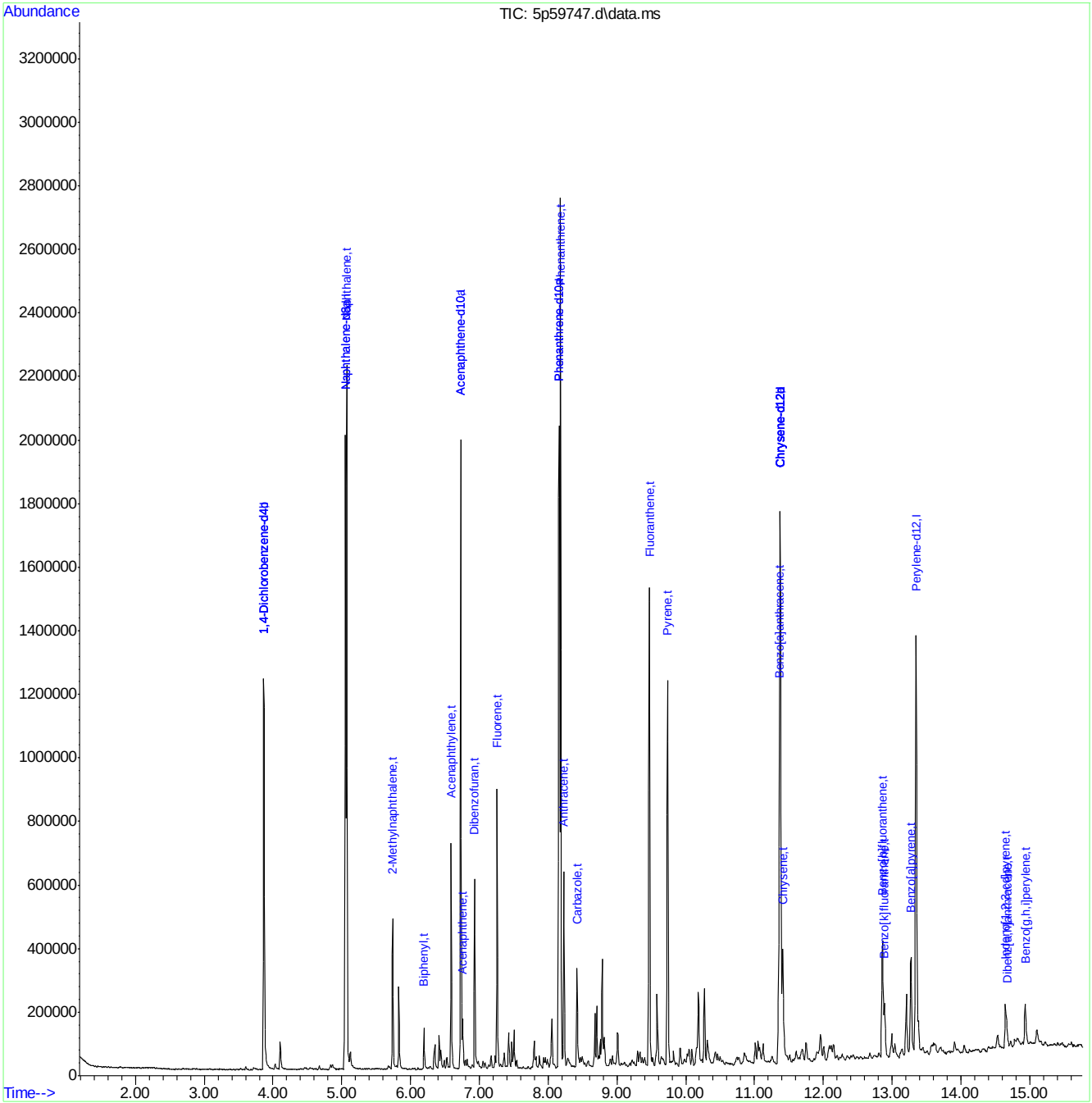
9.1.9

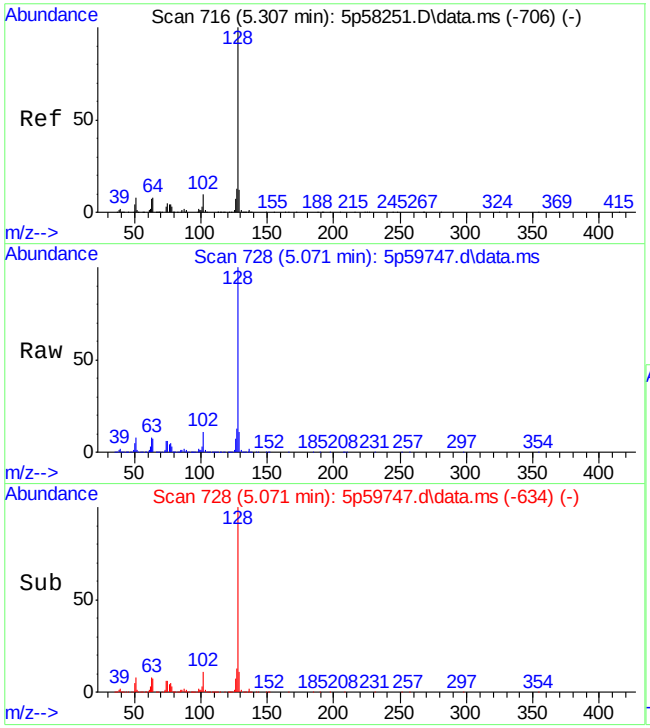
9

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-20-2019\jeryllr\e5p2818\
Data File : 5p59747.d
Acq On : 17 May 2019 6:15 pm
Operator : christc2
Sample : jc87535-7
Misc : op20269,e5p2818,30.6,,,1,500
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 21 15:30:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 00:38:34 2019
Response via : Initial Calibration

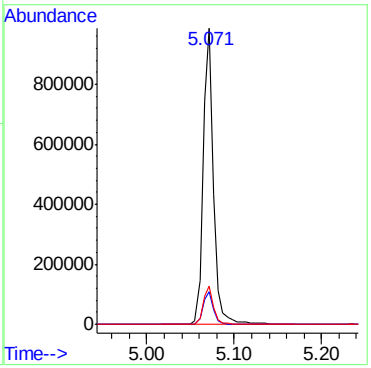


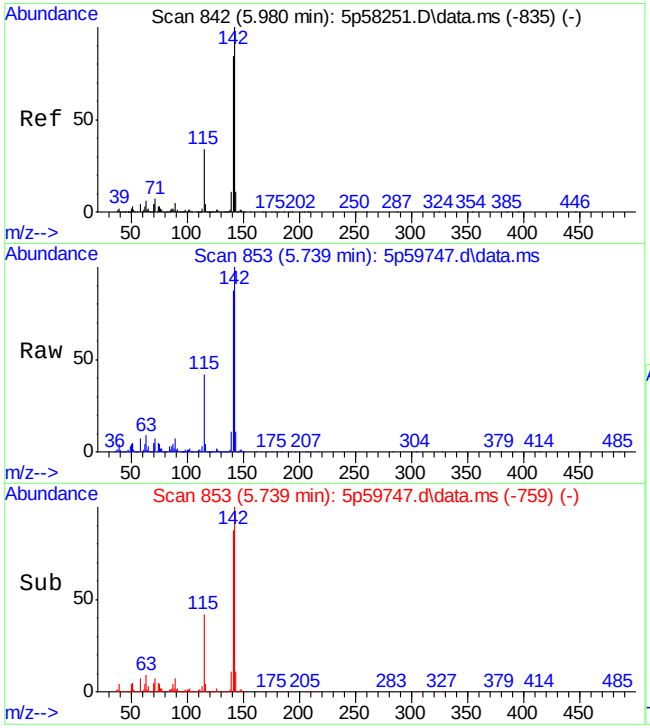



#38
Naphthalene
Concen: 47.15 ppm
RT: 5.071 min Scan# 728
Delta R.T. -0.000 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:128 Resp: 821230

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.0 | 0.0 | 41.1 |
| 127 | 13.0 | 0.0 | 43.6 |

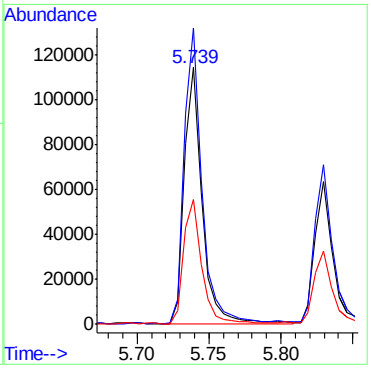


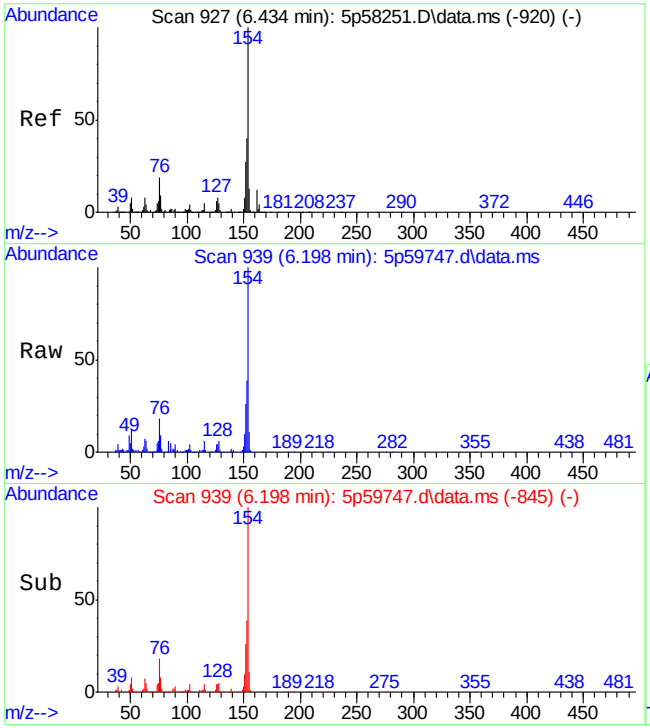




#44
2-Methylnaphthalene
Concen: 9.69 ppm
RT: 5.739 min Scan# 853
Delta R.T. -0.000 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:141 Resp: 99024

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 115.4 | 85.8 | 145.8 |
| 115 | 48.3 | 17.2 | 77.2 |

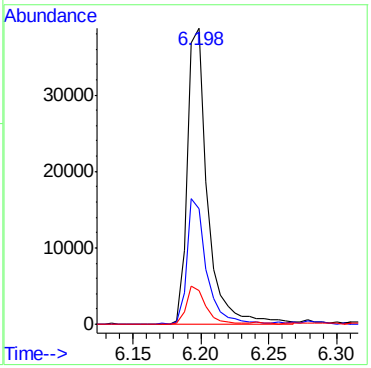


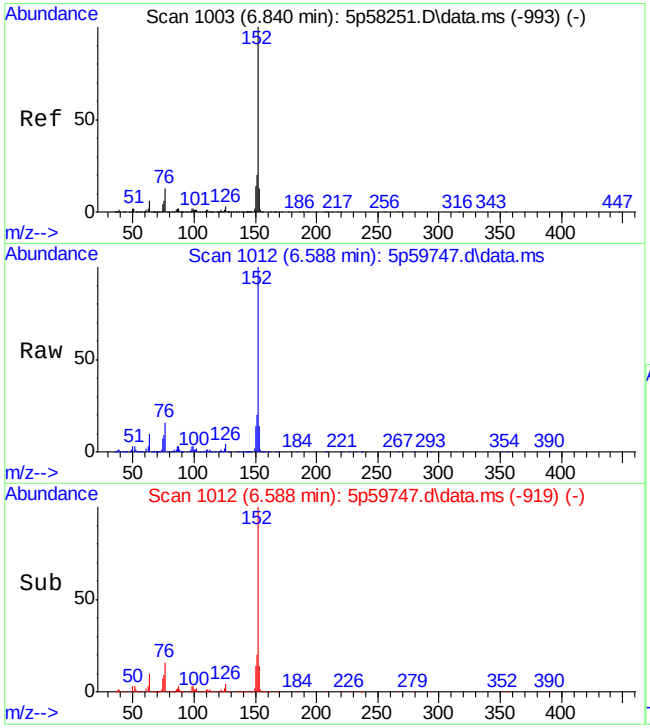



#53
Biphenyl
Concen: 2.87 ppm
RT: 6.198 min Scan# 939
Delta R.T. -0.000 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:154 Resp: 40018

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 38.4 | 10.5 | 70.5 |
| 155 | 11.3 | 0.0 | 43.0 |

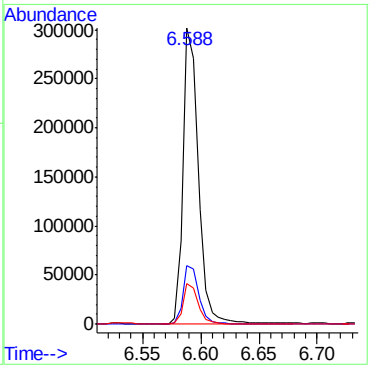


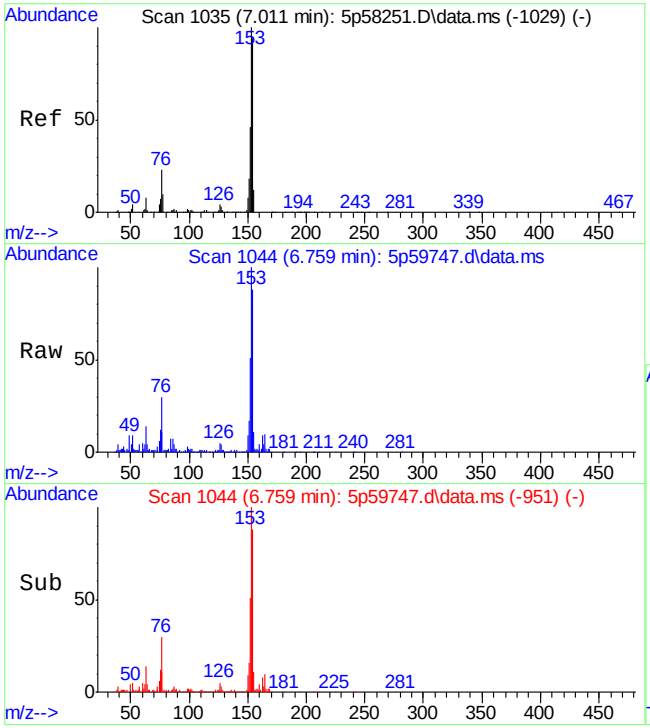




#56
Acenaphthylene
Concen: 15.77 ppm
RT: 6.588 min Scan# 1012
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:152 Resp: 272933

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 19.8 | 0.0 | 50.5 |
| 153 | 13.4 | 0.0 | 43.7 |

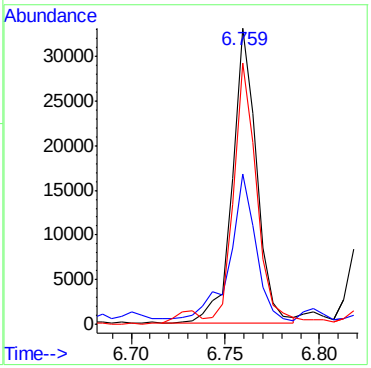


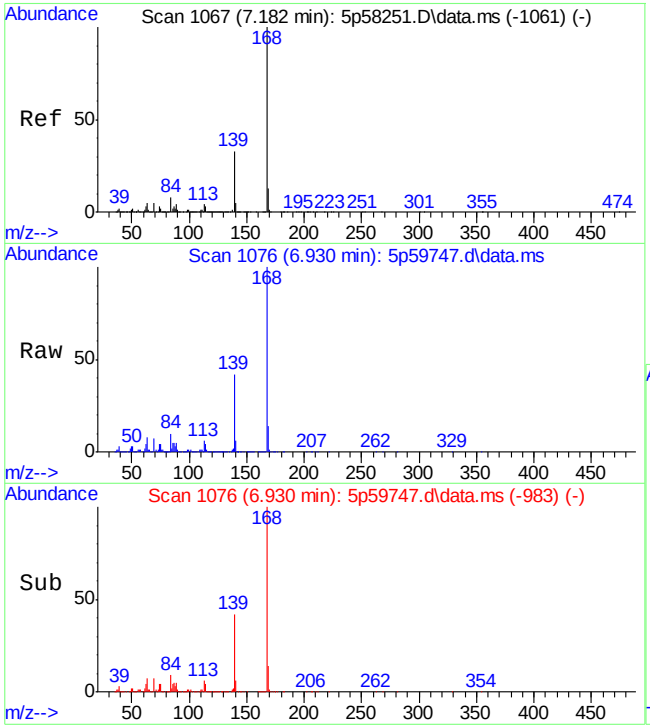



#59
Acenaphthene
Concen: 2.74 ppm
RT: 6.759 min Scan# 1044
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:153 Resp: 29541

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 49.6 | 17.5 | 77.5 |
| 154 | 88.2 | 64.5 | 124.5 |

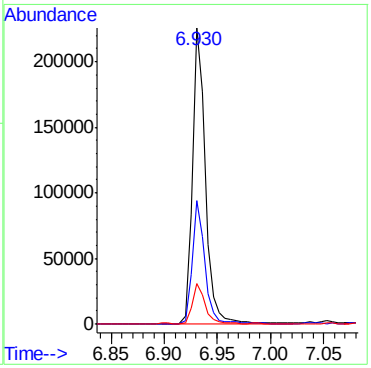


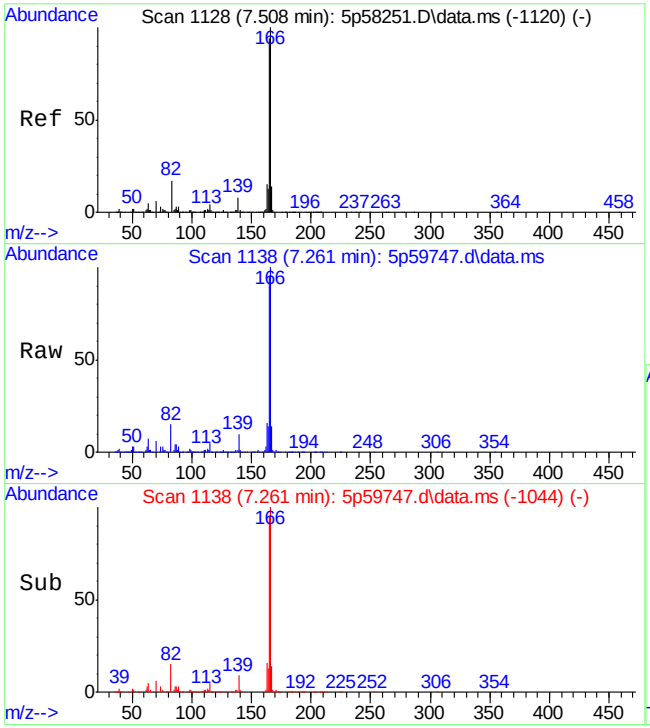




#62
Dibenzofuran
Concen: 12.01 ppm
RT: 6.930 min Scan# 1076
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:168 Resp: 194614

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 41.7 | 7.6 | 67.6 |
| 169 | 13.4 | 0.0 | 43.7 |

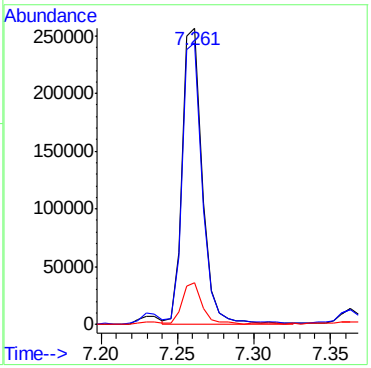


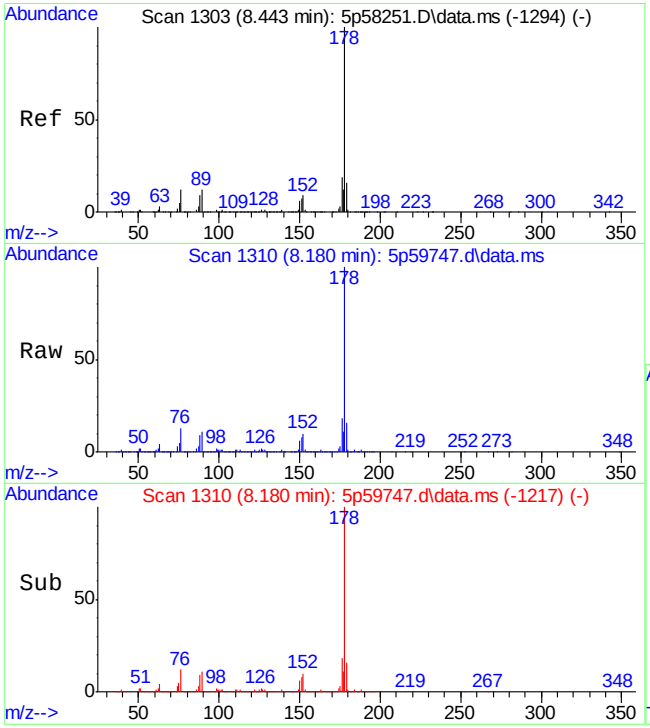



#66
Fluorene
Concen: 18.42 ppm
RT: 7.261 min Scan# 1138
Delta R.T. -0.000 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:166 Resp: 235670

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 94.8 | 60.7 | 120.7 |
| 167 | 13.9 | 0.0 | 43.9 |

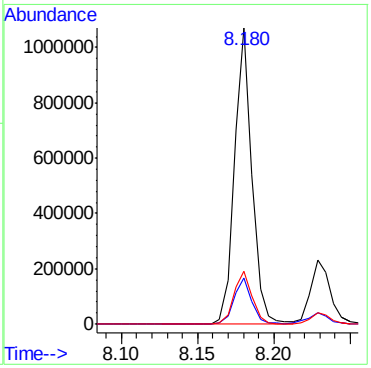


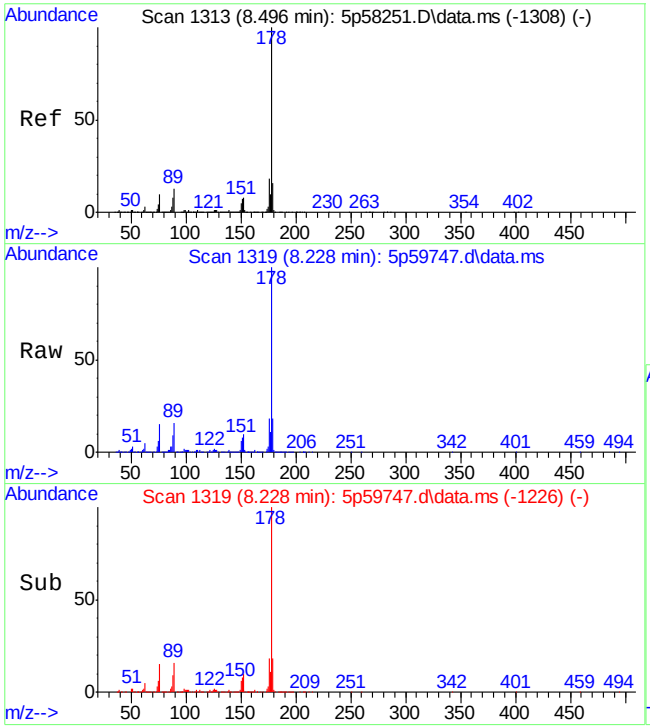




#77
Phenanthrene
Concen: 47.48 ppm
RT: 8.180 min Scan# 1310
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:178 Resp: 856580

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.6 | 0.0 | 45.5 |
| 176 | 17.9 | 0.0 | 48.8 |

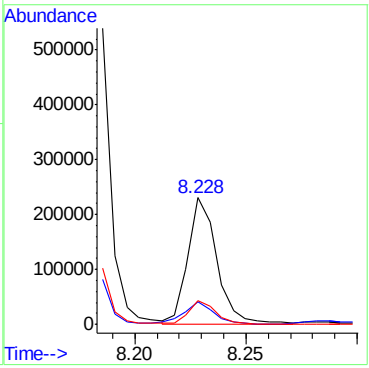


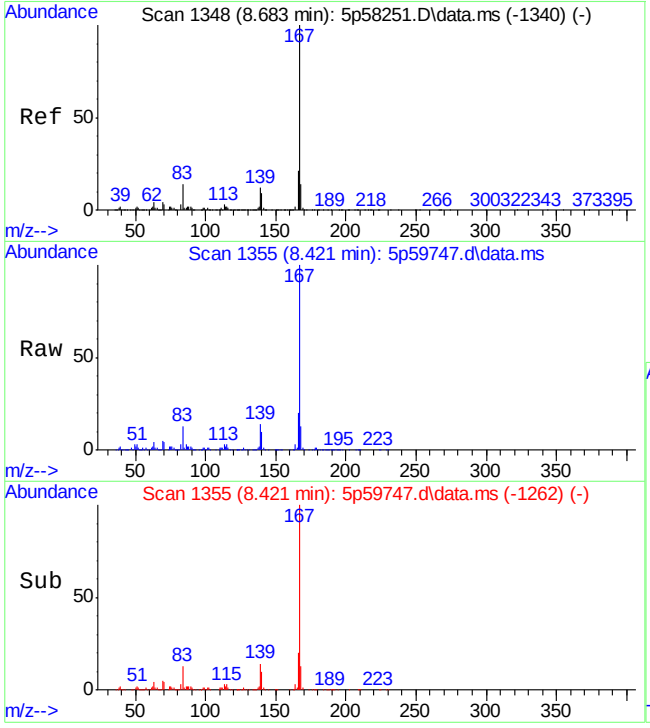



#78
Anthracene
Concen: 10.97 ppm
RT: 8.228 min Scan# 1319
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:178 Resp: 207771

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 17.2 | 0.0 | 45.4 |
| 176 | 18.4 | 0.0 | 48.1 |

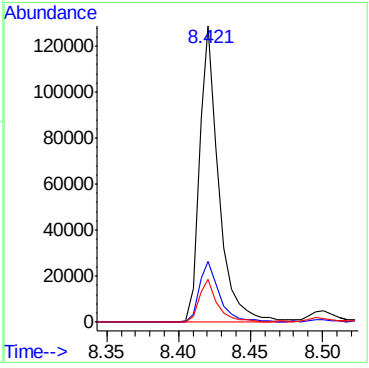


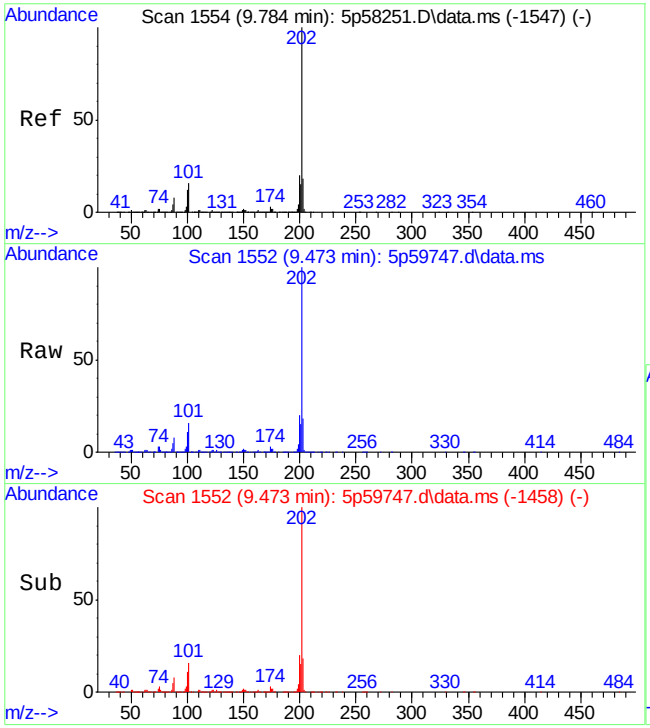




#79
Carbazole
Concen: 6.31 ppm
RT: 8.421 min Scan# 1355
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:167 Resp: 121167

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.3 | 0.0 | 50.8 |
| 139 | 14.3 | 0.0 | 43.4 |

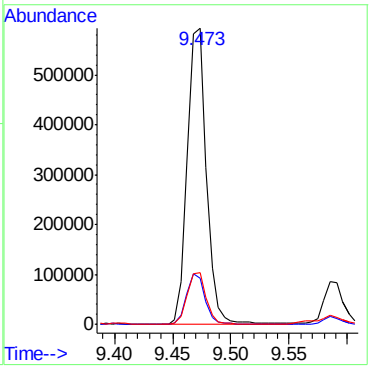


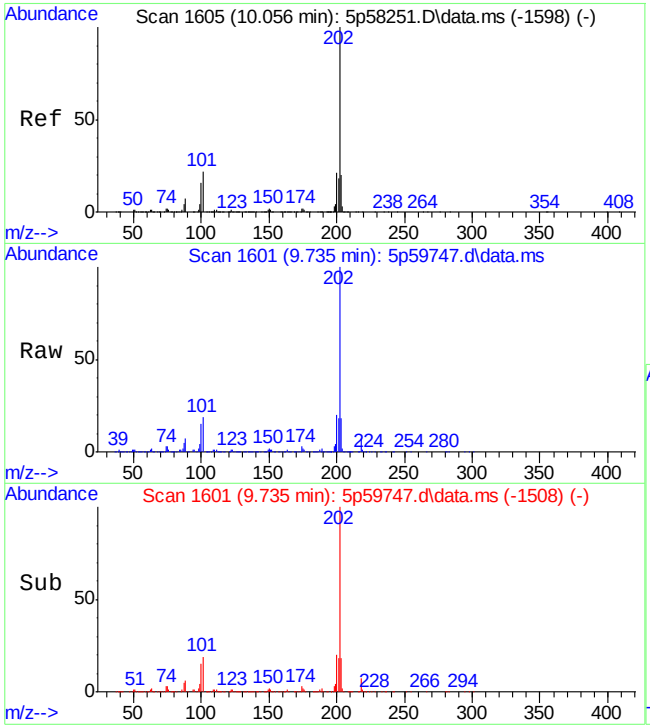



#81
Fluoranthene
Concen: 30.02 ppm
RT: 9.473 min Scan# 1552
Delta R.T. -0.000 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:202 Resp: 672750

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 15.5 | 0.0 | 46.8 |
| 203 | 17.4 | 0.0 | 47.8 |

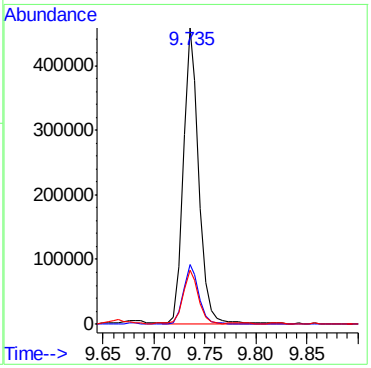


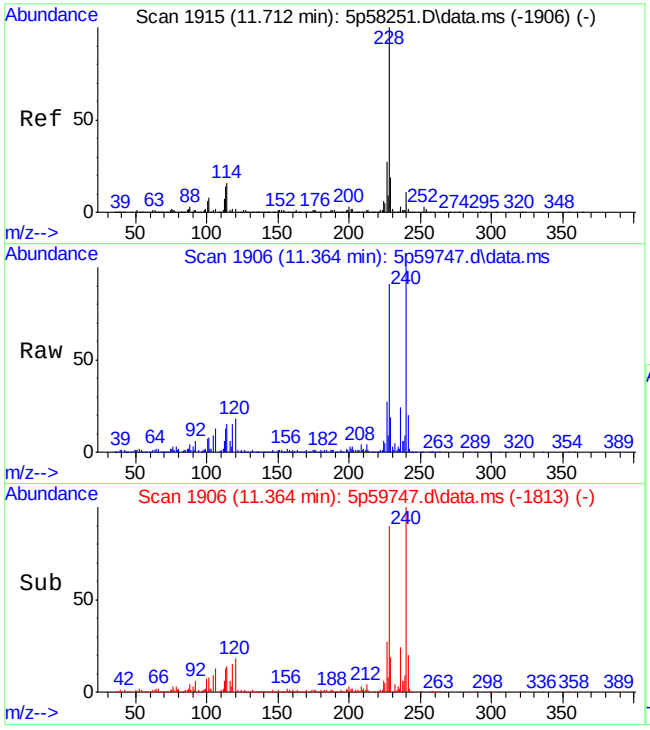




#84
Pyrene
Concen: 19.22 ppm
RT: 9.735 min Scan# 1601
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:202 Resp: 485385

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.2 | 0.0 | 50.8 |
| 203 | 17.8 | 0.0 | 49.0 |

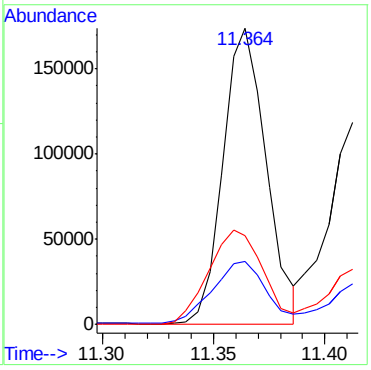


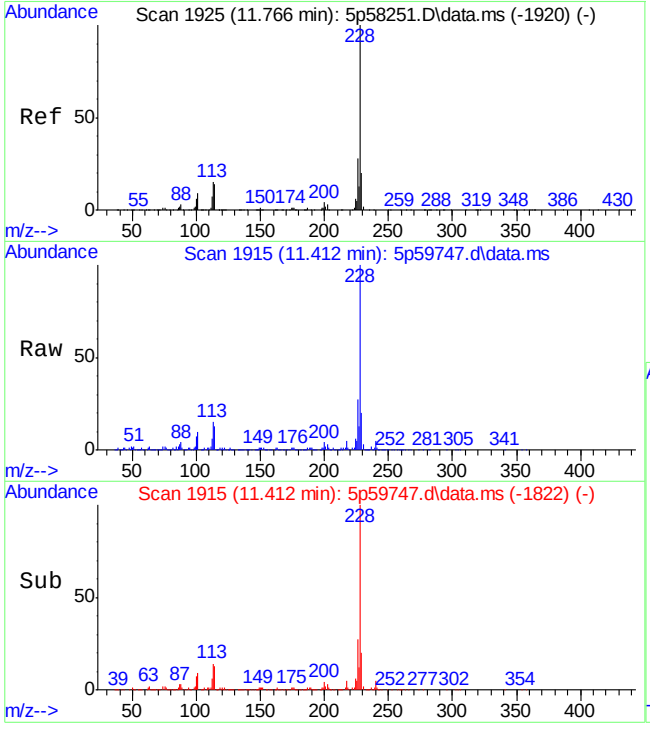



#87
Benzo[a]anthracene
Concen: 10.10 ppm
RT: 11.364 min Scan# 1906
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:228 Resp: 234404

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.7 | 0.0 | 50.1 |
| 226 | 30.1 | 0.0 | 56.4 |

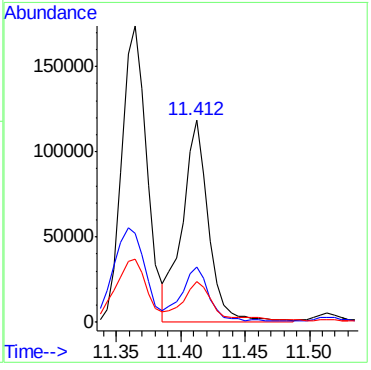


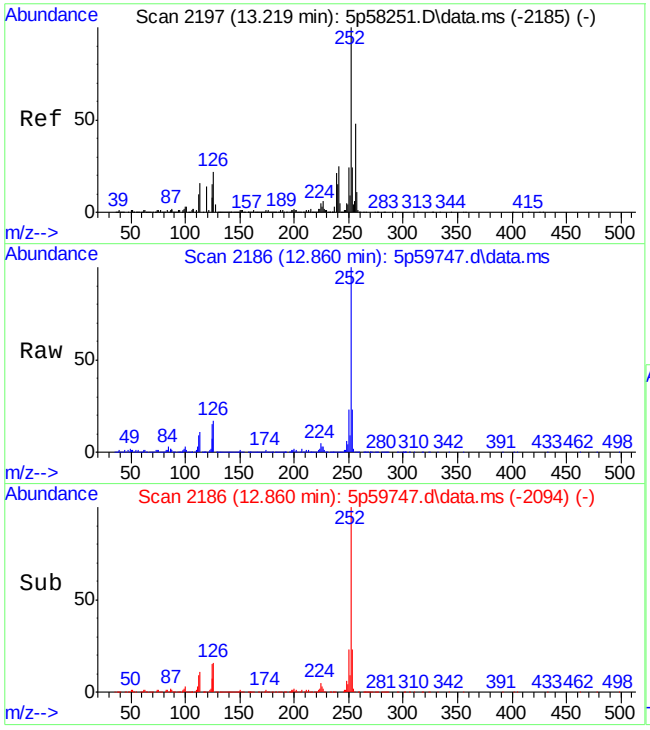




#89
Chrysene
Concen: 7.93 ppm
RT: 11.412 min Scan# 1915
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:228 Resp: 169895

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 27.2 | 0.0 | 58.0 |
| 229 | 18.5 | 0.0 | 49.9 |

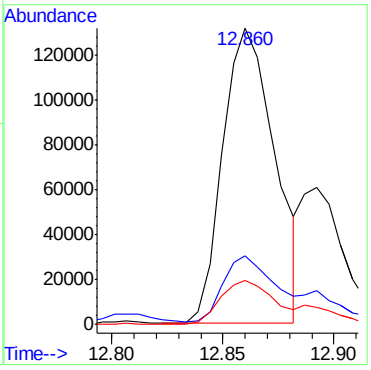


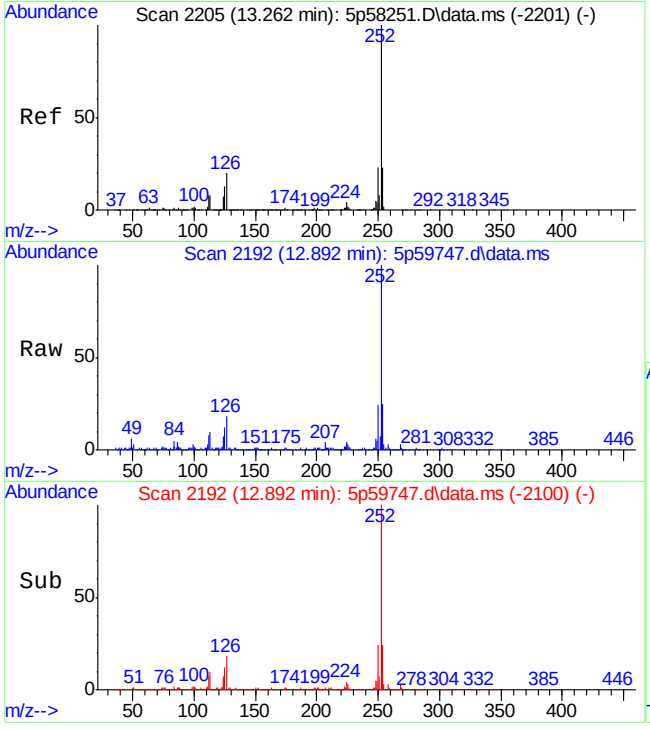



#93
Benzo[b]fluoranthene
Concen: 10.66 ppm
RT: 12.860 min Scan# 2186
Delta R.T. -0.011 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:252 Resp: 214068

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.5 | 0.0 | 53.1 |
| 125 | 14.9 | 0.0 | 43.9 |

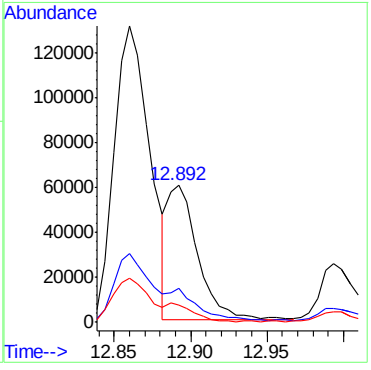


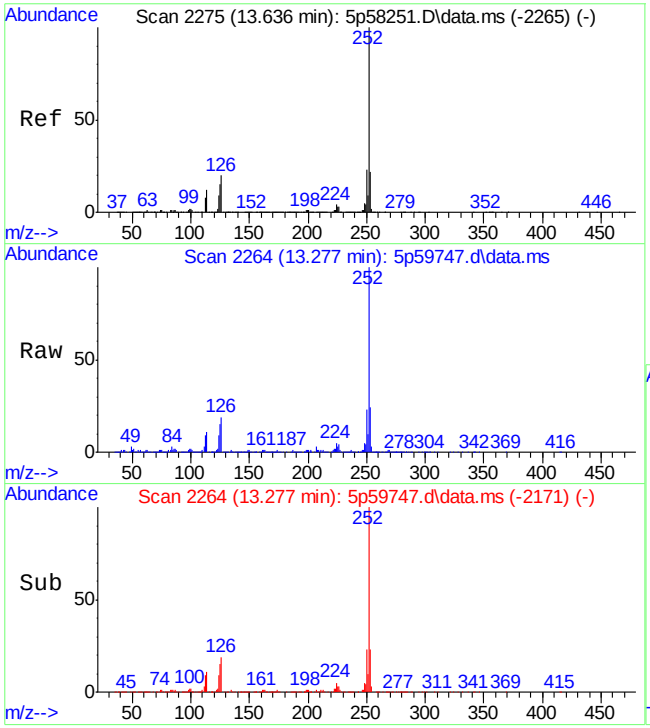




#94
Benzo[k]fluoranthene
Concen: 4.42 ppm
RT: 12.892 min Scan# 2192
Delta R.T. -0.011 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:252 Resp: 81251

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.9 | 0.0 | 53.3 |
| 125 | 11.3 | 0.0 | 43.7 |

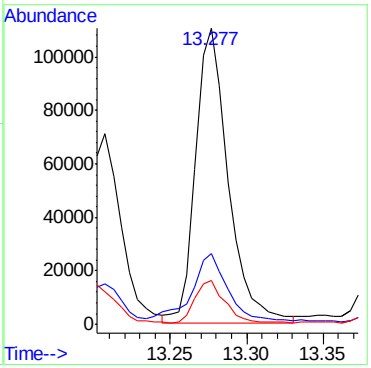


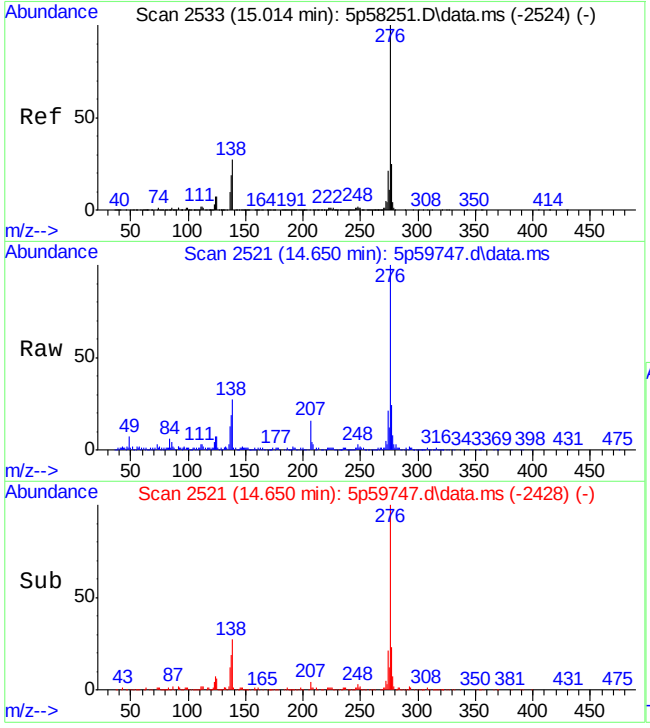



#95
Benzo[a]pyrene
Concen: 9.17 ppm
RT: 13.277 min Scan# 2264
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:252 Resp: 163982

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.9 | 0.0 | 52.5 |
| 125 | 14.5 | 0.0 | 44.3 |

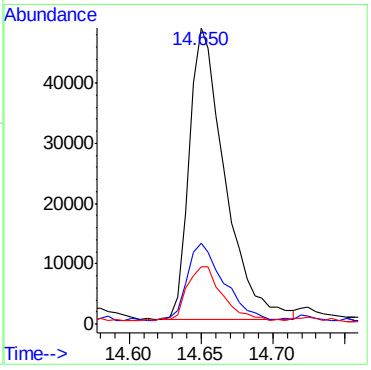


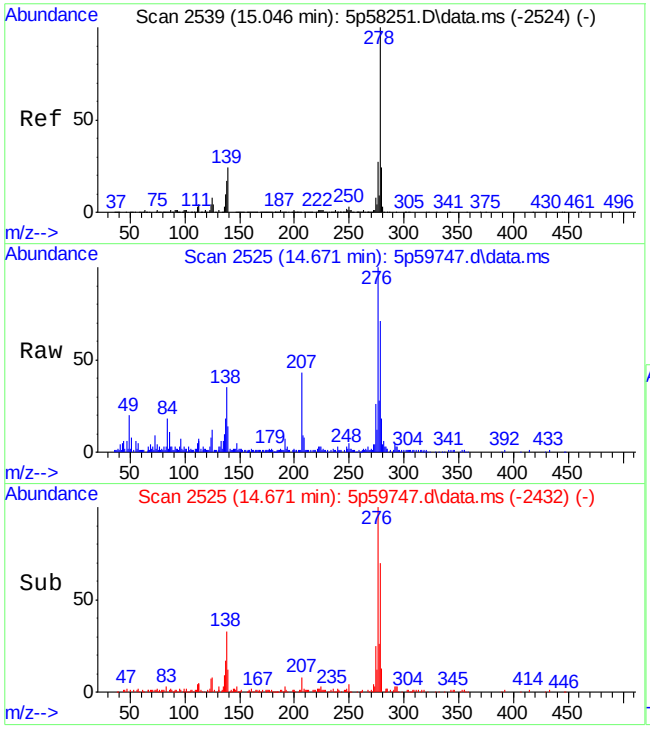




#96
Indeno[1,2,3-cd]pyrene
Concen: 5.27 ppm
RT: 14.650 min Scan# 2521
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:276 Resp: 84345

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 26.4 | 0.0 | 56.6 |
| 137 | 17.3 | 0.0 | 48.8 |

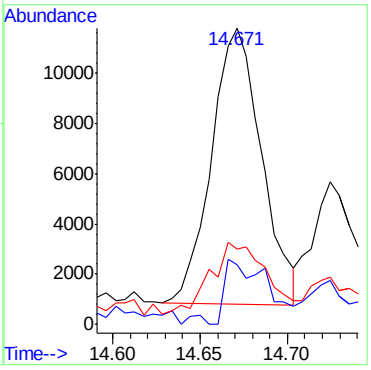


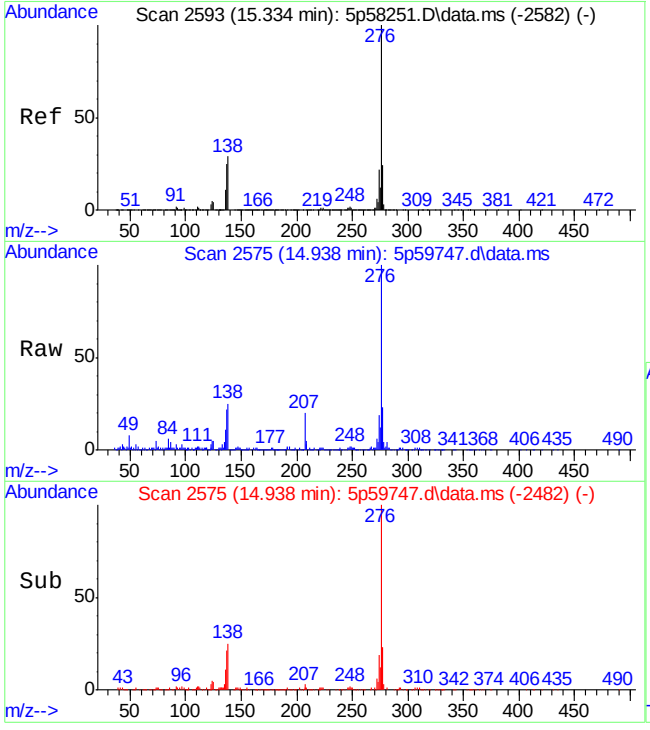



#98
Dibenz[a,h]anthracene
Concen: 1.33 ppm
RT: 14.671 min Scan# 2525
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:278 Resp: 22062

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 18.1 | 0.0 | 51.0 |
| 279 | 22.5 | 0.0 | 55.0 |

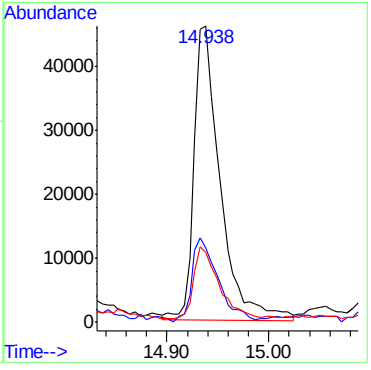



#100
Benzo[g,h,i]perylene
Concen: 5.11 ppm
RT: 14.938 min Scan# 2575
Delta R.T. -0.006 min
Lab File: 5p59747.d
Acq: 17 May 2019 6:15 pm

Tgt Ion:276 Resp: 82614

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.0 | 0.0 | 57.3 |
| 277 | 22.6 | 0.0 | 54.4 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e5p2818\
Data File : 5p59749.d
Acq On : 17 May 2019 7:00 pm
Operator : christc2
Sample : jc87535-7 Inst : MS5P
Misc : op20269,e5p2818,30.6,,,1,50
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 20 00:50:42 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 00:38:34 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.864 | 152 | 183270 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.055 | 136 | 679222 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.733 | 164 | 354857 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.164 | 188 | 697668 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.391 | 240 | 706604 | 40.00 | ppm | 0.01 |
| 91) Perylene-d12 | 13.362 | 264 | 764181 | 40.00 | ppm | 0.01 |
| 101) 1,4-Dichlorobenzene-d4b | 3.864 | 152 | 183270 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.733 | 164 | 354857 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.391 | 240 | 706604 | 40.00 | ppm | 0.01 |
| 107) Phenanthrene-d10a | 8.164 | 188 | 697668 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.055 | 136 | 679222 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.391 | 240 | 706604 | 40.00 | ppm | 0.01 |
| 115) 1,4-Dichlorobenzene-d4c | 3.864 | 152 | 183270 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.391 | 240 | 706604 | 40.00 | ppm | 0.01 |
| 119) Chrysene-d12d | 11.391 | 240 | 706604 | 40.00 | ppm | 0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.806 | 112 | 4684 | 0.66 | ppm | 0.05 |
| Spiked Amount 50.000 | | | Recovery = | 1.32% | | |
| 8) Phenol-d5 | 3.672 | 99 | 5969 | 0.66 | ppm | 0.05 |
| Spiked Amount 50.000 | | | Recovery = | 1.32% | | |
| 25) Nitrobenzene-d5 | 4.414 | 82 | 9423 | 1.20 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 2.40% | | |
| 51) 2-Fluorobiphenyl | 6.108 | 172 | 13333 | 1.08 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 2.16% | | |
| 73) 2,4,6-Tribromophenol | 7.513 | 330 | 1377 | 0.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.36% | | |
| 85) Terphenyl-d14 | 9.992 | 244 | 17764 | 0.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.98% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 19) 2-Methylphenol | 4.195 | 108 | 5750 | 0.93 | ppm | 96 |
| 21) 3&4-Methylphenol | 4.377 | 108 | 5409 | 0.81 | ppm | 77 |
| 30) 2,4-Dimethylphenol | 4.826 | 107 | 13499 | 2.20 | ppm | 90 |
| 38) Naphthalene | 5.082 | 128 | 5765408 | 336.80 | ppm | 94 |
| 44) 2-Methylnaphthalene | 5.739 | 141 | 861474 | 85.79 | ppm | 98 |
| 53) Biphenyl | 6.193 | 154 | 380541 | 28.66 | ppm | 99 |
| 56) Acenaphthylene | 6.599 | 152 | 2224397 | 135.10 | ppm | 99 |
| 59) Acenaphthene | 6.759 | 153 | 272745 | 26.63 | ppm | 99 |
| 62) Dibenzofuran | 6.936 | 168 | 1700249 | 110.30 | ppm | 98 |
| 66) Fluorene | 7.267 | 166 | 1946329 | 159.83 | ppm | 99 |
| 77) Phenanthrene | 8.207 | 178 | 6648540 | 352.55 | ppm | 95 |
| 78) Anthracene | 8.245 | 178 | 1949869 | 98.53 | ppm | 99 |
| 79) Carbazole | 8.426 | 167 | 1229870 | 61.31 | ppm | 99 |
| 81) Fluoranthene | 9.500 | 202 | 5619818 | 239.92 | ppm | 96 |
| 84) Pyrene | 9.762 | 202 | 4331592 | 161.32 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.381 | 228 | 2293619 | 92.93 | ppm | 96 |
| 89) Chrysene | 11.429 | 228 | 1670135 | 73.30 | ppm | 96 |
| 93) Benzo[b]fluoranthene | 12.882 | 252 | 2197785 | 94.19 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 12.908 | 252 | 706678 | 33.09 | ppm | 97 |
| 95) Benzo[a]pyrene | 13.293 | 252 | 1701387 | 81.86 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.661 | 276 | 902149 | 48.53 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e5p2818\
Data File : 5p59749.d
Acq On : 17 May 2019 7:00 pm
Operator : christc2
Sample : jc87535-7 Inst : MS5P
Misc : op20269,e5p2818,30.6,,,1,50
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 20 00:50:42 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 00:38:34 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.671 | 278 | 261729 | 13.62 | ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 14.949 | 276 | 866221 | 46.16 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

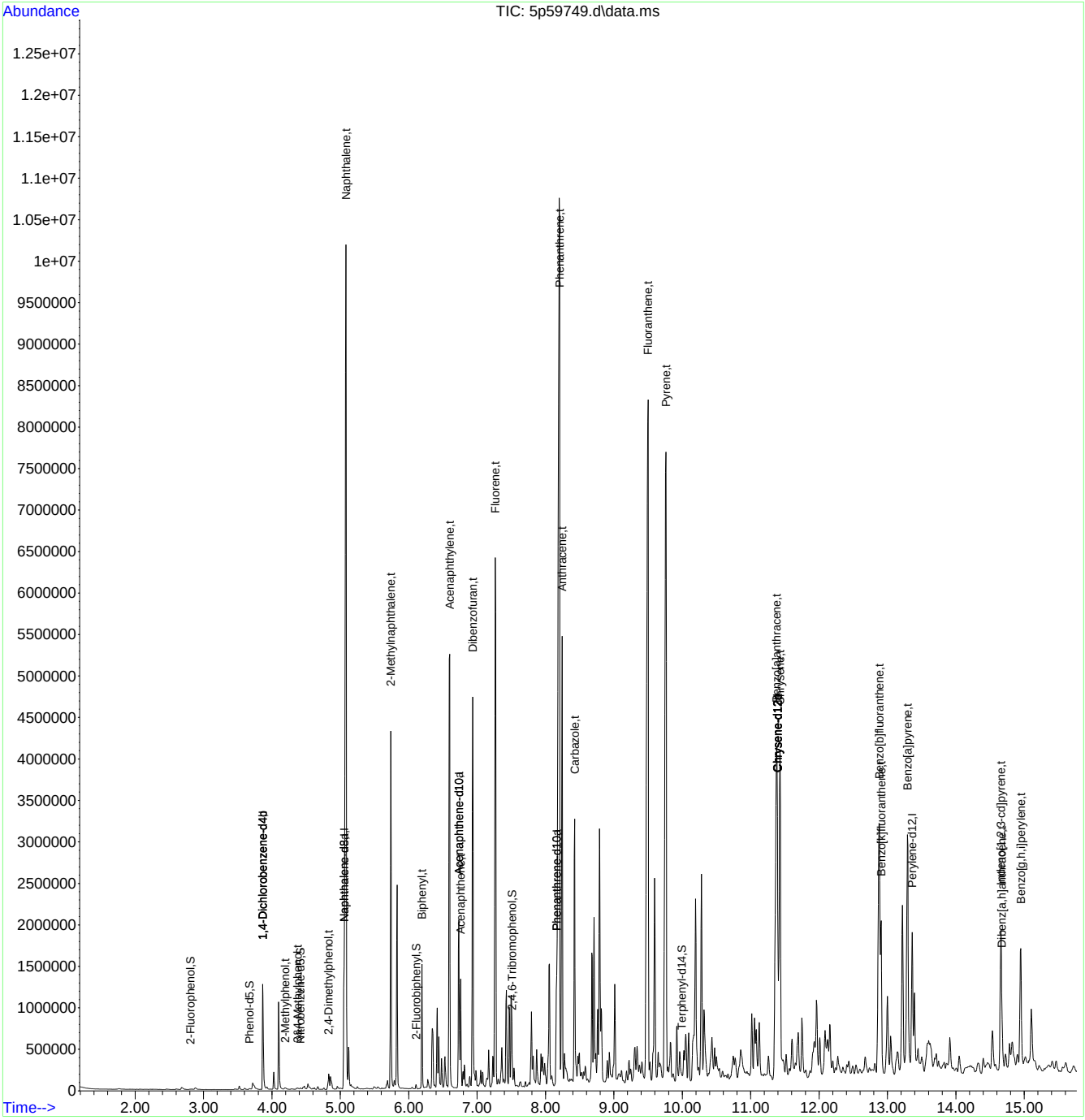
9.1.10

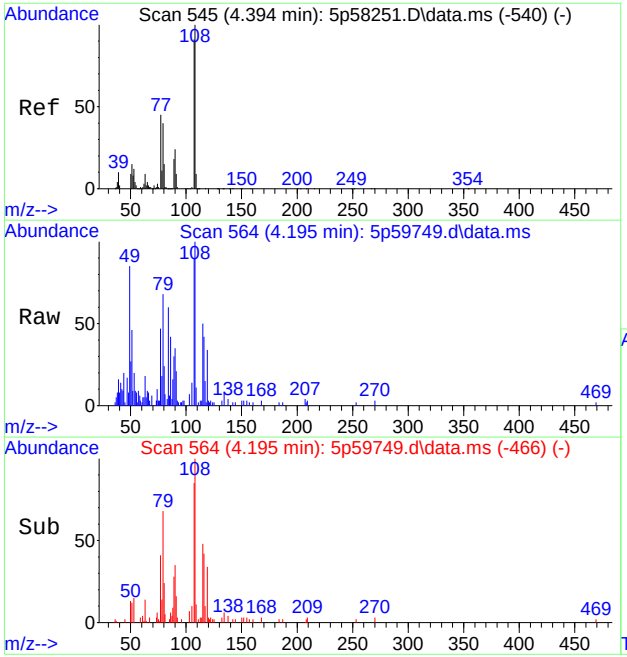
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e5p2818\
Data File : 5p59749.d
Acq On : 17 May 2019 7:00 pm
Operator : christc2
Sample : jc87535-7 Inst : MS5P
Misc : op20269,e5p2818,30.6,,,1,50
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 20 00:50:42 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 00:38:34 2019
Response via : Initial Calibration

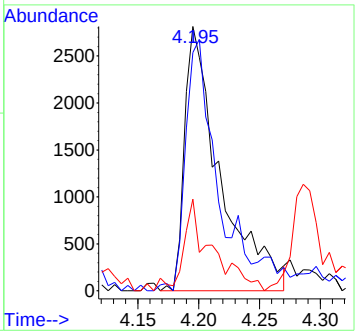


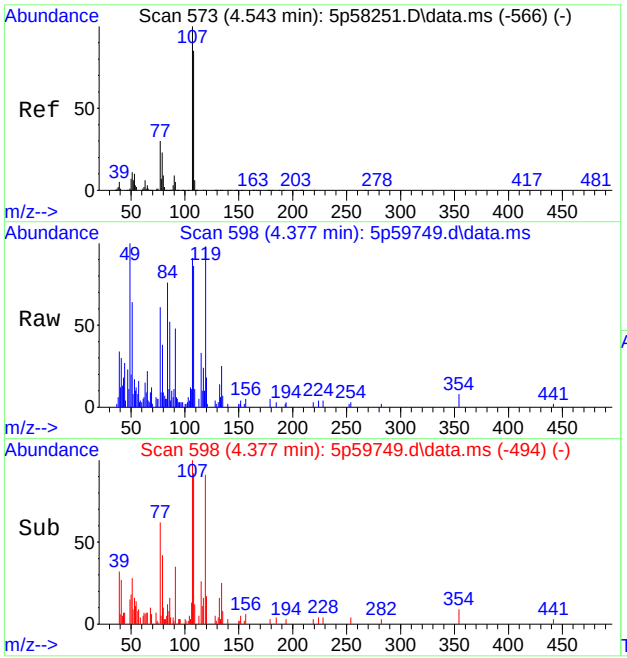



#19
2-Methylphenol
Concen: 0.93 ppm
RT: 4.195 min Scan# 564
Delta R.T. 0.021 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:108 Resp: 5750

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 88.7 | 62.3 | 122.3 |
| 90 | 30.4 | 0.0 | 57.4 |

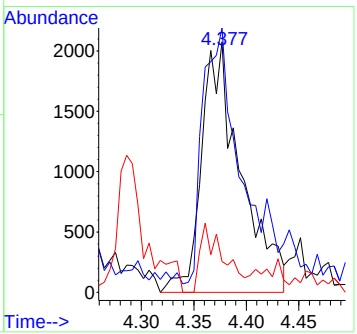


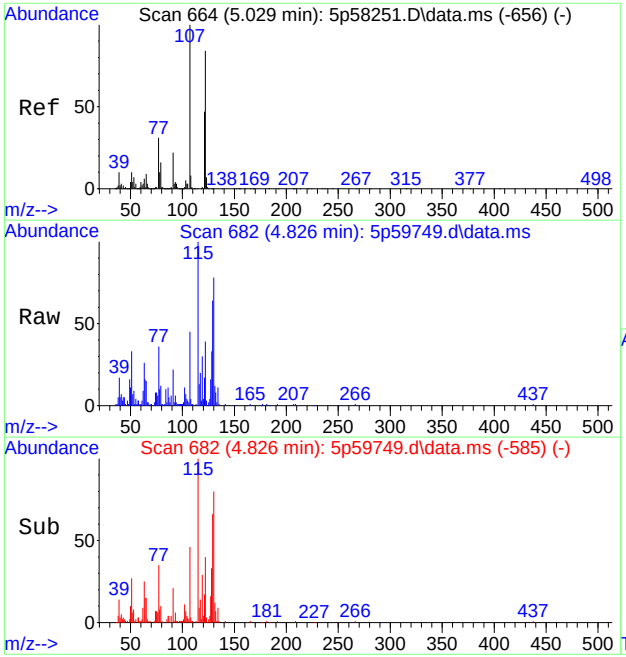




#21
3&4-Methylphenol
Concen: 0.81 ppm
RT: 4.377 min Scan# 598
Delta R.T. 0.053 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:108 Resp: 5409

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 92.8 | 88.7 | 148.7 |
| 90 | 3.6 | 0.0 | 41.1 |

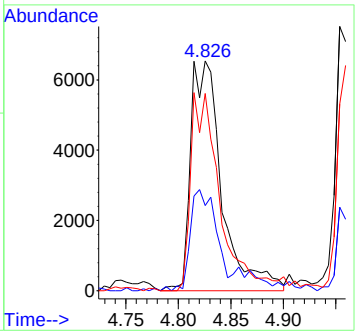


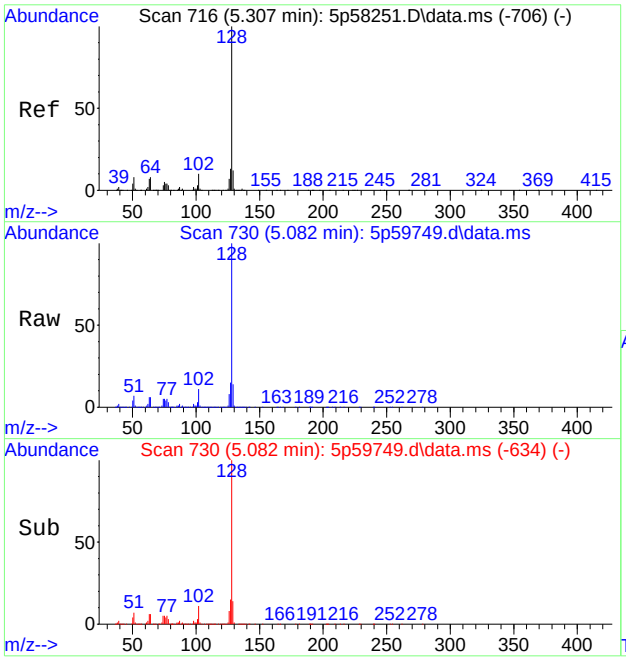



#30
2,4-Dimethylphenol
Concen: 2.20 ppm
RT: 4.826 min Scan# 682
Delta R.T. 0.016 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:107 Resp: 13499

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 36.4 | 15.9 | 75.9 |
| 122 | 83.8 | 47.7 | 107.7 |

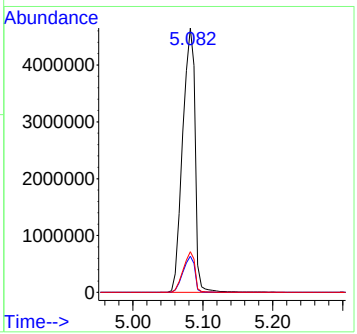


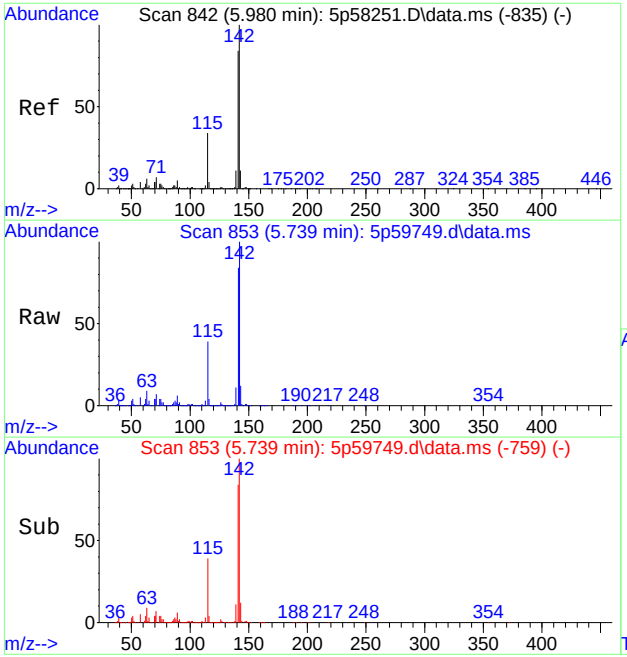




#38
Naphthalene
Concen: 336.80 ppm
RT: 5.082 min Scan# 730
Delta R.T. 0.011 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:128 Resp: 5765408

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 13.7 | 0.0 | 41.1 |
| 127 | 15.4 | 0.0 | 43.6 |

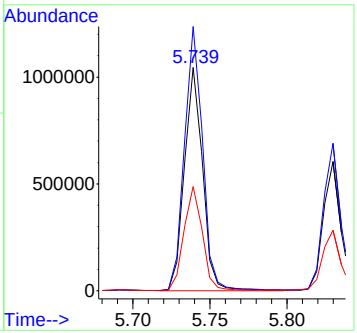


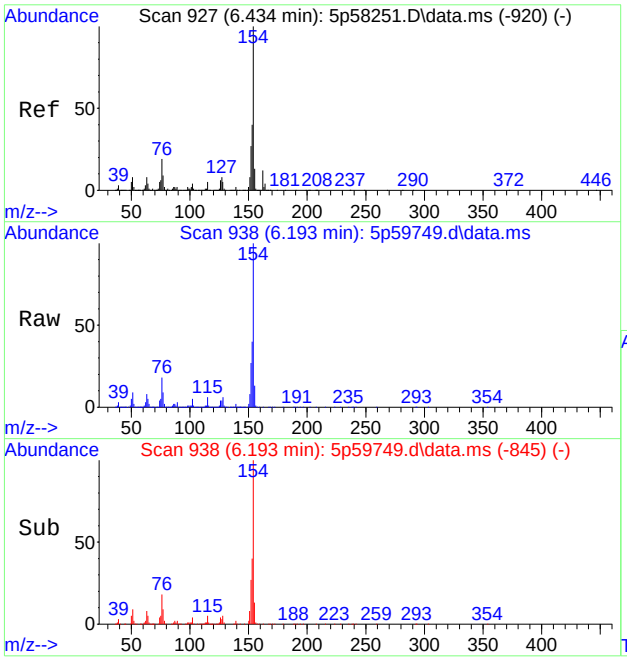



#44
2-Methylnaphthalene
Concen: 85.79 ppm
RT: 5.739 min Scan# 853
Delta R.T. 0.000 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:141 Resp: 861474

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 118.4 | 85.8 | 145.8 |
| 115 | 46.6 | 17.2 | 77.2 |

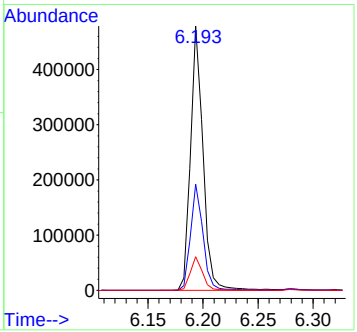


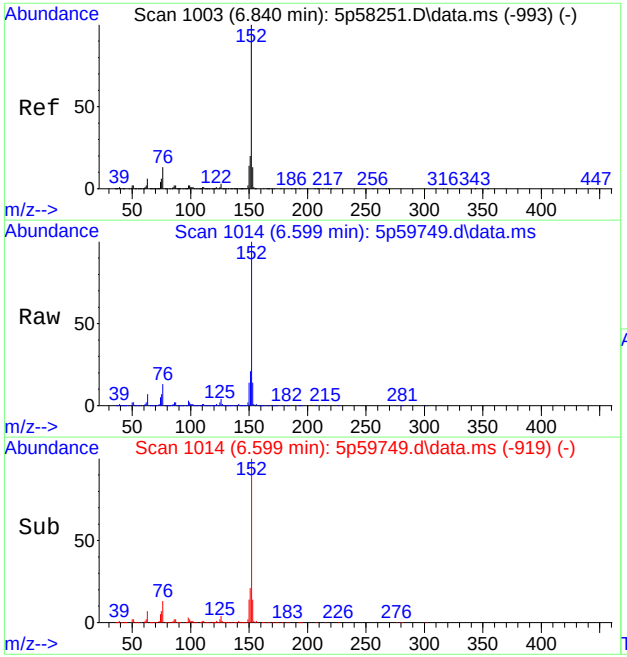




#53
Biphenyl
Concen: 28.66 ppm
RT: 6.193 min Scan# 938
Delta R.T. -0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:154 Resp: 380541

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 40.0 | 10.5 | 70.5 |
| 155 | 12.7 | 0.0 | 43.0 |

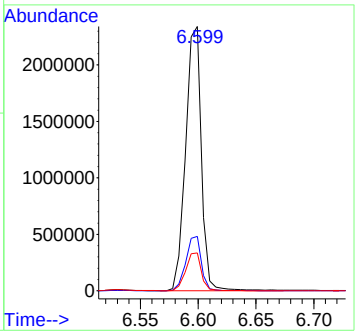


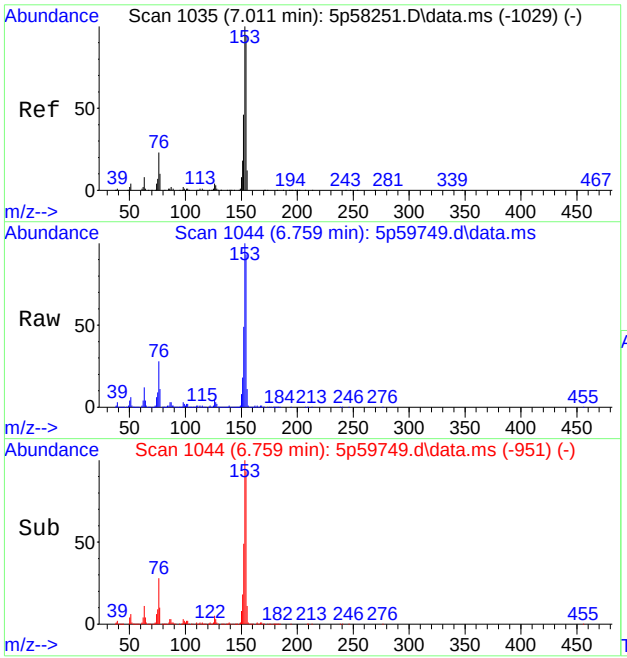



#56
Acenaphthylene
Concen: 135.10 ppm
RT: 6.599 min Scan# 1014
Delta R.T. 0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:152 Resp: 2224397

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 20.6 | 0.0 | 50.5 |
| 153 | 14.3 | 0.0 | 43.7 |

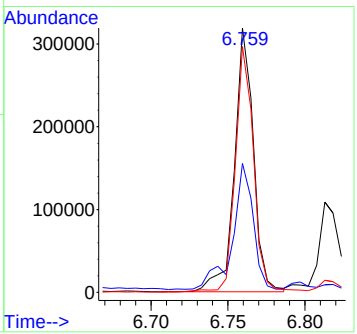


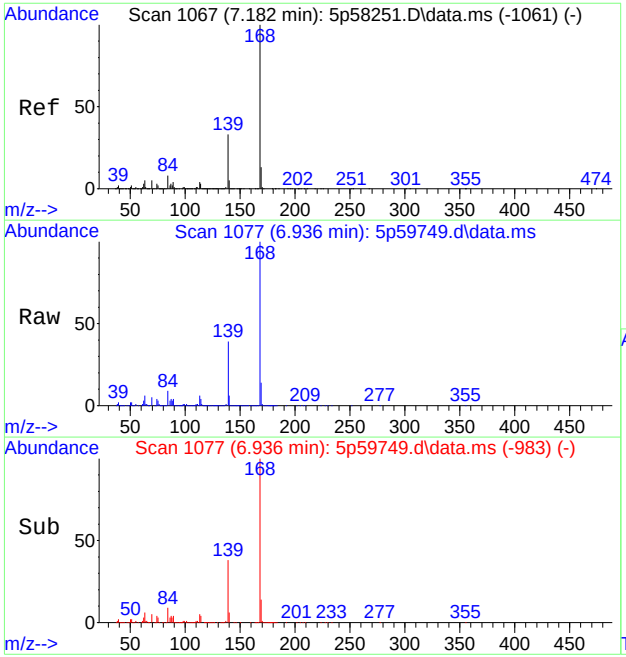




#59
Acenaphthene
Concen: 26.63 ppm
RT: 6.759 min Scan# 1044
Delta R.T. -0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:153 Resp: 272745

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 47.8 | 17.5 | 77.5 |
| 154 | 93.2 | 64.5 | 124.5 |

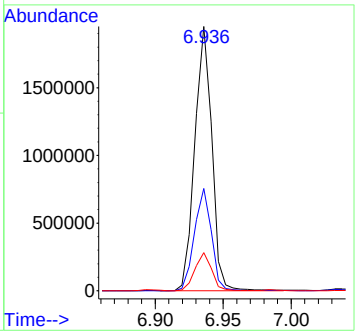


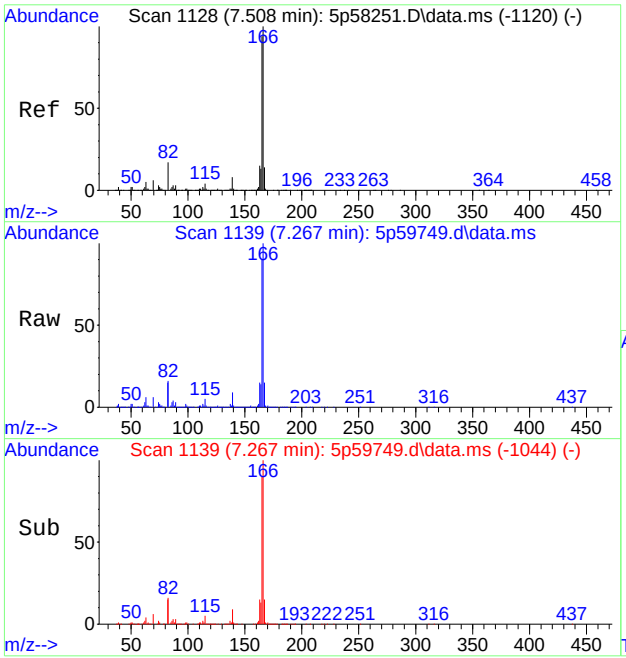



#62
Dibenzofuran
Concen: 110.30 ppm
RT: 6.936 min Scan# 1077
Delta R.T. 0.000 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:168 Resp: 1700249

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.7 | 7.6 | 67.6 |
| 169 | 14.3 | 0.0 | 43.7 |

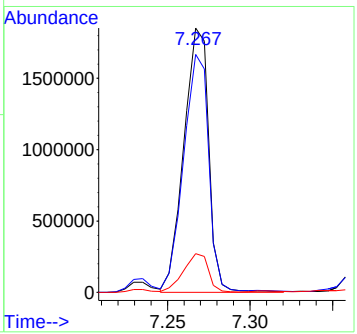


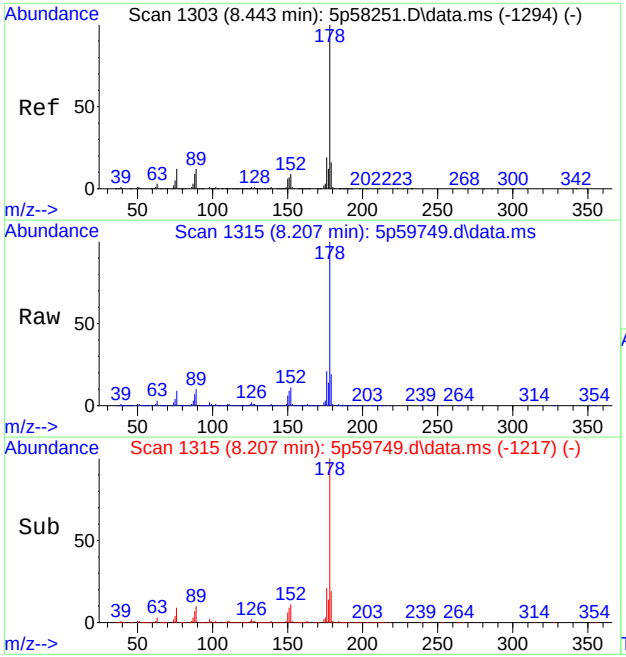




#66
Fluorene
Concen: 159.83 ppm
RT: 7.267 min Scan# 1139
Delta R.T. 0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:166 Resp: 1946329

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 89.7 | 60.7 | 120.7 |
| 167 | 14.4 | 0.0 | 43.9 |

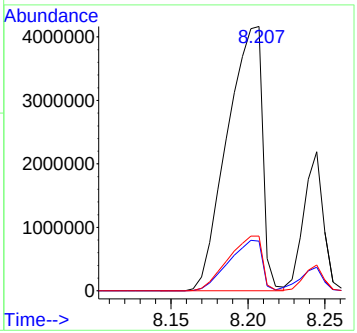


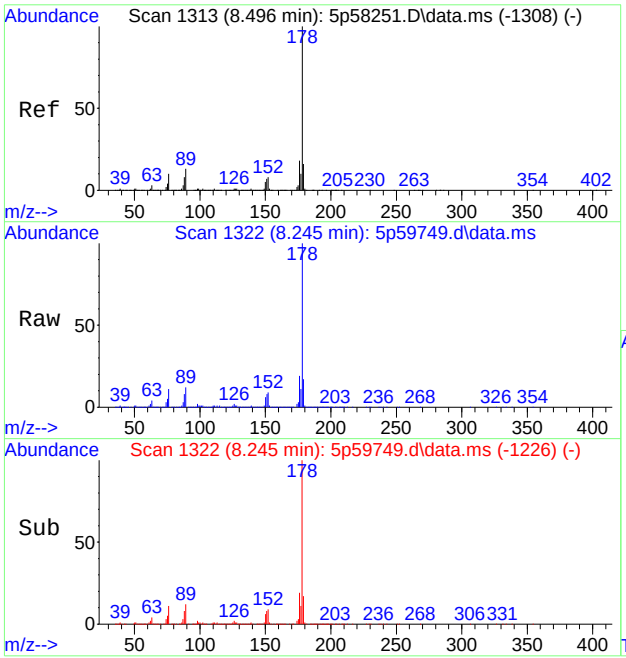



#77
Phenanthrene
Concen: 352.55 ppm
RT: 8.207 min Scan# 1315
Delta R.T. 0.021 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:178 Resp: 6648540

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 18.3 | 0.0 | 45.5 |
| 176 | 20.7 | 0.0 | 48.8 |

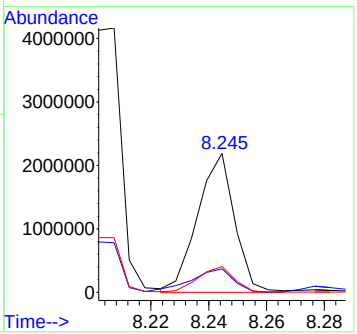


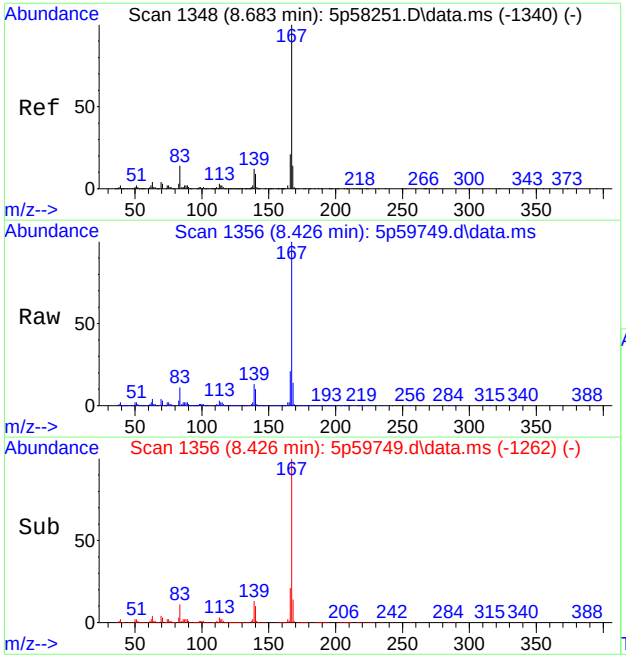




#78
Anthracene
Concen: 98.53 ppm
RT: 8.245 min Scan# 1322
Delta R.T. 0.011 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:178 Resp: 1949869

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.0 | 0.0 | 45.4 |
| 176 | 18.6 | 0.0 | 48.1 |

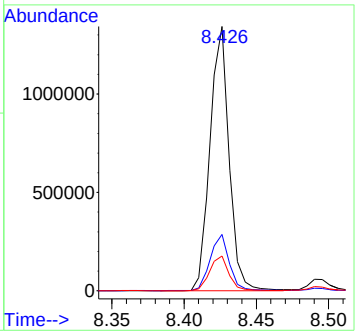


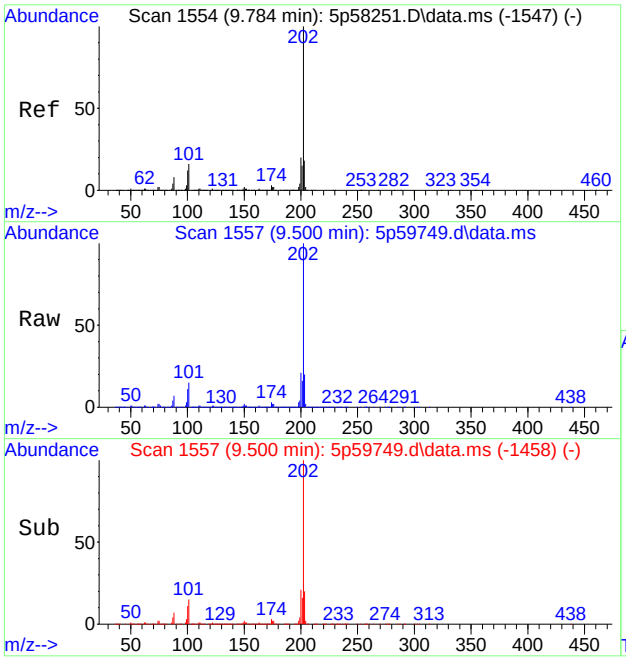



#79
Carbazole
Concen: 61.31 ppm
RT: 8.426 min Scan# 1356
Delta R.T. 0.000 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:167 Resp: 1229870

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 21.3 | 0.0 | 50.8 |
| 139 | 13.0 | 0.0 | 43.4 |

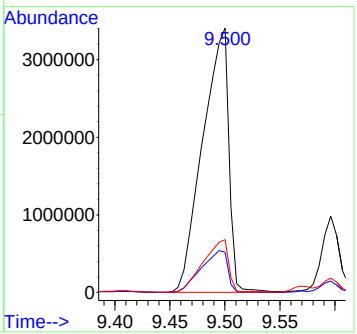


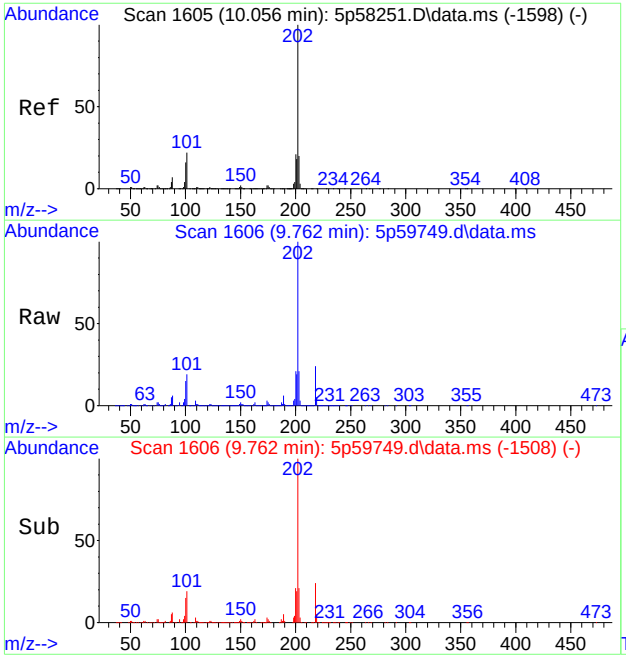




#81
Fluoranthene
Concen: 239.92 ppm
RT: 9.500 min Scan# 1557
Delta R.T. 0.027 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:202 Resp: 5619818

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 15.2 | 0.0 | 46.8 |
| 203 | 19.8 | 0.0 | 47.8 |

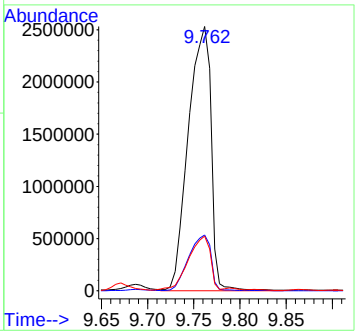


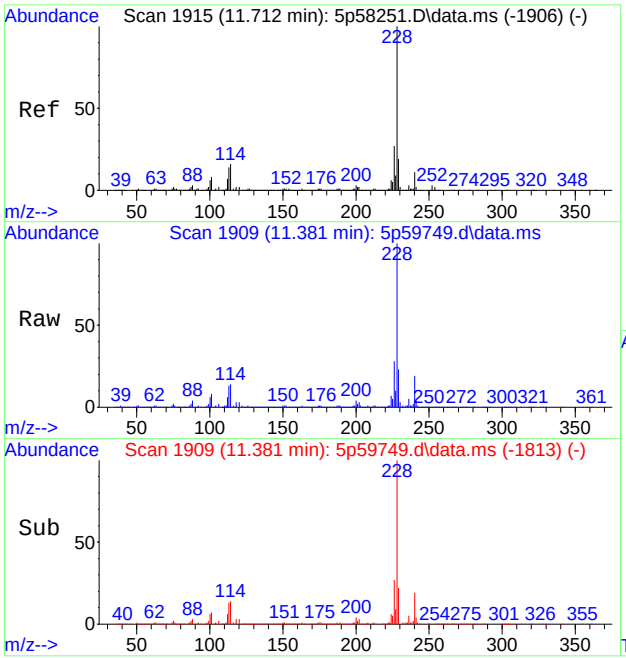



#84
Pyrene
Concen: 161.32 ppm
RT: 9.762 min Scan# 1606
Delta R.T. 0.021 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:202 Resp: 4331592

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.1 | 0.0 | 50.8 |
| 203 | 20.3 | 0.0 | 49.0 |

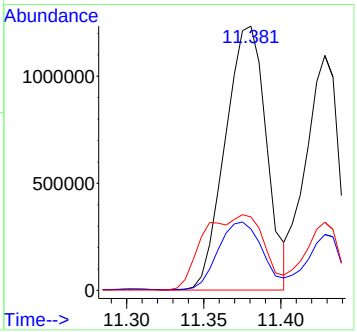


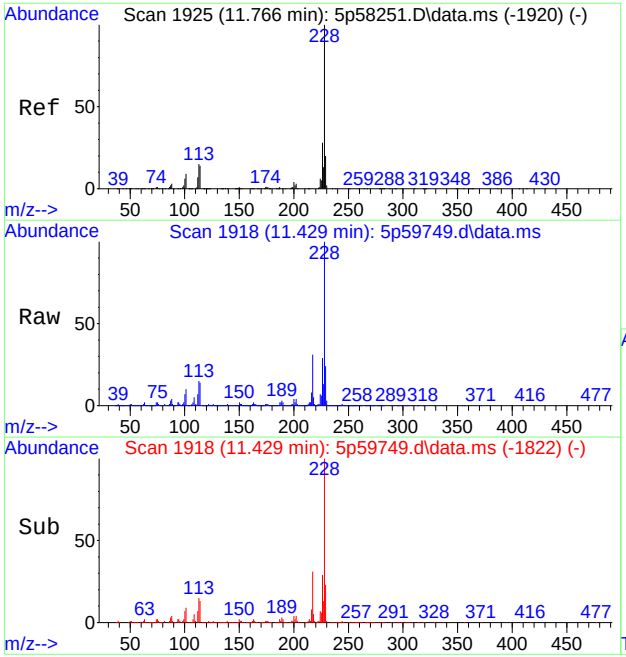




#87
Benzo[a]anthracene
Concen: 92.93 ppm
RT: 11.381 min Scan# 1909
Delta R.T. 0.011 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:228 Resp: 2293619

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 22.9 | 0.0 | 50.1 |
| 226 | 27.4 | 0.0 | 56.4 |

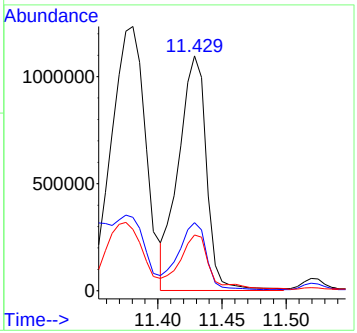


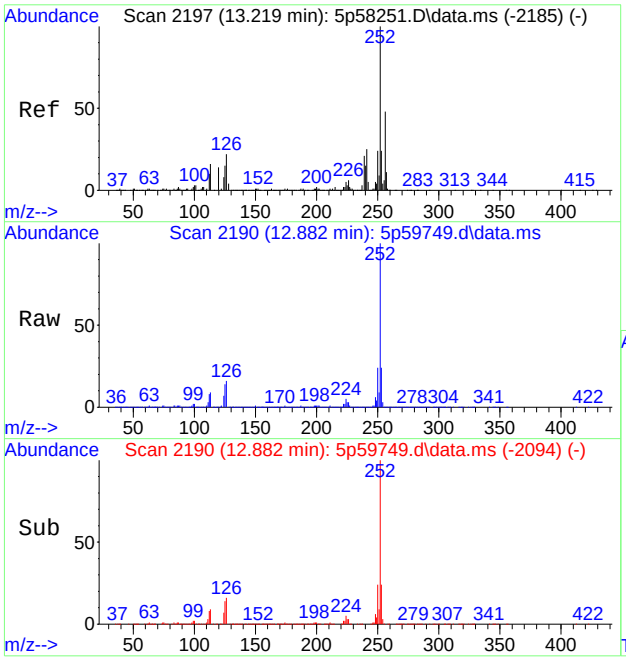



#89
Chrysene
Concen: 73.30 ppm
RT: 11.429 min Scan# 1918
Delta R.T. 0.011 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:228 Resp: 1670135

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.6 | 0.0 | 58.0 |
| 229 | 23.2 | 0.0 | 49.9 |

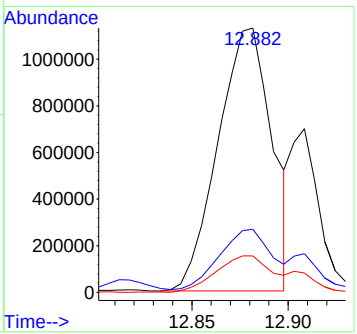


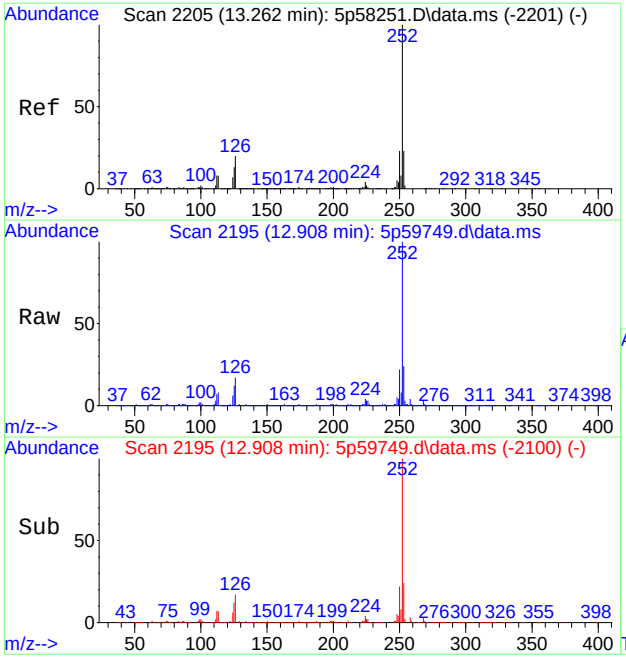




#93
Benzo[b]fluoranthene
Concen: 94.19 ppm
RT: 12.882 min Scan# 2190
Delta R.T. 0.011 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:252 Resp: 2197785

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.2 | 0.0 | 53.1 |
| 125 | 13.7 | 0.0 | 43.9 |

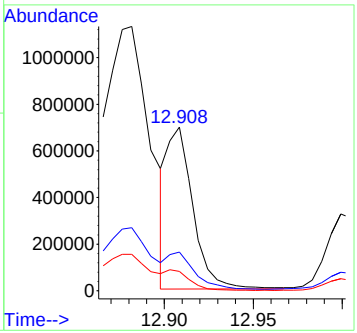


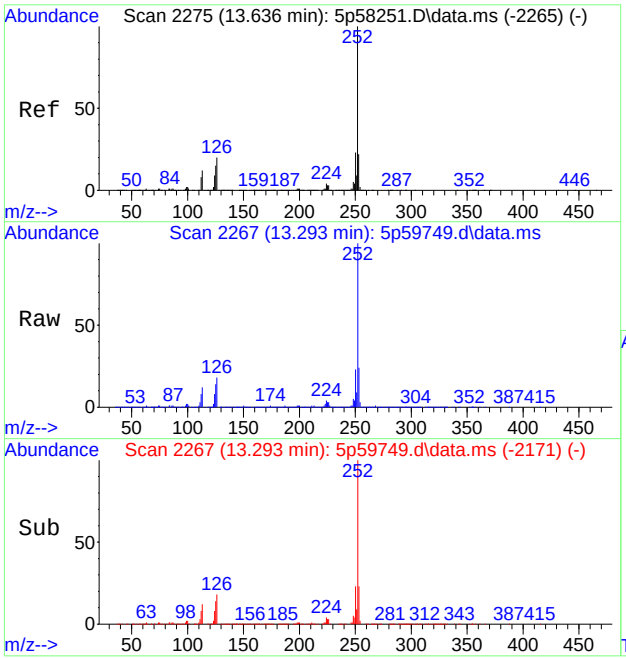



#94
Benzo[k]fluoranthene
Concen: 33.09 ppm
RT: 12.908 min Scan# 2195
Delta R.T. 0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:252 Resp: 706678

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.5 | 0.0 | 53.3 |
| 125 | 10.4 | 0.0 | 43.7 |

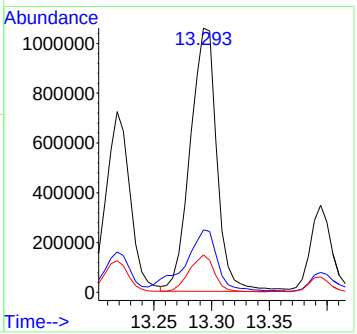


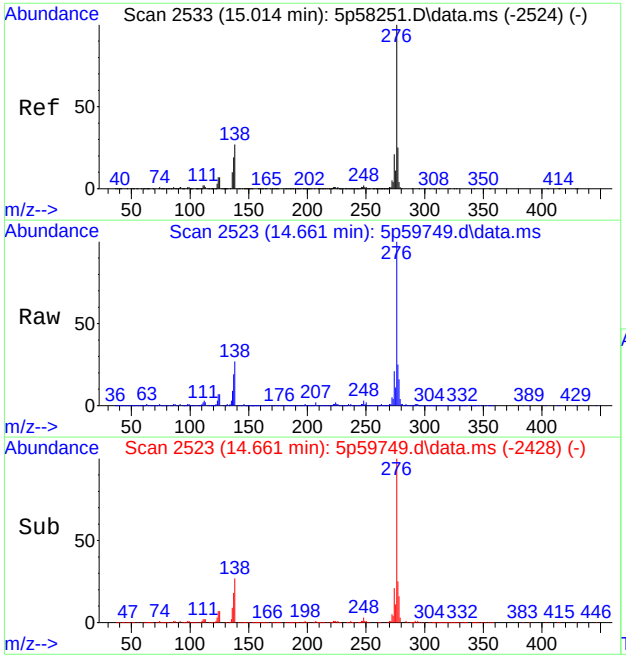




#95
Benzo[a]pyrene
Concen: 81.86 ppm
RT: 13.293 min Scan# 2267
Delta R.T. 0.011 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:252 Resp: 1701387

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.2 | 0.0 | 52.5 |
| 125 | 14.1 | 0.0 | 44.3 |

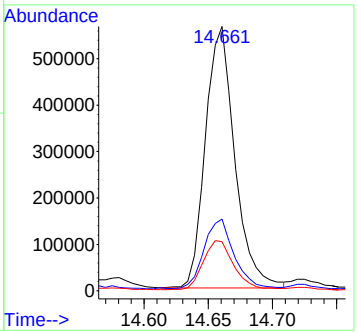


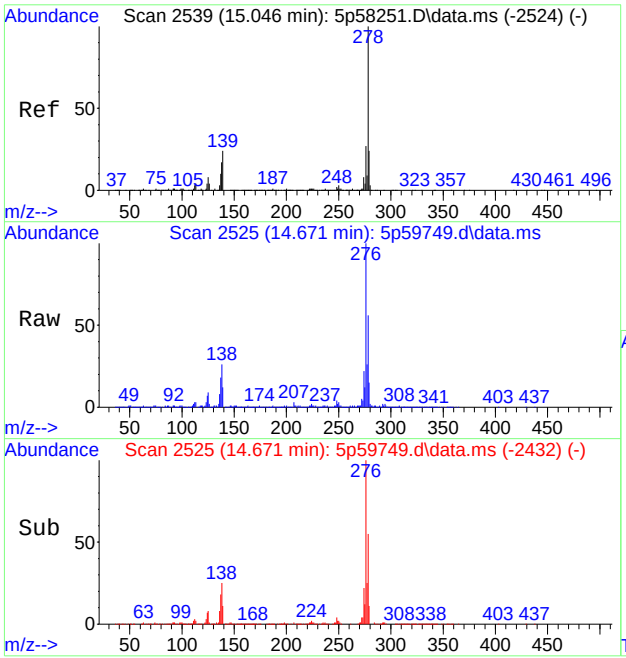



#96
Indeno[1,2,3-cd]pyrene
Concen: 48.53 ppm
RT: 14.661 min Scan# 2523
Delta R.T. 0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:276 Resp: 902149

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 26.4 | 0.0 | 56.6 |
| 137 | 18.3 | 0.0 | 48.8 |

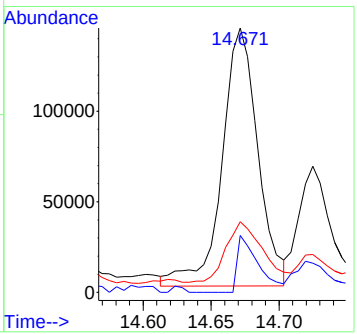


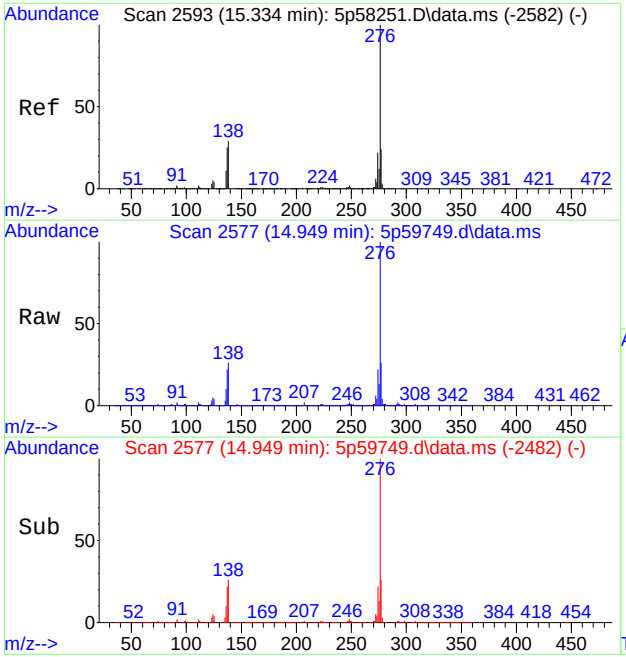




#98
Dibenz[a,h]anthracene
Concen: 13.62 ppm
RT: 14.671 min Scan# 2525
Delta R.T. -0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:278 Resp: 261729

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 22.0 | 0.0 | 51.0 |
| 279 | 22.9 | 0.0 | 55.0 |

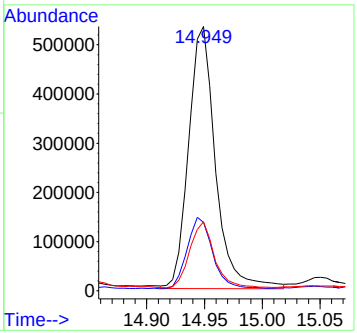





#100
Benzo[g,h,i]perylene
Concen: 46.16 ppm
RT: 14.949 min Scan# 2577
Delta R.T. 0.005 min
Lab File: 5p59749.d
Acq: 17 May 2019 7:00 pm

Tgt Ion:276 Resp: 866221

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.2 | 0.0 | 57.3 |
| 277 | 25.3 | 0.0 | 54.4 |



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/21/19 15:29

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 15:24:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.789 | 152 | 194642 | 40.00 | ppm | -0.17 |
| 24) Naphthalene-d8 | 4.996 | 136 | 532129 | 40.00 | ppm | -0.14 |
| 47) Acenaphthene-d10 | 6.652 | 164 | 463584 | 40.00 | ppm | -0.17 |
| 69) Phenanthrene-d10 | 8.100 | 188 | 644810m | 40.00 | ppm | -0.16 |
| 83) Chrysene-d12 | 11.359 | 240 | 837131 | 40.00 | ppm | -0.17 |
| 91) Perylene-d12 | 13.325 | 264 | 835551 | 40.00 | ppm | -0.18 |
| 101) 1,4-Dichlorobenzene-d4b | 3.789 | 152 | 194642 | 40.00 | ppm | -0.17 |
| 103) Acenaphthene-d10a | 6.652 | 164 | 463584 | 40.00 | ppm | -0.17 |
| 105) Chrysene-d12a | 11.359 | 240 | 837131 | 40.00 | ppm | -0.17 |
| 107) Phenanthrene-d10a | 8.100 | 188 | 326900 | 40.00 | ppm | -0.16 |
| 111) Naphthalene-d8a | 4.996 | 136 | 532129 | 40.00 | ppm | -0.14 |
| 113) Chrysene-d12b | 11.359 | 240 | 837131 | 40.00 | ppm | -0.17 |
| 115) 1,4-Dichlorobenzene-d4c | 3.789 | 152 | 194642 | 40.00 | ppm | -0.17 |
| 117) Chrysene-d12c | 11.359 | 240 | 837131 | 40.00 | ppm | -0.37 |
| 119) Chrysene-d12d | 11.359 | 240 | 837131 | 40.00 | ppm | -0.17 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.688 | 112 | 55309 | 7.30 | ppm | -0.13 |
| Spiked Amount 50.000 | | | Recovery = 14.60% | | | |
| 8) Phenol-d5 | 3.559 | 99 | 81388 | 8.53 | ppm | -0.14 |
| Spiked Amount 50.000 | | | Recovery = 17.06% | | | |
| 25) Nitrobenzene-d5 | 4.328 | 82 | 81344 | 13.19 | ppm | -0.14 |
| Spiked Amount 50.000 | | | Recovery = 26.38% | | | |
| 51) 2-Fluorobiphenyl | 6.027 | 172 | 133435 | 8.28 | ppm | -0.17 |
| Spiked Amount 50.000 | | | Recovery = 16.56% | | | |
| 73) 2,4,6-Tribromophenol | 7.443 | 330 | 16735 | 9.00 | ppm | -0.16 |
| Spiked Amount 50.000 | | | Recovery = 18.00% | | | |
| 85) Terphenyl-d14 | 9.916 | 244 | 154049 | 7.23 | ppm | -0.21 |
| Spiked Amount 50.000 | | | Recovery = 14.46% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.575 | 94 | 26223 | 2.51 | ppm | 70 |
| 19) 2-Methylphenol | 4.104 | 108 | 53673 | 8.15 | ppm | 99 |
| 21) 3&4-Methylphenol | 4.264 | 108 | 52001 | 7.35 | ppm | 96 |
| 30) 2,4-Dimethylphenol | 4.751 | 107 | 117509 | 24.44 | ppm | 91 |
| 38) Naphthalene | 5.055 | 128 | 26199172 | 1953.54 | ppm | 85 |
| 44) 2-Methylnaphthalene | 5.685 | 141 | 5499968 | 699.08 | ppm | 97 |
| 53) Biphenyl | 6.123 | 154 | 3089808 | 178.13 | ppm | 98 |
| 56) Acenaphthylene | 6.546 | 152 | 13859436 | 644.32 | ppm | 88 |
| 59) Acenaphthene | 6.695 | 153 | 2417060 | 180.64 | ppm | 90 |
| 62) Dibenzofuran | 6.882 | 168 | 11234005 | 557.87 | ppm | 90 |
| 66) Fluorene | 7.229 | 166 | 13273290 | 834.35 | ppm | 91 |
| 77) Phenanthrene | 8.191 | 178 | 37166348 | 2132.35 | ppm | 90 |
| 78) Anthracene | 8.234 | 178 | 9141189m | 499.79 | ppm | |
| 79) Carbazole | 8.383 | 167 | 9032181 | 487.14 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 15:24:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration

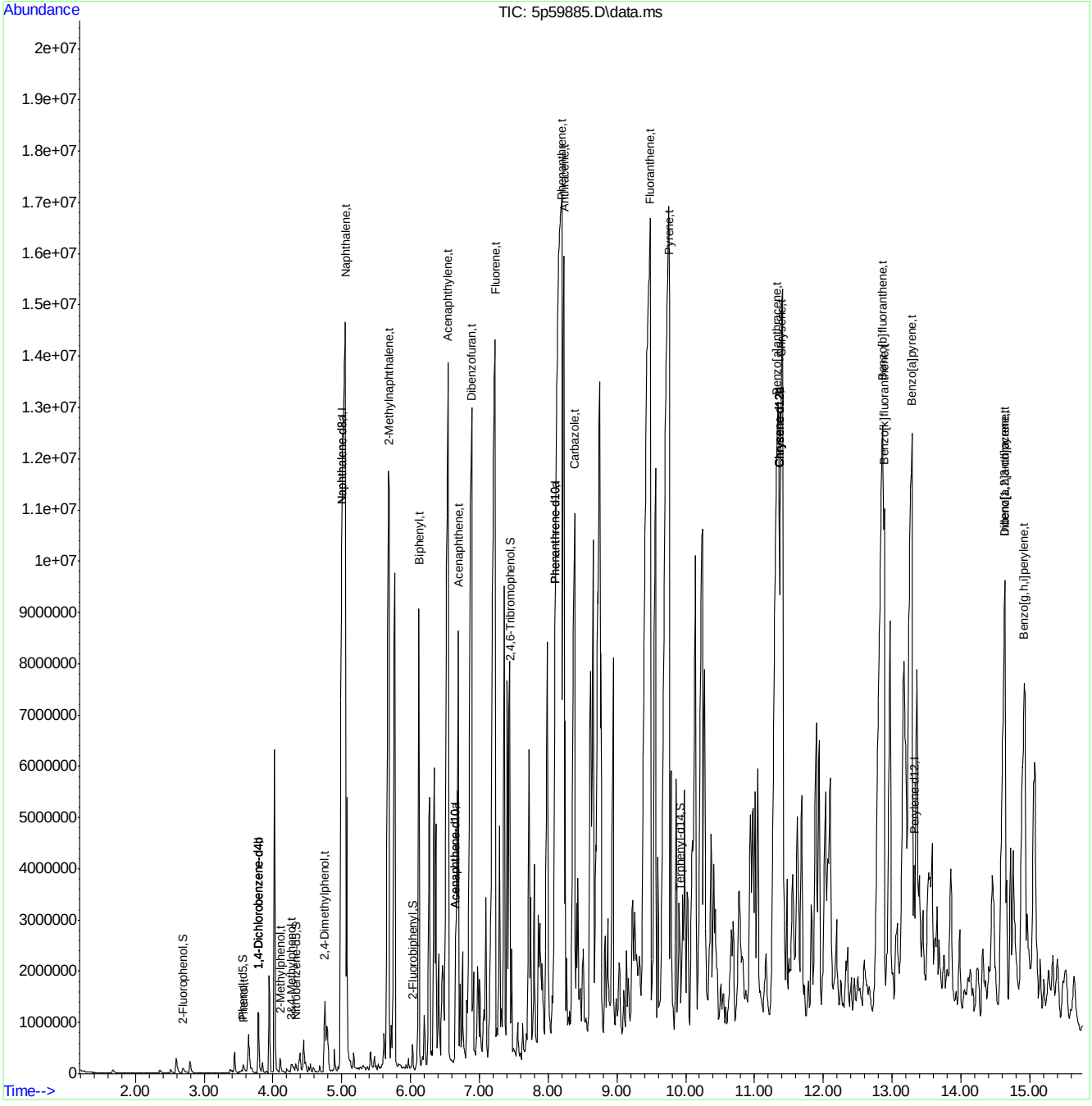
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 81) Fluoranthene | 9.478 | 202 | 32859850 | 1517.82 | ppm | 91 |
| 84) Pyrene | 9.762 | 202 | 26848158 | 843.98 | ppm | 91 |
| 87) Benzo[a]anthracene | 11.327 | 228 | 19040179 | 651.19 | ppm | 74 |
| 89) Chrysene | 11.391 | 228 | 10567245 | 391.48 | ppm | 91 |
| 93) Benzo[b]fluoranthene | 12.865 | 252 | 19904720m | 780.21 | ppm | |
| 94) Benzo[k]fluoranthene | 12.887 | 252 | 2934111m | 125.64 | ppm | |
| 95) Benzo[a]pyrene | 13.282 | 252 | 12681611 | 558.07 | ppm | 90 |
| 96) Indeno[1,2,3-cd]pyrene | 14.639 | 276 | 7944958 | 390.85 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 14.639 | 278 | 2508227m | 119.33 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.922 | 276 | 7358395 | 358.60 | ppm | 95 |

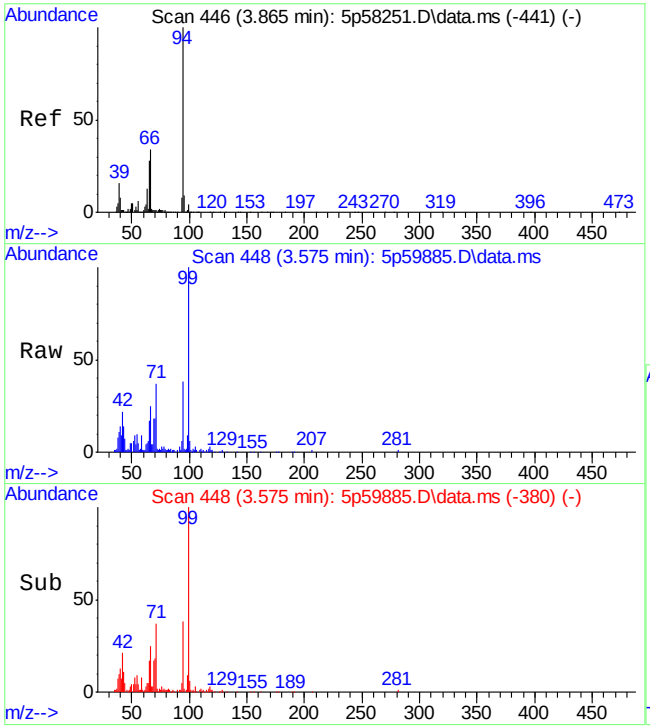
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 15:24:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration

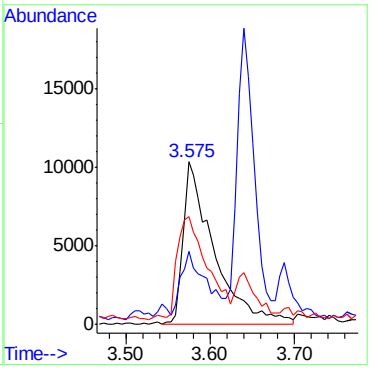


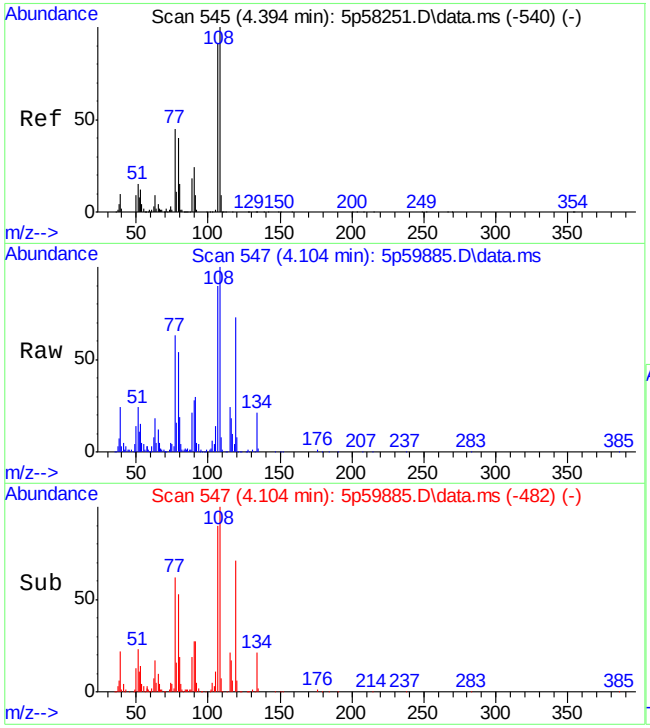



#9
Phenol
Concen: 2.51 ppm
RT: 3.575 min Scan# 448
Delta R.T. -0.136 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion: 94 Resp: 26223

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 30.6 | 0.0 | 57.7 |
| 66 | 62.0 | 3.8 | 63.8 |

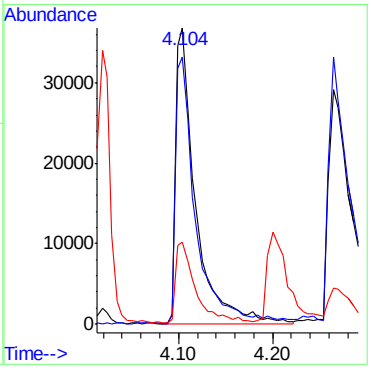


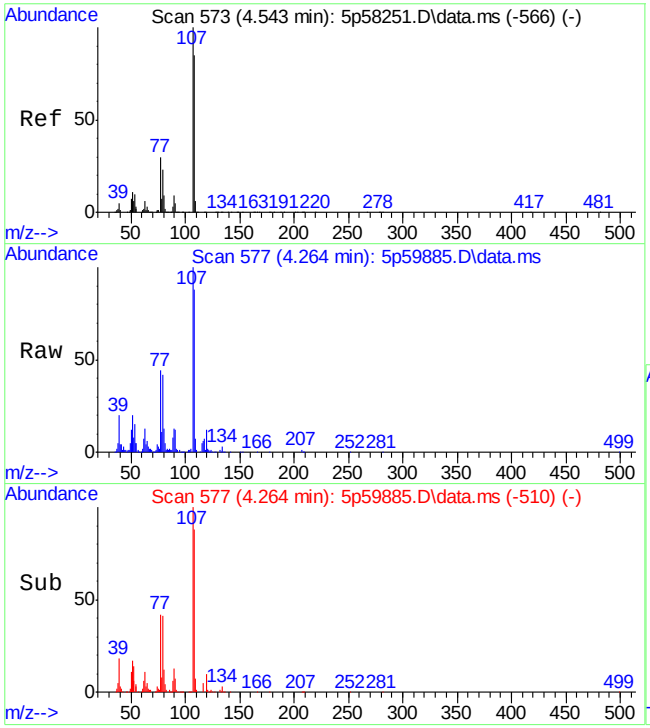




#19
2-Methylphenol
Concen: 8.15 ppm
RT: 4.104 min Scan# 547
Delta R.T. -0.153 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:108 Resp: 53673

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 90.0 | 60.5 | 120.5 |
| 90 | 22.3 | 0.0 | 54.5 |

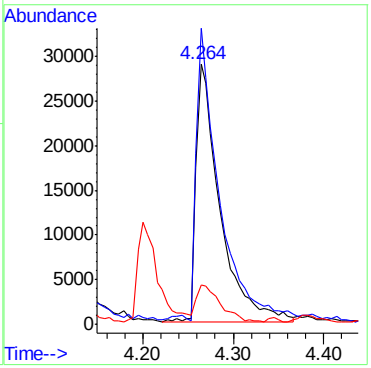


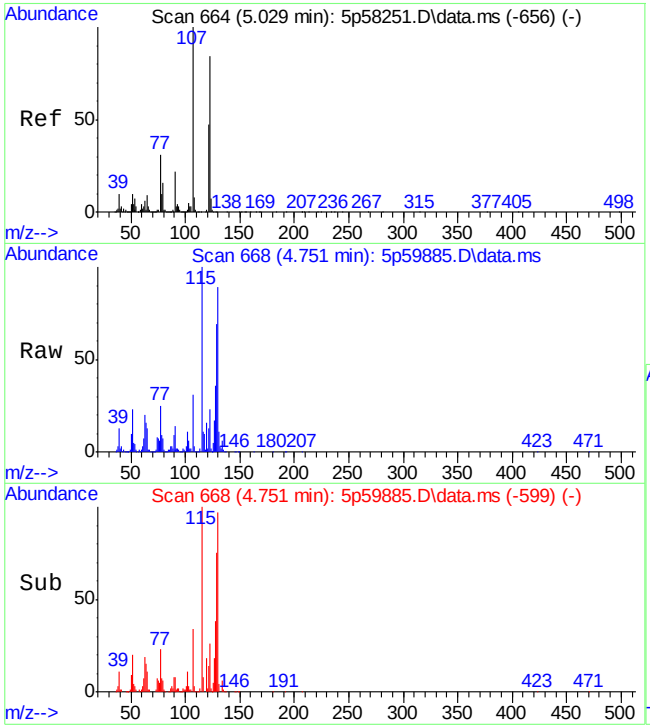



#21
3&4-Methylphenol
Concen: 7.35 ppm
RT: 4.264 min Scan# 577
Delta R.T. -0.144 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:108 Resp: 52001

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 112.9 | 87.2 | 147.2 |
| 90 | 7.9 | 0.0 | 40.1 |

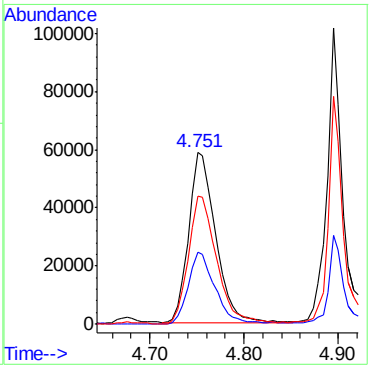


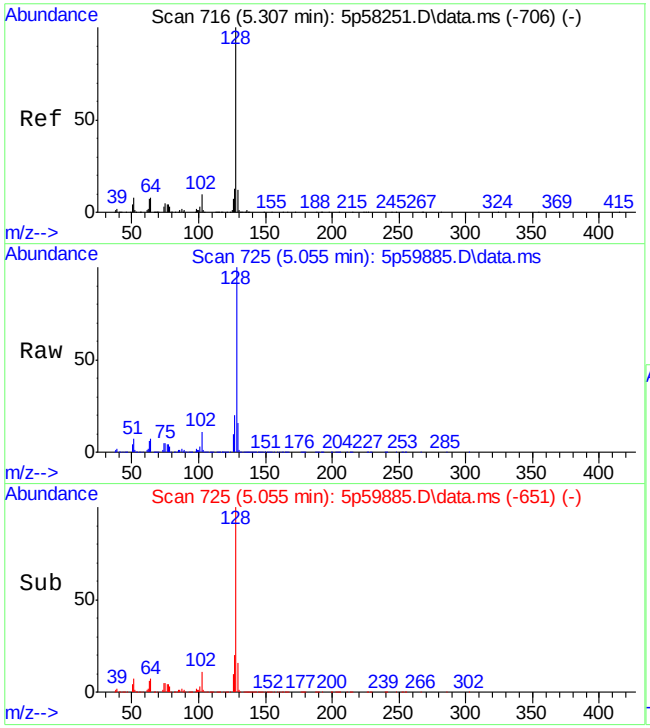




#30
2,4-Dimethylphenol
Concen: 24.44 ppm
RT: 4.751 min Scan# 668
Delta R.T. -0.131 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:107 Resp: 117509

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 41.6 | 17.4 | 77.4 |
| 122 | 74.7 | 53.5 | 113.5 |

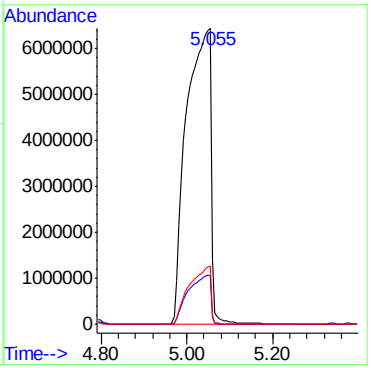


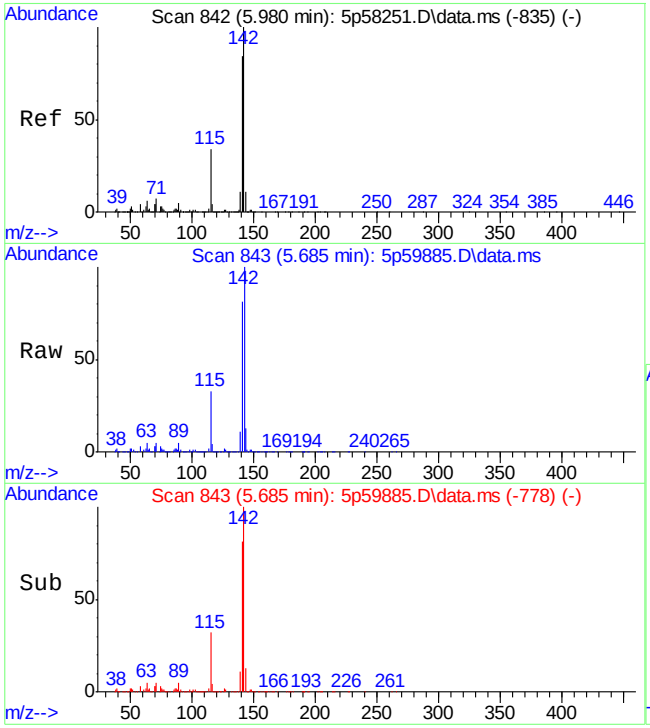



#38
Naphthalene
Concen: 1953.54 ppm
RT: 5.055 min Scan# 725
Delta R.T. -0.107 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:128 Resp:26199172

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 16.5 | 0.0 | 41.7 |
| 127 | 19.8 | 0.0 | 43.1 |

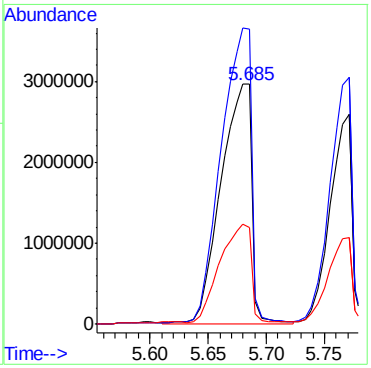


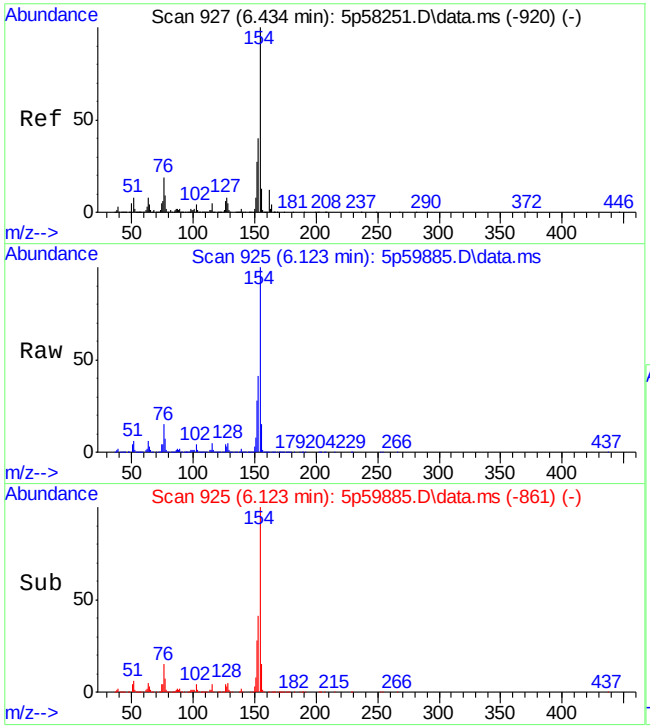




#44
2-Methylnaphthalene
Concen: 699.08 ppm
RT: 5.685 min Scan# 843
Delta R.T. -0.151 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:141 Resp: 5499968

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 123.3 | 89.9 | 149.9 |
| 115 | 39.5 | 10.7 | 70.7 |

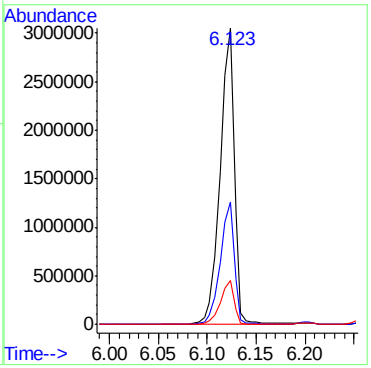


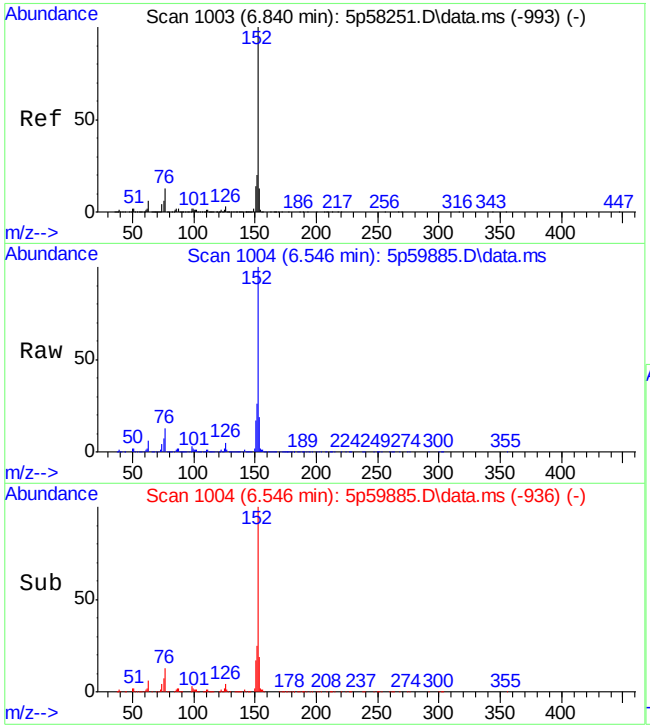



#53
Biphenyl
Concen: 178.13 ppm
RT: 6.123 min Scan# 925
Delta R.T. -0.157 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:154 Resp: 3089808

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 41.1 | 10.2 | 70.2 |
| 155 | 14.9 | 0.0 | 43.4 |

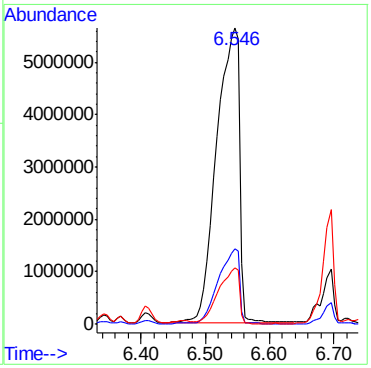


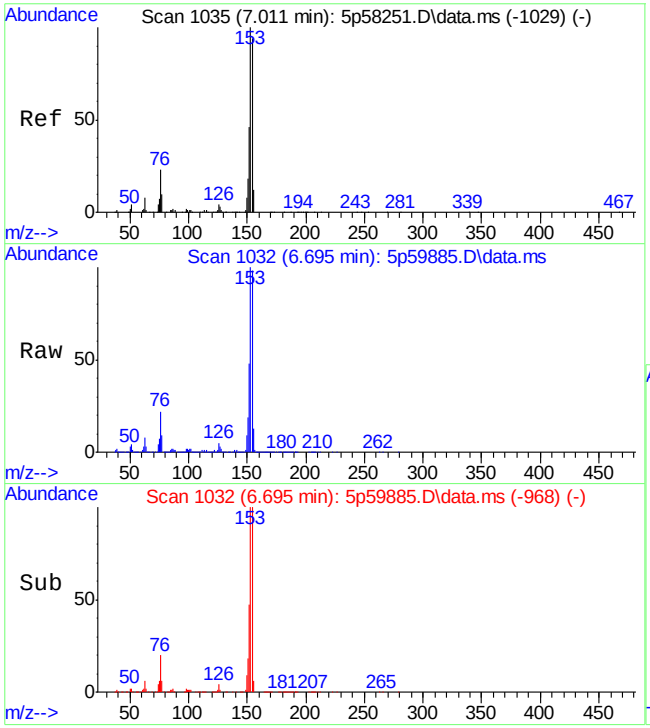




#56
Acenaphthylene
Concen: 644.32 ppm
RT: 6.546 min Scan# 1004
Delta R.T. -0.138 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:152 Resp:13859436

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 25.5 | 0.0 | 50.5 |
| 153 | 18.9 | 0.0 | 43.4 |

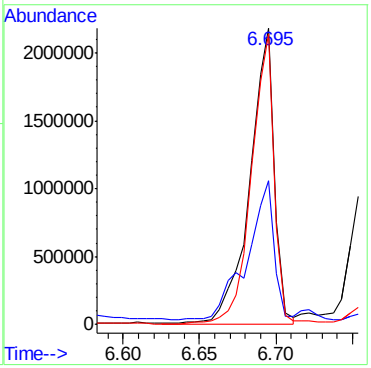


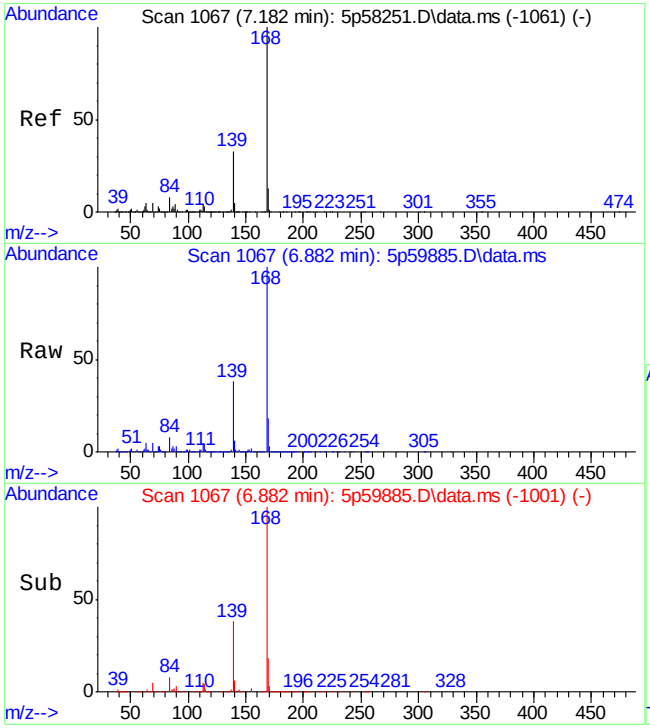



#59
Acenaphthene
Concen: 180.64 ppm
RT: 6.695 min Scan# 1032
Delta R.T. -0.161 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:153 Resp: 2417060

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.7 | 15.9 | 75.9 |
| 154 | 99.0 | 56.1 | 116.1 |

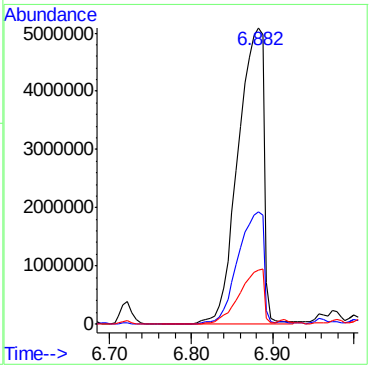


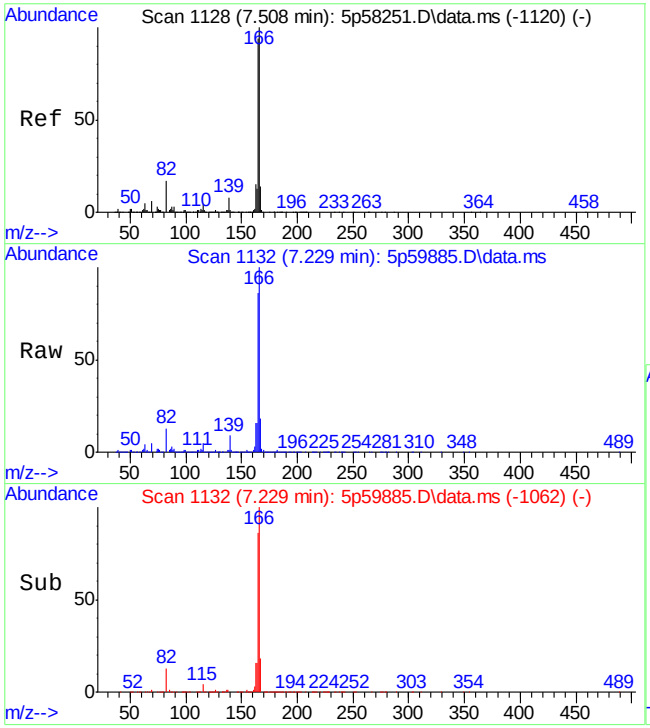




#62
Dibenzofuran
Concen: 557.87 ppm
RT: 6.882 min Scan# 1067
Delta R.T. -0.146 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:168 Resp:11234005

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.0 | 3.2 | 63.2 |
| 169 | 18.2 | 0.0 | 42.9 |

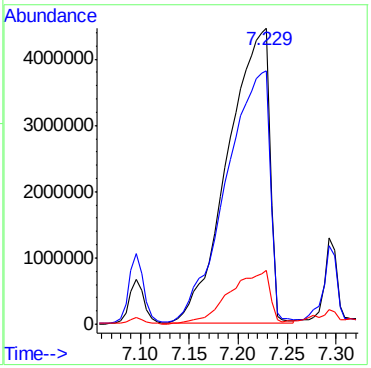


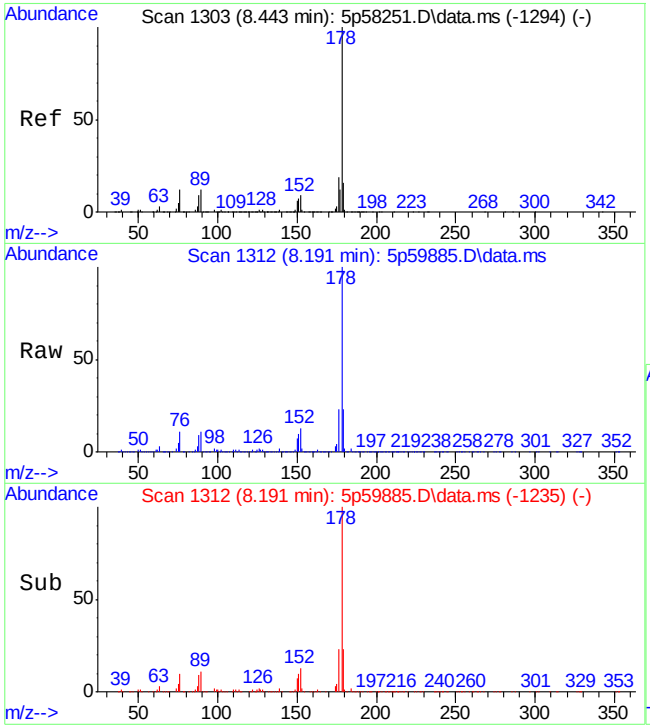



#66
Fluorene
Concen: 834.35 ppm
RT: 7.229 min Scan# 1132
Delta R.T. -0.127 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:166 Resp:13273290

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 85.2 | 64.3 | 124.3 |
| 167 | 17.6 | 0.0 | 43.8 |

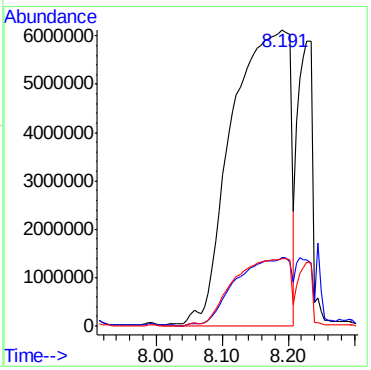


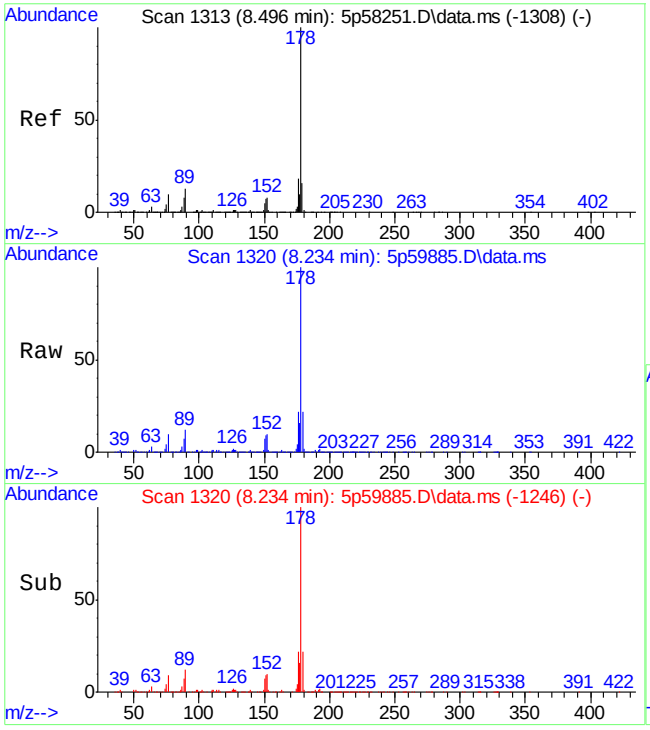




#77
Phenanthrene
Concen: 2132.35 ppm
RT: 8.191 min Scan# 1312
Delta R.T. -0.091 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:178 Resp:37166348

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 19.4 | 0.0 | 45.8 |
| 176 | 23.8 | 0.0 | 48.5 |

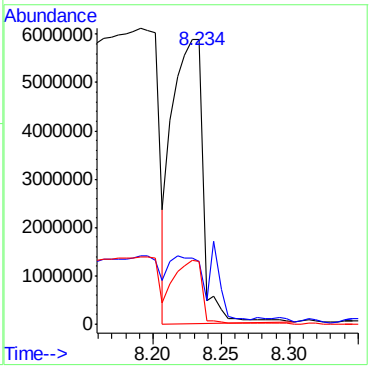


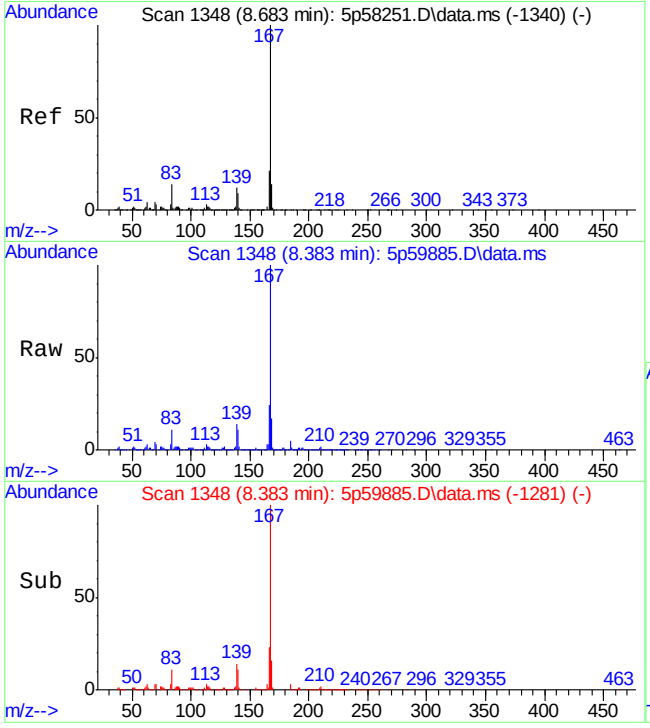



#78
Anthracene
Concen: 499.79 ppm m
RT: 8.234 min Scan# 1320
Delta R.T. -0.102 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:178 Resp: 9141189

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 22.1 | 0.0 | 45.6 |
| 176 | 22.0 | 0.0 | 48.3 |

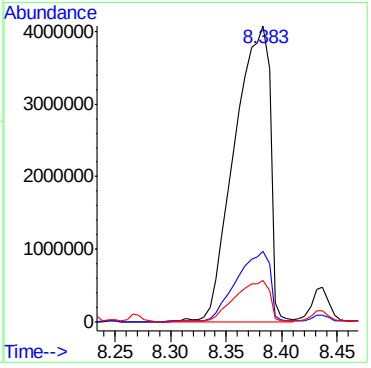


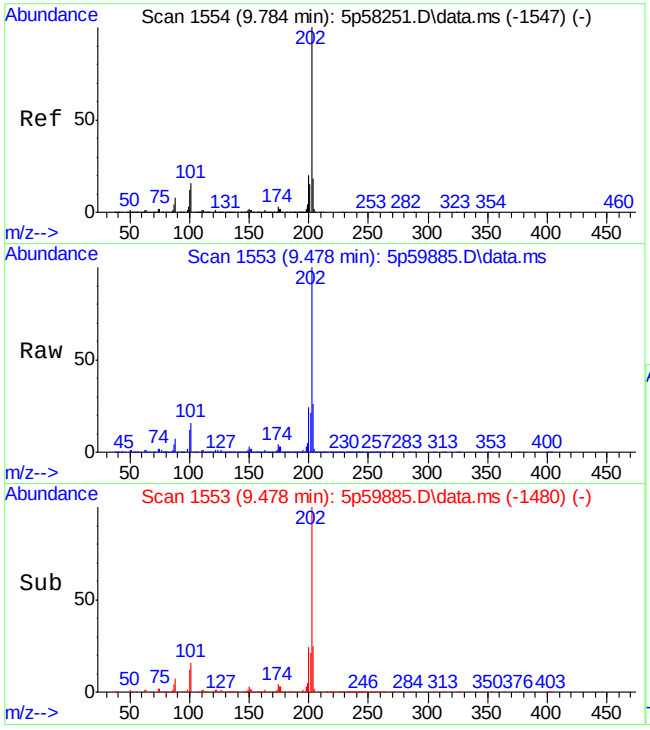




#79
Carbazole
Concen: 487.14 ppm
RT: 8.383 min Scan# 1348
Delta R.T. -0.141 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:167 Resp: 9032181

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 23.6 | 0.0 | 50.7 |
| 139 | 13.9 | 0.0 | 42.4 |

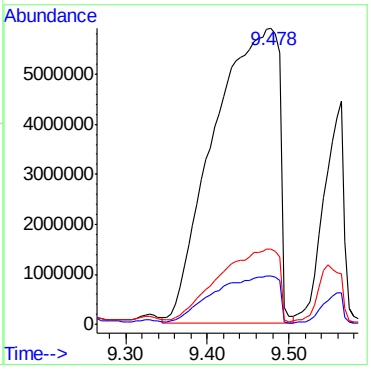


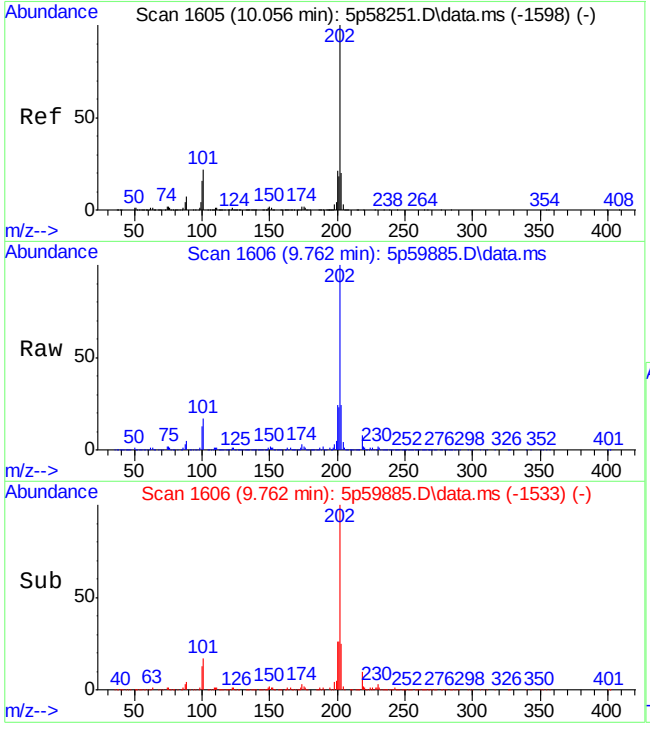



#81
Fluoranthene
Concen: 1517.82 ppm
RT: 9.478 min Scan# 1553
Delta R.T. -0.111 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:202 Resp:32859850

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 16.2 | 0.0 | 46.5 |
| 203 | 24.8 | 0.0 | 47.7 |

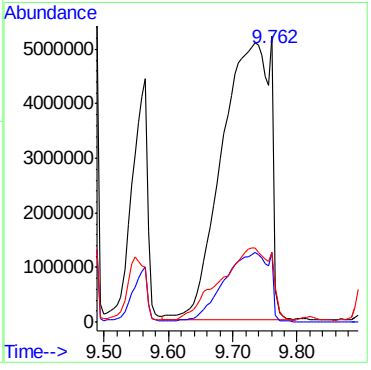


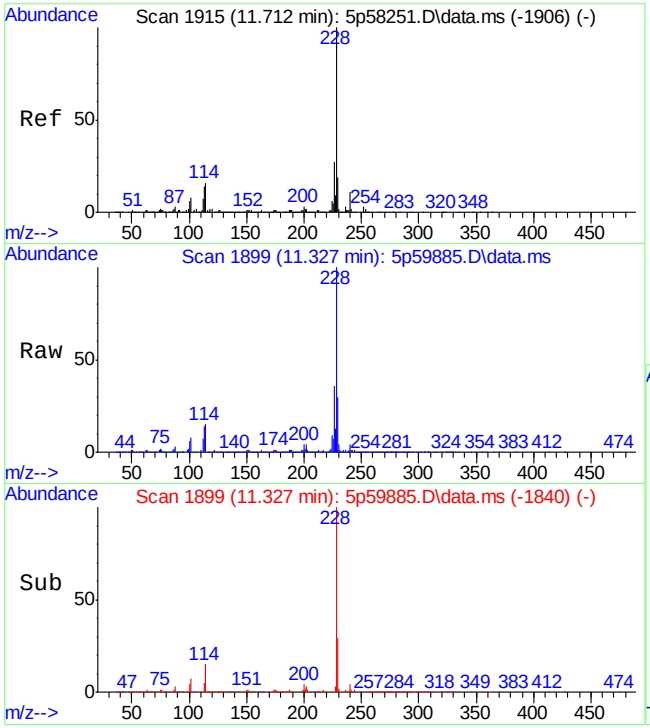




#84
Pyrene
Concen: 843.98 ppm
RT: 9.762 min Scan# 1606
Delta R.T. -0.109 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:202 Resp:26848158

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 24.5 | 0.0 | 50.6 |
| 203 | 23.9 | 0.0 | 49.5 |

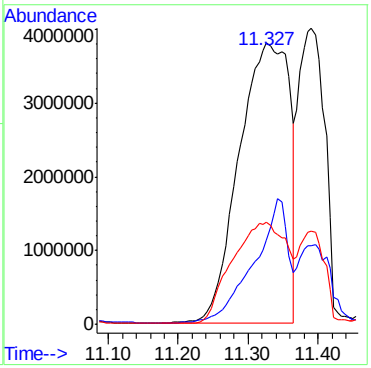


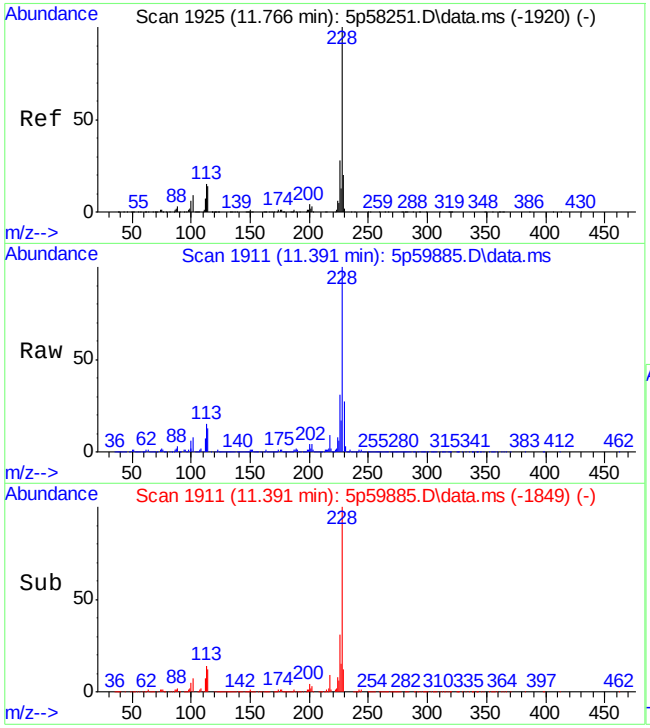



#87
Benzo[a]anthracene
Concen: 651.19 ppm
RT: 11.327 min Scan# 1899
Delta R.T. -0.187 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:228 Resp:19040179

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 32.0 | 0.0 | 49.3 |
| 226 | 38.6 | 0.0 | 56.3 |

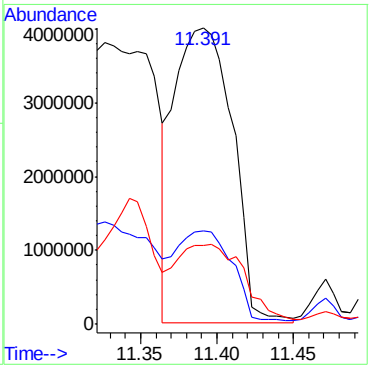


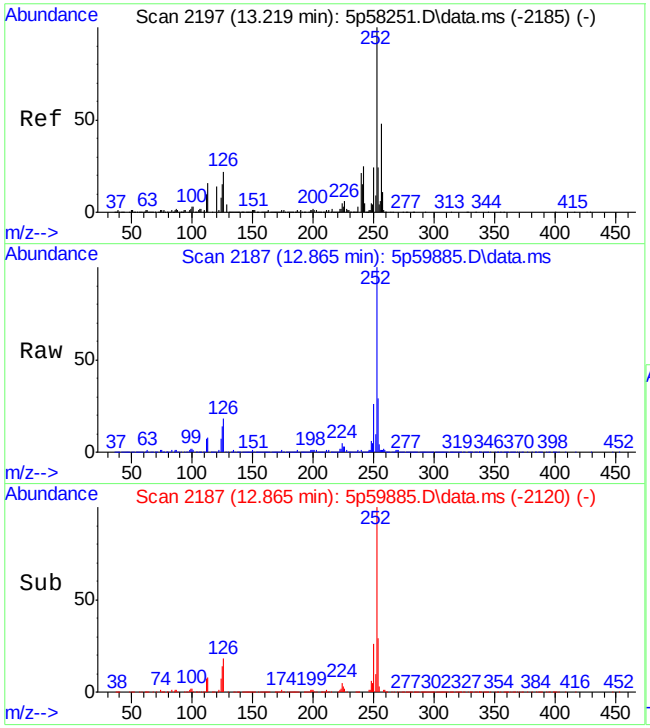




#89
Chrysene
Concen: 391.48 ppm
RT: 11.391 min Scan# 1911
Delta R.T. -0.171 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:228 Resp:10567245

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.5 | 0.0 | 58.6 |
| 229 | 26.2 | 0.0 | 49.0 |

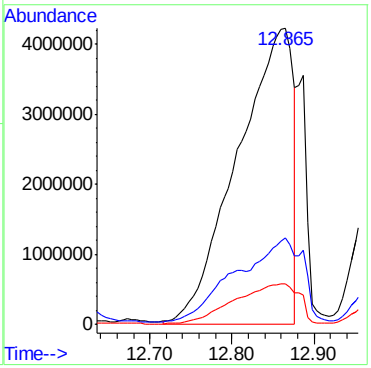


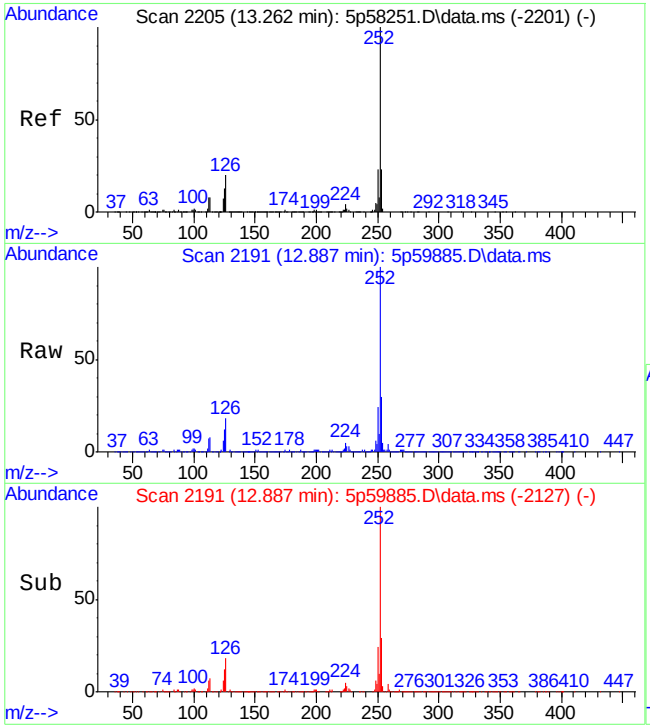



#93
Benzo[b]fluoranthene
Concen: 780.21 ppm m
RT: 12.865 min Scan# 2187
Delta R.T. -0.141 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:252 Resp:19904720

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 29.1 | 0.0 | 54.7 |
| 125 | 13.8 | 0.0 | 45.6 |

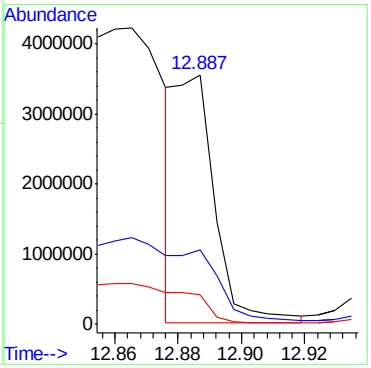


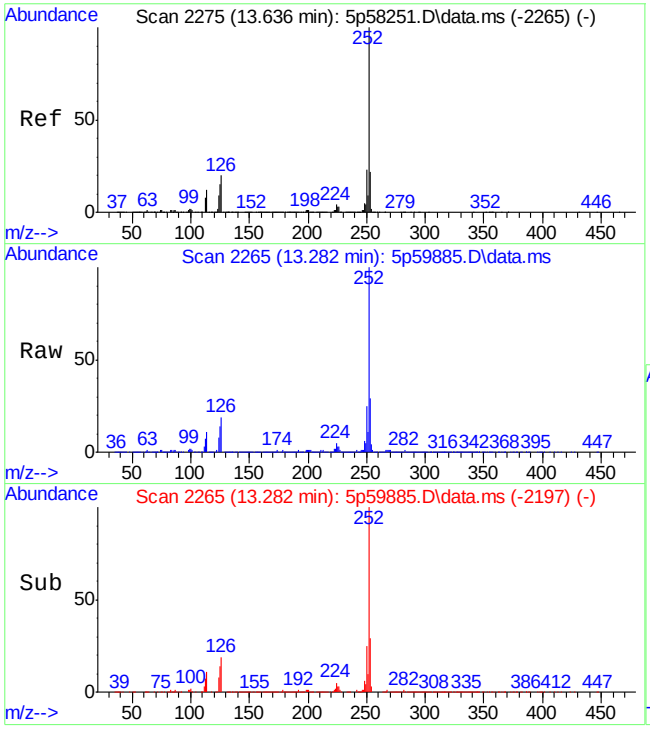




#94
Benzo[k]fluoranthene
Concen: 125.64 ppm m
RT: 12.887 min Scan# 2191
Delta R.T. -0.157 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:252 Resp: 2934111

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 29.7 | 0.0 | 52.6 |
| 125 | 11.9 | 0.0 | 43.1 |

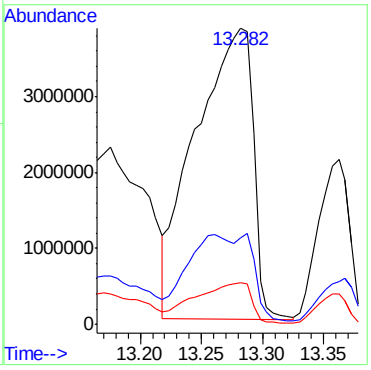


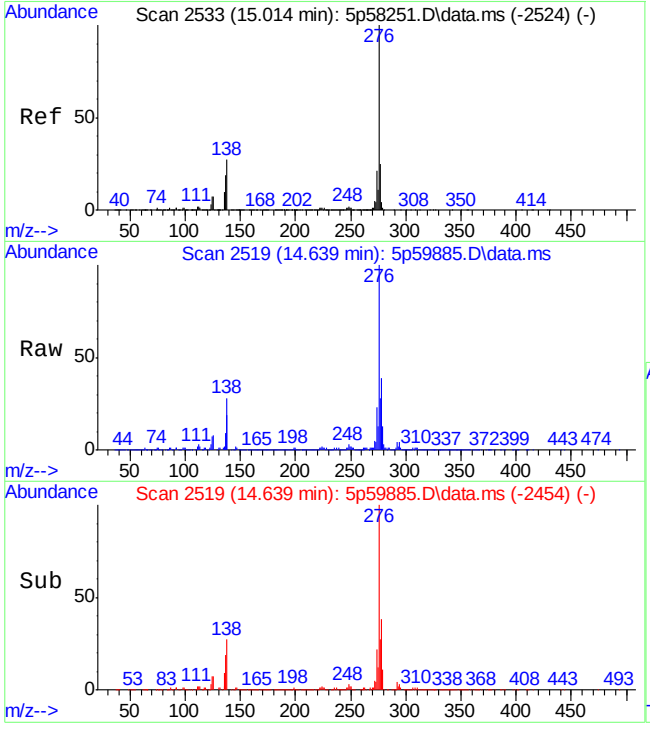



#95
Benzo[a]pyrene
Concen: 558.07 ppm
RT: 13.282 min Scan# 2265
Delta R.T. -0.138 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:252 Resp:12681611

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 29.2 | 0.0 | 52.1 |
| 125 | 14.1 | 0.0 | 44.8 |

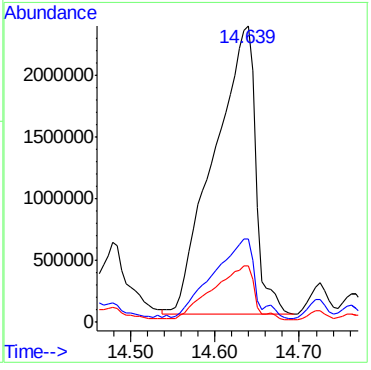


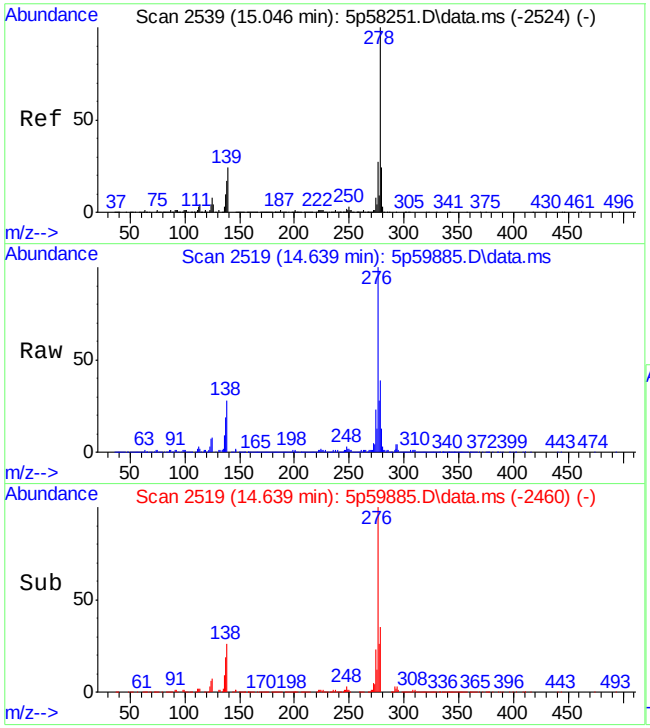




#96
Indeno[1,2,3-cd]pyrene
Concen: 390.85 ppm
RT: 14.639 min Scan# 2519
Delta R.T. -0.154 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:276 Resp: 7944958

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.4 | 0.0 | 56.9 |
| 137 | 18.8 | 0.0 | 49.4 |

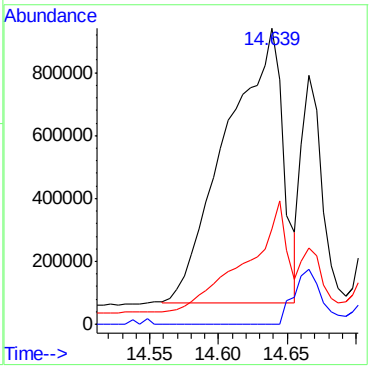


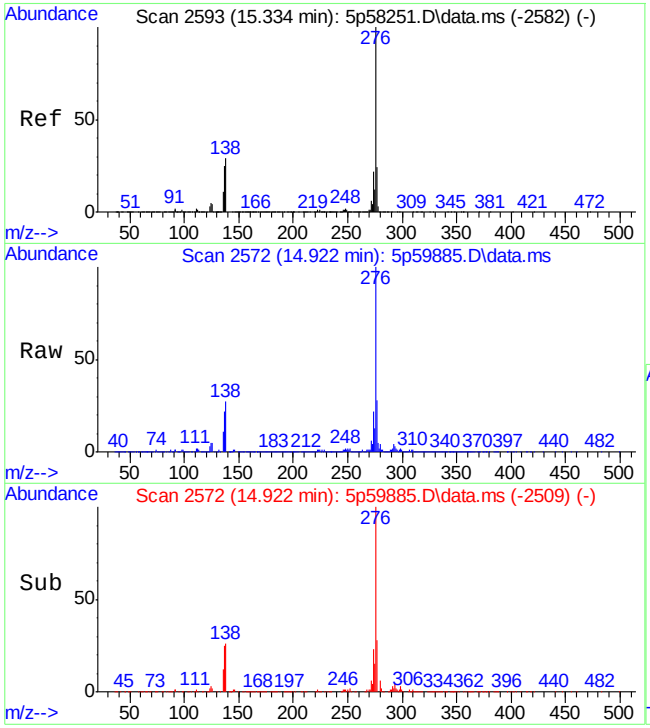



#98
Dibenz[a,h]anthracene
Concen: 119.33 ppm m
RT: 14.639 min Scan# 2519
Delta R.T. -0.186 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:278 Resp: 2508227

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 0.0 | 0.0 | 53.6 |
| 279 | 32.2 | 0.0 | 54.4 |

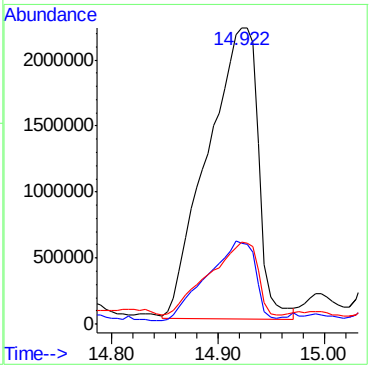



#100
Benzo[g,h,i]perylene
Concen: 358.60 ppm
RT: 14.922 min Scan# 2572
Delta R.T. -0.161 min
Lab File: 5p59885.D
Acq: 21 May 19 12:07 pm

Tgt Ion:276 Resp: 7358395

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.7 | 0.0 | 59.0 |
| 277 | 25.3 | 0.0 | 53.7 |



# Manual Integration Approval Summary



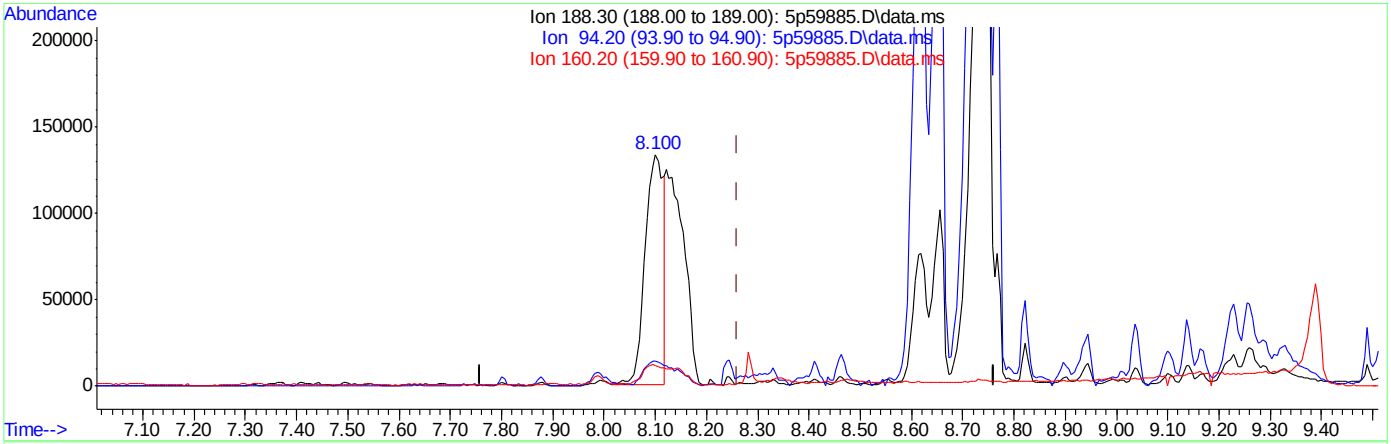
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-7 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P59885.D | **Analyst approved:** | 05/21/19 15:24 Kristi Schollenberger |
| **Injection Time:** | 05/21/19 12:07 | **Supervisor approved:** | 05/21/19 15:29 Kristi Schollenberger |

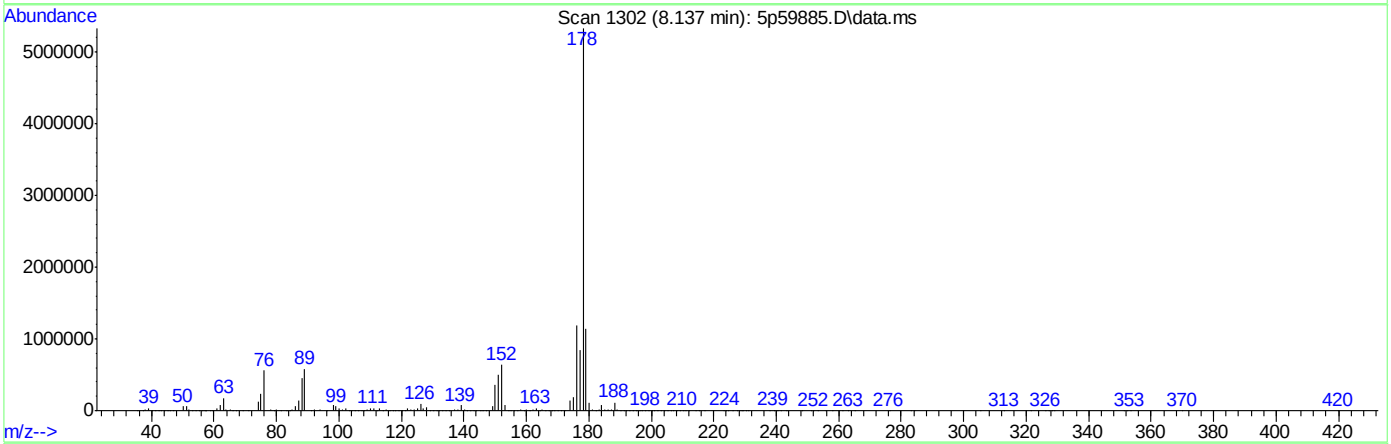
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Phenanthrene-d10 | 1517-22-2 | | 8.10 | Poor instrument integration |
| Anthracene | 120-12-7 | | 8.23 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.87 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.89 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.64 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 14:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration




TIC: 5p59885.D\data.ms

(69) Phenanthrene-d10 (I)

8.100min (-0.160) 40.00ppm

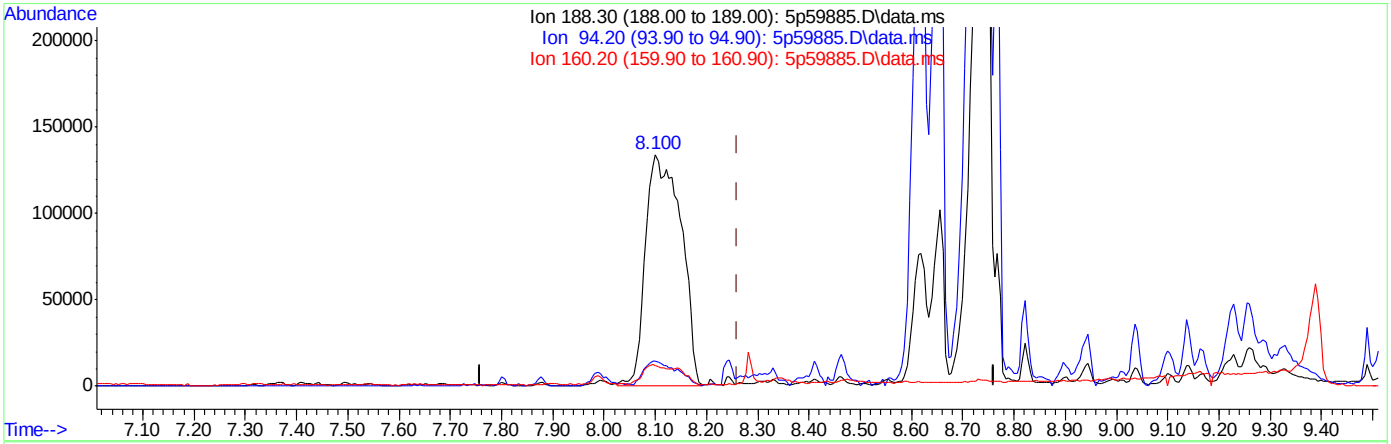
response 326900

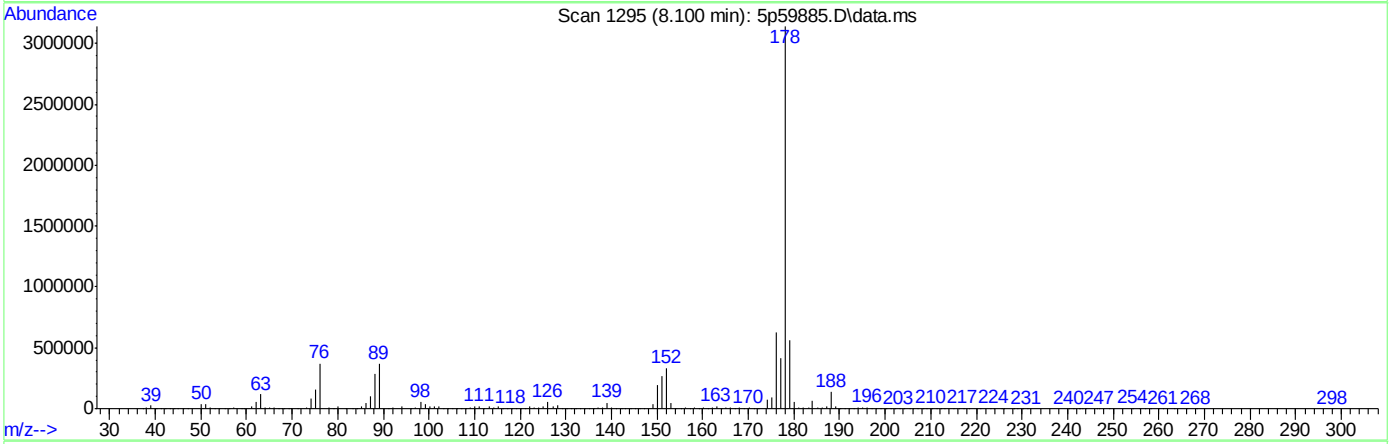
| Ion | Exp% | Act% |
|---|---|---|
| 188.30 | 100 | 100 |
| 94.20 | 13.40 | 9.56 |
| 160.20 | 10.00 | 8.22 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 14:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration




TIC: 5p59885.D\data.ms

(69) Phenanthrene-d10 (I)

8.100min (-0.160) 40.00ppm m

response 644810

| Ion | Exp% | Act% |
|---|---|---|
| 188.30 | 100 | 100 |
| 94.20 | 13.40 | 10.64 |
| 160.20 | 10.00 | 8.97 |
| 0.00 | 0.00 | 0.00 |

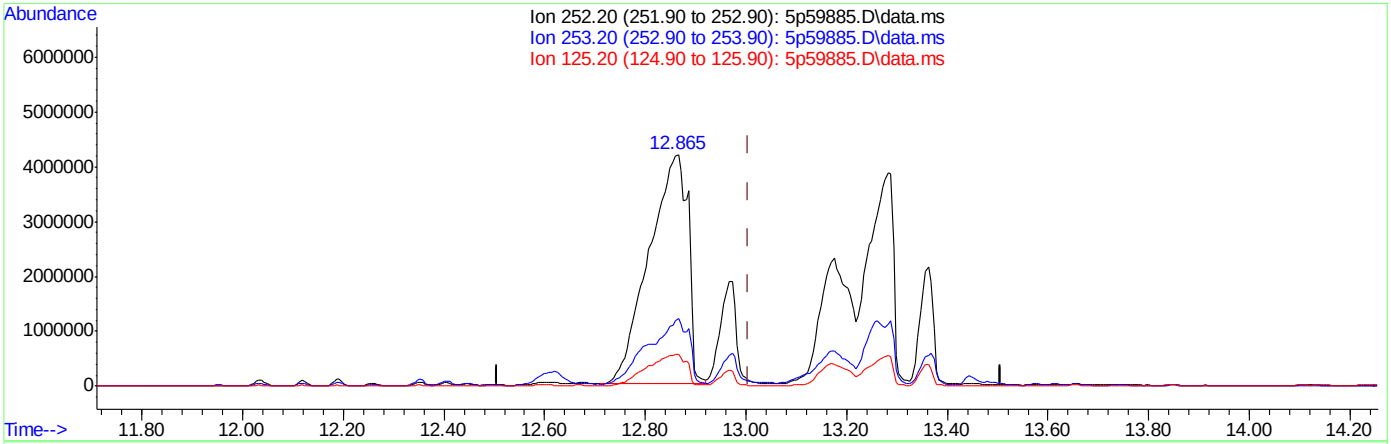


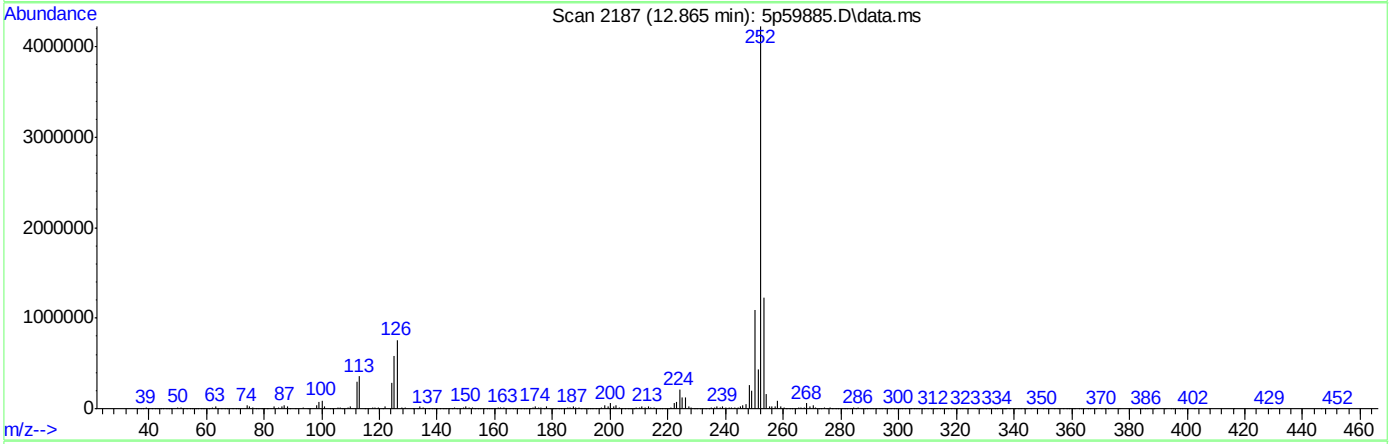
5P59885.D edits: Phenanthrene-d10

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 14:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration




TIC: 5p59885.D\data.ms

(93) Benzo[b]fluoranthene (t)

12.865min (-0.141) 879.13ppm

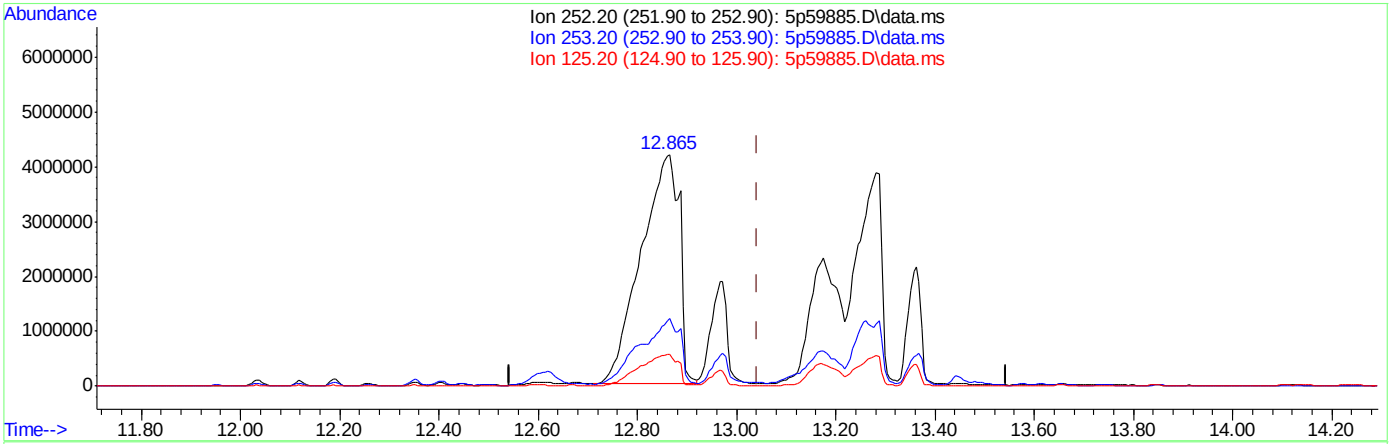
response 22428251

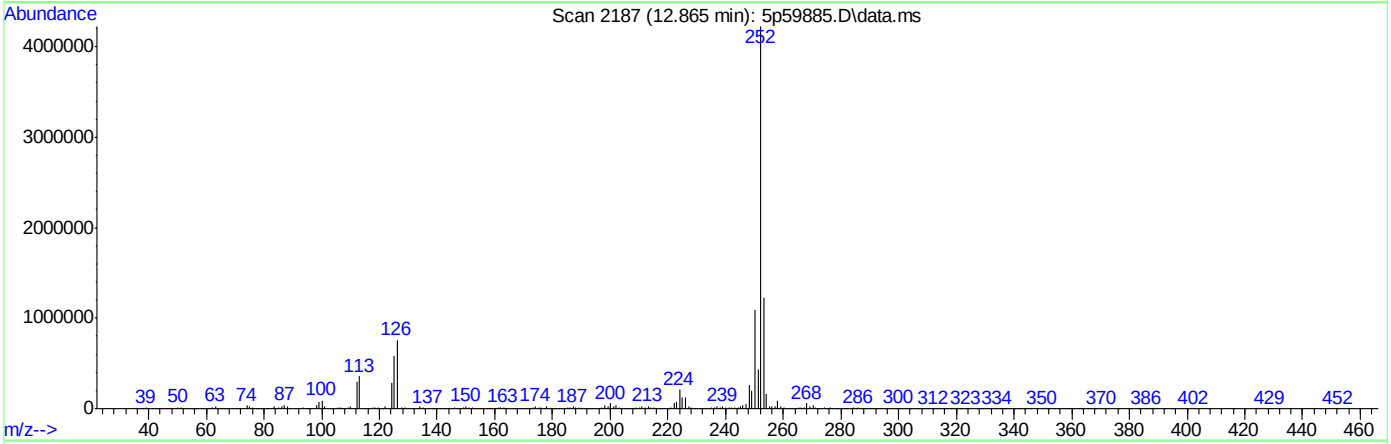
| Ion | Exp% | Act% |
|---|---|---|
| 252.20 | 100 | 100 |
| 253.20 | 24.70 | 28.61 |
| 125.20 | 15.60 | 13.77 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 14:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration




TIC: 5p59885.D\data.ms

(94) Benzo[k]fluoranthene (t)

12.865min (-0.178) 960.40ppm

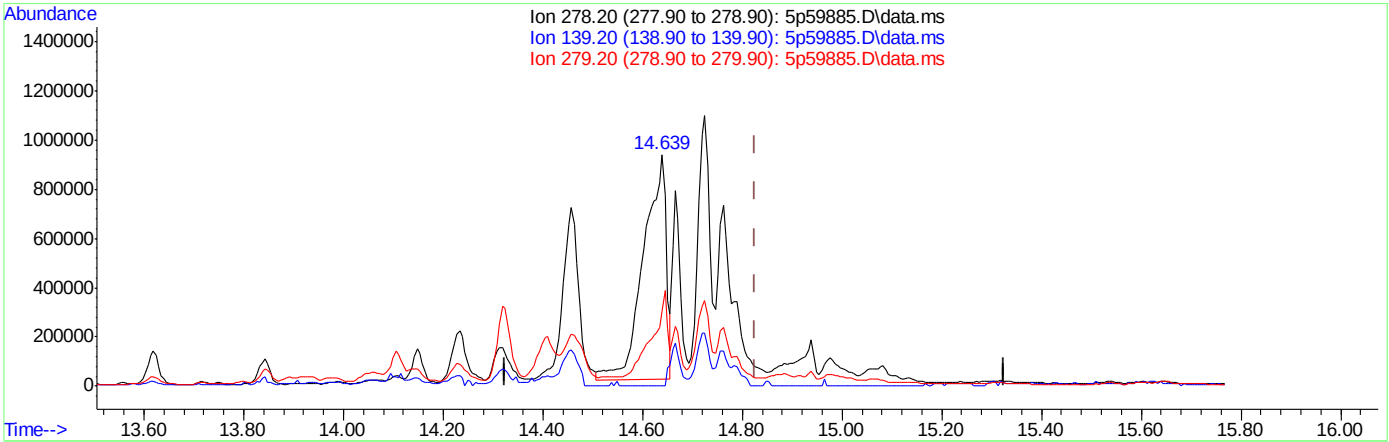
response 22428251

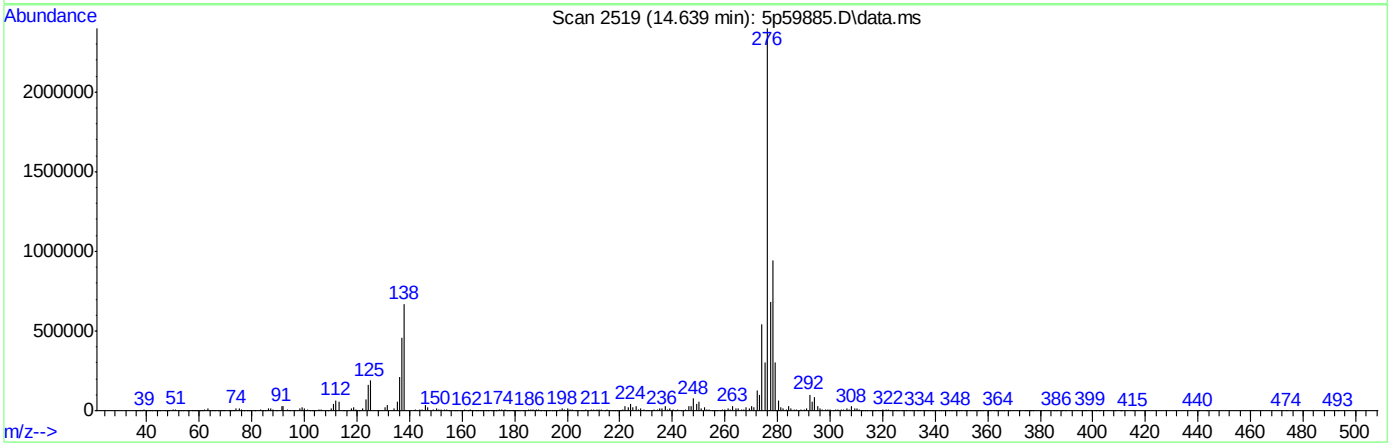
| Ion | Exp% | Act% |
|---|---|---|
| 252.20 | 100 | 100 |
| 253.20 | 22.60 | 28.61 |
| 125.20 | 13.10 | 13.77 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59885.D
Acq On : 21 May 2019 12:07 pm
Operator : chriss2
Sample : jc87535-7
Misc : op20269,e5p2823,30.6,,,1,5
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 21 14:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 21 14:57:22 2019
Response via : Initial Calibration




TIC: 5p59885.D\data.ms

(98) Dibenz[a,h]anthracene (t)

14.639min (-0.186) 136.13ppm

response 2861277

| Ion | Exp% | Act% |
|---|---|---|
| 278.20 | 100 | 100 |
| 139.20 | 23.60 | 0.00 |
| 279.20 | 24.40 | 27.60 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112002.d
Acq On : 18 May 2019 11:00 am
Operator : chriss2
Sample : jc87535-8 Inst : MS2M
Misc : op20269,e2m4980,30.3,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:45:24 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

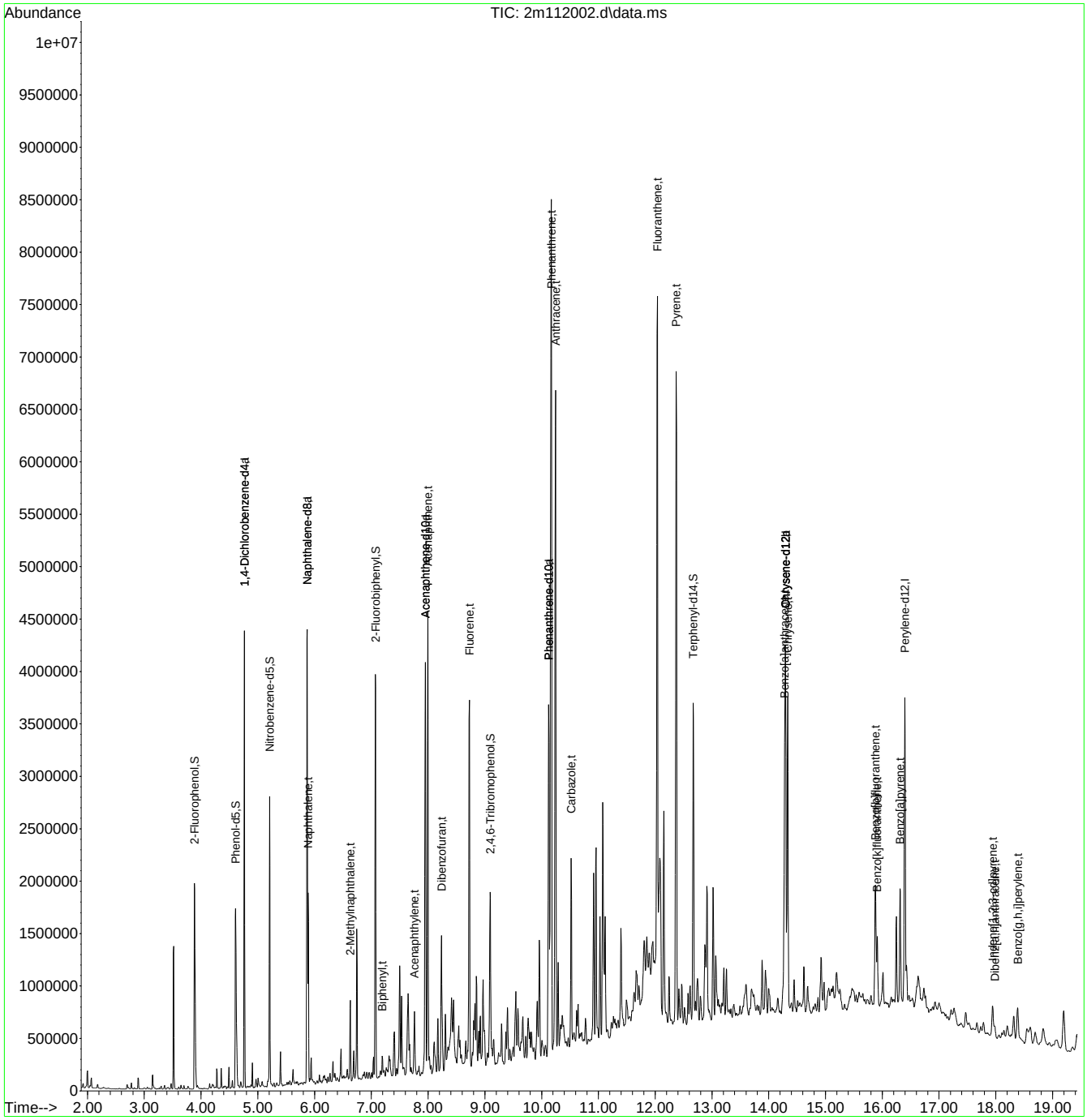
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 537014 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.872 | 136 | 1877882 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.952 | 164 | 972524 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.124 | 188 | 1681239 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.296 | 240 | 1437501 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.398 | 264 | 1467468 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 537014 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.952 | 164 | 972524 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.296 | 240 | 1437501 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.124 | 188 | 1681239 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.872 | 136 | 1877882 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.296 | 240 | 1437501 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.887 | 112 | 712537 | 36.57 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 73.14% | | |
| 8) Phenol-d5 | 4.609 | 99 | 873563 | 36.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 72.76% | | |
| 25) Nitrobenzene-d5 | 5.208 | 82 | 715195 | 43.77 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 87.54% | | |
| 51) 2-Fluorobiphenyl | 7.075 | 172 | 1382004 | 39.13 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.26% | | |
| 73) 2,4,6-Tribromophenol | 9.097 | 330 | 183918 | 41.16 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 82.32% | | |
| 85) Terphenyl-d14 | 12.670 | 244 | 1333744 | 39.13 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.26% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.888 | 128 | 735975 | 13.99 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.631 | 141 | 171008 | 6.32 | ppm | 98 |
| 53) Biphenyl | 7.193 | 154 | 44784 | 1.13 | ppm | 97 |
| 56) Acenaphthylene | 7.754 | 152 | 128561 | 2.79 | ppm | 94 |
| 59) Acenaphthene | 7.995 | 153 | 1183601 | 39.34 | ppm | 100 |
| 62) Dibenzofuran | 8.236 | 168 | 531384 | 12.76 | ppm | 99 |
| 66) Fluorene | 8.728 | 166 | 1226719 | 37.04 | ppm | 100 |
| 77) Phenanthrene | 10.172 | 178 | 4897382 | 100.10 | ppm | 99 |
| 78) Anthracene | 10.247 | 178 | 3404463 | 70.75 | ppm | 100 |
| 79) Carbazole | 10.519 | 167 | 879431 | 18.13 | ppm | 100 |
| 81) Fluoranthene | 12.039 | 202 | 3229014 | 68.66 | ppm | 98 |
| 84) Pyrene | 12.370 | 202 | 3114382 | 57.87 | ppm | 94 |
| 87) Benzo[a]anthracene | 14.280 | 228 | 1022073 | 23.36 | ppm | 100 |
| 89) Chrysene | 14.333 | 228 | 1381347 | 29.03 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 15.879 | 252 | 792721 | 19.07 | ppm | 96 |
| 94) Benzo[k]fluoranthene | 15.911 | 252 | 272600 | 6.51 | ppm | 96 |
| 95) Benzo[a]pyrene | 16.312 | 252 | 569711 | 15.36 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 17.943 | 276 | 235347 | 6.85 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 17.981 | 278 | 80720 | 2.15 | ppm | 97 |
| 100) Benzo[g,h,i]perylene | 18.387 | 276 | 226868 | 6.46 | ppm | 99 |

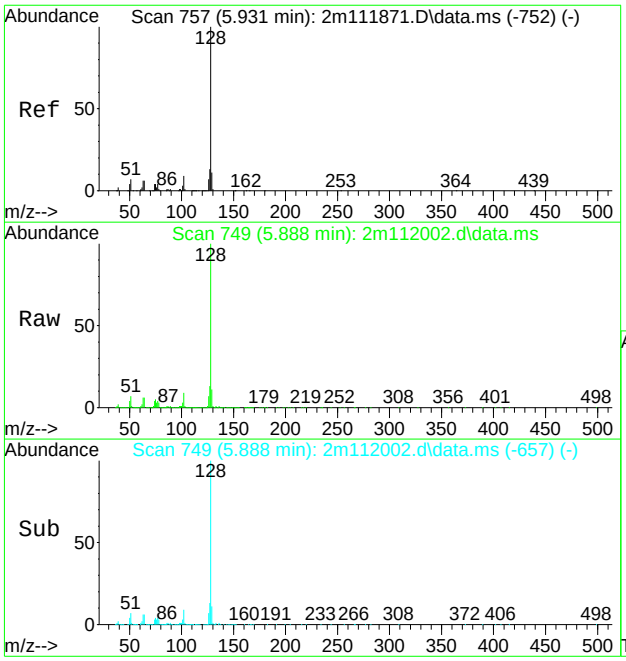
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112002.d
Acq On : 18 May 2019 11:00 am
Operator : chriss2
Sample : jc87535-8 Inst : MS2M
Misc : op20269,e2m4980,30.3,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:45:24 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

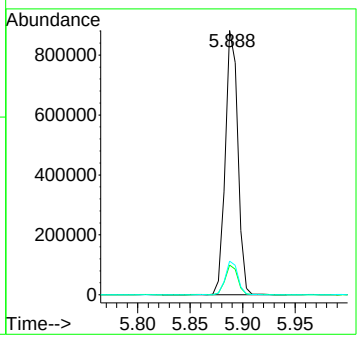


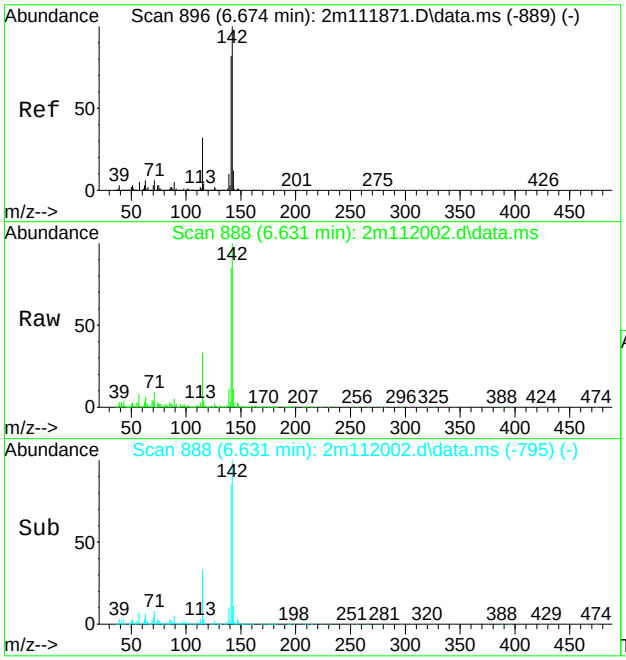



#38
Naphthalene
Concen: 13.99 ppm
RT: 5.888 min Scan# 749
Delta R.T. -0.005 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:128 Resp: 735975

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.2 | 0.0 | 40.6 |
| 127 | 12.7 | 0.0 | 42.4 |

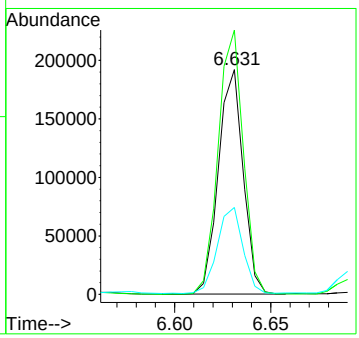


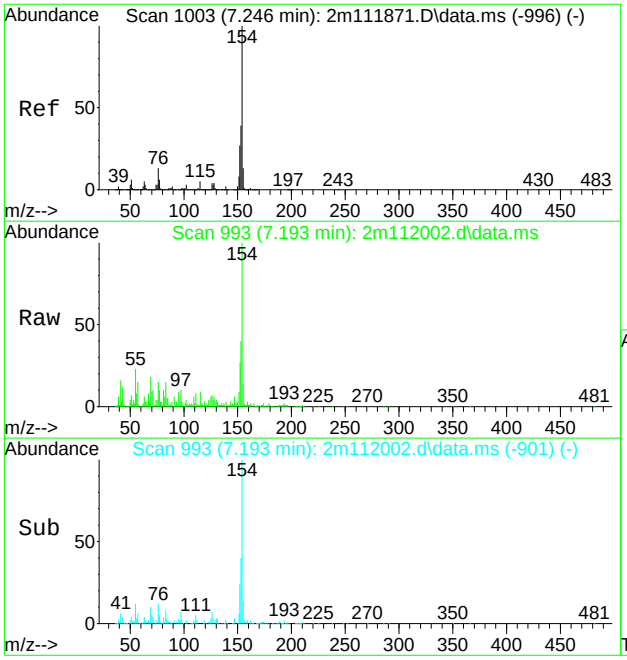




#44
2-Methylnaphthalene
Concen: 6.32 ppm
RT: 6.631 min Scan# 888
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:141 Resp: 171008

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 117.8 | 90.1 | 150.1 |
| 115 | 38.2 | 8.8 | 68.8 |

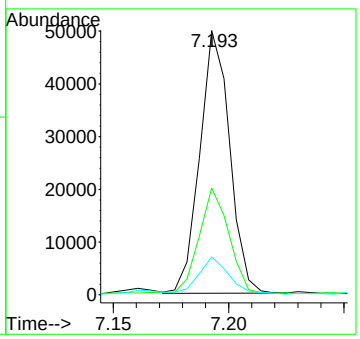


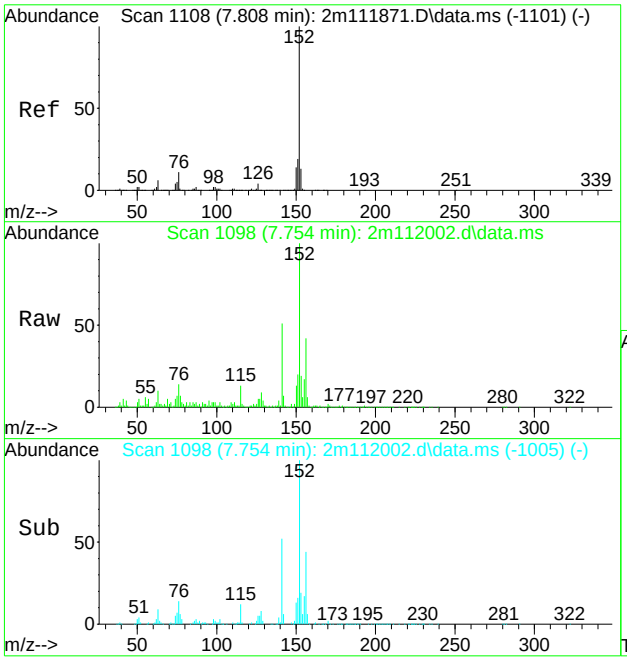



#53
Biphenyl
Concen: 1.13 ppm
RT: 7.193 min Scan# 993
Delta R.T. -0.005 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:154 Resp: 44784

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 39.9 | 8.3 | 68.3 |
| 155 | 13.8 | 0.0 | 42.6 |

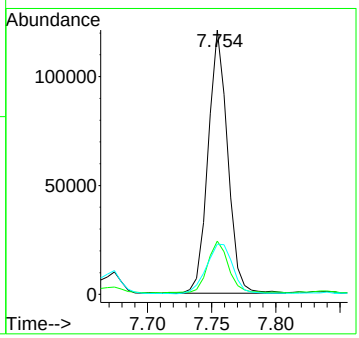


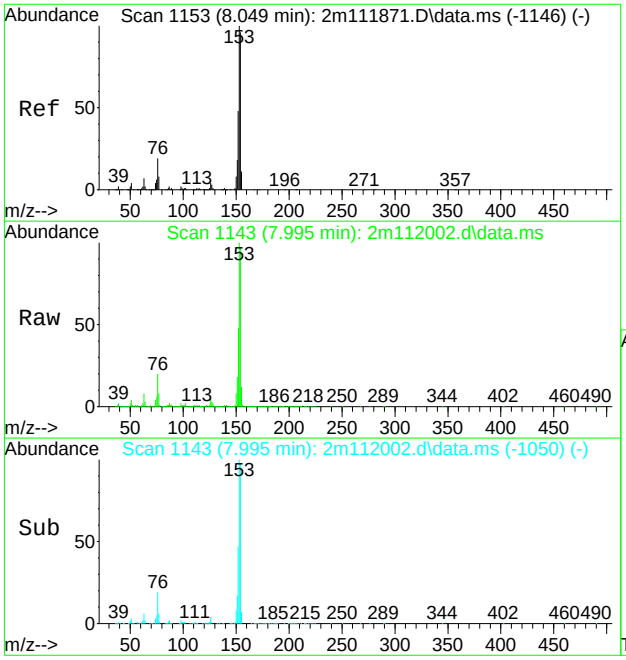




#56
Acenaphthylene
Concen: 2.79 ppm
RT: 7.754 min Scan# 1098
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:152 Resp: 128561

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 19.6 | 0.0 | 49.4 |
| 153 | 18.6 | 0.0 | 43.0 |

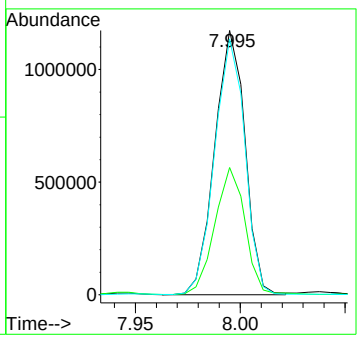


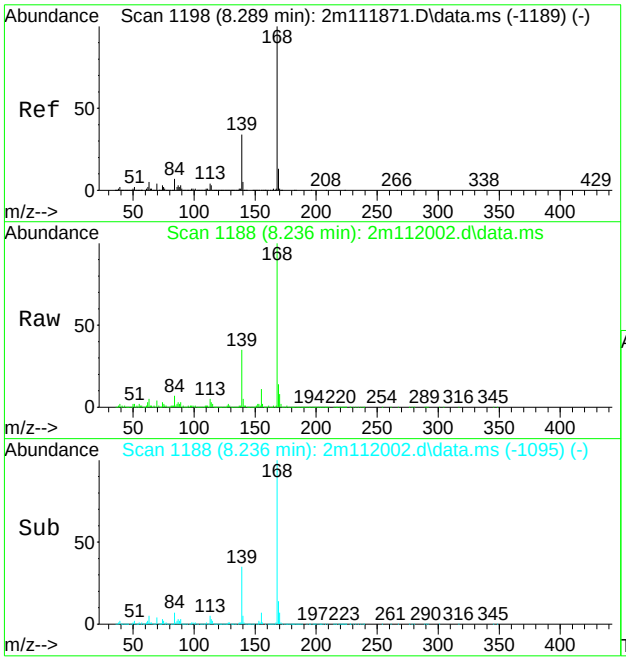



#59
Acenaphthene
Concen: 39.34 ppm
RT: 7.995 min Scan# 1143
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:153 Resp: 1183601

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 47.9 | 17.7 | 77.7 |
| 154 | 97.0 | 67.1 | 127.1 |

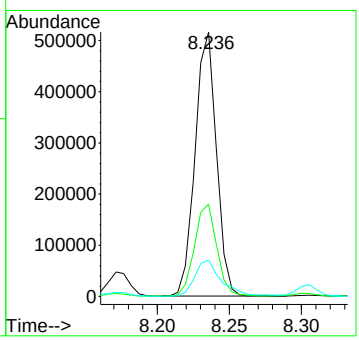


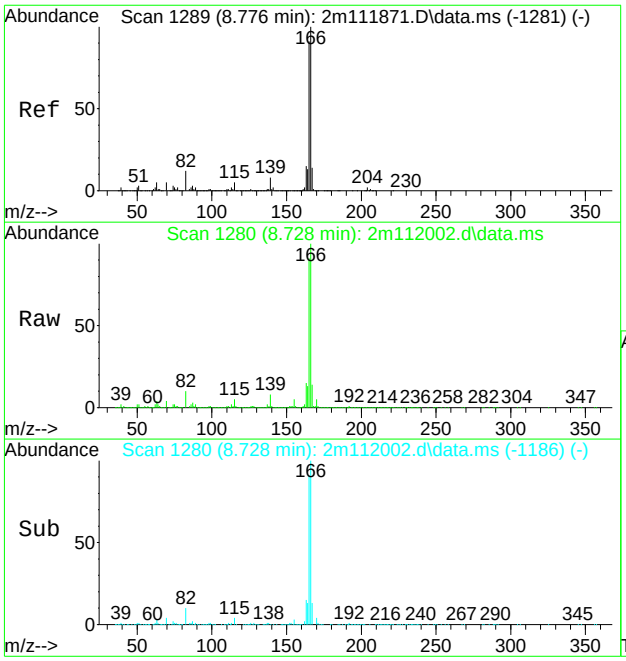




#62
Dibenzofuran
Concen: 12.76 ppm
RT: 8.236 min Scan# 1188
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:168 Resp: 531384

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 34.7 | 4.0 | 64.0 |
| 169 | 13.5 | 0.0 | 43.4 |

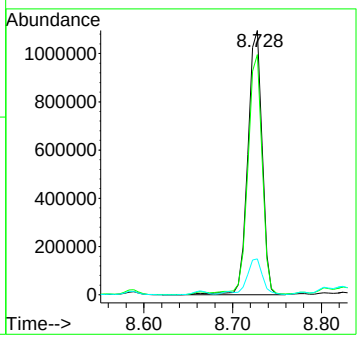


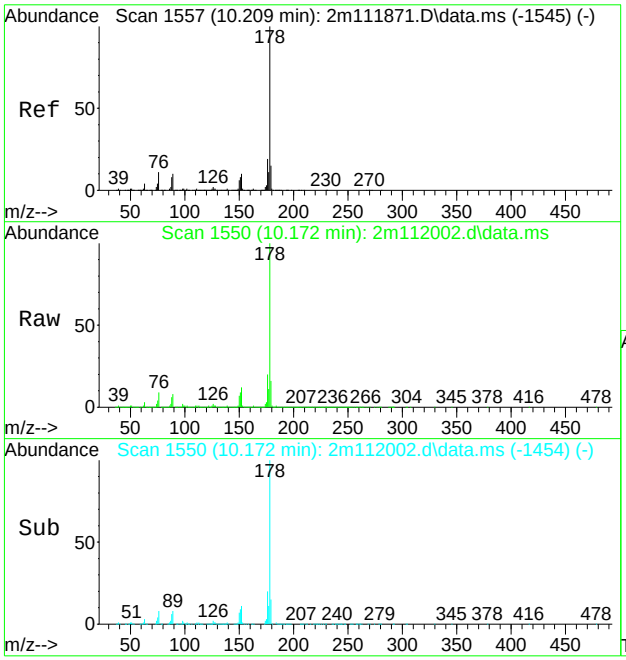



#66
Fluorene
Concen: 37.04 ppm
RT: 8.728 min Scan# 1280
Delta R.T. 0.005 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:166 Resp: 1226719

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 90.7 | 60.7 | 120.7 |
| 167 | 13.5 | 0.0 | 43.6 |

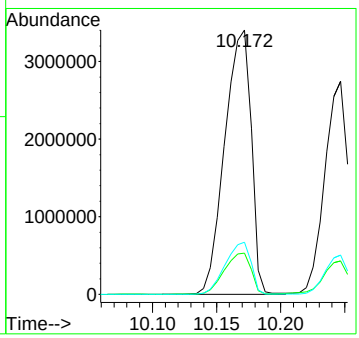


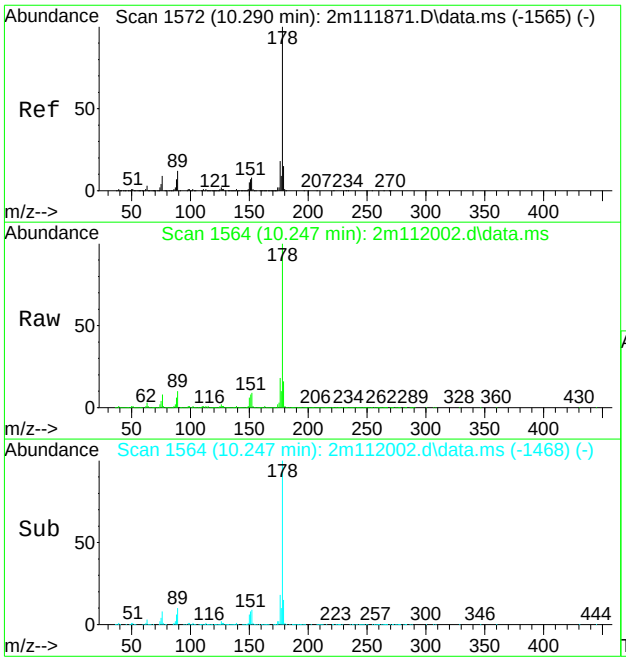




#77
Phenanthrene
Concen: 100.10 ppm
RT: 10.172 min Scan# 1550
Delta R.T. 0.016 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:178 Resp: 4897382

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.4 | 0.0 | 45.1 |
| 176 | 19.7 | 0.0 | 49.0 |

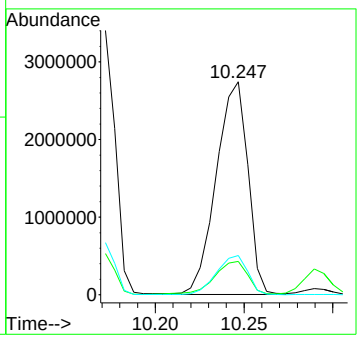


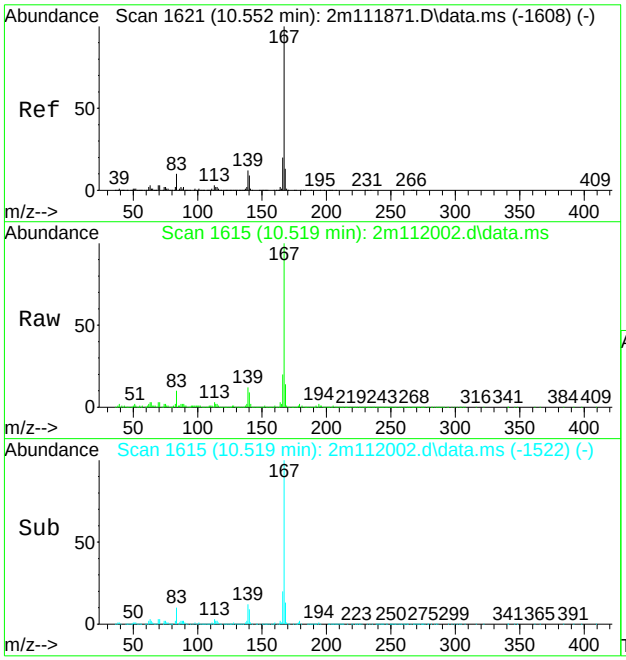



#78
Anthracene
Concen: 70.75 ppm
RT: 10.247 min Scan# 1564
Delta R.T. 0.016 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:178 Resp: 3404463

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.0 | 0.0 | 45.4 |
| 176 | 18.4 | 0.0 | 48.3 |

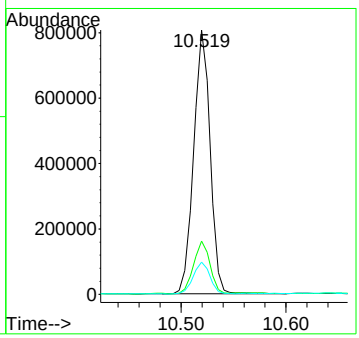


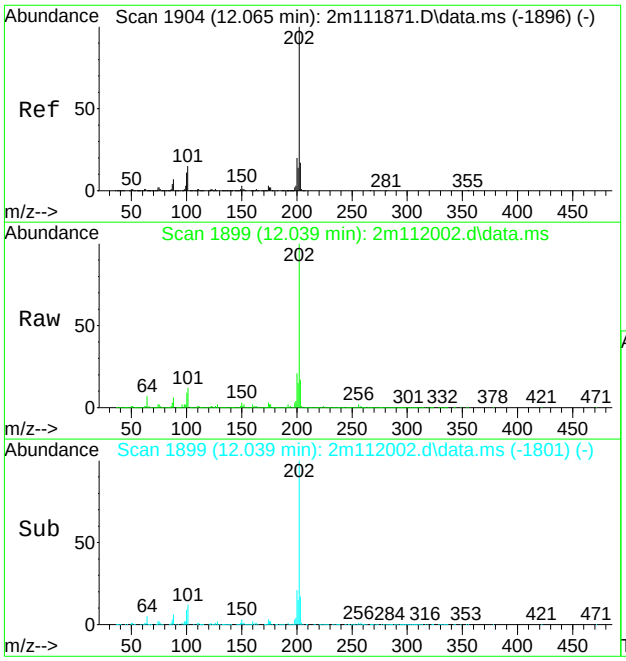




#79
Carbazole
Concen: 18.13 ppm
RT: 10.519 min Scan# 1615
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:167 Resp: 879431

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 19.8 | 0.0 | 50.0 |
| 139 | 11.9 | 0.0 | 42.2 |

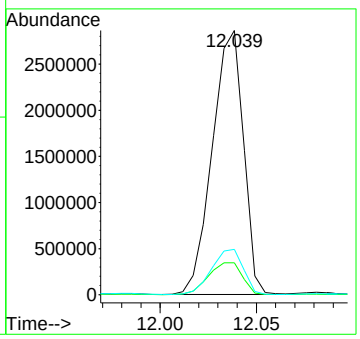


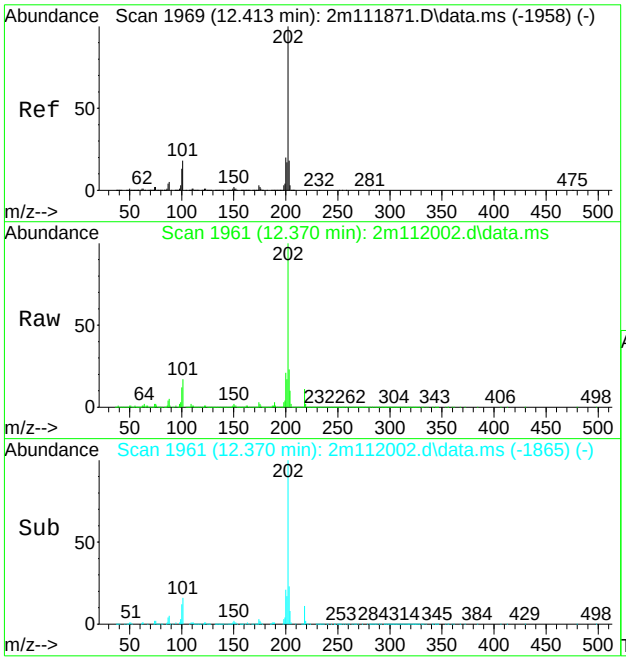



#81
Fluoranthene
Concen: 68.66 ppm
RT: 12.039 min Scan# 1899
Delta R.T. 0.027 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:202 Resp: 3229014

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 12.1 | 0.0 | 43.6 |
| 203 | 17.1 | 0.0 | 47.2 |

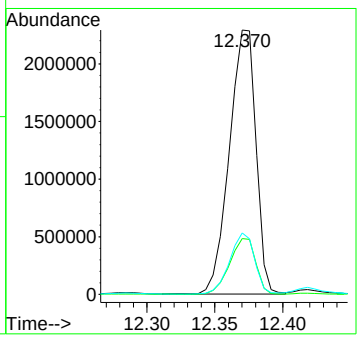


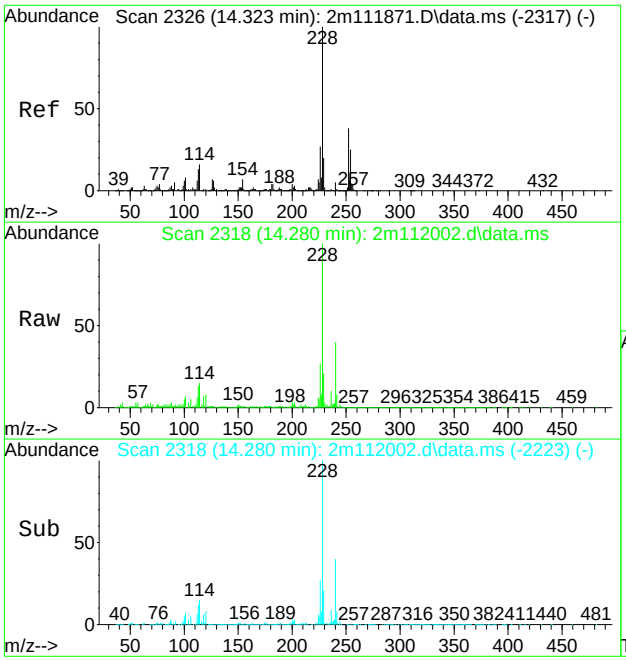




#84
Pyrene
Concen: 57.87 ppm
RT: 12.370 min Scan# 1961
Delta R.T. 0.016 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:202 Resp: 3114382

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.0 | 0.0 | 50.2 |
| 203 | 22.9 | 0.0 | 48.3 |

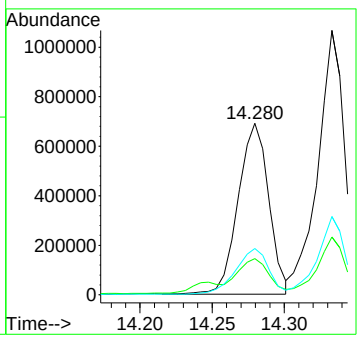


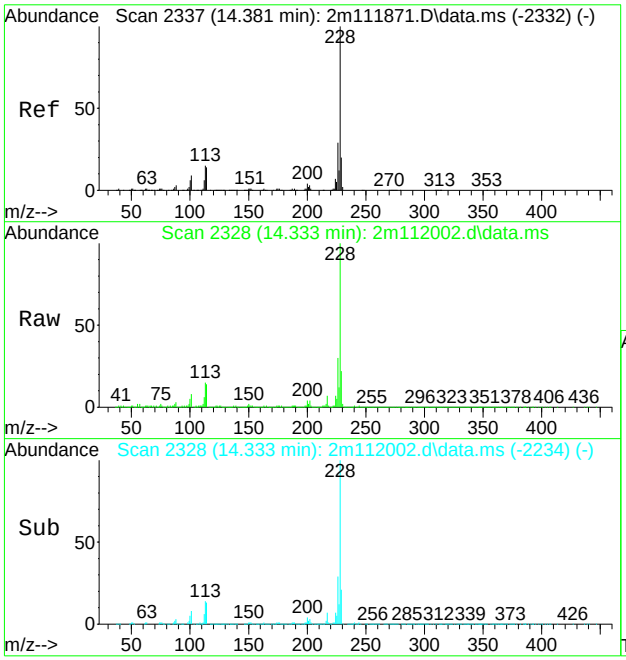



#87
Benzo[a]anthracene
Concen: 23.36 ppm
RT: 14.280 min Scan# 2318
Delta R.T. 0.011 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:228 Resp: 1022073

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.9 | 0.0 | 49.7 |
| 226 | 26.7 | 0.0 | 56.5 |

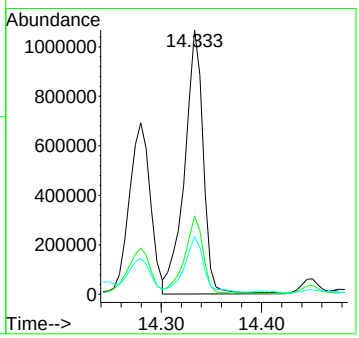


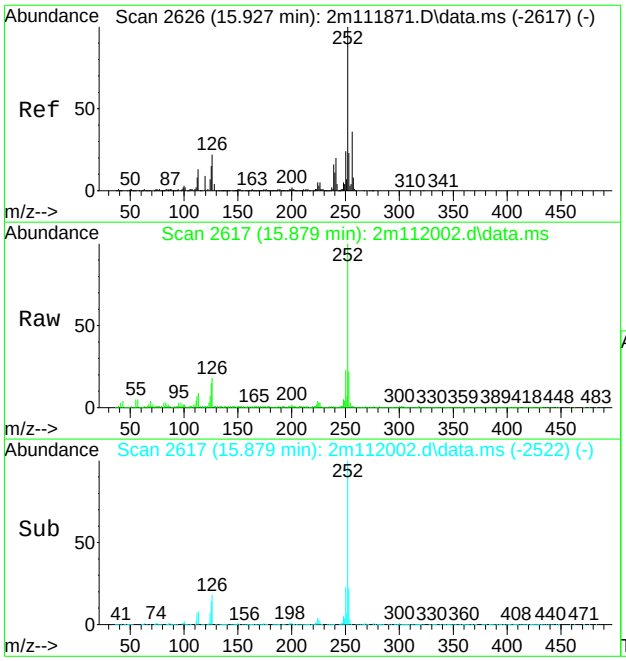




#89
Chrysene
Concen: 29.03 ppm
RT: 14.333 min Scan# 2328
Delta R.T. 0.005 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:228 Resp: 1381347

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 29.4 | 0.0 | 58.4 |
| 229 | 21.1 | 0.0 | 49.3 |

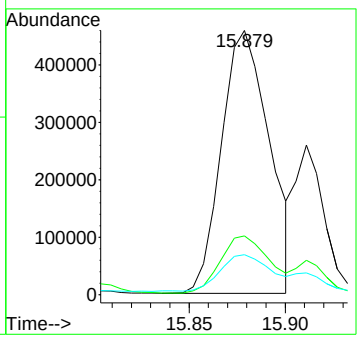


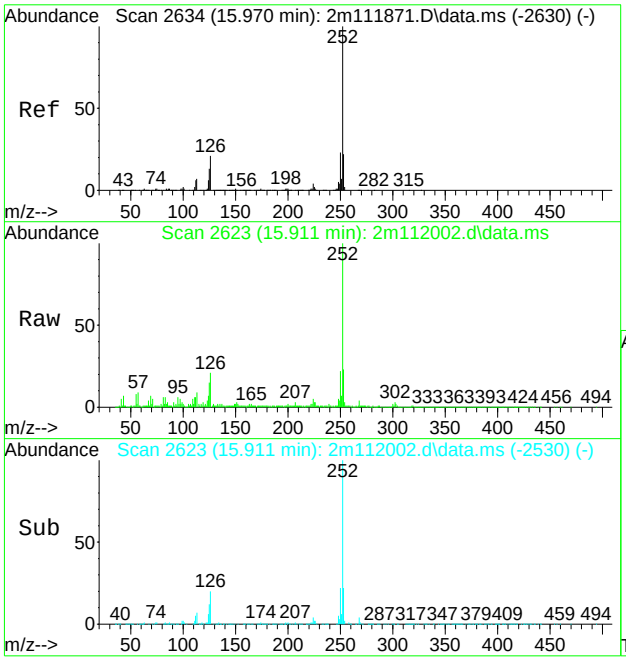



#93
Benzo[b]fluoranthene
Concen: 19.07 ppm
RT: 15.879 min Scan# 2617
Delta R.T. 0.011 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:252 Resp: 792721

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.8 | 0.0 | 53.7 |
| 125 | 13.3 | 0.0 | 44.8 |

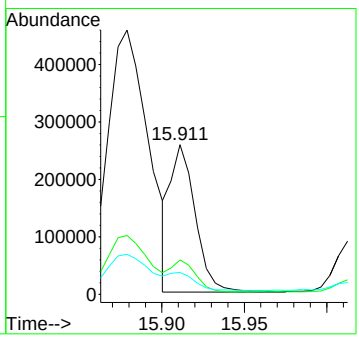


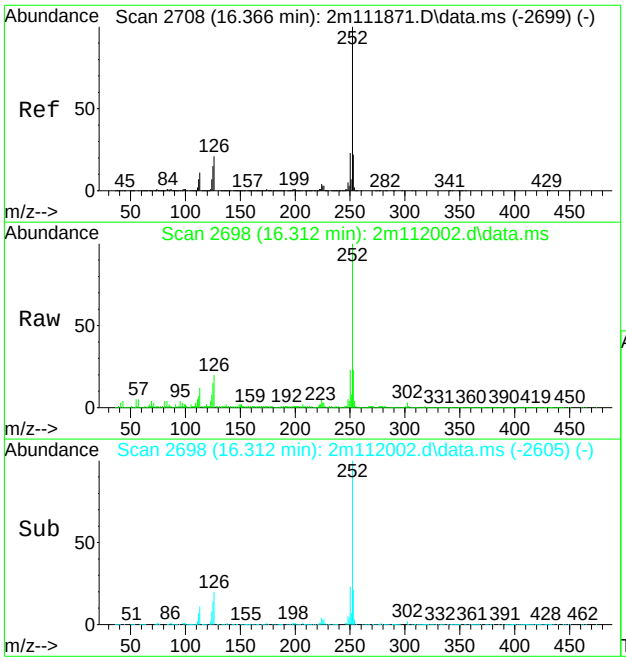




#94
Benzo[k]fluoranthene
Concen: 6.51 ppm
RT: 15.911 min Scan# 2623
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:252 Resp: 272600

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.1 | 0.0 | 51.0 |
| 125 | 10.6 | 0.0 | 42.9 |

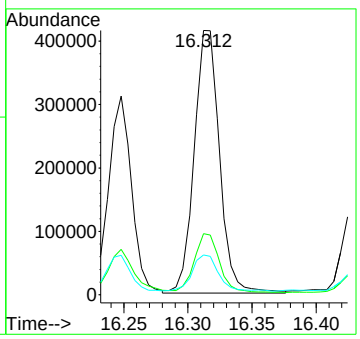


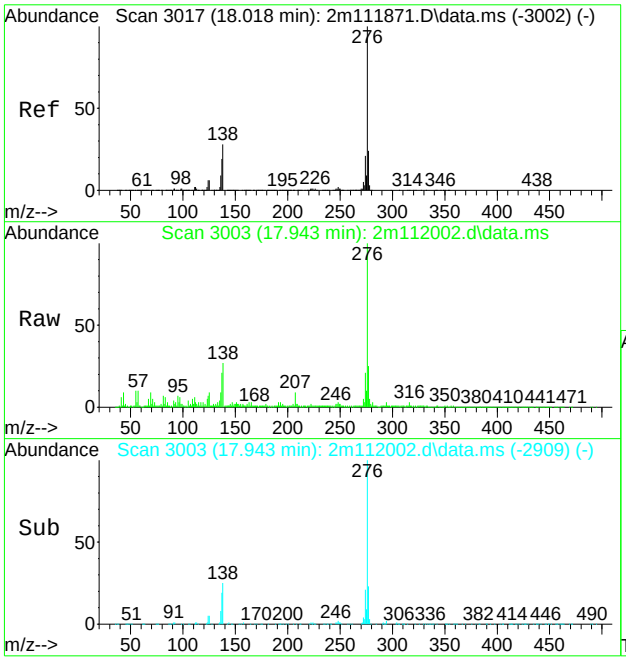



#95
Benzo[a]pyrene
Concen: 15.36 ppm
RT: 16.312 min Scan# 2698
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:252 Resp: 569711

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.2 | 0.0 | 51.3 |
| 125 | 13.7 | 0.0 | 43.2 |

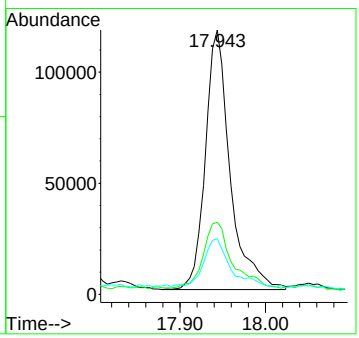


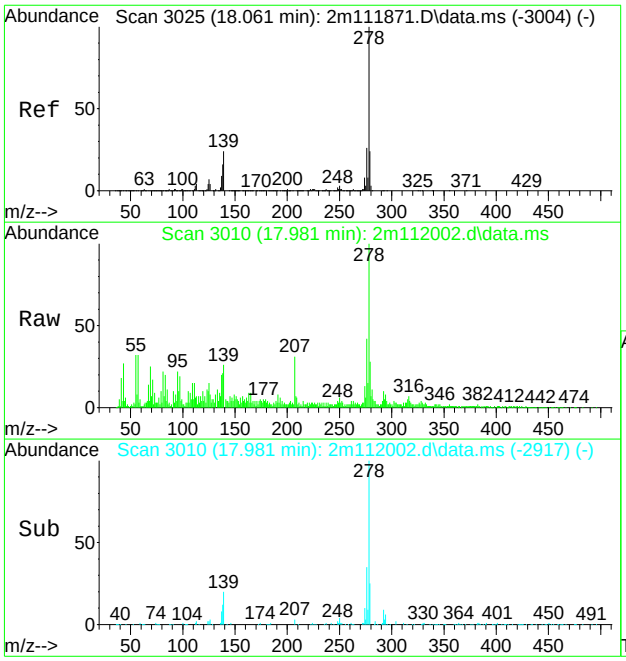




#96
Indeno[1,2,3-cd]pyrene
Concen: 6.85 ppm
RT: 17.943 min Scan# 3003
Delta R.T. 0.005 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:276 Resp: 235347

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.2 | 0.0 | 54.1 |
| 137 | 18.7 | 0.0 | 47.0 |

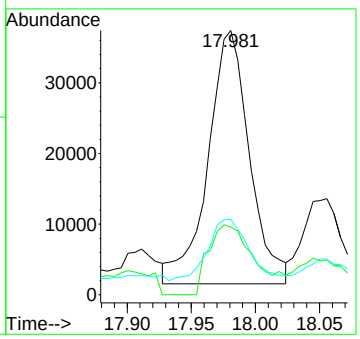


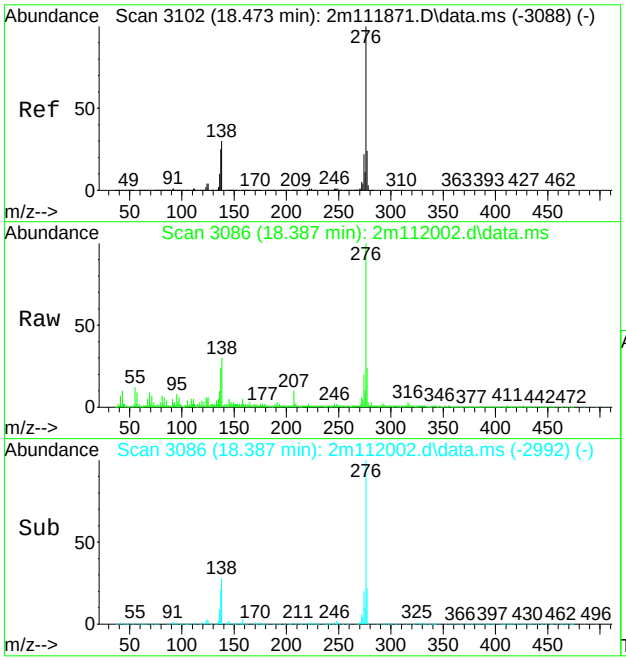



#98
Dibenz[a,h]anthracene
Concen: 2.15 ppm
RT: 17.981 min Scan# 3010
Delta R.T. -0.000 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:278 Resp: 80720

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 24.8 | 0.0 | 51.9 |
| 279 | 24.1 | 0.0 | 53.7 |

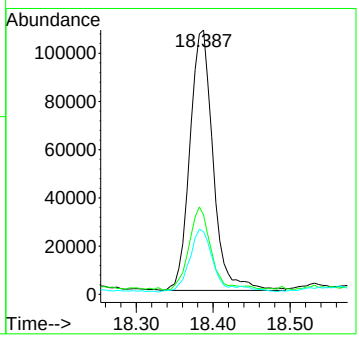



#100
Benzo[g,h,i]perylene
Concen: 6.46 ppm
RT: 18.387 min Scan# 3086
Delta R.T. 0.005 min
Lab File: 2m112002.d
Acq: 18 May 2019 11:00 am

Tgt Ion:276 Resp: 226868

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 28.5 | 0.0 | 58.1 |
| 277 | 22.9 | 0.0 | 53.3 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112031.d
Acq On : 19 May 2019 6:01 am
Operator : carolb
Sample : jc87535-8 Inst : MS2M
Misc : op20269,e2m4981,30.3,,,1,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:07:58 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 03:55:51 2019
Response via : Initial Calibration

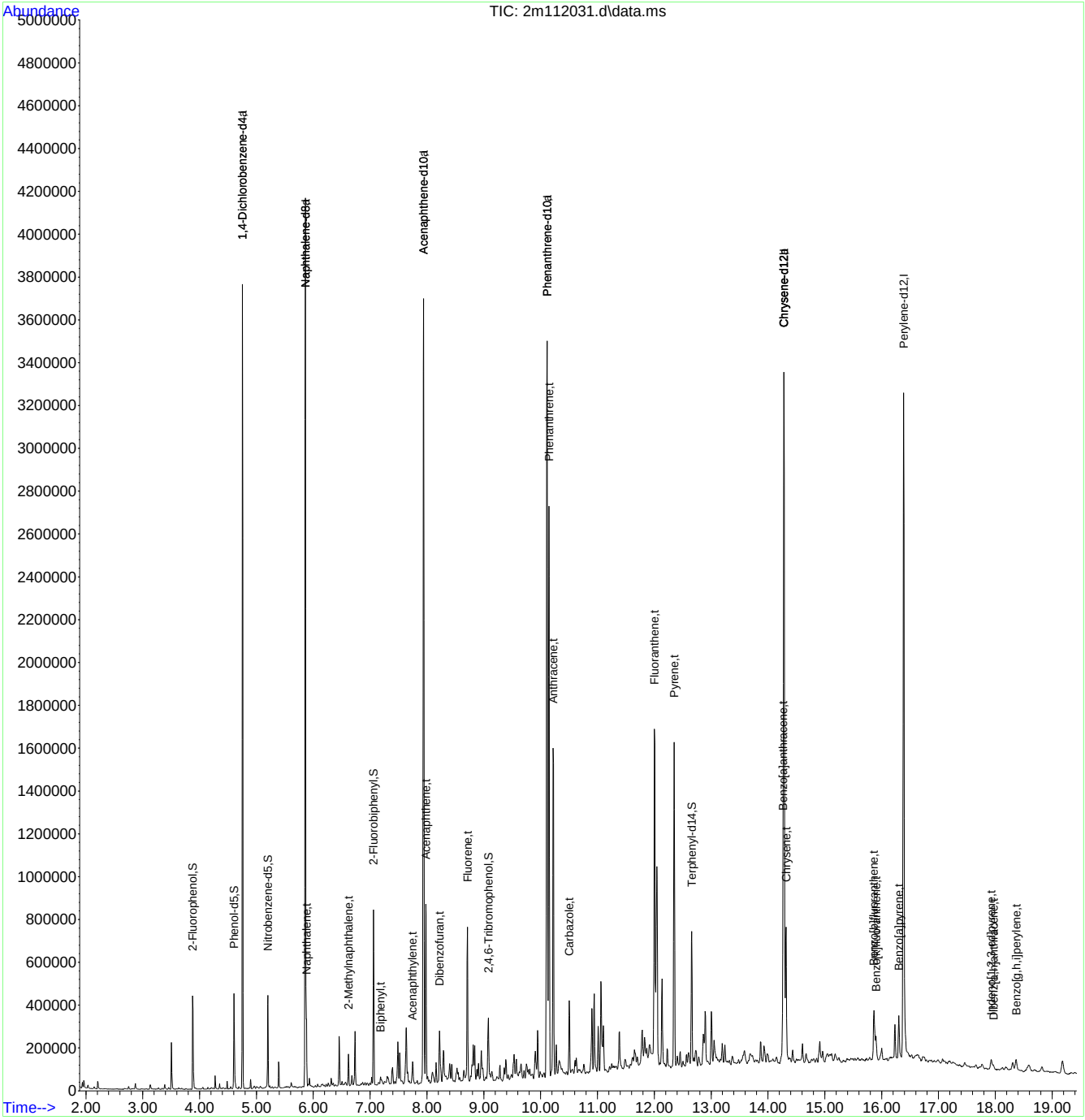
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.754 | 152 | 467481 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.861 | 136 | 1645443 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.942 | 164 | 892078 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.113 | 188 | 1576263 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.280 | 240 | 1441225 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.387 | 264 | 1479304 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.754 | 152 | 467481 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.942 | 164 | 892078 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.280 | 240 | 1441225 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.113 | 188 | 1576263 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.861 | 136 | 1645443 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.280 | 240 | 1441225 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.877 | 112 | 119447 | 7.04 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 14.08% | | |
| 8) Phenol-d5 | 4.604 | 99 | 148328 | 7.10 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 14.20% | | |
| 25) Nitrobenzene-d5 | 5.203 | 82 | 113861 | 7.95 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 15.90% | | |
| 51) 2-Fluorobiphenyl | 7.059 | 172 | 256544 | 7.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 15.84% | | |
| 73) 2,4,6-Tribromophenol | 9.081 | 330 | 27517 | 6.57 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 13.14% | | |
| 85) Terphenyl-d14 | 12.659 | 244 | 257065 | 7.52 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 15.04% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.882 | 128 | 128294 | 2.78 | ppm | 100 |
| 44) 2-Methylnaphthalene | 6.620 | 141 | 31533 | 1.33 | ppm | 97 |
| 53) Biphenyl | 7.182 | 154 | 8351 | 0.23 | ppm | 99 |
| 56) Acenaphthylene | 7.744 | 152 | 21614 | 0.51 | ppm | 88 |
| 59) Acenaphthene | 7.979 | 153 | 221724 | 8.03 | ppm | 97 |
| 62) Dibenzofuran | 8.220 | 168 | 92994 | 2.43 | ppm | 96 |
| 66) Fluorene | 8.712 | 166 | 224035 | 7.38 | ppm | 99 |
| 77) Phenanthrene | 10.145 | 178 | 1196547 | 26.09 | ppm | 100 |
| 78) Anthracene | 10.220 | 178 | 726252 | 16.10 | ppm | 99 |
| 79) Carbazole | 10.504 | 167 | 161147 | 3.54 | ppm | 99 |
| 81) Fluoranthene | 12.001 | 202 | 753582 | 17.09 | ppm | 98 |
| 84) Pyrene | 12.349 | 202 | 644402 | 11.94 | ppm | 96 |
| 87) Benzo[a]anthracene | 14.264 | 228 | 198724 | 4.53 | ppm | 99 |
| 89) Chrysene | 14.317 | 228 | 281363 | 5.90 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 15.863 | 252 | 158652 | 3.79 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 15.900 | 252 | 52641 | 1.25 | ppm | 94 |
| 95) Benzo[a]pyrene | 16.302 | 252 | 108518 | 2.90 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 17.928 | 276 | 40507 | 1.17 | ppm | 94 |
| 98) Dibenz[a,h]anthracene | 17.965 | 278 | 11114 | 0.29 | ppm | 94 |
| 100) Benzo[g,h,i]perylene | 18.366 | 276 | 40356 | 1.14 | ppm | 97 |

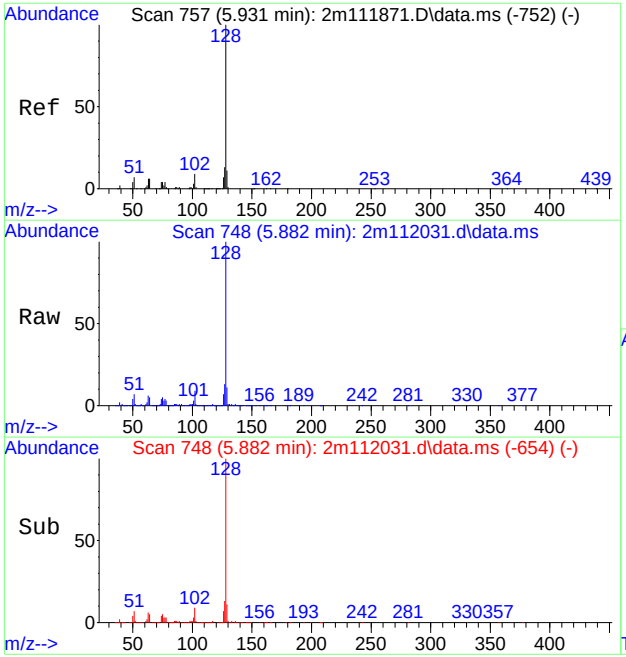
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112031.d
Acq On : 19 May 2019 6:01 am
Operator : carolb
Sample : jc87535-8 Inst : MS2M
Misc : op20269,e2m4981,30.3,,,1,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:07:58 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 03:55:51 2019
Response via : Initial Calibration

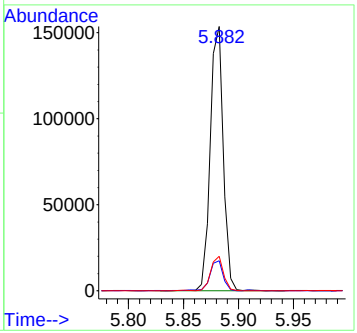


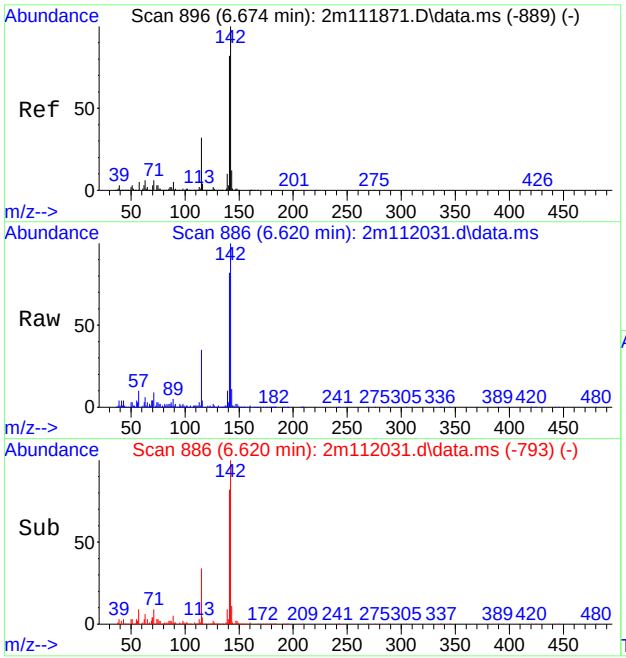



#38
Naphthalene
Concen: 2.78 ppm
RT: 5.882 min Scan# 748
Delta R.T. 0.000 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:128 Resp: 128294

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.3 | 0.0 | 41.3 |
| 127 | 13.0 | 0.0 | 42.8 |

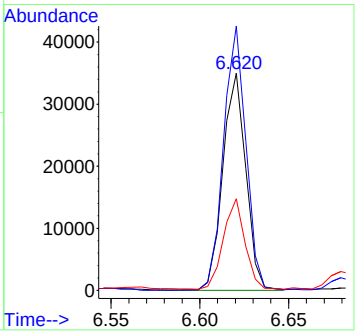


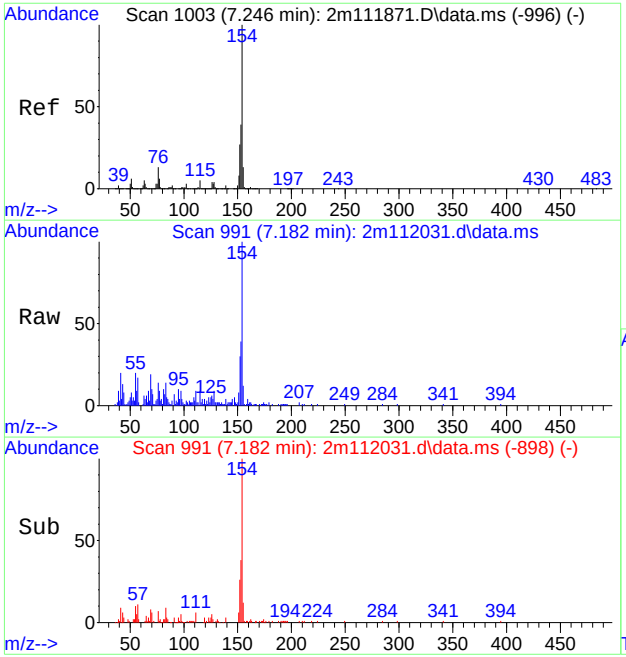




#44
2-Methylnaphthalene
Concen: 1.33 ppm
RT: 6.620 min Scan# 886
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:141 Resp: 31533

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 121.7 | 89.2 | 149.2 |
| 115 | 41.6 | 8.8 | 68.8 |

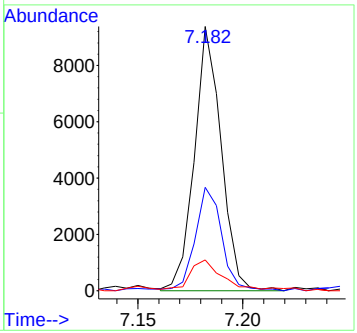


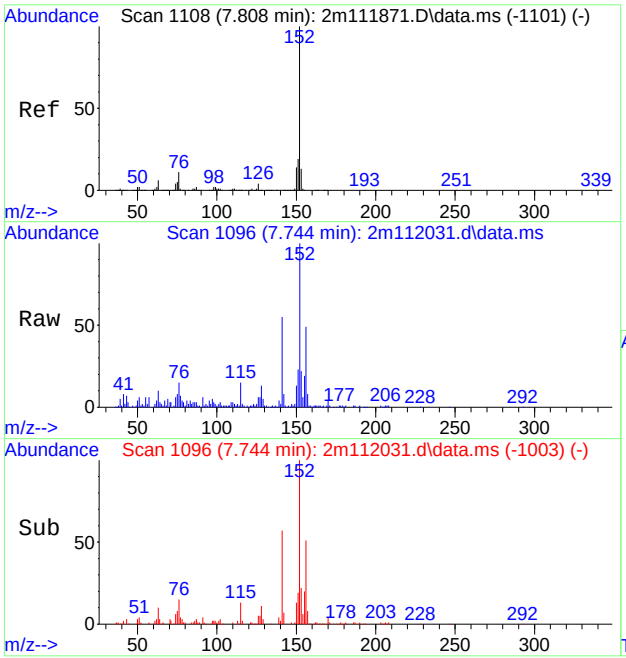



#53
Biphenyl
Concen: 0.23 ppm
RT: 7.182 min Scan# 991
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:154 Resp: 8351

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 38.9 | 9.1 | 69.1 |
| 155 | 11.1 | 0.0 | 43.0 |

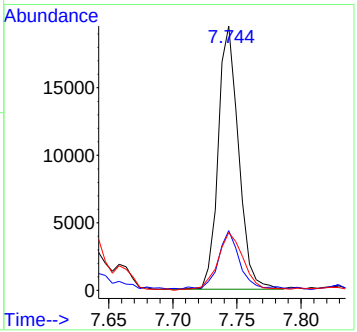


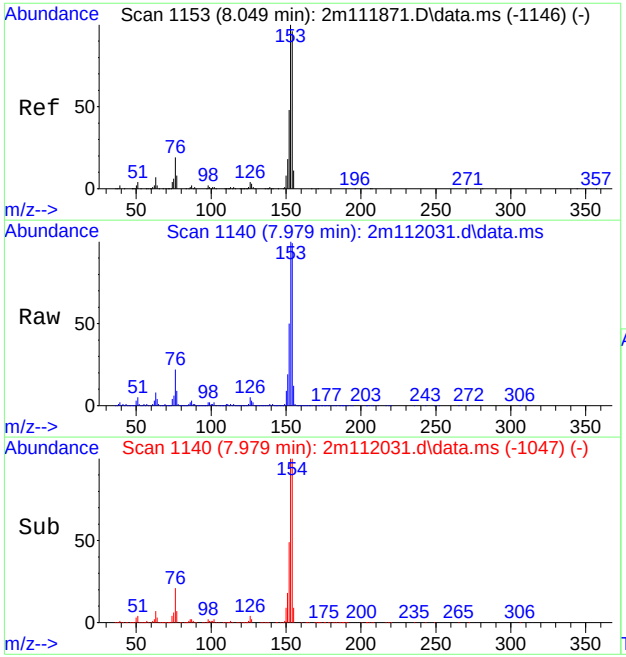




#56
Acenaphthylene
Concen: 0.51 ppm
RT: 7.744 min Scan# 1096
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:152 Resp: 21614

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 21.7 | 0.0 | 49.2 |
| 153 | 21.5 | 0.0 | 42.8 |

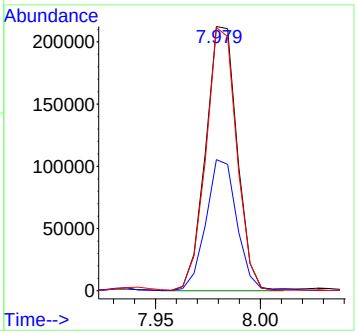


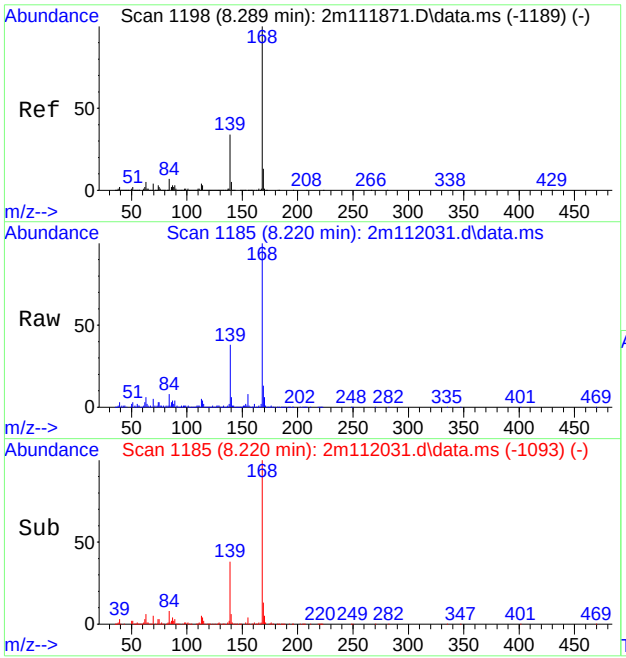



#59
Acenaphthene
Concen: 8.03 ppm
RT: 7.979 min Scan# 1140
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:153 Resp: 221724

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 49.3 | 18.3 | 78.3 |
| 154 | 99.6 | 66.6 | 126.6 |

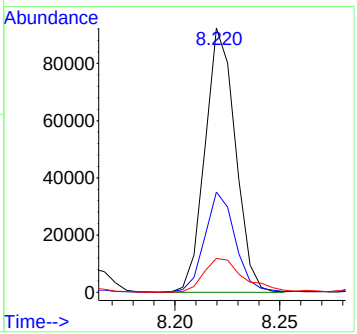


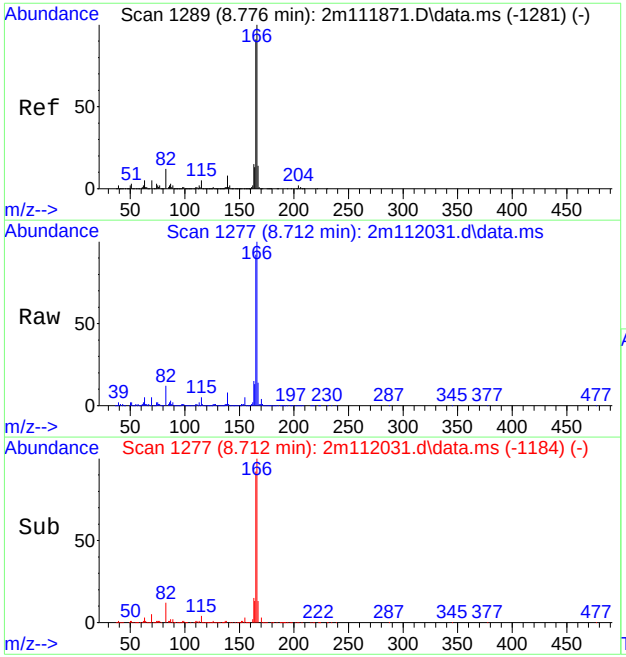




#62
Dibenzofuran
Concen: 2.43 ppm
RT: 8.220 min Scan# 1185
Delta R.T. -0.011 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:168 Resp: 92994

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 37.8 | 5.1 | 65.1 |
| 169 | 12.4 | 0.0 | 43.0 |

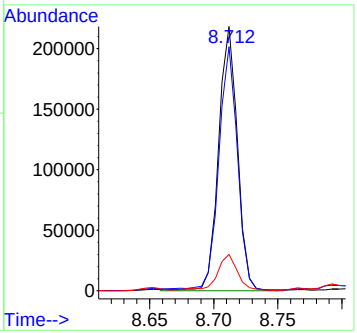


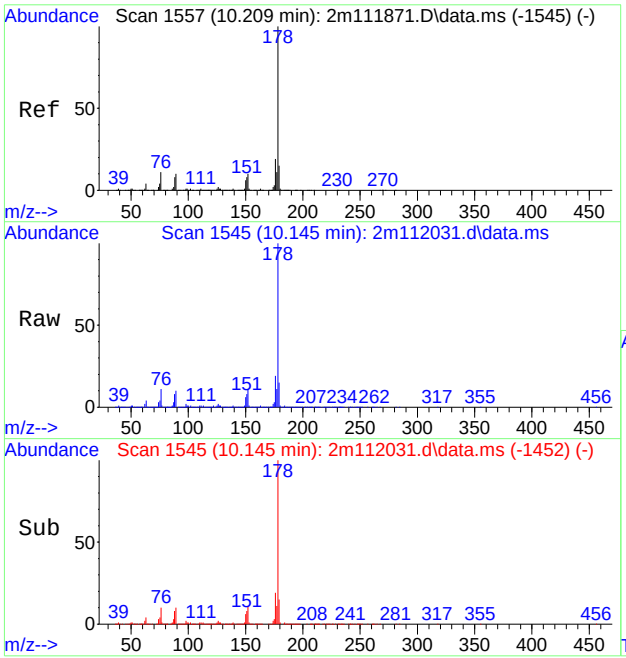



#66
Fluorene
Concen: 7.38 ppm
RT: 8.712 min Scan# 1277
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:166 Resp: 224035

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 92.1 | 60.6 | 120.6 |
| 167 | 13.3 | 0.0 | 43.3 |

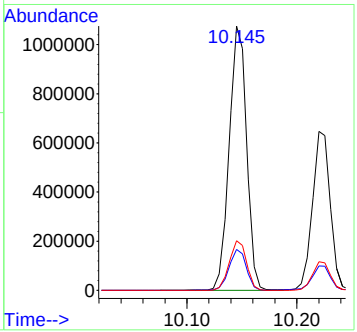


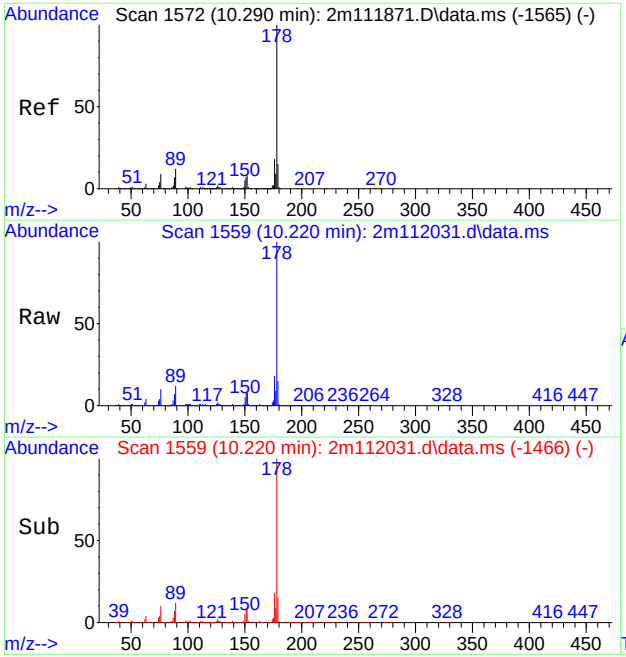




#77
Phenanthrene
Concen: 26.09 ppm
RT: 10.145 min Scan# 1545
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:178 Resp: 1196547

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.4 | 0.0 | 45.5 |
| 176 | 18.8 | 0.0 | 48.7 |

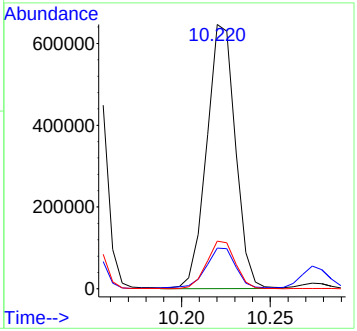


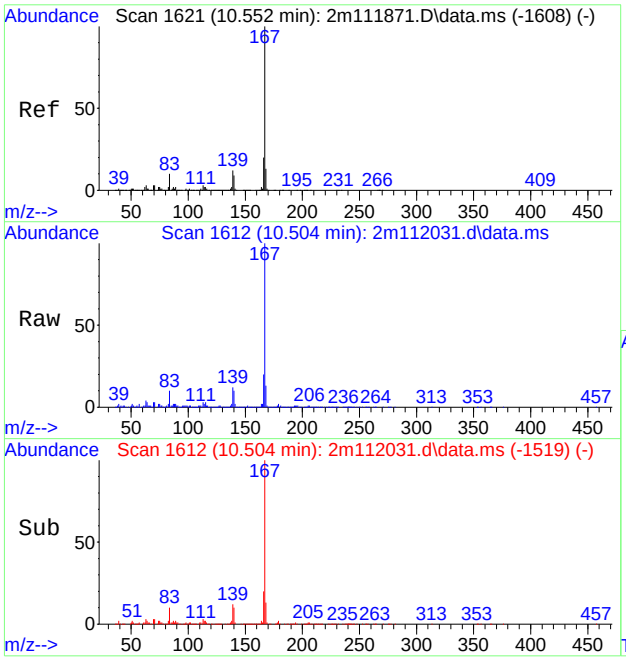



#78
Anthracene
Concen: 16.10 ppm
RT: 10.220 min Scan# 1559
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:178 Resp: 726252

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.0 | 0.0 | 45.5 |
| 176 | 18.1 | 0.0 | 48.0 |

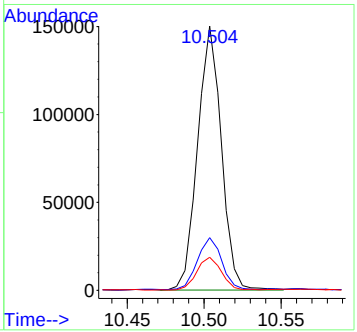


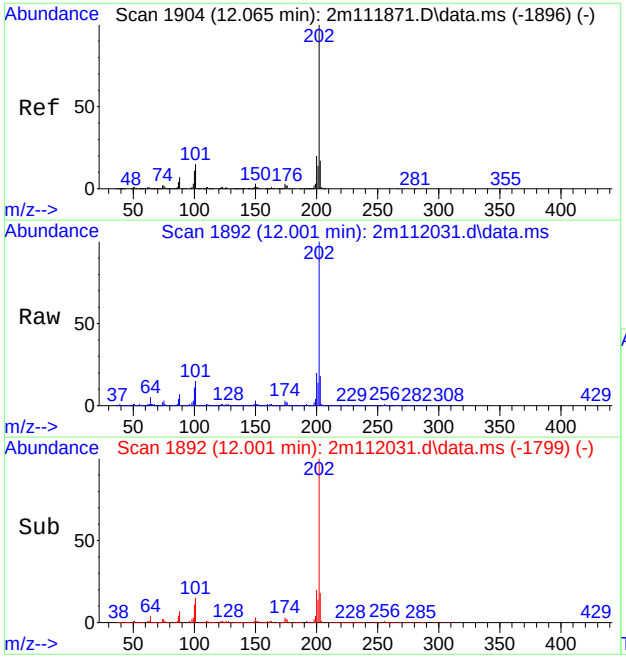




#79
Carbazole
Concen: 3.54 ppm
RT: 10.504 min Scan# 1612
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:167 Resp: 161147

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 19.5 | 0.0 | 50.1 |
| 139 | 12.2 | 0.0 | 42.4 |

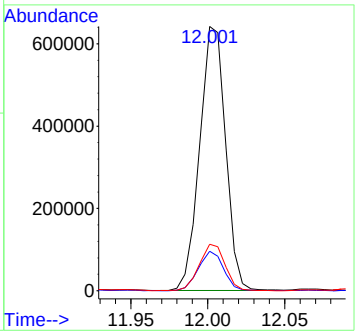


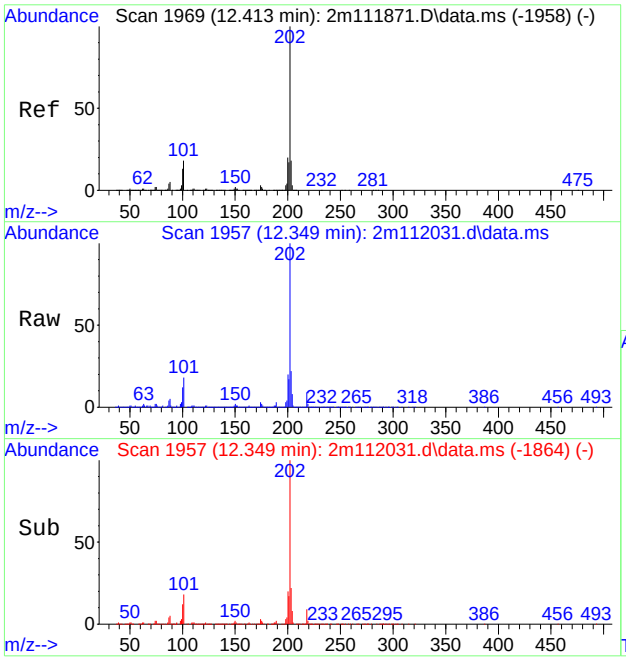



#81
Fluoranthene
Concen: 17.09 ppm
RT: 12.001 min Scan# 1892
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:202 Resp: 753582

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.9 | 0.0 | 43.7 |
| 203 | 17.6 | 0.0 | 47.2 |

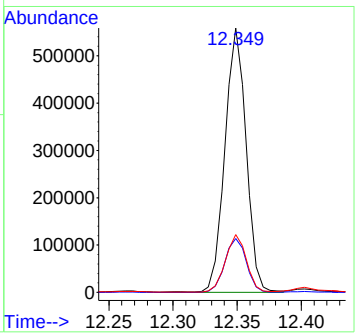


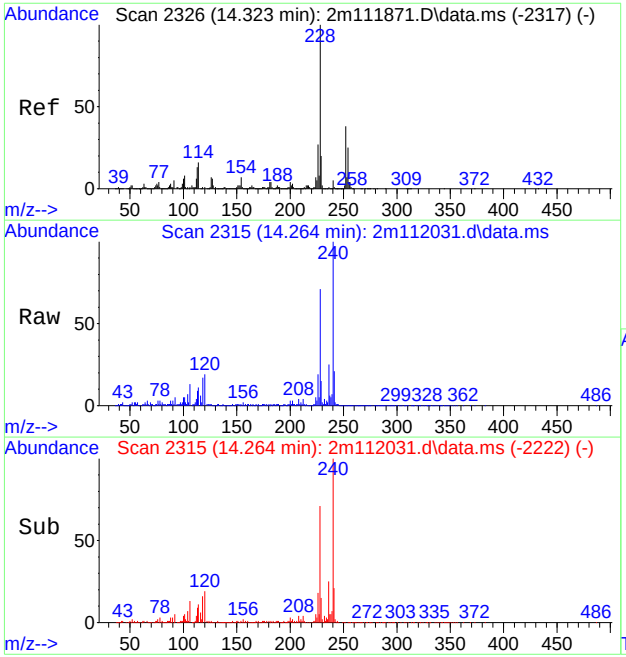




#84
Pyrene
Concen: 11.94 ppm
RT: 12.349 min Scan# 1957
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:202 Resp: 644402

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.3 | 0.0 | 50.6 |
| 203 | 21.6 | 0.0 | 48.3 |

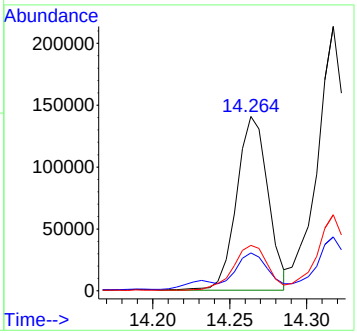


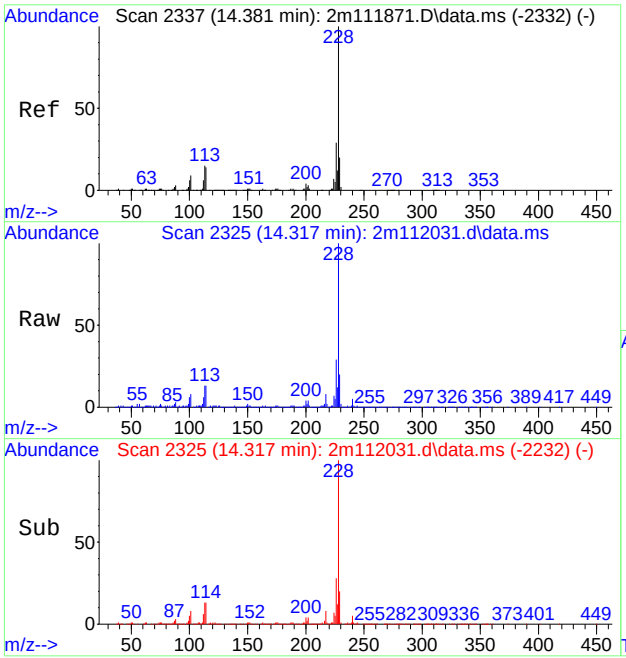



#87
Benzo[a]anthracene
Concen: 4.53 ppm
RT: 14.264 min Scan# 2315
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:228 Resp: 198724

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.5 | 0.0 | 49.2 |
| 226 | 26.0 | 0.0 | 56.2 |

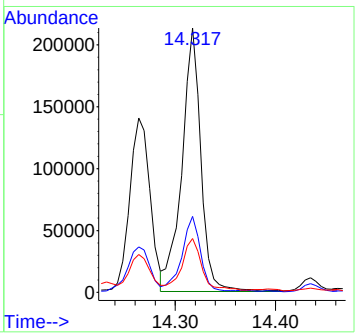


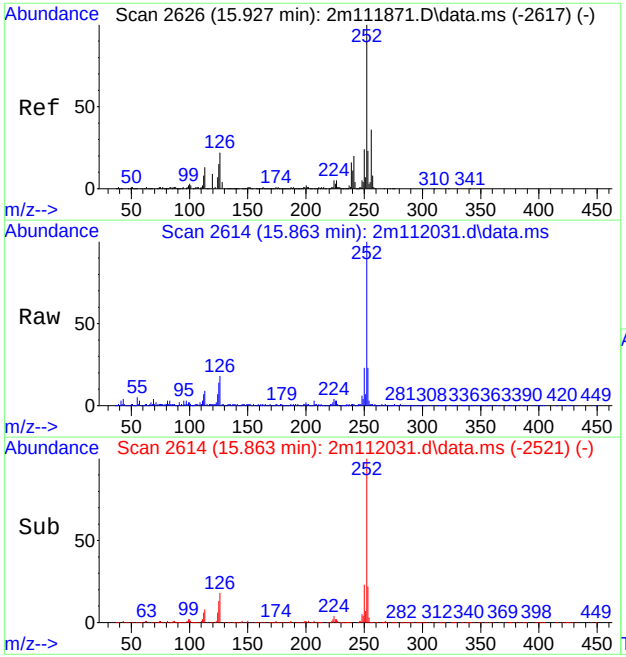




#89
Chrysene
Concen: 5.90 ppm
RT: 14.317 min Scan# 2325
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:228 Resp: 281363

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.8 | 0.0 | 59.7 |
| 229 | 19.6 | 0.0 | 50.3 |

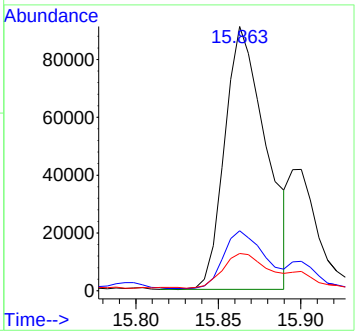


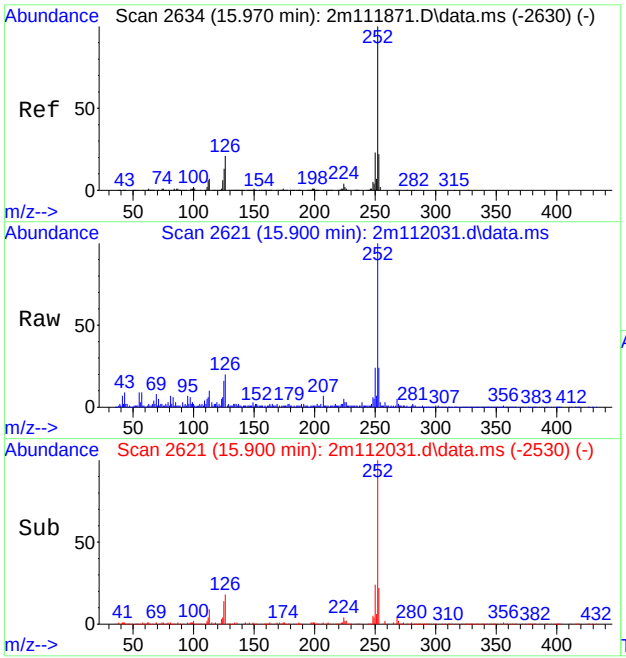



#93
Benzo[b]fluoranthene
Concen: 3.79 ppm
RT: 15.863 min Scan# 2614
Delta R.T. -0.005 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:252 Resp: 158652

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.3 | 0.0 | 53.5 |
| 125 | 12.7 | 0.0 | 43.0 |

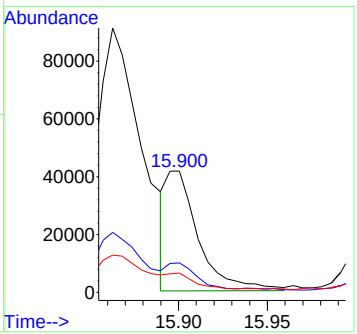


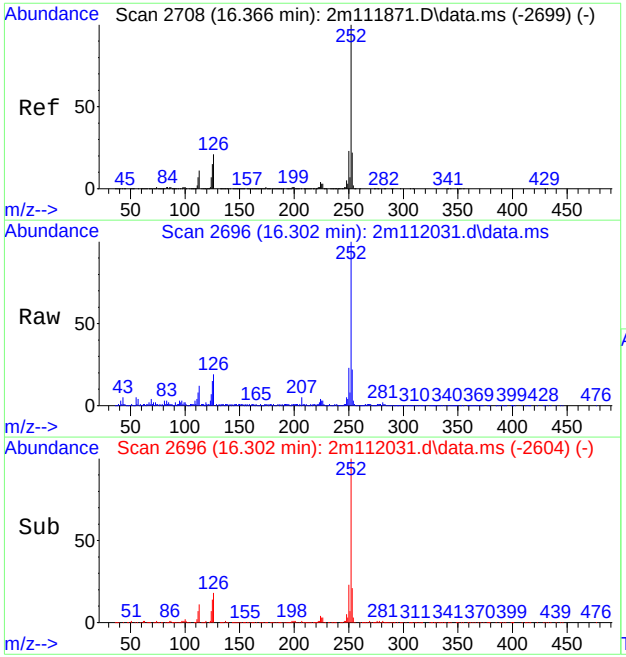




#94
Benzo[k]fluoranthene
Concen: 1.25 ppm
RT: 15.900 min Scan# 2621
Delta R.T. -0.016 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:252 Resp: 52641

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 25.2 | 0.0 | 51.9 |
| 125 | 13.2 | 0.0 | 41.1 |

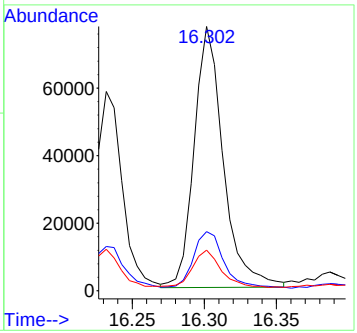


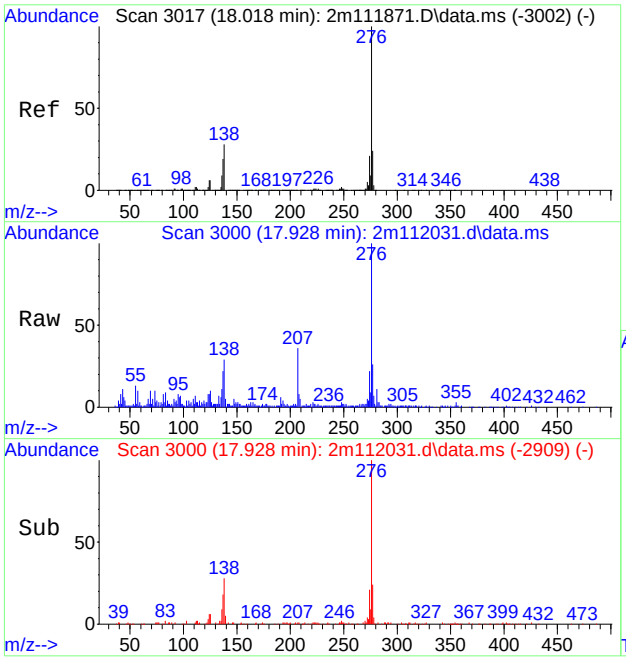



#95
Benzo[a]pyrene
Concen: 2.90 ppm
RT: 16.302 min Scan# 2696
Delta R.T. -0.011 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:252 Resp: 108518

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.5 | 0.0 | 52.0 |
| 125 | 14.3 | 0.0 | 43.1 |

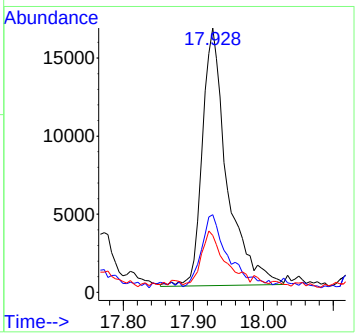


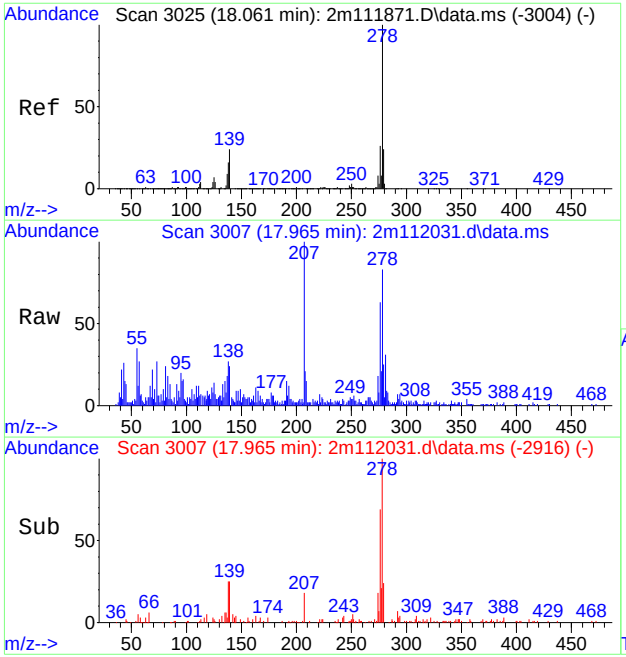




#96
Indeno[1,2,3-cd]pyrene
Concen: 1.17 ppm
RT: 17.928 min Scan# 3000
Delta R.T. -0.016 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:276 Resp: 40507

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.5 | 0.0 | 53.0 |
| 137 | 19.2 | 0.0 | 46.3 |

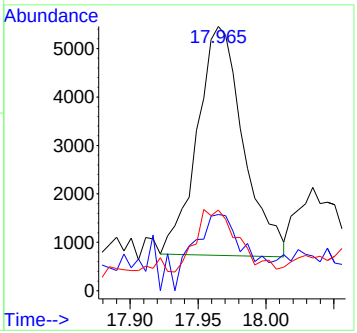


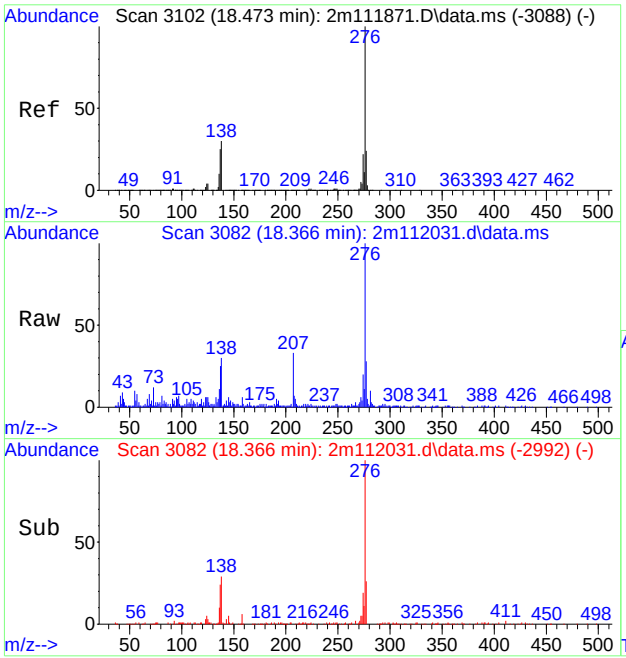



#98
Dibenz[a,h]anthracene
Concen: 0.29 ppm
RT: 17.965 min Scan# 3007
Delta R.T. -0.016 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:278 Resp: 11114

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 26.2 | 0.0 | 50.8 |
| 279 | 23.7 | 0.0 | 53.8 |

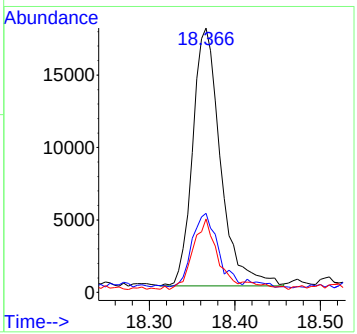



#100
Benzo[g,h,i]perylene
Concen: 1.14 ppm
RT: 18.366 min Scan# 3082
Delta R.T. -0.021 min
Lab File: 2m112031.d
Acq: 19 May 2019 6:01 am

Tgt Ion:276 Resp: 40356

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 28.3 | 0.0 | 58.6 |
| 277 | 26.9 | 0.0 | 54.0 |



Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/20/19 13:19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112045.D
Acq On : 19 May 2019 4:07 pm
Operator : carolb
Sample : jc87535-9
Misc : op20269,e2m4982,32.8,,,1,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 20 11:30:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.748 | 152 | 401871 | 40.00 | ppm | -0.05 |
| 24) Naphthalene-d8 | 5.855 | 136 | 1186125 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 7.936 | 164 | 680924 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 10.108 | 188 | 1385604 | 40.00 | ppm | -0.06 |
| 83) Chrysene-d12 | 14.269 | 240 | 1531260 | 40.00 | ppm | -0.07 |
| 91) Perylene-d12 | 16.371 | 264 | 1540998 | 40.00 | ppm | -0.07 |
| 101) 1,4-Dichlorobenzene-d4a | 4.748 | 152 | 401871 | 40.00 | ppm | -0.05 |
| 103) Acenaphthene-d10a | 7.936 | 164 | 680924 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 14.269 | 240 | 1531260 | 40.00 | ppm | -0.07 |
| 107) Phenanthrene-d10a | 10.108 | 188 | 1385604 | 40.00 | ppm | -0.06 |
| 112) Naphthalene-d8a | 5.855 | 136 | 1186125 | 40.00 | ppm | -0.05 |
| 114) Chrysene-d12b | 14.269 | 240 | 1531260 | 40.00 | ppm | -0.07 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.871 | 112 | 25976 | 1.78 | ppm | 0.07 |
| Spiked Amount 50.000 | | | Recovery = | 3.56% | | |
| 8) Phenol-d5 | 4.599 | 99 | 32410 | 1.80 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 3.60% | | |
| 25) Nitrobenzene-d5 | 5.192 | 82 | 32647 | 3.16 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 6.32% | | |
| 51) 2-Fluorobiphenyl | 7.054 | 172 | 64358 | 2.60 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 5.20% | | |
| 73) 2,4,6-Tribromophenol | 9.075 | 330 | 5955 | 1.62 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 3.24% | | |
| 85) Terphenyl-d14 | 12.648 | 244 | 74098 | 2.04 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 4.08% | | |
| 109) 1-Chlorooctadecane | 11.942 | 57 | 3435 | 0.31 | ppm | -0.07 |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.872 | 128 | 612678 | 18.43 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.620 | 141 | 1445484 | 84.61 | ppm | 98 |
| 53) Biphenyl | 7.177 | 154 | 199404 | 7.17 | ppm | 98 |
| 59) Acenaphthene | 7.974 | 153 | 103164 | 4.90 | ppm | 97 |
| 62) Dibenzofuran | 8.220 | 168 | 102219 | 3.50 | ppm | 69 |
| 66) Fluorene | 8.706 | 166 | 170620m | 7.36 | ppm | |
| 77) Phenanthrene | 10.140 | 178 | 644452 | 15.98 | ppm | 98 |
| 78) Anthracene | 10.215 | 178 | 121334 | 3.06 | ppm | 83 |
| 81) Fluoranthene | 11.990 | 202 | 201778 | 5.21 | ppm | 97 |
| 84) Pyrene | 12.338 | 202 | 187076 | 3.26 | ppm | 93 |
| 87) Benzo[a]anthracene | 14.253 | 228 | 48606 | 1.04 | ppm | 99 |
| 89) Chrysene | 14.301 | 228 | 39464 | 0.78 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 15.852 | 252 | 28422 | 0.65 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 15.884 | 252 | 13471 | 0.31 | ppm | 85 |
| 95) Benzo[a]pyrene | 16.285 | 252 | 19291 | 0.50 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 17.911 | 276 | 7400 | 0.21 | ppm | 91 |
| 100) Benzo[g,h,i]perylene | 18.345 | 276 | 7061 | 0.19 | ppm | 89 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112045.D
Acq On : 19 May 2019 4:07 pm
Operator : carolb
Sample : jc87535-9
Misc : op20269,e2m4982,32.8,,,1,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 20 11:30:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

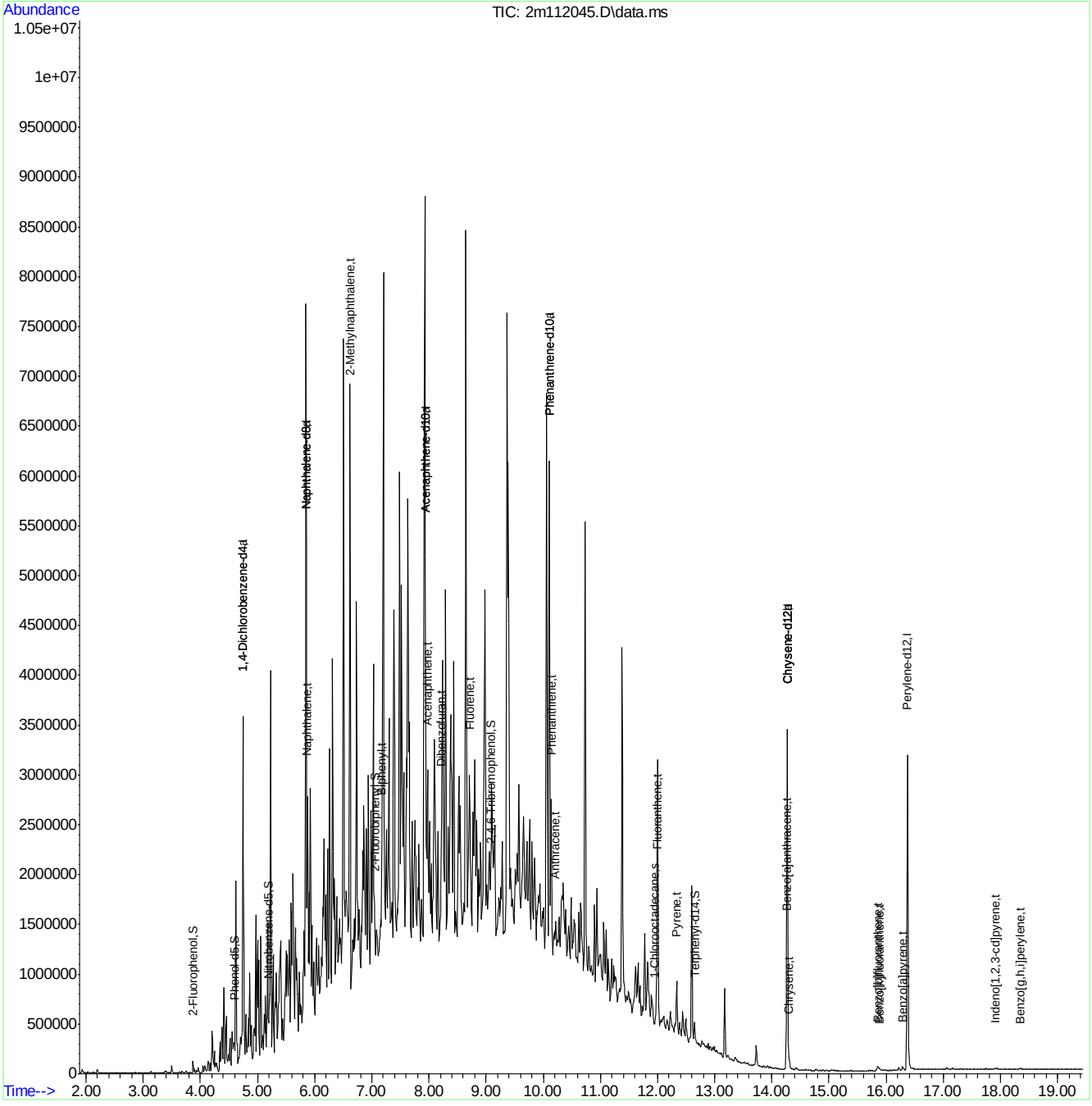
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

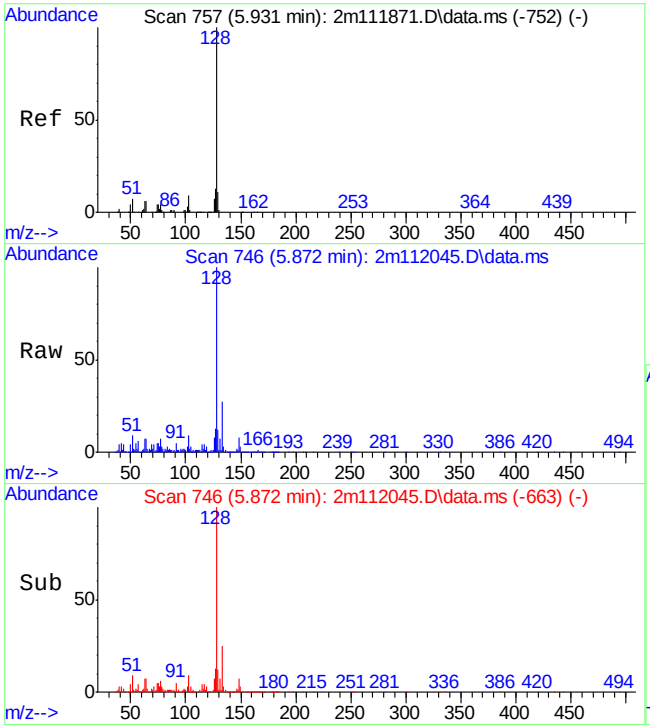
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112045.D
Acq On : 19 May 2019 4:07 pm
Operator : carolb
Sample : jc87535-9
Misc : op20269,e2m4982,32.8,,,1,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 20 11:30:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

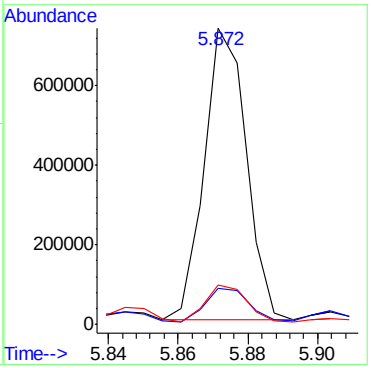


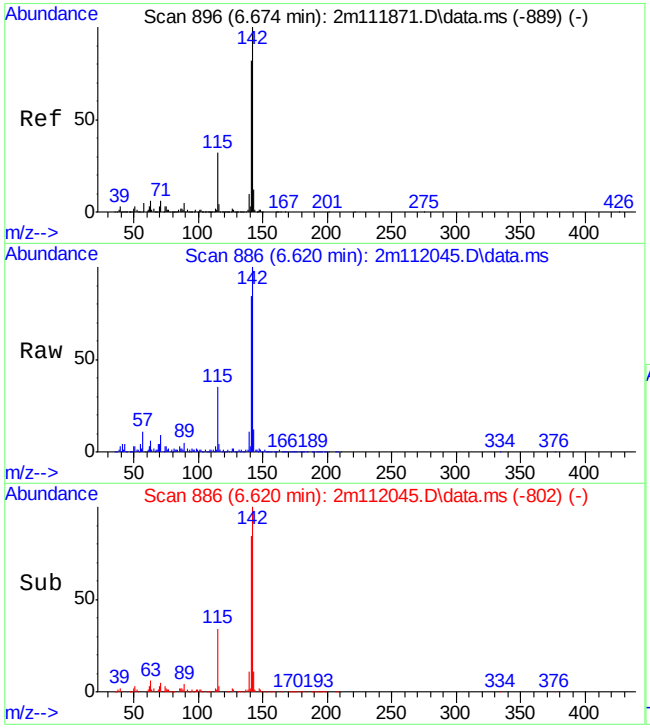



#38
Naphthalene
Concen: 18.43 ppm
RT: 5.872 min Scan# 746
Delta R.T. -0.059 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:128 Resp: 612678

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.2 | 0.0 | 41.4 |
| 127 | 12.1 | 0.0 | 42.8 |

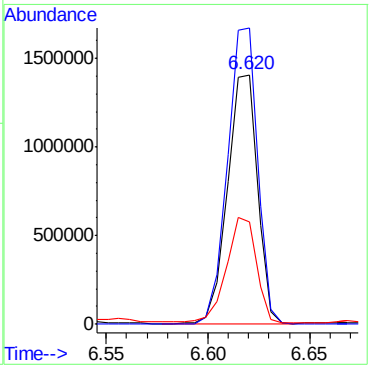


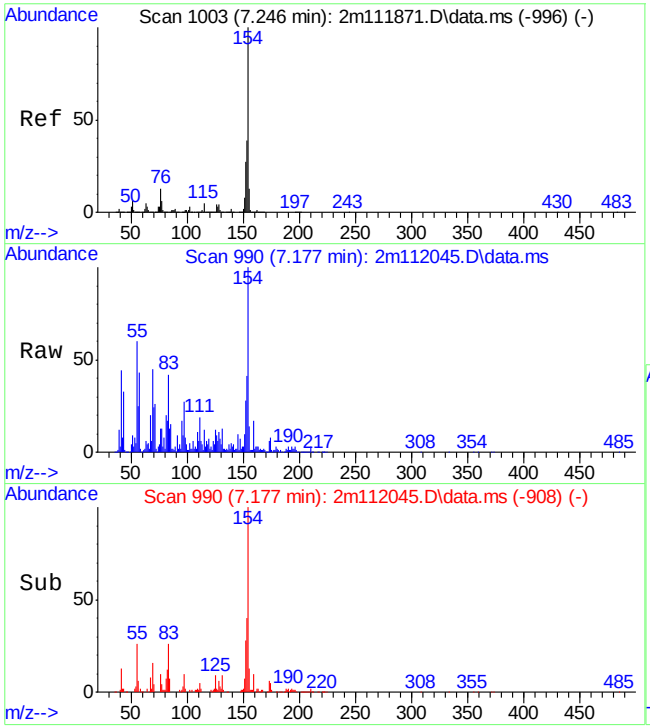




#44
2-Methylnaphthalene
Concen: 84.61 ppm
RT: 6.620 min Scan# 886
Delta R.T. -0.053 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:141 Resp: 1445484

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 118.8 | 91.5 | 151.5 |
| 115 | 40.5 | 9.4 | 69.4 |

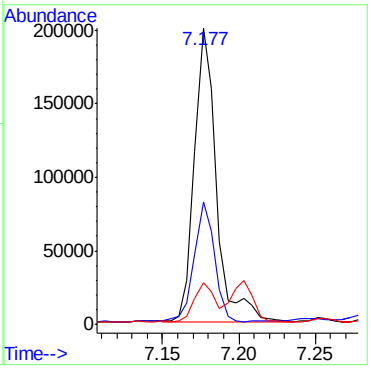


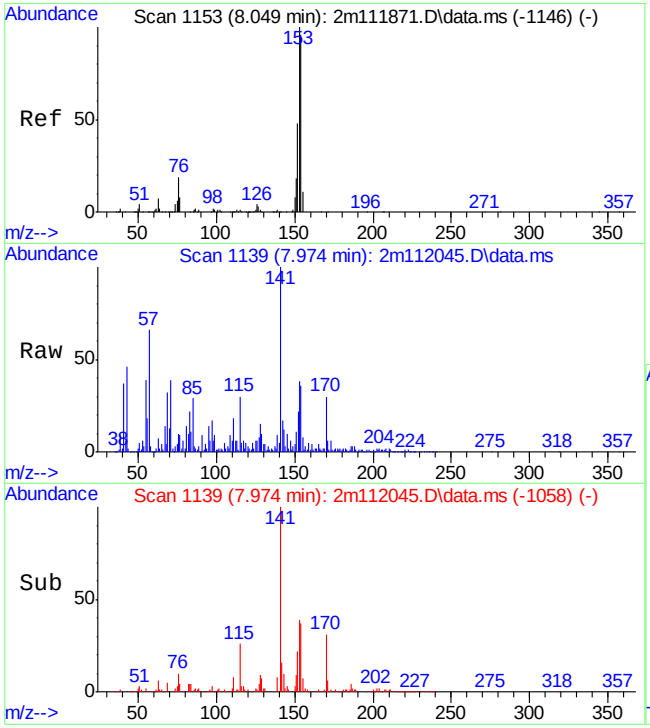



#53
Biphenyl
Concen: 7.17 ppm
RT: 7.177 min Scan# 990
Delta R.T. -0.064 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:154 Resp: 199404

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 40.2 | 8.9 | 68.9 |
| 155 | 13.0 | 0.0 | 42.8 |

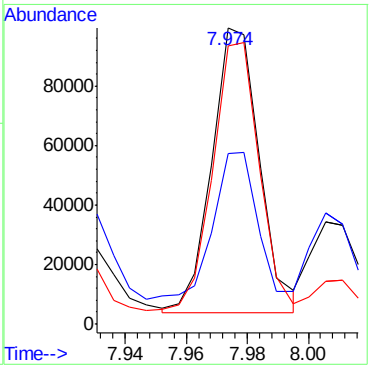


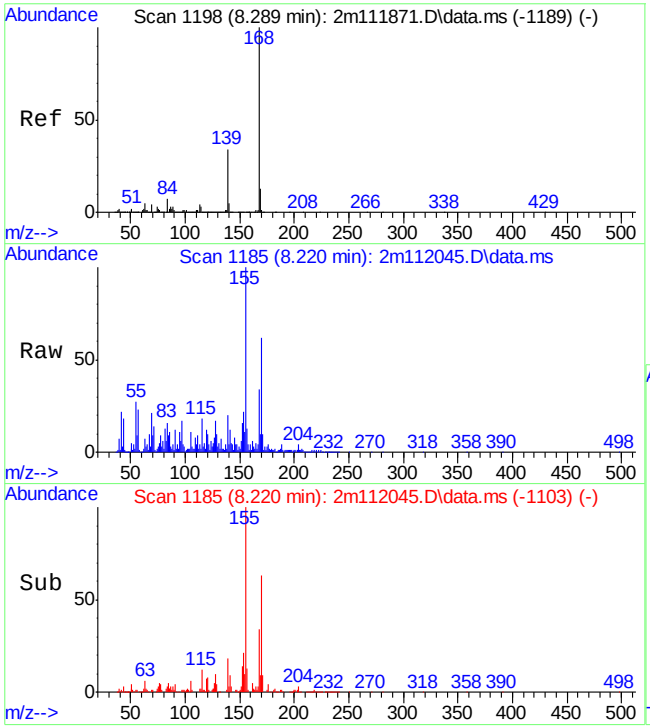




#59
Acenaphthene
Concen: 4.90 ppm
RT: 7.974 min Scan# 1139
Delta R.T. -0.069 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:153 Resp: 103164

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 51.8 | 17.6 | 77.6 |
| 154 | 96.2 | 64.4 | 124.4 |

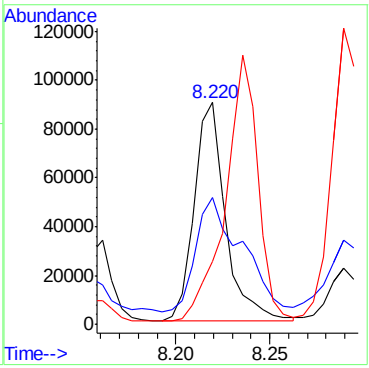


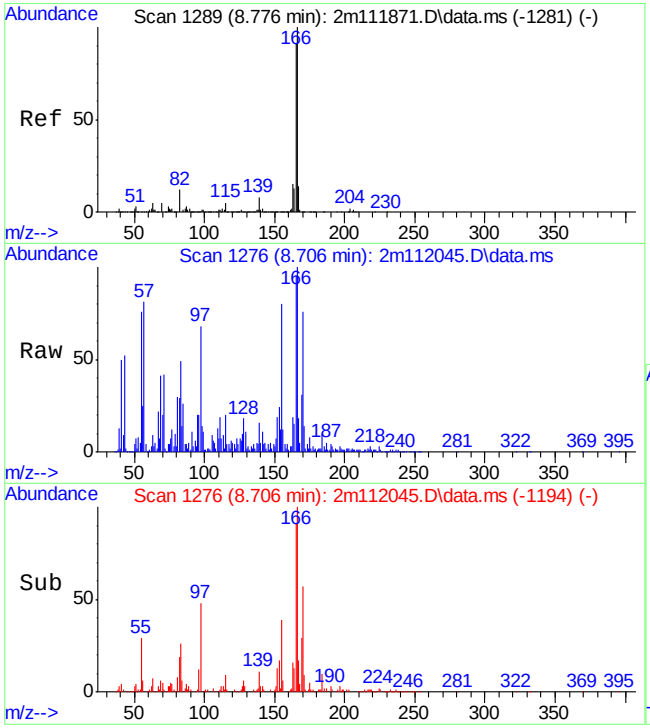



#62
Dibenzofuran
Concen: 3.50 ppm
RT: 8.220 min Scan# 1185
Delta R.T. -0.064 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:168 Resp: 102219

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 51.9 | 4.3 | 64.3 |
| 169 | 26.5 | 0.0 | 43.2 |

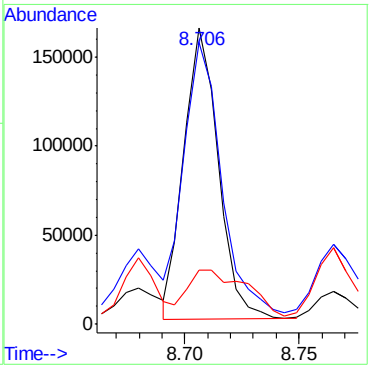


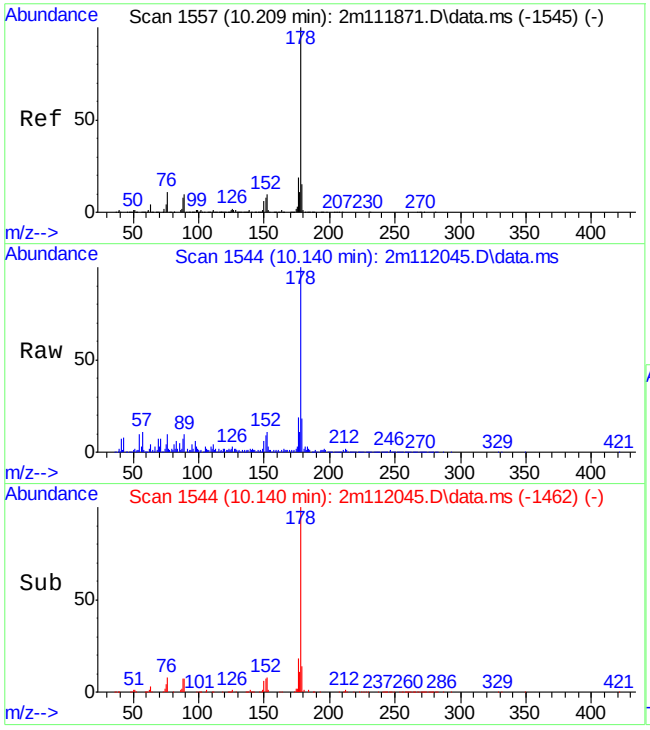




#66
Fluorene
Concen: 7.36 ppm m
RT: 8.706 min Scan# 1276
Delta R.T. -0.064 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:166 Resp: 170620

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 95.0 | 61.3 | 121.3 |
| 167 | 18.2 | 0.0 | 43.6 |

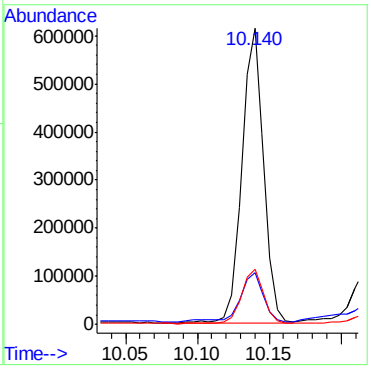


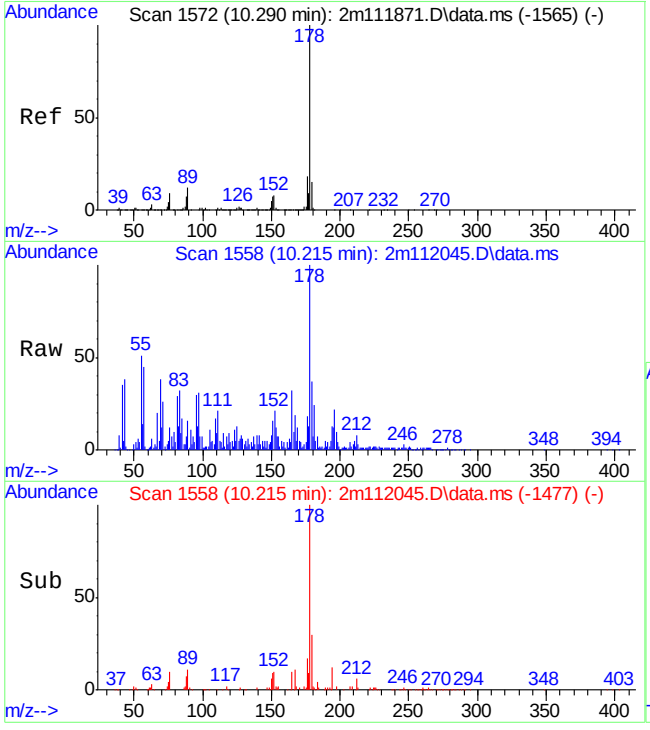



#77
Phenanthrene
Concen: 15.98 ppm
RT: 10.140 min Scan# 1544
Delta R.T. -0.064 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:178 Resp: 644452

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.8 | 0.0 | 45.3 |
| 176 | 18.6 | 0.0 | 49.0 |

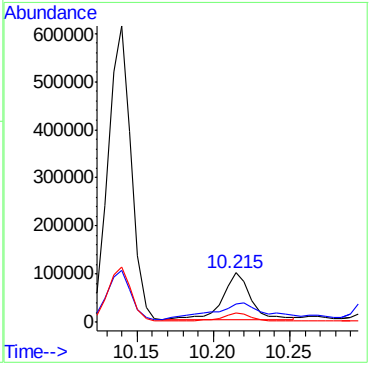


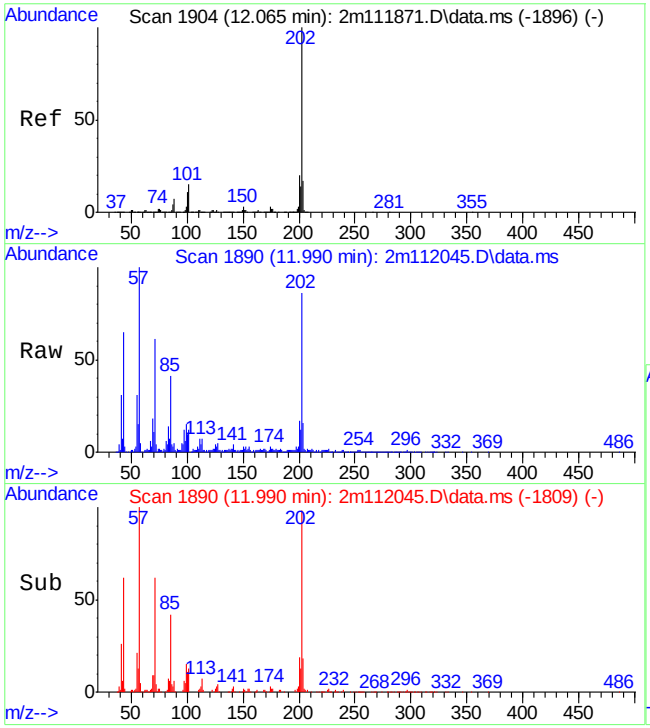




#78
Anthracene
Concen: 3.06 ppm
RT: 10.215 min Scan# 1558
Delta R.T. -0.069 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:178 Resp: 121334

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 29.5 | 0.0 | 45.3 |
| 176 | 17.3 | 0.0 | 48.2 |

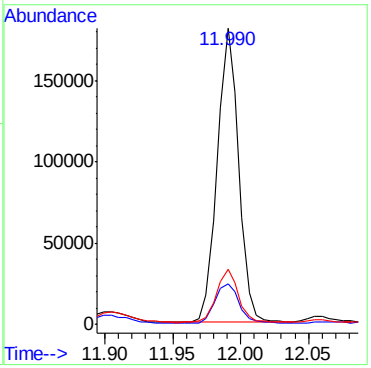


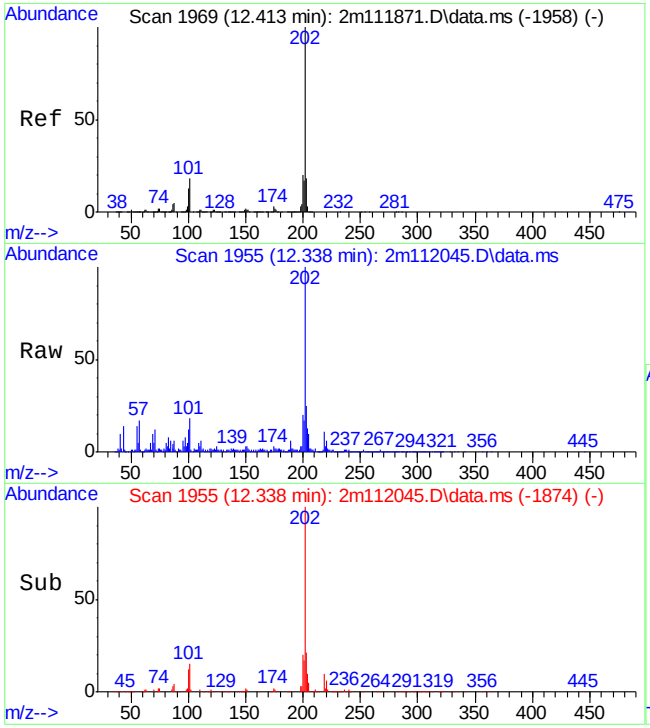



#81
Fluoranthene
Concen: 5.21 ppm
RT: 11.990 min Scan# 1890
Delta R.T. -0.069 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:202 Resp: 201778

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.1 | 0.0 | 45.2 |
| 203 | 17.9 | 0.0 | 47.3 |

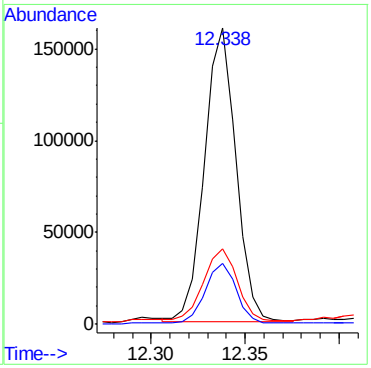


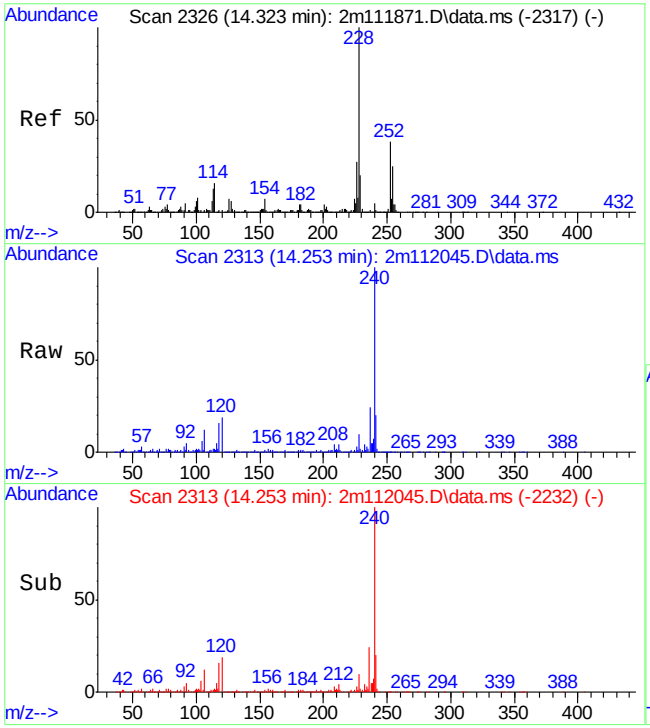




#84
Pyrene
Concen: 3.26 ppm
RT: 12.338 min Scan# 1955
Delta R.T. -0.069 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:202 Resp: 187076

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.5 | 0.0 | 50.2 |
| 203 | 24.2 | 0.0 | 48.4 |

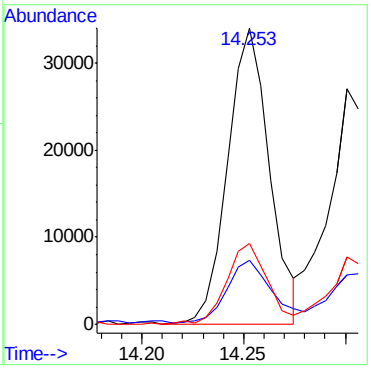


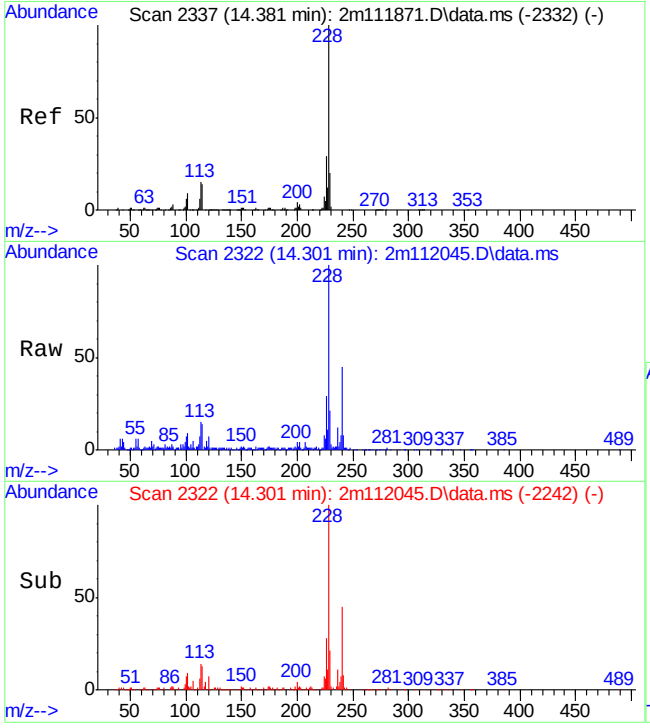



#87
Benzo[a]anthracene
Concen: 1.04 ppm
RT: 14.253 min Scan# 2313
Delta R.T. -0.069 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:228 Resp: 48606

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.0 | 0.0 | 49.6 |
| 226 | 28.1 | 0.0 | 57.3 |

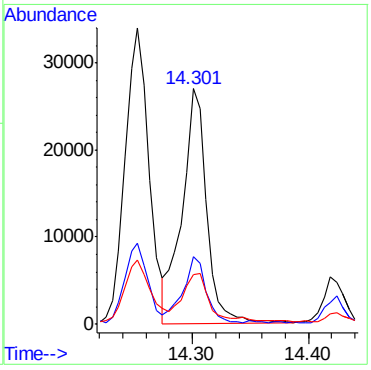


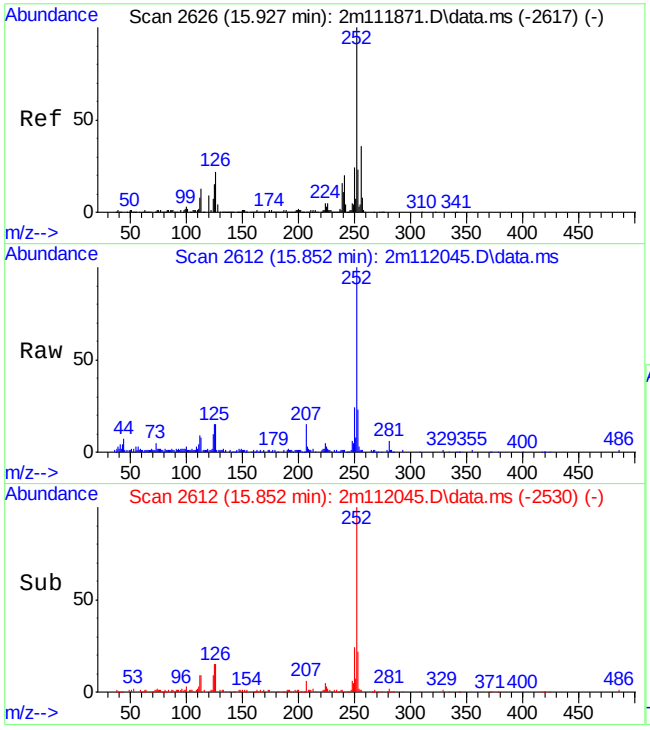




#89
Chrysene
Concen: 0.78 ppm
RT: 14.301 min Scan# 2322
Delta R.T. -0.075 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:228 Resp: 39464

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 29.2 | 0.0 | 59.1 |
| 229 | 19.4 | 0.0 | 49.8 |

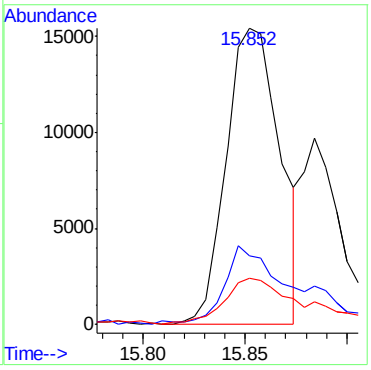


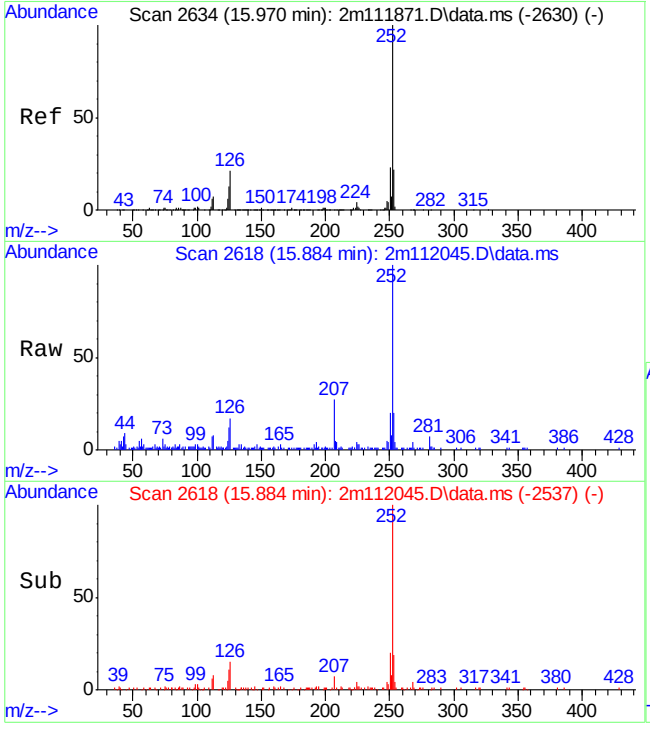



#93
Benzo[b]fluoranthene
Concen: 0.65 ppm
RT: 15.852 min Scan# 2612
Delta R.T. -0.064 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:252 Resp: 28422

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.0 | 0.0 | 53.5 |
| 125 | 14.4 | 0.0 | 44.5 |

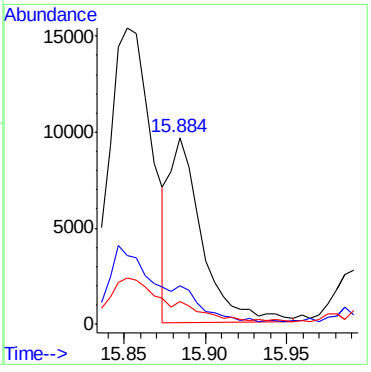


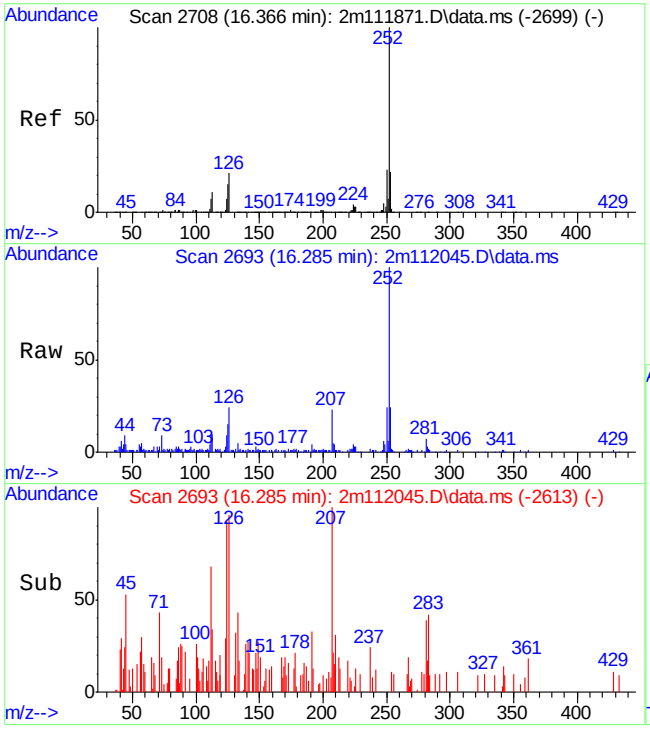




#94
Benzo[k]fluoranthene
Concen: 0.31 ppm
RT: 15.884 min Scan# 2618
Delta R.T. -0.069 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:252 Resp: 13471

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 15.3 | 0.0 | 52.3 |
| 125 | 7.0 | 0.0 | 43.2 |

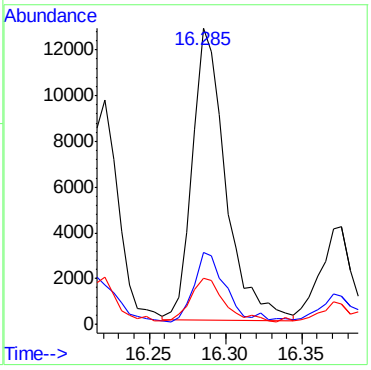


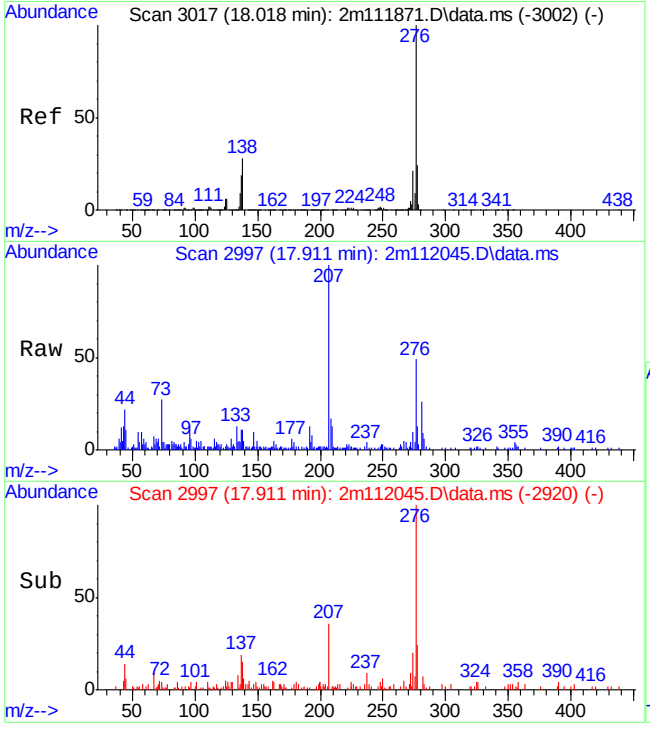



#95
Benzo[a]pyrene
Concen: 0.50 ppm
RT: 16.285 min Scan# 2693
Delta R.T. -0.075 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:252 Resp: 19291

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.2 | 0.0 | 51.5 |
| 125 | 14.9 | 0.0 | 45.2 |

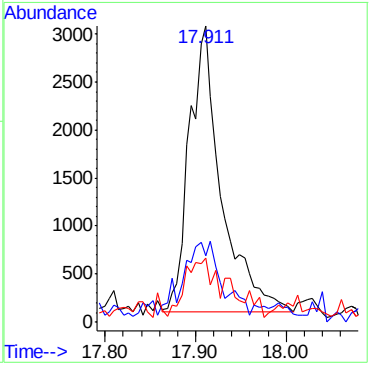


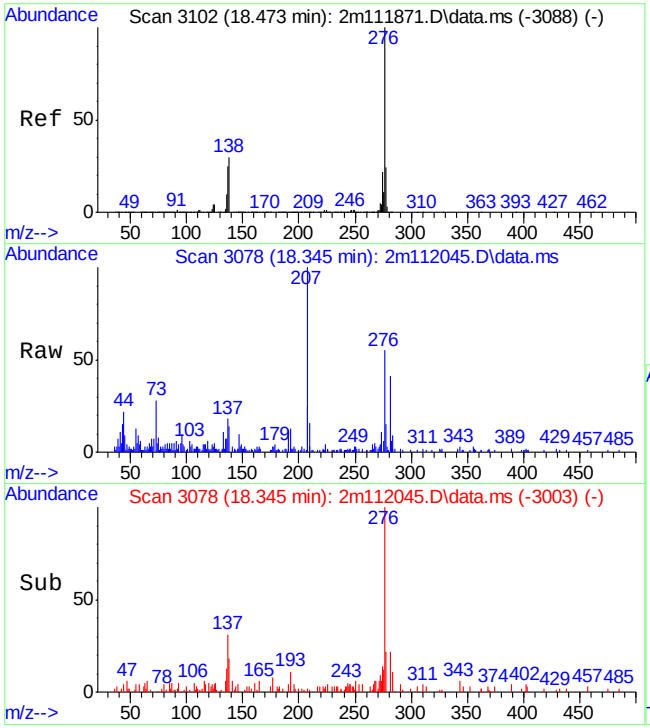




#96
Indeno[1,2,3-cd]pyrene
Concen: 0.21 ppm
RT: 17.911 min Scan# 2997
Delta R.T. -0.091 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:276 Resp: 7400

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 17.0 | 0.0 | 55.0 |
| 137 | 17.8 | 0.0 | 47.8 |

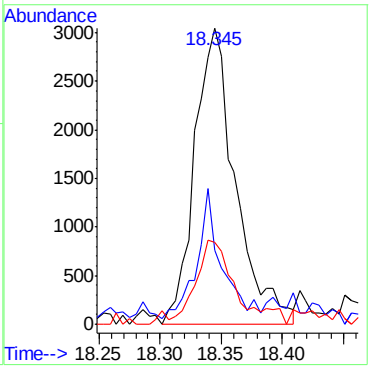





#100
Benzo[g,h,i]perylene
Concen: 0.19 ppm
RT: 18.345 min Scan# 3078
Delta R.T. -0.102 min
Lab File: 2m112045.D
Acq: 19 May 2019 4:07 pm

Tgt Ion:276 Resp: 7061

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 19.3 | 0.2 | 60.2 |
| 277 | 23.9 | 0.0 | 53.9 |



# Manual Integration Approval Summary



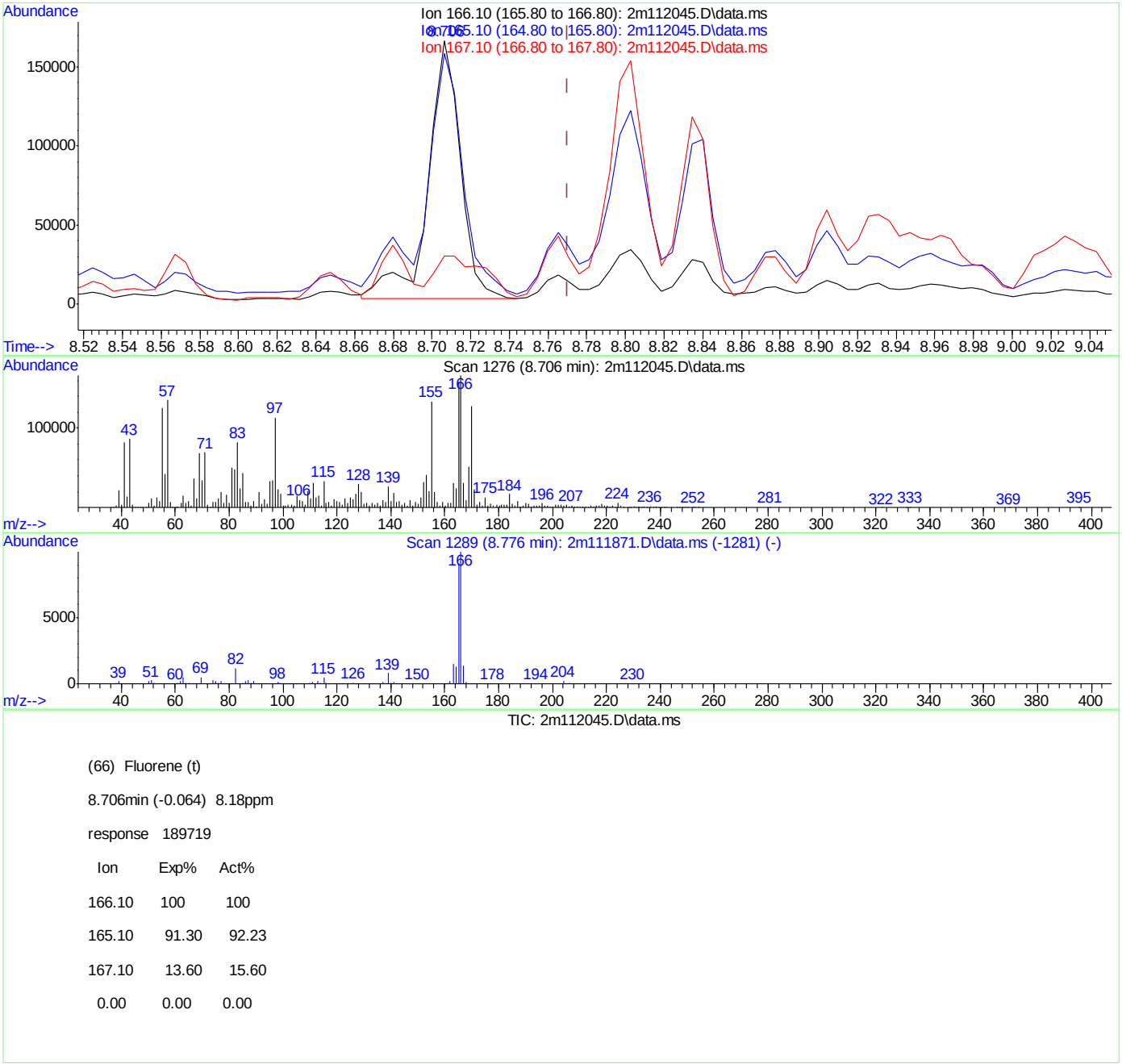
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-9 | **Method:** | SW846 8270D |
| **Lab FileID:** | 2M112045.D | **Analyst approved:** | 05/20/19 11:52 Ying Li |
| **Injection Time:** | 05/19/19 16:07 | **Supervisor approved:** | 05/20/19 13:19 Nancy Ma |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Fluorene | 86-73-7 | | 8.71 | Poor instrument integration |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112045.D
Acq On : 19 May 2019 4:07 pm
Operator : carolb
Sample : jc87535-9
Misc : op20269,e2m4982,32.8,,,1,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 19 16:26:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration




TIC: 2m112045.D\data.ms

(66) Fluorene (t)

8.706min (-0.064) 8.18ppm

response 189719

| Ion | Exp% | Act% |
|---|---|---|
| 166.10 | 100 | 100 |
| 165.10 | 91.30 | 92.23 |
| 167.10 | 13.60 | 15.60 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/20/19 13:19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:00:11 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.901 | 152 | 153829 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.098 | 136 | 562291 | 40.00 | ppm | 0.02 |
| 47) Acenaphthene-d10 | 6.818 | 164 | 366430 | 40.00 | ppm | 0.06 |
| 69) Phenanthrene-d10 | 8.266 | 188 | 414574 | 40.00 | ppm | 0.08 |
| 83) Chrysene-d12 | 11.434 | 240 | 726292m | 40.00 | ppm | 0.02 |
| 91) Perylene-d12 | 13.394 | 264 | 751092 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 3.901 | 152 | 153829 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.818 | 164 | 353643 | 40.00 | ppm | 0.06 |
| 105) Chrysene-d12a | 11.434 | 240 | 725931m | 40.00 | ppm | 0.02 |
| 107) Phenanthrene-d10a | 8.266 | 188 | 412458 | 40.00 | ppm | 0.08 |
| 111) Naphthalene-d8a | 5.098 | 136 | 565195 | 40.00 | ppm | 0.02 |
| 113) Chrysene-d12b | 11.434 | 240 | 727273 | 40.00 | ppm | 0.02 |
| 115) 1,4-Dichlorobenzene-d4c | 3.901 | 152 | 153829 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.434 | 240 | 727273 | 40.00 | ppm | 0.02 |
| 119) Chrysene-d12d | 11.434 | 240 | 727273 | 40.00 | ppm | 0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.790 | 112 | 261939 | 43.73 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 87.46% | | |
| 8) Phenol-d5 | 3.661 | 99 | 314151 | 41.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 83.34% | | |
| 25) Nitrobenzene-d5 | 4.430 | 82 | 358986 | 55.07 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 110.14% | | |
| 51) 2-Fluorobiphenyl | 6.172 | 172 | 472244 | 37.08 | ppm | 0.04 |
| Spiked Amount 50.000 | | | Recovery = | 74.16% | | |
| 73) 2,4,6-Tribromophenol | 7.614 | 330 | 84560 | 70.76 | ppm | 0.08 |
| Spiked Amount 50.000 | | | Recovery = | 141.52% | | |
| 85) Terphenyl-d14 | 10.066 | 244 | 757849 | 41.01 | ppm | 0.04 |
| Spiked Amount 50.000 | | | Recovery = | 82.02% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.130 | 128 | 3999302 | 282.21 | ppm | 97 |
| 44) 2-Methylnaphthalene | 5.841 | 141 | 6887223 | 828.45 | ppm | 89 |
| 53) Biphenyl | 6.263 | 154 | 1372390 | 100.10 | ppm | 99 |
| 59) Acenaphthene | 6.850 | 153 | 396182m | 37.46 | ppm | |
| 62) Dibenzofuran | 7.027 | 168 | 765725 | 48.11 | ppm | 77 |
| 66) Fluorene | 7.363 | 166 | 750488 | 59.68 | ppm | 98 |
| 77) Phenanthrene | 8.298 | 178 | 3603587 | 321.57 | ppm | 98 |
| 78) Anthracene | 8.341 | 178 | 974741 | 82.89 | ppm | 78 |
| 81) Fluoranthene | 9.575 | 202 | 1594222 | 114.53 | ppm | 93 |
| 84) Pyrene | 9.837 | 202 | 1662169 | 60.22 | ppm | 91 |
| 87) Benzo[a]anthracene | 11.418 | 228 | 471483m | 18.59 | ppm | |
| 89) Chrysene | 11.466 | 228 | 340095m | 14.52 | ppm | |
| 90) bis(2-Ethylhexyl)phtha... | 11.610 | 149 | 22282 | 1.33 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 12.903 | 252 | 357483 | 15.59 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 12.935 | 252 | 134163 | 6.39 | ppm | 96 |
| 95) Benzo[a]pyrene | 13.320 | 252 | 236510 | 11.58 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.693 | 276 | 99724 | 5.46 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.709 | 278 | 24605m | 1.30 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.976 | 276 | 84532 | 4.58 | ppm | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:00:11 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

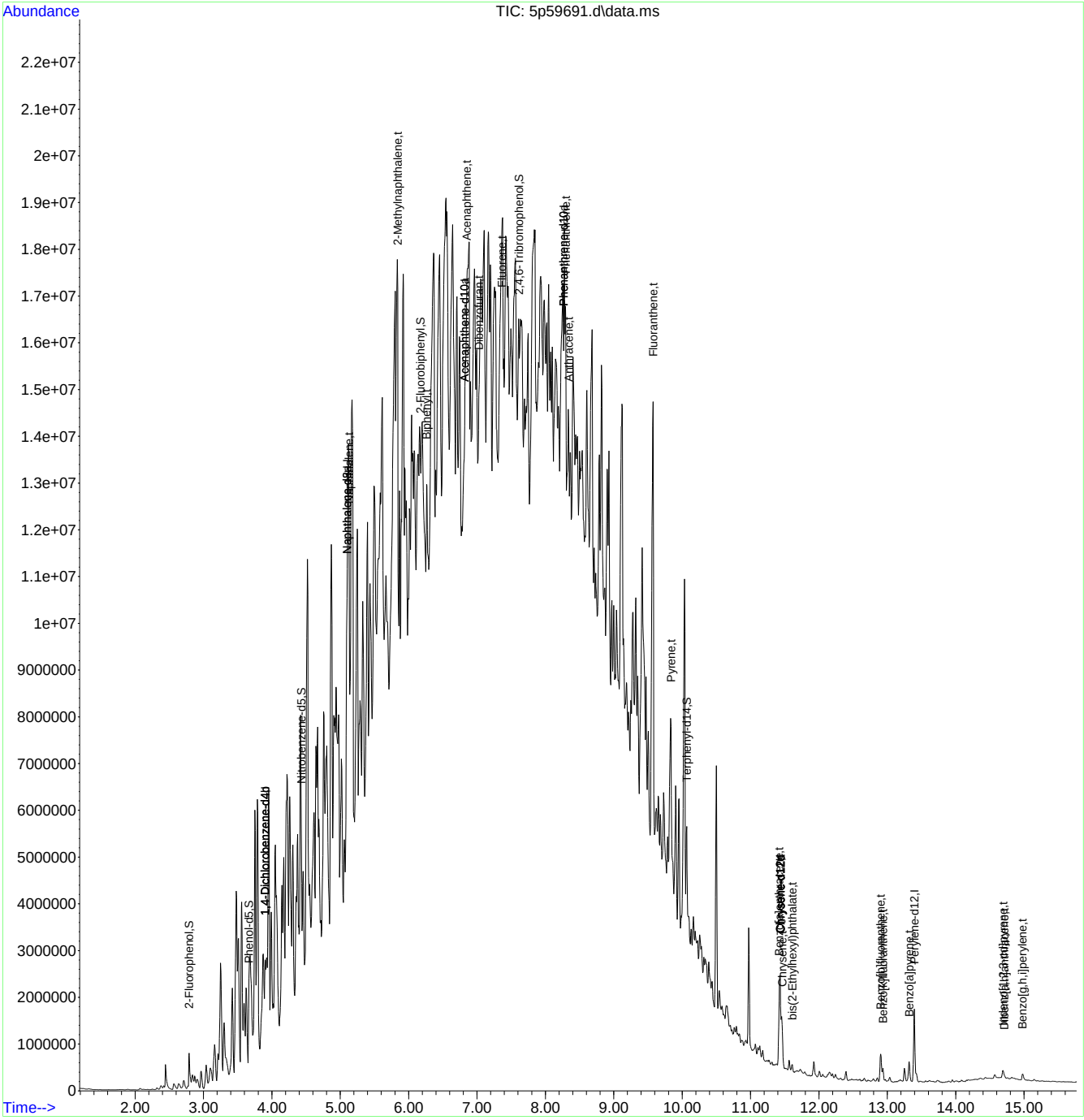
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

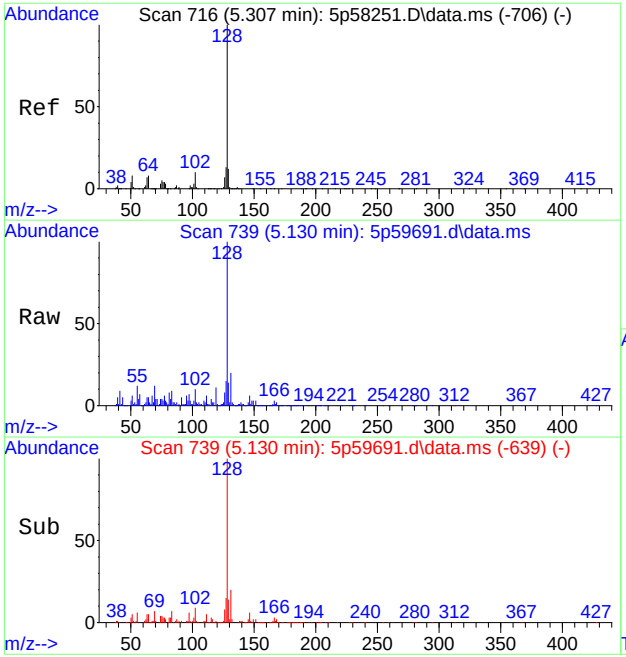
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:00:11 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

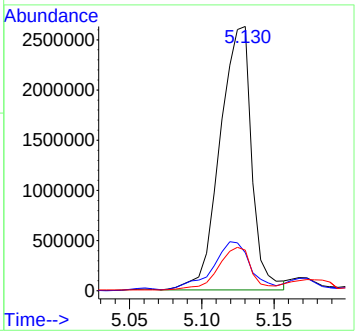


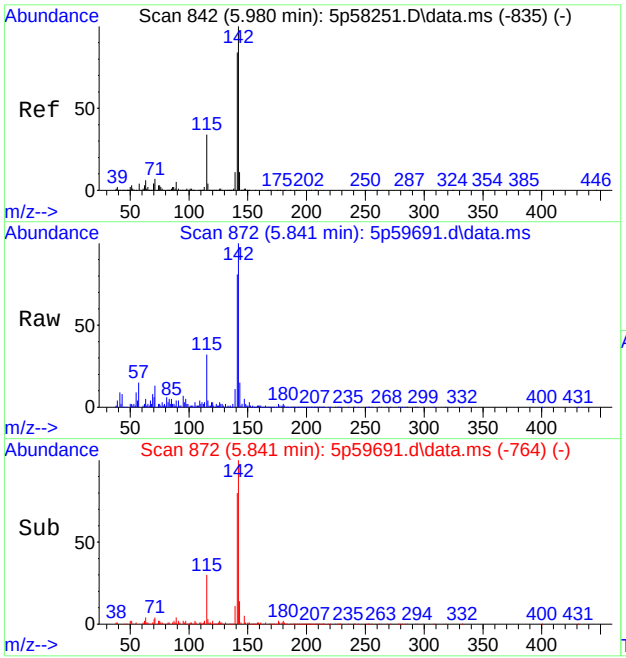



#38
Naphthalene
Concen: 282.21 ppm
RT: 5.130 min Scan# 739
Delta R.T. 0.032 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:128 Resp: 3999302

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 13.2 | 0.0 | 41.4 |
| 127 | 14.2 | 0.0 | 43.4 |

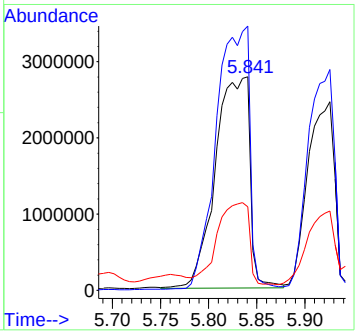


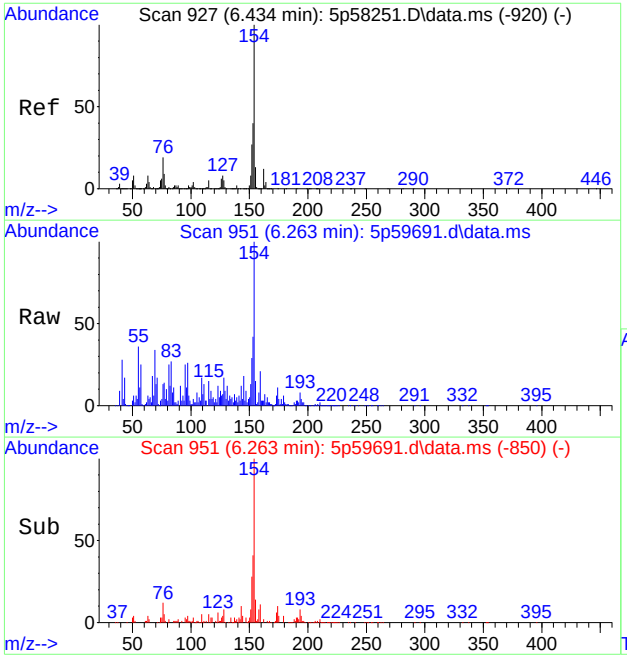




#44
2-Methylnaphthalene
Concen: 828.45 ppm
RT: 5.841 min Scan# 872
Delta R.T. 0.075 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:141 Resp: 6887223

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 125.1 | 87.7 | 147.7 |
| 115 | 34.8 | 19.2 | 79.2 |

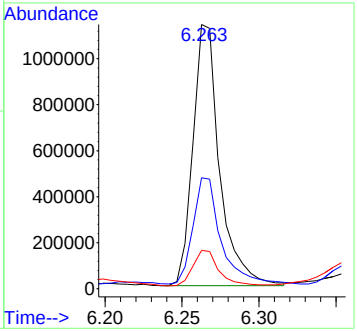


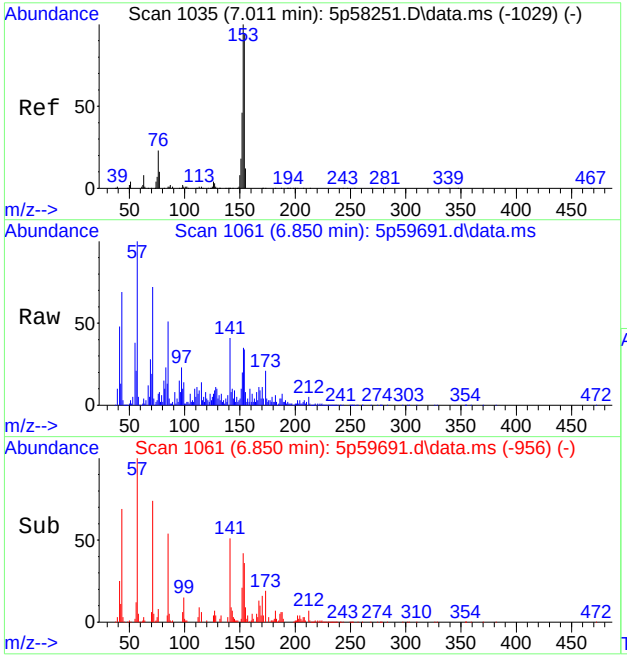



#53
Biphenyl
Concen: 100.10 ppm
RT: 6.263 min Scan# 951
Delta R.T. 0.037 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:154 Resp: 1372390

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 40.5 | 10.3 | 70.3 |
| 155 | 13.1 | 0.0 | 43.6 |

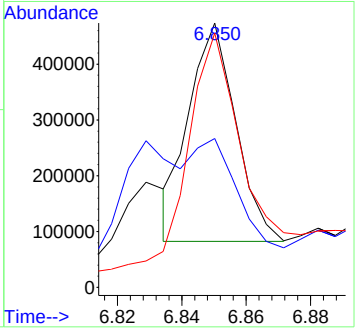


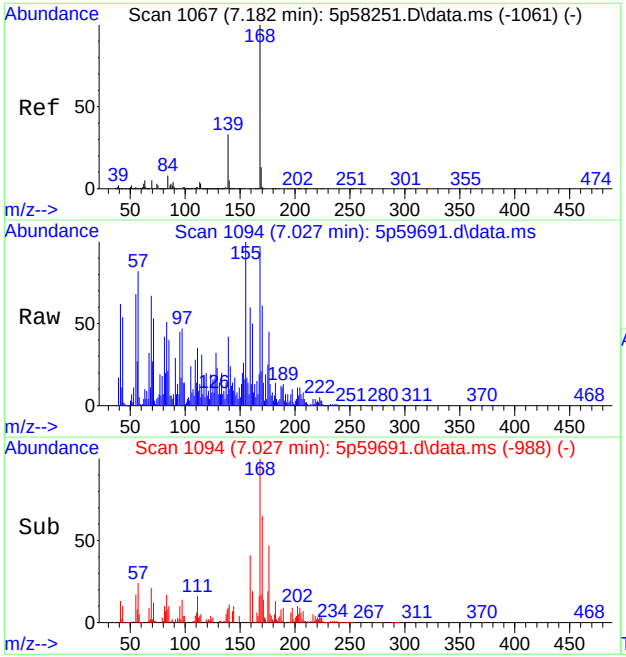




#59
Acenaphthene
Concen: 37.46 ppm m
RT: 6.850 min Scan# 1061
Delta R.T. 0.059 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:153 Resp: 396182

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 56.3 | 17.3 | 77.3 |
| 154 | 96.2 | 64.4 | 124.4 |

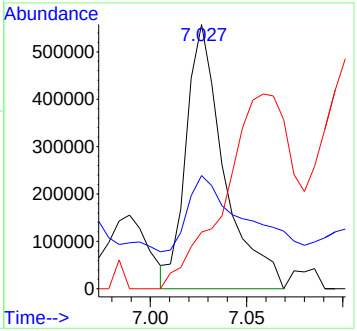


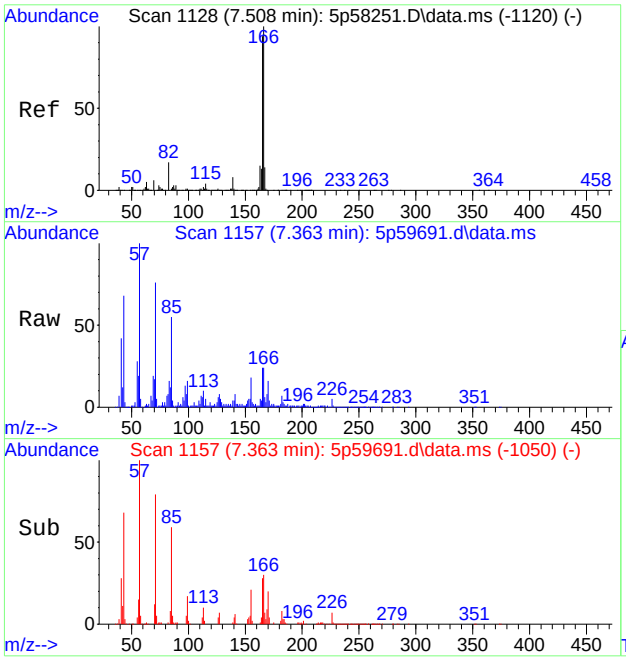



#62
Dibenzofuran
Concen: 48.11 ppm
RT: 7.027 min Scan# 1094
Delta R.T. 0.064 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:168 Resp: 765725

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 26.1 | 6.9 | 66.9 |
| 169 | 0.0 | 0.0 | 44.0 |

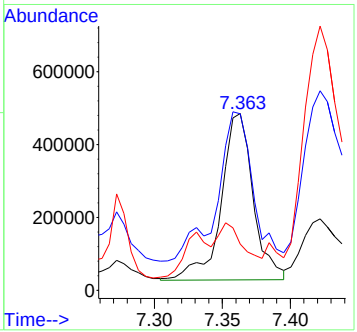


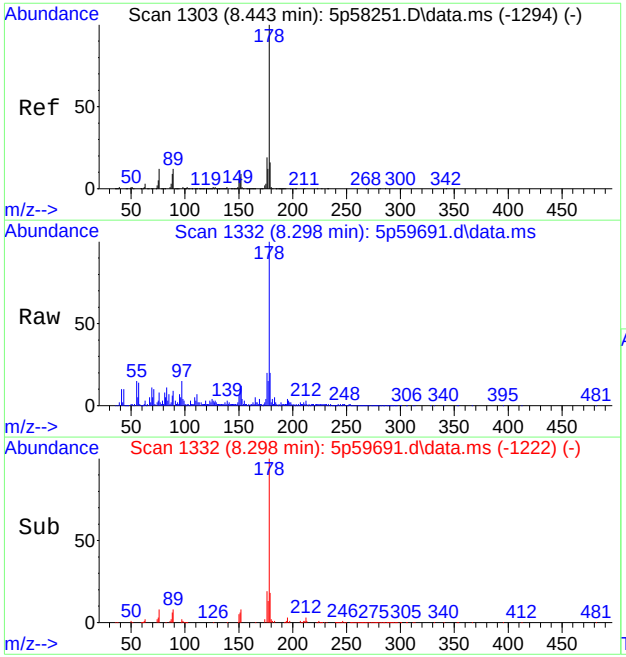




#66
Fluorene
Concen: 59.68 ppm
RT: 7.363 min Scan# 1157
Delta R.T. 0.070 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:166 Resp: 750488

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 89.0 | 60.8 | 120.8 |
| 167 | 14.5 | 0.0 | 43.5 |

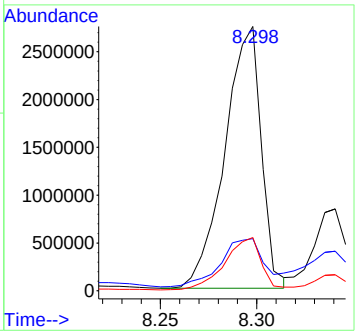


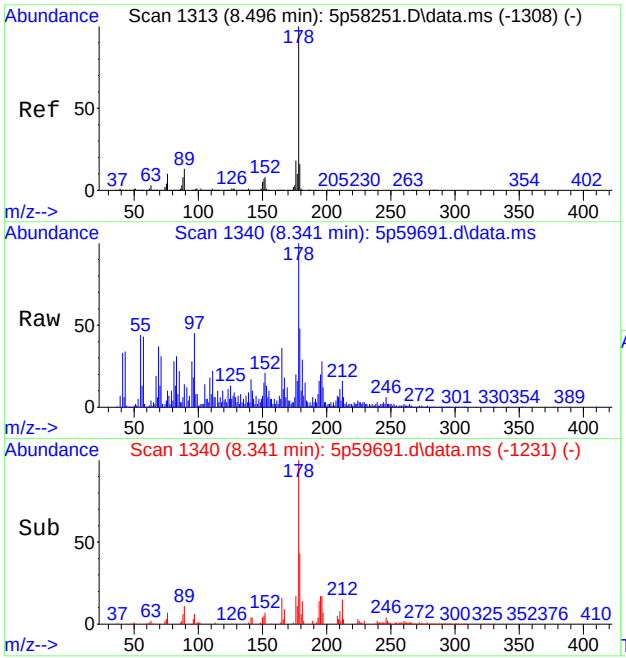



#77
Phenanthrene
Concen: 321.57 ppm
RT: 8.298 min Scan# 1332
Delta R.T. 0.086 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:178 Resp: 3603587

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.1 | 0.0 | 45.5 |
| 176 | 19.9 | 0.0 | 48.6 |

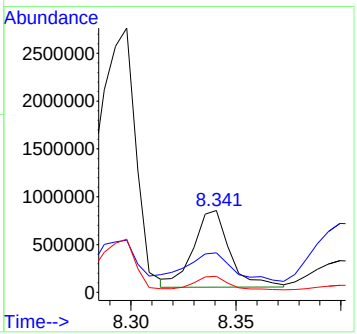


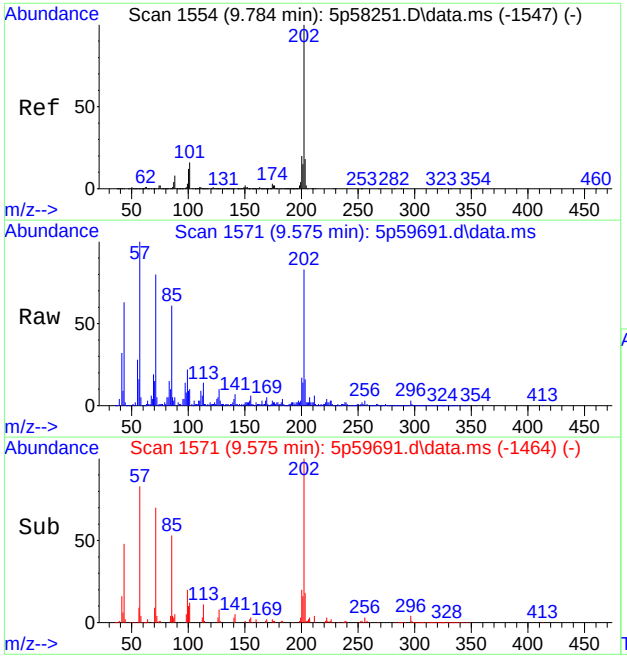




#78
Anthracene
Concen: 82.89 ppm
RT: 8.341 min Scan# 1340
Delta R.T. 0.080 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:178 Resp: 974741

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 35.3 | 0.0 | 45.8 |
| 176 | 18.2 | 0.0 | 47.8 |

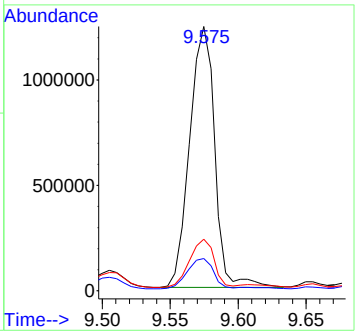


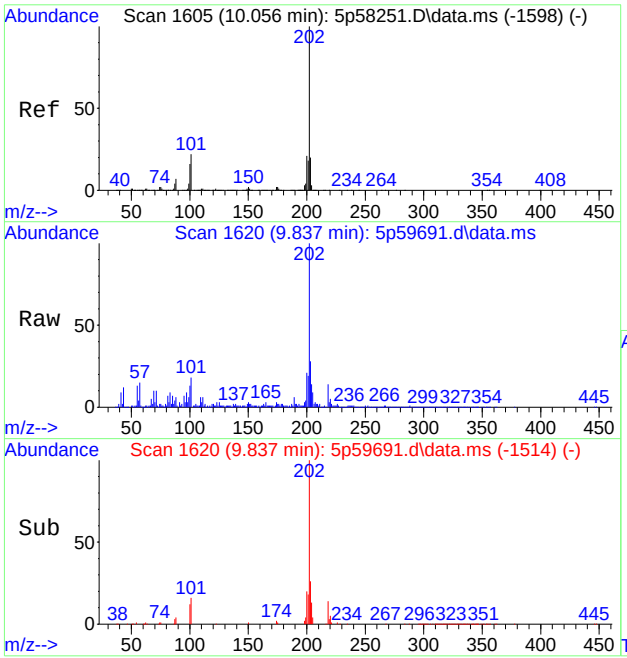



#81
Fluoranthene
Concen: 114.53 ppm
RT: 9.575 min Scan# 1571
Delta R.T. 0.070 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:202 Resp: 1594222

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 11.5 | 0.0 | 46.8 |
| 203 | 18.4 | 0.0 | 47.6 |

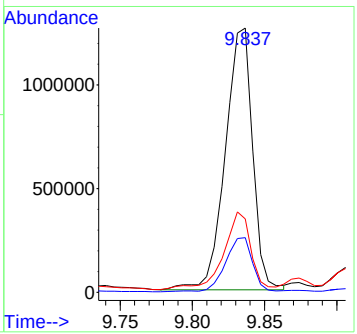


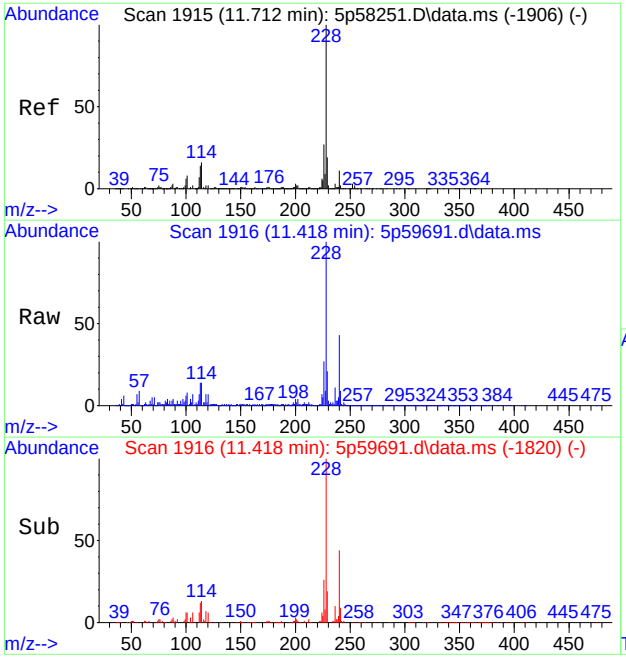




#84
Pyrene
Concen: 60.22 ppm
RT: 9.837 min Scan# 1620
Delta R.T. 0.064 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:202 Resp: 1662169

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.6 | 0.0 | 50.0 |
| 203 | 26.3 | 0.0 | 48.8 |

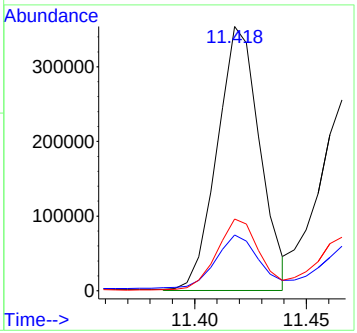


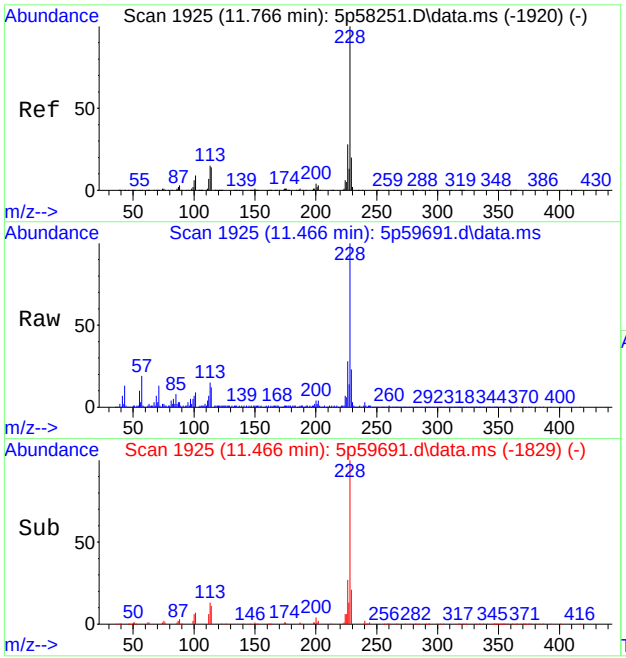



#87
Benzo[a]anthracene
Concen: 18.59 ppm m
RT: 11.418 min Scan# 1916
Delta R.T. 0.011 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:228 Resp: 471483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.1 | 0.0 | 50.1 |
| 226 | 27.1 | 0.0 | 56.3 |

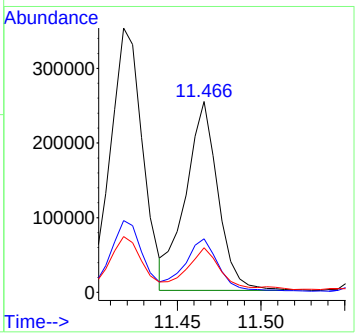


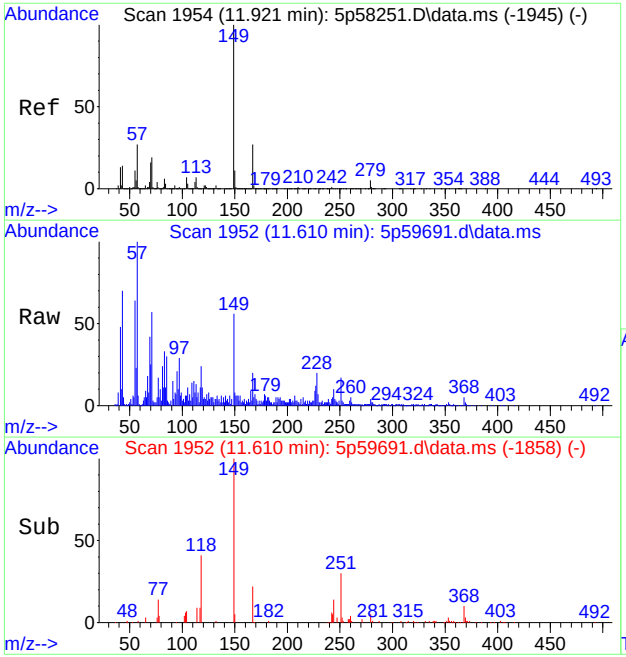




#89
Chrysene
Concen: 14.52 ppm m
RT: 11.466 min Scan# 1925
Delta R.T. 0.011 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:228 Resp: 340095

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.1 | 0.0 | 58.4 |
| 229 | 23.3 | 0.0 | 49.9 |

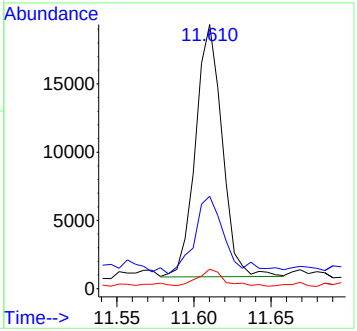


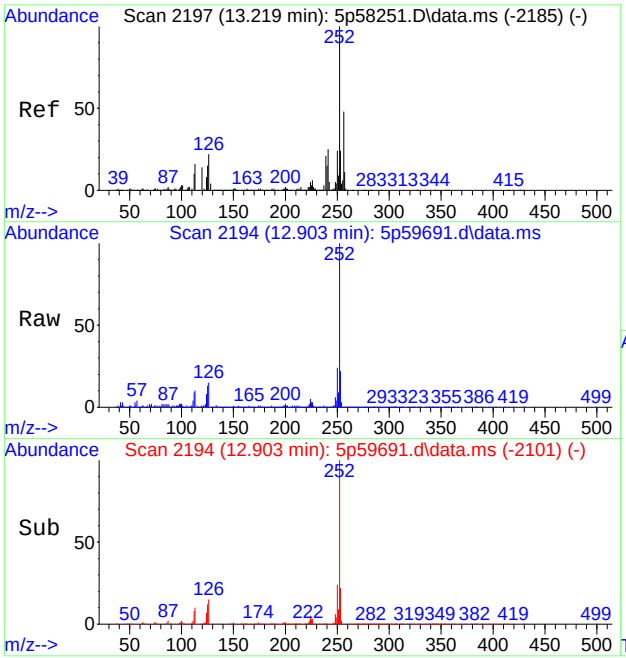



#90
bis(2-Ethylhexyl)phthalate
Concen: 1.33 ppm
RT: 11.610 min Scan# 1952
Delta R.T. 0.000 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:149 Resp: 22282

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 28.8 | 0.0 | 58.7 |
| 279 | 5.5 | 0.0 | 36.1 |

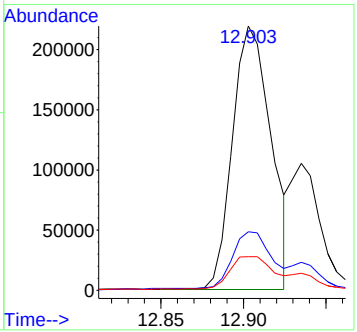


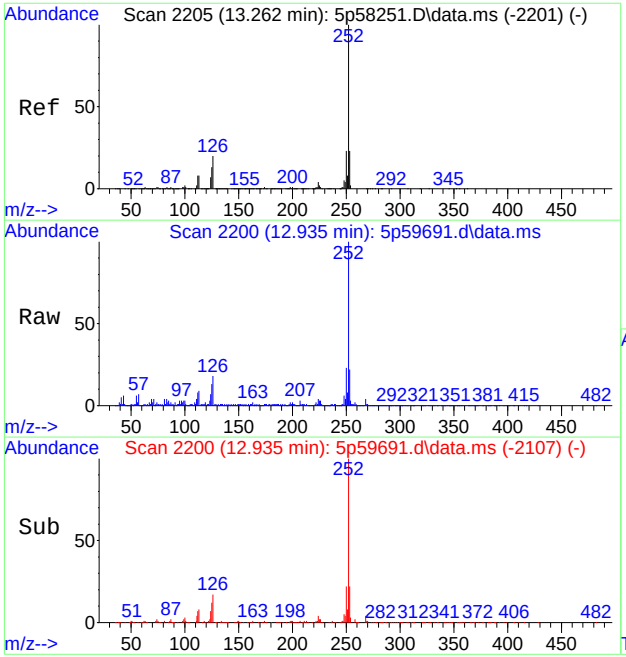




#93
Benzo[b]fluoranthene
Concen: 15.59 ppm
RT: 12.903 min Scan# 2194
Delta R.T. -0.005 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:252 Resp: 357483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.6 | 0.0 | 52.9 |
| 125 | 11.9 | 0.0 | 42.9 |

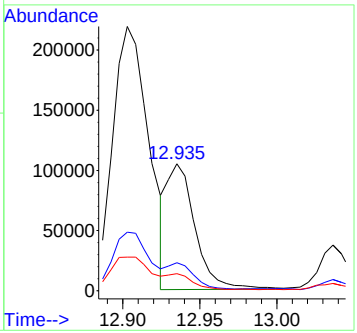


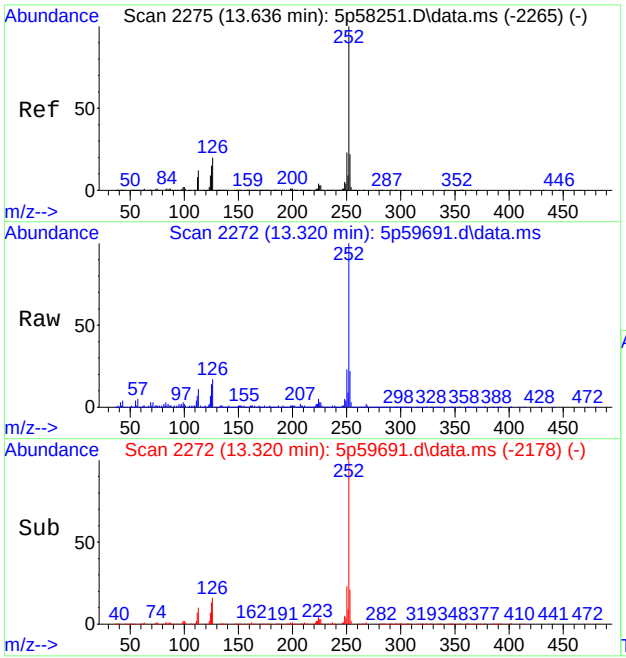



#94
Benzo[k]fluoranthene
Concen: 6.39 ppm
RT: 12.935 min Scan# 2200
Delta R.T. -0.005 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:252 Resp: 134163

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 20.8 | 0.0 | 52.7 |
| 125 | 11.6 | 0.0 | 43.4 |

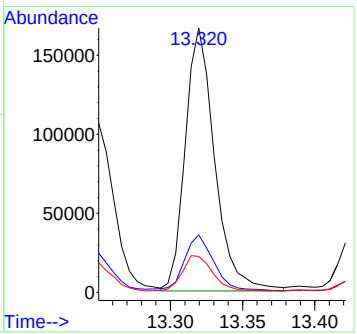


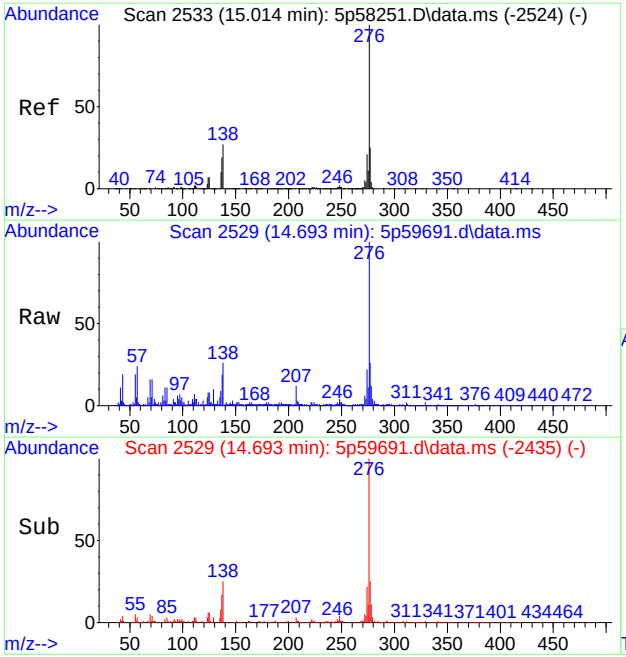




#95
Benzo[a]pyrene
Concen: 11.58 ppm
RT: 13.320 min Scan# 2272
Delta R.T. 0.000 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:252 Resp: 236510

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.2 | 0.0 | 52.4 |
| 125 | 13.1 | 0.0 | 44.0 |

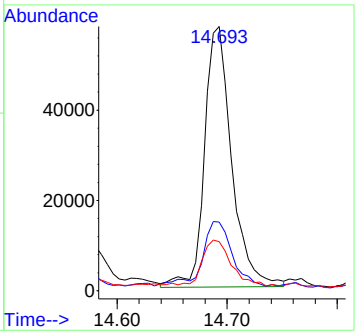


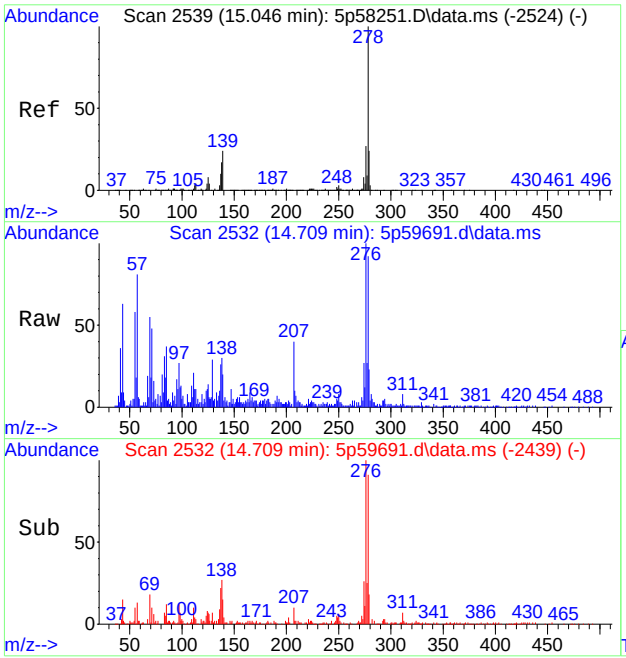



#96
Indeno[1,2,3-cd]pyrene
Concen: 5.46 ppm
RT: 14.693 min Scan# 2529
Delta R.T. 0.000 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:276 Resp: 99724

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.2 | 0.0 | 55.3 |
| 137 | 17.0 | 0.0 | 47.6 |

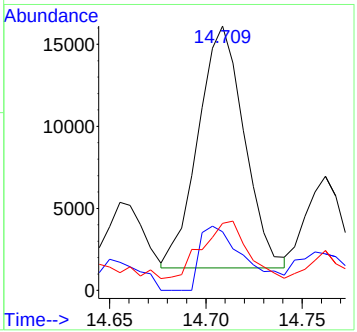


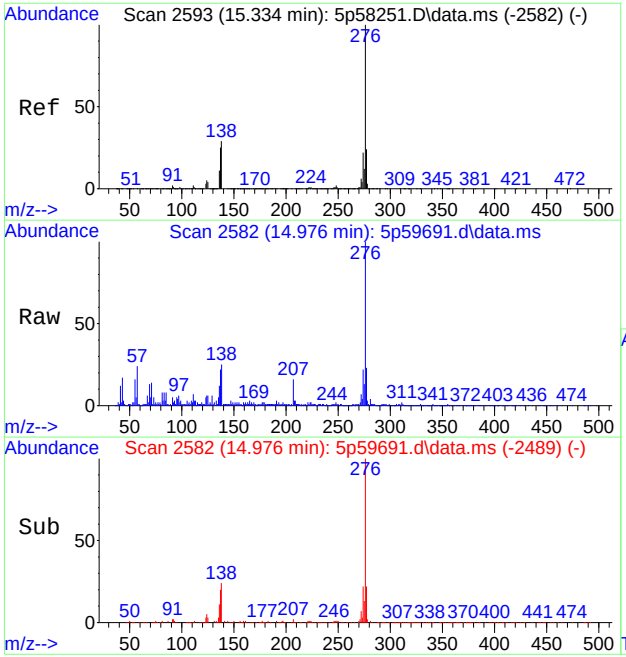




#98
Dibenz[a,h]anthracene
Concen: 1.30 ppm m
RT: 14.709 min Scan# 2532
Delta R.T. -0.005 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:278 Resp: 24605

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 22.2 | 0.0 | 50.1 |
| 279 | 25.4 | 0.0 | 53.7 |

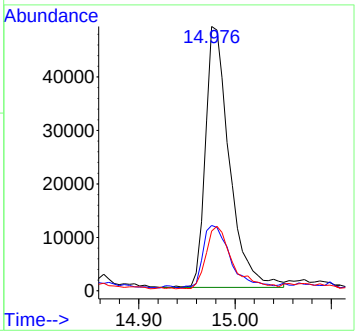





#100
Benzo[g,h,i]perylene
Concen: 4.58 ppm
RT: 14.976 min Scan# 2582
Delta R.T. -0.005 min
Lab File: 5p59691.d
Acq: 16 May 2019 3:43 pm

Tgt Ion:276 Resp: 84532

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.3 | 0.0 | 57.0 |
| 277 | 21.2 | 0.0 | 54.6 |



# Manual Integration Approval Summary



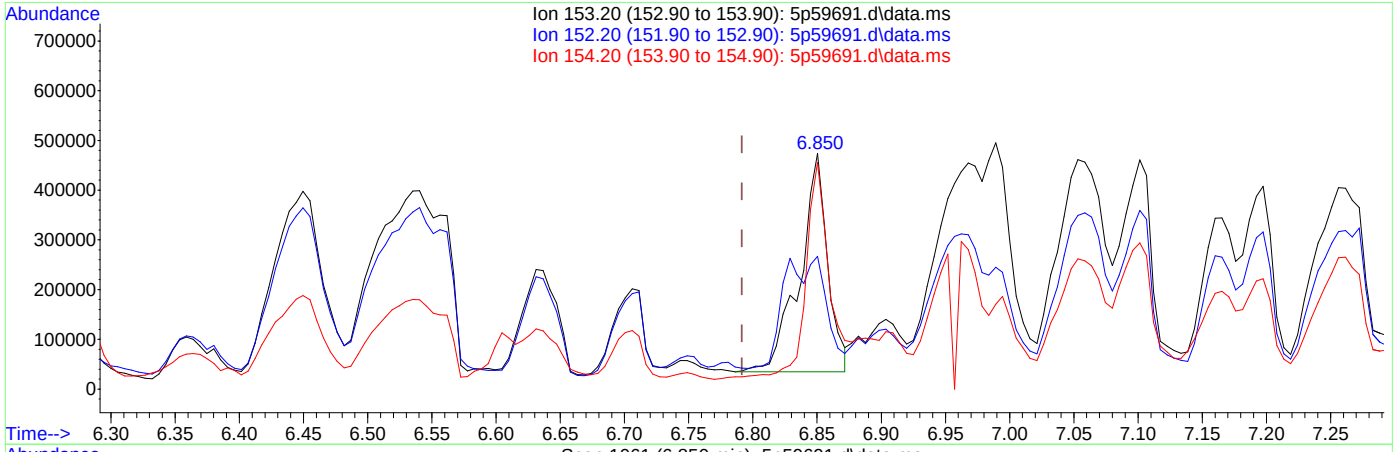
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-9 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P59691.D | **Analyst approved:** | 05/17/19 01:15 Michelle Co |
| **Injection Time:** | 05/16/19 15:43 | **Supervisor approved:** | 05/20/19 13:19 Nancy Ma |

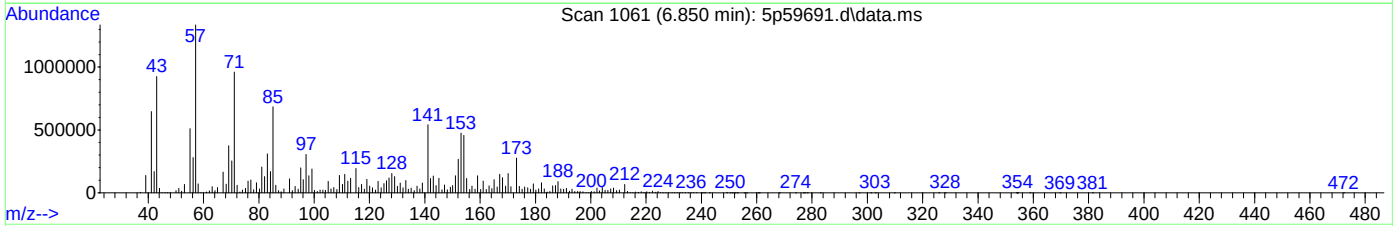
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Acenaphthene | 83-32-9 | | 6.85 | Poor instrument integration |
| Benzo(a)anthracene | 56-55-3 | | 11.42 | Poor instrument integration |
| Chrysene-d12 | 1719-03-5 | | 11.43 | Poor instrument integration |
| Chrysene | 218-01-9 | | 11.47 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.71 | Poor instrument integration |

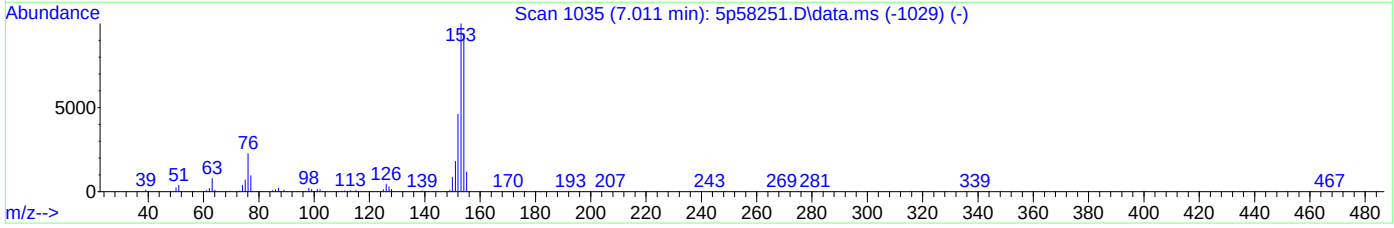
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:52:37 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(59) Acenaphthene (t)

6.850min (+0.059) 62.92ppm

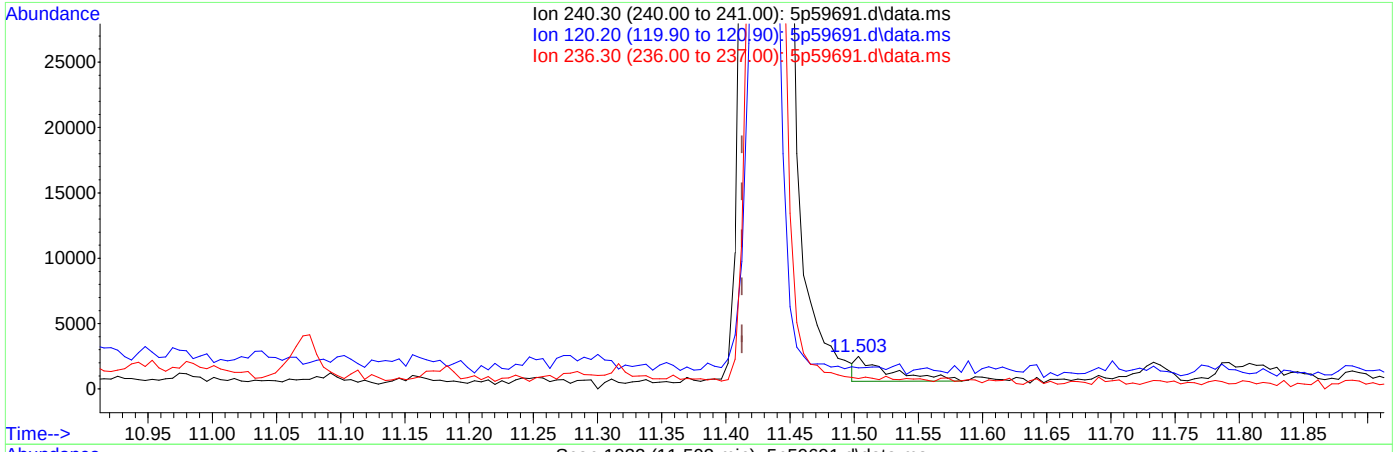
response 665434

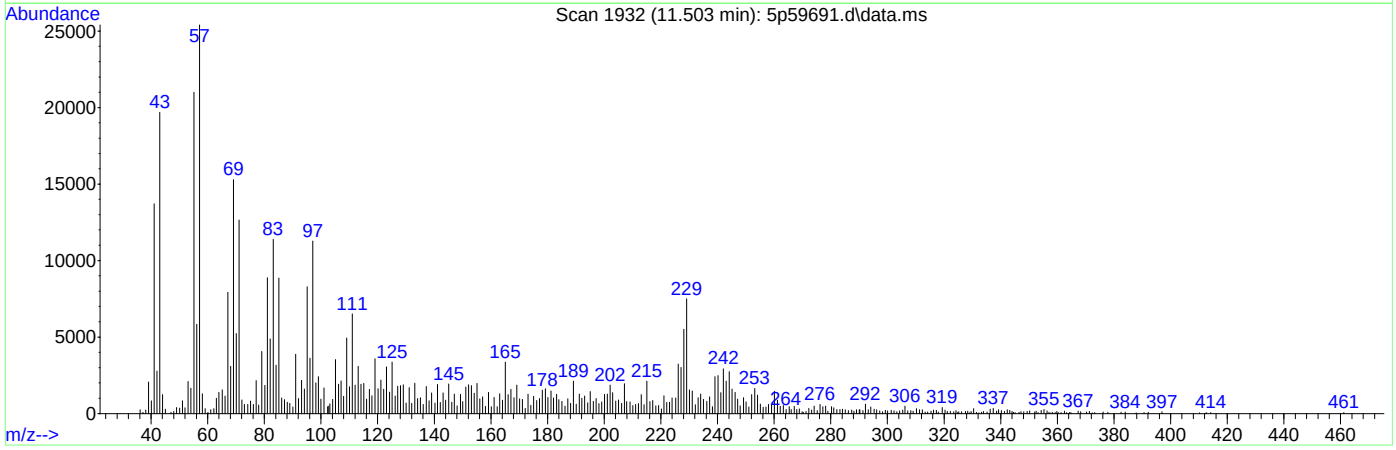
| Ion | Exp% | Act% |
|---|---|---|
| 153.20 | 100 | 100 |
| 152.20 | 47.30 | 50.37 |
| 154.20 | 94.40 | 95.11 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(83) Chrysene-d12 (I)

11.503min (+0.091) 40.00ppm

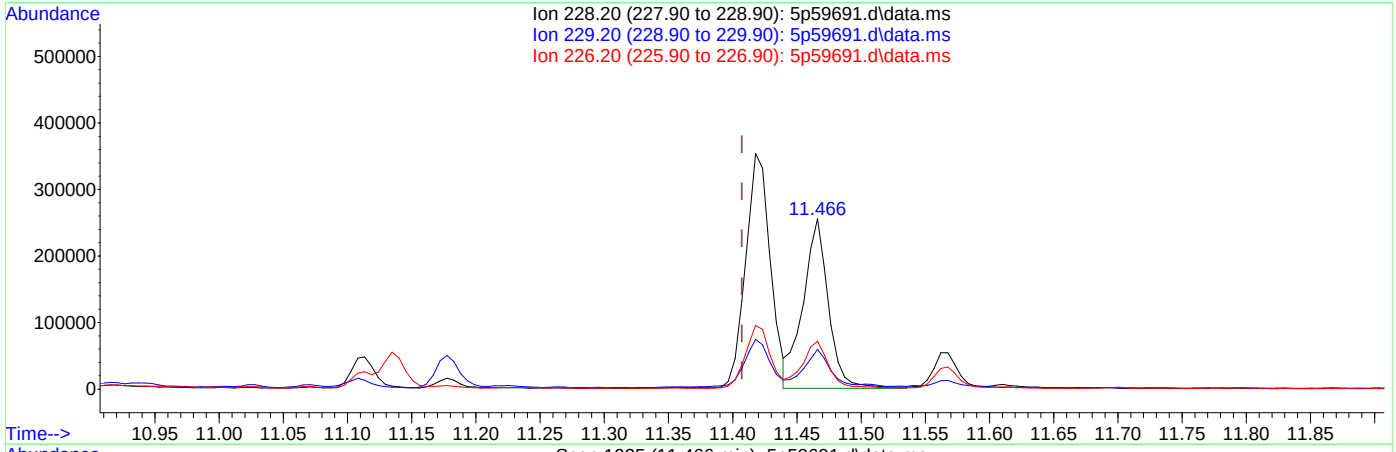
response 3313

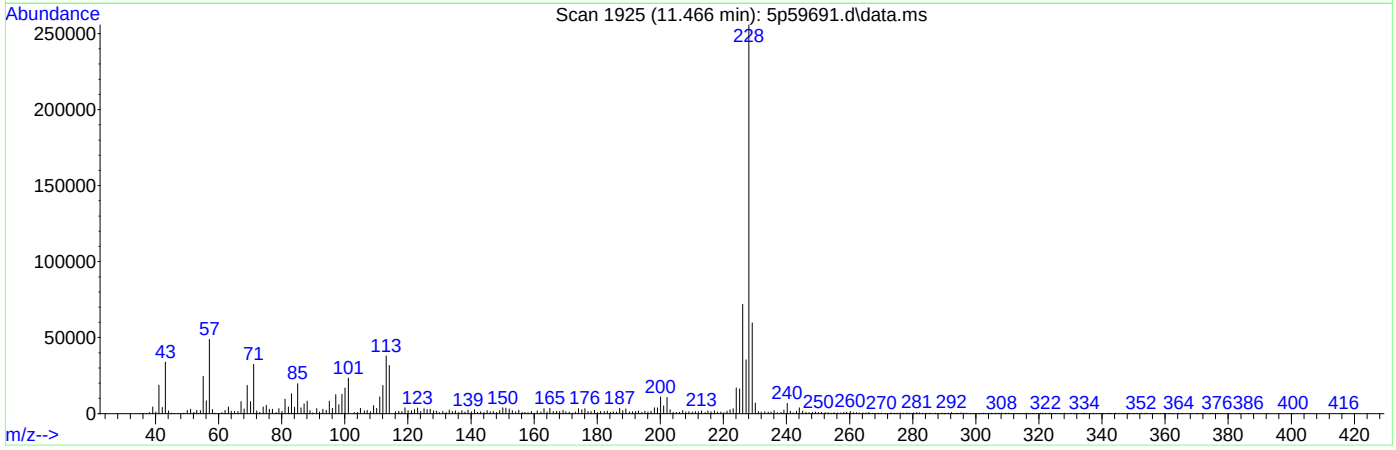
| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 10.55 |
| 236.30 | 24.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(87) Benzo[a]anthracene (t)

11.466min (+0.059) 13.82ppm

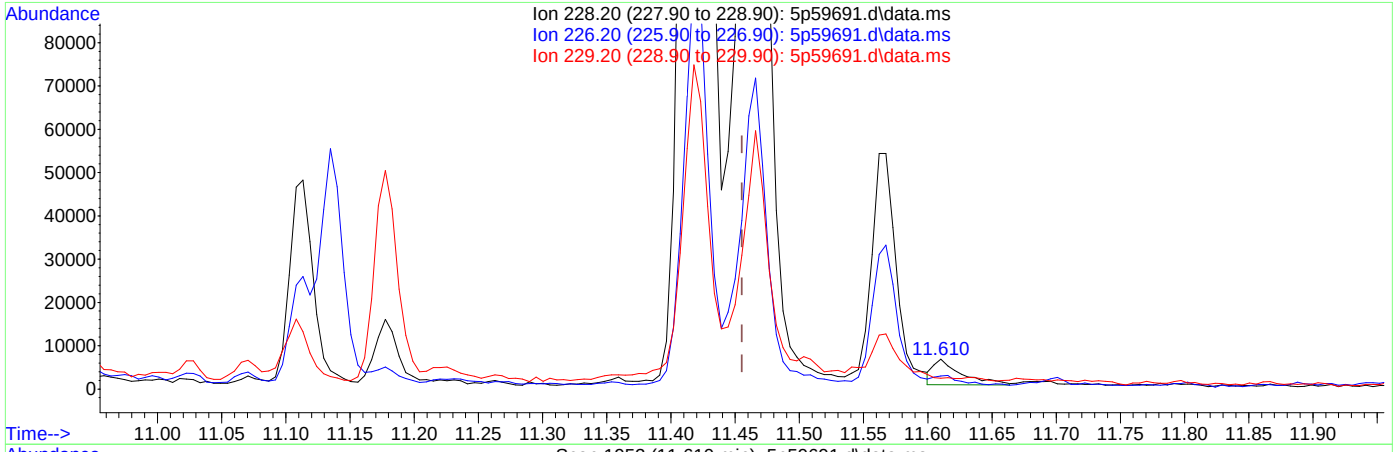
response 350600

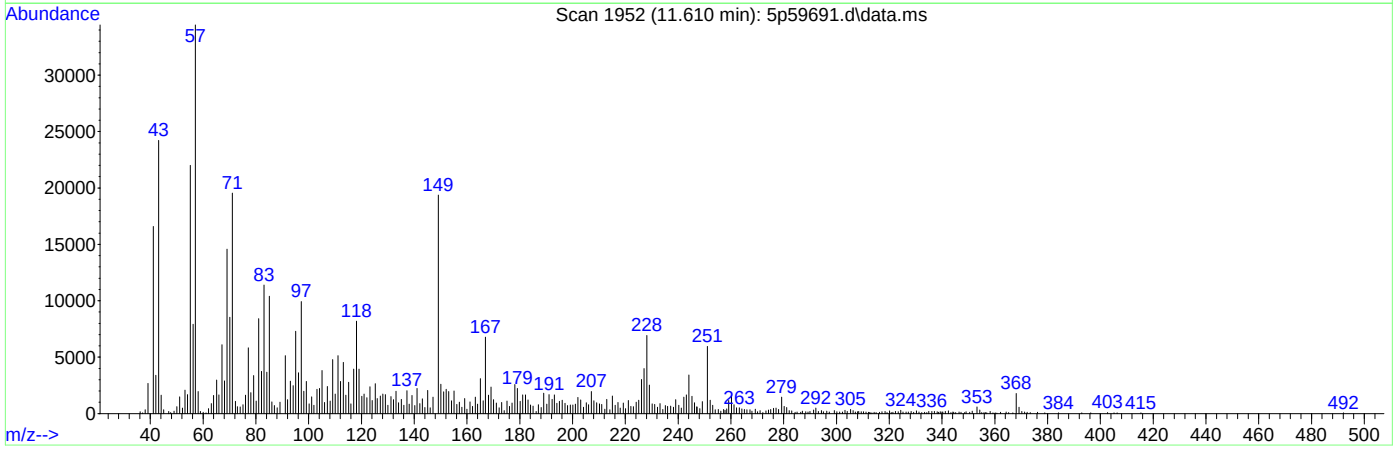
| Ion | Exp% | Act% |
|---|---|---|
| 228.20 | 100 | 100 |
| 229.20 | 20.10 | 21.98 |
| 226.20 | 26.30 | 27.60 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(89) Chrysene (t)

11.610min (+0.155) 0.38ppm

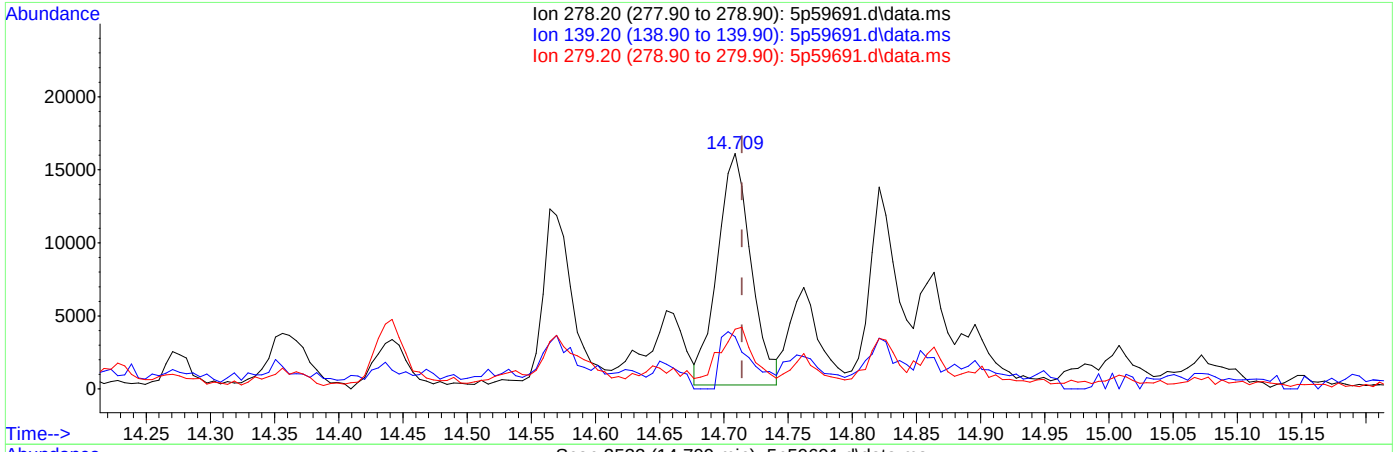
response 9005

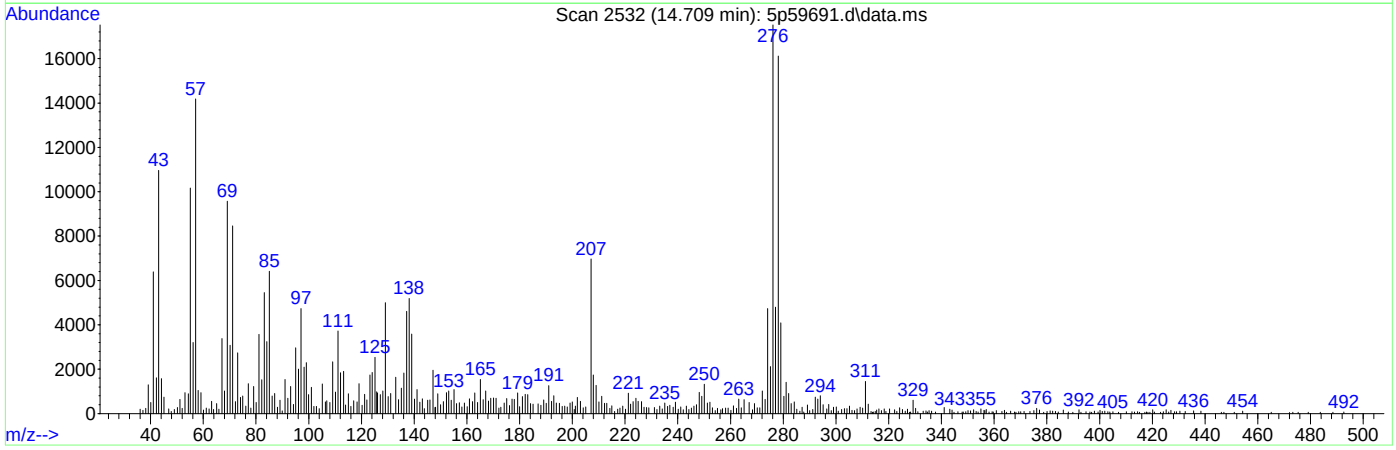
| Ion | Exp% | Act% |
|---|---|---|
| 228.20 | 100 | 100 |
| 226.20 | 28.40 | 33.74 |
| 229.20 | 19.90 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.709min (-0.005) 1.52ppm

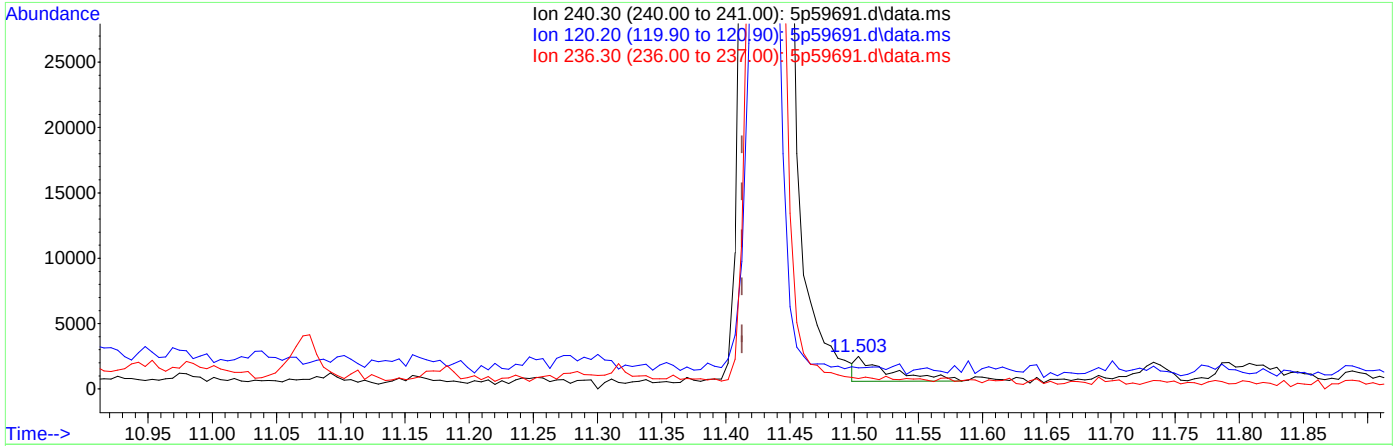
response 28792

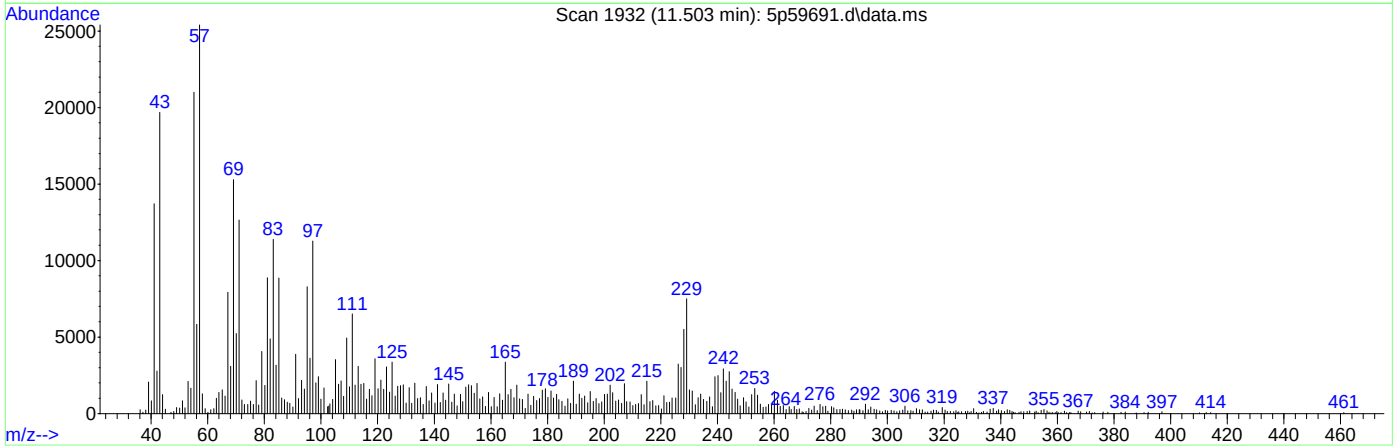
| Ion | Exp% | Act% |
|---|---|---|
| 278.20 | 100 | 100 |
| 139.20 | 20.10 | 21.80 |
| 279.20 | 23.70 | 23.56 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(105) Chrysene-d12a

11.503min (+0.091) 40.00ppm

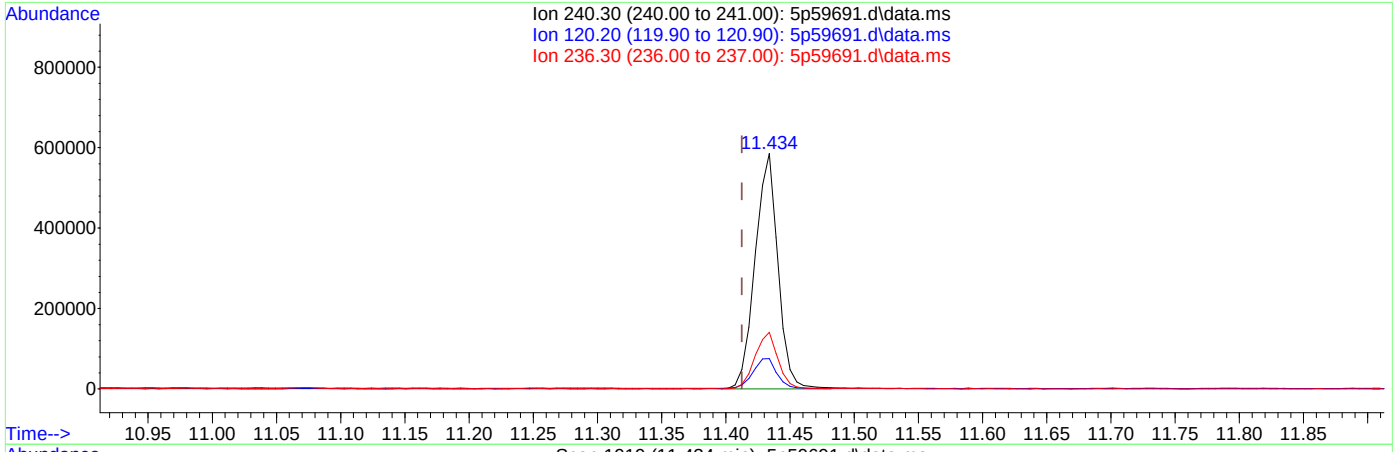
response 3313

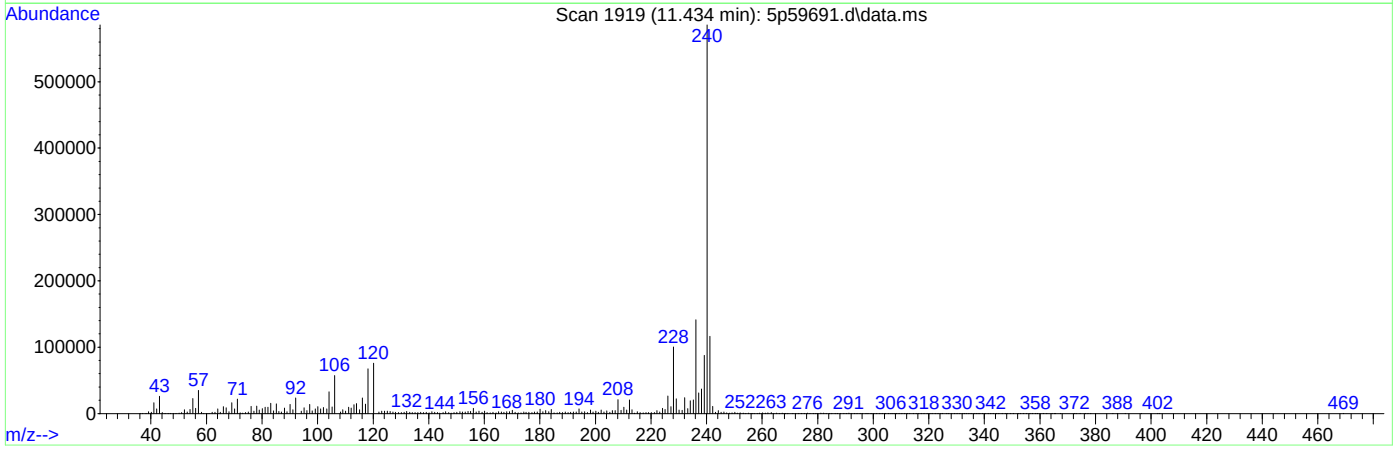
| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 10.55 |
| 236.30 | 24.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(105) Chrysene-d12a

11.434min (+0.021) 40.00ppm m

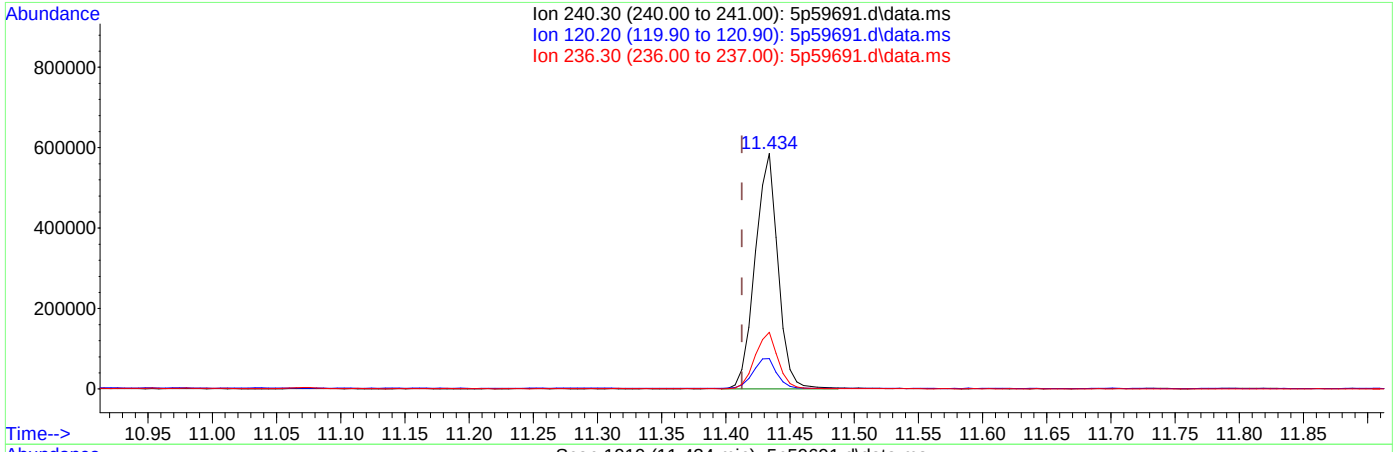
response 725931

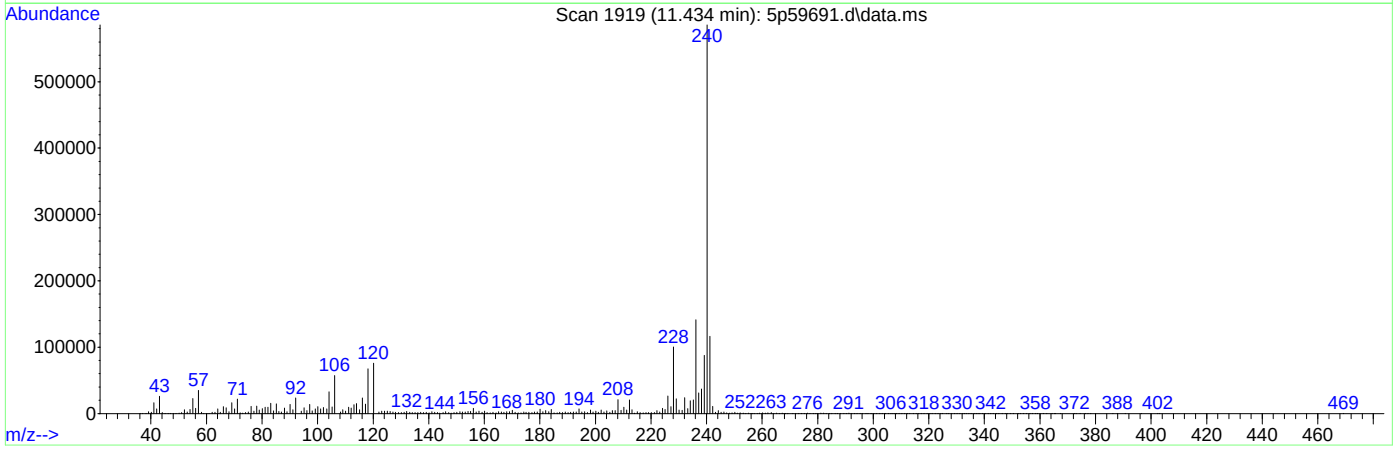
| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 12.93 |
| 236.30 | 24.20 | 24.11 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59691.d
Acq On : 16 May 2019 3:43 pm
Operator : christc2
Sample : jc87535-9 Inst : MS5P
Misc : op20269,e5p2816,32.8,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:57:41 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59691.d\data.ms

(83) Chrysene-d12 (I)

11.434min (+0.021) 40.00ppm m

response 726292

| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 12.93 |
| 236.30 | 24.20 | 24.11 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59745.D
Acq On : 17 May 2019 5:29 pm
Operator : christc2
Sample : jc87535-9
Misc : op20269,e5p2818,32.8,,,1,10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 17 18:00:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 17:56:55 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.869 | 152 | 148538 | 40.00 | ppm | -0.09 |
| 24) Naphthalene-d8 | 5.050 | 136 | 552285 | 40.00 | ppm | -0.09 |
| 47) Acenaphthene-d10 | 6.738 | 164 | 344099 | 40.00 | ppm | -0.09 |
| 69) Phenanthrene-d10 | 8.170 | 188 | 651835 | 40.00 | ppm | -0.09 |
| 83) Chrysene-d12 | 11.375 | 240 | 773909 | 40.00 | ppm | -0.15 |
| 91) Perylene-d12 | 13.346 | 264 | 722960 | 40.00 | ppm | -0.15 |
| 101) 1,4-Dichlorobenzene-d4b | 3.869 | 152 | 148538 | 40.00 | ppm | -0.08 |
| 103) Acenaphthene-d10a | 6.738 | 164 | 344150 | 40.00 | ppm | -0.09 |
| 105) Chrysene-d12a | 11.375 | 240 | 773909 | 40.00 | ppm | -0.15 |
| 107) Phenanthrene-d10a | 8.170 | 188 | 651835 | 40.00 | ppm | -0.09 |
| 111) Naphthalene-d8a | 5.050 | 136 | 552285 | 40.00 | ppm | -0.09 |
| 113) Chrysene-d12b | 11.375 | 240 | 773339 | 40.00 | ppm | -0.15 |
| 115) 1,4-Dichlorobenzene-d4c | 3.869 | 152 | 148538 | 40.00 | ppm | -0.08 |
| 117) Chrysene-d12c | 11.375 | 240 | 773909 | 40.00 | ppm | -0.15 |
| 119) Chrysene-d12d | 11.375 | 240 | 773339 | 40.00 | ppm | -0.15 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.779 | 112 | 19575 | 3.38 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = | 6.76% | | |
| 8) Phenol-d5 | 3.650 | 99 | 26309 | 3.61 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 7.22% | | |
| 25) Nitrobenzene-d5 | 4.403 | 82 | 33412 | 5.22 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 10.44% | | |
| 51) 2-Fluorobiphenyl | 6.108 | 172 | 48145 | 4.03 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = | 8.06% | | |
| 73) 2,4,6-Tribromophenol | 7.513 | 330 | 6827 | 3.63 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = | 7.26% | | |
| 85) Terphenyl-d14 | 9.991 | 244 | 68801 | 3.49 | ppm | -0.14 |
| Spiked Amount 50.000 | | | Recovery = | 6.98% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.071 | 128 | 488310 | 35.08 | ppm | 96 |
| 44) 2-Methylnaphthalene | 5.750 | 141 | 1197421 | 146.64 | ppm | 98 |
| 53) Biphenyl | 6.198 | 154 | 136639 | 10.61 | ppm | 99 |
| 59) Acenaphthene | 6.770 | 153 | 105840 | 10.66 | ppm | 80 |
| 62) Dibenzofuran | 6.941 | 168 | 84200 | 5.63 | ppm | 79 |
| 66) Fluorene | 7.267 | 166 | 154522 | 13.09 | ppm | 95 |
| 77) Phenanthrene | 8.191 | 178 | 522717 | 29.67 | ppm | 98 |
| 78) Anthracene | 8.239 | 178 | 101199 | 5.47 | ppm | 87 |
| 81) Fluoranthene | 9.479 | 202 | 184627 | 8.44 | ppm | 97 |
| 84) Pyrene | 9.746 | 202 | 171405 | 5.83 | ppm | 93 |
| 87) Benzo[a]anthracene | 11.364 | 228 | 50106 | 1.85 | ppm | 98 |
| 89) Chrysene | 11.412 | 228 | 35584 | 1.43 | ppm | 94 |
| 93) Benzo[b]fluoranthene | 12.866 | 252 | 34629 | 1.57 | ppm | 88 |
| 94) Benzo[k]fluoranthene | 12.898 | 252 | 15787 | 0.78 | ppm | 85 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59745.D
Acq On : 17 May 2019 5:29 pm
Operator : christc2
Sample : jc87535-9
Misc : op20269,e5p2818,32.8,,,1,10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 17 18:00:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 17:56:55 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 95) Benzo[a]pyrene | 13.282 | 252 | 23094 | 1.17 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 14.666 | 276 | 8936 | 0.51 | ppm | 92 |
| 98) Dibenz[a,h]anthracene | 14.677 | 278 | 2888 | 0.16 | ppm | 74 |
| 100) Benzo[g,h,i]perylene | 14.954 | 276 | 8989 | 0.51 | ppm | 87 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

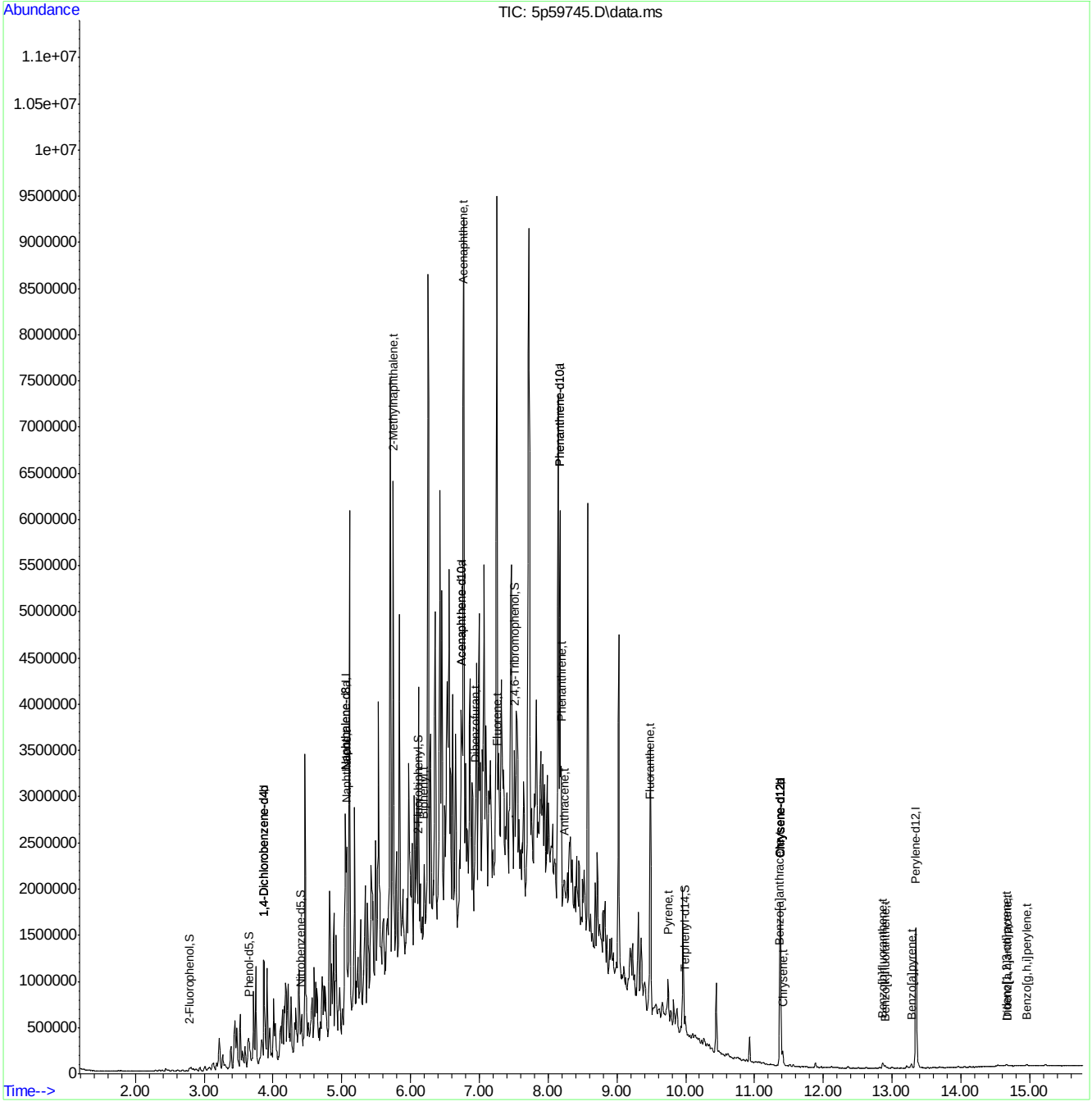
9.1.16

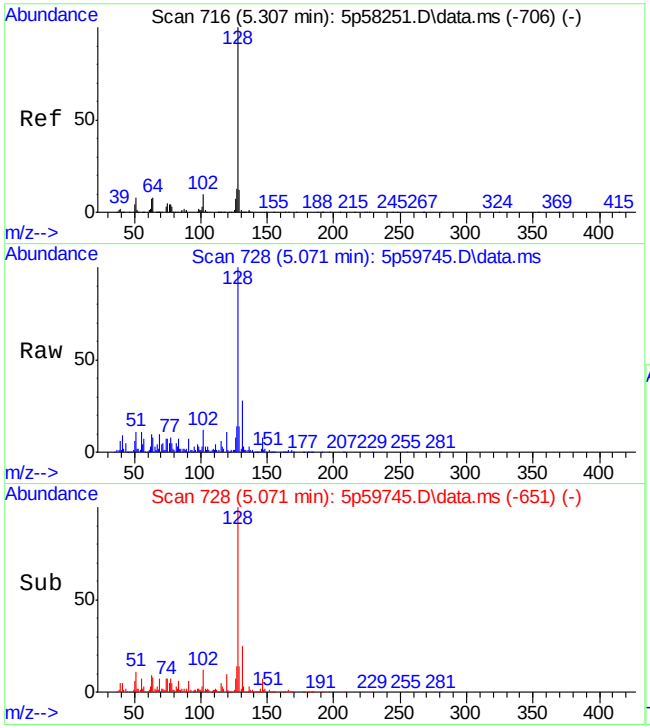
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59745.D
Acq On : 17 May 2019 5:29 pm
Operator : christc2
Sample : jc87535-9
Misc : op20269,e5p2818,32.8,,,1,10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 17 18:00:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 17:56:55 2019
Response via : Initial Calibration

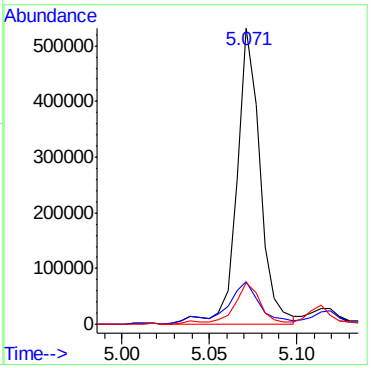


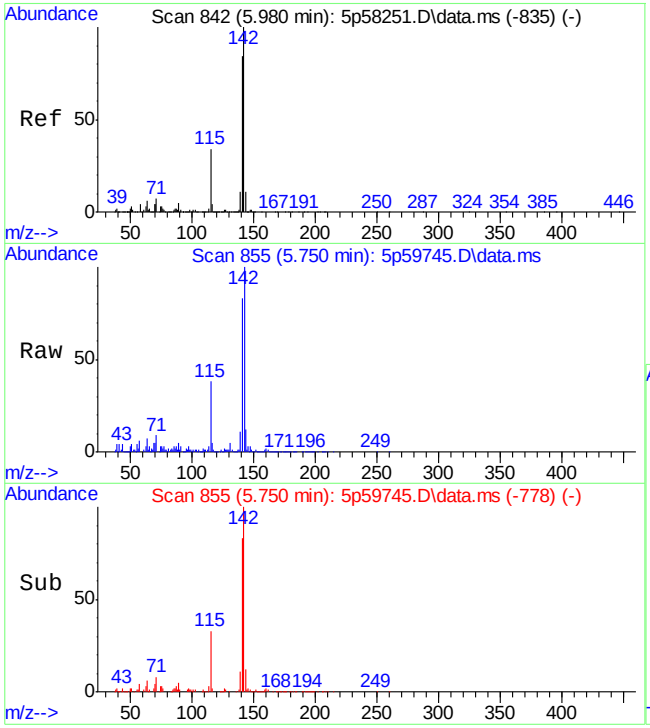



#38
Naphthalene
Concen: 35.08 ppm
RT: 5.071 min Scan# 728
Delta R.T. -0.091 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:128 Resp: 488310

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 14.0 | 0.0 | 41.7 |
| 127 | 13.9 | 0.0 | 43.1 |

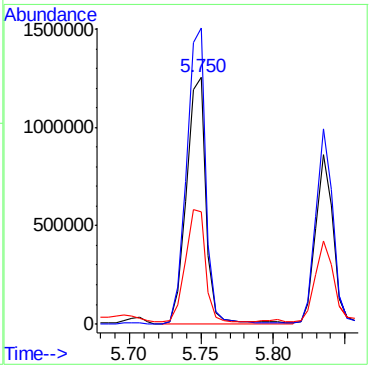


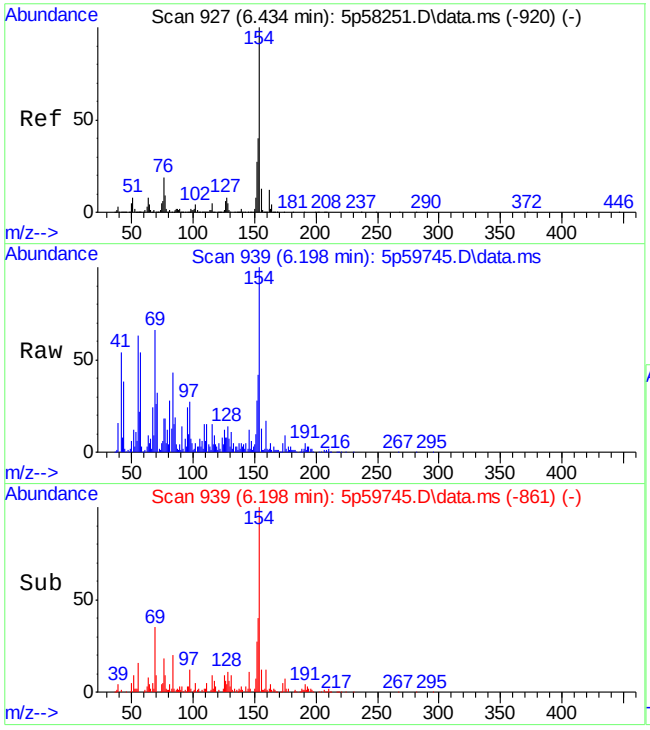




#44
2-Methylnaphthalene
Concen: 146.64 ppm
RT: 5.750 min Scan# 855
Delta R.T. -0.087 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:141 Resp: 1197421

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 120.0 | 89.9 | 149.9 |
| 115 | 44.6 | 10.7 | 70.7 |

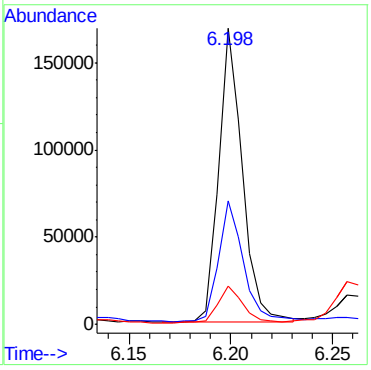


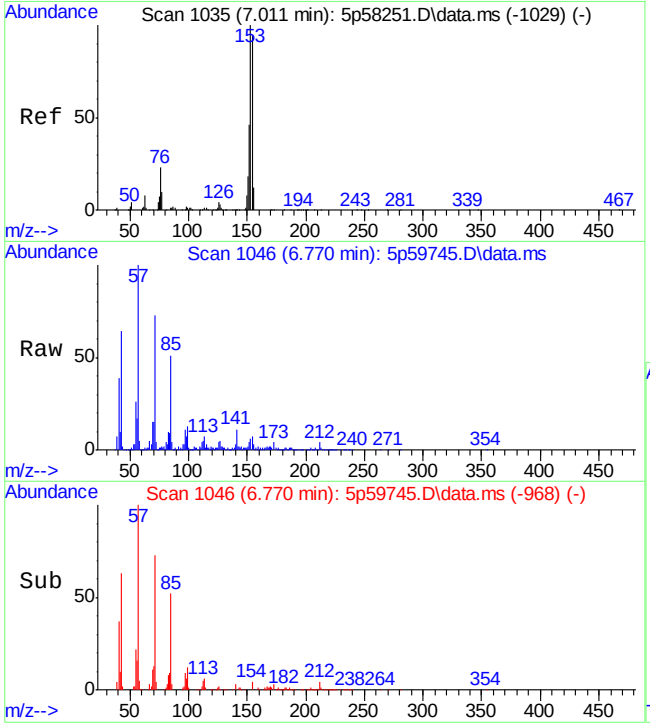



#53
Biphenyl
Concen: 10.61 ppm
RT: 6.198 min Scan# 939
Delta R.T. -0.082 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:154 Resp: 136639

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 40.6 | 10.2 | 70.2 |
| 155 | 12.1 | 0.0 | 43.4 |

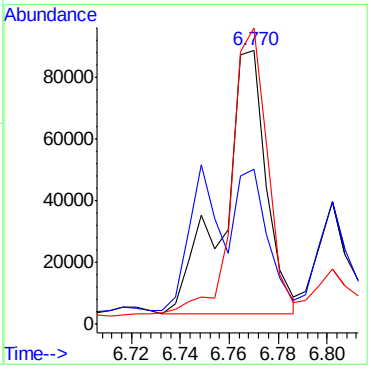


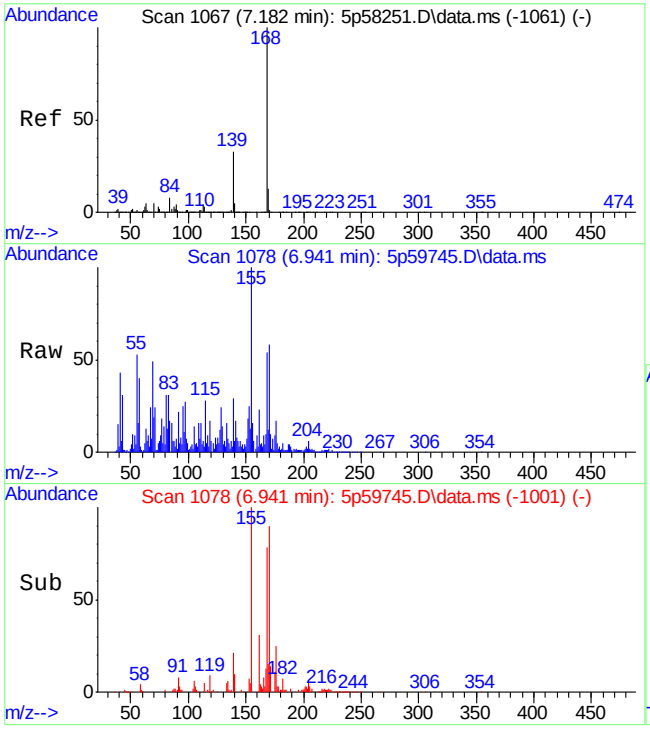




#59
Acenaphthene
Concen: 10.66 ppm
RT: 6.770 min Scan# 1046
Delta R.T. -0.086 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:153 Resp: 105840

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 53.0 | 15.9 | 75.9 |
| 154 | 109.3 | 56.1 | 116.1 |

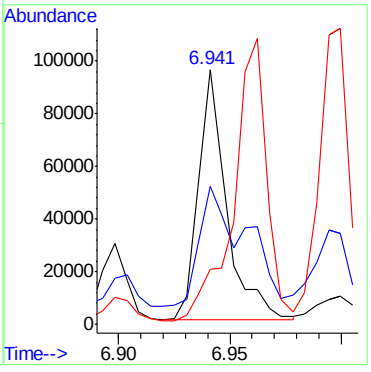


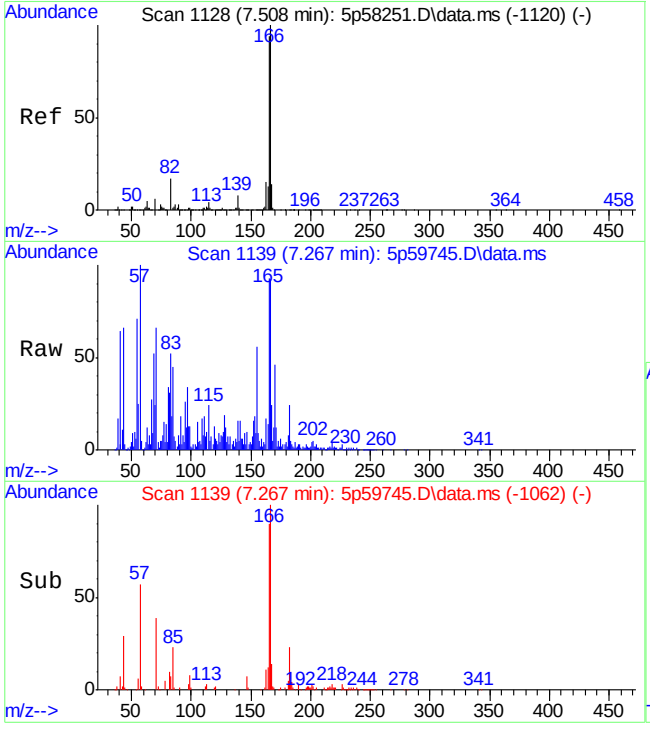



#62
Dibenzofuran
Concen: 5.63 ppm
RT: 6.941 min Scan# 1078
Delta R.T. -0.087 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:168 Resp: 84200

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 46.4 | 3.2 | 63.2 |
| 169 | 18.9 | 0.0 | 42.9 |

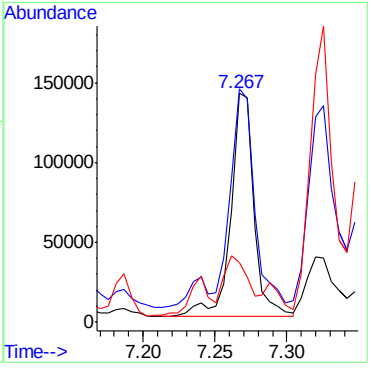


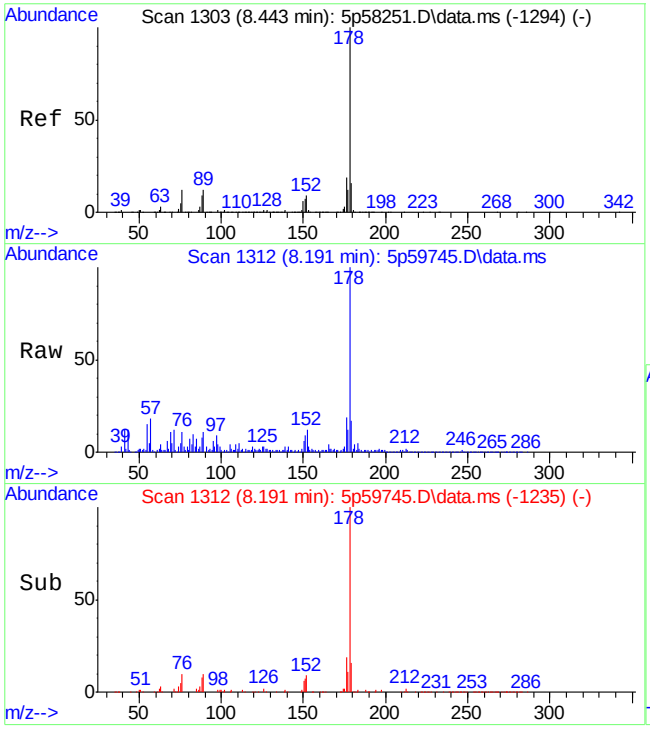




#66
Fluorene
Concen: 13.09 ppm
RT: 7.267 min Scan# 1139
Delta R.T. -0.089 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:166 Resp: 154522

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 97.2 | 64.3 | 124.3 |
| 167 | 22.4 | 0.0 | 43.8 |

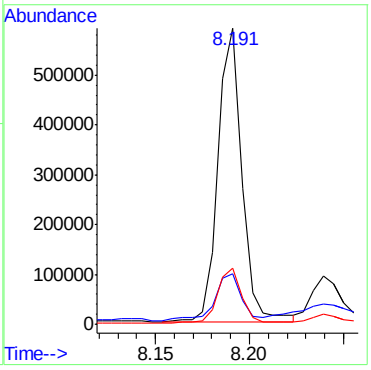


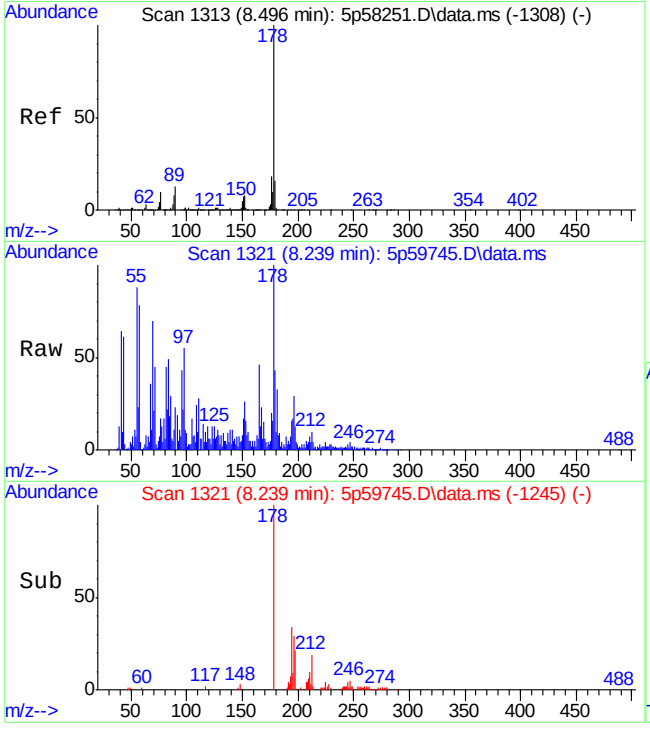



#77
Phenanthrene
Concen: 29.67 ppm
RT: 8.191 min Scan# 1312
Delta R.T. -0.091 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:178 Resp: 522717

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 14.7 | 0.0 | 45.8 |
| 176 | 18.8 | 0.0 | 48.5 |

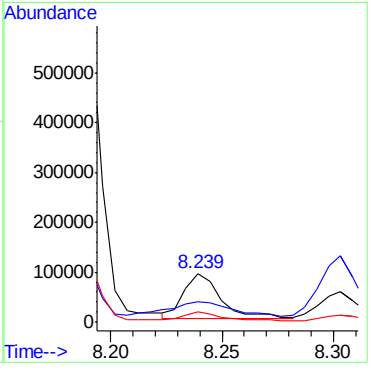


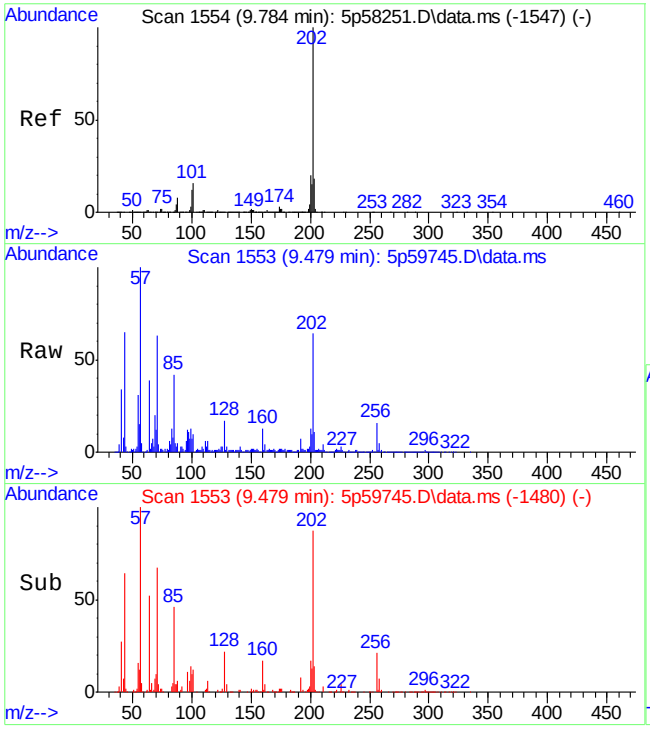




#78
Anthracene
Concen: 5.47 ppm
RT: 8.239 min Scan# 1321
Delta R.T. -0.097 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:178 Resp: 101199

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 27.2 | 0.0 | 45.6 |
| 176 | 18.9 | 0.0 | 48.3 |

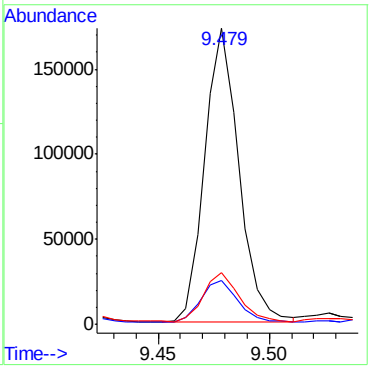


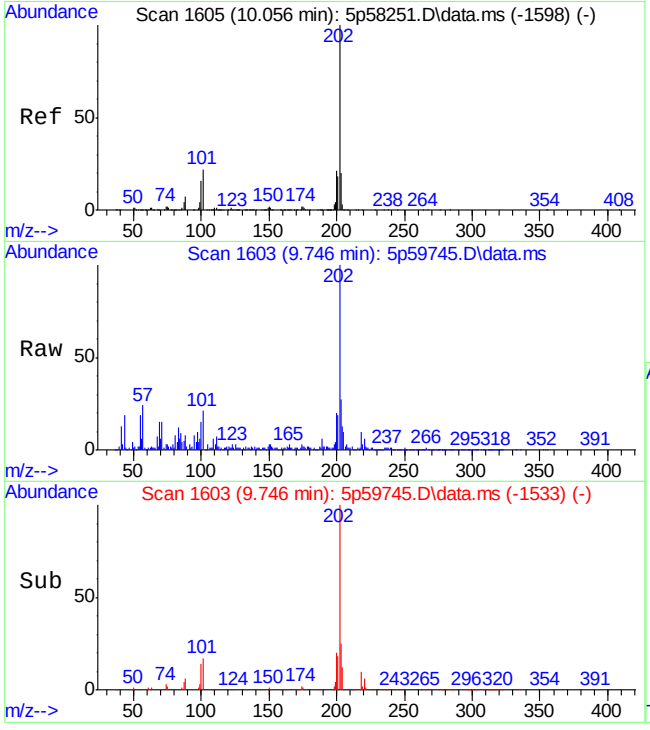



#81
Fluoranthene
Concen: 8.44 ppm
RT: 9.479 min Scan# 1553
Delta R.T. -0.111 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:202 Resp: 184627

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.4 | 0.0 | 46.5 |
| 203 | 16.8 | 0.0 | 47.7 |

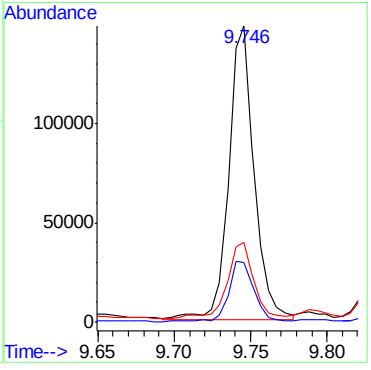


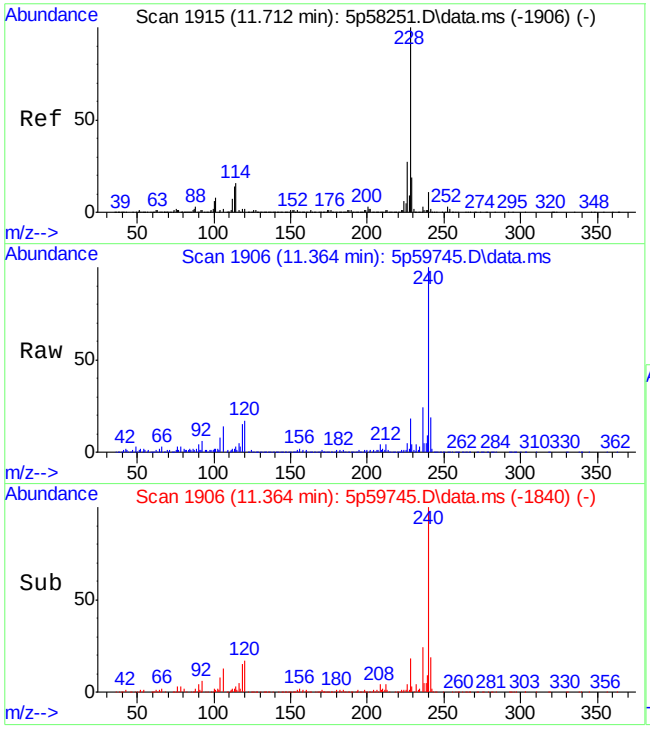




#84
Pyrene
Concen: 5.83 ppm
RT: 9.746 min Scan# 1603
Delta R.T. -0.125 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:202 Resp: 171405

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 19.9 | 0.0 | 50.6 |
| 203 | 25.6 | 0.0 | 49.5 |

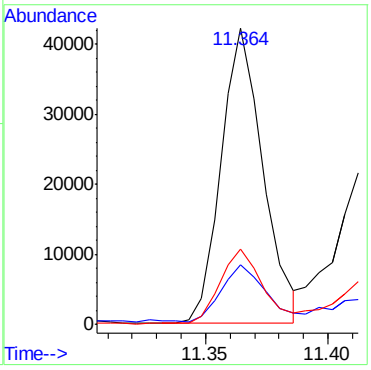


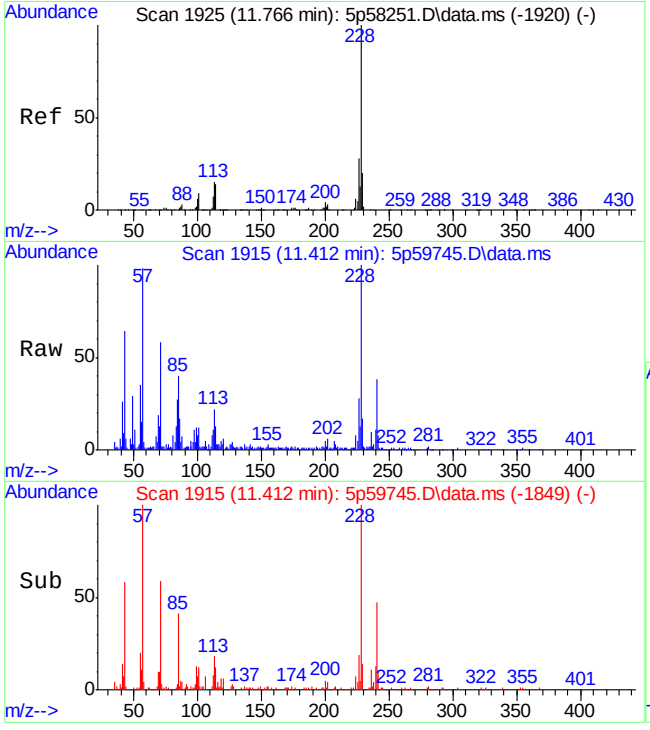



#87
Benzo[a]anthracene
Concen: 1.85 ppm
RT: 11.364 min Scan# 1906
Delta R.T. -0.149 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:228 Resp: 50106

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 18.6 | 0.0 | 49.3 |
| 226 | 24.8 | 0.0 | 56.3 |

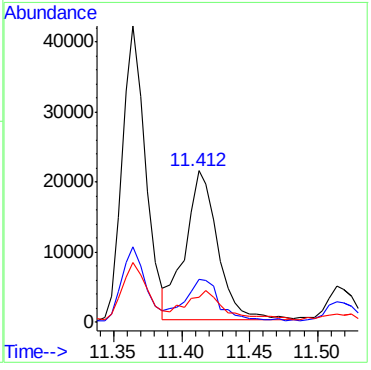


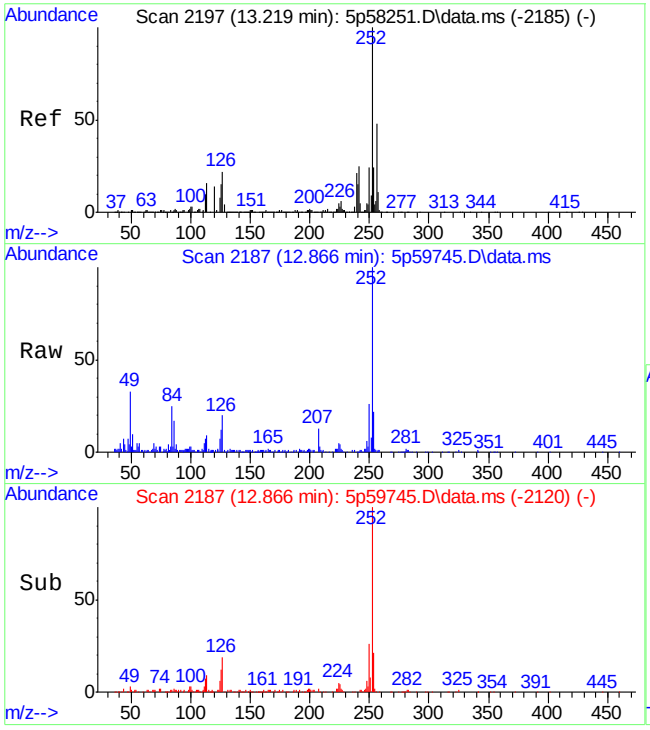




#89
Chrysene
Concen: 1.43 ppm
RT: 11.412 min Scan# 1915
Delta R.T. -0.150 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:228 Resp: 35584

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 26.9 | 0.0 | 58.6 |
| 229 | 14.1 | 0.0 | 49.0 |

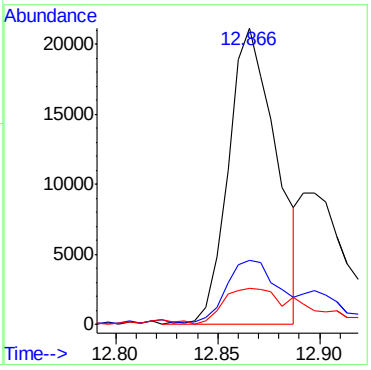


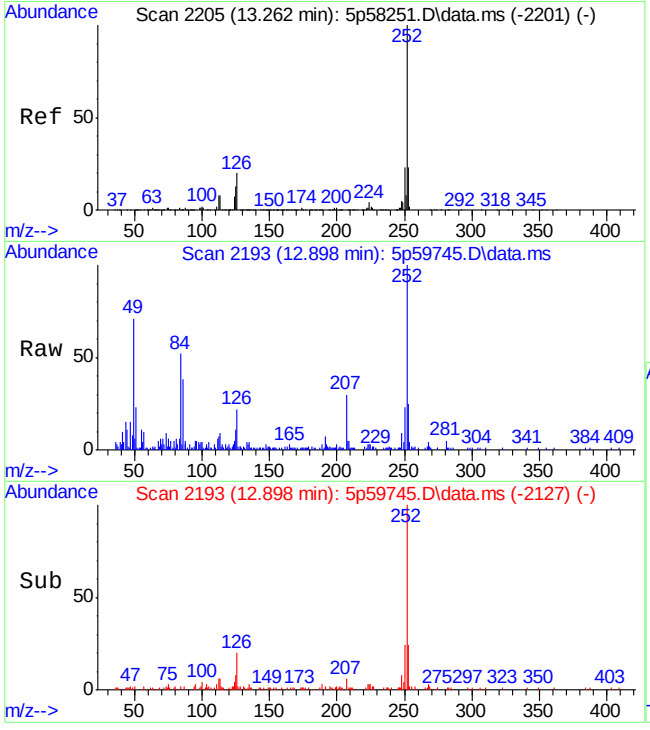



#93
Benzo[b]fluoranthene
Concen: 1.57 ppm
RT: 12.866 min Scan# 2187
Delta R.T. -0.140 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:252 Resp: 34629

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 20.0 | 0.0 | 54.7 |
| 125 | 8.7 | 0.0 | 45.6 |

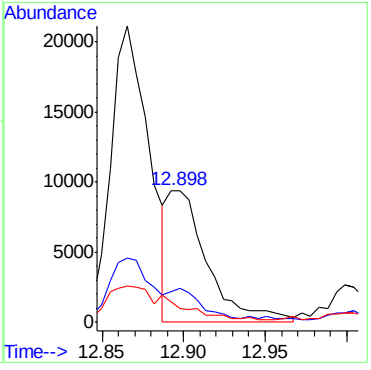


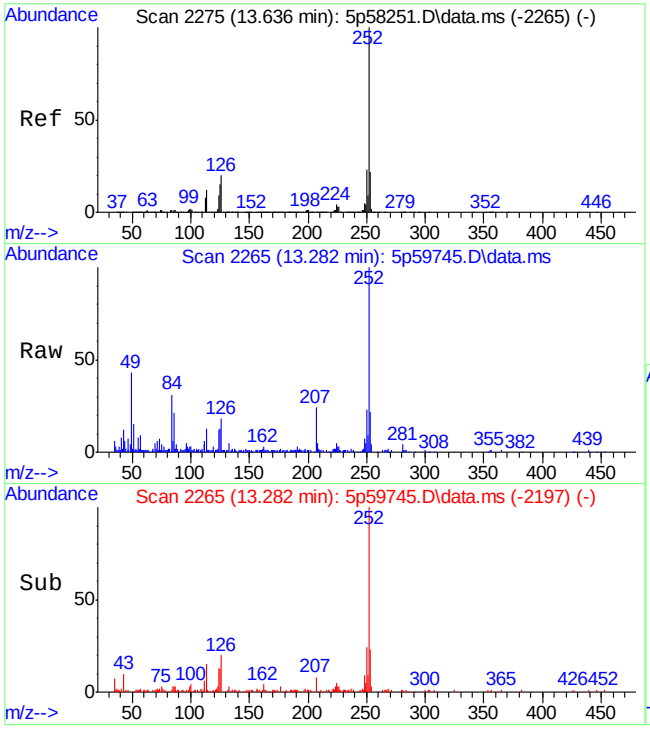




#94
Benzo[k]fluoranthene
Concen: 0.78 ppm
RT: 12.898 min Scan# 2193
Delta R.T. -0.146 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:252 Resp: 15787

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 25.2 | 0.0 | 52.6 |
| 125 | 0.0 | 0.0 | 43.1 |

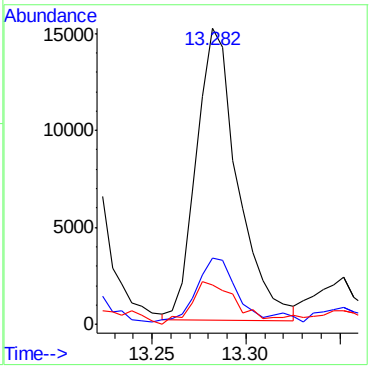


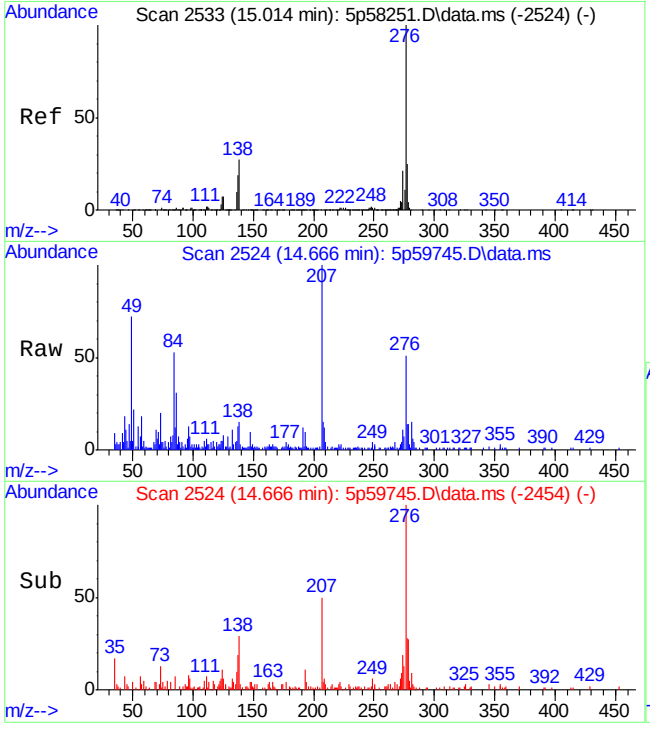



#95
Benzo[a]pyrene
Concen: 1.17 ppm
RT: 13.282 min Scan# 2265
Delta R.T. -0.138 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:252 Resp: 23094

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.0 | 0.0 | 52.1 |
| 125 | 12.4 | 0.0 | 44.8 |

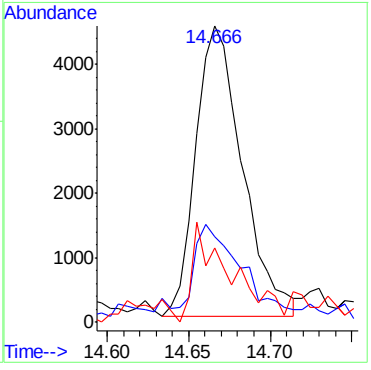


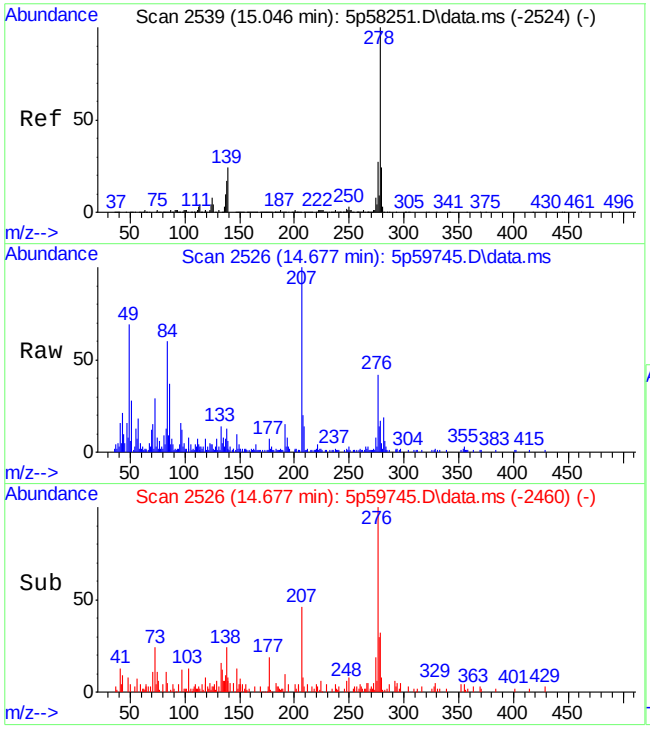




#96
Indeno[1,2,3-cd]pyrene
Concen: 0.51 ppm
RT: 14.666 min Scan# 2524
Delta R.T. -0.127 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:276 Resp: 8936

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.0 | 0.0 | 56.9 |
| 137 | 14.7 | 0.0 | 49.4 |

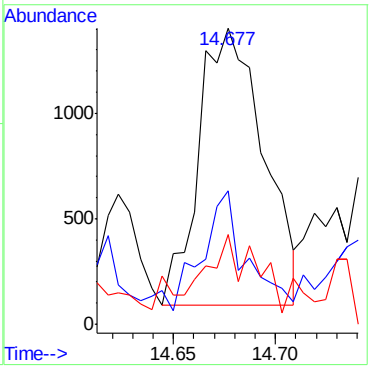


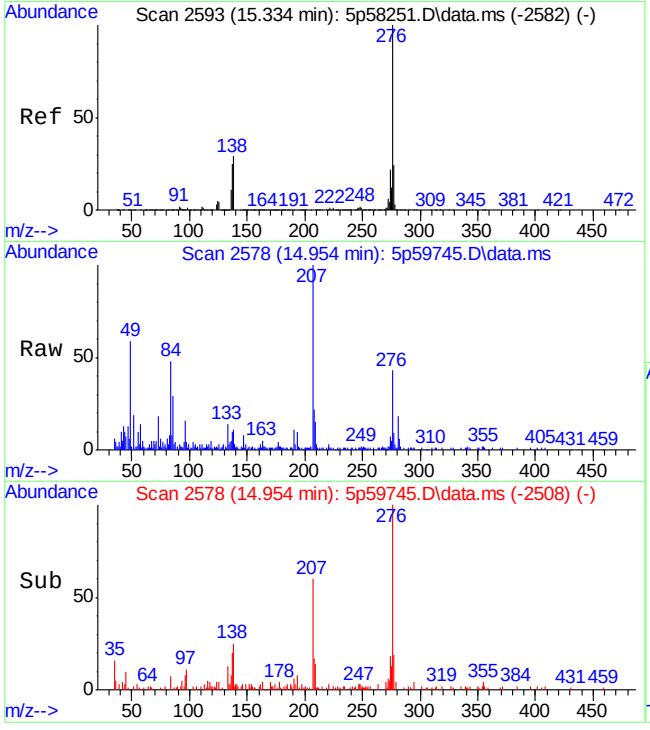



#98
Dibenz[a,h]anthracene
Concen: 0.16 ppm
RT: 14.677 min Scan# 2526
Delta R.T. -0.149 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:278 Resp: 2888

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 42.1 | 0.0 | 53.6 |
| 279 | 17.2 | 0.0 | 54.4 |

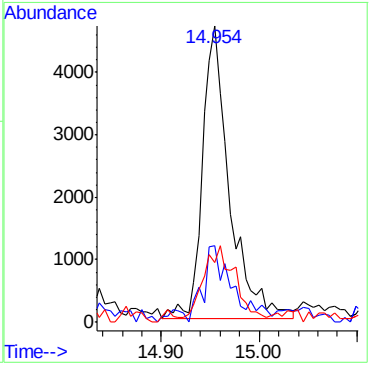



#100
Benzo[g,h,i]perylene
Concen: 0.51 ppm
RT: 14.954 min Scan# 2578
Delta R.T. -0.129 min
Lab File: 5p59745.D
Acq: 17 May 19 5:29 pm

Tgt Ion:276 Resp: 8989

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 21.7 | 0.0 | 59.0 |
| 277 | 18.0 | 0.0 | 53.7 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59692.d
Acq On : 16 May 2019 4:06 pm
Operator : christc2
Sample : jc87535-10 Inst : MS5P
Misc : op20269,e5p2816,30.2,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:02:32 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 198358 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.076 | 136 | 763831 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 394436 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 688068 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.418 | 240 | 708692 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.394 | 264 | 720821 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 198358 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 394436 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.418 | 240 | 708692 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 688068 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.076 | 136 | 763831 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.418 | 240 | 708692 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 198358 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.418 | 240 | 708692 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.418 | 240 | 708692 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.790 | 112 | 301254 | 39.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.00% | | |
| 8) Phenol-d5 | 3.661 | 99 | 406208 | 41.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 83.56% | | |
| 25) Nitrobenzene-d5 | 4.419 | 82 | 406509 | 45.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 91.82% | | |
| 51) 2-Fluorobiphenyl | 6.134 | 172 | 553518 | 40.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 80.76% | | |
| 73) 2,4,6-Tribromophenol | 7.534 | 330 | 75635 | 38.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 76.28% | | |
| 85) Terphenyl-d14 | 10.029 | 244 | 642101 | 35.61 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 71.22% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 21) 3&4-Methylphenol | 4.382 | 108 | 6813 | 0.95 | ppm | 95 |
| 38) Naphthalene | 5.098 | 128 | 403017 | 20.94 | ppm | 100 |
| 44) 2-Methylnaphthalene | 5.766 | 141 | 58054 | 5.14 | ppm | 99 |
| 53) Biphenyl | 6.225 | 154 | 20574 | 1.39 | ppm | 93 |
| 56) Acenaphthylene | 6.620 | 152 | 70686 | 3.86 | ppm | 97 |
| 59) Acenaphthene | 6.791 | 153 | 180283 | 15.84 | ppm | 96 |
| 62) Dibenzofuran | 6.962 | 168 | 120027 | 7.01 | ppm | 98 |
| 66) Fluorene | 7.288 | 166 | 204762 | 15.13 | ppm | 96 |
| 77) Phenanthrene | 8.212 | 178 | 754875 | 40.59 | ppm | 100 |
| 78) Anthracene | 8.260 | 178 | 296833 | 15.21 | ppm | 99 |
| 79) Carbazole | 8.453 | 167 | 151603 | 7.66 | ppm | 100 |
| 81) Fluoranthene | 9.516 | 202 | 526145 | 22.78 | ppm | 96 |
| 84) Pyrene | 9.778 | 202 | 450963 | 16.75 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.407 | 228 | 204808 | 8.27 | ppm | 95 |
| 89) Chrysene | 11.455 | 228 | 186638 | 8.17 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 12.903 | 252 | 185262 | 8.42 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 12.935 | 252 | 71564 | 3.55 | ppm | 96 |
| 95) Benzo[a]pyrene | 13.320 | 252 | 148631 | 7.58 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 14.693 | 276 | 74785 | 4.26 | ppm | 96 |
| 98) Dibenz[a,h]anthracene | 14.709 | 278 | 19990 | 1.10 | ppm | 95 |
| 100) Benzo[g,h,i]perylene | 14.981 | 276 | 74226 | 4.19 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59692.d
Acq On : 16 May 2019 4:06 pm
Operator : christc2
Sample : jc87535-10 Inst : MS5P
Misc : op20269,e5p2816,30.2,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:02:32 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

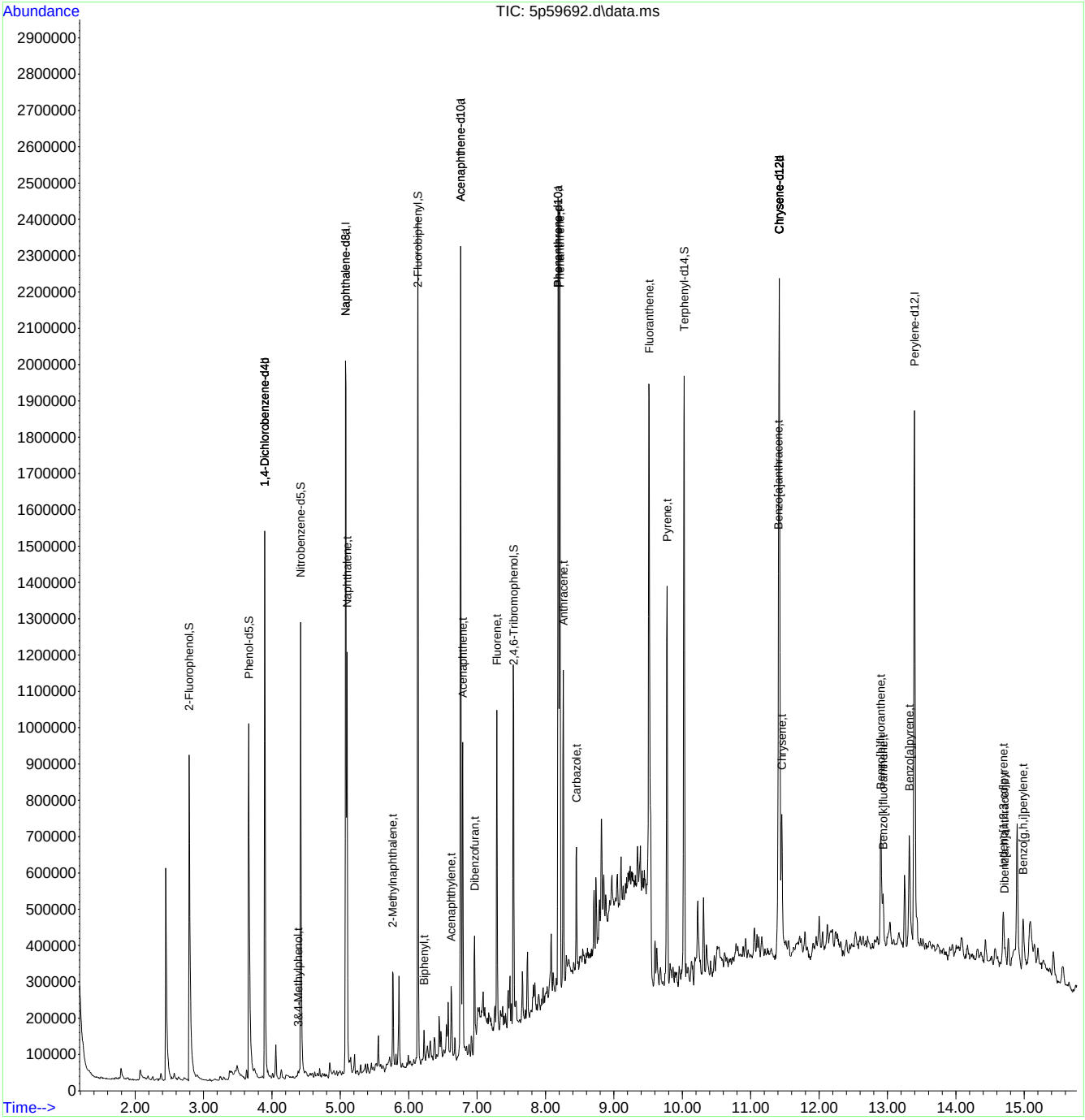
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

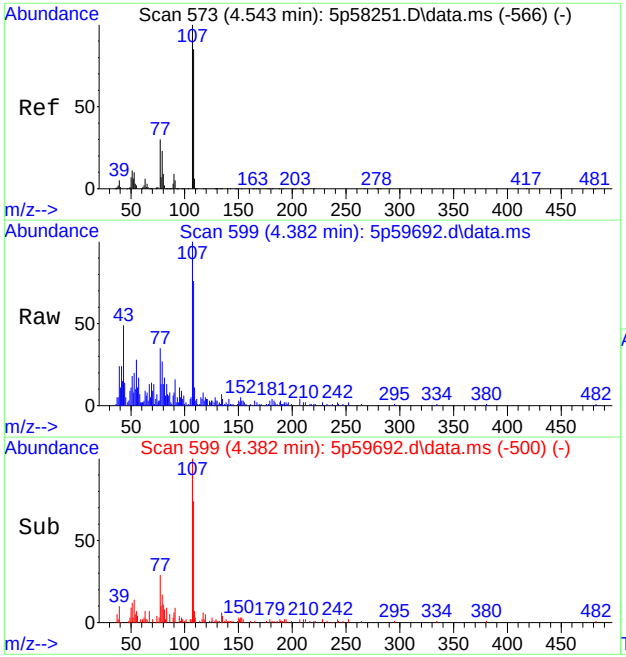
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59692.d
Acq On : 16 May 2019 4:06 pm
Operator : christc2
Sample : jc87535-10 Inst : MS5P
Misc : op20269,e5p2816,30.2,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:02:32 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

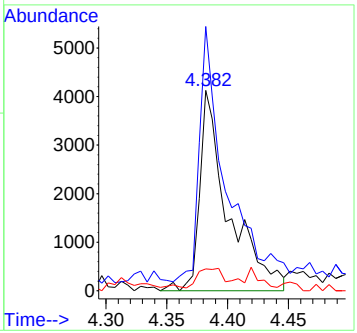


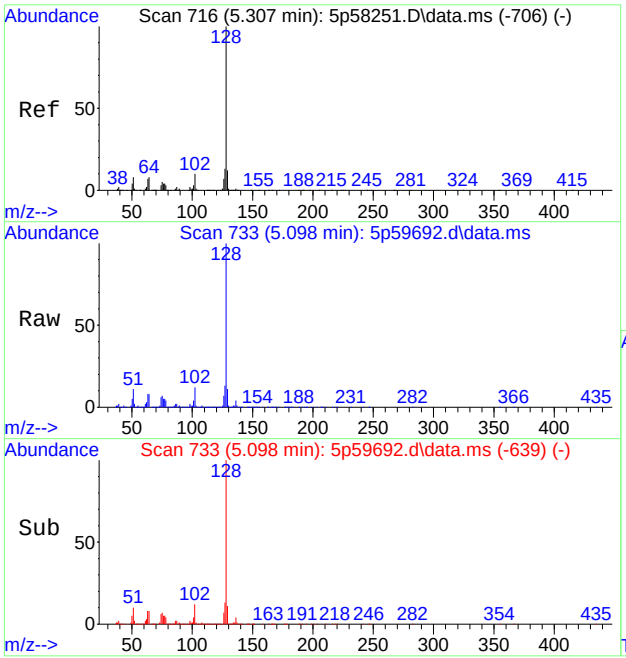



#21
3&4-Methylphenol
Concen: 0.95 ppm
RT: 4.382 min Scan# 599
Delta R.T. 0.027 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:108 Resp: 6813

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 126.4 | 91.8 | 151.8 |
| 90 | 6.1 | 0.0 | 41.6 |

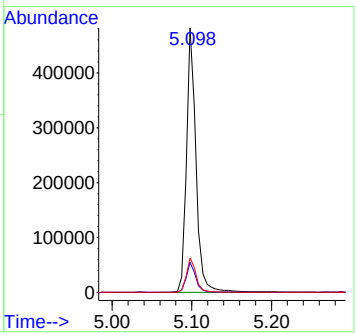


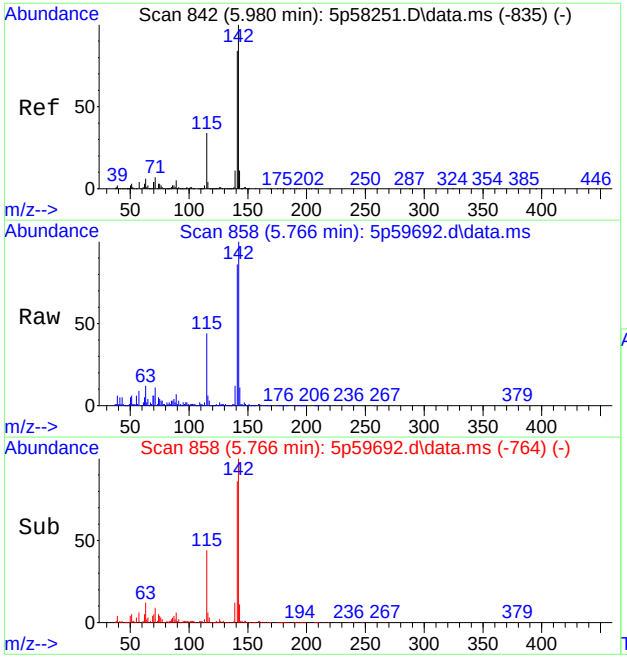




#38
Naphthalene
Concen: 20.94 ppm
RT: 5.098 min Scan# 733
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:128 Resp: 403017

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.4 | 0.0 | 41.4 |
| 127 | 13.1 | 0.0 | 43.4 |

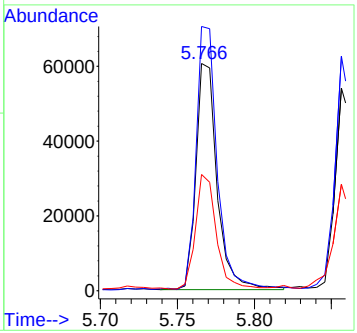


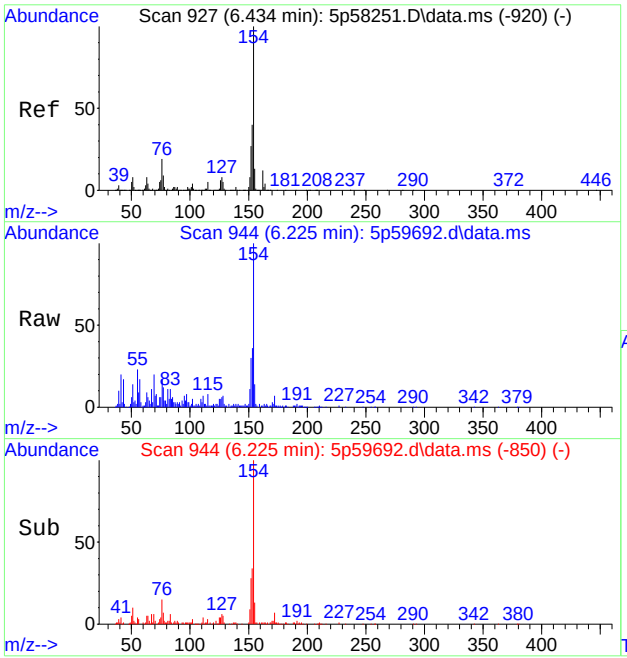



#44
2-Methylnaphthalene
Concen: 5.14 ppm
RT: 5.766 min Scan# 858
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:141 Resp: 58054

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 116.2 | 87.7 | 147.7 |
| 115 | 49.9 | 19.2 | 79.2 |

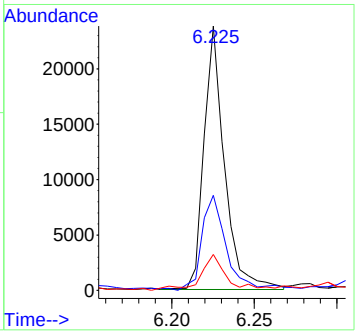


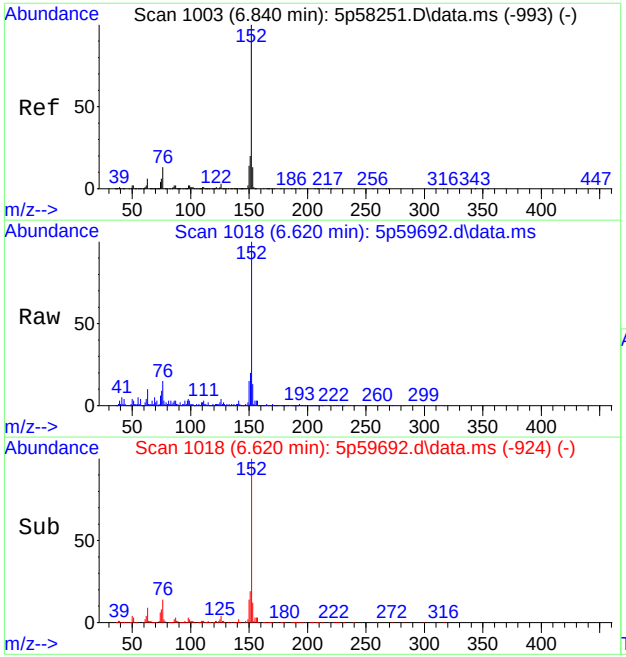




#53
Biphenyl
Concen: 1.39 ppm
RT: 6.225 min Scan# 944
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:154 Resp: 20574

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 35.2 | 10.3 | 70.3 |
| 155 | 12.4 | 0.0 | 43.6 |

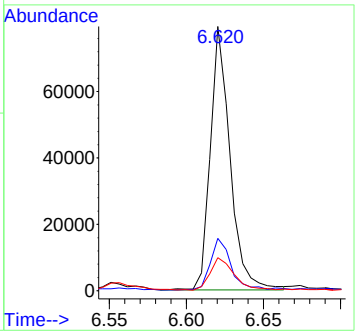


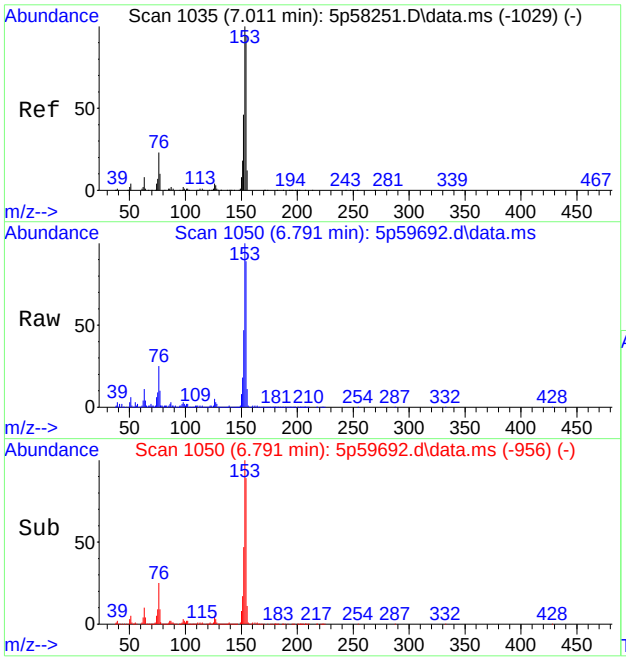



#56
Acenaphthylene
Concen: 3.86 ppm
RT: 6.620 min Scan# 1018
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:152 Resp: 70686

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 19.4 | 0.0 | 50.6 |
| 153 | 12.1 | 0.0 | 43.5 |

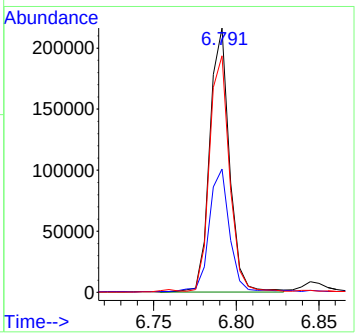


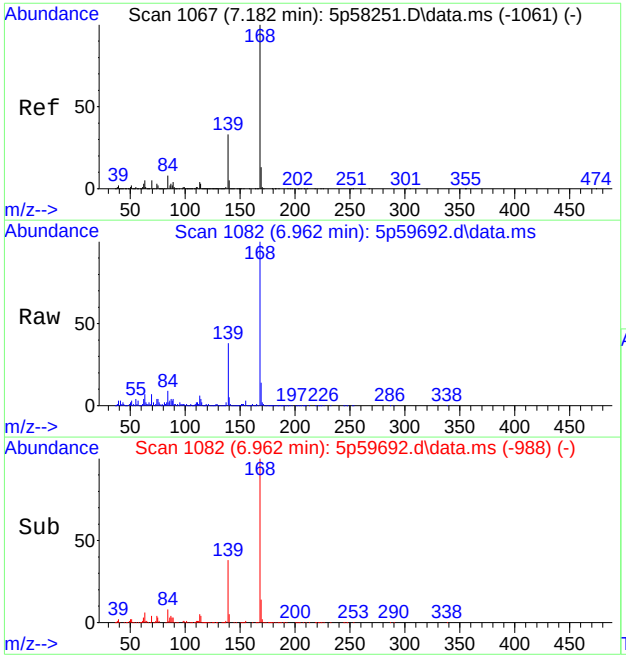




#59
Acenaphthene
Concen: 15.84 ppm
RT: 6.791 min Scan# 1050
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:153 Resp: 180283

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.3 | 17.3 | 77.3 |
| 154 | 89.3 | 64.4 | 124.4 |

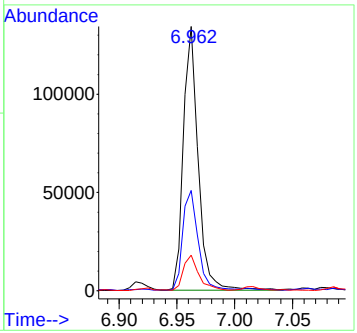


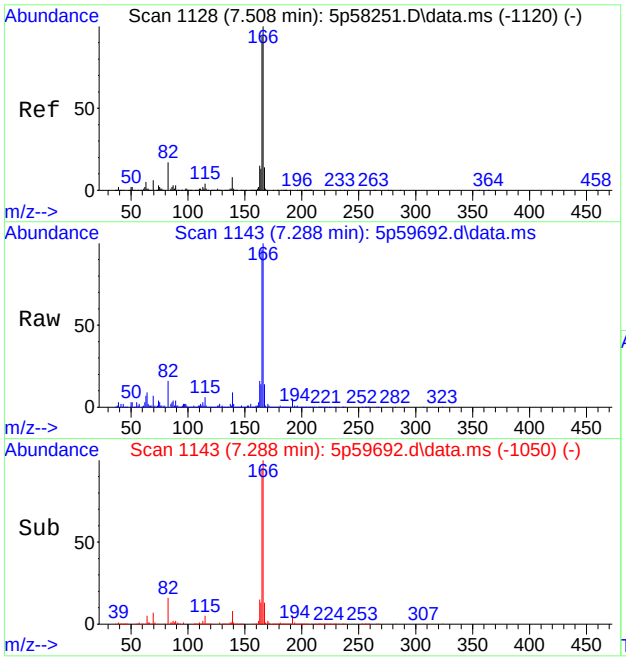



#62
Dibenzofuran
Concen: 7.01 ppm
RT: 6.962 min Scan# 1082
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:168 Resp: 120027

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 37.8 | 6.9 | 66.9 |
| 169 | 13.2 | 0.0 | 44.0 |

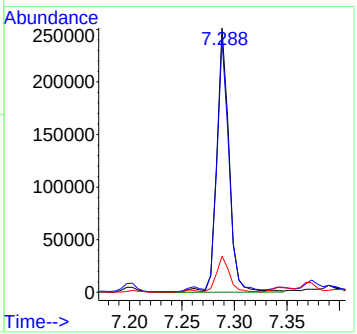


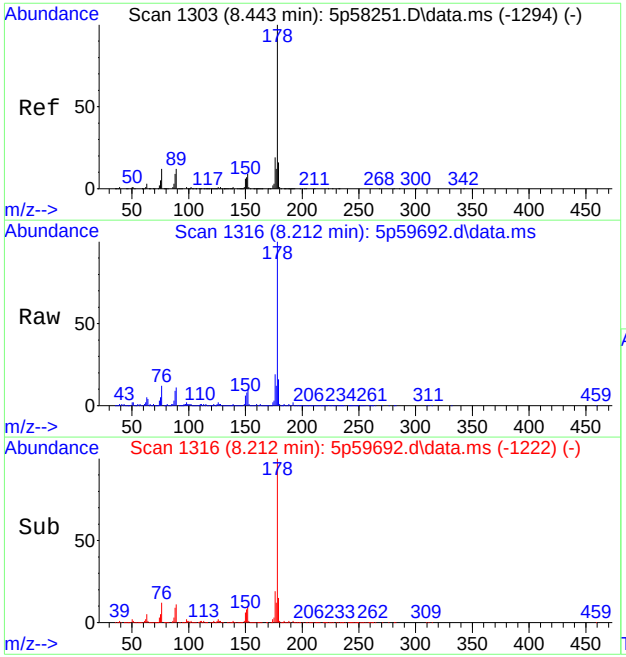




#66
Fluorene
Concen: 15.13 ppm
RT: 7.288 min Scan# 1143
Delta R.T. -0.005 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:166 Resp: 204762

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 95.0 | 60.8 | 120.8 |
| 167 | 12.8 | 0.0 | 43.5 |

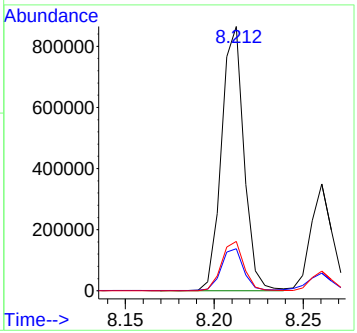


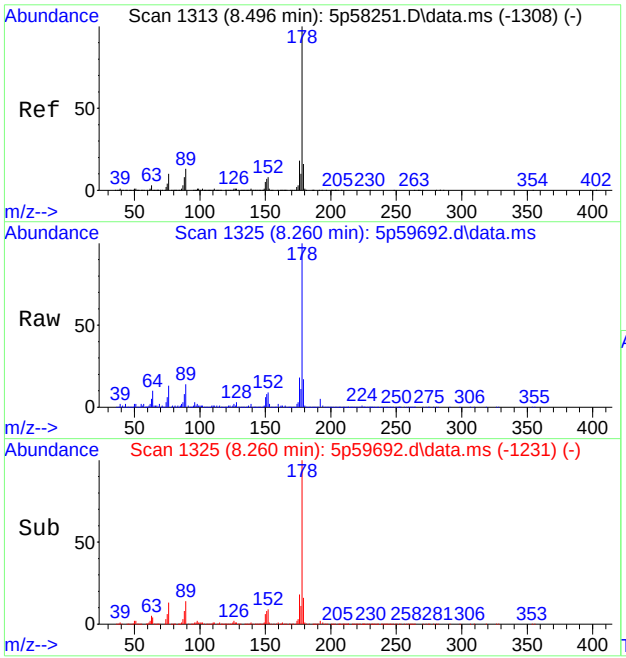



#77
Phenanthrene
Concen: 40.59 ppm
RT: 8.212 min Scan# 1316
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:178 Resp: 754875

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.7 | 0.0 | 45.5 |
| 176 | 18.6 | 0.0 | 48.6 |

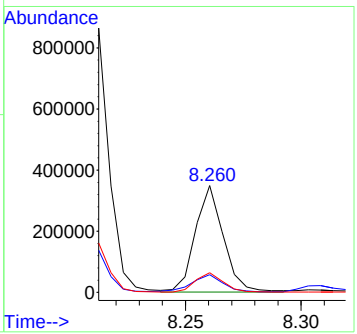


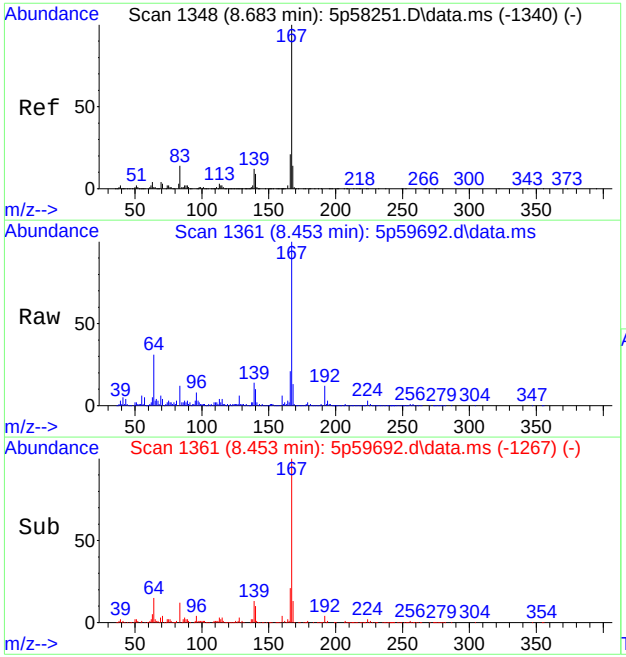




#78
Anthracene
Concen: 15.21 ppm
RT: 8.260 min Scan# 1325
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:178 Resp: 296833

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.0 | 0.0 | 45.8 |
| 176 | 18.3 | 0.0 | 47.8 |

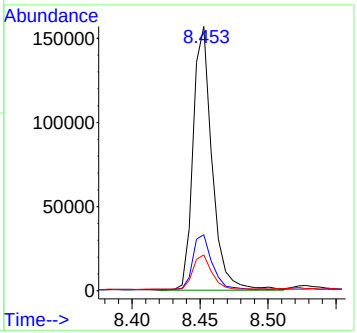


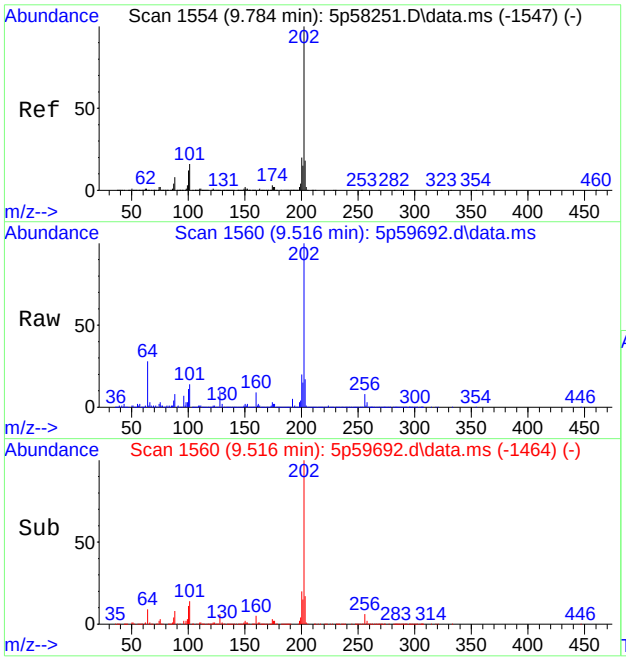



#79
Carbazole
Concen: 7.66 ppm
RT: 8.453 min Scan# 1361
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:167 Resp: 151603

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.8 | 0.0 | 50.6 |
| 139 | 12.9 | 0.0 | 43.0 |

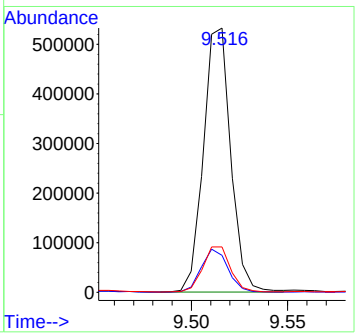


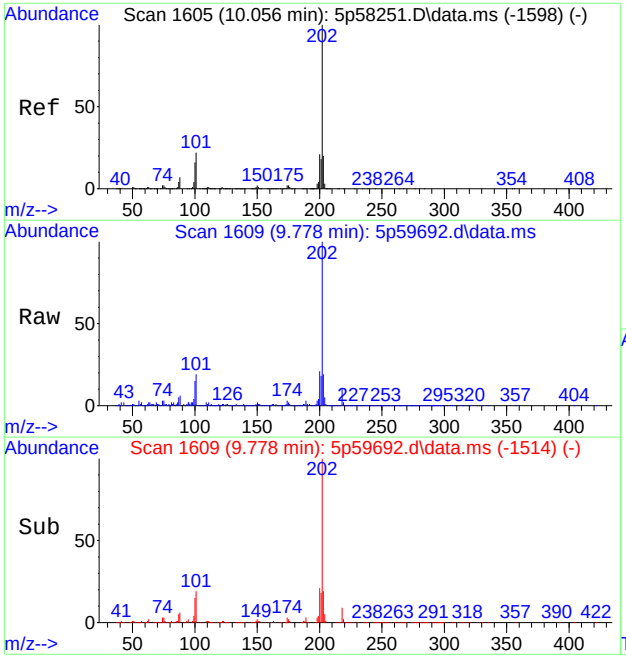




#81
Fluoranthene
Concen: 22.78 ppm
RT: 9.516 min Scan# 1560
Delta R.T. 0.011 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:202 Resp: 526145

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.9 | 0.0 | 46.8 |
| 203 | 17.1 | 0.0 | 47.6 |

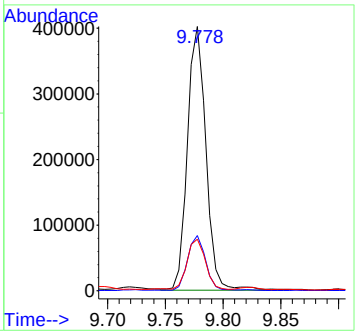


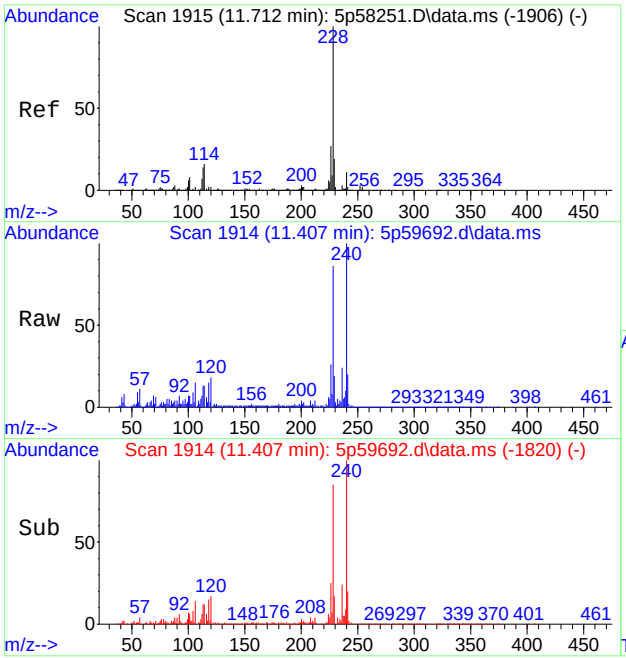



#84
Pyrene
Concen: 16.75 ppm
RT: 9.778 min Scan# 1609
Delta R.T. 0.005 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:202 Resp: 450963

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.8 | 0.0 | 50.0 |
| 203 | 18.9 | 0.0 | 48.8 |

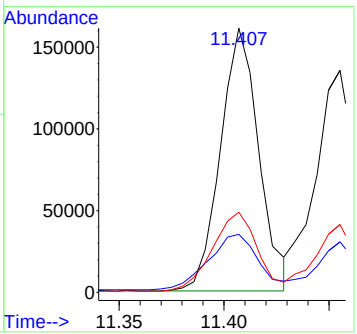


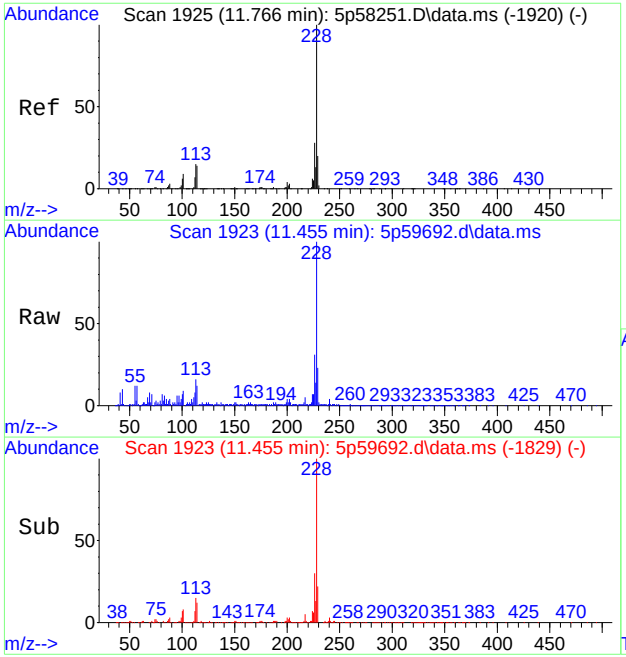




#87
Benzo[a]anthracene
Concen: 8.27 ppm
RT: 11.407 min Scan# 1914
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:228 Resp: 204808

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.6 | 0.0 | 50.1 |
| 226 | 30.2 | 0.0 | 56.3 |

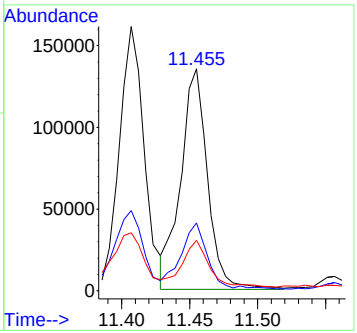


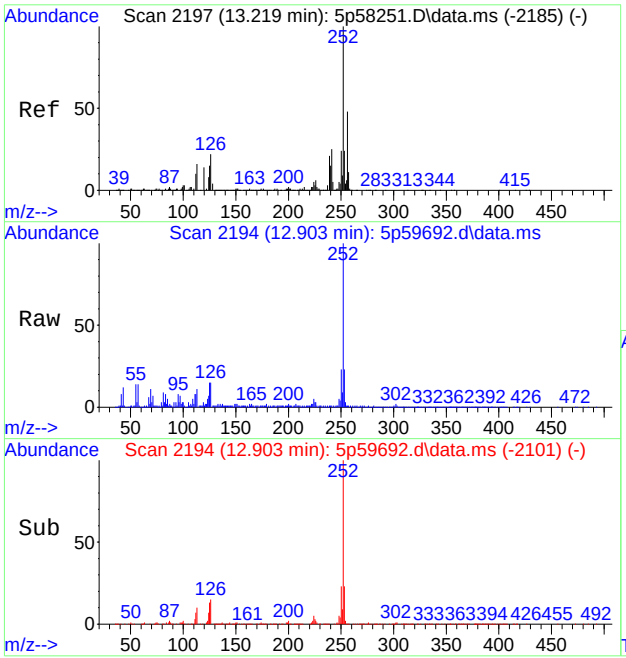



#89
Chrysene
Concen: 8.17 ppm
RT: 11.455 min Scan# 1923
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:228 Resp: 186638

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.4 | 0.0 | 58.4 |
| 229 | 20.9 | 0.0 | 49.9 |

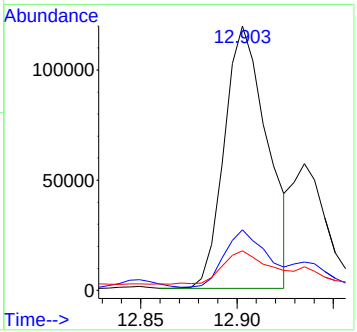


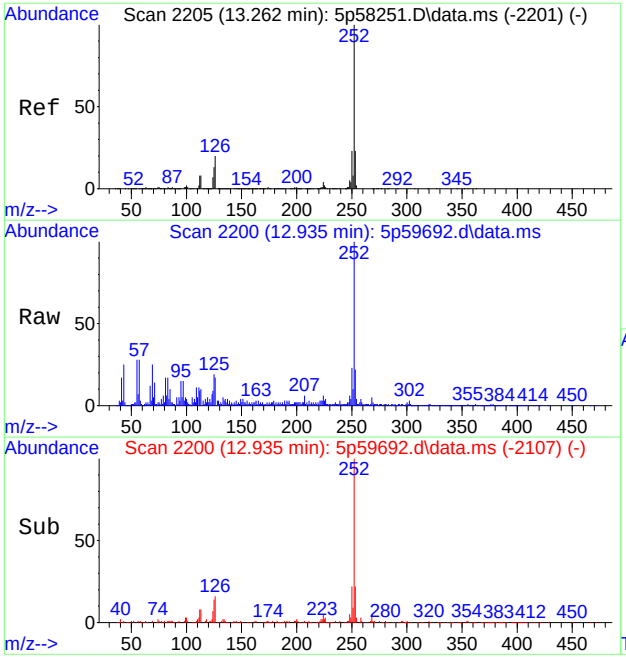




#93
Benzo[b]fluoranthene
Concen: 8.42 ppm
RT: 12.903 min Scan# 2194
Delta R.T. -0.005 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:252 Resp: 185262

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.3 | 0.0 | 52.9 |
| 125 | 12.3 | 0.0 | 42.9 |

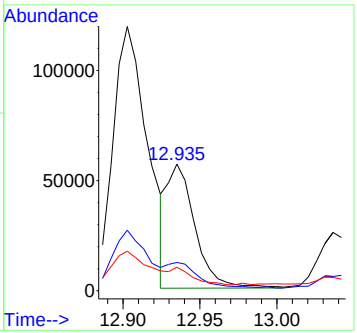


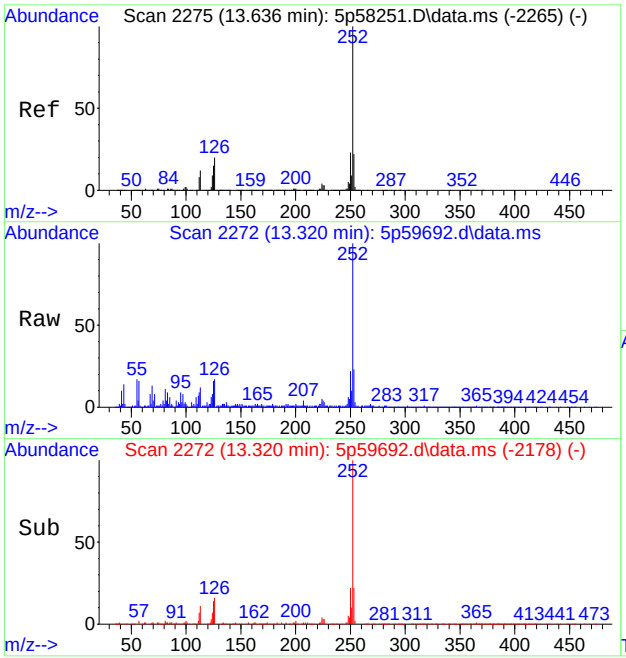



#94
Benzo[k]fluoranthene
Concen: 3.55 ppm
RT: 12.935 min Scan# 2200
Delta R.T. -0.005 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:252 Resp: 71564

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 20.1 | 0.0 | 52.7 |
| 125 | 13.5 | 0.0 | 43.4 |

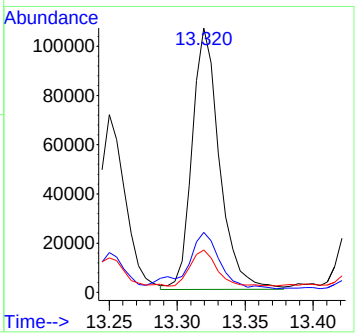


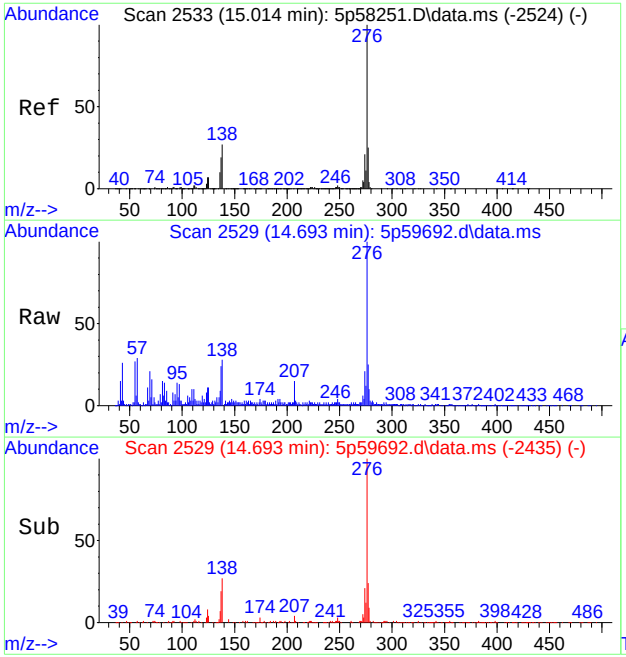




#95
Benzo[a]pyrene
Concen: 7.58 ppm
RT: 13.320 min Scan# 2272
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:252 Resp: 148631

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 19.7 | 0.0 | 52.4 |
| 125 | 13.4 | 0.0 | 44.0 |

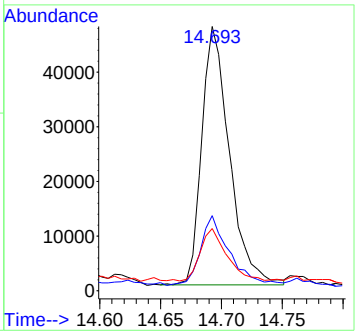


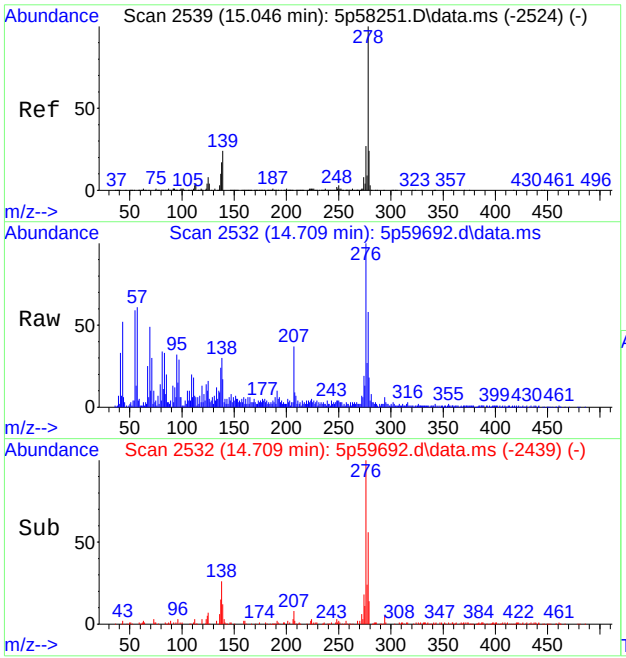



#96
Indeno[1,2,3-cd]pyrene
Concen: 4.26 ppm
RT: 14.693 min Scan# 2529
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:276 Resp: 74785

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 26.2 | 0.0 | 55.3 |
| 137 | 20.2 | 0.0 | 47.6 |

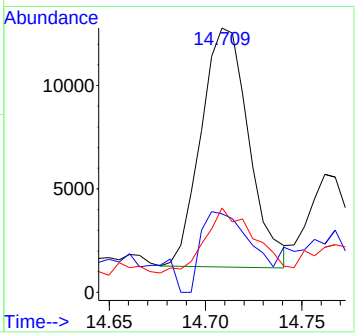


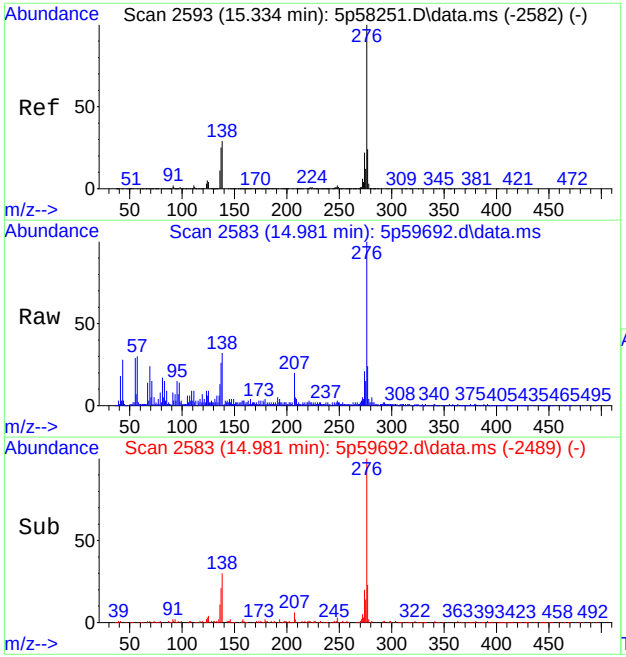




#98
Dibenz[a,h]anthracene
Concen: 1.10 ppm
RT: 14.709 min Scan# 2532
Delta R.T. -0.005 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:278 Resp: 19990

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 18.6 | 0.0 | 50.1 |
| 279 | 27.0 | 0.0 | 53.7 |

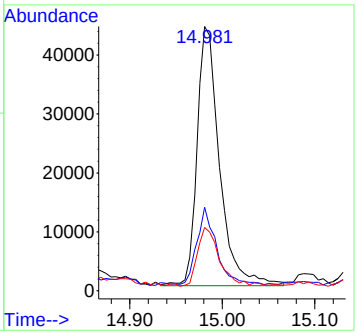





#100
Benzo[g,h,i]perylene
Concen: 4.19 ppm
RT: 14.981 min Scan# 2583
Delta R.T. -0.000 min
Lab File: 5p59692.d
Acq: 16 May 2019 4:06 pm

Tgt Ion:276 Resp: 74226

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 29.4 | 0.0 | 57.0 |
| 277 | 22.3 | 0.0 | 54.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112048.D
Acq On : 19 May 2019 5:27 pm
Operator : carolb
Sample : jc87535-11
Misc : op20269,e2m4982,15.5,,,5,20
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 21 10:50:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 11:41:55 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.748 | 152 | 431663 | 40.00 | ppm | -0.05 |
| 24) Naphthalene-d8 | 5.861 | 136 | 1428358 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 7.931 | 164 | 826666 | 40.00 | ppm | -0.07 |
| 69) Phenanthrene-d10 | 10.108 | 188 | 1501003 | 40.00 | ppm | -0.06 |
| 83) Chrysene-d12 | 14.285 | 240 | 1325995 | 40.00 | ppm | -0.05 |
| 91) Perylene-d12 | 16.387 | 264 | 1501864 | 40.00 | ppm | -0.05 |
| 101) 1,4-Dichlorobenzene-d4a | 4.748 | 152 | 431663 | 40.00 | ppm | -0.05 |
| 103) Acenaphthene-d10a | 7.931 | 164 | 826666 | 40.00 | ppm | -0.07 |
| 105) Chrysene-d12a | 14.285 | 240 | 1325995 | 40.00 | ppm | -0.05 |
| 107) Phenanthrene-d10a | 10.108 | 188 | 1501003 | 40.00 | ppm | -0.06 |
| 112) Naphthalene-d8a | 5.861 | 136 | 1428358 | 40.00 | ppm | -0.05 |
| 114) Chrysene-d12b | 14.285 | 240 | 1325995 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.877 | 112 | 6336 | 0.40 | ppm | 0.08 |
| Spiked Amount 50.000 | | | Recovery = | 0.80% | | |
| 8) Phenol-d5 | 4.593 | 99 | 7676 | 0.40 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 0.80% | | |
| 25) Nitrobenzene-d5 | 5.192 | 82 | 6004 | 0.48 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 0.96% | | |
| 51) 2-Fluorobiphenyl | 7.054 | 172 | 14183 | 0.47 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 0.94% | | |
| 73) 2,4,6-Tribromophenol | 9.075 | 330 | 1115 | 0.28 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 0.56% | | |
| 85) Terphenyl-d14 | 12.648 | 244 | 16581 | 0.53 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 1.06% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.599 | 94 | 169814 | 8.07 | ppm | 96 |
| 19) 2-Methylphenol | 5.021 | 108 | 120544 | 8.81 | ppm | 99 |
| 21) 3&4-Methylphenol | 5.144 | 108 | 342904 | 26.45 | ppm | 82 |
| 30) 2,4-Dimethylphenol | 5.577 | 107 | 193204 | 18.25 | ppm | 98 |
| 38) Naphthalene | 5.893 | 128 | 11680592 | 291.82 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.620 | 141 | 2825395 | 137.33 | ppm | 97 |
| 53) Biphenyl | 7.177 | 154 | 1214967 | 35.99 | ppm | 100 |
| 56) Acenaphthylene | 7.744 | 152 | 6068213 | 154.83 | ppm | 98 |
| 59) Acenaphthene | 7.974 | 153 | 1055120 | 41.26 | ppm | 98 |
| 62) Dibenzofuran | 8.225 | 168 | 4611500 | 130.24 | ppm | 96 |
| 66) Fluorene | 8.717 | 166 | 4911604 | 174.48 | ppm | 99 |
| 77) Phenanthrene | 10.172 | 178 | 12964956 | 296.83 | ppm | 99 |
| 78) Anthracene | 10.241 | 178 | 6868457 | 159.88 | ppm | 97 |
| 79) Carbazole | 10.509 | 167 | 4293532 | 99.16 | ppm | 99 |
| 81) Fluoranthene | 12.028 | 202 | 10893689 | 259.45 | ppm | 95 |
| 84) Pyrene | 12.370 | 202 | 8404799 | 169.31 | ppm | 97 |
| 87) Benzo[a]anthracene | 14.274 | 228 | 4899610 | 121.40 | ppm | 99 |
| 89) Chrysene | 14.328 | 228 | 4123861 | 93.95 | ppm | 96 |
| 93) Benzo[b]fluoranthene | 15.879 | 252 | 4592484 | 107.93 | ppm | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112048.D
Acq On : 19 May 2019 5:27 pm
Operator : carolb
Sample : jc87535-11
Misc : op20269,e2m4982,15.5,,,5,20
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 21 10:50:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 11:41:55 2019
Response via : Initial Calibration

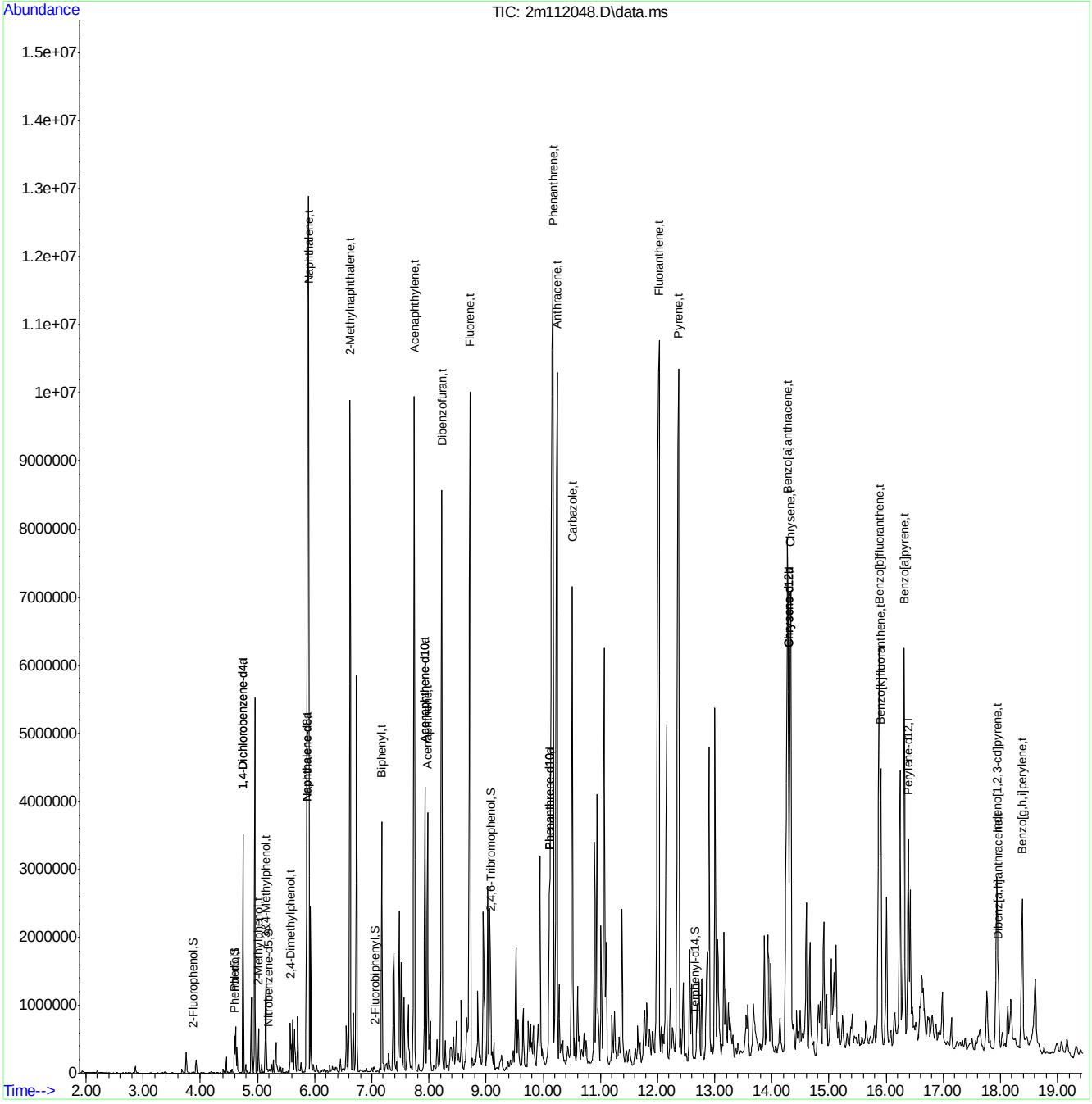
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 94) Benzo[k]fluoranthene | 15.906 | 252 | 1703197 | 39.74 | ppm | 96 |
| 95) Benzo[a]pyrene | 16.317 | 252 | 3466797 | 91.34 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 17.938 | 276 | 2028877 | 57.68 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 17.965 | 278 | 640046 | 16.67 | ppm | 93 |
| 100) Benzo[g,h,i]perylene | 18.382 | 276 | 1846129 | 51.36 | ppm | 96 |

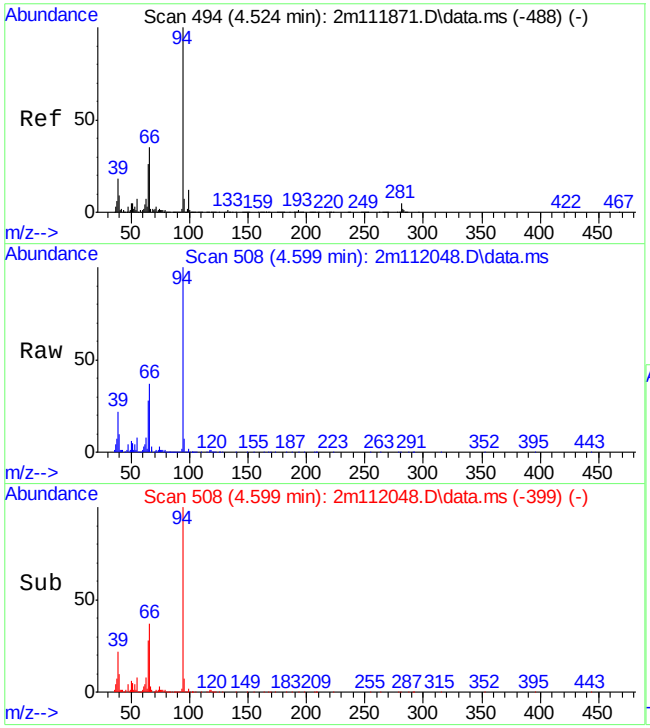
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112048.D
Acq On : 19 May 2019 5:27 pm
Operator : carolb
Sample : jc87535-11
Misc : op20269,e2m4982,15.5,,,5,20
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 21 10:50:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 11:41:55 2019
Response via : Initial Calibration

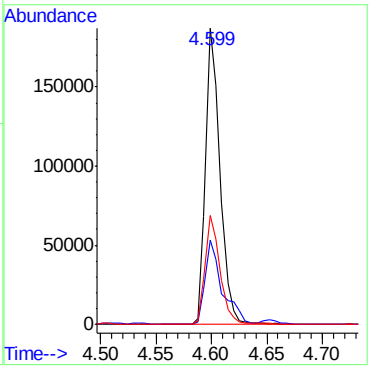


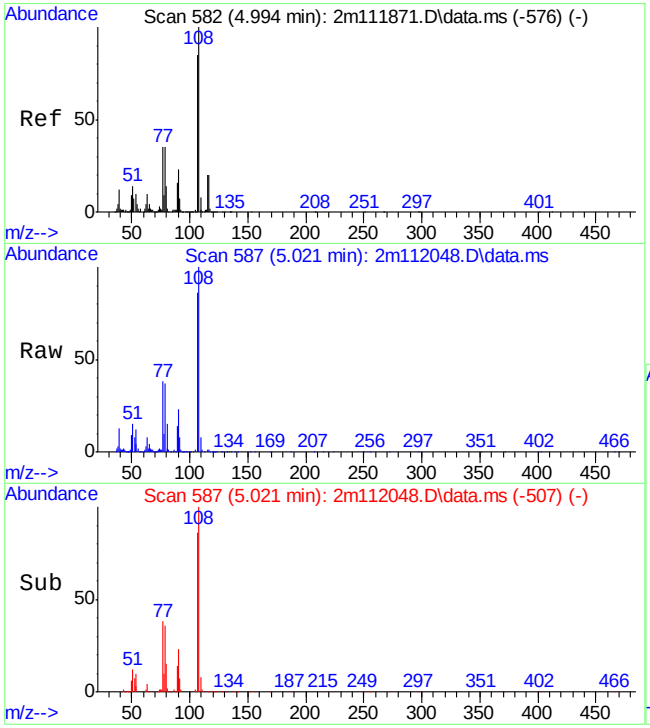



#9
Phenol
Concen: 8.07 ppm
RT: 4.599 min Scan# 508
Delta R.T. 0.080 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion: 94 Resp: 169814

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 28.2 | 0.0 | 56.4 |
| 66 | 36.8 | 4.5 | 64.5 |

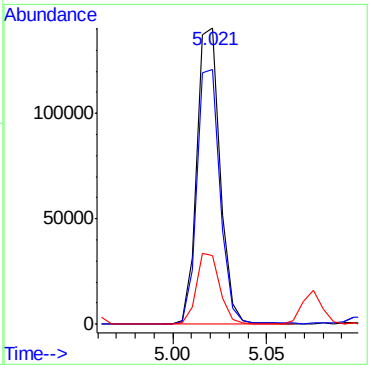


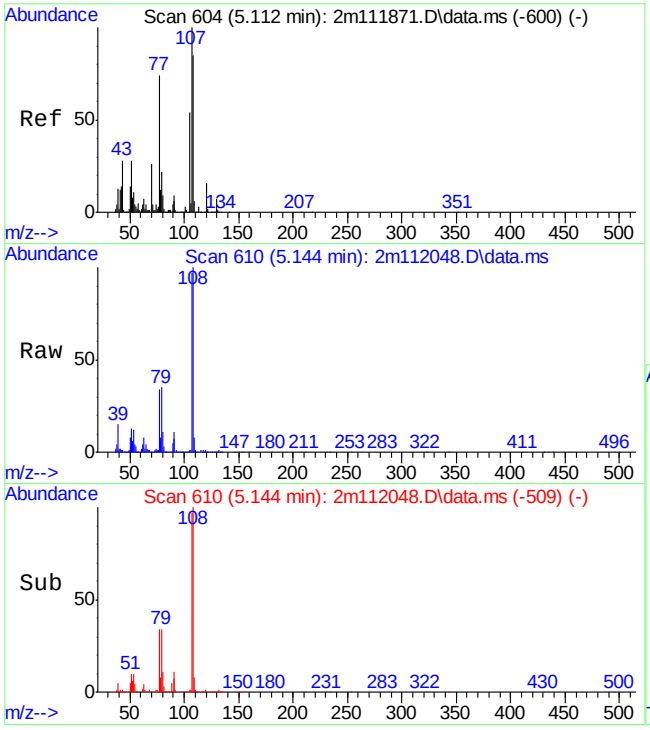




#19
2-Methylphenol
Concen: 8.81 ppm
RT: 5.021 min Scan# 587
Delta R.T. -0.070 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:108 Resp: 120544

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 85.7 | 54.8 | 114.8 |
| 90 | 22.4 | 0.0 | 52.9 |

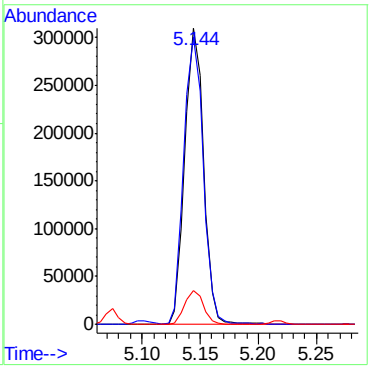


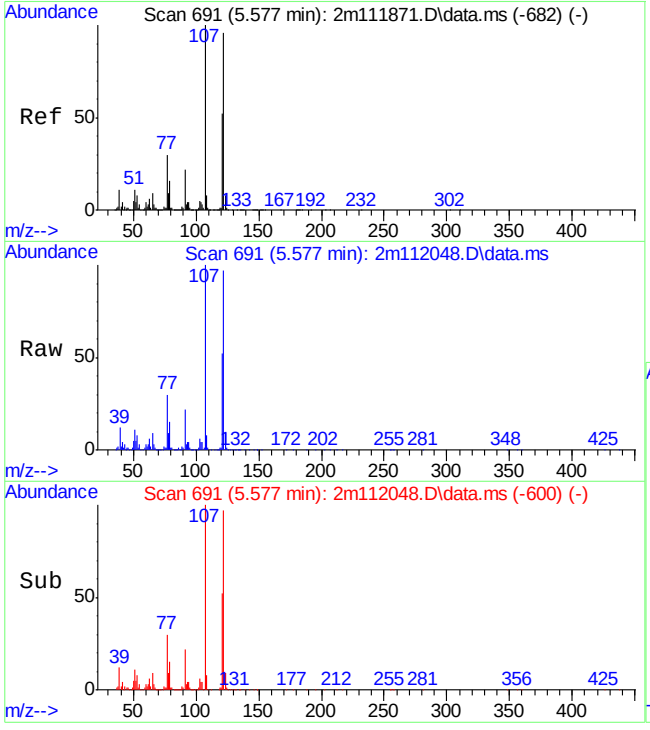



#21
3&4-Methylphenol
Concen: 26.45 ppm
RT: 5.144 min Scan# 610
Delta R.T. 0.038 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:108 Resp: 342904

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 96.8 | 88.1 | 148.1 |
| 90 | 11.3 | 0.0 | 40.3 |

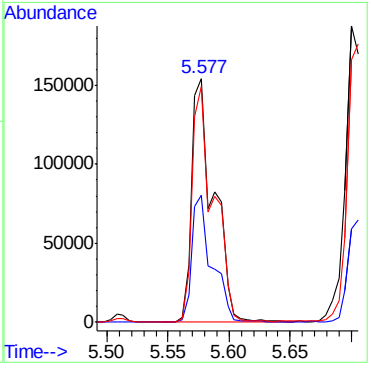


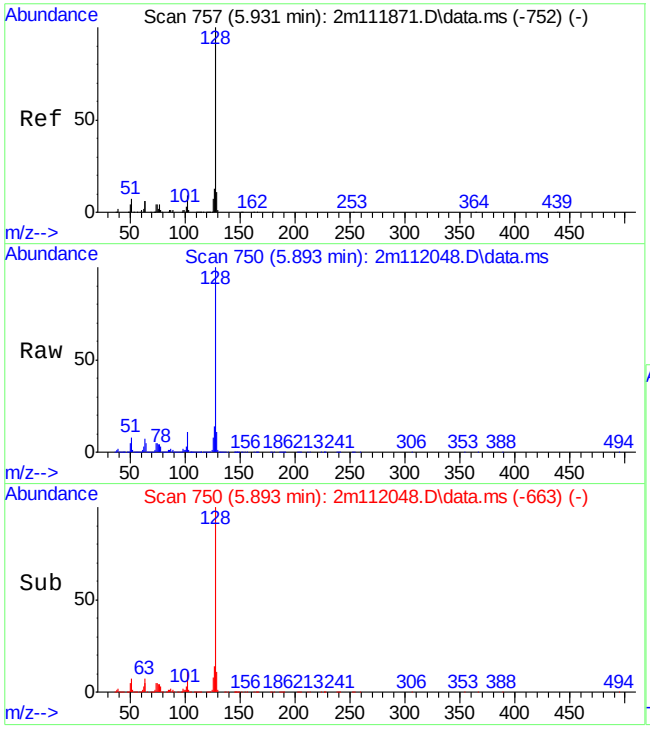




#30
2,4-Dimethylphenol
Concen: 18.25 ppm
RT: 5.577 min Scan# 691
Delta R.T. -0.015 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:107 Resp: 193204

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 51.8 | 21.7 | 81.7 |
| 122 | 96.4 | 63.5 | 123.5 |

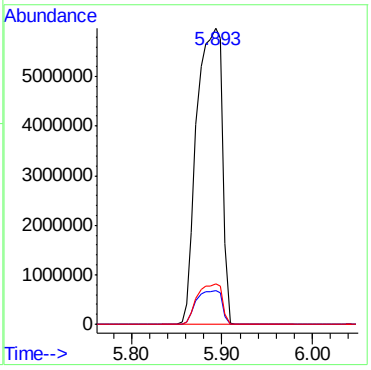


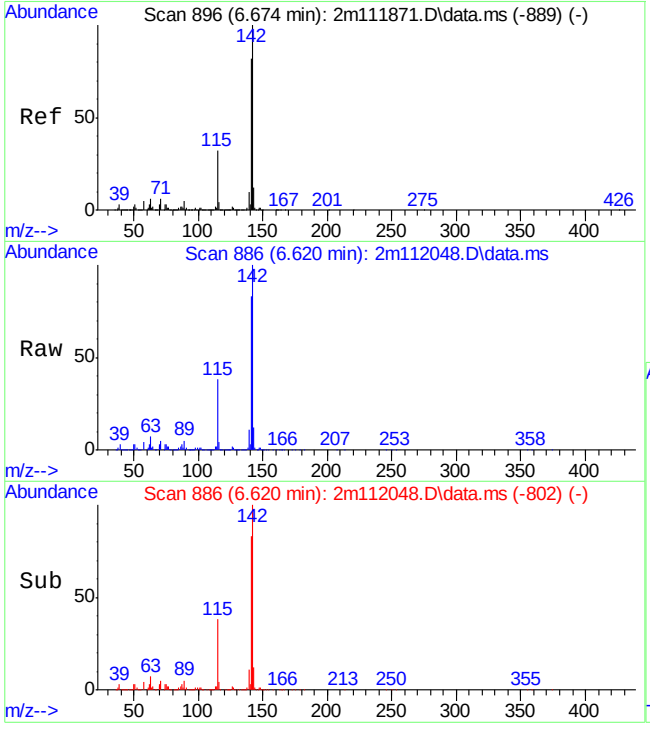



#38
Naphthalene
Concen: 291.82 ppm
RT: 5.893 min Scan# 750
Delta R.T. -0.037 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:128 Resp:11680592

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.3 | 0.0 | 41.4 |
| 127 | 13.5 | 0.0 | 42.8 |

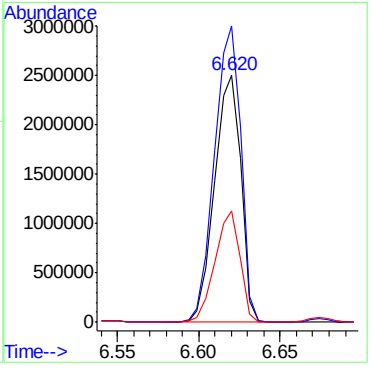


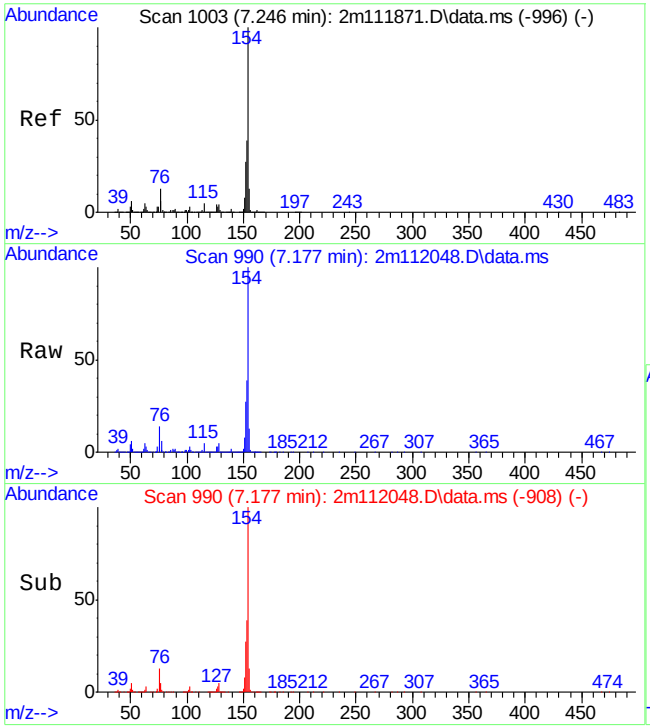




#44
2-Methylnaphthalene
Concen: 137.33 ppm
RT: 6.620 min Scan# 886
Delta R.T. -0.053 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:141 Resp: 2825395

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 119.9 | 91.5 | 151.5 |
| 115 | 45.0 | 9.4 | 69.4 |

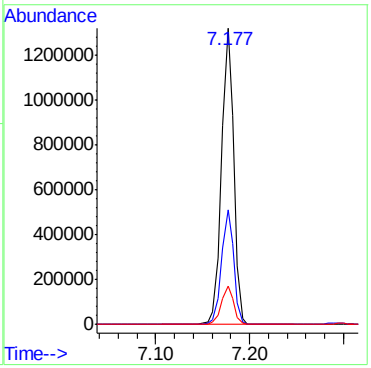


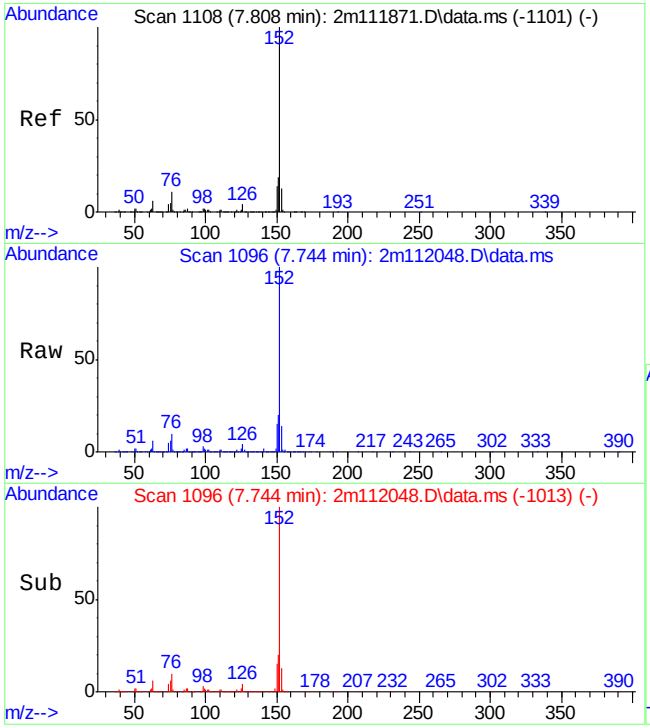



#53
Biphenyl
Concen: 35.99 ppm
RT: 7.177 min Scan# 990
Delta R.T. -0.064 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:154 Resp: 1214967

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 38.6 | 8.9 | 68.9 |
| 155 | 12.9 | 0.0 | 42.8 |

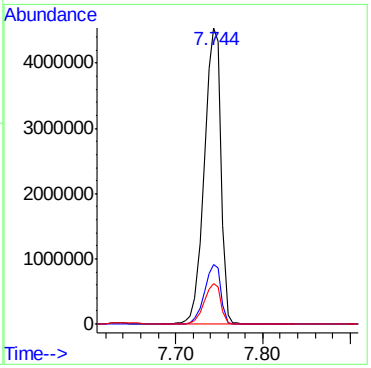


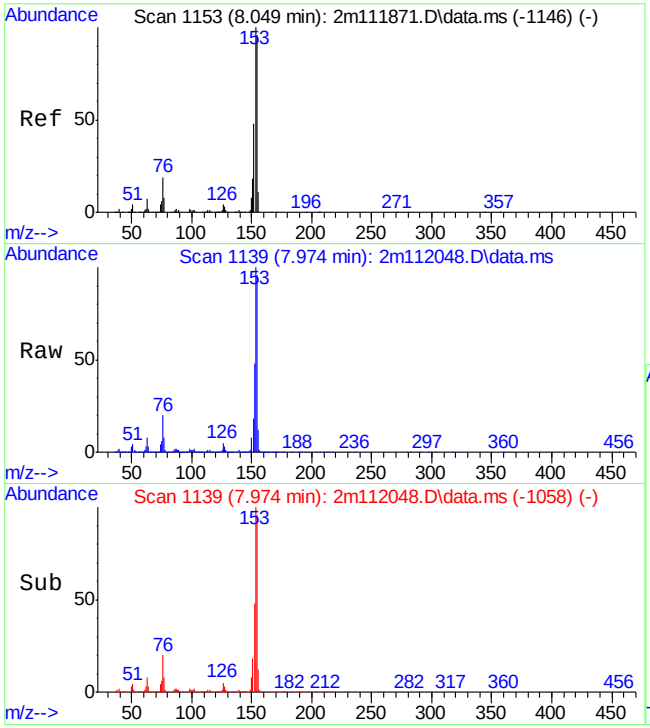




#56
Acenaphthylene
Concen: 154.83 ppm
RT: 7.744 min Scan# 1096
Delta R.T. -0.059 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:152 Resp: 6068213

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 20.2 | 0.0 | 49.3 |
| 153 | 13.5 | 0.0 | 42.7 |

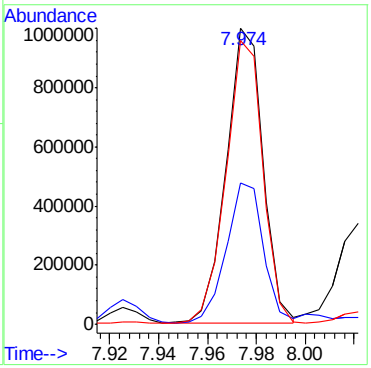


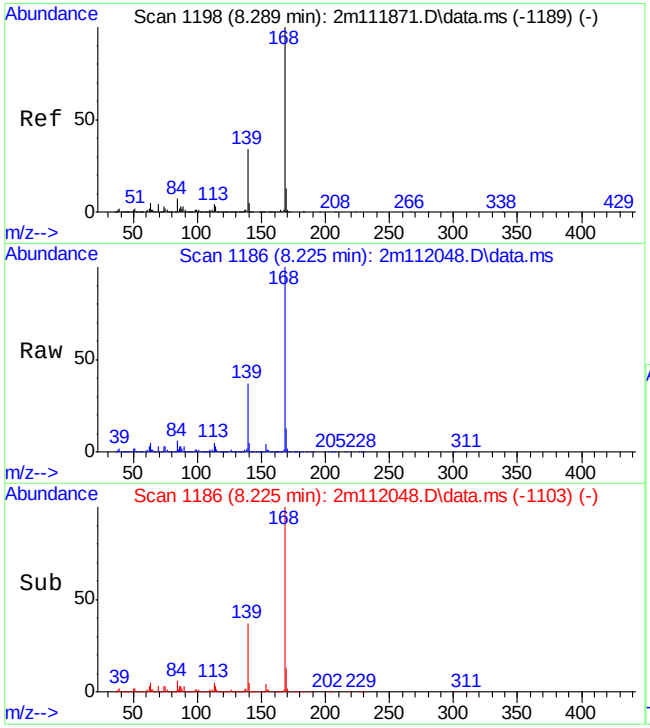



#59
Acenaphthene
Concen: 41.26 ppm
RT: 7.974 min Scan# 1139
Delta R.T. -0.069 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:153 Resp: 1055120

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 47.3 | 17.6 | 77.6 |
| 154 | 96.6 | 64.4 | 124.4 |

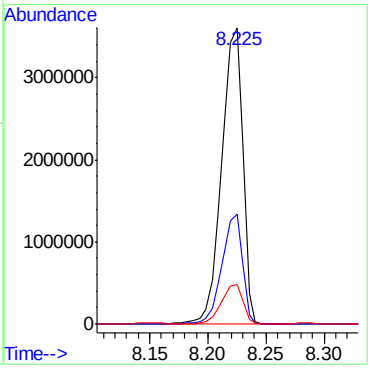


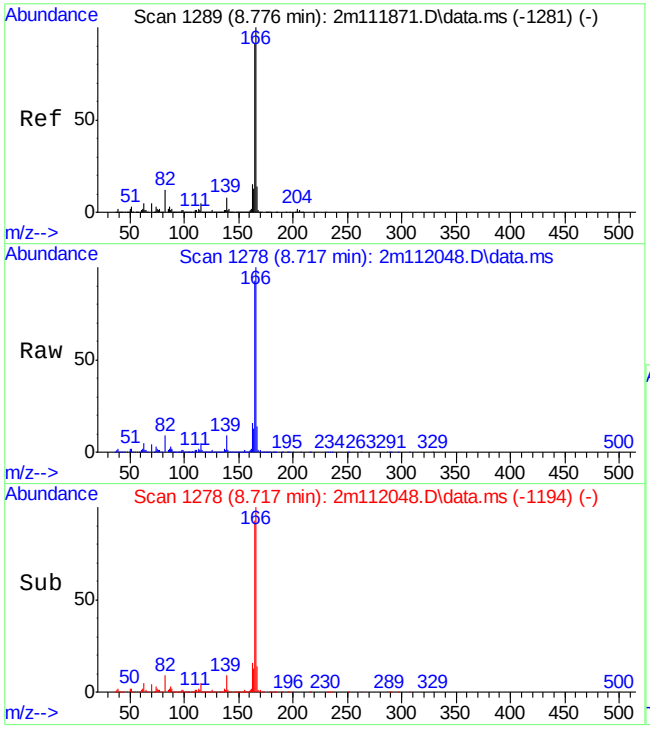




#62
Dibenzofuran
Concen: 130.24 ppm
RT: 8.225 min Scan# 1186
Delta R.T. -0.059 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:168 Resp: 4611500

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 37.0 | 4.3 | 64.3 |
| 169 | 13.0 | 0.0 | 43.2 |

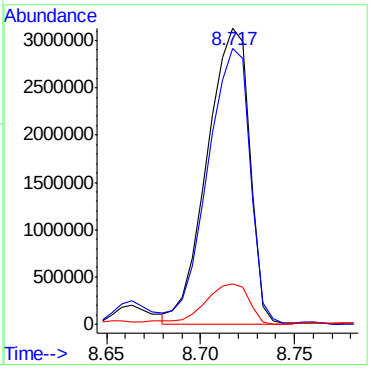


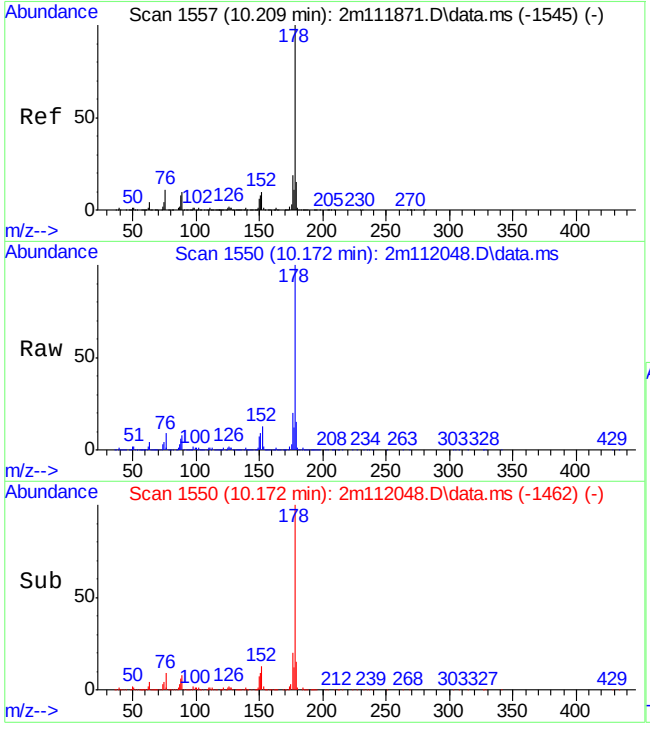



#66
Fluorene
Concen: 174.48 ppm
RT: 8.717 min Scan# 1278
Delta R.T. -0.053 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:166 Resp: 4911604

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 92.7 | 61.3 | 121.3 |
| 167 | 13.2 | 0.0 | 43.6 |

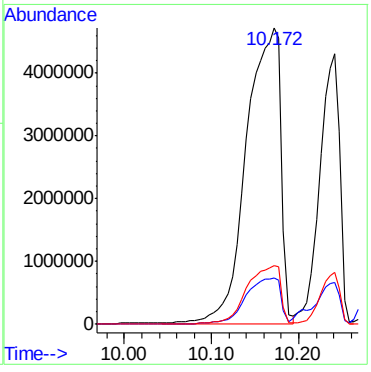


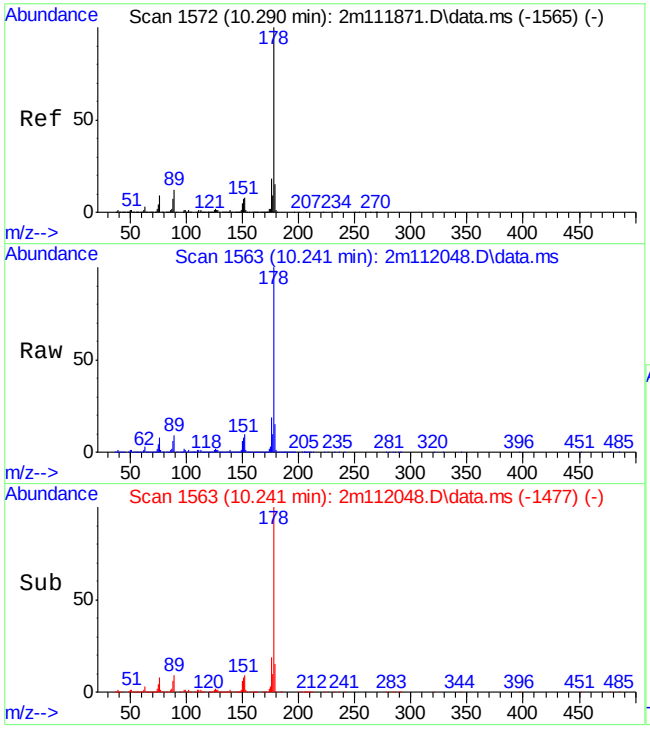




#77
Phenanthrene
Concen: 296.83 ppm
RT: 10.172 min Scan# 1550
Delta R.T. -0.032 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:178 Resp:12964956

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 14.7 | 0.0 | 45.3 |
| 176 | 19.6 | 0.0 | 49.0 |

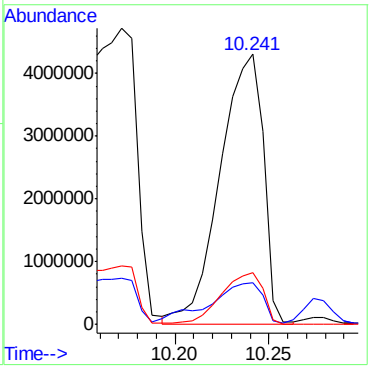


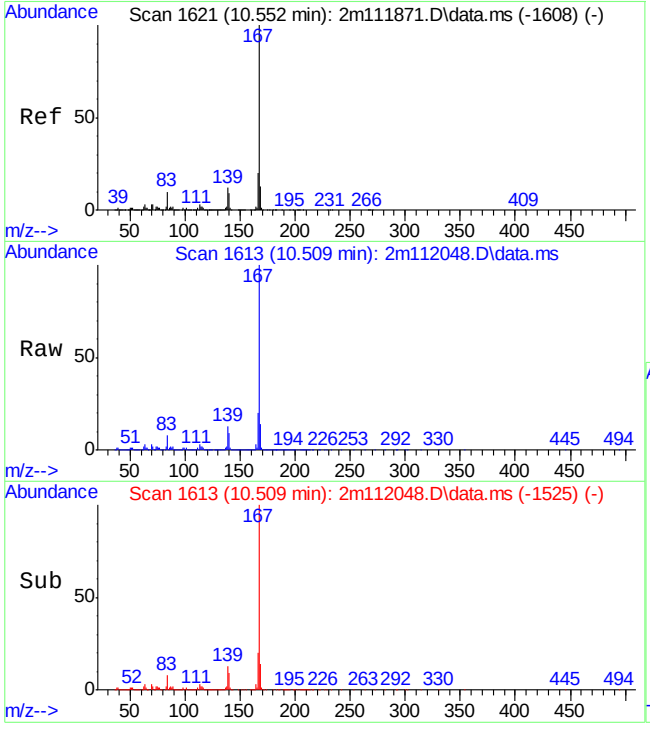



#78
Anthracene
Concen: 159.88 ppm
RT: 10.241 min Scan# 1563
Delta R.T. -0.043 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:178 Resp: 6868457

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 13.7 | 0.0 | 45.3 |
| 176 | 19.1 | 0.0 | 48.2 |

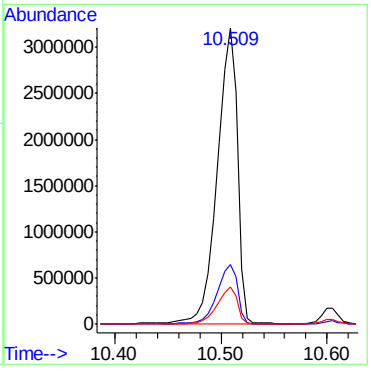


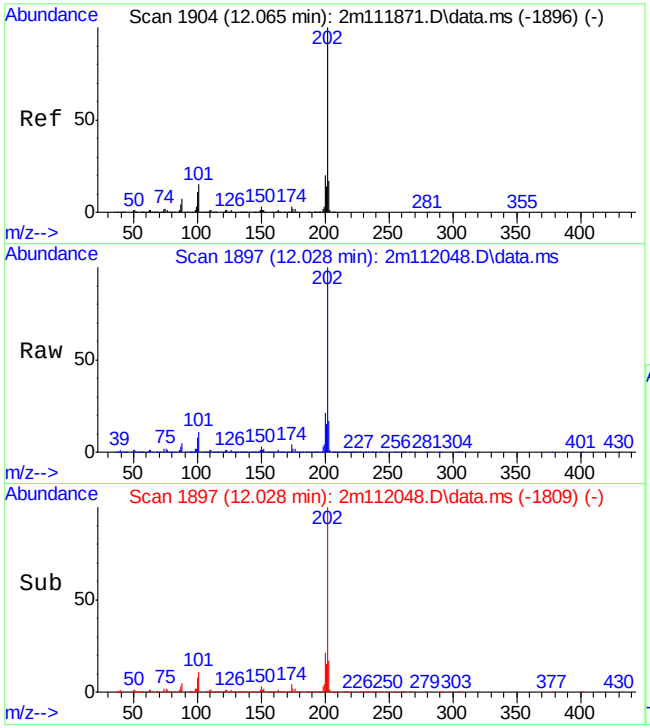




#79
Carbazole
Concen: 99.16 ppm
RT: 10.509 min Scan# 1613
Delta R.T. -0.032 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:167 Resp: 4293532

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.3 | 0.0 | 49.9 |
| 139 | 12.6 | 0.0 | 42.1 |

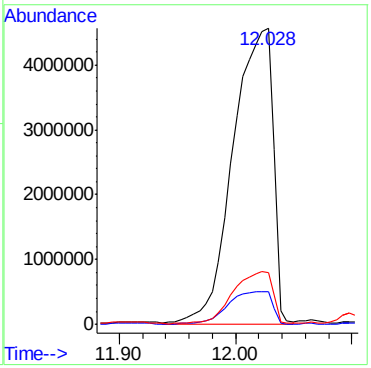


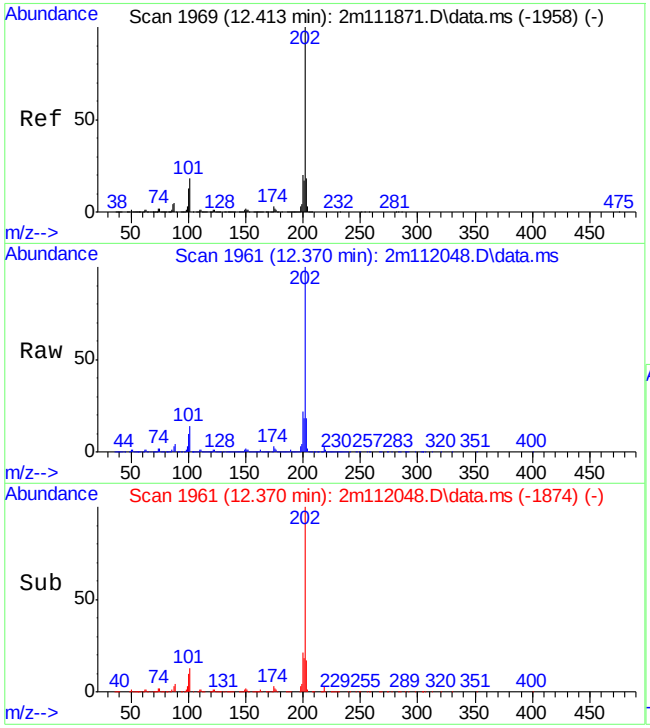



#81
Fluoranthene
Concen: 259.45 ppm
RT: 12.028 min Scan# 1897
Delta R.T. -0.032 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:202 Resp:10893689

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 11.0 | 0.0 | 45.2 |
| 203 | 17.3 | 0.0 | 47.3 |

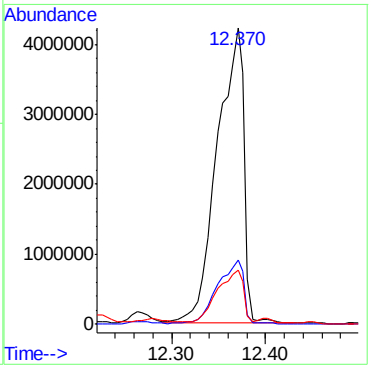


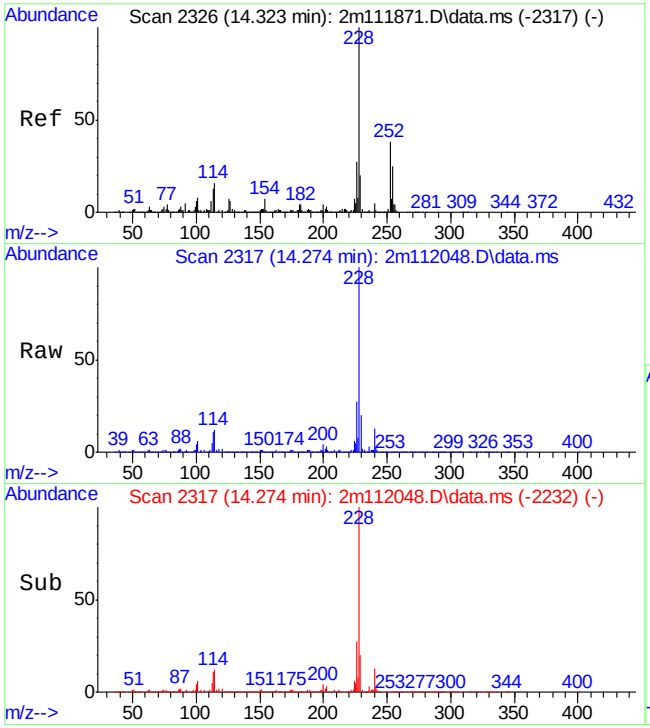




#84
Pyrene
Concen: 169.31 ppm
RT: 12.370 min Scan# 1961
Delta R.T. -0.037 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:202 Resp: 8404799

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.5 | 0.0 | 50.2 |
| 203 | 17.4 | 0.0 | 48.4 |

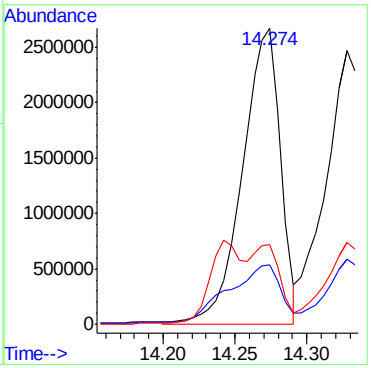


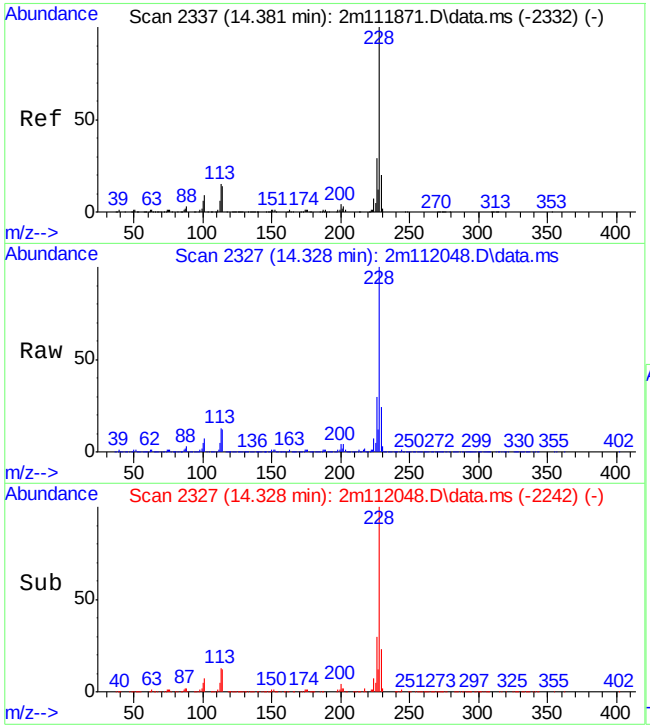



#87
Benzo[a]anthracene
Concen: 121.40 ppm
RT: 14.274 min Scan# 2317
Delta R.T. -0.048 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:228 Resp: 4899610

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.4 | 0.0 | 49.6 |
| 226 | 26.5 | 0.0 | 57.3 |

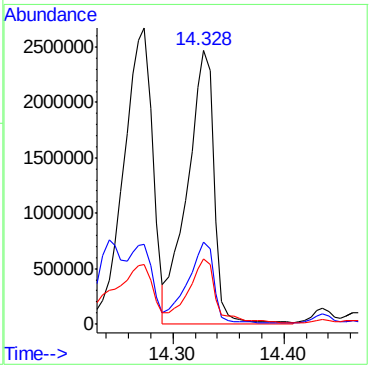


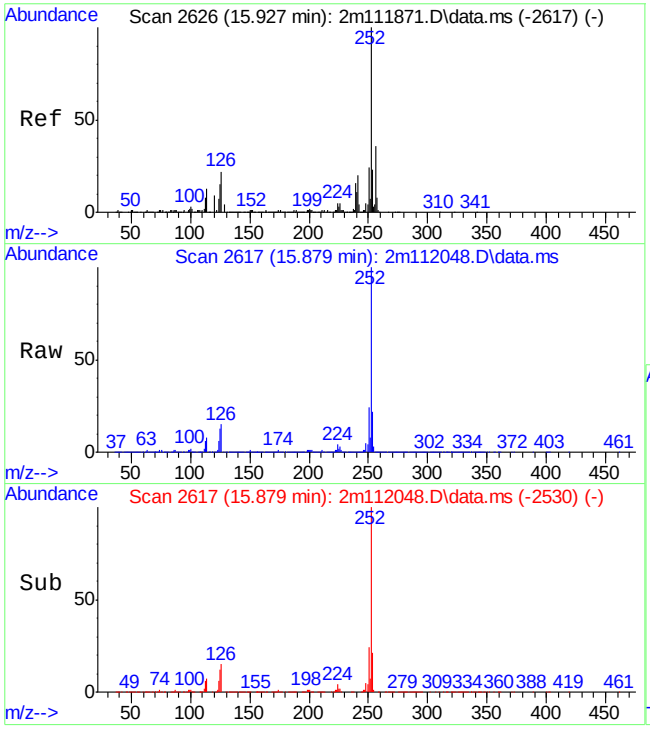




#89
Chrysene
Concen: 93.95 ppm
RT: 14.328 min Scan# 2327
Delta R.T. -0.048 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:228 Resp: 4123861

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 29.8 | 0.0 | 59.1 |
| 229 | 23.2 | 0.0 | 49.8 |

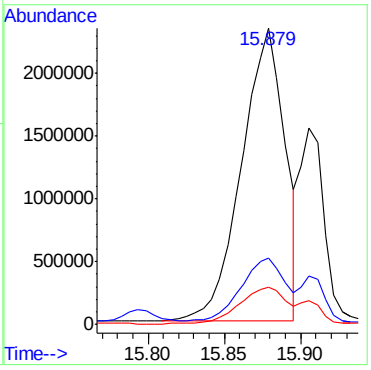


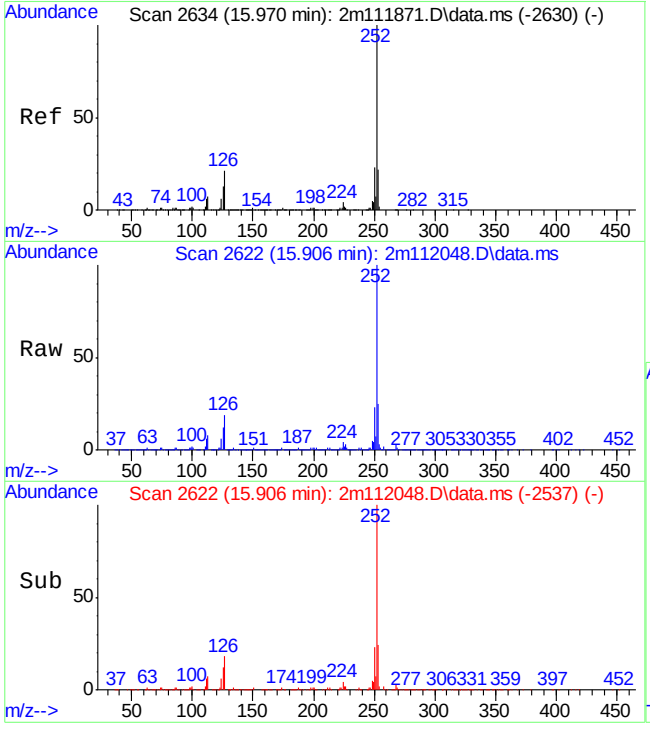



#93
Benzo[b]fluoranthene
Concen: 107.93 ppm
RT: 15.879 min Scan# 2617
Delta R.T. -0.037 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:252 Resp: 4592484

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 20.8 | 0.0 | 53.5 |
| 125 | 12.3 | 0.0 | 44.5 |

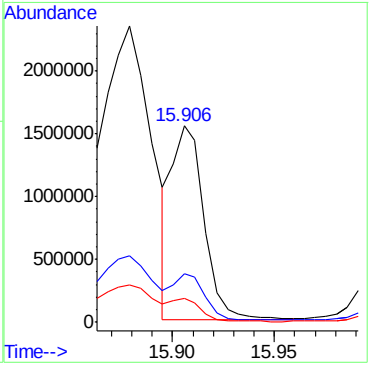


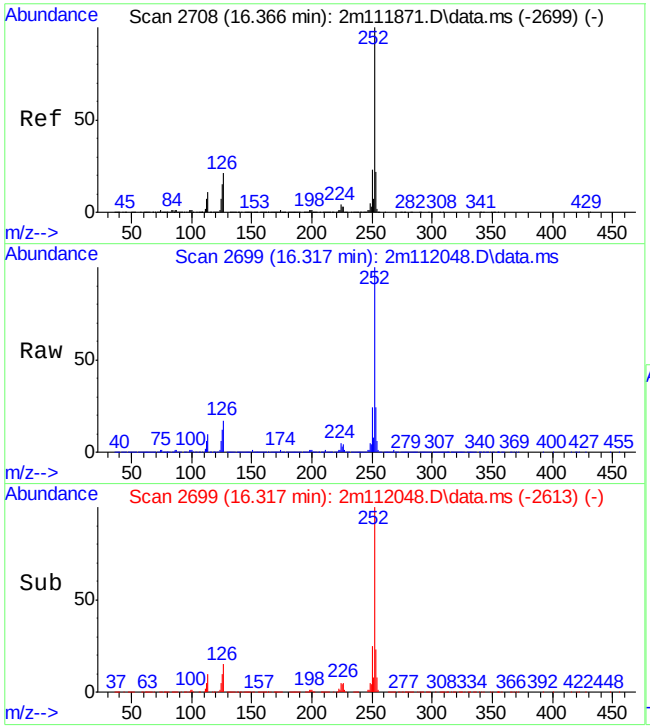




#94
Benzo[k]fluoranthene
Concen: 39.74 ppm
RT: 15.906 min Scan# 2622
Delta R.T. -0.048 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:252 Resp: 1703197

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.5 | 0.0 | 52.3 |
| 125 | 11.6 | 0.0 | 43.2 |

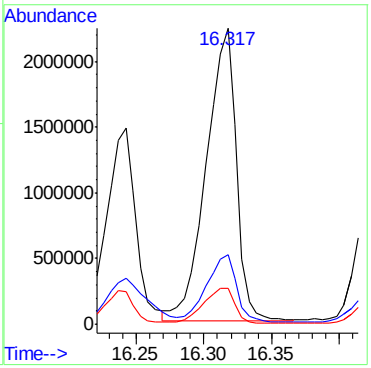


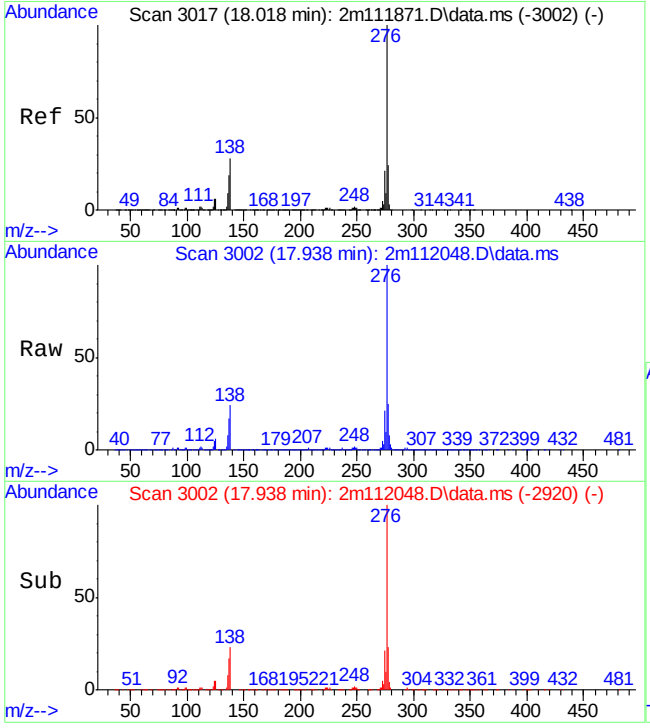



#95
Benzo[a]pyrene
Concen: 91.34 ppm
RT: 16.317 min Scan# 2699
Delta R.T. -0.043 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:252 Resp: 3466797

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.7 | 0.0 | 51.5 |
| 125 | 12.1 | 0.0 | 45.2 |

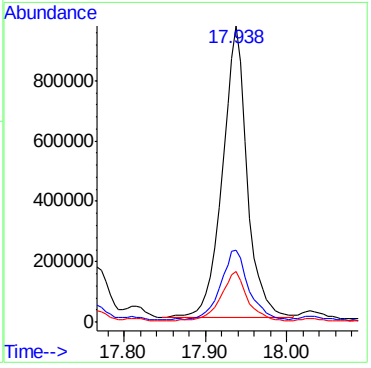


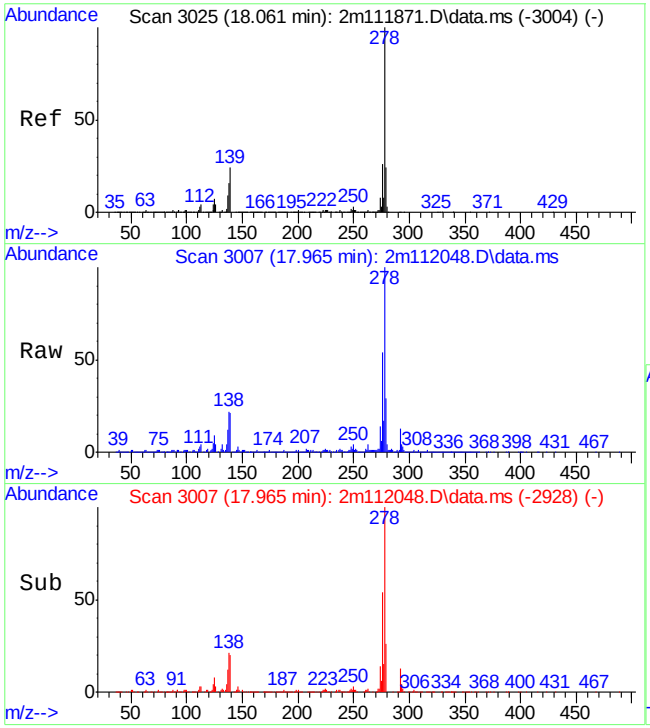




#96
Indeno[1,2,3-cd]pyrene
Concen: 57.68 ppm
RT: 17.938 min Scan# 3002
Delta R.T. -0.064 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:276 Resp: 2028877

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.8 | 0.0 | 55.0 |
| 137 | 16.9 | 0.0 | 47.8 |

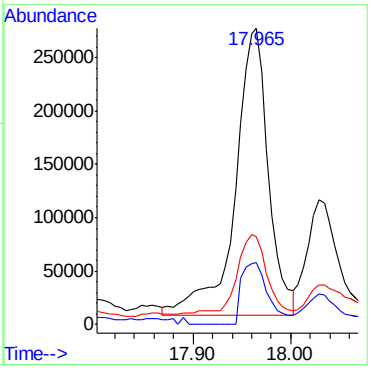


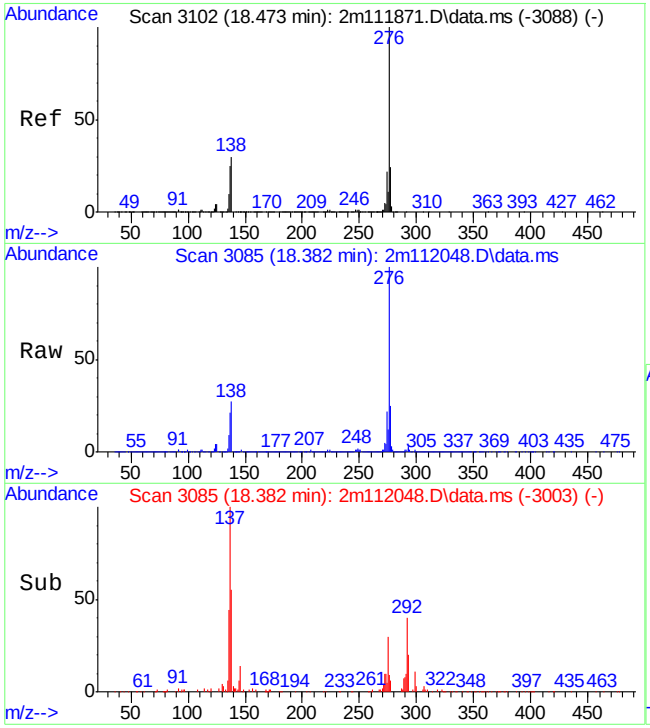



#98
Dibenz[a,h]anthracene
Concen: 16.67 ppm
RT: 17.965 min Scan# 3007
Delta R.T. -0.080 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:278 Resp: 640046

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 20.2 | 0.0 | 53.7 |
| 279 | 27.6 | 0.0 | 54.0 |

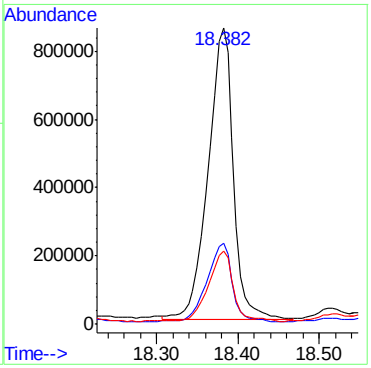



#100
Benzo[g,h,i]perylene
Concen: 51.36 ppm
RT: 18.382 min Scan# 3085
Delta R.T. -0.064 min
Lab File: 2m112048.D
Acq: 19 May 2019 5:27 pm

Tgt Ion:276 Resp: 1846129

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 26.9 | 0.2 | 60.2 |
| 277 | 24.1 | 0.0 | 53.9 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112049.D
Acq On : 19 May 2019 6:47 pm
Operator : carolb
Sample : jc87535-11
Misc : op20269,e2m4982,15.5,,,5,200
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 21 10:50:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.748 | 152 | 405696 | 40.00 | ppm | -0.05 |
| 24) Naphthalene-d8 | 5.855 | 136 | 1464770 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 7.931 | 164 | 772474 | 40.00 | ppm | -0.07 |
| 69) Phenanthrene-d10 | 10.102 | 188 | 1398836 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 14.274 | 240 | 1330996 | 40.00 | ppm | -0.06 |
| 91) Perylene-d12 | 16.376 | 264 | 1362497 | 40.00 | ppm | -0.06 |
| 101) 1,4-Dichlorobenzene-d4a | 4.748 | 152 | 405696 | 40.00 | ppm | -0.05 |
| 103) Acenaphthene-d10a | 7.931 | 164 | 772474 | 40.00 | ppm | -0.07 |
| 105) Chrysene-d12a | 14.274 | 240 | 1330996 | 40.00 | ppm | -0.06 |
| 107) Phenanthrene-d10a | 10.102 | 188 | 1398836 | 40.00 | ppm | -0.07 |
| 112) Naphthalene-d8a | 5.855 | 136 | 1464770 | 40.00 | ppm | -0.05 |
| 114) Chrysene-d12b | 14.274 | 240 | 1330996 | 40.00 | ppm | -0.06 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 7.053 | 172 | 1356 | 0.05 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 0.10% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 12.648 | 244 | 1613 | 0.05 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 0.10% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.609 | 94 | 16374 | 0.83 | ppm | 95 |
| 19) 2-Methylphenol | 5.026 | 108 | 11799 | 0.92 | ppm | 97 |
| 21) 3&4-Methylphenol | 5.155 | 108 | 33362 | 2.74 | ppm | 80 |
| 30) 2,4-Dimethylphenol | 5.577 | 107 | 17432 | 1.61 | ppm | 97 |
| 38) Naphthalene | 5.877 | 128 | 3249516 | 79.17 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.615 | 141 | 377741 | 17.90 | ppm | 99 |
| 53) Biphenyl | 7.177 | 154 | 121745 | 3.86 | ppm | 99 |
| 56) Acenaphthylene | 7.738 | 152 | 788240 | 21.52 | ppm | 99 |
| 59) Acenaphthene | 7.973 | 153 | 106712 | 4.47 | ppm | 97 |
| 62) Dibenzofuran | 8.214 | 168 | 563332 | 17.03 | ppm | 98 |
| 66) Fluorene | 8.706 | 166 | 670575 | 25.49 | ppm | 99 |
| 77) Phenanthrene | 10.140 | 178 | 2362401 | 58.04 | ppm | 100 |
| 78) Anthracene | 10.215 | 178 | 934332 | 23.34 | ppm | 100 |
| 79) Carbazole | 10.493 | 167 | 465082 | 11.53 | ppm | 99 |
| 81) Fluoranthene | 11.996 | 202 | 1595634 | 40.78 | ppm | 98 |
| 84) Pyrene | 12.343 | 202 | 1146637 | 23.01 | ppm | 99 |
| 87) Benzo[a]anthracene | 14.258 | 228 | 532973 | 13.16 | ppm | 99 |
| 89) Chrysene | 14.306 | 228 | 463374 | 10.52 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 15.857 | 252 | 486318 | 12.60 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112049.D
Acq On : 19 May 2019 6:47 pm
Operator : carolb
Sample : jc87535-11
Misc : op20269,e2m4982,15.5,,,5,200
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 21 10:50:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 94) Benzo[k]fluoranthene | 15.889 | 252 | 184299 | 4.74 | ppm | 99 |
| 95) Benzo[a]pyrene | 16.296 | 252 | 374122 | 10.87 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 17.917 | 276 | 193886 | 6.08 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 17.954 | 278 | 52865 | 1.52 | ppm | 93 |
| 100) Benzo[g,h,i]perylene | 18.355 | 276 | 175727 | 5.39 | ppm | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

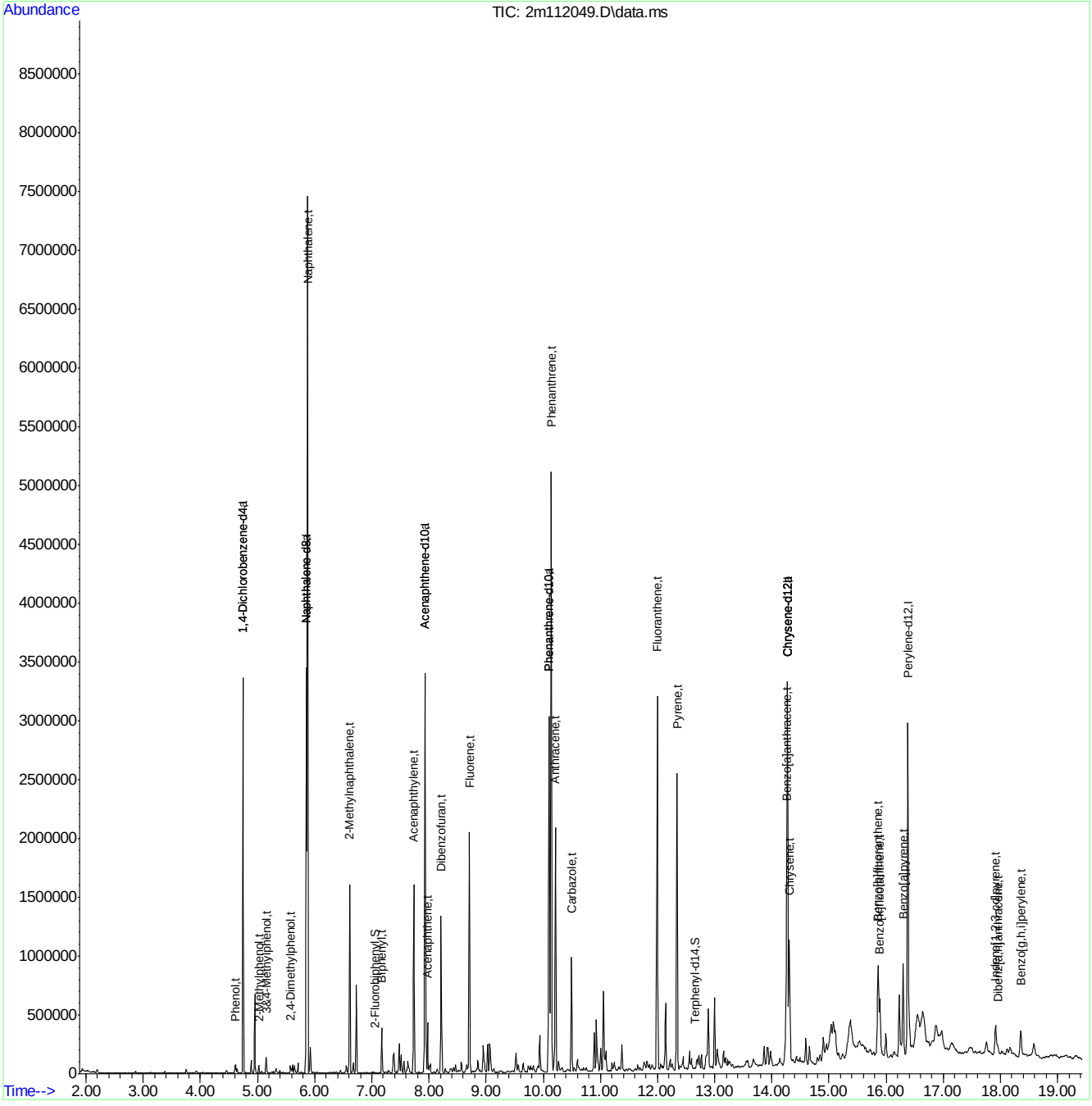
9.1.19

9

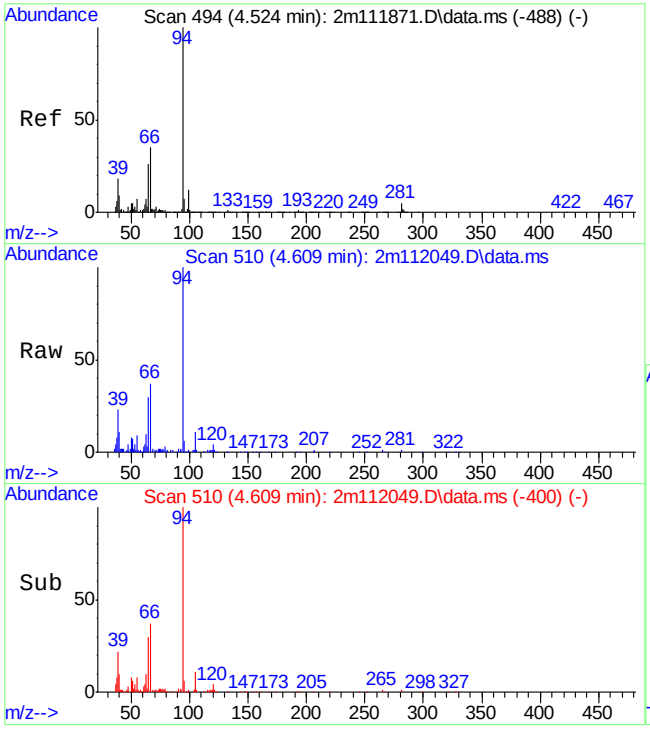
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112049.D
Acq On : 19 May 2019 6:47 pm
Operator : carolb
Sample : jc87535-11
Misc : op20269,e2m4982,15.5,,,5,200
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 21 10:50:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration



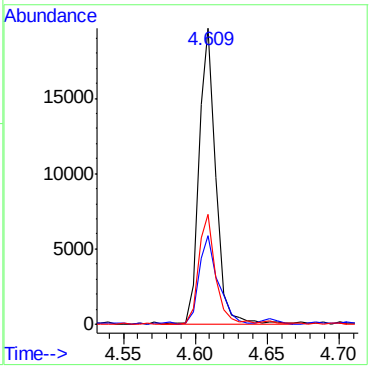

M2M4974.M Tue May 21 10:50:58 2019 Page: 3

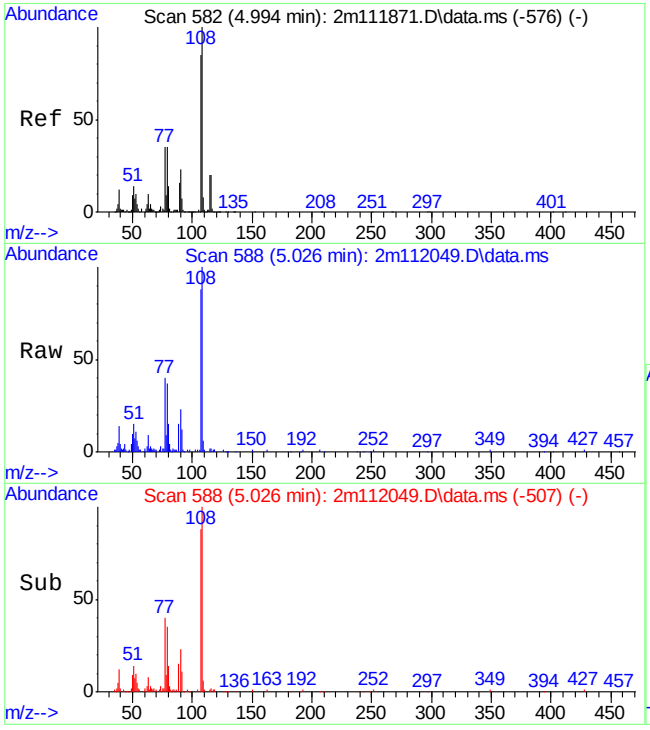



#9
Phenol
Concen: 0.83 ppm
RT: 4.609 min Scan# 510
Delta R.T. 0.091 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion: 94 Resp: 16374

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 29.7 | 0.0 | 56.4 |
| 66 | 36.9 | 4.5 | 64.5 |

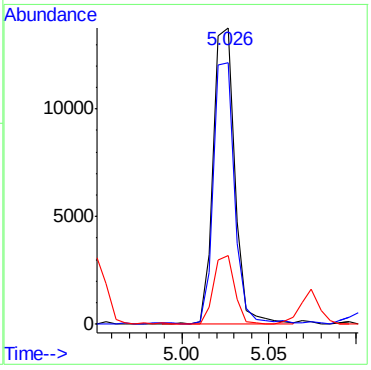


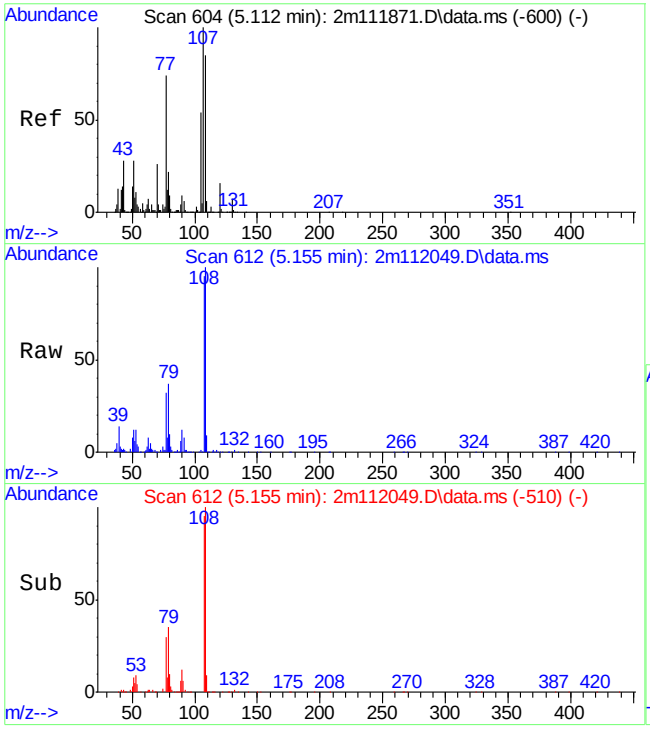




#19
2-Methylphenol
Concen: 0.92 ppm
RT: 5.026 min Scan# 588
Delta R.T. -0.065 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:108 Resp: 11799

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 88.0 | 54.8 | 114.8 |
| 90 | 21.6 | 0.0 | 52.9 |

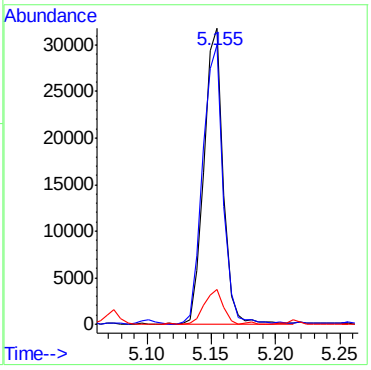


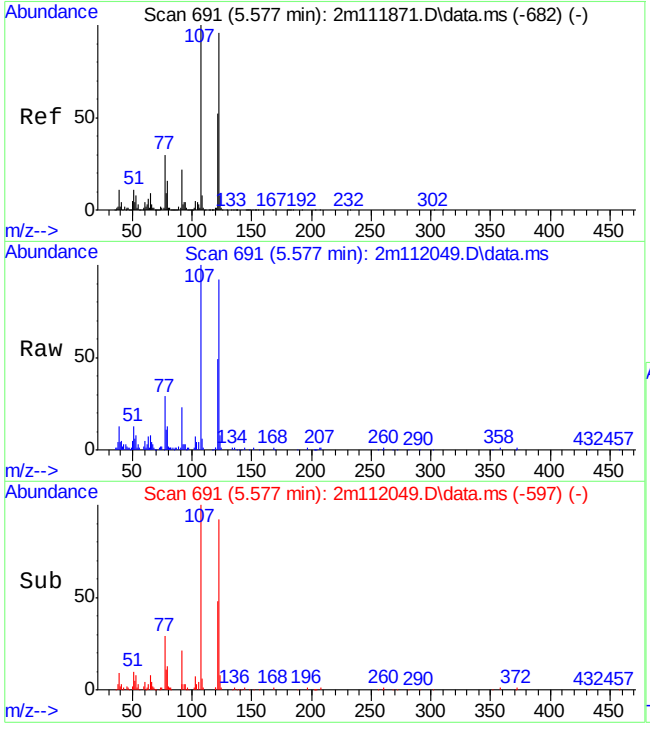



#21
3&4-Methylphenol
Concen: 2.74 ppm
RT: 5.155 min Scan# 612
Delta R.T. 0.048 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:108 Resp: 33362

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 94.3 | 88.1 | 148.1 |
| 90 | 10.9 | 0.0 | 40.3 |

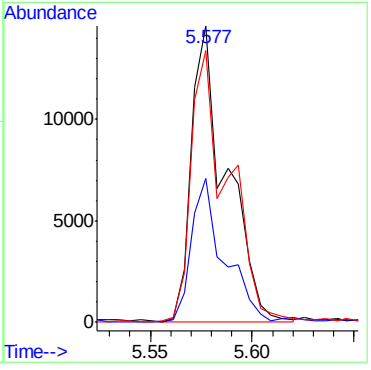


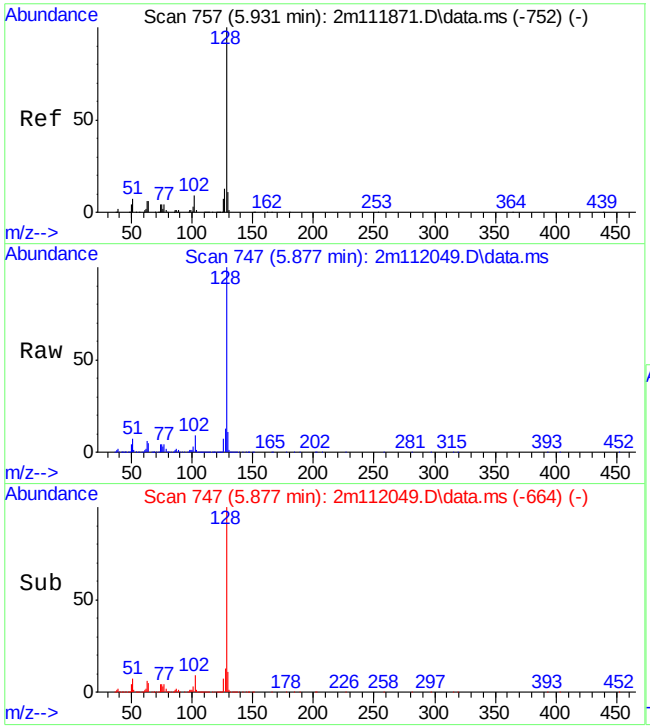




#30
2,4-Dimethylphenol
Concen: 1.61 ppm
RT: 5.577 min Scan# 691
Delta R.T. 0.005 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:107 Resp: 17432

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 47.9 | 21.7 | 81.7 |
| 122 | 91.3 | 63.5 | 123.5 |

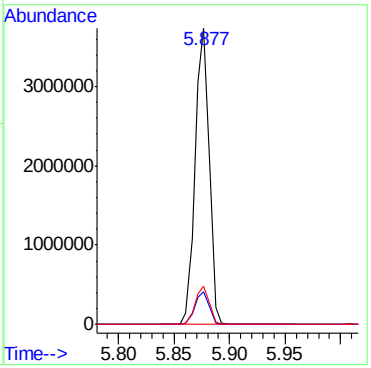


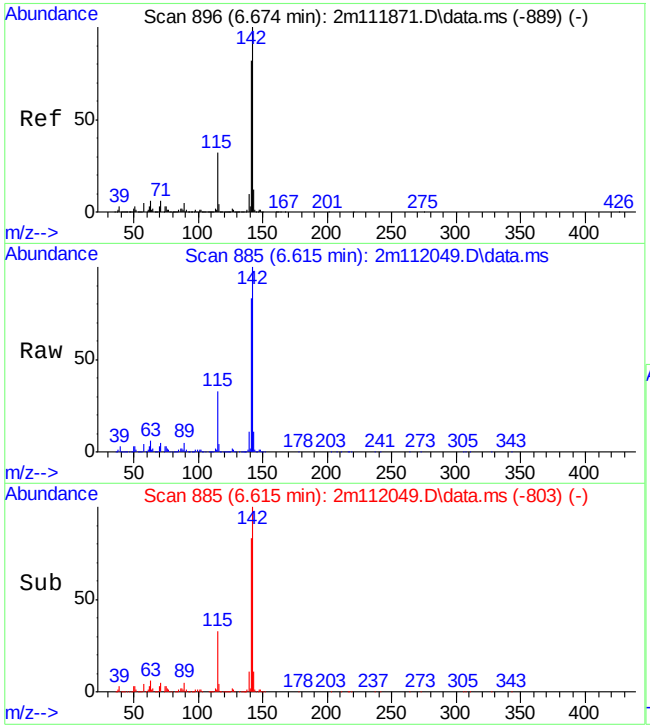



#38
Naphthalene
Concen: 79.17 ppm
RT: 5.877 min Scan# 747
Delta R.T. -0.053 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:128 Resp: 3249516

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.0 | 0.0 | 41.4 |
| 127 | 12.9 | 0.0 | 42.8 |

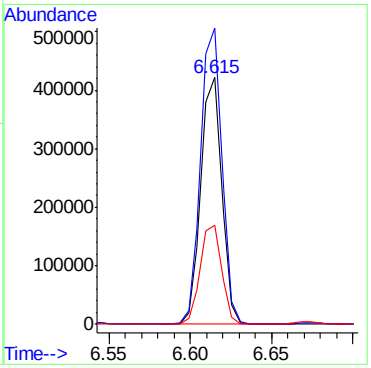


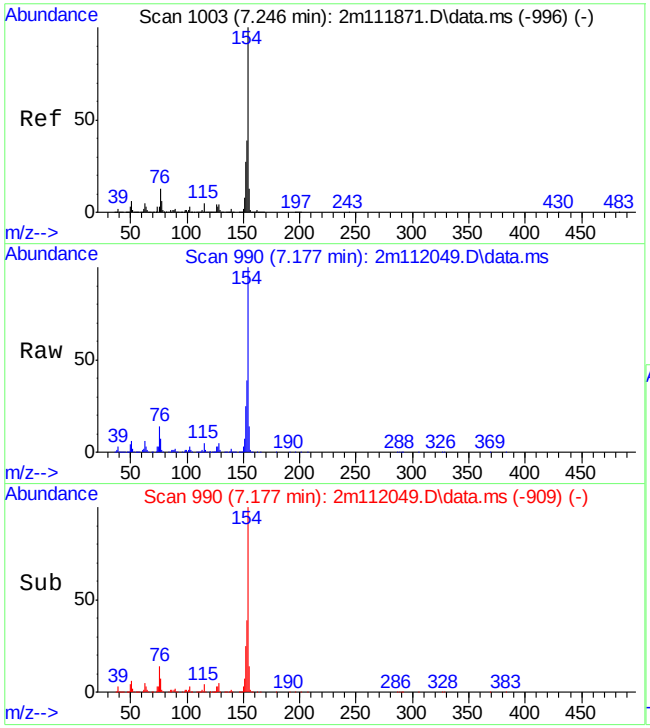




#44
2-Methylnaphthalene
Concen: 17.90 ppm
RT: 6.615 min Scan# 885
Delta R.T. -0.059 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:141 Resp: 377741

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 120.1 | 91.5 | 151.5 |
| 115 | 39.8 | 9.4 | 69.4 |

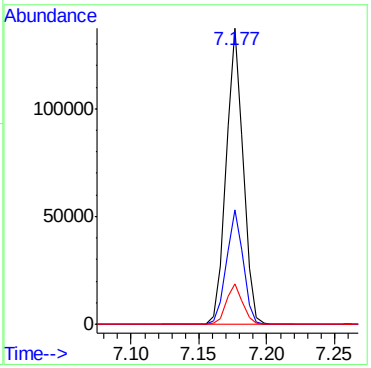


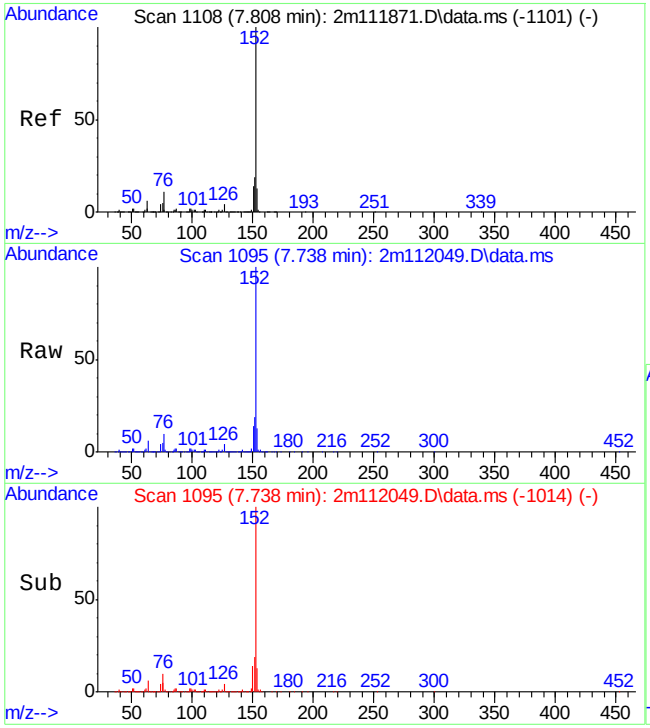



#53
Biphenyl
Concen: 3.86 ppm
RT: 7.177 min Scan# 990
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:154 Resp: 121745

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 38.7 | 8.9 | 68.9 |
| 155 | 13.6 | 0.0 | 42.8 |

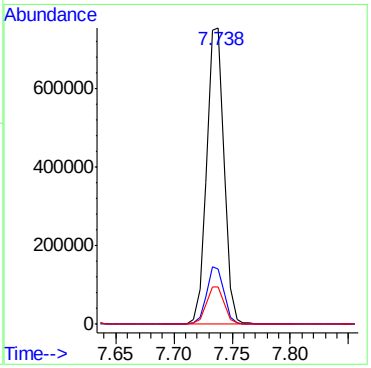


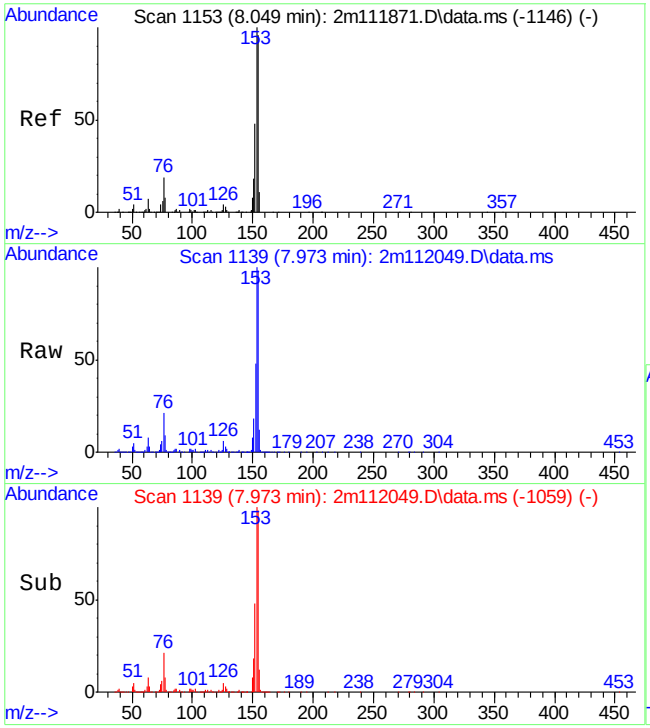




#56
Acenaphthylene
Concen: 21.52 ppm
RT: 7.738 min Scan# 1095
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:152 Resp: 788240

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 18.6 | 0.0 | 49.3 |
| 153 | 12.6 | 0.0 | 42.7 |

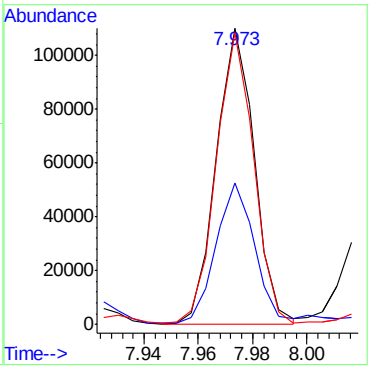


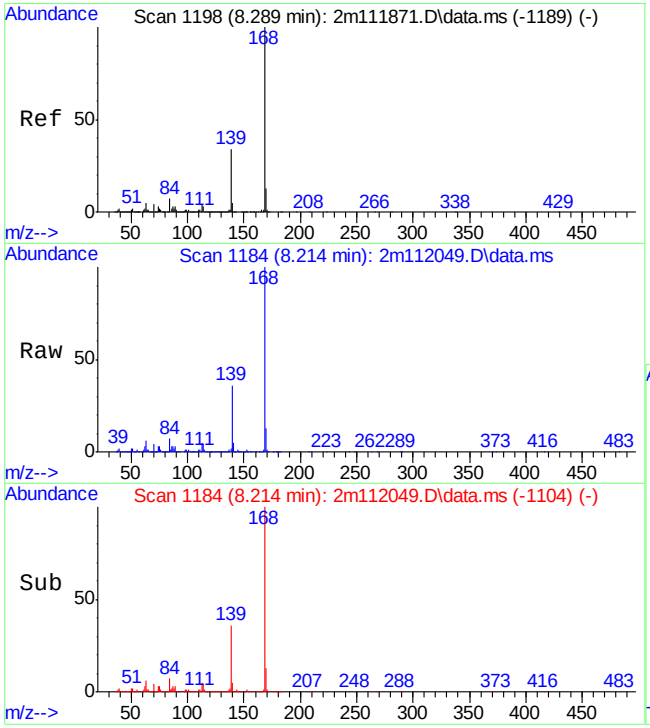



#59
Acenaphthene
Concen: 4.47 ppm
RT: 7.973 min Scan# 1139
Delta R.T. -0.069 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:153 Resp: 106712

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 47.3 | 17.6 | 77.6 |
| 154 | 99.1 | 64.4 | 124.4 |

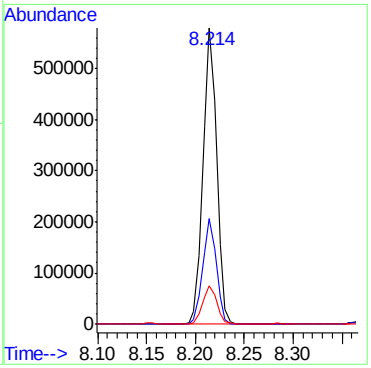


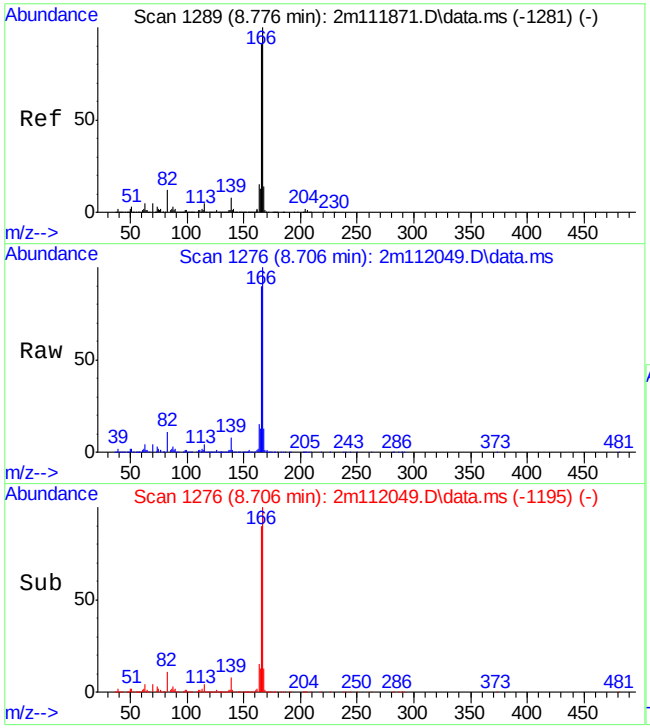




#62
Dibenzofuran
Concen: 17.03 ppm
RT: 8.214 min Scan# 1184
Delta R.T. -0.069 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:168 Resp: 563332

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 35.8 | 4.3 | 64.3 |
| 169 | 13.0 | 0.0 | 43.2 |

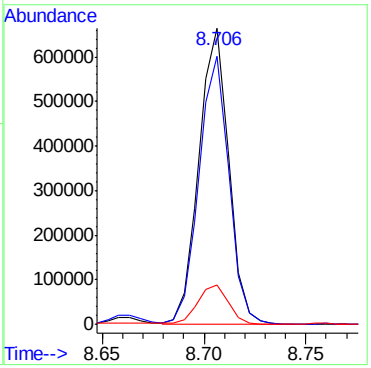


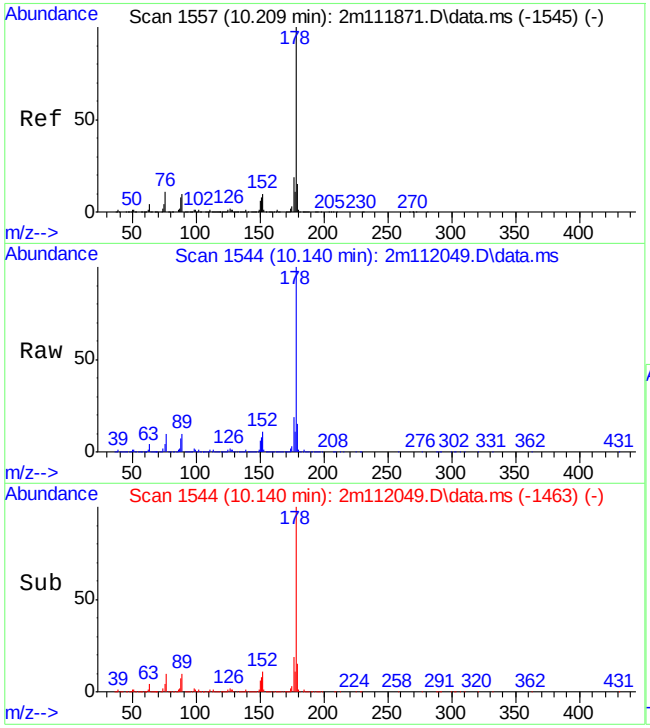



#66
Fluorene
Concen: 25.49 ppm
RT: 8.706 min Scan# 1276
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:166 Resp: 670575

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 90.3 | 61.3 | 121.3 |
| 167 | 13.2 | 0.0 | 43.6 |

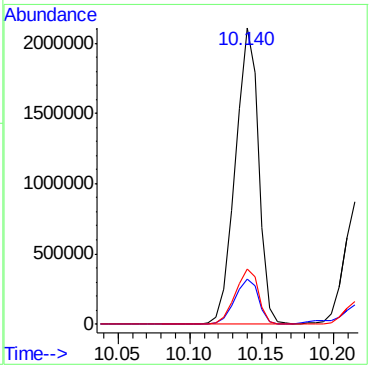


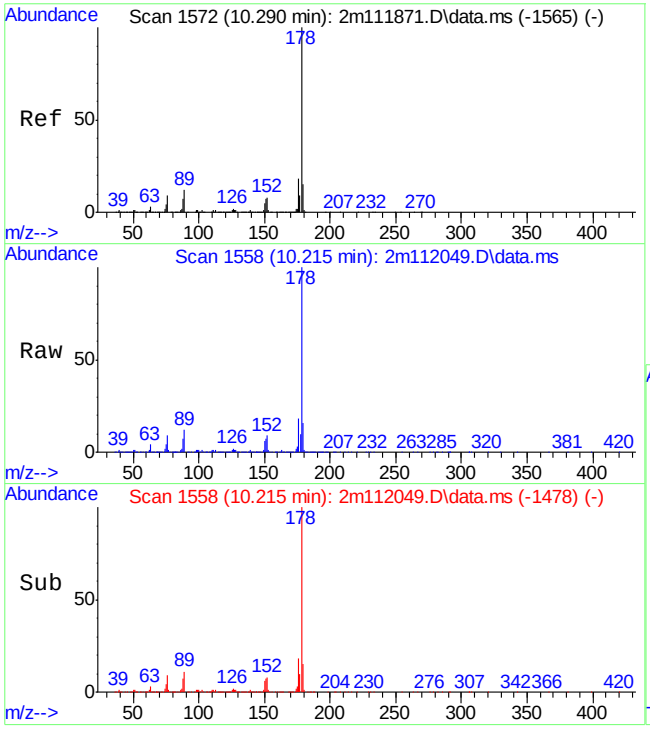




#77
Phenanthrene
Concen: 58.04 ppm
RT: 10.140 min Scan# 1544
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:178 Resp: 2362401

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.2 | 0.0 | 45.3 |
| 176 | 18.8 | 0.0 | 49.0 |

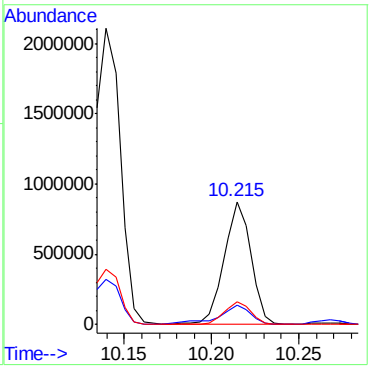


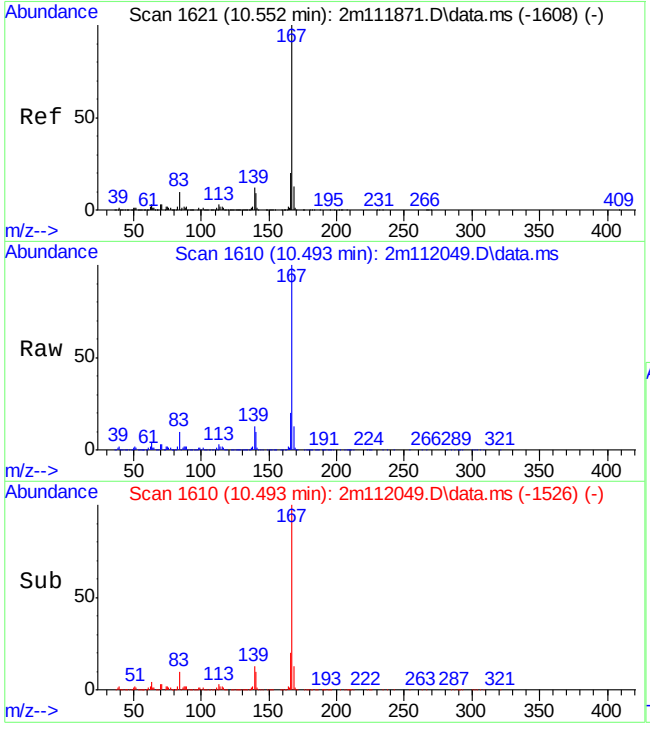



#78
Anthracene
Concen: 23.34 ppm
RT: 10.215 min Scan# 1558
Delta R.T. -0.070 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:178 Resp: 934332

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.4 | 0.0 | 45.3 |
| 176 | 18.4 | 0.0 | 48.2 |

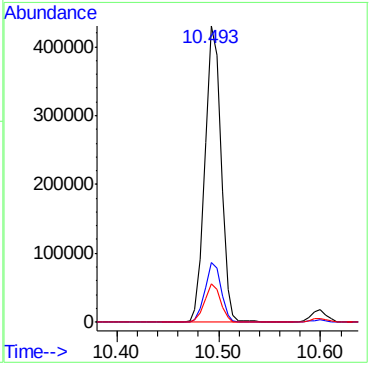


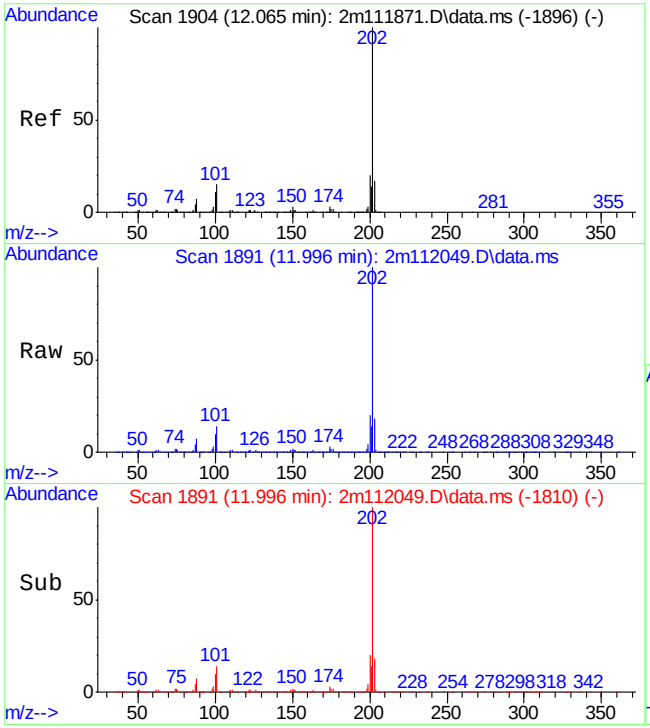




#79
Carbazole
Concen: 11.53 ppm
RT: 10.493 min Scan# 1610
Delta R.T. -0.048 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:167 Resp: 465082

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.3 | 0.0 | 49.9 |
| 139 | 12.7 | 0.0 | 42.1 |

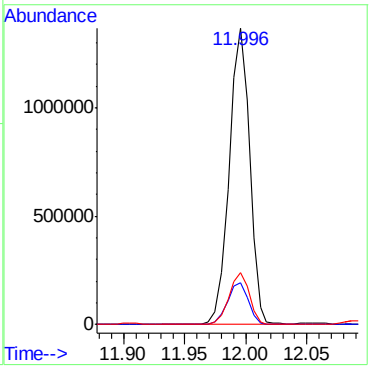


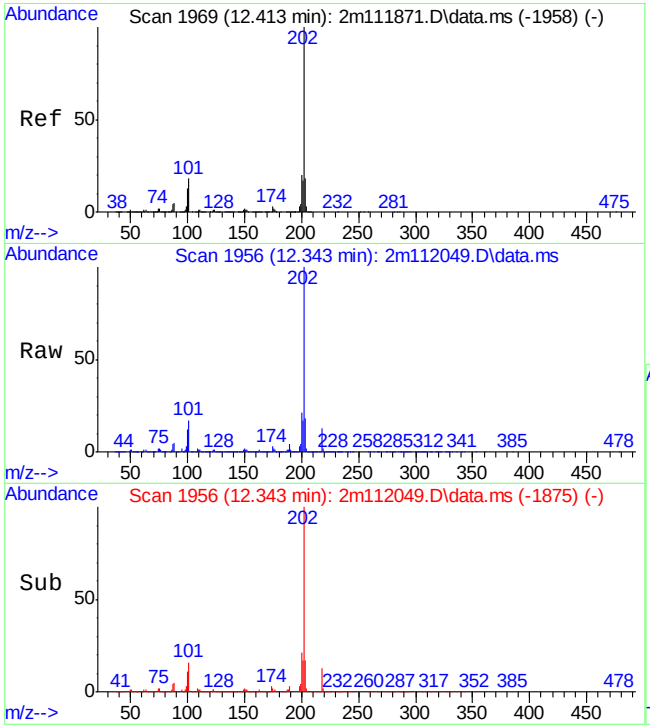



#81
Fluoranthene
Concen: 40.78 ppm
RT: 11.996 min Scan# 1891
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:202 Resp: 1595634

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.1 | 0.0 | 45.2 |
| 203 | 17.6 | 0.0 | 47.3 |

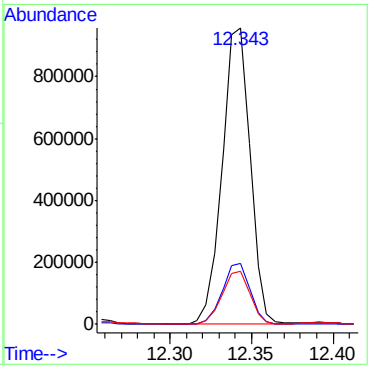


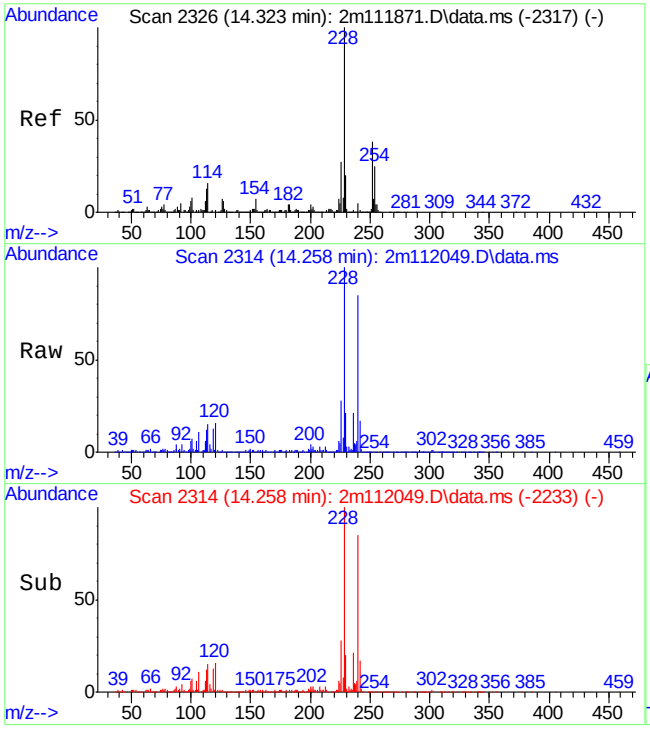




#84
Pyrene
Concen: 23.01 ppm
RT: 12.343 min Scan# 1956
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:202 Resp: 1146637

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.7 | 0.0 | 50.2 |
| 203 | 17.6 | 0.0 | 48.4 |

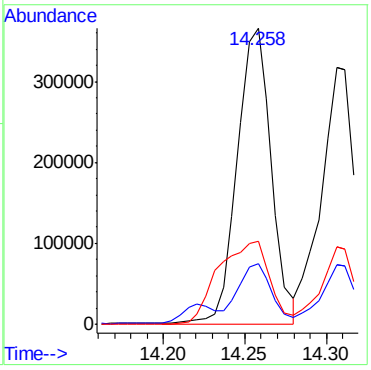


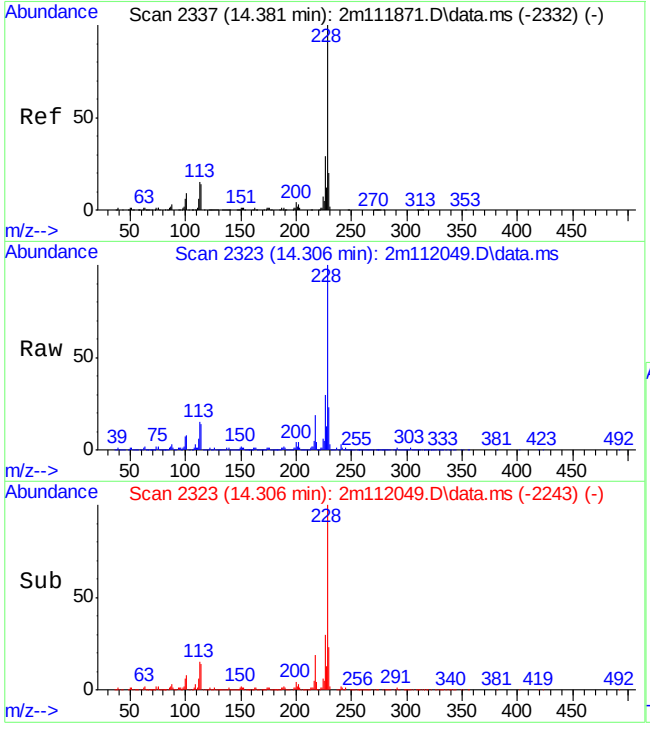



#87
Benzo[a]anthracene
Concen: 13.16 ppm
RT: 14.258 min Scan# 2314
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:228 Resp: 532973

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.9 | 0.0 | 49.6 |
| 226 | 27.8 | 0.0 | 57.3 |

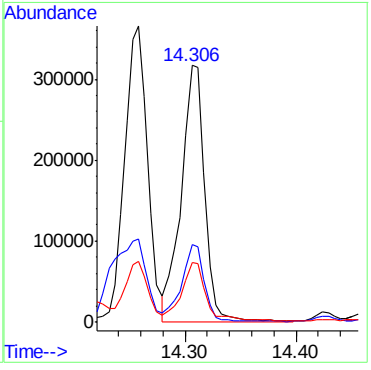


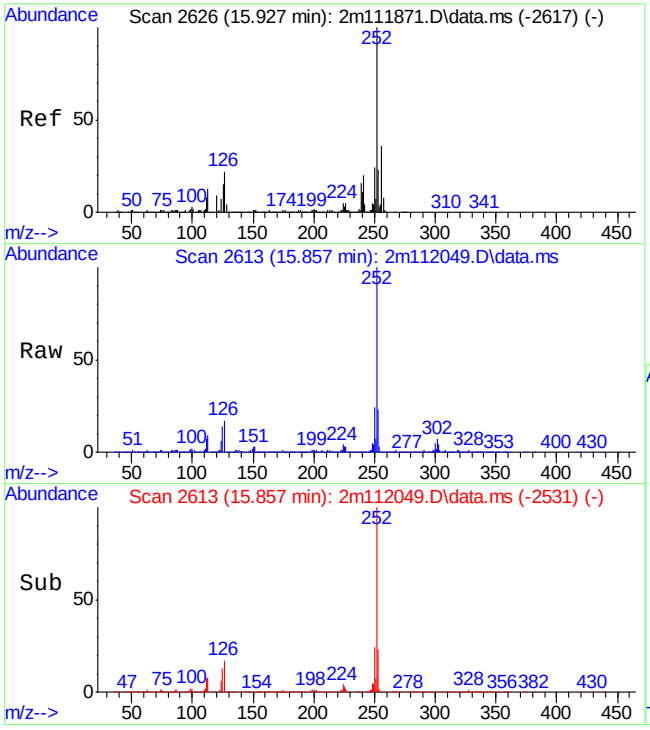




#89
Chrysene
Concen: 10.52 ppm
RT: 14.306 min Scan# 2323
Delta R.T. -0.069 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:228 Resp: 463374

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 29.7 | 0.0 | 59.1 |
| 229 | 22.7 | 0.0 | 49.8 |

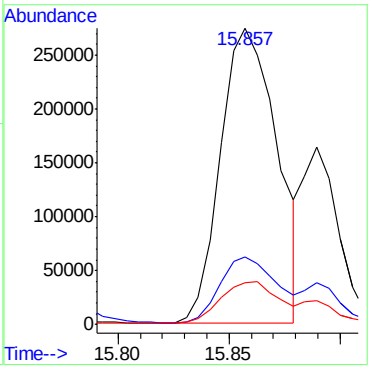


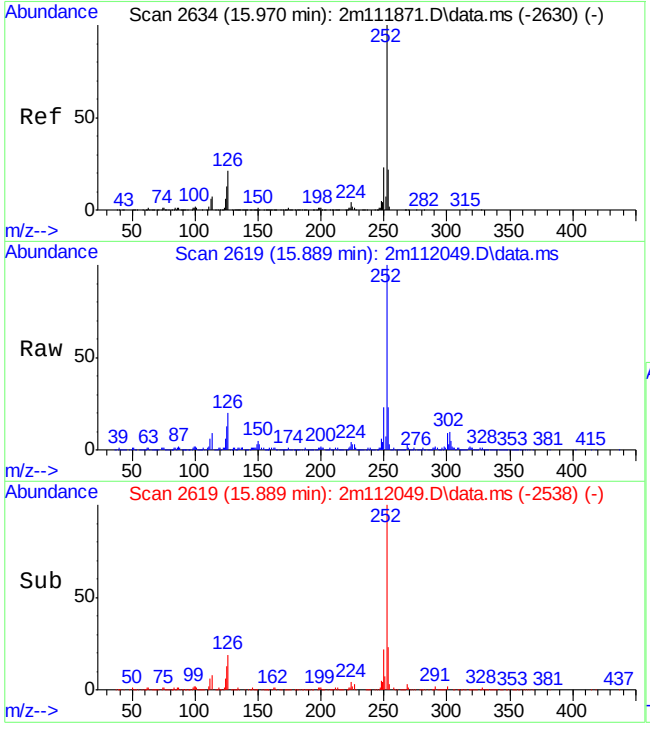



#93
Benzo[b]fluoranthene
Concen: 12.60 ppm
RT: 15.857 min Scan# 2613
Delta R.T. -0.059 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:252 Resp: 486318

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.5 | 0.0 | 53.5 |
| 125 | 13.7 | 0.0 | 44.5 |

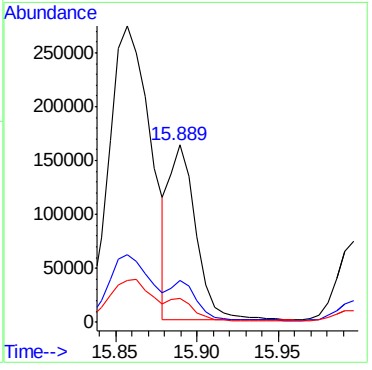


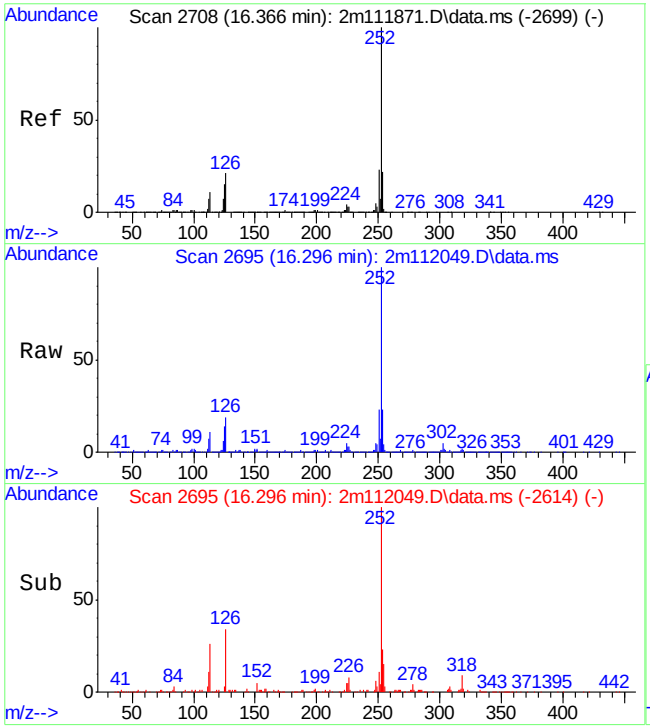




#94
Benzo[k]fluoranthene
Concen: 4.74 ppm
RT: 15.889 min Scan# 2619
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:252 Resp: 184299

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.7 | 0.0 | 52.3 |
| 125 | 12.4 | 0.0 | 43.2 |

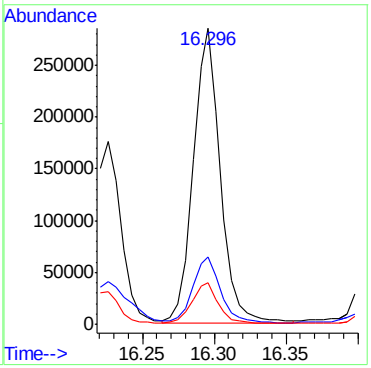


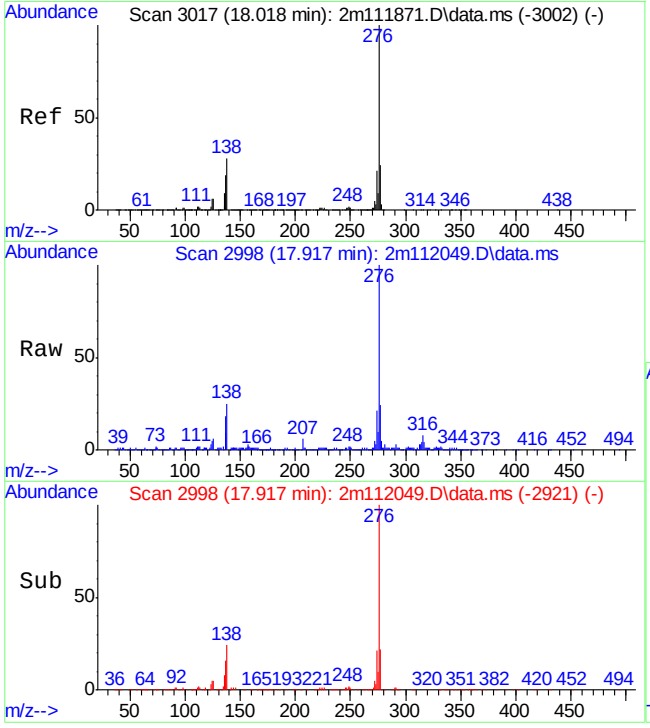



#95
Benzo[a]pyrene
Concen: 10.87 ppm
RT: 16.296 min Scan# 2695
Delta R.T. -0.064 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:252 Resp: 374122

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.2 | 0.0 | 51.5 |
| 125 | 13.8 | 0.0 | 45.2 |

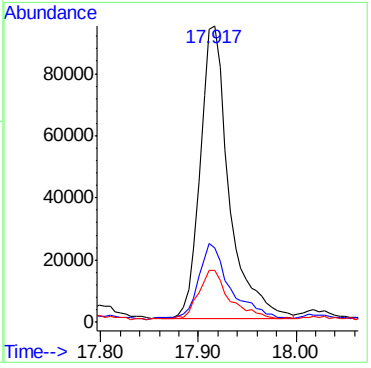


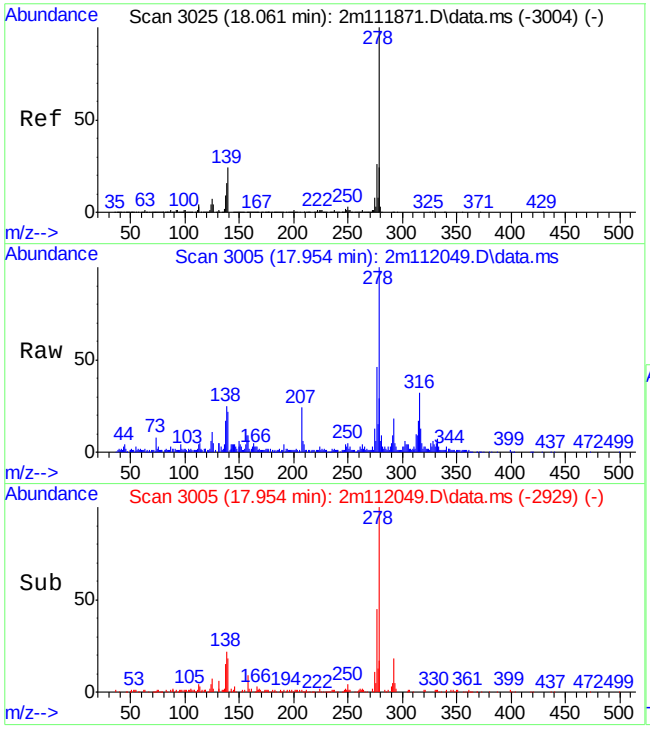




#96
Indeno[1,2,3-cd]pyrene
Concen: 6.08 ppm
RT: 17.917 min Scan# 2998
Delta R.T. -0.086 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:276 Resp: 193886

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.8 | 0.0 | 55.0 |
| 137 | 16.7 | 0.0 | 47.8 |

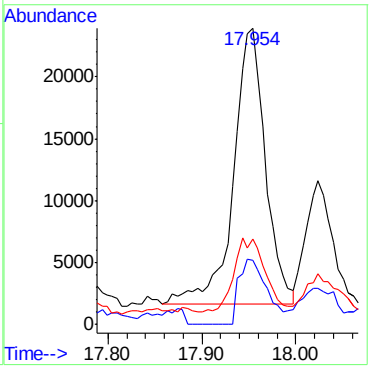


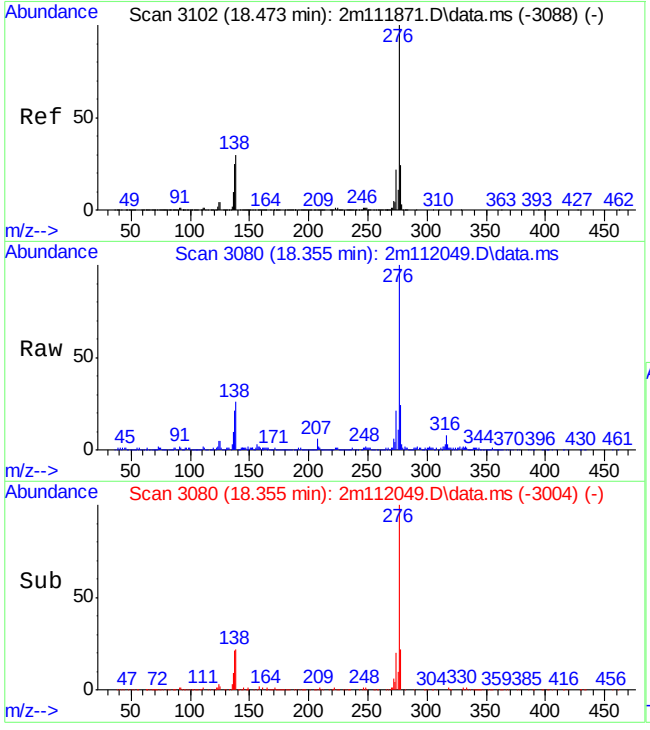



#98
Dibenz[a,h]anthracene
Concen: 1.52 ppm
RT: 17.954 min Scan# 3005
Delta R.T. -0.091 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:278 Resp: 52865

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 18.9 | 0.0 | 53.7 |
| 279 | 25.6 | 0.0 | 54.0 |

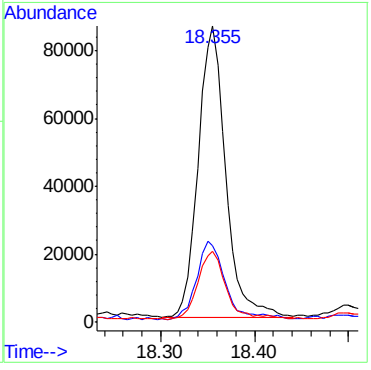



#100
Benzo[g,h,i]perylene
Concen: 5.39 ppm
RT: 18.355 min Scan# 3080
Delta R.T. -0.091 min
Lab File: 2m112049.D
Acq: 19 May 2019 6:47 pm

Tgt Ion:276 Resp: 175727

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.8 | 0.2 | 60.2 |
| 277 | 23.2 | 0.0 | 53.9 |



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/21/19 10:48

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:58:43 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.901 | 152 | 185026 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.119 | 136 | 404071 | 40.00 | ppm | 0.04 |
| 47) Acenaphthene-d10 | 6.776 | 164 | 439455 | 40.00 | ppm | 0.02 |
| 69) Phenanthrene-d10 | 8.245 | 188 | 545627 | 40.00 | ppm | 0.06 |
| 83) Chrysene-d12 | 11.562 | 240 | 730871 | 40.00 | ppm | 0.15 |
| 91) Perylene-d12 | 13.533 | 264 | 747337 | 40.00 | ppm | 0.14 |
| 101) 1,4-Dichlorobenzene-d4b | 3.901 | 152 | 185026 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.776 | 164 | 439455 | 40.00 | ppm | 0.02 |
| 105) Chrysene-d12a | 11.562 | 240 | 708375m | 40.00 | ppm | 0.15 |
| 107) Phenanthrene-d10a | 8.245 | 188 | 545627 | 40.00 | ppm | 0.06 |
| 111) Naphthalene-d8a | 5.119 | 136 | 404071 | 40.00 | ppm | 0.04 |
| 113) Chrysene-d12b | 11.562 | 240 | 730871 | 40.00 | ppm | 0.15 |
| 115) 1,4-Dichlorobenzene-d4c | 3.901 | 152 | 185026 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.562 | 240 | 701335m | 40.00 | ppm | 0.15 |
| 119) Chrysene-d12d | 11.562 | 240 | 730871 | 40.00 | ppm | 0.15 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.812 | 112 | 29890 | 4.15 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 8.30% | | |
| 8) Phenol-d5 | 3.666 | 99 | 42061 | 4.64 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 9.28% | | |
| 25) Nitrobenzene-d5 | 4.441 | 82 | 40169 | 8.58 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 17.16% | | |
| 51) 2-Fluorobiphenyl | 6.140 | 172 | 66755 | 4.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 8.74% | | |
| 73) 2,4,6-Tribromophenol | 7.572 | 330 | 9319 | 5.93 | ppm | 0.04 |
| Spiked Amount 50.000 | | | Recovery = | 11.86% | | |
| 85) Terphenyl-d14 | 10.082 | 244 | 77190 | 4.15 | ppm | 0.06 |
| Spiked Amount 50.000 | | | Recovery = | 8.30% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.672 | 94 | 902844 | 90.94 | ppm | 94 |
| 19) 2-Methylphenol | 4.206 | 108 | 552261 | 88.18 | ppm | 97 |
| 21) 3&4-Methylphenol | 4.371 | 108 | 1552542 | 230.92 | ppm | 80 |
| 30) 2,4-Dimethylphenol | 4.874 | 107 | 942499 | 258.10 | ppm | 98 |
| 38) Naphthalene | 5.205 | 128 | 42101096 | 4134.16 | ppm | 82 |
| 44) 2-Methylnaphthalene | 5.814 | 141 | 9220907 | 1543.47 | ppm | 92 |
| 53) Biphenyl | 6.241 | 154 | 4491613 | 273.16 | ppm | 97 |
| 56) Acenaphthylene | 6.674 | 152 | 18384465 | 901.62 | ppm | 86 |
| 59) Acenaphthene | 6.824 | 153 | 4204073 | 331.45 | ppm | 94 |
| 62) Dibenzofuran | 7.011 | 168 | 14268416 | 747.46 | ppm | 94 |
| 66) Fluorene | 7.358 | 166 | 15973099 | 1059.19 | ppm | 93 |
| 77) Phenanthrene | 8.346 | 178 | 44148779 | 2993.39 | ppm | 85 |
| 78) Anthracene | 8.384 | 178 | 15358095m | 992.33 | ppm | |
| 79) Carbazole | 8.544 | 167 | 14631601 | 932.59 | ppm | 91 |
| 81) Fluoranthene | 9.639 | 202 | 38713752 | 2113.28 | ppm | 91 |
| 84) Pyrene | 9.938 | 202 | 31215475 | 1123.94 | ppm | 87 |
| 87) Benzo[a]anthracene | 11.546 | 228 | 24201859m | 948.07 | ppm | |
| 89) Chrysene | 11.594 | 228 | 12676239 | 537.89 | ppm | 91 |
| 93) Benzo[b]fluoranthene | 13.079 | 252 | 23571547m | 1033.01 | ppm | |
| 94) Benzo[k]fluoranthene | 13.090 | 252 | 2983118m | 142.82 | ppm | |
| 95) Benzo[a]pyrene | 13.501 | 252 | 14061822 | 691.86 | ppm | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:58:43 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

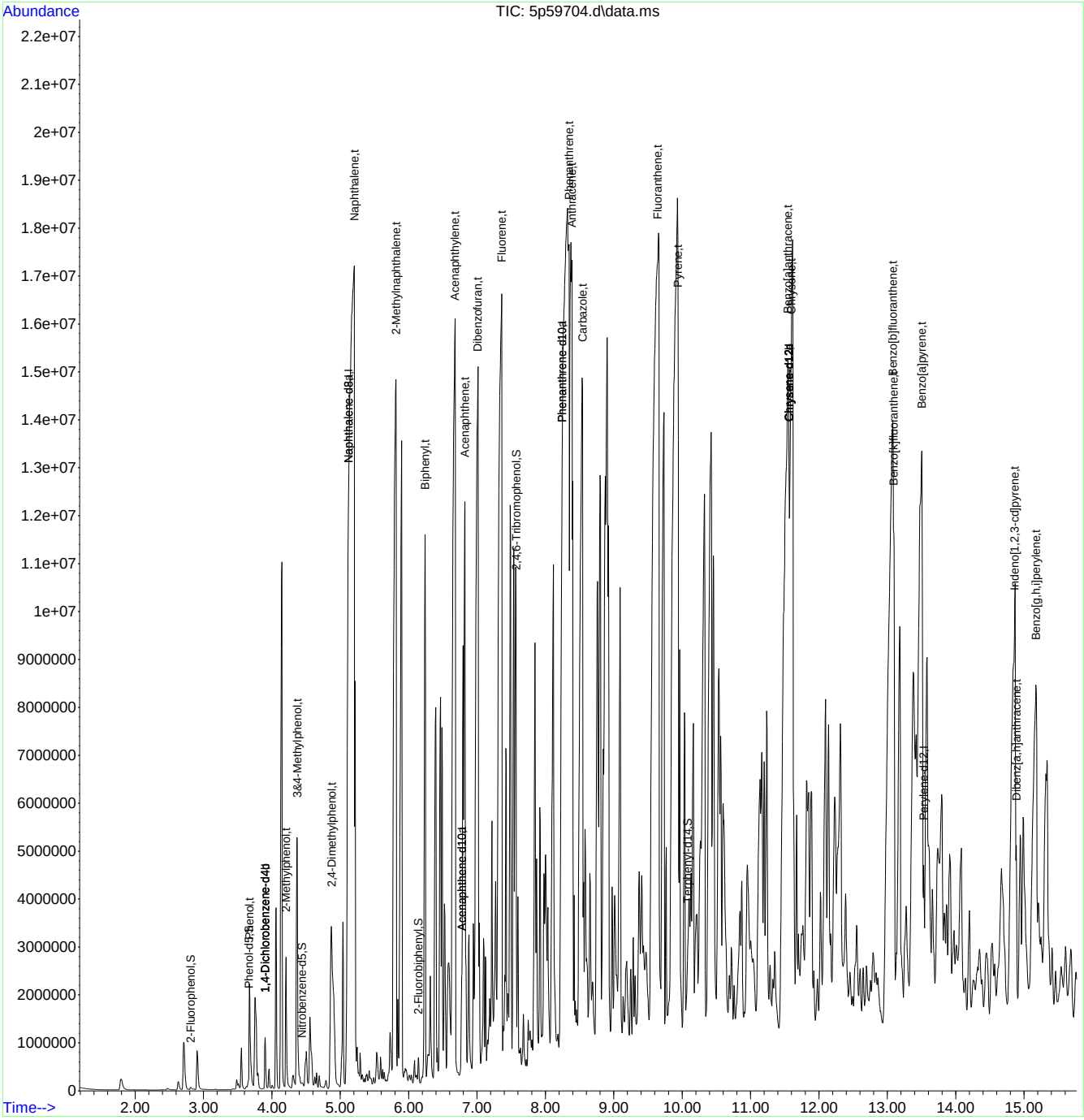
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 96) Indeno[1,2,3-cd]pyrene | 14.858 | 276 | 9562542 | 525.95 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 14.885 | 278 | 879497m | 46.78 | ppm | |
| 100) Benzo[g,h,i]perylene | 15.174 | 276 | 8653861 | 471.52 | ppm | 98 |

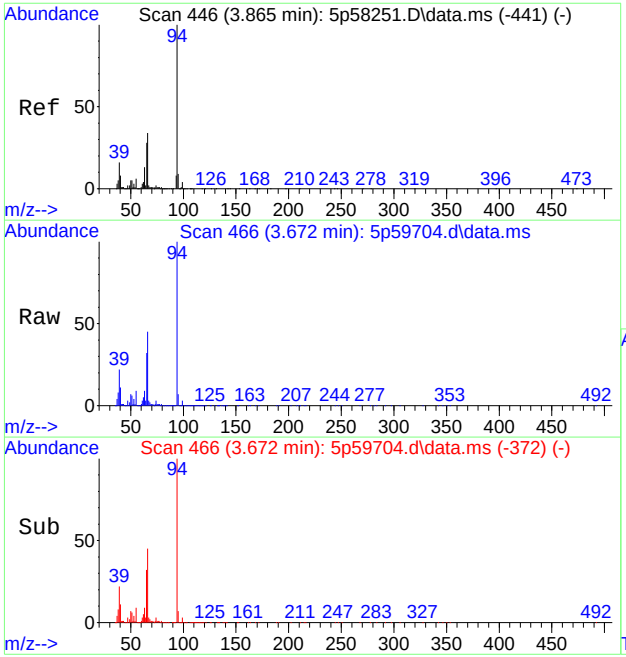
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:58:43 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

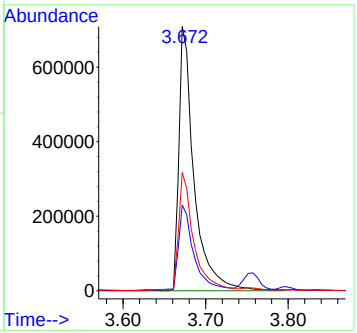


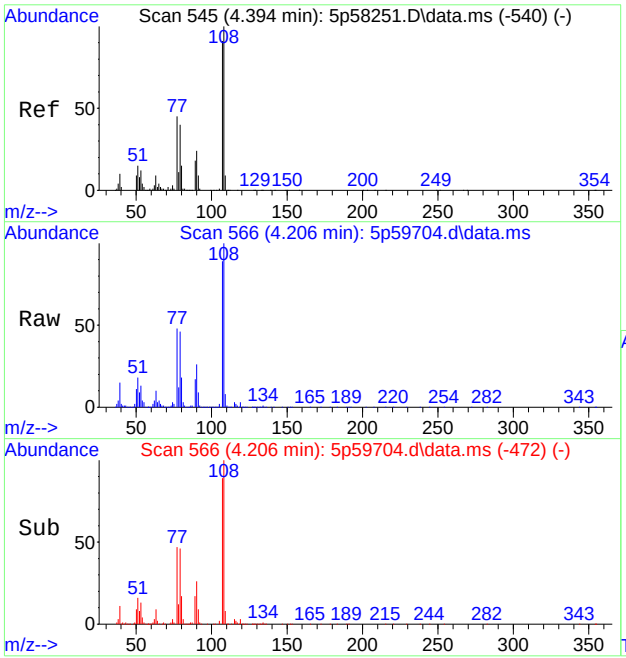



#9
Phenol
Concen: 90.94 ppm
RT: 3.672 min Scan# 466
Delta R.T. 0.000 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion: 94 Resp: 902844

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 31.5 | 8.8 | 68.8 |
| 66 | 44.3 | 13.5 | 73.5 |

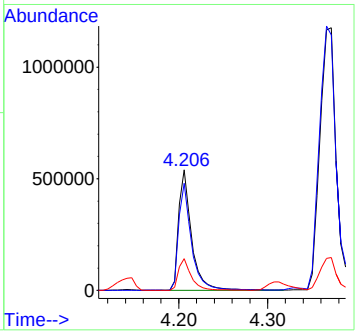


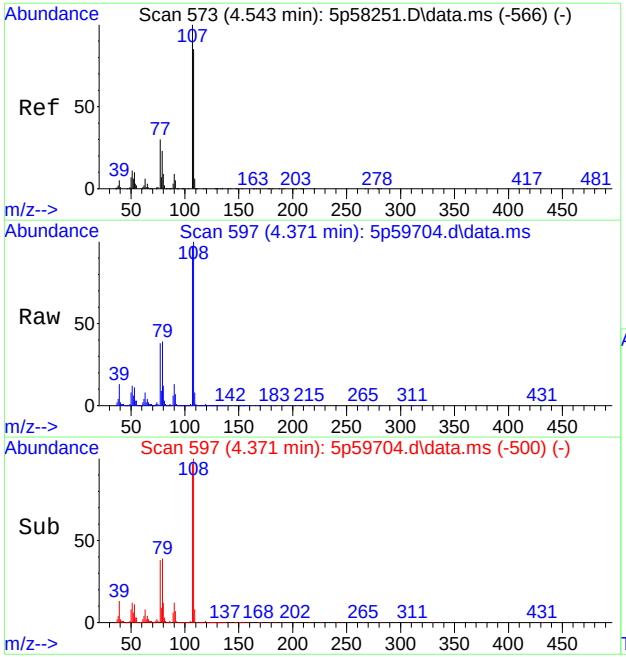




#19
2-Methylphenol
Concen: 88.18 ppm
RT: 4.206 min Scan# 566
Delta R.T. 0.000 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:108 Resp: 552261

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 88.7 | 60.7 | 120.7 |
| 90 | 23.7 | 0.0 | 57.4 |

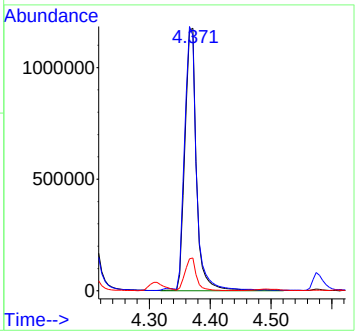


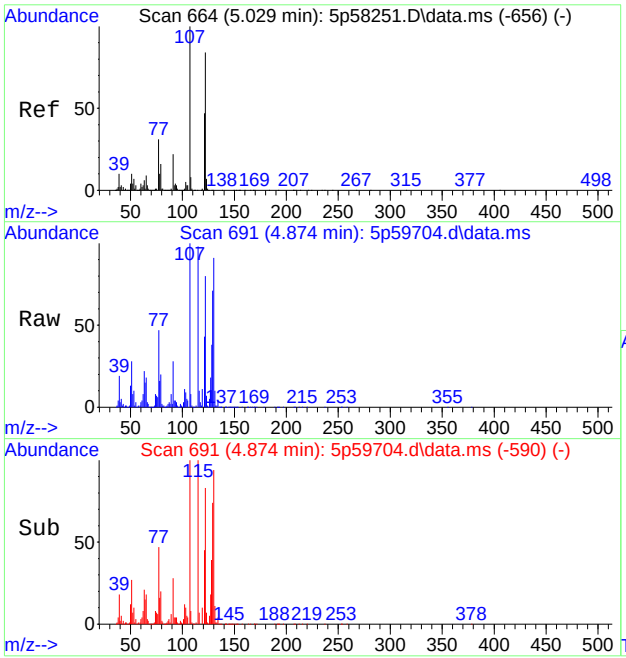



#21
3&4-Methylphenol
Concen: 230.92 ppm
RT: 4.371 min Scan# 597
Delta R.T. 0.016 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:108 Resp: 1552542

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 97.1 | 91.8 | 151.8 |
| 90 | 11.2 | 0.0 | 41.6 |

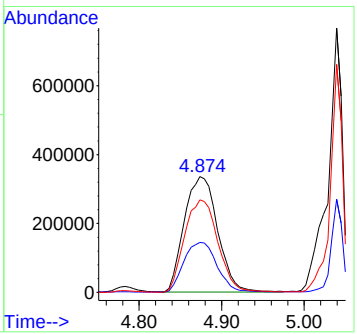


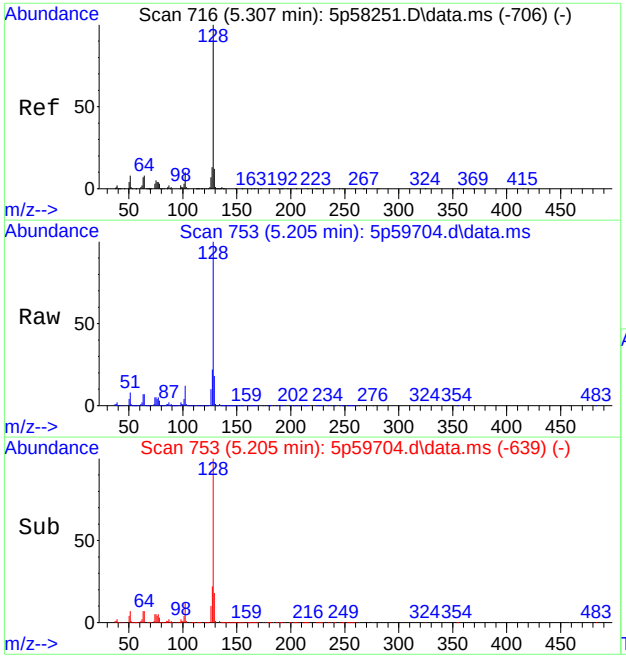




#30
2,4-Dimethylphenol
Concen: 258.10 ppm
RT: 4.874 min Scan# 691
Delta R.T. 0.038 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:107 Resp: 942499

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 43.2 | 15.0 | 75.0 |
| 122 | 80.4 | 48.6 | 108.6 |

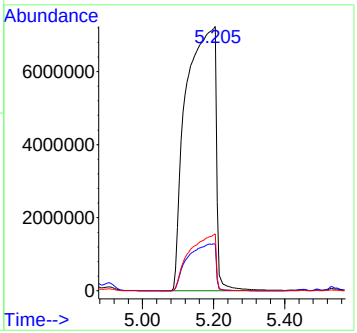


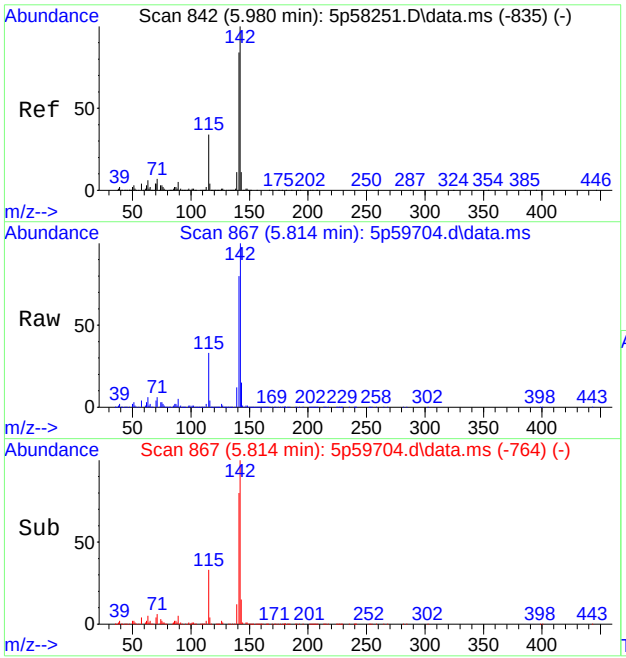



#38
Naphthalene
Concen: 4134.16 ppm
RT: 5.205 min Scan# 753
Delta R.T. 0.107 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:128 Resp:42101096

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 17.6 | 0.0 | 41.4 |
| 127 | 21.5 | 0.0 | 43.4 |

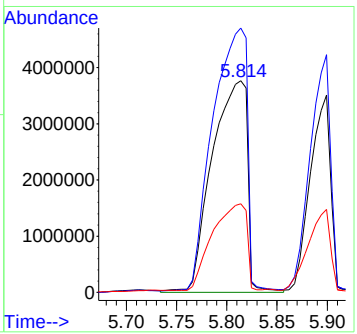


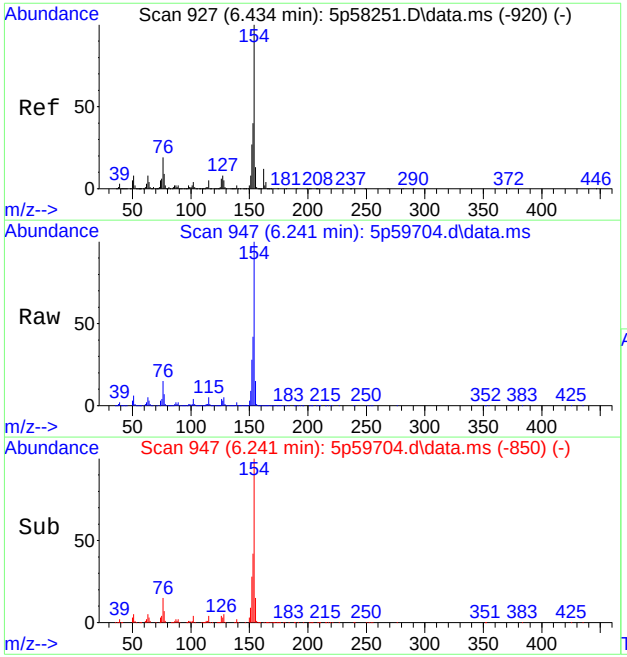




#44
2-Methylnaphthalene
Concen: 1543.47 ppm
RT: 5.814 min Scan# 867
Delta R.T. 0.048 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:141 Resp: 9220907

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 125.0 | 87.7 | 147.7 |
| 115 | 41.2 | 19.2 | 79.2 |

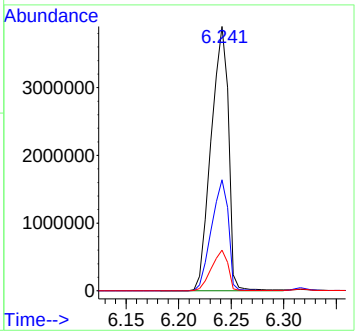


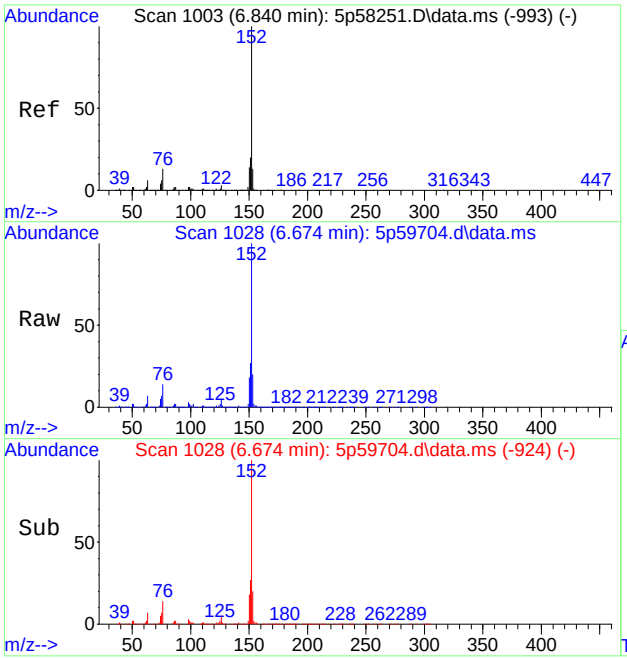



#53
Biphenyl
Concen: 273.16 ppm
RT: 6.241 min Scan# 947
Delta R.T. 0.016 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:154 Resp: 4491613

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 42.0 | 10.3 | 70.3 |
| 155 | 15.4 | 0.0 | 43.6 |

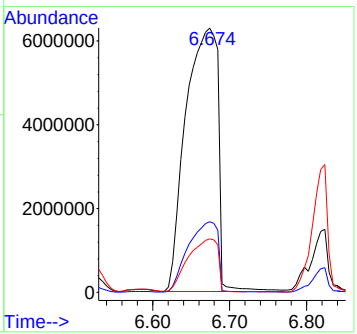


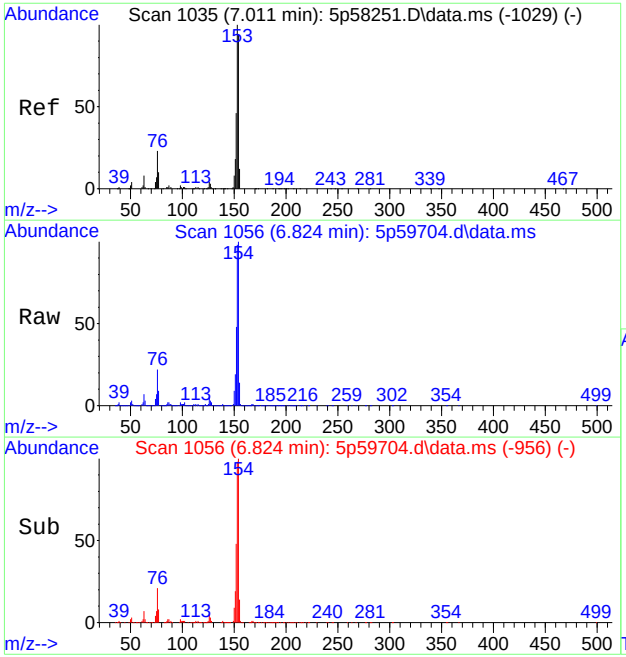




#56
Acenaphthylene
Concen: 901.62 ppm
RT: 6.674 min Scan# 1028
Delta R.T. 0.054 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:152 Resp:18384465

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 26.8 | 0.0 | 50.6 |
| 153 | 20.1 | 0.0 | 43.5 |

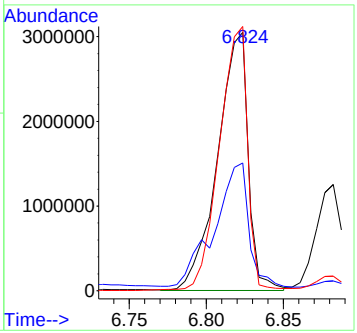


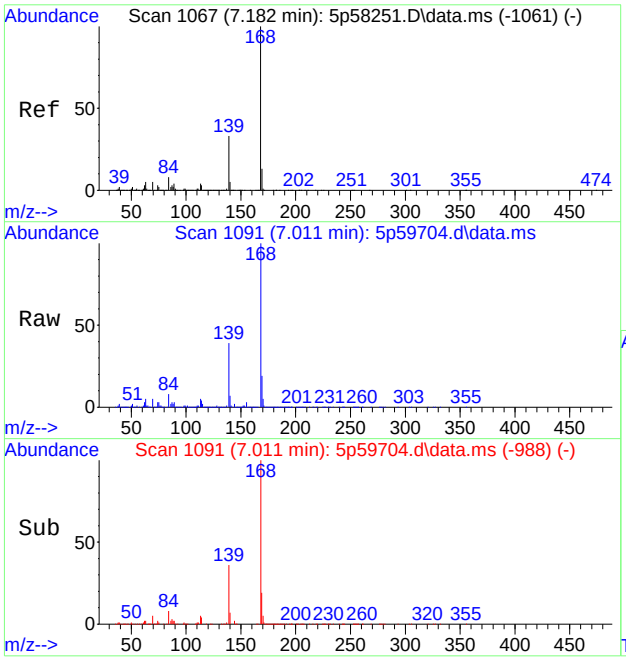



#59
Acenaphthene
Concen: 331.45 ppm
RT: 6.824 min Scan# 1056
Delta R.T. 0.032 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:153 Resp: 4204073

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 48.1 | 17.3 | 77.3 |
| 154 | 102.5 | 64.4 | 124.4 |

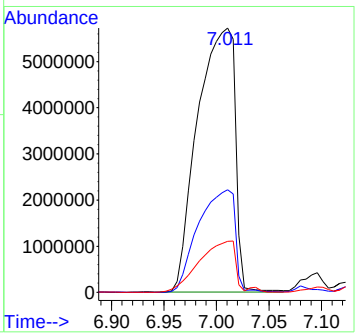


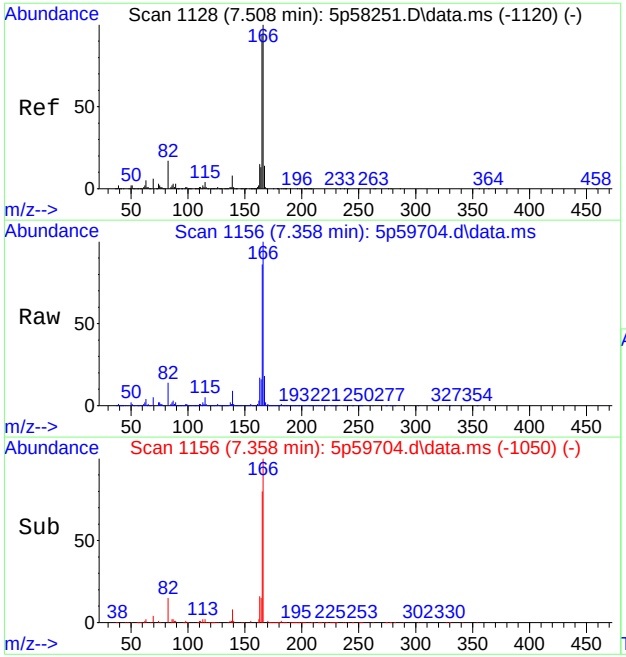




#62
Dibenzofuran
Concen: 747.46 ppm
RT: 7.011 min Scan# 1091
Delta R.T. 0.048 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:168 Resp:14268416

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.9 | 6.9 | 66.9 |
| 169 | 19.2 | 0.0 | 44.0 |

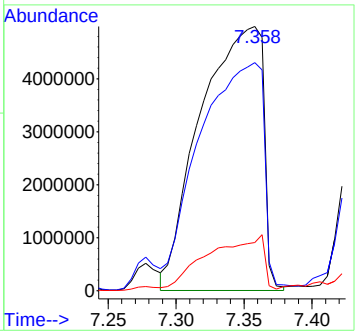


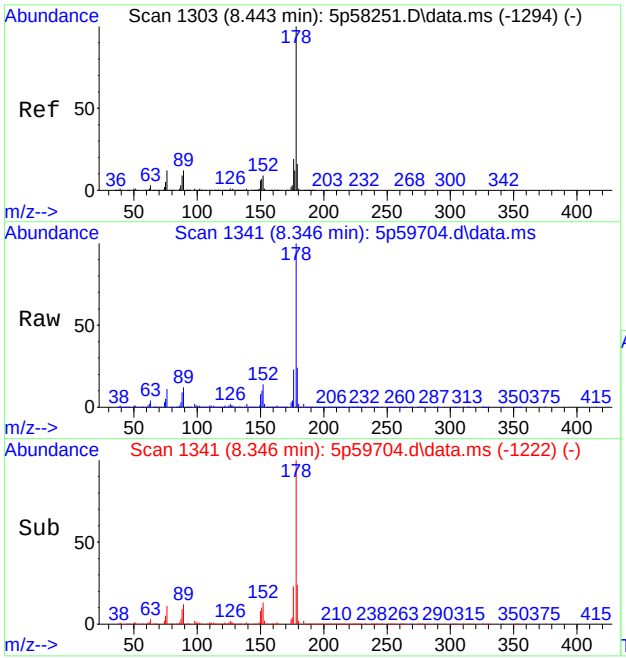



#66
Fluorene
Concen: 1059.19 ppm
RT: 7.358 min Scan# 1156
Delta R.T. 0.064 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:166 Resp:15973099

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 84.4 | 60.8 | 120.8 |
| 167 | 17.6 | 0.0 | 43.5 |

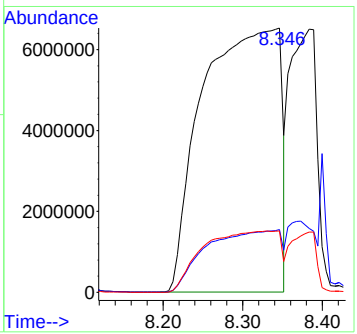


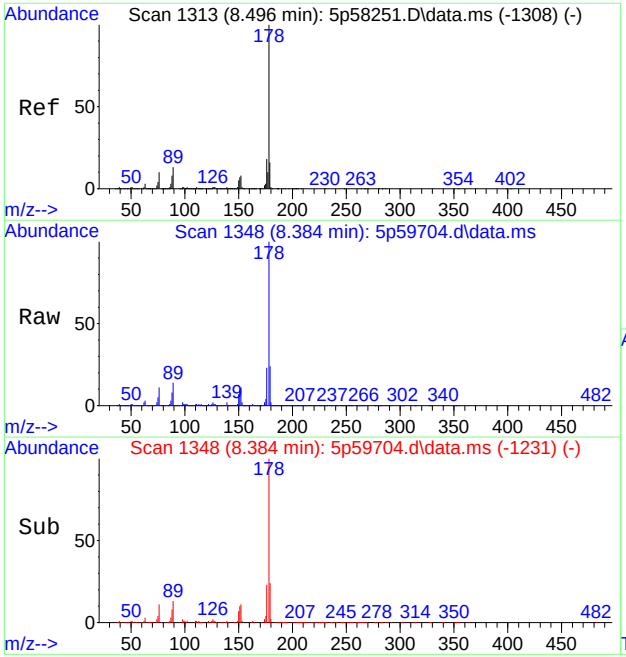




#77
Phenanthrene
Concen: 2993.39 ppm
RT: 8.346 min Scan# 1341
Delta R.T. 0.134 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:178 Resp:44148779

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 22.4 | 0.0 | 45.5 |
| 176 | 24.8 | 0.0 | 48.6 |

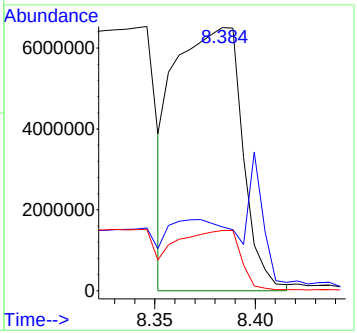


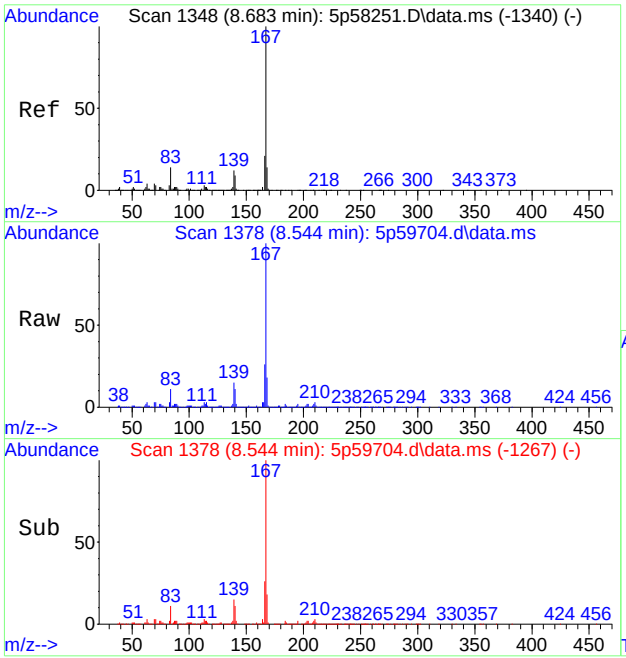



#78
Anthracene
Concen: 992.33 ppm m
RT: 8.384 min Scan# 1348
Delta R.T. 0.123 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:178 Resp:15358095

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 24.3 | 0.0 | 45.8 |
| 176 | 22.9 | 0.0 | 47.8 |

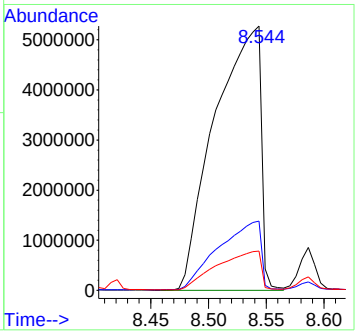


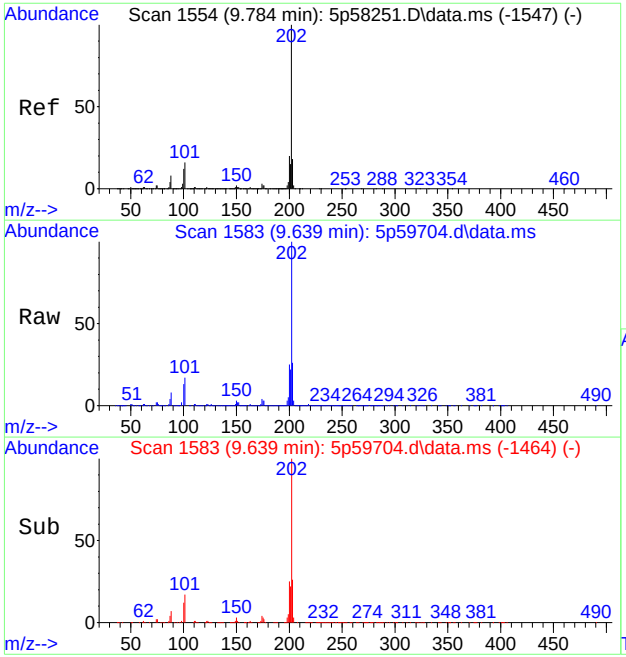




#79
Carbazole
Concen: 932.59 ppm
RT: 8.544 min Scan# 1378
Delta R.T. 0.091 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:167 Resp:14631601

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 26.0 | 0.0 | 50.6 |
| 139 | 14.6 | 0.0 | 43.0 |

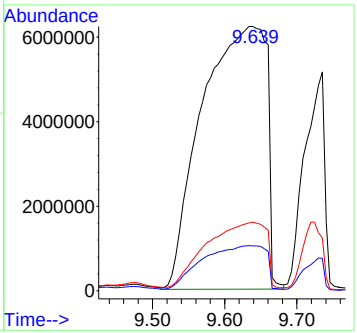


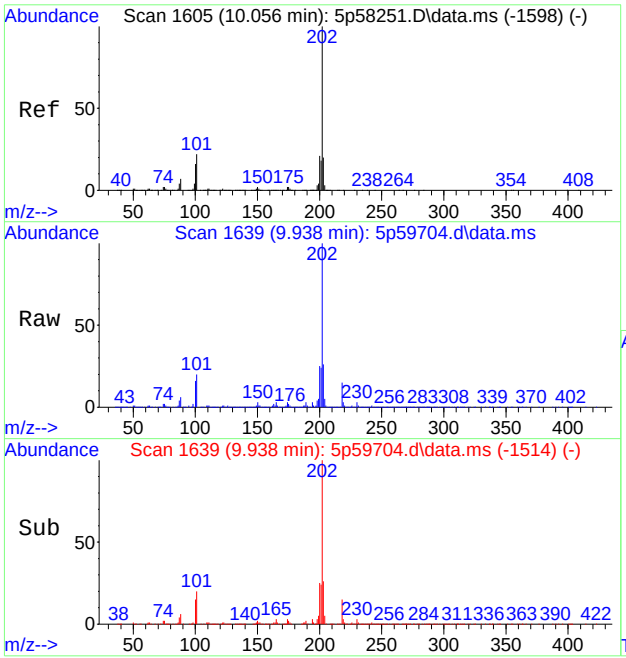



#81
Fluoranthene
Concen: 2113.28 ppm
RT: 9.639 min Scan# 1583
Delta R.T. 0.134 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:202 Resp:38713752

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 16.6 | 0.0 | 46.8 |
| 203 | 25.1 | 0.0 | 47.6 |

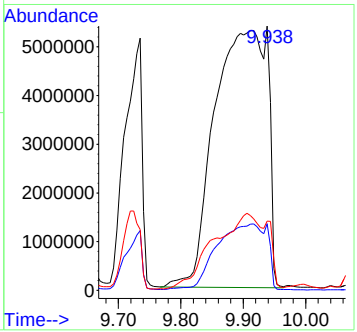


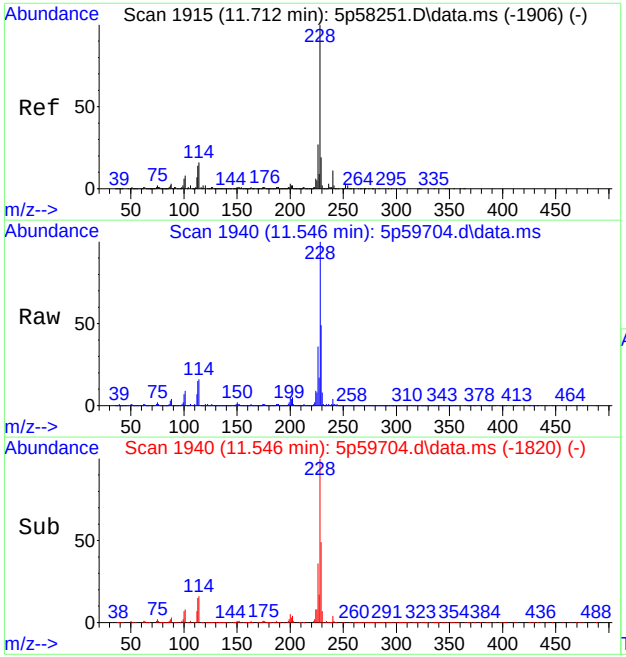




#84
Pyrene
Concen: 1123.94 ppm
RT: 9.938 min Scan# 1639
Delta R.T. 0.166 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:202 Resp:31215475

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 25.2 | 0.0 | 50.0 |
| 203 | 25.7 | 0.0 | 48.8 |

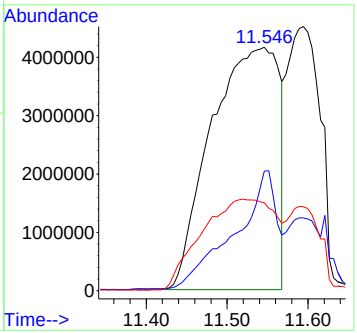


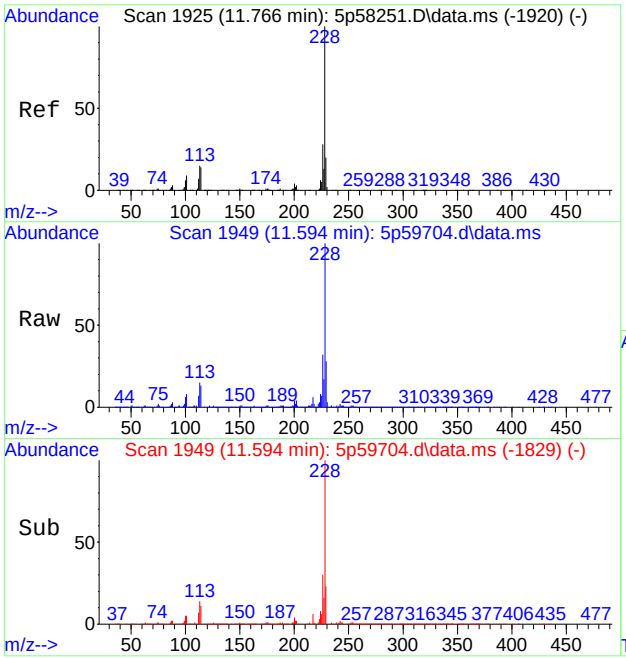



#87
Benzo[a]anthracene
Concen: 948.07 ppm m
RT: 11.546 min Scan# 1940
Delta R.T. 0.139 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:228 Resp:24201859

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 49.1 | 0.0 | 50.1 |
| 226 | 36.1 | 0.0 | 56.3 |

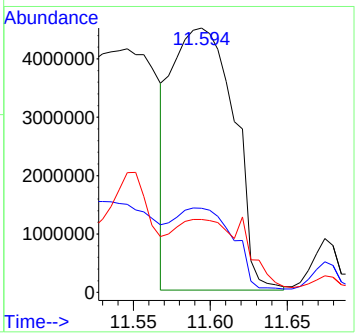


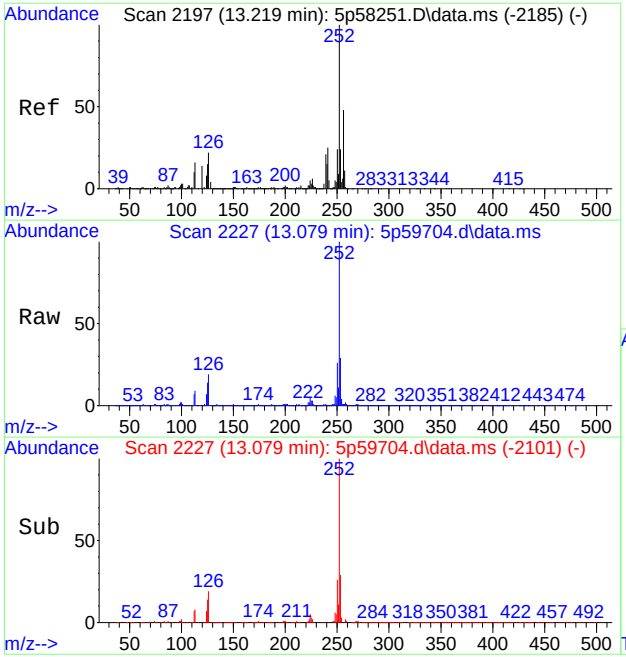




#89
Chrysene
Concen: 537.89 ppm
RT: 11.594 min Scan# 1949
Delta R.T. 0.139 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:228 Resp:12676239

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 31.0 | 0.0 | 58.4 |
| 229 | 26.8 | 0.0 | 49.9 |

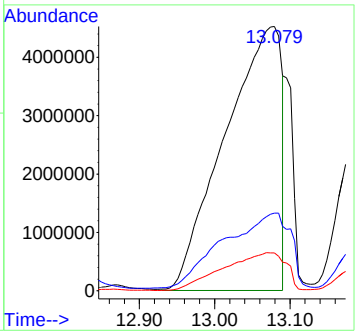


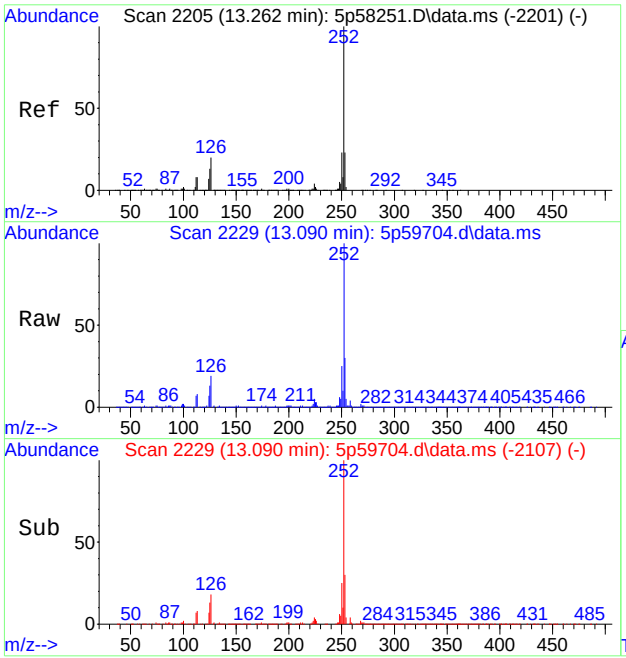



#93
Benzo[b]fluoranthene
Concen: 1033.01 ppm m
RT: 13.079 min Scan# 2227
Delta R.T. 0.171 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:252 Resp:23571547

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 29.4 | 0.0 | 52.9 |
| 125 | 14.3 | 0.0 | 42.9 |

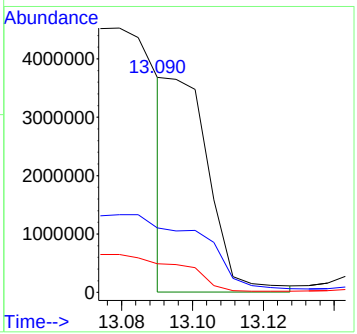


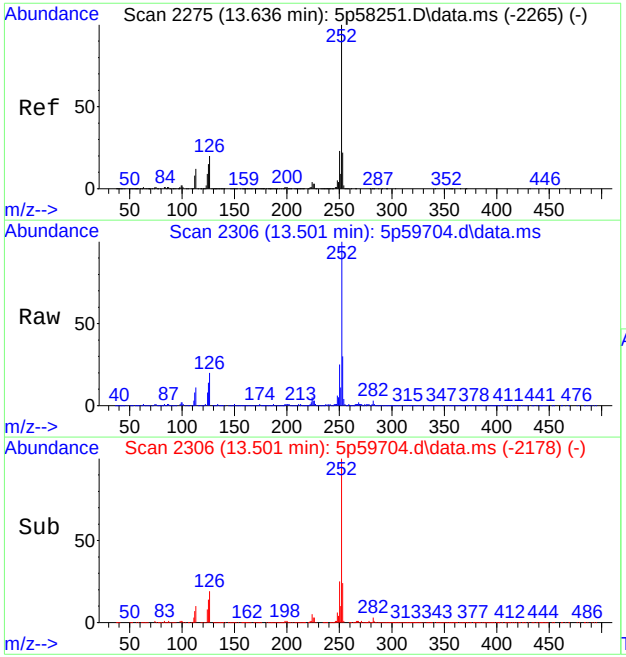




#94
Benzo[k]fluoranthene
Concen: 142.82 ppm m
RT: 13.090 min Scan# 2229
Delta R.T. 0.150 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:252 Resp: 2983118

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 30.0 | 0.0 | 52.7 |
| 125 | 13.4 | 0.0 | 43.4 |

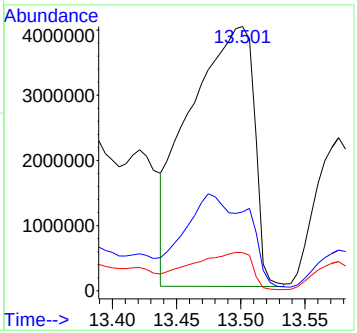


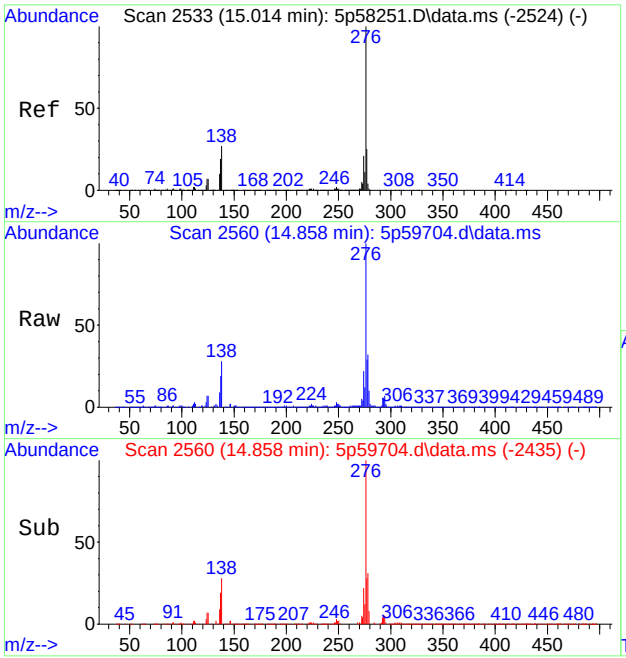



#95
Benzo[a]pyrene
Concen: 691.86 ppm
RT: 13.501 min Scan# 2306
Delta R.T. 0.182 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:252 Resp:14061822

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 29.8 | 0.0 | 52.4 |
| 125 | 14.5 | 0.0 | 44.0 |

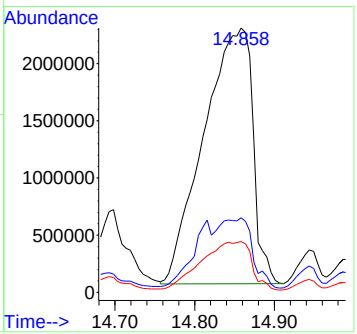


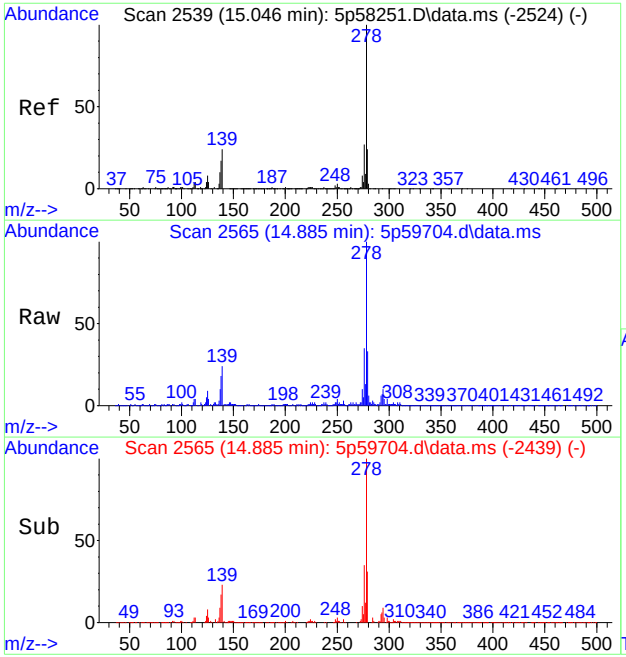




#96
Indeno[1,2,3-cd]pyrene
Concen: 525.95 ppm
RT: 14.858 min Scan# 2560
Delta R.T. 0.166 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:276 Resp: 9562542

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.2 | 0.0 | 55.3 |
| 137 | 18.7 | 0.0 | 47.6 |

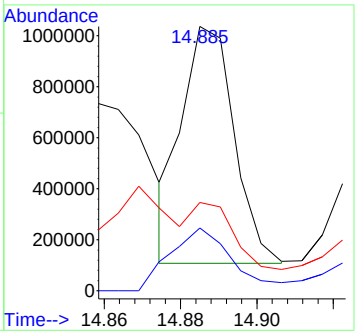


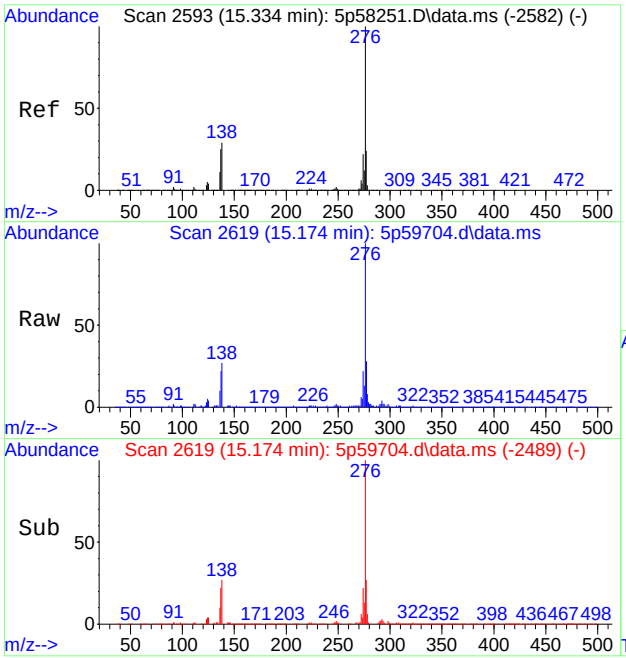



#98
Dibenz[a,h]anthracene
Concen: 46.78 ppm m
RT: 14.885 min Scan# 2565
Delta R.T. 0.171 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:278 Resp: 879497

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 23.8 | 0.0 | 50.1 |
| 279 | 33.4 | 0.0 | 53.7 |

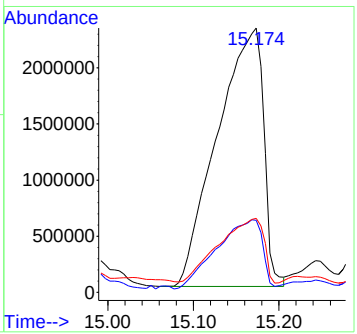



#100
Benzo[g,h,i]perylene
Concen: 471.52 ppm
RT: 15.174 min Scan# 2619
Delta R.T. 0.192 min
Lab File: 5p59704.d
Acq: 16 May 2019 8:37 pm

Tgt Ion:276 Resp: 8653861

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.6 | 0.0 | 57.0 |
| 277 | 24.3 | 0.0 | 54.6 |



# Manual Integration Approval Summary



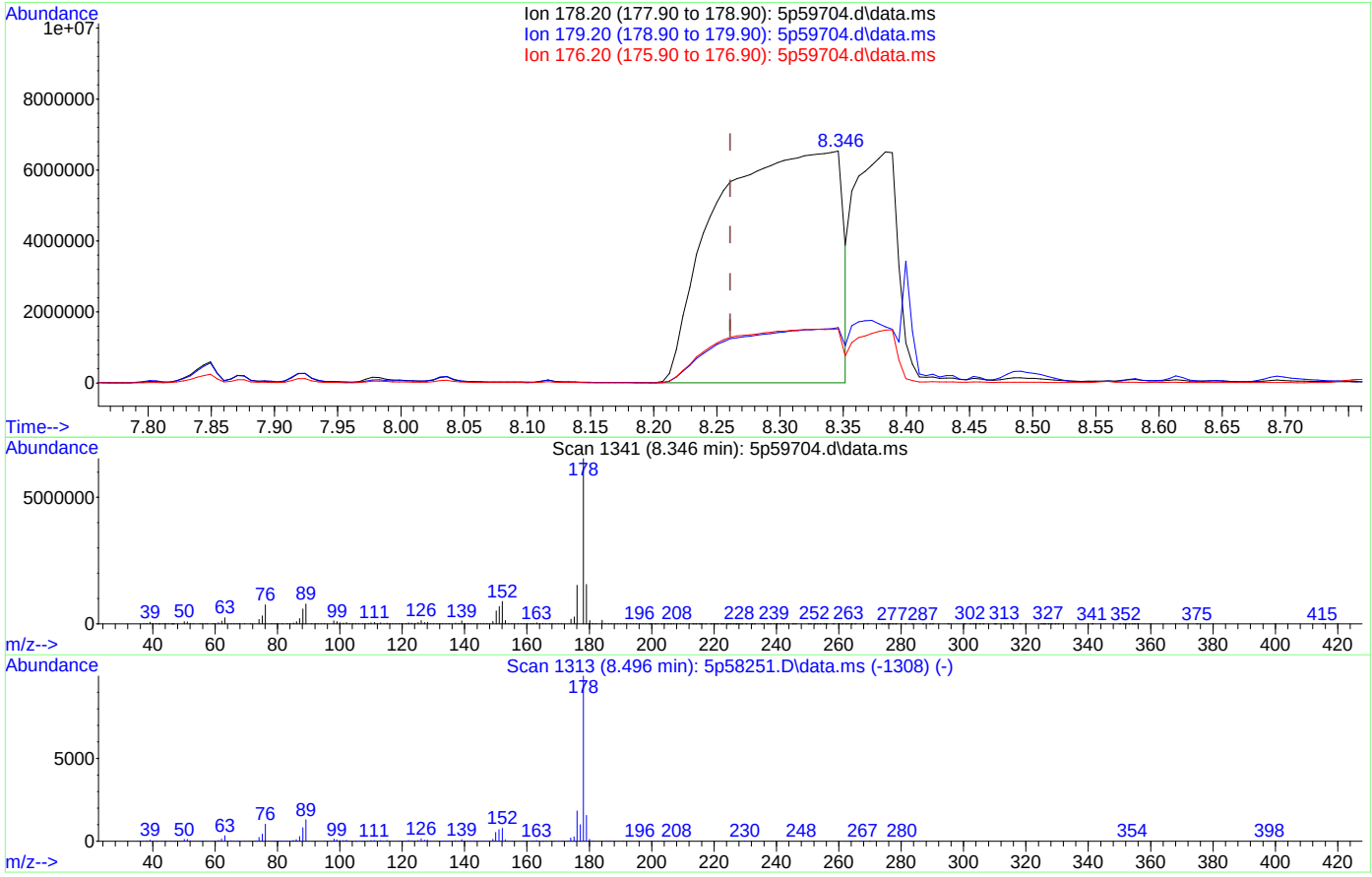
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-11 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P59704.D | **Analyst approved:** | 05/17/19 01:15 Michelle Co |
| **Injection Time:** | 05/16/19 20:37 | **Supervisor approved:** | 05/21/19 10:48 Kristi Schollenberger |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Anthracene | 120-12-7 | | 8.38 | Poor instrument integration |
| Benzo(a)anthracene | 56-55-3 | | 11.55 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 13.08 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 13.09 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.89 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:23:03 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(78) Anthracene (t)

8.346min (+0.086) 2852.57ppm

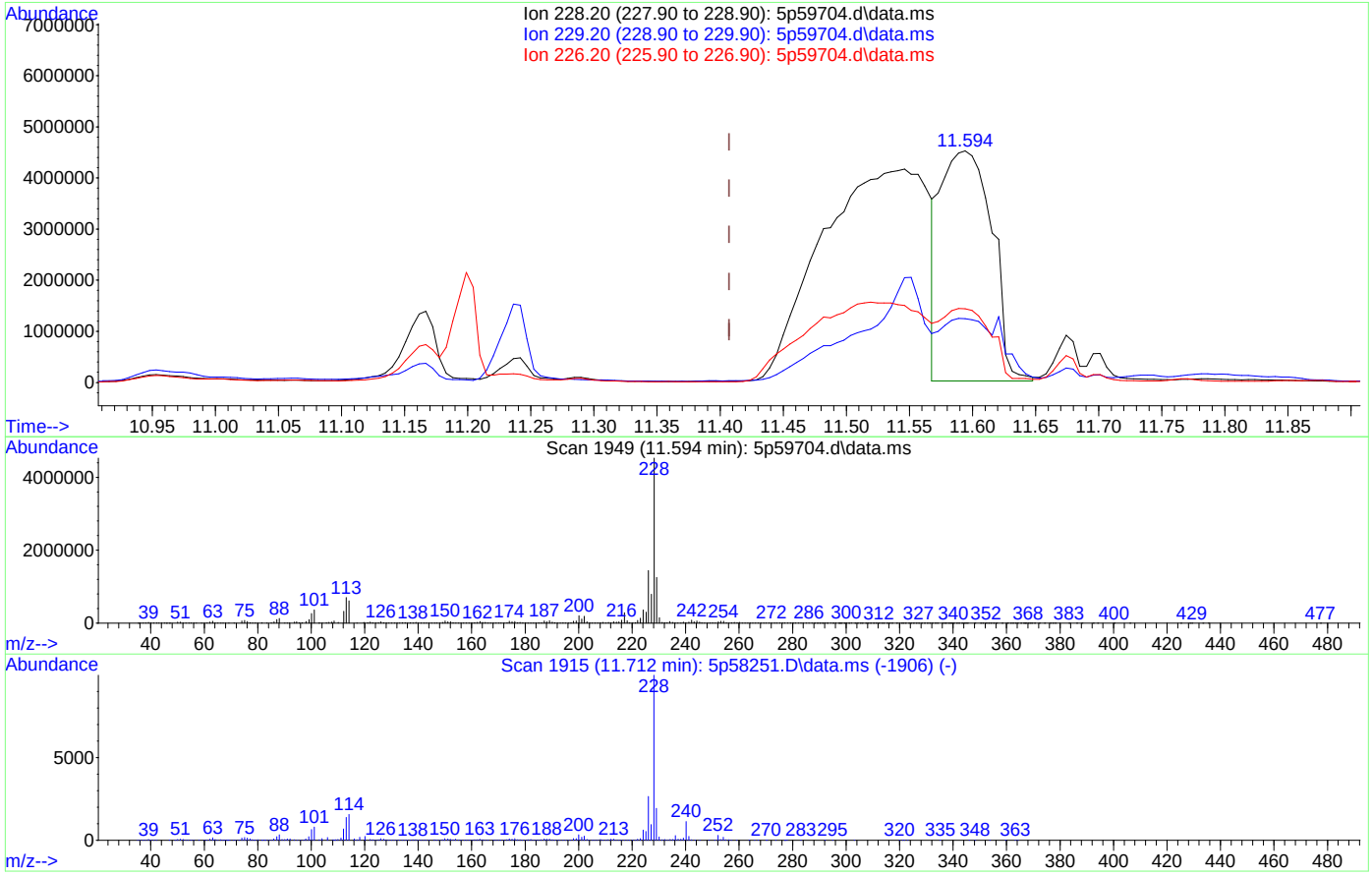
response 44148779

| Ion | Exp% | Act% |
|---|---|---|
| 178.20 | 100 | 100 |
| 179.20 | 15.80 | 22.43 |
| 176.20 | 17.80 | 24.77 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:23:03 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(87) Benzo[a]anthracene (t)

11.594min (+0.187) 498.72ppm

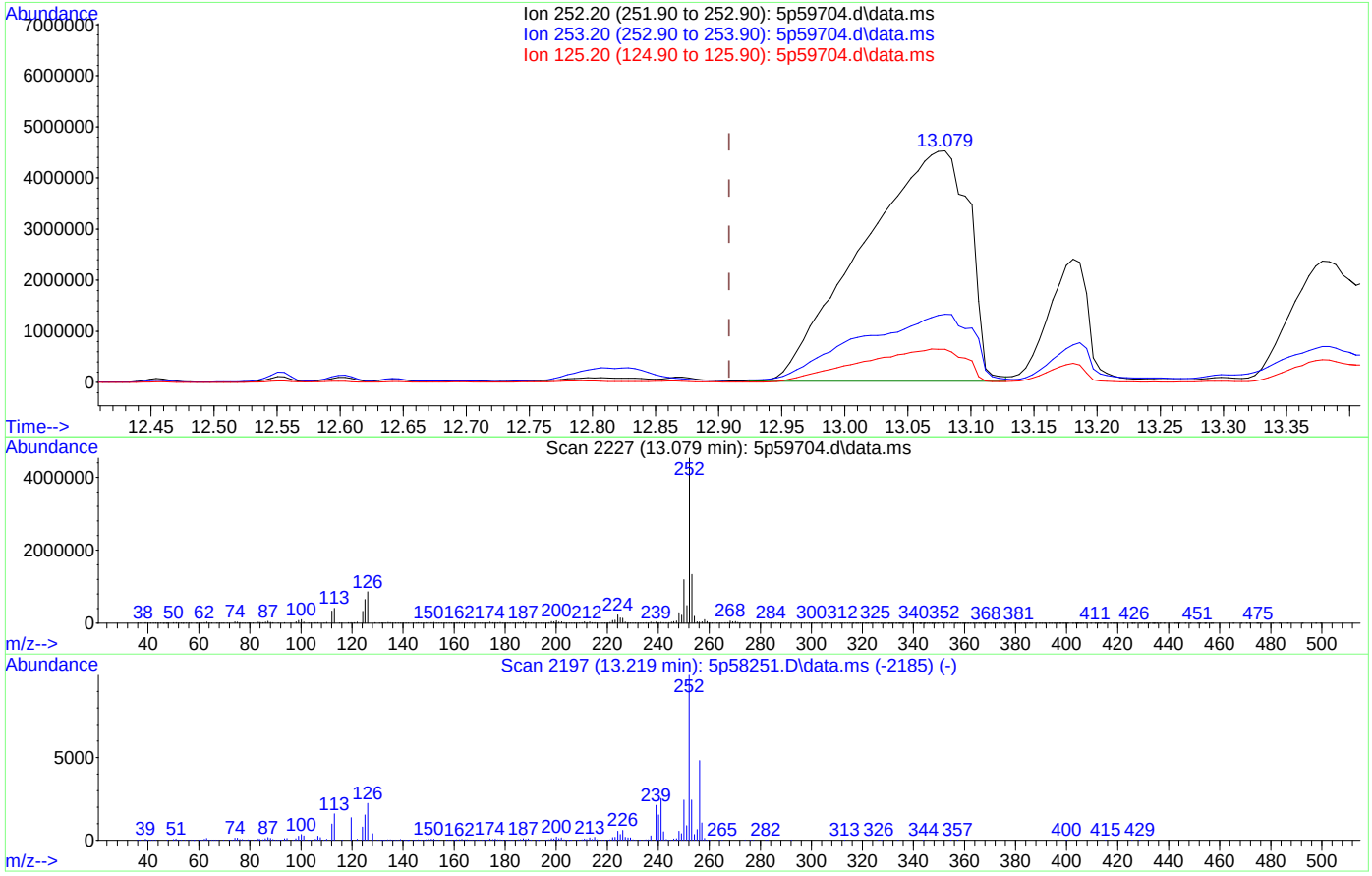
response 12731129

| Ion | Exp% | Act% |
|---|---|---|
| 228.20 | 100 | 100 |
| 229.20 | 20.10 | 26.75 |
| 226.20 | 26.30 | 30.97 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:23:03 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(93) Benzo[b]fluoranthene (t)

13.079min (+0.171) 1153.58ppm

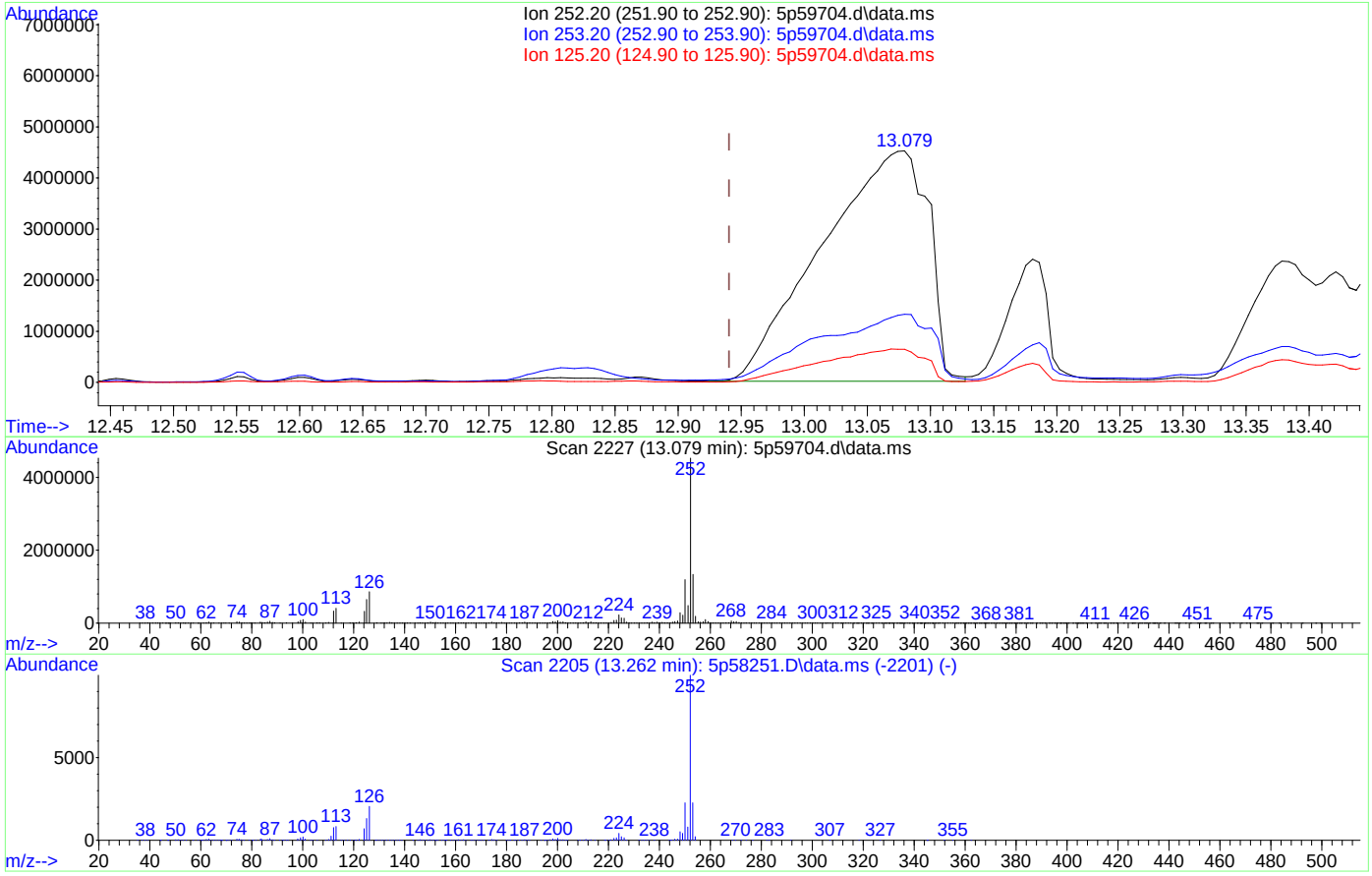
response 26322872

| Ion | Exp% | Act% |
|---|---|---|
| 252.20 | 100 | 100 |
| 253.20 | 22.90 | 28.57 |
| 125.20 | 12.90 | 14.24 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:23:03 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(94) Benzo[k]fluoranthene (t)

13.079min (+0.139) 1260.22ppm

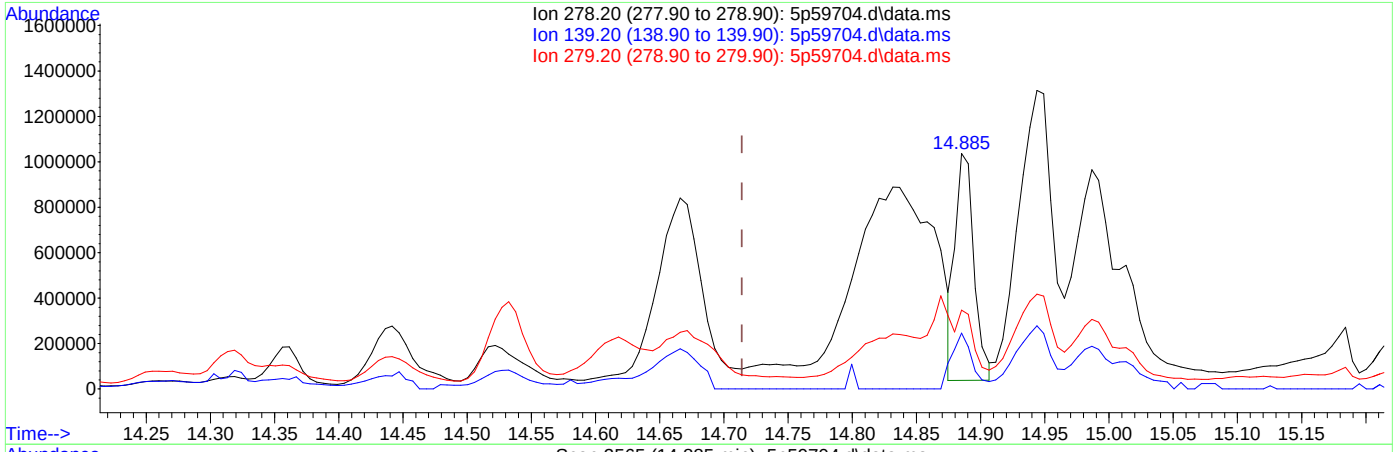
response 26322872

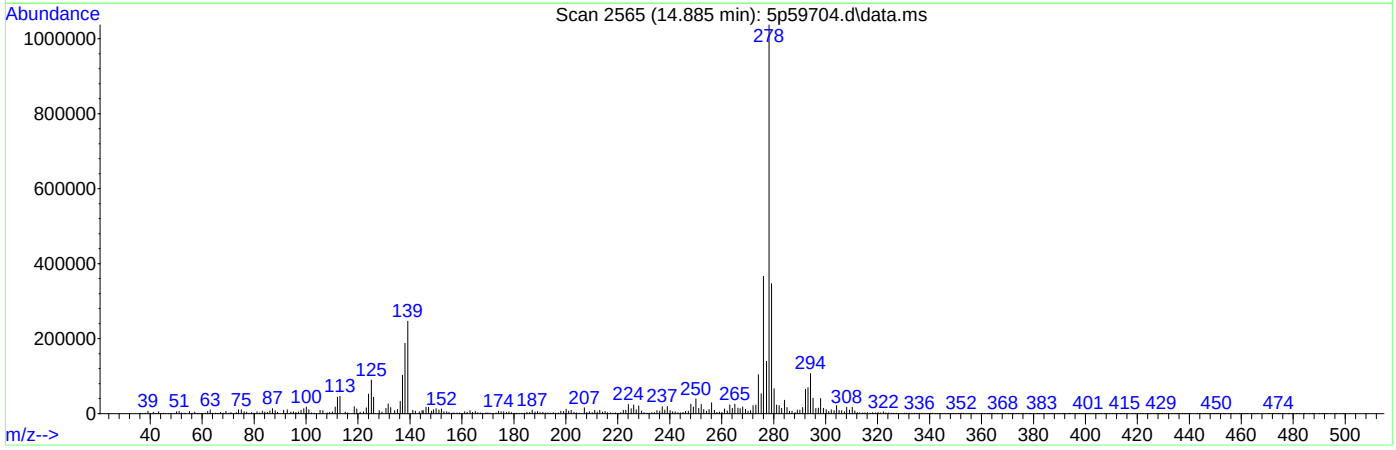
| Ion | Exp% | Act% |
|---|---|---|
| 252.20 | 100 | 100 |
| 253.20 | 22.70 | 28.57 |
| 125.20 | 13.40 | 14.24 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:55:49 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.885min (+0.171) 53.94ppm

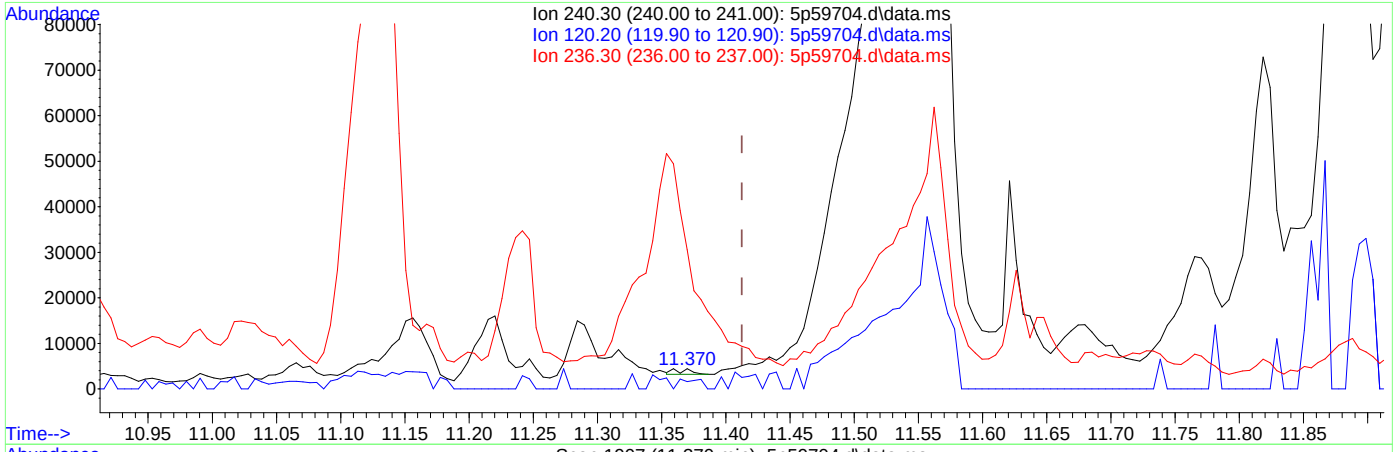
response 1014106

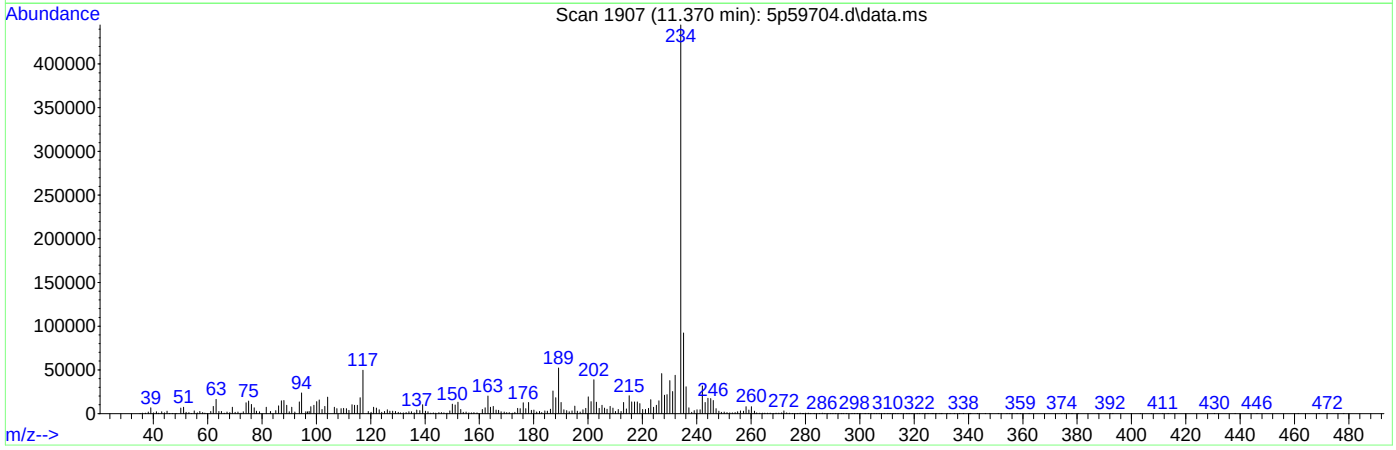
| Ion | Exp% | Act% |
|---|---|---|
| 278.20 | 100 | 100 |
| 139.20 | 20.10 | 22.71 |
| 279.20 | 23.70 | 18.56 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:57:49 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(105) Chrysene-d12a

11.370min (-0.043) 40.00ppm

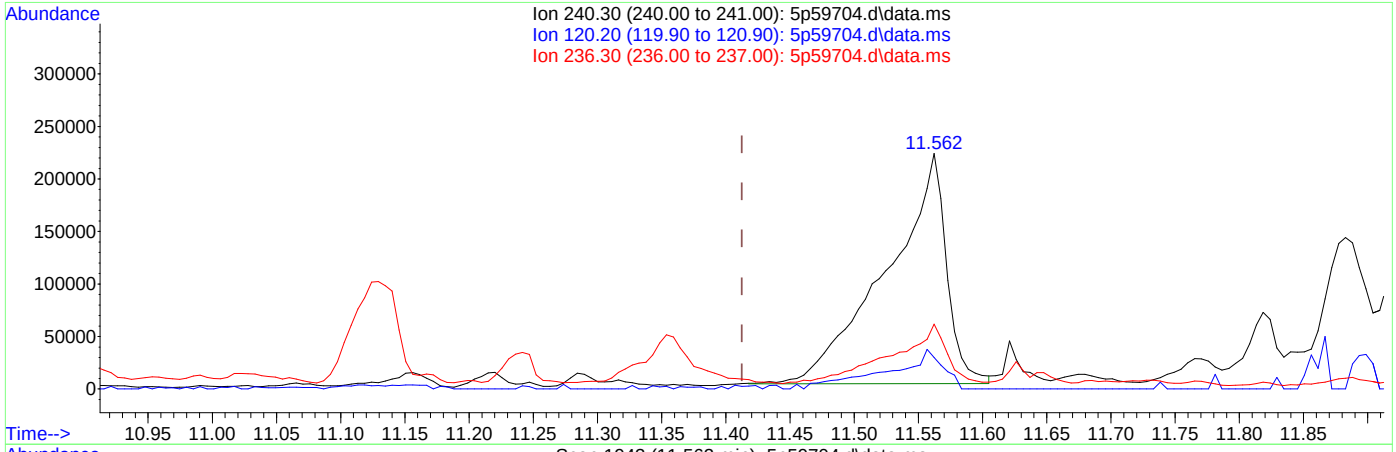
response 1043

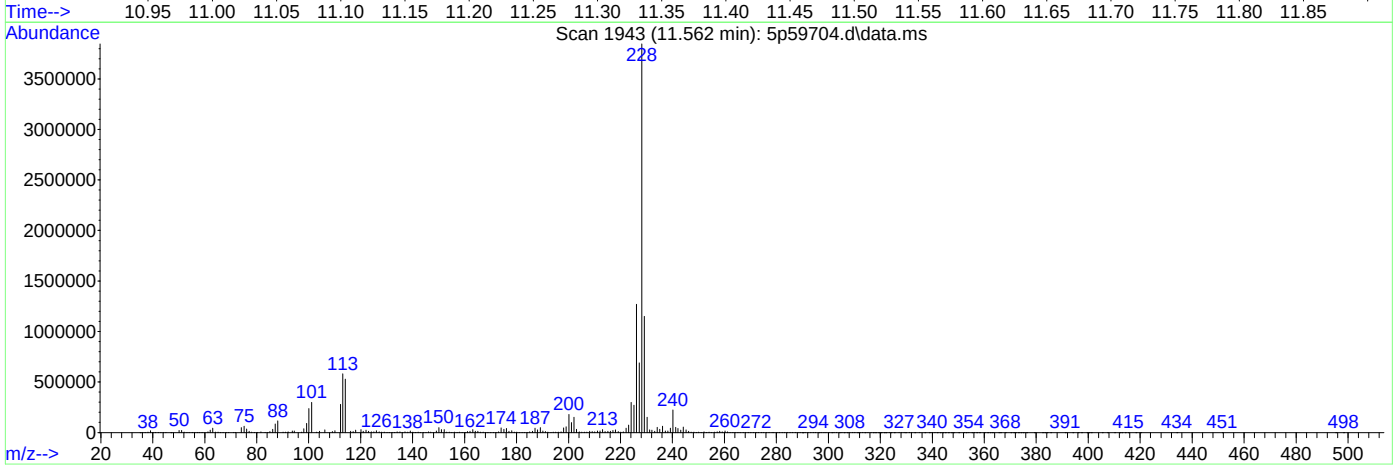
| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 36.95 |
| 236.30 | 24.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:57:49 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(105) Chrysene-d12a

11.562min (+0.150) 40.00ppm m

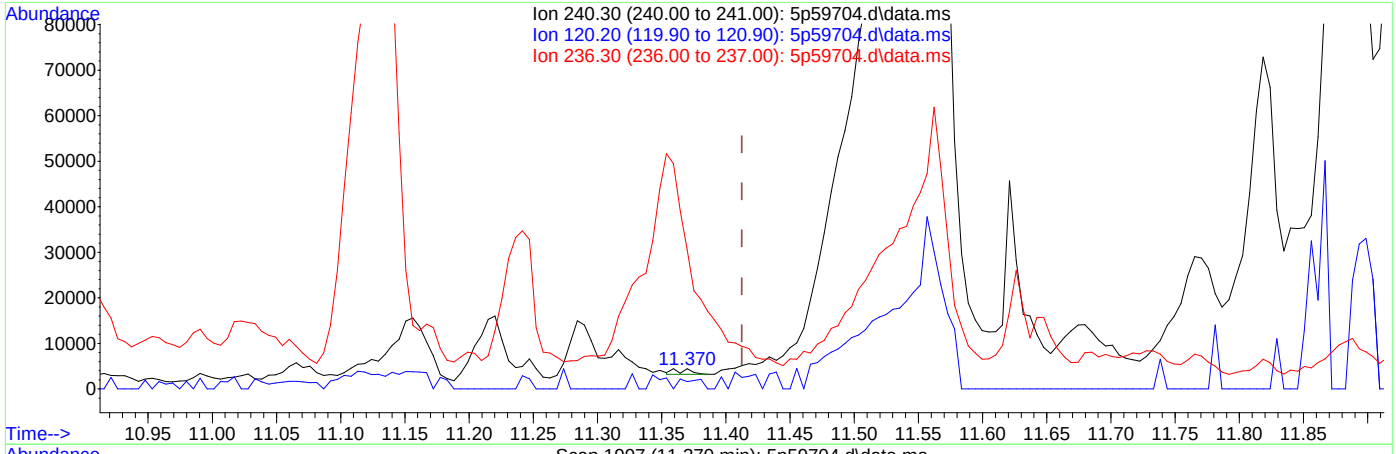
response 708375

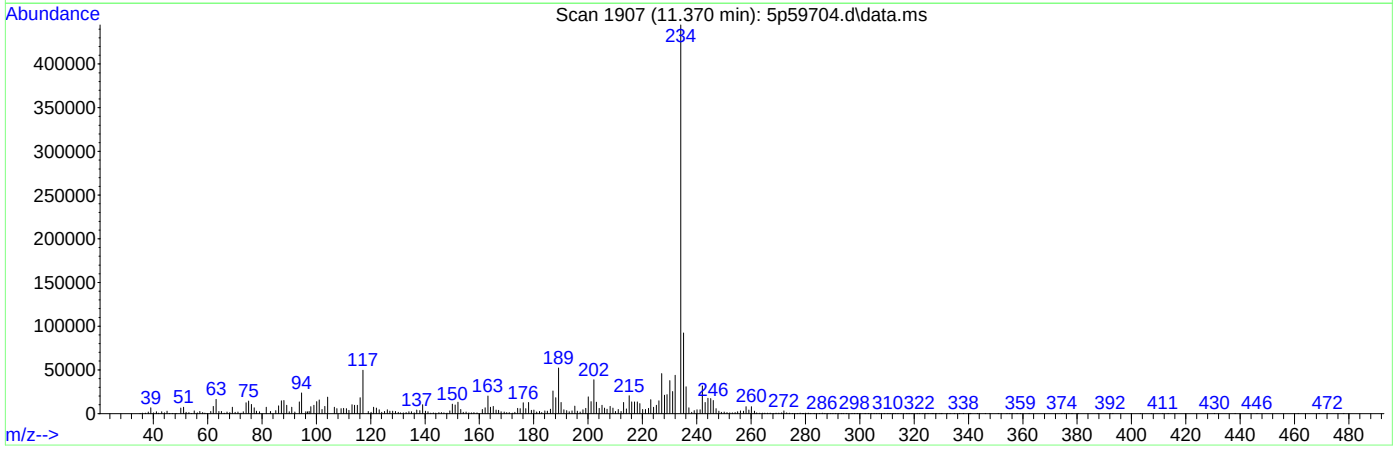
| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 13.41 |
| 236.30 | 24.20 | 27.57 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:57:49 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(117) Chrysene-d12c

11.370min (-0.043) 40.00ppm

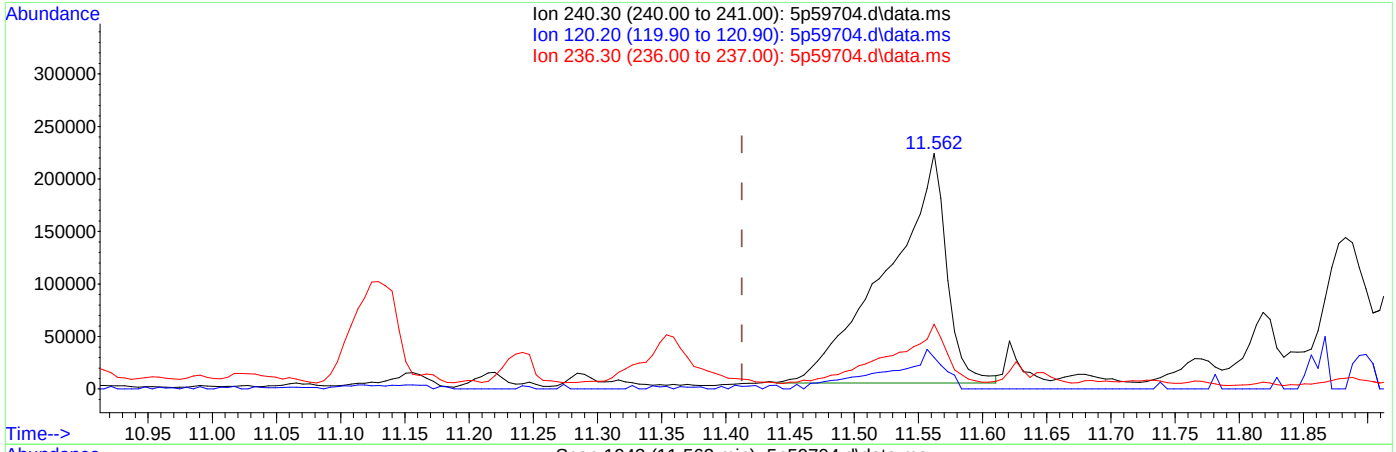
response 1043

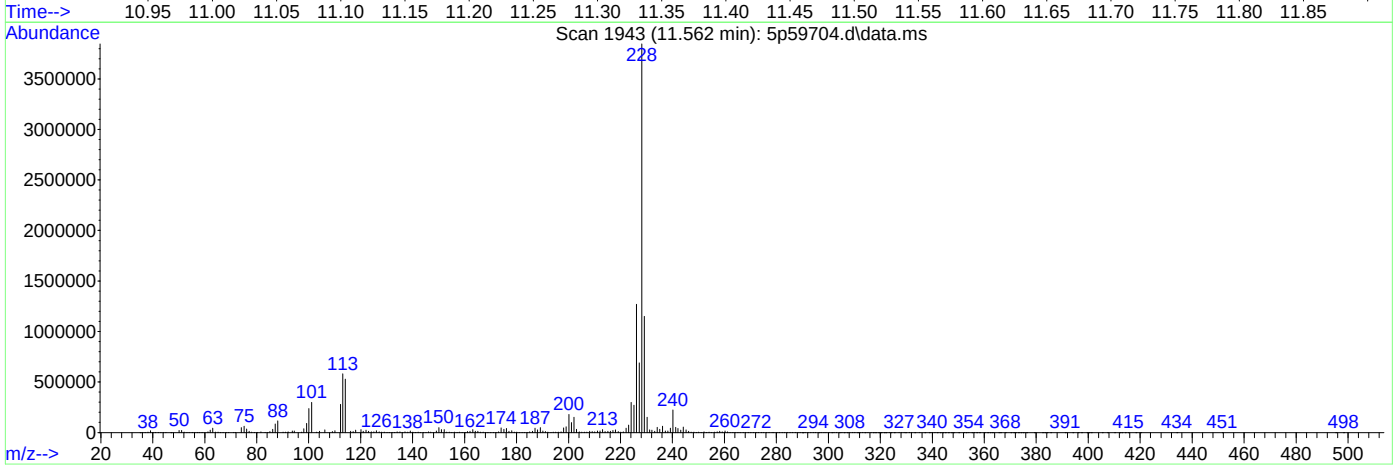
| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 36.95 |
| 236.30 | 24.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59704.d
Acq On : 16 May 2019 8:37 pm
Operator : christc2
Sample : jc87535-11 Inst : MS5P
Misc : op20269,e5p2816,15.5,,,5,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:57:49 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59704.d\data.ms

(117) Chrysene-d12c

11.562min (+0.150) 40.00ppm m

response 701335

| Ion | Exp% | Act% |
|---|---|---|
| 240.30 | 100 | 100 |
| 120.20 | 14.50 | 13.41 |
| 236.30 | 24.20 | 27.57 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/20/19 14:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59693.d
Acq On : 16 May 2019 4:29 pm
Operator : christc2
Sample : jc87535-12 Inst : MS5P
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:04:47 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 196724 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.077 | 136 | 729037 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 391410 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 635560 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.418 | 240 | 633217 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.394 | 264 | 637064 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 196724 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 391410 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.418 | 240 | 633217 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 635560 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.077 | 136 | 729037 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.418 | 240 | 633217 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 196724 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.418 | 240 | 633217 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.418 | 240 | 633217 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.790 | 112 | 297381 | 38.82 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.64% | | |
| 8) Phenol-d5 | 3.661 | 99 | 388271 | 40.27 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 80.54% | | |
| 25) Nitrobenzene-d5 | 4.419 | 82 | 392094 | 46.39 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 92.78% | | |
| 51) 2-Fluorobiphenyl | 6.134 | 172 | 541801 | 39.83 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 79.66% | | |
| 73) 2,4,6-Tribromophenol | 7.534 | 330 | 73815 | 40.29 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 80.58% | | |
| 85) Terphenyl-d14 | 10.029 | 244 | 597614 | 37.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 74.18% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.098 | 128 | 62722 | 3.41 | ppm | 97 |
| 44) 2-Methylnaphthalene | 5.771 | 141 | 10156 | 0.94 | ppm | 90 |
| 53) Biphenyl | 6.225 | 154 | 3752 | 0.26 | ppm | 89 |
| 56) Acenaphthylene | 6.620 | 152 | 19739 | 1.09 | ppm | 97 |
| 59) Acenaphthene | 6.791 | 153 | 10427 | 0.92 | ppm | 96 |
| 62) Dibenzofuran | 6.962 | 168 | 7448 | 0.44 | ppm | 94 |
| 66) Fluorene | 7.288 | 166 | 13821 | 1.03 | ppm | 99 |
| 77) Phenanthrene | 8.207 | 178 | 61529 | 3.58 | ppm | 99 |
| 78) Anthracene | 8.261 | 178 | 26065 | 1.45 | ppm | 98 |
| 79) Carbazole | 8.458 | 167 | 8284 | 0.45 | ppm | 91 |
| 81) Fluoranthene | 9.505 | 202 | 102708 | 4.81 | ppm | 100 |
| 84) Pyrene | 9.772 | 202 | 116246 | 4.83 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.407 | 228 | 55030 | 2.49 | ppm | 93 |
| 89) Chrysene | 11.455 | 228 | 53124 | 2.60 | ppm | 94 |
| 93) Benzo[b]fluoranthene | 12.903 | 252 | 60318 | 3.10 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 12.935 | 252 | 22098 | 1.24 | ppm | 93 |
| 95) Benzo[a]pyrene | 13.320 | 252 | 51745 | 2.99 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 14.693 | 276 | 27210 | 1.76 | ppm | 96 |
| 98) Dibenz[a,h]anthracene | 14.709 | 278 | 8656m | 0.54 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.986 | 276 | 27503 | 1.76 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59693.d
Acq On : 16 May 2019 4:29 pm
Operator : christc2
Sample : jc87535-12 Inst : MS5P
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:04:47 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

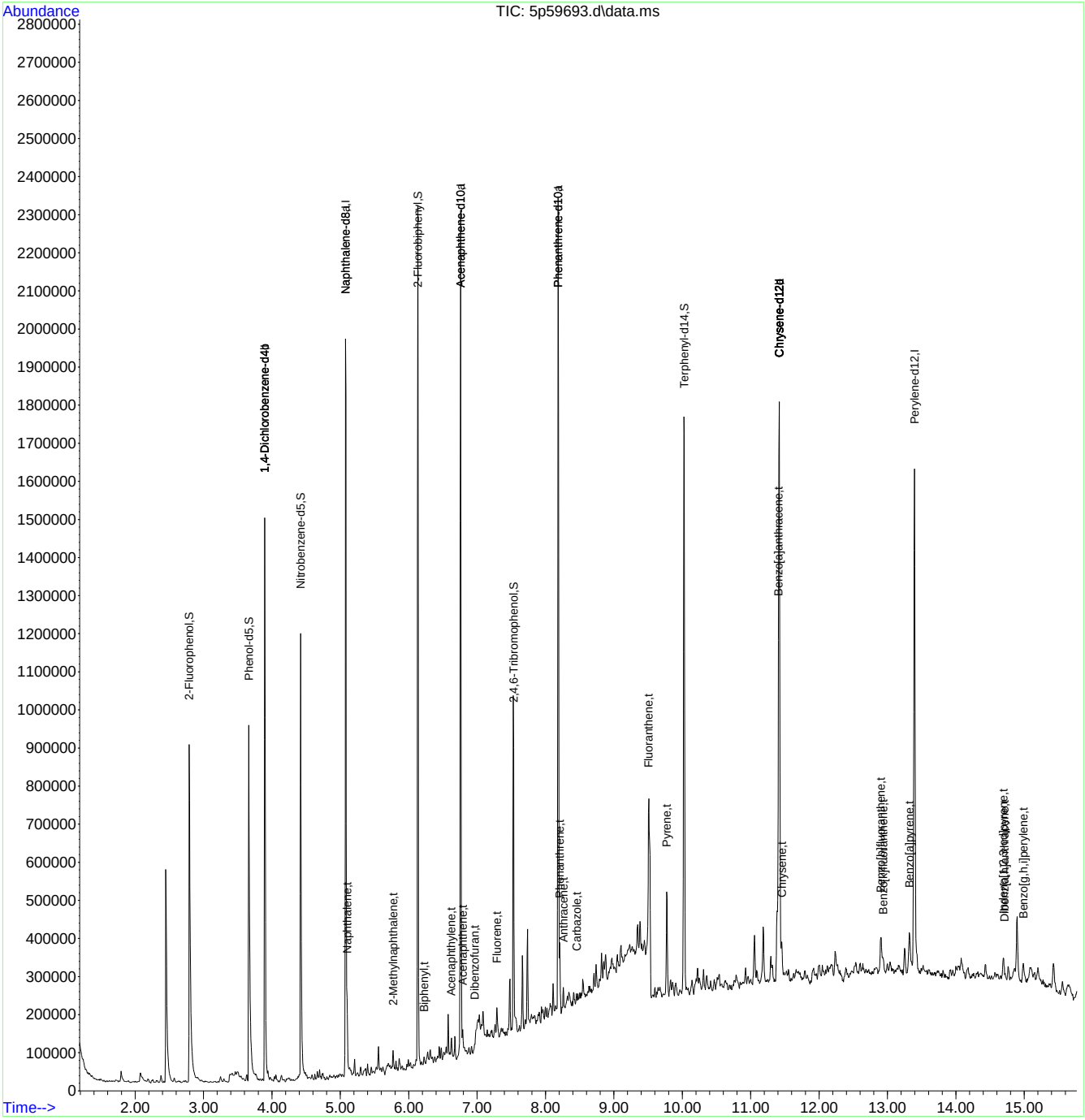
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

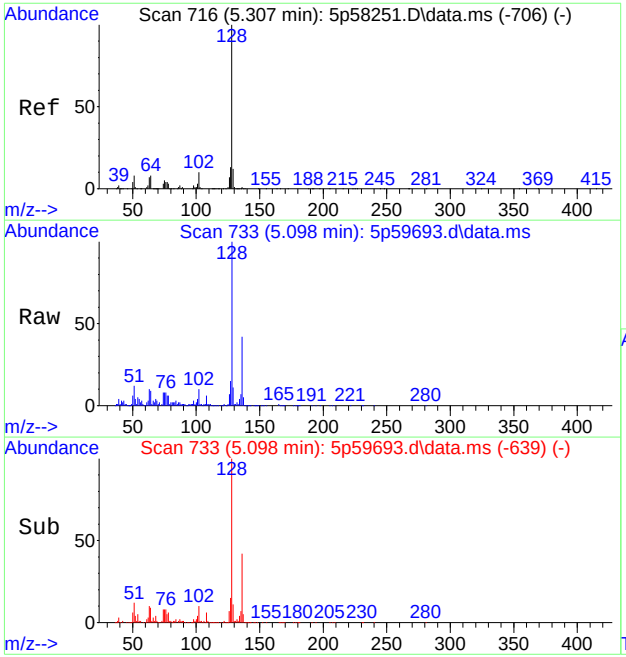
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59693.d
Acq On : 16 May 2019 4:29 pm
Operator : christc2
Sample : jc87535-12 Inst : MS5P
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 17 00:04:47 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration

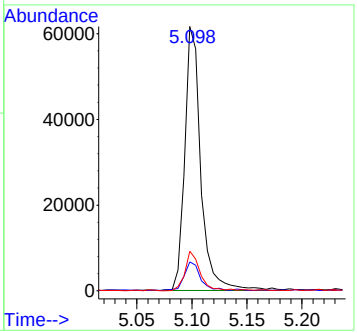


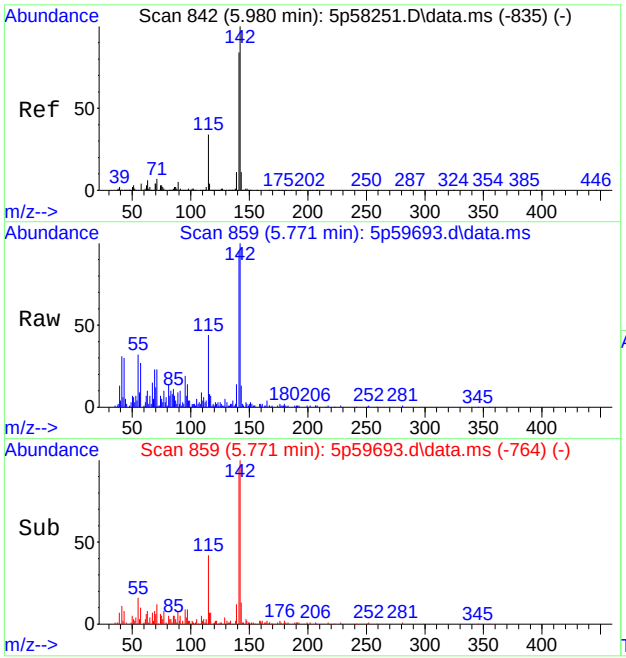



#38
Naphthalene
Concen: 3.41 ppm
RT: 5.098 min Scan# 733
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:128 Resp: 62722

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 10.7 | 0.0 | 41.4 |
| 127 | 15.0 | 0.0 | 43.4 |

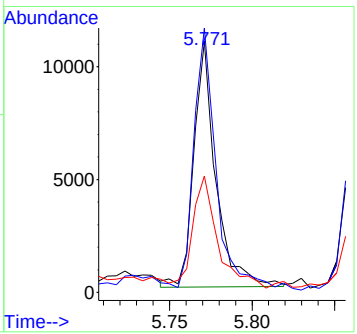


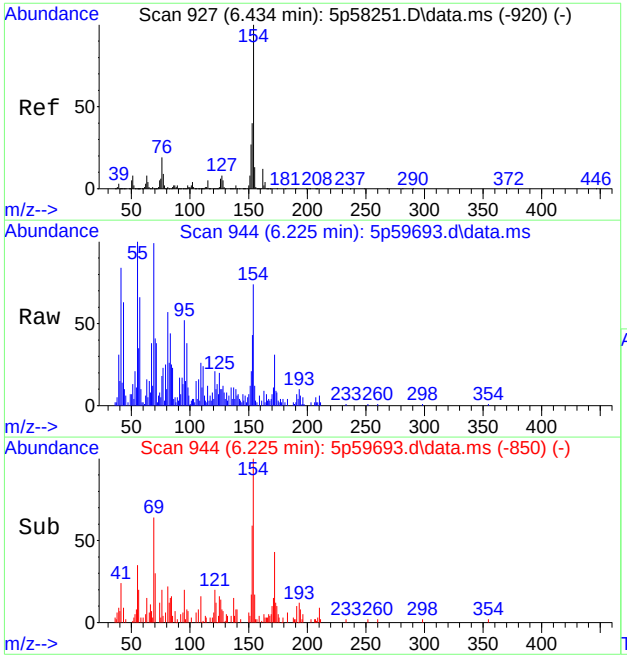




#44
2-Methylnaphthalene
Concen: 0.94 ppm
RT: 5.771 min Scan# 859
Delta R.T. 0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:141 Resp: 10156

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 105.6 | 87.7 | 147.7 |
| 115 | 43.1 | 19.2 | 79.2 |

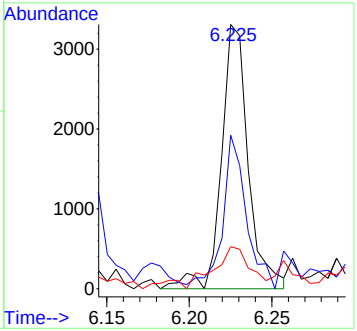


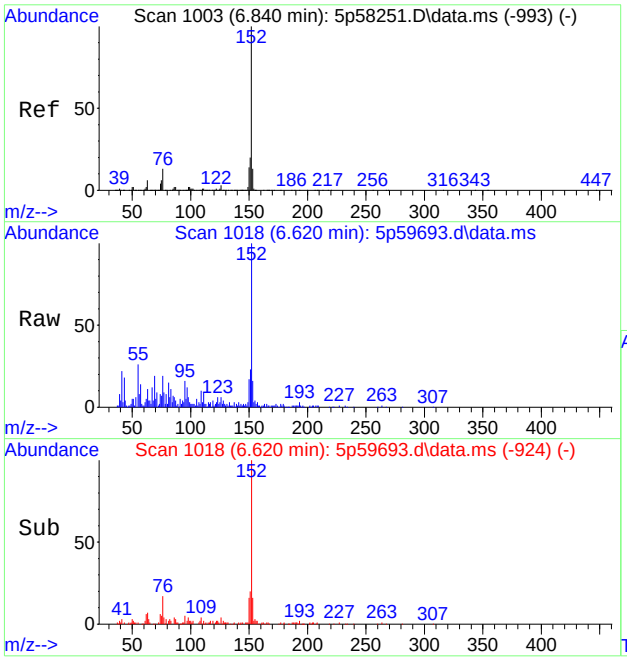



#53
Biphenyl
Concen: 0.26 ppm
RT: 6.225 min Scan# 944
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:154 Resp: 3752

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 48.1 | 10.3 | 70.3 |
| 155 | 11.5 | 0.0 | 43.6 |

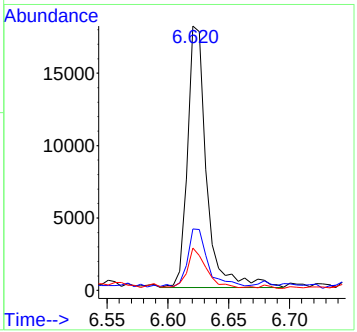


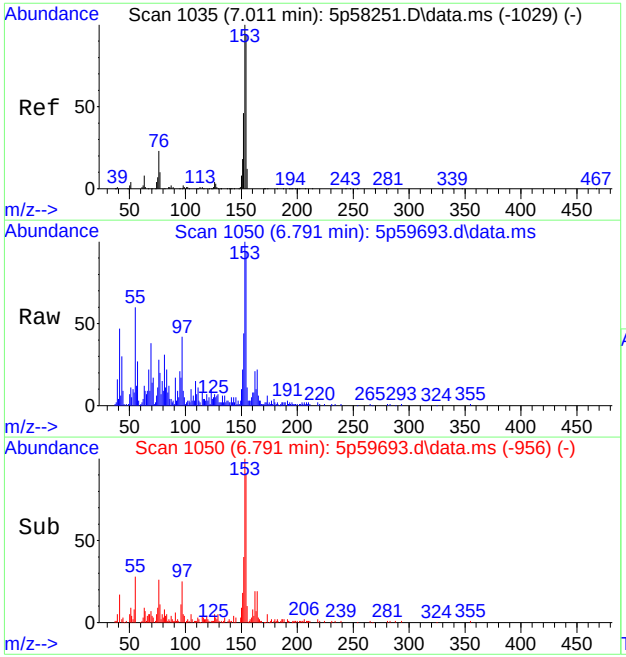




#56
Acenaphthylene
Concen: 1.09 ppm
RT: 6.620 min Scan# 1018
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:152 Resp: 19739

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 21.5 | 0.0 | 50.6 |
| 153 | 15.2 | 0.0 | 43.5 |

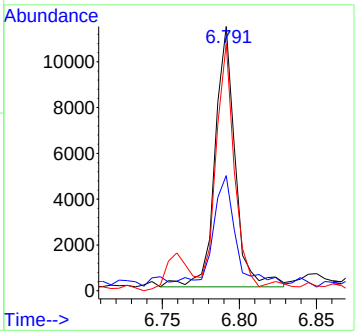


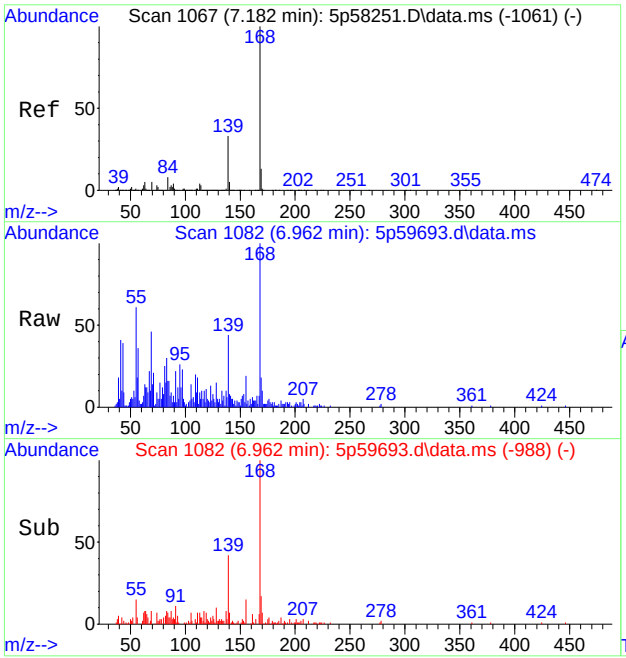



#59
Acenaphthene
Concen: 0.92 ppm
RT: 6.791 min Scan# 1050
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:153 Resp: 10427

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 40.6 | 17.3 | 77.3 |
| 154 | 93.3 | 64.4 | 124.4 |

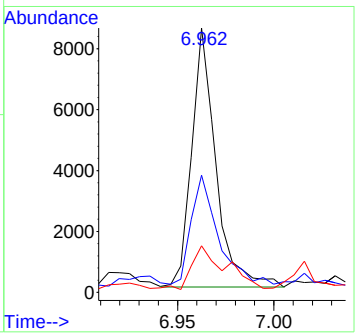


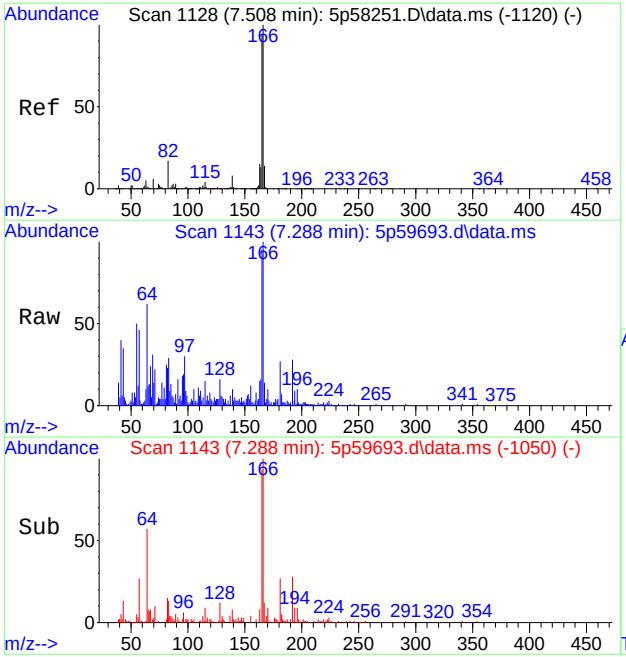




#62
Dibenzofuran
Concen: 0.44 ppm
RT: 6.962 min Scan# 1082
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:168 Resp: 7448

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 41.4 | 6.9 | 66.9 |
| 169 | 15.1 | 0.0 | 44.0 |

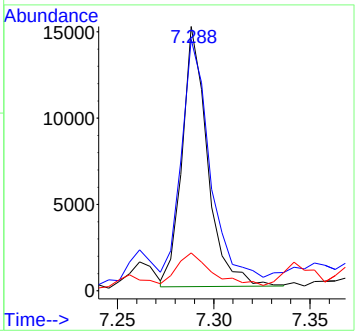


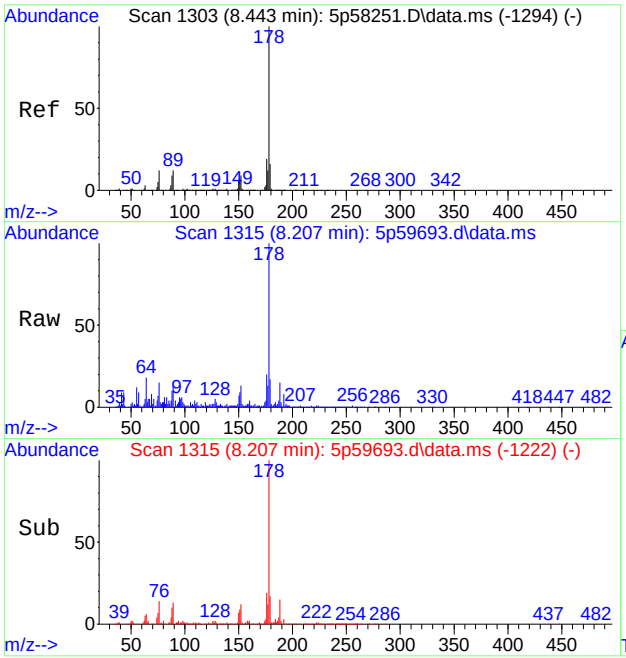



#66
Fluorene
Concen: 1.03 ppm
RT: 7.288 min Scan# 1143
Delta R.T. -0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:166 Resp: 13821

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 90.8 | 60.8 | 120.8 |
| 167 | 9.9 | 0.0 | 43.5 |

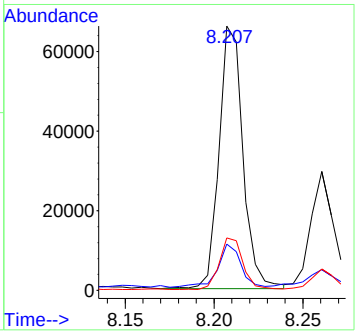


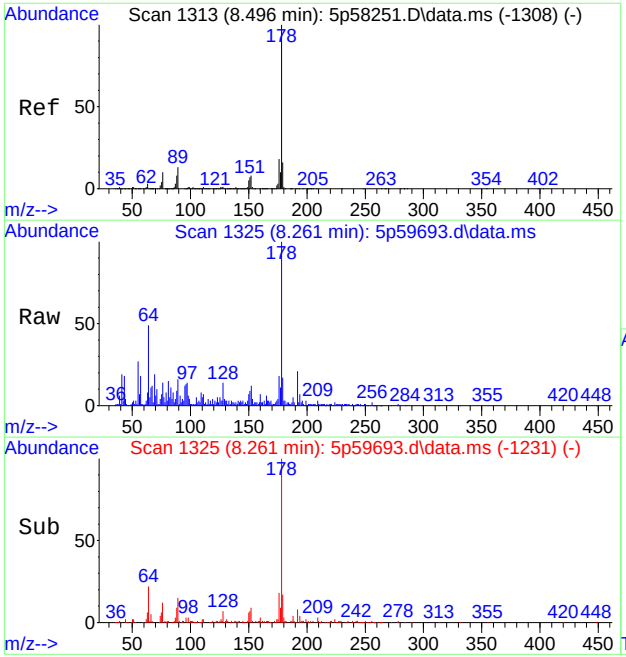




#77
Phenanthrene
Concen: 3.58 ppm
RT: 8.207 min Scan# 1315
Delta R.T. -0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:178 Resp: 61529

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.6 | 0.0 | 45.5 |
| 176 | 19.6 | 0.0 | 48.6 |

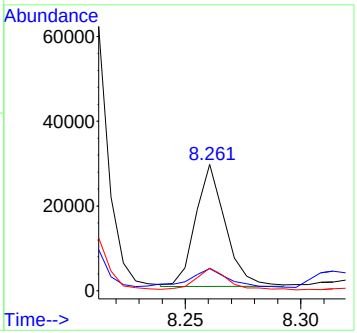


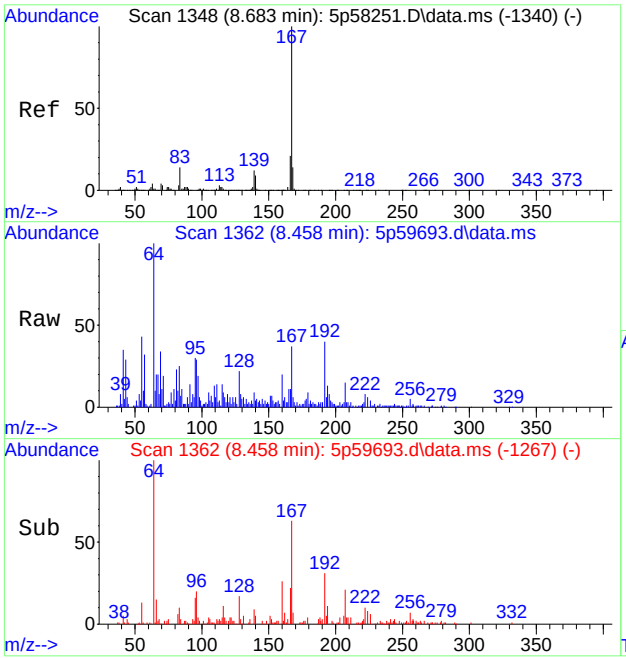



#78
Anthracene
Concen: 1.45 ppm
RT: 8.261 min Scan# 1325
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:178 Resp: 26065

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 14.0 | 0.0 | 45.8 |
| 176 | 17.4 | 0.0 | 47.8 |

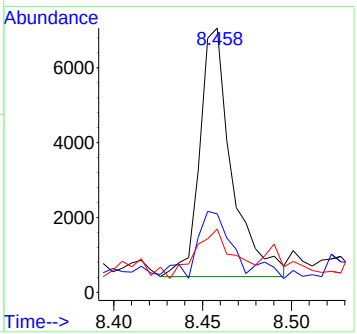


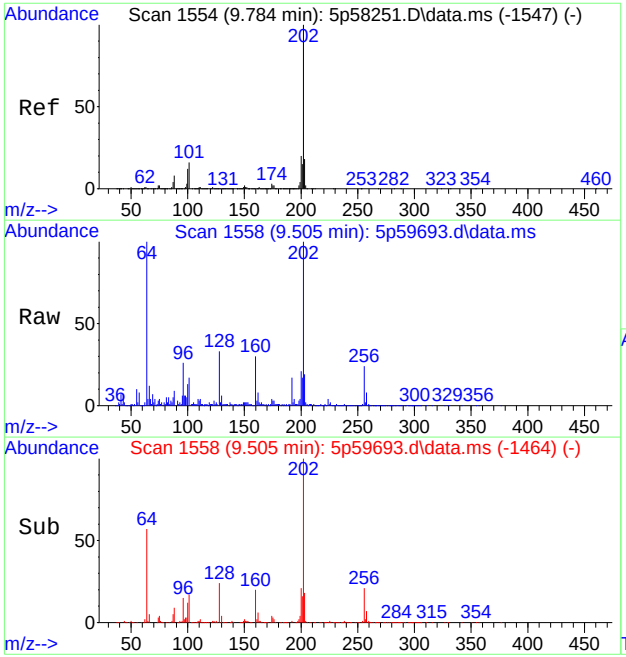




#79
Carbazole
Concen: 0.45 ppm
RT: 8.458 min Scan# 1362
Delta R.T. 0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:167 Resp: 8284

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 25.8 | 0.0 | 50.6 |
| 139 | 15.5 | 0.0 | 43.0 |

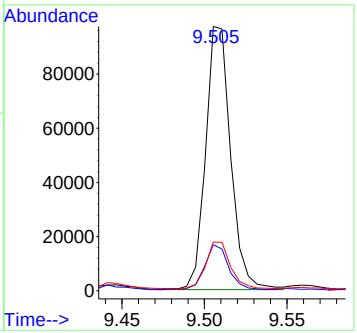


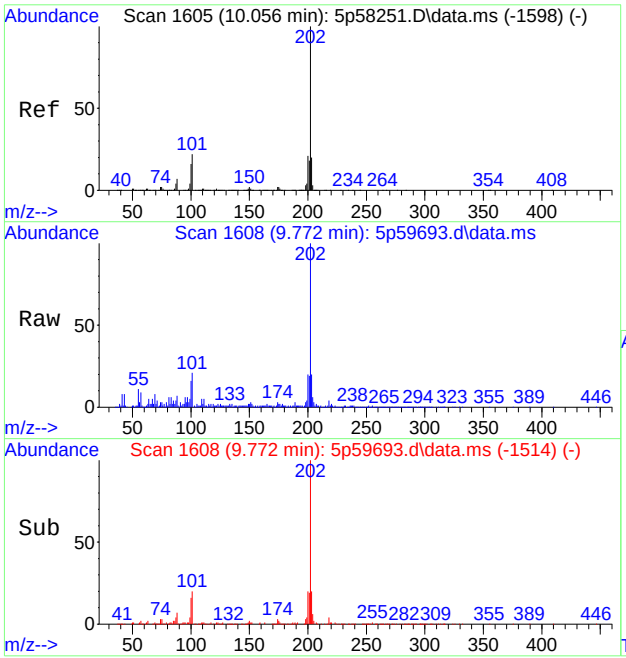



#81
Fluoranthene
Concen: 4.81 ppm
RT: 9.505 min Scan# 1558
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:202 Resp: 102708

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 17.0 | 0.0 | 46.8 |
| 203 | 17.8 | 0.0 | 47.6 |

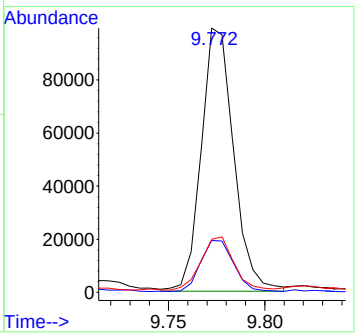


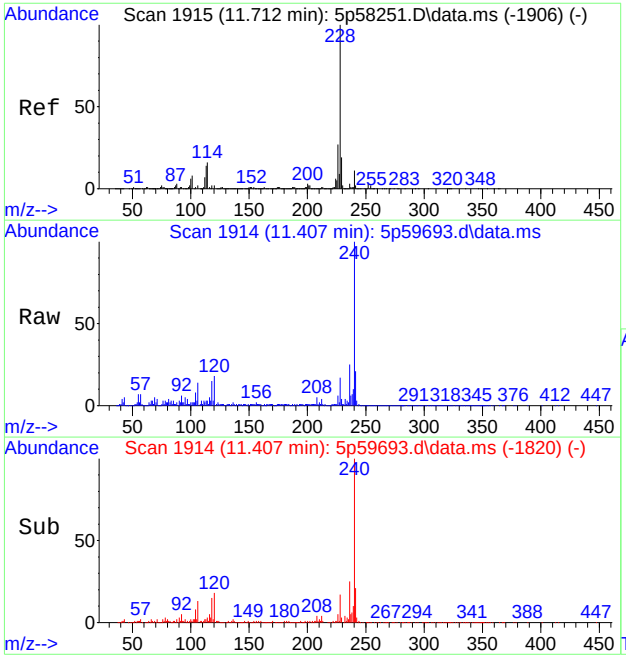




#84
Pyrene
Concen: 4.83 ppm
RT: 9.772 min Scan# 1608
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:202 Resp: 116246

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 19.6 | 0.0 | 50.0 |
| 203 | 19.0 | 0.0 | 48.8 |

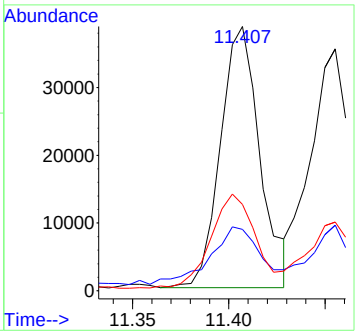


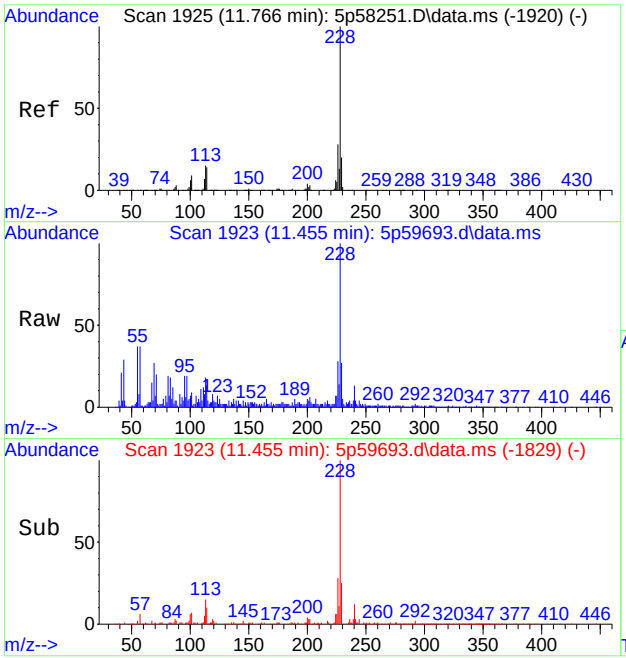



#87
Benzo[a]anthracene
Concen: 2.49 ppm
RT: 11.407 min Scan# 1914
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:228 Resp: 55030

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 18.9 | 0.0 | 50.1 |
| 226 | 31.2 | 0.0 | 56.3 |

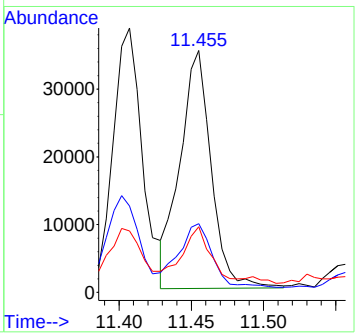


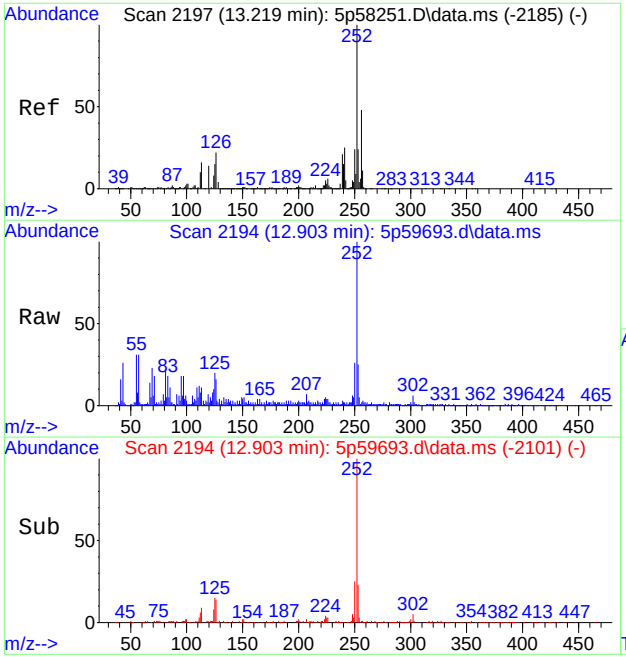




#89
Chrysene
Concen: 2.60 ppm
RT: 11.455 min Scan# 1923
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:228 Resp: 53124

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 26.4 | 0.0 | 58.4 |
| 229 | 23.6 | 0.0 | 49.9 |

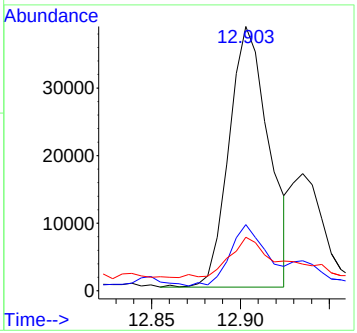


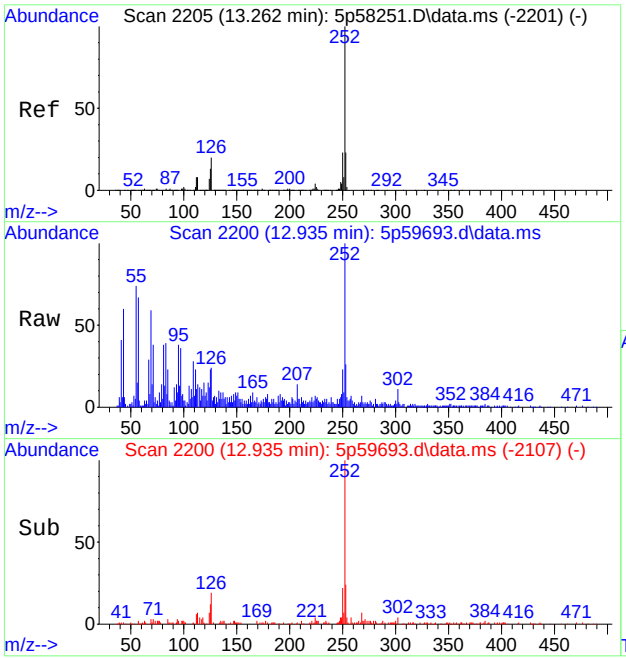



#93
Benzo[b]fluoranthene
Concen: 3.10 ppm
RT: 12.903 min Scan# 2194
Delta R.T. -0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:252 Resp: 60318

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.1 | 0.0 | 52.9 |
| 125 | 14.7 | 0.0 | 42.9 |

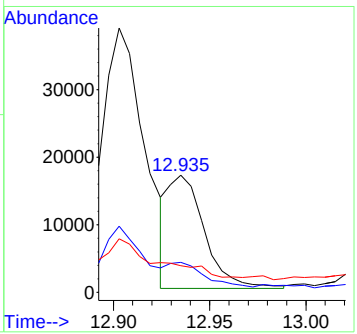


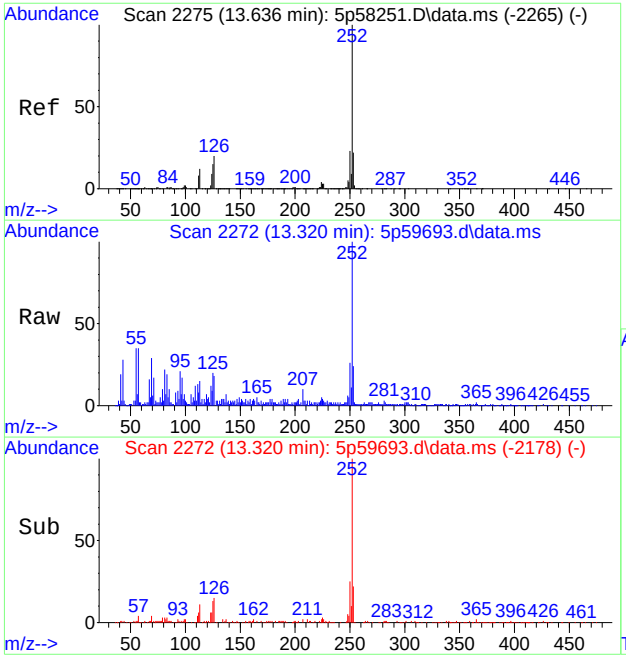




#94
Benzo[k]fluoranthene
Concen: 1.24 ppm
RT: 12.935 min Scan# 2200
Delta R.T. -0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:252 Resp: 22098

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.4 | 0.0 | 52.7 |
| 125 | 7.6 | 0.0 | 43.4 |

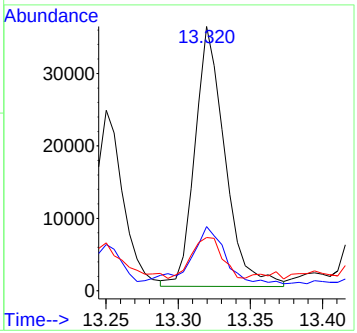


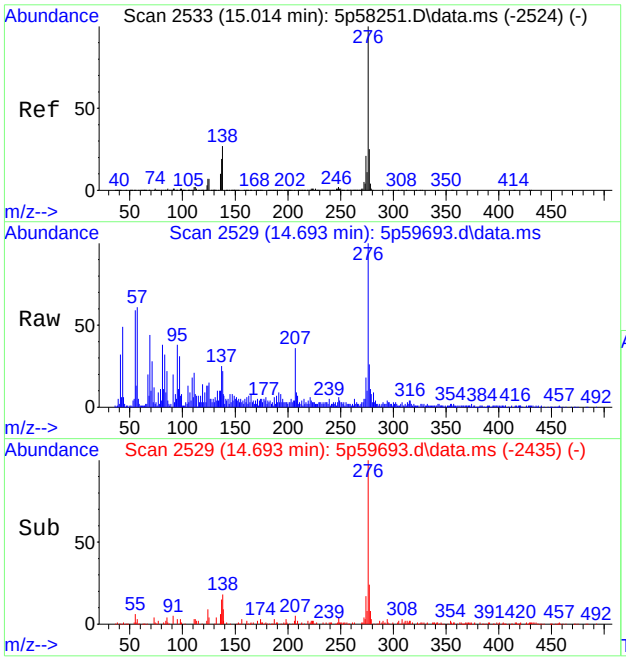



#95
Benzo[a]pyrene
Concen: 2.99 ppm
RT: 13.320 min Scan# 2272
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:252 Resp: 51745

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 20.8 | 0.0 | 52.4 |
| 125 | 15.2 | 0.0 | 44.0 |

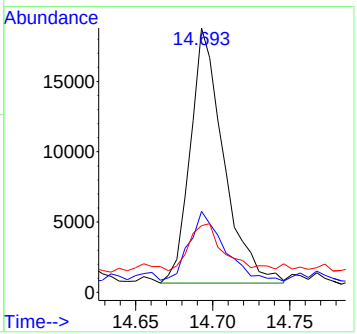


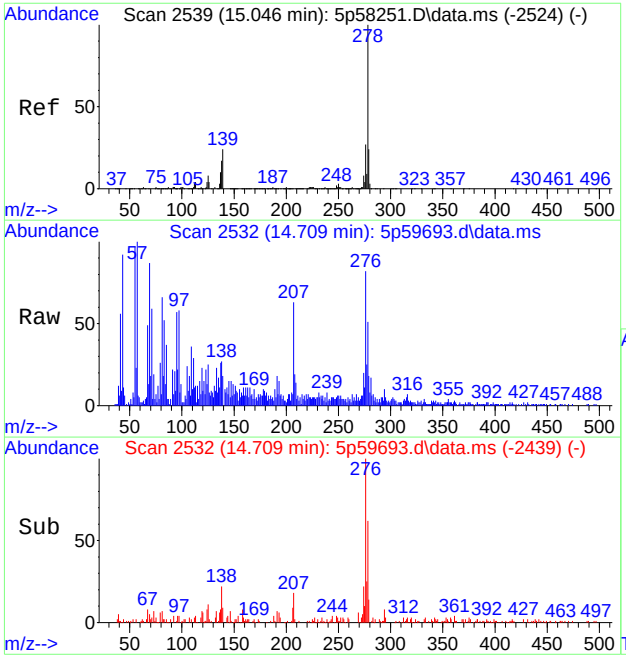




#96
Indeno[1,2,3-cd]pyrene
Concen: 1.76 ppm
RT: 14.693 min Scan# 2529
Delta R.T. 0.000 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:276 Resp: 27210

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.3 | 0.0 | 55.3 |
| 137 | 15.6 | 0.0 | 47.6 |

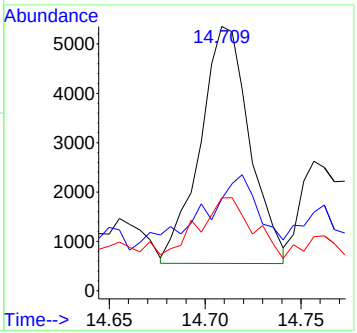


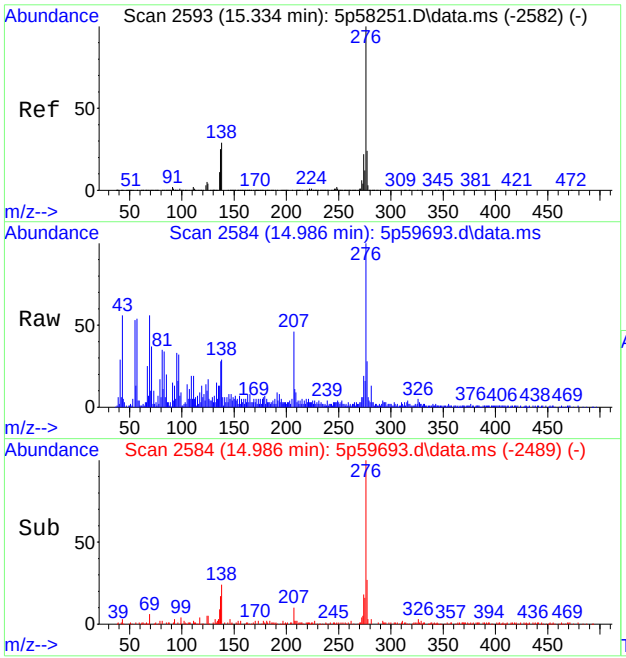



#98
Dibenz[a,h]anthracene
Concen: 0.54 ppm m
RT: 14.709 min Scan# 2532
Delta R.T. -0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:278 Resp: 8656

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 34.7 | 0.0 | 50.1 |
| 279 | 35.1 | 0.0 | 53.7 |

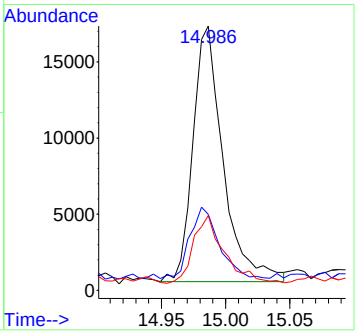



#100
Benzo[g,h,i]perylene
Concen: 1.76 ppm
RT: 14.986 min Scan# 2584
Delta R.T. 0.005 min
Lab File: 5p59693.d
Acq: 16 May 2019 4:29 pm

Tgt Ion:276 Resp: 27503

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.9 | 0.0 | 57.0 |
| 277 | 27.2 | 0.0 | 54.6 |



# Manual Integration Approval Summary



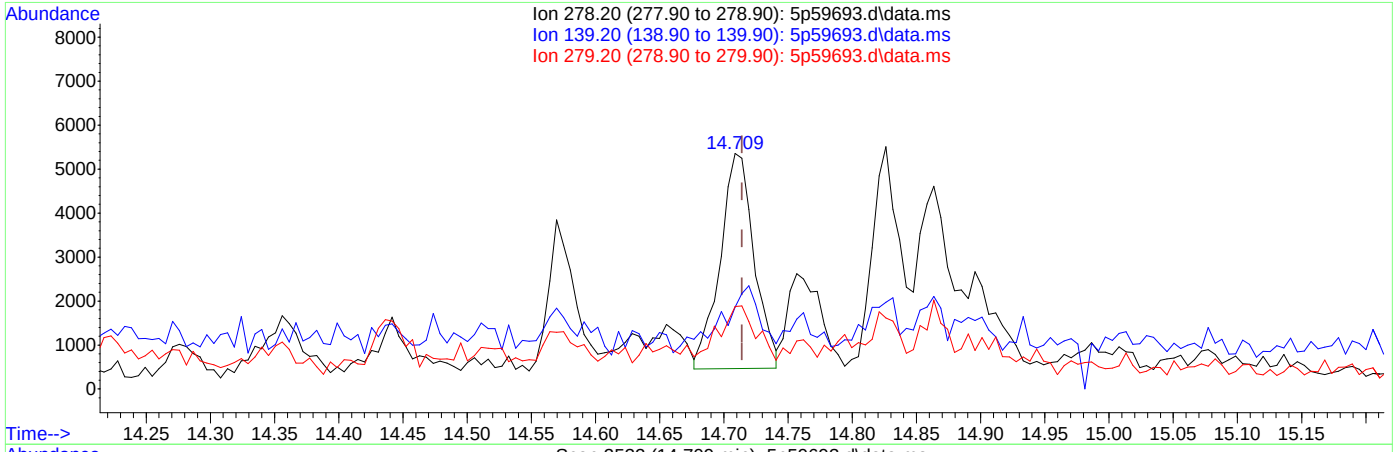
| | | | |
|---|---|---|---|
| **Sample Number:** | JC87535-12 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P59693.D | **Analyst approved:** | 05/17/19 01:15 Michelle Co |
| **Injection Time:** | 05/16/19 16:29 | **Supervisor approved:** | 05/20/19 14:25 Nancy Ma |

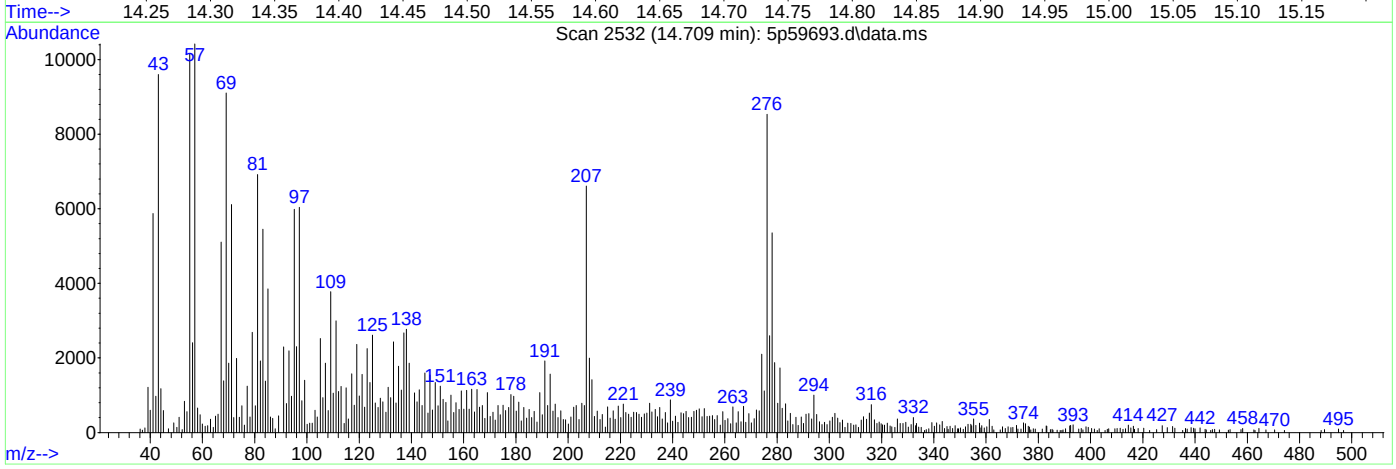
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.71 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e5p2816\
Data File : 5p59693.d
Acq On : 16 May 2019 4:29 pm
Operator : christc2
Sample : jc87535-12 Inst : MS5P
Misc : op20269,e5p2816,30.6,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Results File: M5P2761.RES
Quant Time: May 16 23:52:50 2019
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu May 16 23:52:13 2019
Response via : Initial Calibration




TIC: 5p59693.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.709min (-0.005) 0.56ppm

response 9003

| Ion | Exp% | Act% |
|---|---|---|
| 278.20 | 100 | 100 |
| 139.20 | 20.10 | 17.04 |
| 279.20 | 23.70 | 25.80 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481890.D
Acq On : 15 May 2019 3:45 pm
Operator : angelar
Sample : jc87535-13
Misc : op20353,e6p2591,100,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 15 17:14:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

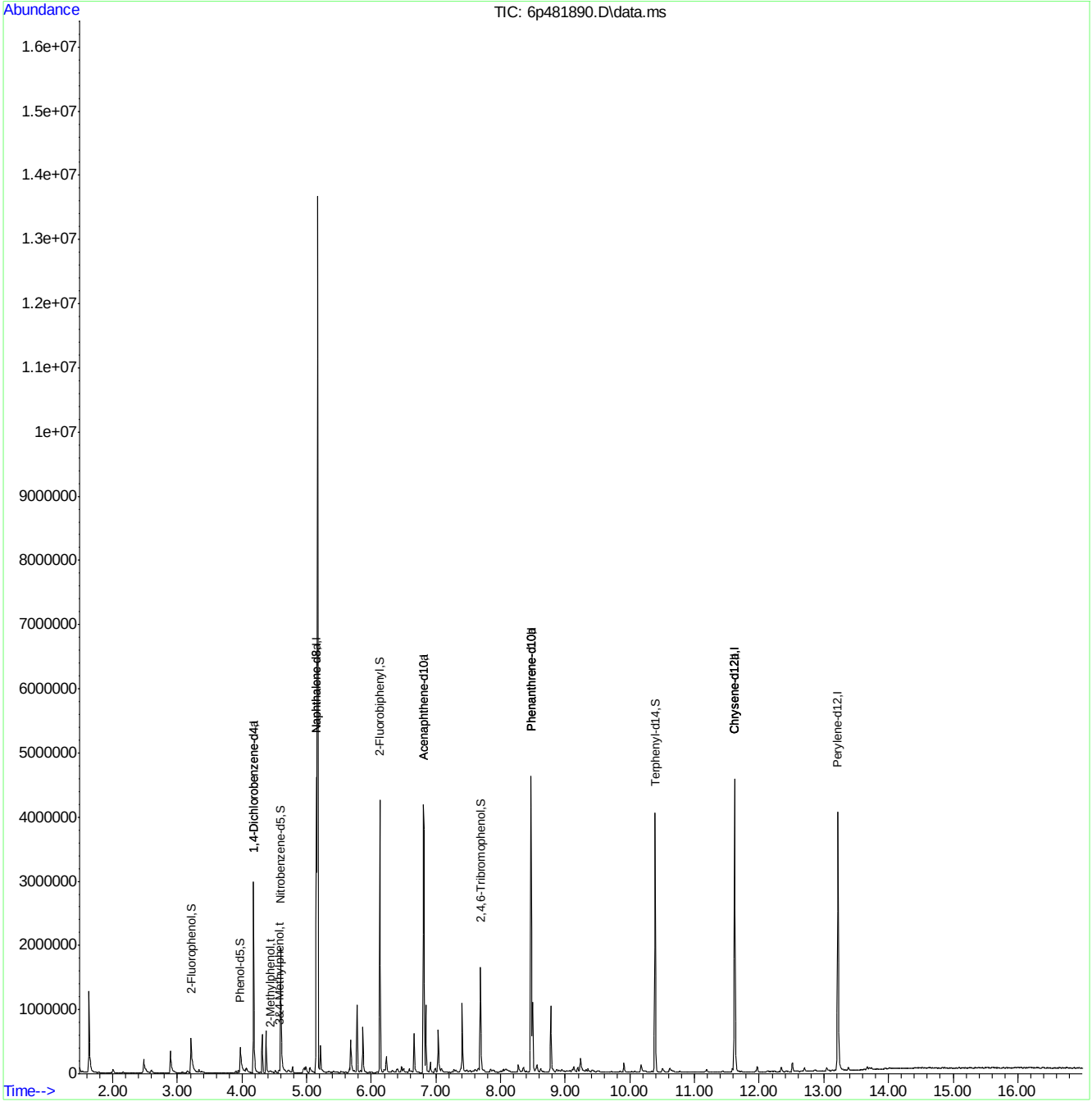
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.183 | 152 | 416210 | 40.00 | ppm | -0.07 |
| 24) Naphthalene-d8 | 5.151 | 136 | 1584905 | 40.00 | ppm | -0.08 |
| 47) Acenaphthene-d10 | 6.809 | 164 | 851134 | 40.00 | ppm | -0.10 |
| 69) Phenanthrene-d10 | 8.472 | 188 | 1645439 | 40.00 | ppm | -0.11 |
| 83) Chrysene-d12 | 11.623 | 240 | 1525692 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.216 | 264 | 1563097 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4a | 4.183 | 152 | 416210 | 40.00 | ppm | -0.07 |
| 103) Acenaphthene-d10a | 6.809 | 164 | 851134 | 40.00 | ppm | -0.10 |
| 105) Phenanthrene-d10a | 8.472 | 188 | 1645439 | 40.00 | ppm | -0.11 |
| 109) Chrysene-d12a | 11.623 | 240 | 1525692 | 40.00 | ppm | -0.11 |
| 111) Naphthalene-d8a | 5.151 | 136 | 1584905 | 40.00 | ppm | -0.08 |
| 113) Phenanthrene-d10b | 8.472 | 188 | 1645439 | 40.00 | ppm | -0.11 |
| 115) Chrysene-d12b | 11.623 | 240 | 1525692 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.209 | 112 | 252570 | 20.74 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 41.48% | | | |
| 8) Phenol-d5 | 3.974 | 99 | 233992 | 15.74 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 31.48% | | | |
| 25) Nitrobenzene-d5 | 4.600 | 82 | 577748 | 43.80 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 87.60% | | | |
| 51) 2-Fluorobiphenyl | 6.135 | 172 | 1134371 | 37.73 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 75.46% | | | |
| 73) 2,4,6-Tribromophenol | 7.686 | 330 | 188513 | 35.60 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 71.20% | | | |
| 85) Terphenyl-d14 | 10.392 | 244 | 1332733 | 37.50 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 75.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 19) 2-Methylphenol | 4.434 | 108 | 11305 | 0.93 | ppm | 84 |
| 21) 3&4-Methylphenol | 4.573 | 108 | 25615 | 1.99 | ppm | 80 |

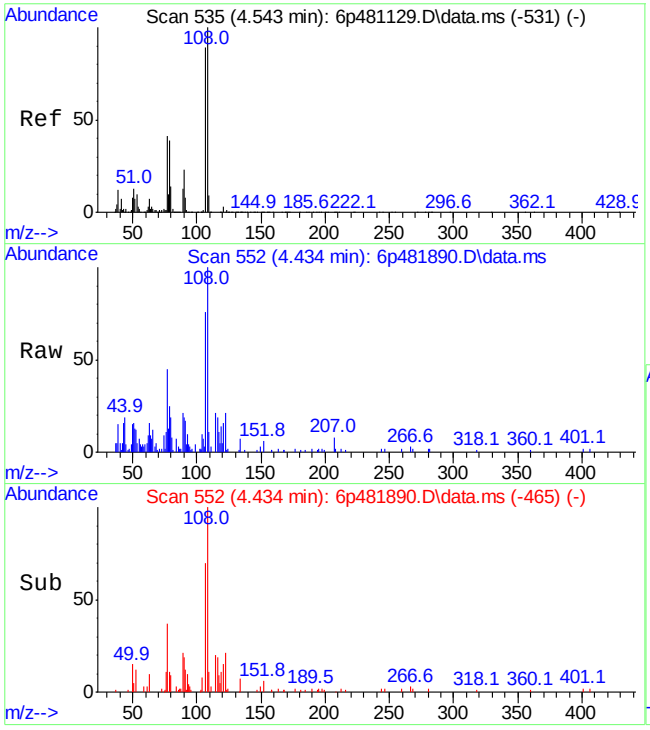
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481890.D
Acq On : 15 May 2019 3:45 pm
Operator : angelar
Sample : jc87535-13
Misc : op20353,e6p2591,100,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 15 17:14:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

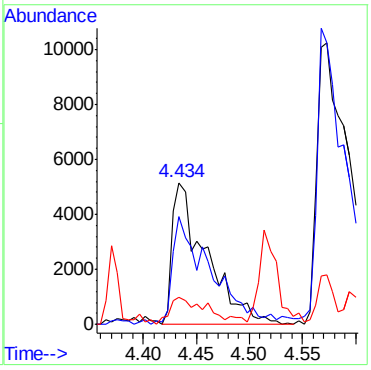


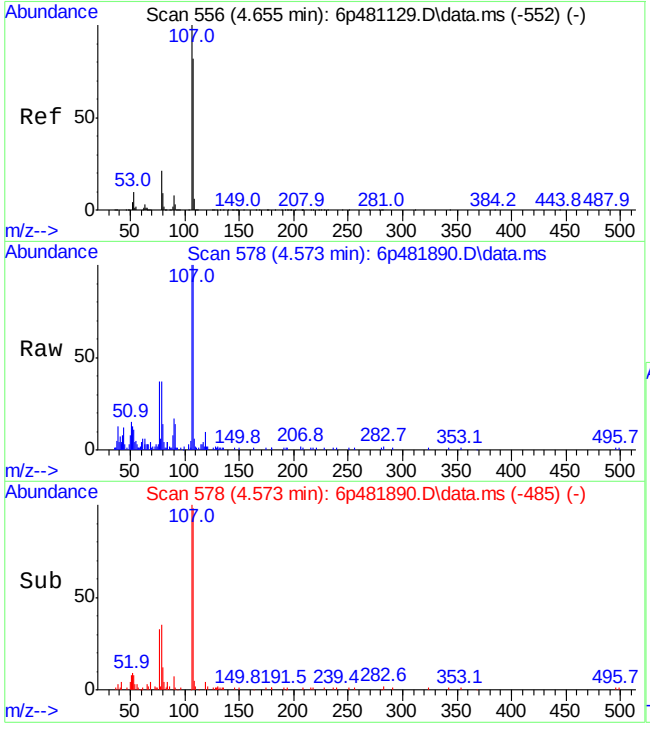



#19
2-Methylphenol
Concen: 0.93 ppm
RT: 4.434 min Scan# 552
Delta R.T. -0.034 min
Lab File: 6p481890.D
Acq: 15 May 2019 3:45 pm

Tgt Ion:108 Resp: 11305

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 74.1 | 58.4 | 118.4 |
| 90 | 14.0 | 0.0 | 52.6 |

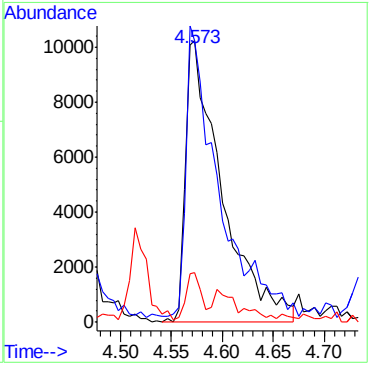



#21
3&4-Methylphenol
Concen: 1.99 ppm
RT: 4.573 min Scan# 578
Delta R.T. -0.005 min
Lab File: 6p481890.D
Acq: 15 May 2019 3:45 pm

Tgt Ion:108 Resp: 25615

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 98.5 | 91.6 | 151.6 |
| 90 | 15.7 | 0.0 | 40.3 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481891.D
Acq On : 15 May 2019 4:09 pm
Operator : angelar
Sample : jc87535-14
Misc : op20353,e6p2591,100,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 15 17:12:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

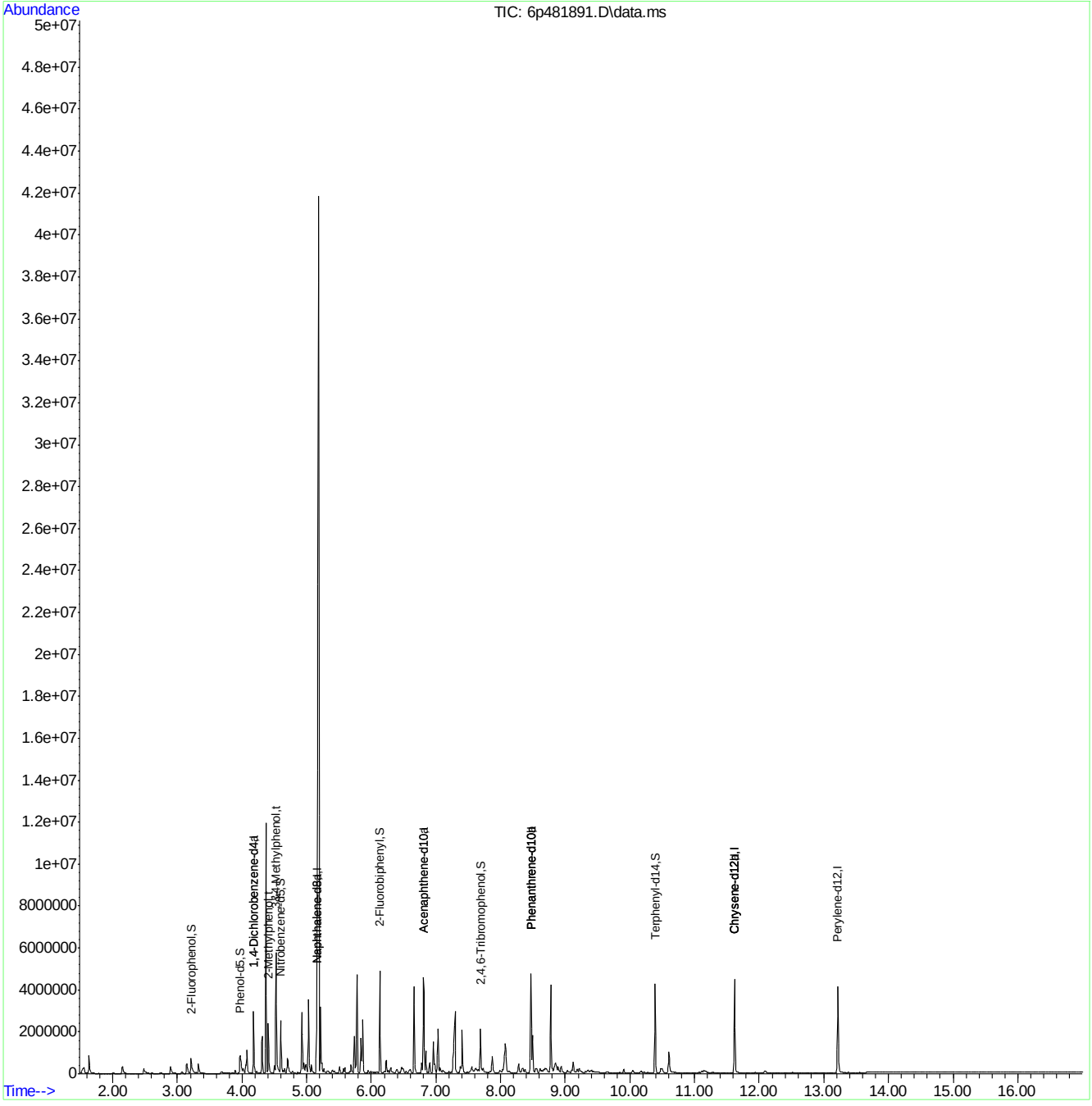
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.177 | 152 | 403257 | 40.00 | ppm | -0.07 |
| 24) Naphthalene-d8 | 5.156 | 136 | 1582512 | 40.00 | ppm | -0.07 |
| 47) Acenaphthene-d10 | 6.809 | 164 | 858728 | 40.00 | ppm | -0.10 |
| 69) Phenanthrene-d10 | 8.472 | 188 | 1656972 | 40.00 | ppm | -0.11 |
| 83) Chrysene-d12 | 11.623 | 240 | 1501624 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.216 | 264 | 1540514 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4a | 4.177 | 152 | 403257 | 40.00 | ppm | -0.07 |
| 103) Acenaphthene-d10a | 6.809 | 164 | 858728 | 40.00 | ppm | -0.10 |
| 105) Phenanthrene-d10a | 8.472 | 188 | 1656972 | 40.00 | ppm | -0.11 |
| 109) Chrysene-d12a | 11.623 | 240 | 1501624 | 40.00 | ppm | -0.11 |
| 111) Naphthalene-d8a | 5.156 | 136 | 1582512 | 40.00 | ppm | -0.07 |
| 113) Phenanthrene-d10b | 8.472 | 188 | 1656972 | 40.00 | ppm | -0.11 |
| 115) Chrysene-d12b | 11.623 | 240 | 1501624 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.209 | 112 | 302367 | 25.63 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 51.26% | | | |
| 8) Phenol-d5 | 3.963 | 99 | 274648 | 19.07 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 38.14% | | | |
| 25) Nitrobenzene-d5 | 4.600 | 82 | 655322 | 49.76 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 99.52% | | | |
| 51) 2-Fluorobiphenyl | 6.135 | 172 | 1259837 | 41.53 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 83.06% | | | |
| 73) 2,4,6-Tribromophenol | 7.686 | 330 | 208469 | 39.10 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 78.20% | | | |
| 85) Terphenyl-d14 | 10.392 | 244 | 1394263 | 39.86 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 79.72% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 19) 2-Methylphenol | 4.407 | 108 | 429749 | 36.32 | ppm | 97 |
| 21) 3&4-Methylphenol | 4.525 | 108 | 1087315 | 87.39 | ppm | 83 |

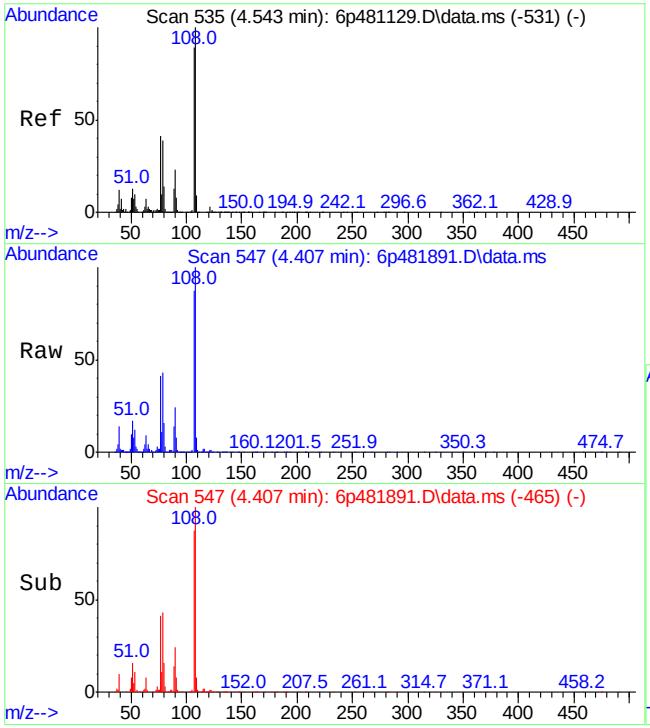
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481891.D
Acq On : 15 May 2019 4:09 pm
Operator : angelar
Sample : jc87535-14
Misc : op20353,e6p2591,100,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 15 17:12:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

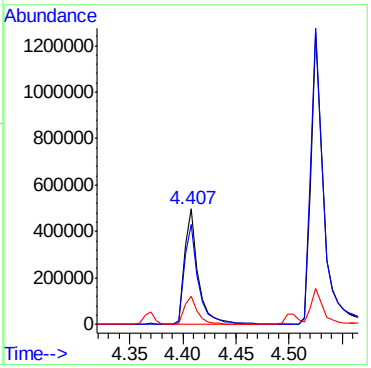


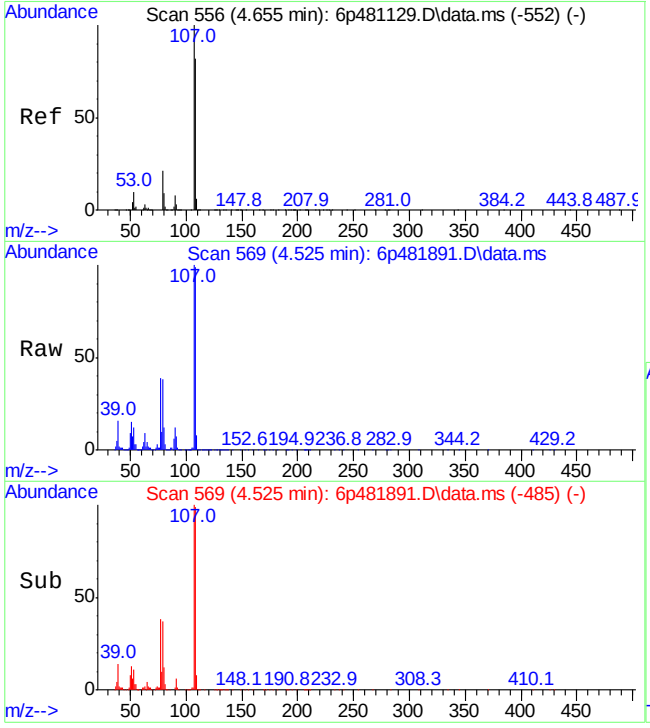



#19
2-Methylphenol
Concen: 36.32 ppm
RT: 4.407 min Scan# 547
Delta R.T. -0.060 min
Lab File: 6p481891.D
Acq: 15 May 2019 4:09 pm

Tgt Ion:108 Resp: 429749

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 87.0 | 58.4 | 118.4 |
| 90 | 19.3 | 0.0 | 52.6 |

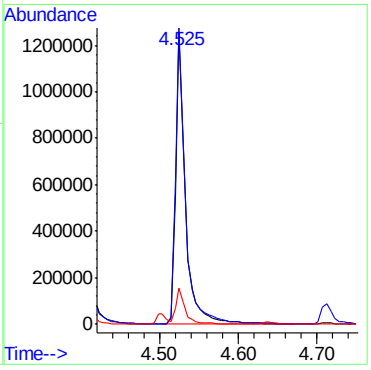



#21
3&4-Methylphenol
Concen: 87.39 ppm
RT: 4.525 min Scan# 569
Delta R.T. -0.053 min
Lab File: 6p481891.D
Acq: 15 May 2019 4:09 pm

Tgt Ion:108 Resp: 1087315

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 101.5 | 91.6 | 151.6 |
| 90 | 10.6 | 0.0 | 40.3 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481892.D
Acq On : 15 May 2019 4:34 pm
Operator : angelar
Sample : jc87535-15
Misc : op20353,e6p2591,100,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 15 17:16:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

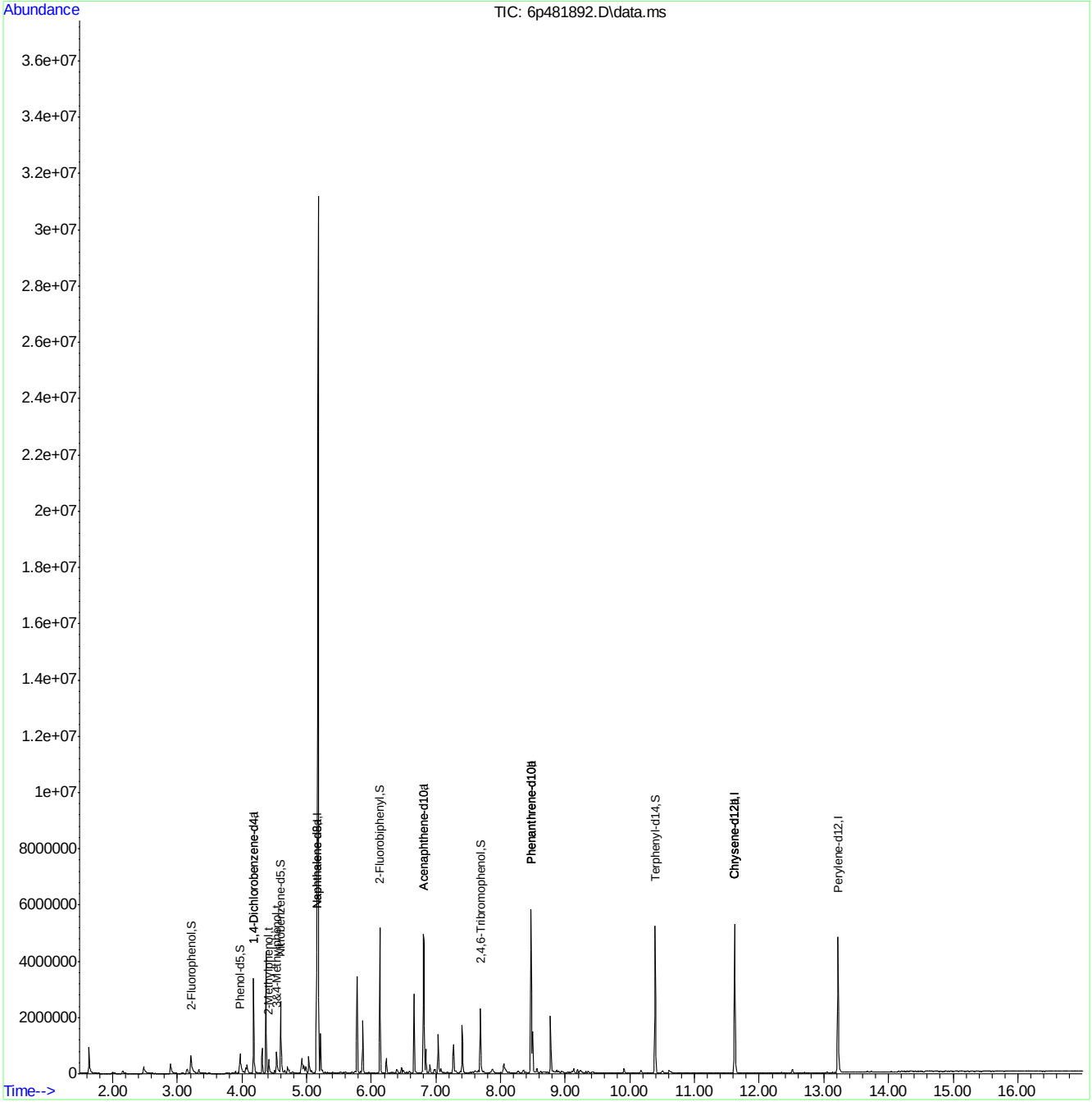
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.182 | 152 | 463911 | 40.00 | ppm | -0.07 |
| 24) Naphthalene-d8 | 5.156 | 136 | 1822748 | 40.00 | ppm | -0.07 |
| 47) Acenaphthene-d10 | 6.809 | 164 | 995563 | 40.00 | ppm | -0.10 |
| 69) Phenanthrene-d10 | 8.472 | 188 | 1940764 | 40.00 | ppm | -0.11 |
| 83) Chrysene-d12 | 11.622 | 240 | 1800946 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.222 | 264 | 1881138 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4a | 4.182 | 152 | 463911 | 40.00 | ppm | -0.07 |
| 103) Acenaphthene-d10a | 6.809 | 164 | 995563 | 40.00 | ppm | -0.10 |
| 105) Phenanthrene-d10a | 8.472 | 188 | 1940764 | 40.00 | ppm | -0.11 |
| 109) Chrysene-d12a | 11.622 | 240 | 1800946 | 40.00 | ppm | -0.11 |
| 111) Naphthalene-d8a | 5.156 | 136 | 1822748 | 40.00 | ppm | -0.07 |
| 113) Phenanthrene-d10b | 8.472 | 188 | 1940764 | 40.00 | ppm | -0.11 |
| 115) Chrysene-d12b | 11.622 | 240 | 1800946 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.209 | 112 | 322878 | 23.79 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 47.58% | | | |
| 8) Phenol-d5 | 3.969 | 99 | 295089 | 17.81 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 35.62% | | | |
| 25) Nitrobenzene-d5 | 4.600 | 82 | 700246 | 46.16 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 92.32% | | | |
| 51) 2-Fluorobiphenyl | 6.135 | 172 | 1381307 | 39.27 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 78.54% | | | |
| 73) 2,4,6-Tribromophenol | 7.686 | 330 | 243009 | 38.91 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 77.82% | | | |
| 85) Terphenyl-d14 | 10.392 | 244 | 1693660 | 40.37 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 80.74% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 19) 2-Methylphenol | 4.412 | 108 | 96472 | 7.09 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.530 | 108 | 245718 | 17.17 | ppm | 84 |

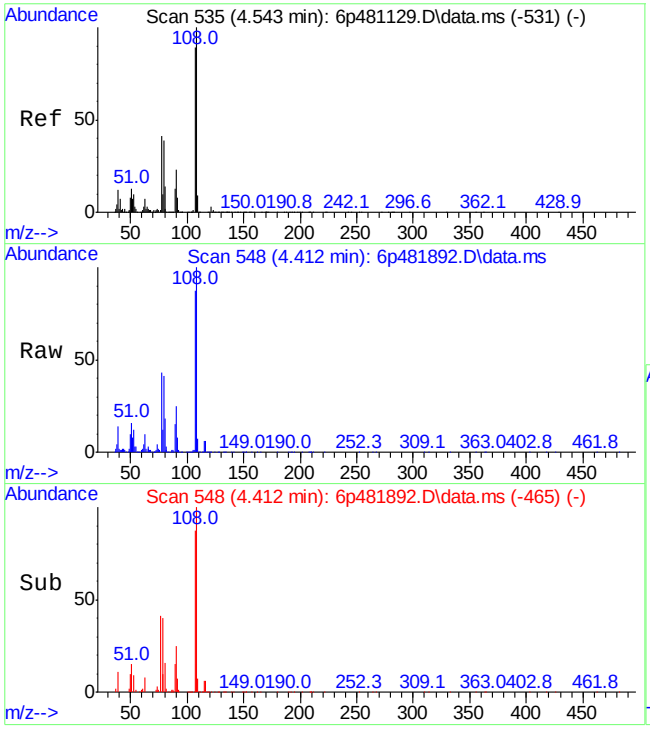
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481892.D
Acq On : 15 May 2019 4:34 pm
Operator : angelar
Sample : jc87535-15
Misc : op20353,e6p2591,100,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 15 17:16:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

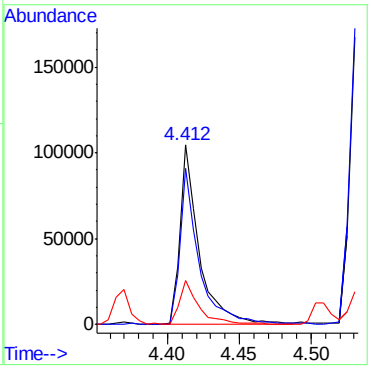


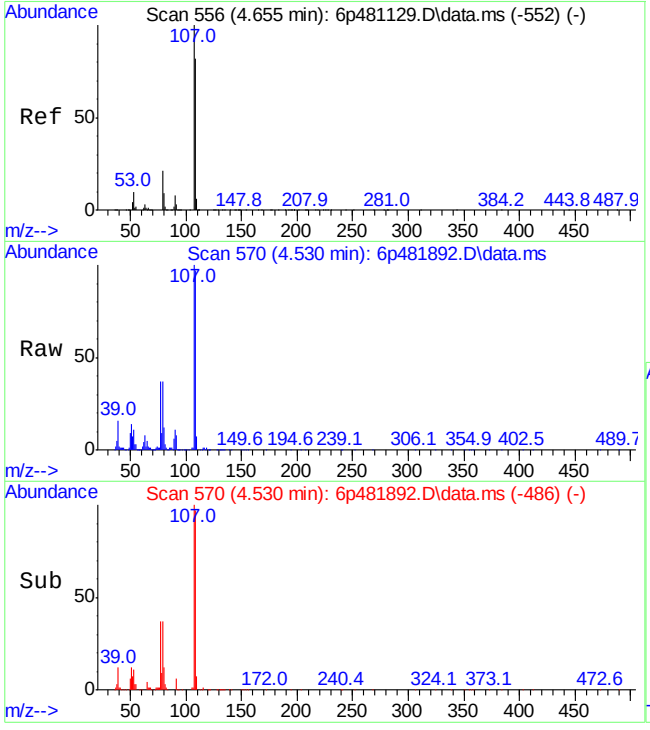



#19
2-Methylphenol
Concen: 7.09 ppm
RT: 4.412 min Scan# 548
Delta R.T. -0.055 min
Lab File: 6p481892.D
Acq: 15 May 2019 4:34 pm

Tgt Ion:108 Resp: 96472

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 87.2 | 58.4 | 118.4 |
| 90 | 24.5 | 0.0 | 52.6 |

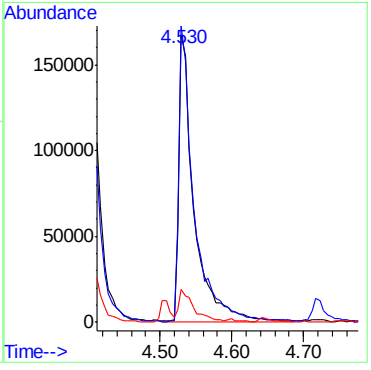



#21
3&4-Methylphenol
Concen: 17.17 ppm
RT: 4.530 min Scan# 570
Delta R.T. -0.048 min
Lab File: 6p481892.D
Acq: 15 May 2019 4:34 pm

Tgt Ion:108 Resp: 245718

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 103.0 | 91.6 | 151.6 |
| 90 | 7.5 | 0.0 | 40.3 |



Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154394.d
Acq On : 15 May 2019 10:43 am
Operator : christc2
Sample : op20268-mb1 Inst : MSM
Misc : op20268,em6594,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:11:36 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 12:56:32 2019
Response via : Initial Calibration

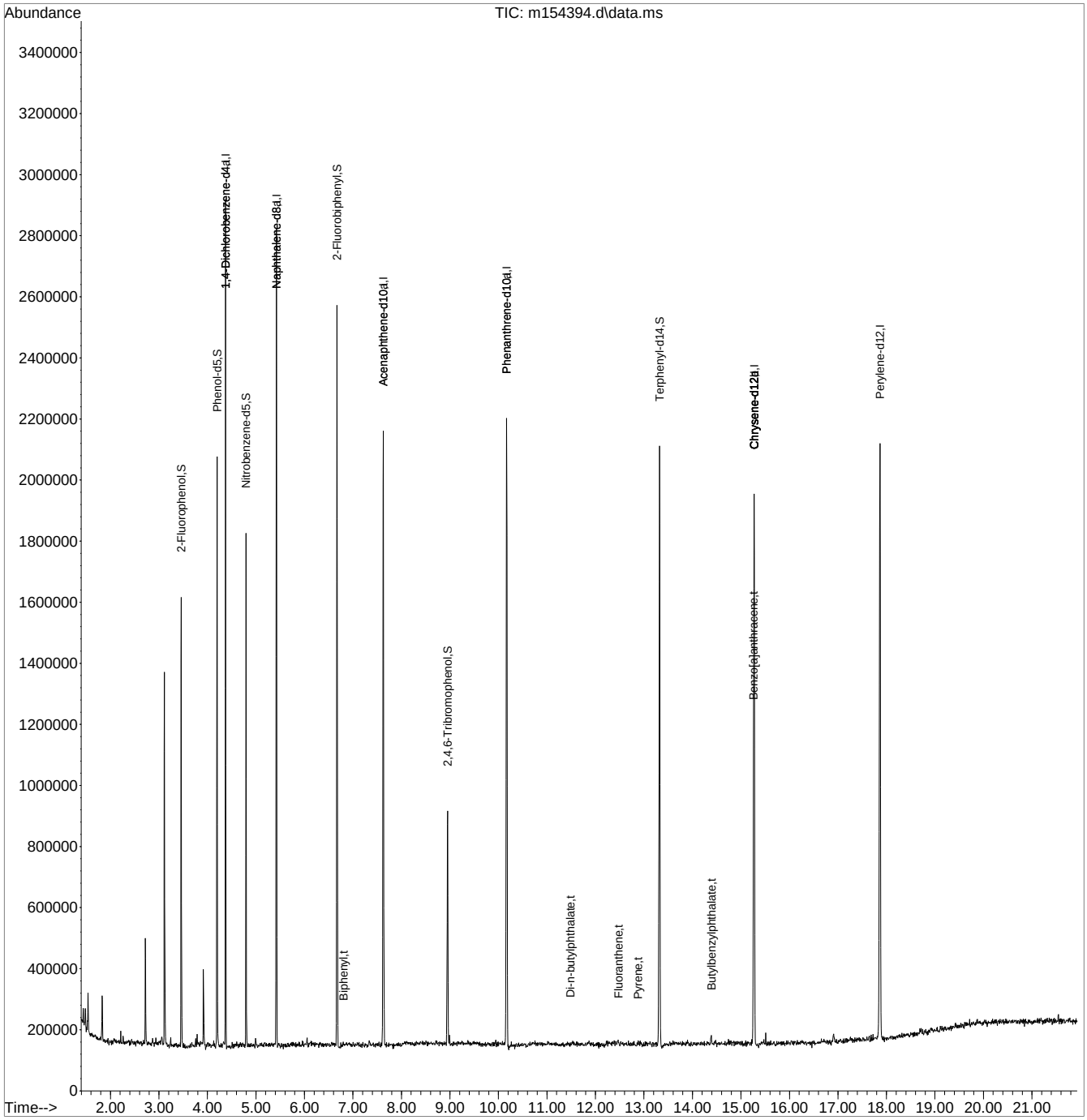
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.374 | 152 | 310081 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.421 | 136 | 1021556 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.627 | 164 | 523365 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.169 | 188 | 1025630 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.270 | 240 | 987377 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 17.866 | 264 | 1090233 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.374 | 152 | 310081 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.627 | 164 | 522622 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.270 | 240 | 987377 | 40.00 | ppm | -0.02 |
| 108) Chrysene-d12b | 15.270 | 240 | 986725 | 40.00 | ppm | -0.02 |
| 110) Phenanthrene-d10a | 10.169 | 188 | 1025630 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.421 | 136 | 1021556 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.270 | 240 | 987377 | 40.00 | ppm | -0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.461 | 112 | 385441 | 31.80 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 63.60% | | |
| 8) Phenol-d5 | 4.198 | 99 | 516081 | 34.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 68.94% | | |
| 25) Nitrobenzene-d5 | 4.796 | 82 | 422159 | 38.74 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.48% | | |
| 51) 2-Fluorobiphenyl | 6.671 | 172 | 814163 | 41.84 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 83.68% | | |
| 73) 2,4,6-Tribromophenol | 8.951 | 330 | 138805 | 40.23 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 80.46% | | |
| 85) Terphenyl-d14 | 13.320 | 244 | 1007977 | 37.86 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 75.72% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 53) Biphenyl | 6.804 | 154 | 2330 | 0.11 | ppm | 71 |
| 80) Di-n-butylphthalate | 11.483 | 149 | 2203 | 0.07 | ppm | 80 |
| 81) Fluoranthene | 12.471 | 202 | 3218 | 0.10 | ppm | 77 |
| 84) Pyrene | 12.877 | 202 | 3657 | 0.10 | ppm | 74 |
| 86) Butylbenzylphthalate | 14.389 | 149 | 9520 | 0.64 | ppm | 94 |
| 87) Benzo[a]anthracene | 15.259 | 228 | 4917 | 0.15 | ppm | 86 |

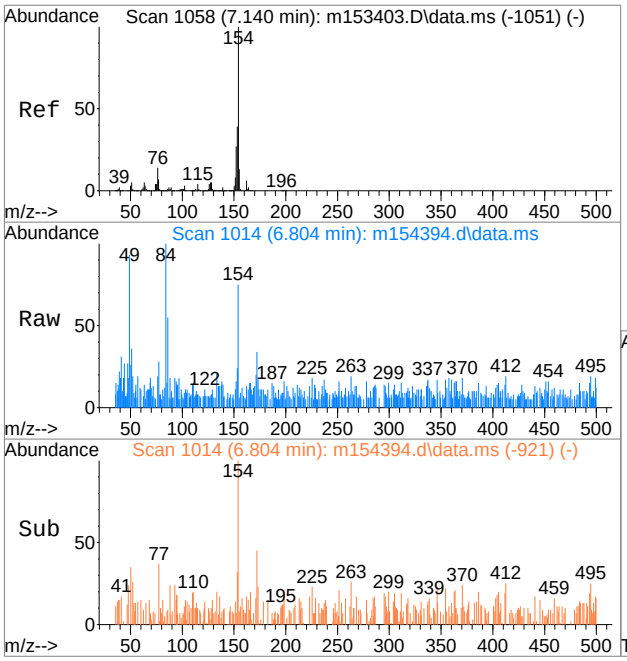
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154394.d
Acq On : 15 May 2019 10:43 am
Operator : christc2
Sample : op20268-mb1 Inst : MSM
Misc : op20268,em6594,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:11:36 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 12:56:32 2019
Response via : Initial Calibration

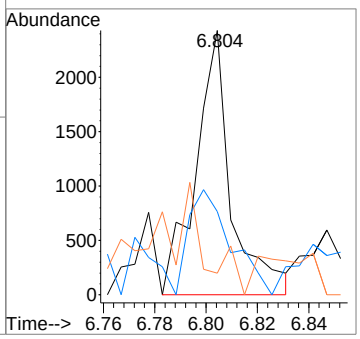


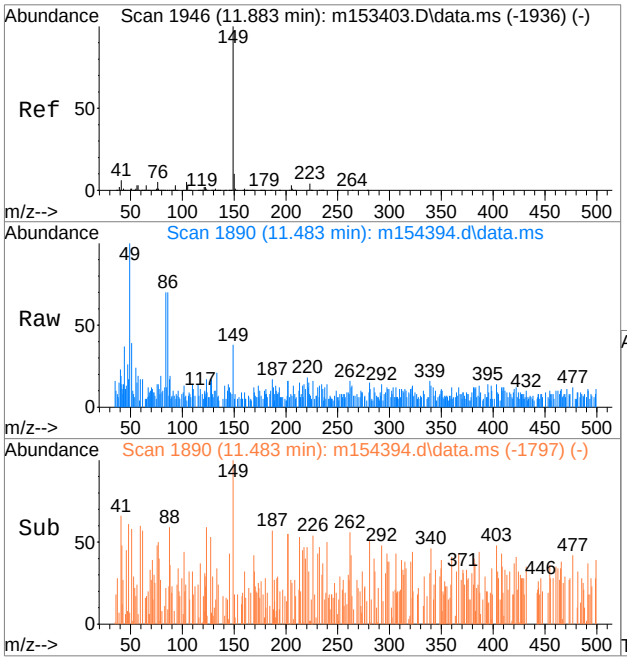



#53
Biphenyl
Concen: 0.11 ppm
RT: 6.804 min Scan# 1014
Delta R.T. -0.004 min
Lab File: m154394.d
Acq: 15 May 2019 10:43 am

Tgt Ion:154 Resp: 2330

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 21.8 | 8.5 | 68.5 |
| 155 | 0.0 | 0.0 | 43.4 |

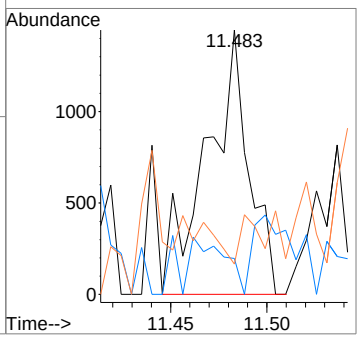


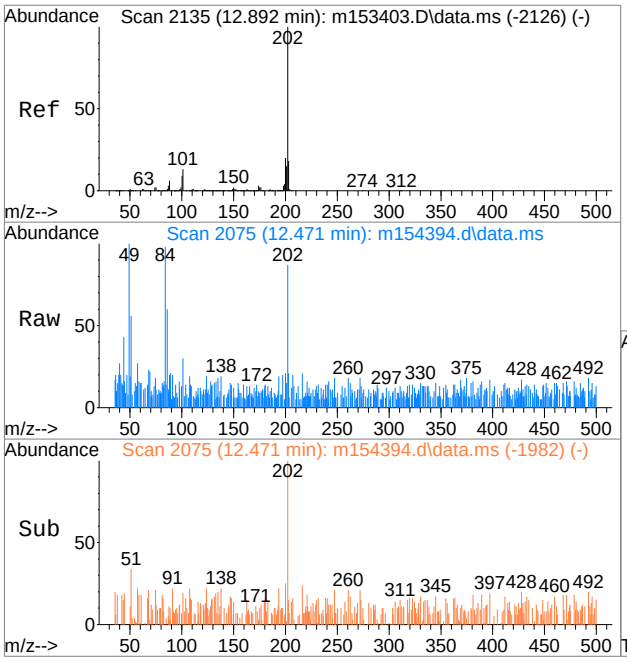




#80
Di-n-butylphthalate
Concen: 0.07 ppm
RT: 11.483 min Scan# 1890
Delta R.T. -0.004 min
Lab File: m154394.d
Acq: 15 May 2019 10:43 am

Tgt Ion:149 Resp: 2203

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 1.5 | 0.0 | 39.9 |
| 104 | 0.0 | 0.0 | 34.0 |

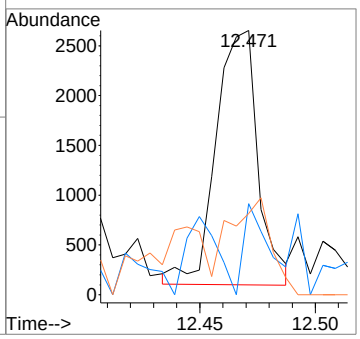


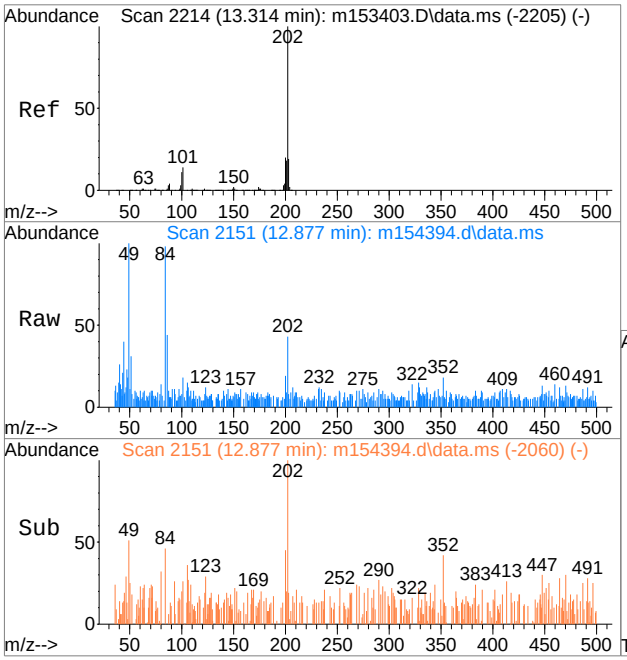



#81
Fluoranthene
Concen: 0.10 ppm
RT: 12.471 min Scan# 2075
Delta R.T. -0.004 min
Lab File: m154394.d
Acq: 15 May 2019 10:43 am

Tgt Ion:202 Resp: 3218

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 27.4 | 0.0 | 44.2 |
| 203 | 24.1 | 0.0 | 47.5 |

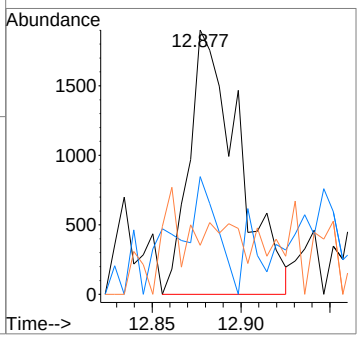


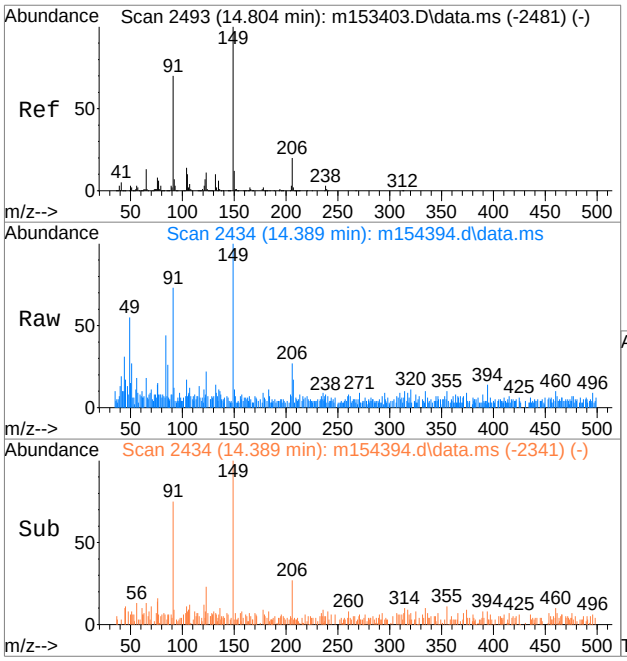




#84
Pyrene
Concen: 0.10 ppm
RT: 12.877 min Scan# 2151
Delta R.T. -0.015 min
Lab File: m154394.d
Acq: 15 May 2019 10:43 am

Tgt Ion:202 Resp: 3657

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 25.0 | 0.0 | 49.7 |
| 203 | 0.0 | 0.0 | 48.8 |

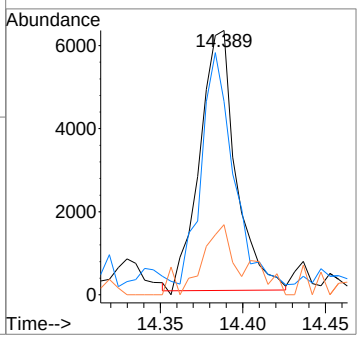


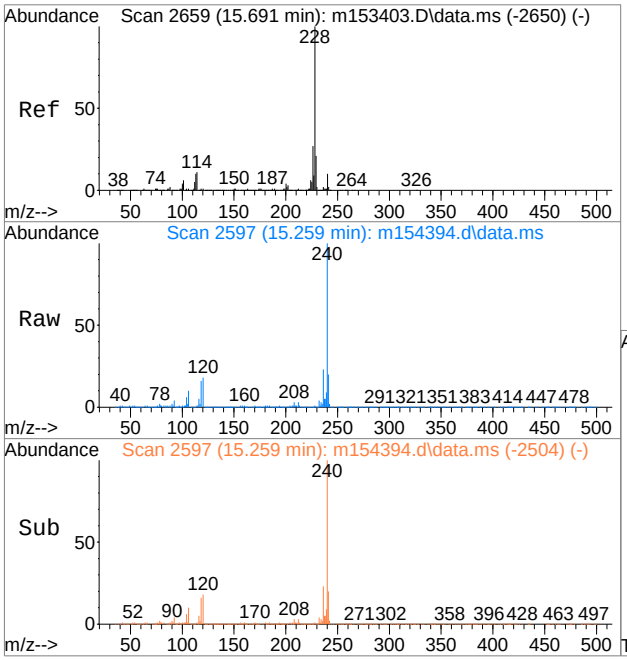



#86
Butylbenzylphthalate
Concen: 0.64 ppm
RT: 14.389 min Scan# 2434
Delta R.T. -0.004 min
Lab File: m154394.d
Acq: 15 May 2019 10:43 am

Tgt Ion:149 Resp: 9520

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 91 | 70.4 | 37.6 | 97.6 |
| 206 | 27.6 | 0.0 | 52.0 |

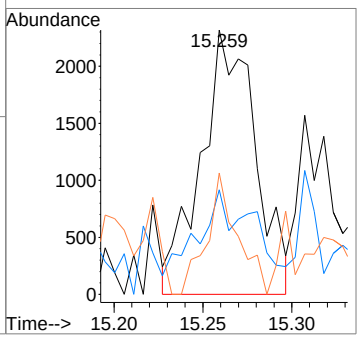



#87
Benzo[a]anthracene
Concen: 0.15 ppm
RT: 15.259 min Scan# 2597
Delta R.T. -0.004 min
Lab File: m154394.d
Acq: 15 May 2019 10:43 am

Tgt Ion:228 Resp: 4917

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 35.1 | 0.0 | 50.6 |
| 226 | 25.2 | 0.0 | 55.5 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59685.D
Acq On : 16 May 2019 1:05 pm
Operator : christc2
Sample : op20269-mb1
Misc : op20269,e5p2816,30.0,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 13:38:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

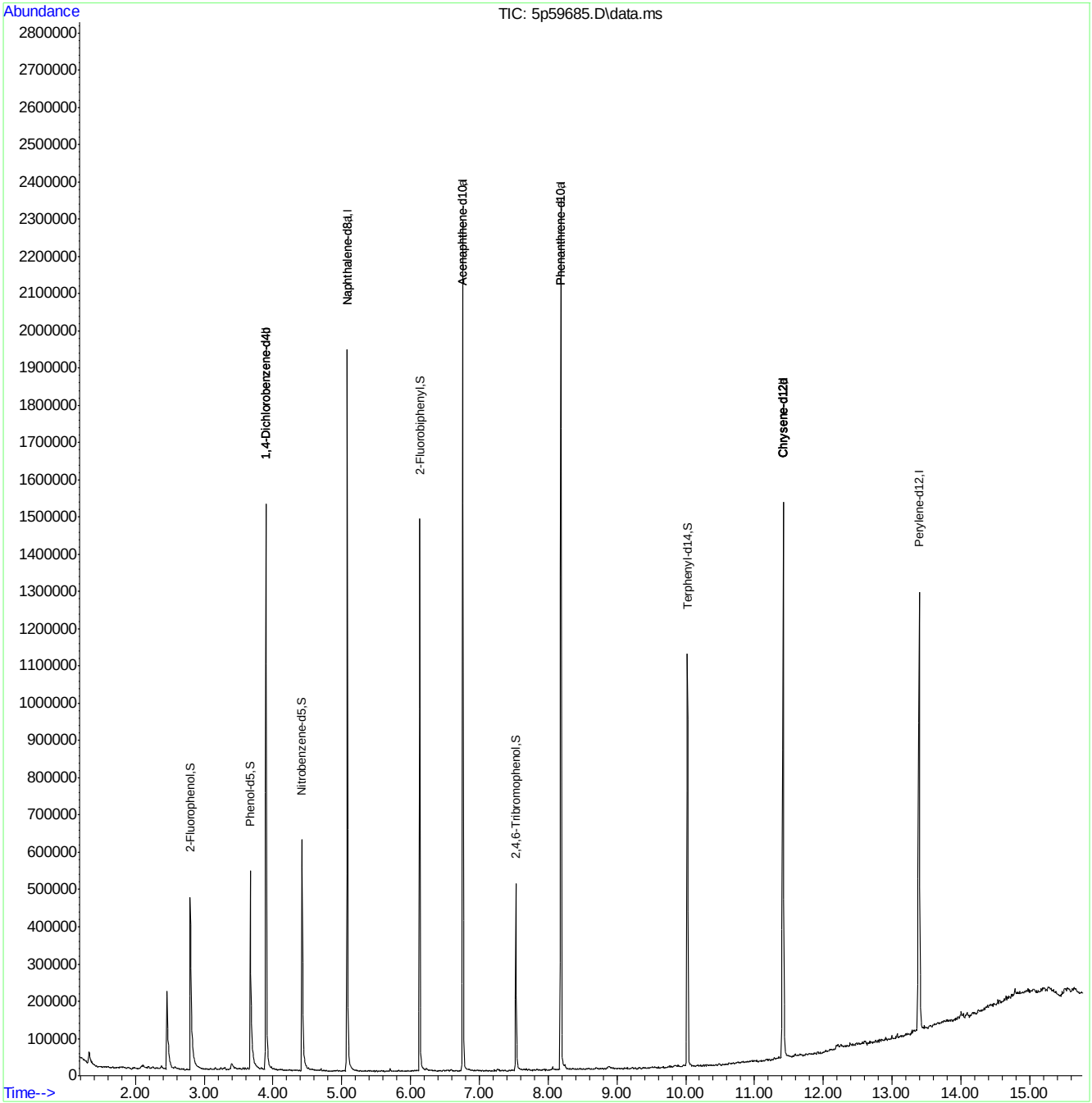
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 195768 | 40.00 | ppm | -0.06 |
| 24) Naphthalene-d8 | 5.077 | 136 | 726204 | 40.00 | ppm | -0.06 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 396653 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 713687 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 11.418 | 240 | 623823 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.394 | 264 | 575327 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 195768 | 40.00 | ppm | -0.06 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 396653 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 11.418 | 240 | 623823 | 40.00 | ppm | -0.11 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 713687 | 40.00 | ppm | -0.07 |
| 111) Naphthalene-d8a | 5.077 | 136 | 726204 | 40.00 | ppm | -0.06 |
| 113) Chrysene-d12b | 11.418 | 240 | 623750 | 40.00 | ppm | -0.11 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 195768 | 40.00 | ppm | -0.06 |
| 117) Chrysene-d12c | 11.418 | 240 | 623823 | 40.00 | ppm | -0.11 |
| 119) Chrysene-d12d | 11.418 | 240 | 623750 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.795 | 112 | 171633 | 22.51 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 45.02% | | | |
| 8) Phenol-d5 | 3.666 | 99 | 244841 | 25.52 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = 51.04% | | | |
| 25) Nitrobenzene-d5 | 4.419 | 82 | 243716 | 28.95 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 57.90% | | | |
| 51) 2-Fluorobiphenyl | 6.134 | 172 | 357482 | 25.93 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 51.86% | | | |
| 73) 2,4,6-Tribromophenol | 7.534 | 330 | 43384 | 21.09 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 42.18% | | | |
| 85) Terphenyl-d14 | 10.023 | 244 | 397415 | 25.04 | ppm | -0.11 |
| Spiked Amount 50.000 | | | Recovery = 50.08% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59685.D
Acq On : 16 May 2019 1:05 pm
Operator : christc2
Sample : op20269-mb1
Misc : op20269,e5p2816,30.0,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 16 13:38:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111986.d
Acq On : 18 May 2019 3:53 am
Operator : chriss2
Sample : op20269-mb1 Inst : MS2M
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:59:56 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:54:41 2019
Response via : Initial Calibration

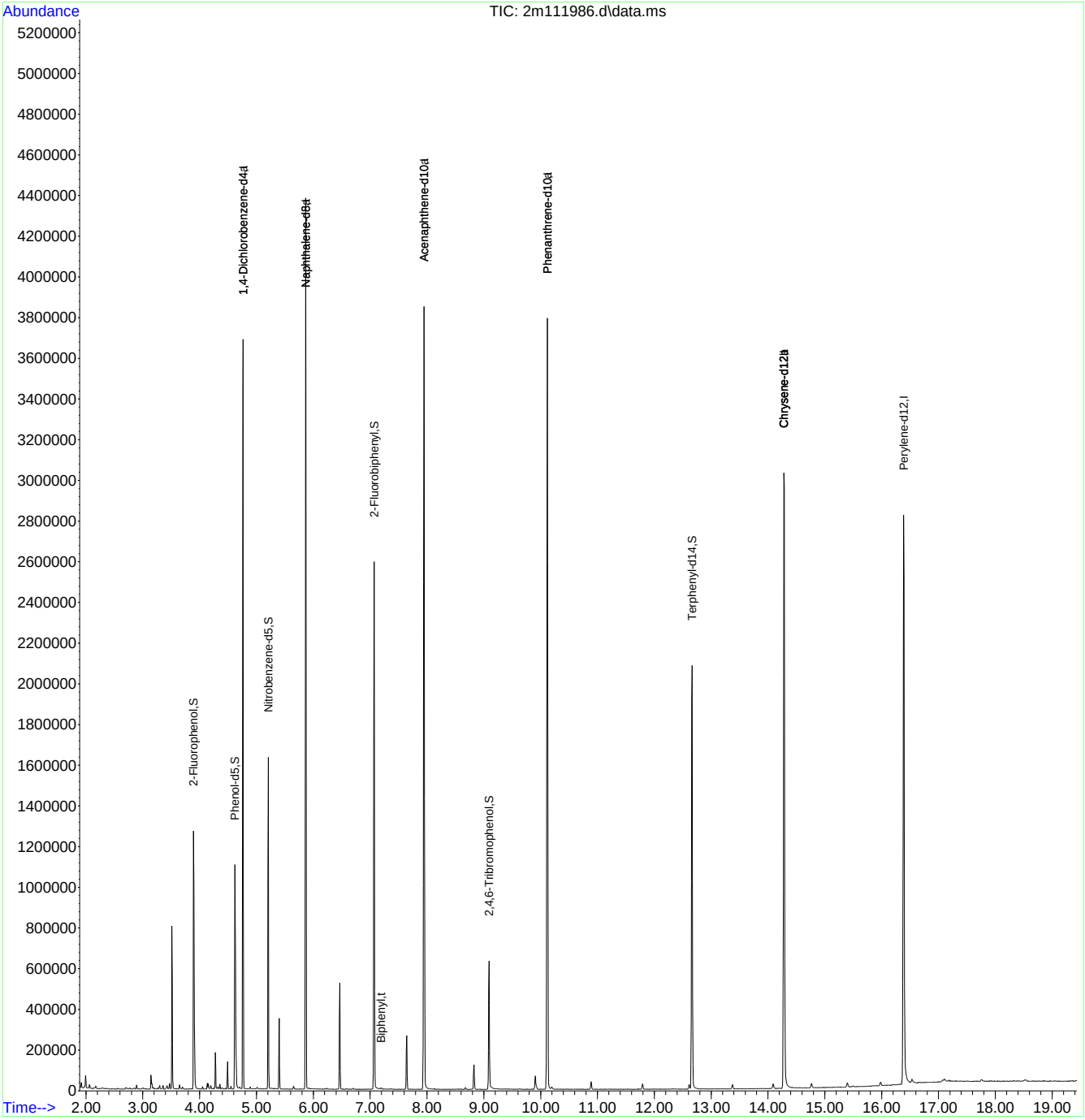
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 487684 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.866 | 136 | 1741884 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.947 | 164 | 914935 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.118 | 188 | 1598696 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.280 | 240 | 1369962 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.387 | 264 | 1334026 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 487684 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.947 | 164 | 914935 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.280 | 240 | 1369962 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.118 | 188 | 1598696 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.866 | 136 | 1741884 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.280 | 240 | 1369962 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.893 | 112 | 391675 | 22.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 44.28% | | | |
| 8) Phenol-d5 | 4.620 | 99 | 496217 | 22.76 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 45.52% | | | |
| 25) Nitrobenzene-d5 | 5.208 | 82 | 401789 | 26.51 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 53.02% | | | |
| 51) 2-Fluorobiphenyl | 7.070 | 172 | 825592 | 24.85 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 49.70% | | | |
| 73) 2,4,6-Tribromophenol | 9.091 | 330 | 73372 | 17.27 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 34.54% | | | |
| 85) Terphenyl-d14 | 12.664 | 244 | 825958 | 25.42 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.84% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 53) Biphenyl | 7.193 | 154 | 2035 | 0.05 | ppm | 98 |

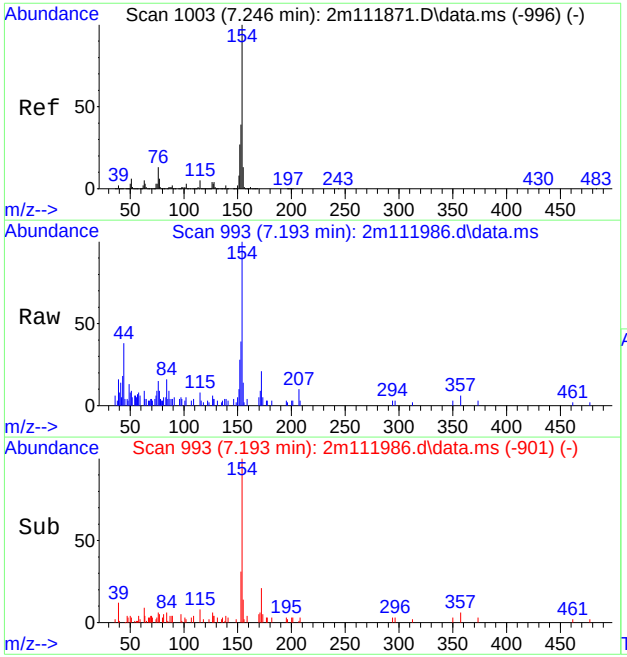
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111986.d
Acq On : 18 May 2019 3:53 am
Operator : chriss2
Sample : op20269-mb1 Inst : MS2M
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:59:56 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:54:41 2019
Response via : Initial Calibration

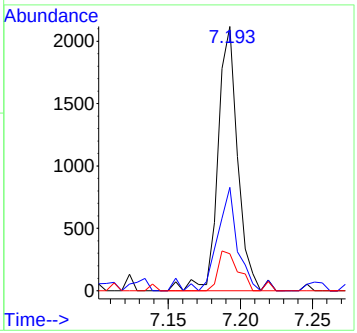





#53
Biphenyl
Concen: 0.05 ppm
RT: 7.193 min Scan# 993
Delta R.T. -0.005 min
Lab File: 2m111986.d
Acq: 18 May 2019 3:53 am

Tgt Ion:154 Resp: 2035

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 39.1 | 8.3 | 68.3 |
| 155 | 14.0 | 0.0 | 42.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481846.d
Acq On : 14 May 2019 4:49 pm
Operator : angelar
Sample : op20353-mb Inst : MS6P
Misc : op20353,e6p2590,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:06:12 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

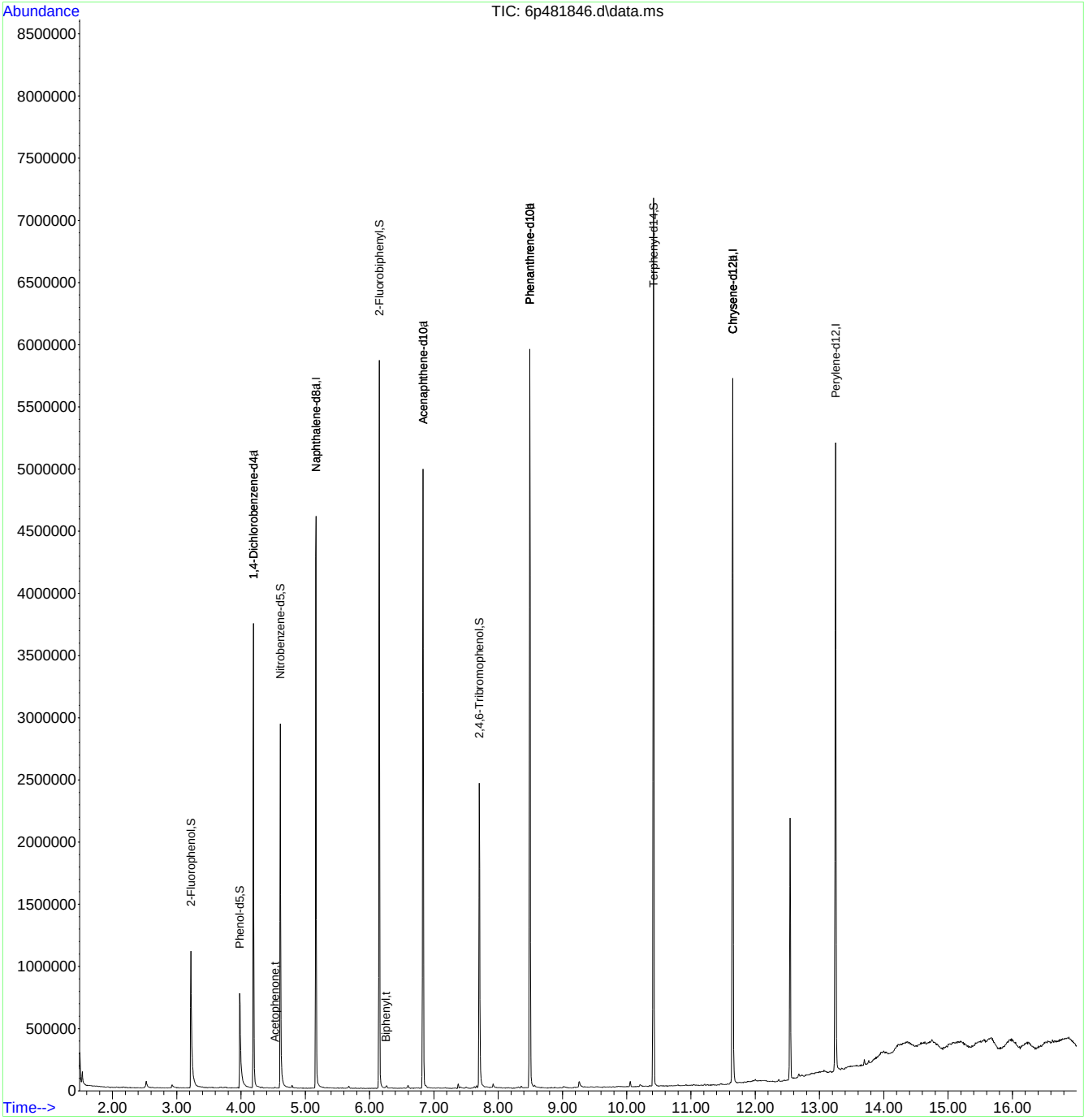
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 481982 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 1816747 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 1001674 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.494 | 188 | 2050685 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.649 | 240 | 1853759 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.248 | 264 | 1679424 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 481982 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 1001674 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.494 | 188 | 2050685 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.649 | 240 | 1853759 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.167 | 136 | 1816747 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.494 | 188 | 2050685 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.649 | 240 | 1853759 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.220 | 112 | 425589 | 30.18 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 60.36% | | |
| 8) Phenol-d5 | 3.979 | 99 | 384356 | 22.33 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 44.66% | | |
| 25) Nitrobenzene-d5 | 4.610 | 82 | 795176 | 52.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 105.18% | | |
| 51) 2-Fluorobiphenyl | 6.151 | 172 | 1580567 | 44.66 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 89.32% | | |
| 73) 2,4,6-Tribromophenol | 7.707 | 330 | 257113 | 38.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.92% | | |
| 85) Terphenyl-d14 | 10.419 | 244 | 2051875 | 47.51 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 95.02% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 18) Acetophenone | 4.525 | 105 | 3387 | 0.15 | ppm | 82 |
| 53) Biphenyl | 6.252 | 154 | 4025 | 0.11 | ppm | 85 |

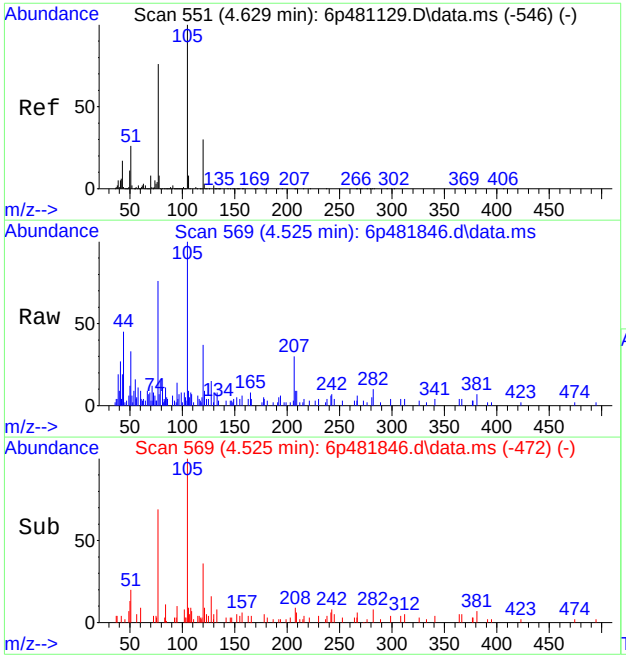
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481846.d
Acq On : 14 May 2019 4:49 pm
Operator : angelar
Sample : op20353-mb Inst : MS6P
Misc : op20353,e6p2590,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:06:12 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

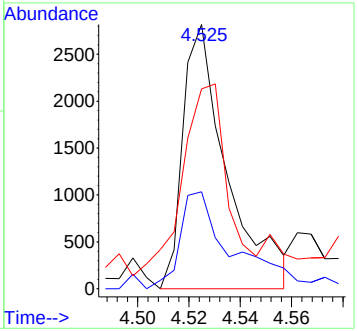


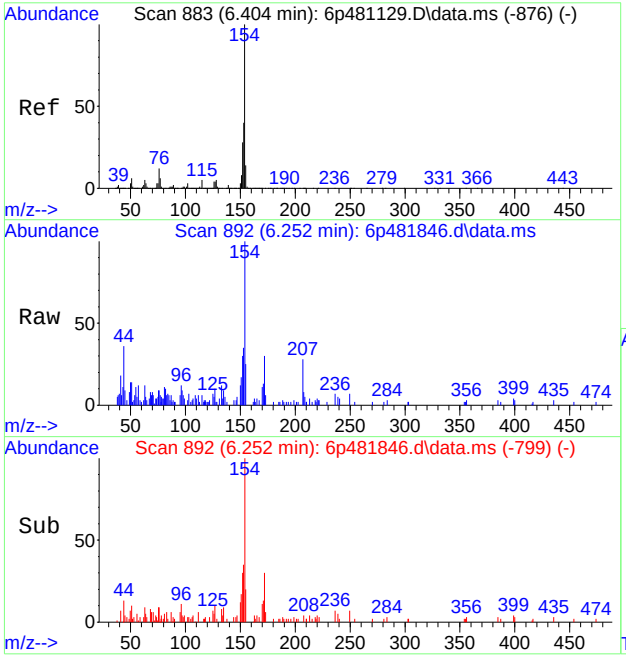



#18
Acetophenone
Concen: 0.15 ppm
RT: 4.525 min Scan# 569
Delta R.T. 0.021 min
Lab File: 6p481846.d
Acq: 14 May 2019 4:49 pm

Tgt Ion:105 Resp: 3387

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 33.3 | 0.0 | 59.5 |
| 77 | 60.5 | 50.1 | 110.1 |

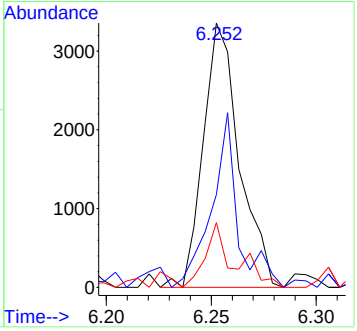



#53
Biphenyl
Concen: 0.11 ppm
RT: 6.252 min Scan# 892
Delta R.T. -0.000 min
Lab File: 6p481846.d
Acq: 14 May 2019 4:49 pm

Tgt Ion:154 Resp: 4025

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 31.3 | 9.1 | 69.1 |
| 155 | 21.5 | 0.0 | 42.8 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481847.d
Acq On : 14 May 2019 5:13 pm
Operator : angelar
Sample : op20353-lb34 Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:07:59 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

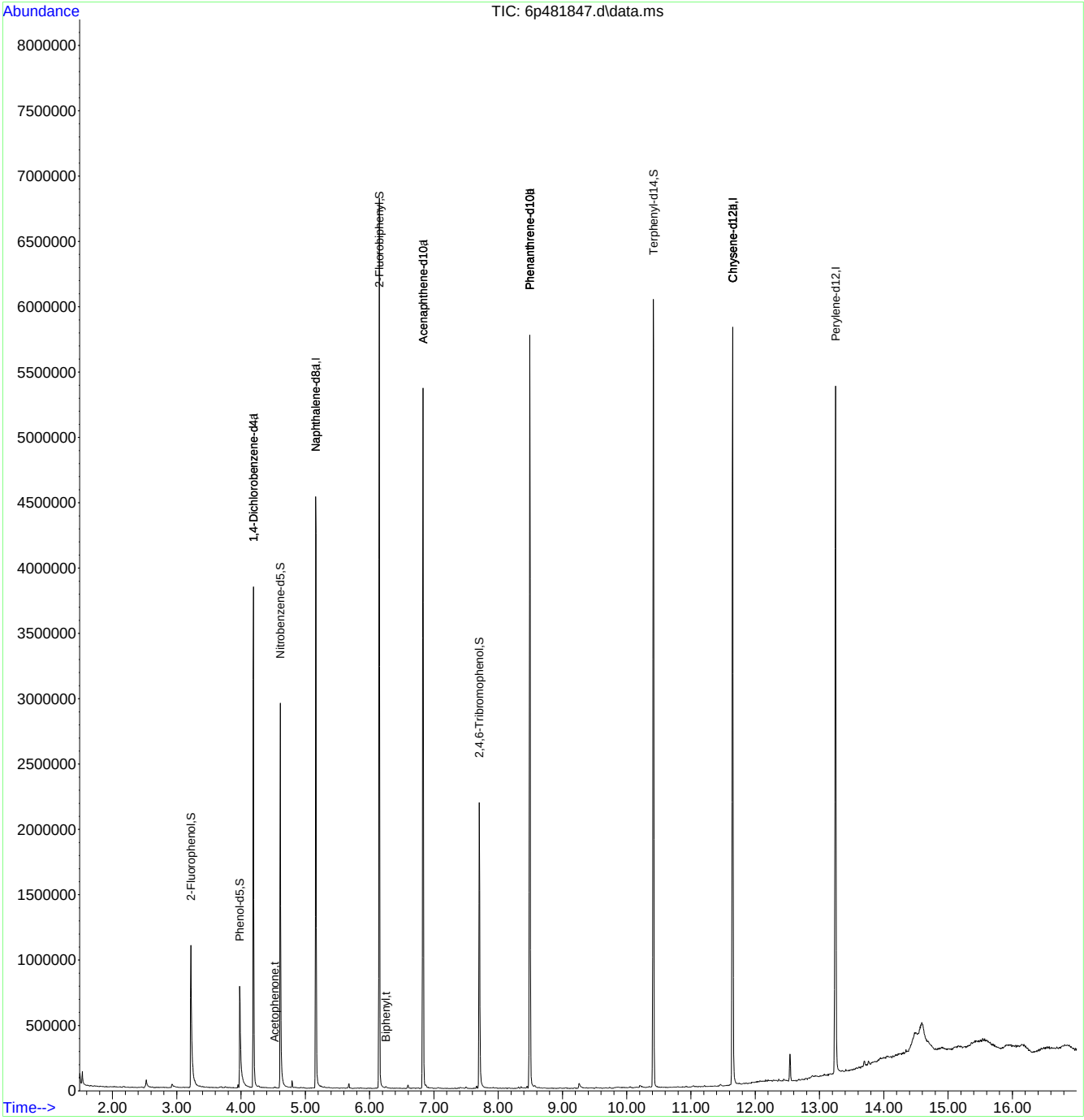
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 506474 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.161 | 136 | 1830935 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 1057032 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.494 | 188 | 2042043 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.649 | 240 | 1934479 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.249 | 264 | 1814881 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 506474 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 1057032 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.494 | 188 | 2042043 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.649 | 240 | 1934479 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.161 | 136 | 1830935 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.494 | 188 | 2042043 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.649 | 240 | 1934479 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.220 | 112 | 429777 | 29.01 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 58.02% | | |
| 8) Phenol-d5 | 3.979 | 99 | 385850 | 21.33 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 42.66% | | |
| 25) Nitrobenzene-d5 | 4.610 | 82 | 800629 | 52.54 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 105.08% | | |
| 51) 2-Fluorobiphenyl | 6.151 | 172 | 1703626 | 45.62 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 91.24% | | |
| 73) 2,4,6-Tribromophenol | 7.707 | 330 | 260106 | 39.58 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 79.16% | | |
| 85) Terphenyl-d14 | 10.414 | 244 | 2031753 | 45.08 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 90.16% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 18) Acetophenone | 4.520 | 105 | 3727 | 0.16 | ppm | 76 |
| 53) Biphenyl | 6.252 | 154 | 3594 | 0.09 | ppm | 90 |

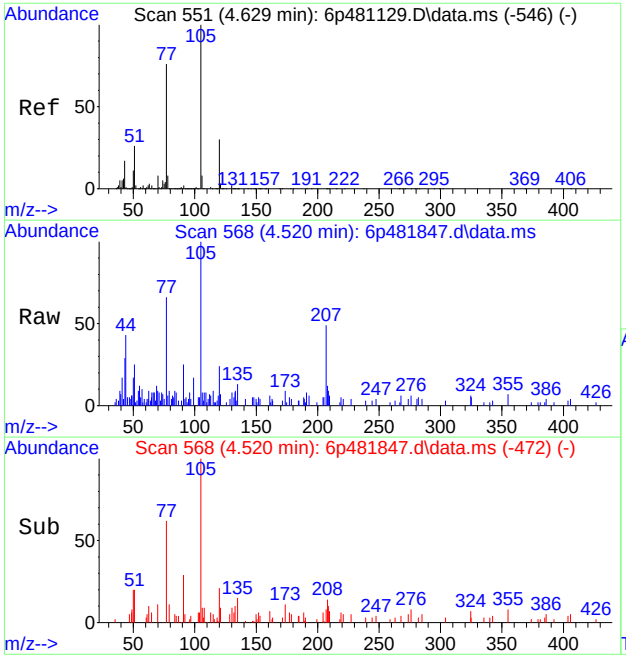
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481847.d
Acq On : 14 May 2019 5:13 pm
Operator : angelar
Sample : op20353-lb34 Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:07:59 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

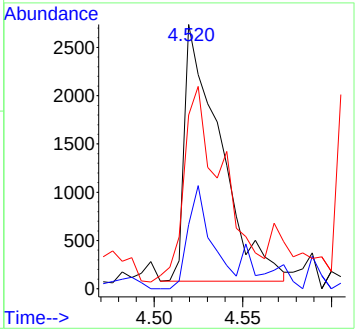


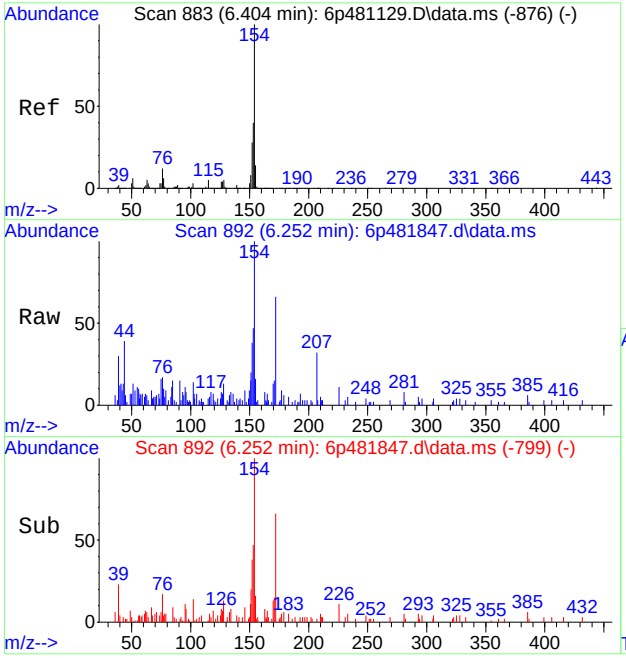



#18
Acetophenone
Concen: 0.16 ppm
RT: 4.520 min Scan# 568
Delta R.T. 0.016 min
Lab File: 6p481847.d
Acq: 14 May 2019 5:13 pm

Tgt Ion:105 Resp: 3727

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 20.7 | 0.0 | 59.5 |
| 77 | 56.9 | 50.1 | 110.1 |

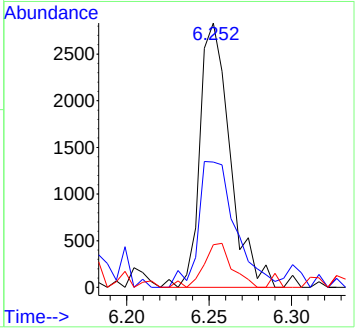



#53
Biphenyl
Concen: 0.09 ppm
RT: 6.252 min Scan# 892
Delta R.T. -0.000 min
Lab File: 6p481847.d
Acq: 14 May 2019 5:13 pm

Tgt Ion:154 Resp: 3594

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 45.6 | 9.1 | 69.1 |
| 155 | 16.2 | 0.0 | 42.8 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154395.d
Acq On : 15 May 2019 11:18 am
Operator : christc2
Sample : op20268-bs1 Inst : MSM
Misc : op20268,em6594,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:40:00 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.374 | 152 | 292428 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.426 | 136 | 944400 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.626 | 164 | 528409 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.174 | 188 | 1017732 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.280 | 240 | 991888 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.871 | 264 | 990798 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.374 | 152 | 292428 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.626 | 164 | 528409 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.280 | 240 | 991888 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.280 | 240 | 991199 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.174 | 188 | 1017732 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.426 | 136 | 944400 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.280 | 240 | 991888 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.460 | 112 | 400178 | 35.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 70.00% | | |
| 8) Phenol-d5 | 4.197 | 99 | 496668 | 35.18 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 70.36% | | |
| 25) Nitrobenzene-d5 | 4.801 | 82 | 395583 | 39.26 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.52% | | |
| 51) 2-Fluorobiphenyl | 6.676 | 172 | 760386 | 38.71 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.42% | | |
| 73) 2,4,6-Tribromophenol | 8.956 | 330 | 164665 | 48.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 96.18% | | |
| 85) Terphenyl-d14 | 13.320 | 244 | 1068772 | 39.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 79.92% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.847 | 88 | 116614 | 20.16 | ppm | 100 |
| 3) Pyridine | 2.195 | 79 | 380319 | 27.30 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.157 | 42 | 128101 | 25.85 | ppm | 94 |
| 6) Indene | 4.566 | 116 | 674300 | 43.61 | ppm | 100 |
| 7) Cumene | 3.776 | 105 | 859905 | 31.48 | ppm | 98 |
| 9) Phenol | 4.208 | 94 | 551429 | 37.16 | ppm | 98 |
| 10) Aniline | 4.149 | 93 | 501462 | 33.74 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.187 | 93 | 435755 | 42.46 | ppm | 98 |
| 12) 2-Chlorophenol | 4.251 | 128 | 397036 | 38.95 | ppm | 98 |
| 13) Decane | 4.267 | 43 | 312729 | 40.17 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 4.331 | 146 | 409626 | 34.60 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.390 | 146 | 400045 | 37.21 | ppm | 97 |
| 16) Benzyl alcohol | 4.502 | 108 | 260043 | 43.30 | ppm | 85 |
| 17) 1,2-Dichlorobenzene | 4.497 | 146 | 437126 | 41.08 | ppm | 98 |
| 18) Acetophenone | 4.678 | 105 | 540629 | 40.18 | ppm | 93 |
| 19) 2-Methylphenol | 4.625 | 108 | 387408 | 45.15 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.582 | 121 | 105095 | 39.61 | ppm # | 84 |
| 21) 3&4-Methylphenol | 4.742 | 108 | 418901 | 48.55 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.684 | 70 | 294707 | 43.91 | ppm | 97 |
| 23) Hexachloroethane | 4.753 | 201 | 146582 | 32.27 | ppm | 89 |
| 26) Nitrobenzene | 4.812 | 77 | 390490 | 39.92 | ppm | 90 |
| 27) Quinoline | 5.794 | 129 | 722244 | 40.37 | ppm | 99 |
| 28) Isophorone | 5.009 | 82 | 720079 | 39.46 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154395.d
Acq On : 15 May 2019 11:18 am
Operator : christc2
Sample : op20268-bs1 Inst : MSM
Misc : op20268,em6594,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:40:00 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 29) 2-Nitrophenol | 5.084 | 139 | 217745 | 48.12 | ppm | 84 |
| 30) 2,4-Dimethylphenol | 5.159 | 107 | 376369 | 50.23 | ppm | 96 |
| 31) Benzoic acid | 5.308 | 105 | 358633 | 60.21 | ppm | 95 |
| 32) bis(2-Chloroethoxy)met... | 5.207 | 93 | 449689 | 40.61 | ppm | 97 |
| 33) 2,4-Dichlorophenol | 5.335 | 162 | 321131 | 40.87 | ppm | 98 |
| 34) 2,6-Dichlorophenol | 5.533 | 162 | 317052 | 44.52 | ppm | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.372 | 180 | 346956 | 36.13 | ppm | 96 |
| 38) Naphthalene | 5.447 | 128 | 1012368 | 43.78 | ppm | 100 |
| 39) 4-Chloroaniline | 5.522 | 127 | 265529 | 25.91 | ppm | 97 |
| 40) 2,3-Dichloroaniline | 6.569 | 161 | 358439 | 35.78 | ppm | 99 |
| 41) Caprolactam | 5.896 | 55 | 182159 | 50.11 | ppm | 98 |
| 42) Hexachlorobutadiene | 5.575 | 225 | 195123 | 34.09 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 6.110 | 107 | 329986 | 40.58 | ppm | 94 |
| 44) 2-Methylnaphthalene | 6.195 | 141 | 548735 | 37.42 | ppm | 97 |
| 45) 1-Methylnaphthalene | 6.318 | 142 | 711536 | 38.17 | ppm | 99 |
| 46) Dimethylnaphthalene | 7.023 | 156 | 643353 | 39.64 | ppm | 98 |
| 48) Hexachlorocyclopentadiene | 6.398 | 237 | 430072 | 83.70 | ppm | 97 |
| 49) 2,4,6-Trichlorophenol | 6.590 | 196 | 255902 | 44.73 | ppm | 93 |
| 50) 2,4,5-Trichlorophenol | 6.665 | 196 | 288587 | 47.01 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.820 | 162 | 654049 | 40.23 | ppm | 99 |
| 53) Biphenyl | 6.804 | 154 | 892344 | 42.04 | ppm | 99 |
| 54) 2-Nitroaniline | 7.002 | 65 | 218358 | 49.81 | ppm | 89 |
| 55) Dimethylphthalate | 7.274 | 163 | 766390 | 38.59 | ppm | 99 |
| 56) Acenaphthylene | 7.407 | 152 | 1044465 | 40.92 | ppm | 98 |
| 57) 2,6-Dinitrotoluene | 7.354 | 165 | 176731 | 47.51 | ppm | 99 |
| 58) 3-Nitroaniline | 7.626 | 138 | 159390 | 34.75 | ppm | 94 |
| 59) Acenaphthene | 7.680 | 153 | 680348 | 44.02 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 7.787 | 184 | 249485 | 114.75 | ppm | 96 |
| 61) 4-Nitrophenol | 8.075 | 109 | 79484 | 31.22 | ppm | 95 |
| 62) Dibenzofuran | 7.958 | 168 | 921245 | 39.87 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.990 | 165 | 221024 | 42.27 | ppm | 91 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.214 | 232 | 221915 | 40.37 | ppm | 98 |
| 65) Diethylphthalate | 8.433 | 149 | 766082 | 39.92 | ppm | 98 |
| 66) Fluorene | 8.524 | 166 | 809026 | 42.19 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.561 | 204 | 371580 | 37.31 | ppm | 97 |
| 68) 4-Nitroaniline | 8.641 | 138 | 191387 | 46.83 | ppm | 96 |
| 70) 4,6-Dinitro-2-methylph... | 8.679 | 198 | 164657 | 51.70 | ppm | 90 |
| 71) n-Nitrosodiphenylamine | 8.785 | 169 | 500342 | 36.98 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 8.834 | 77 | 849029 | 45.76 | ppm | 99 |
| 74) 4-Bromophenyl-phenylether | 9.416 | 248 | 265894 | 38.26 | ppm | 100 |
| 75) Hexachlorobenzene | 9.490 | 284 | 319303 | 41.37 | ppm | 98 |
| 76) Pentachlorophenol | 9.907 | 266 | 197017 | 45.83 | ppm | 98 |
| 77) Phenanthrene | 10.217 | 178 | 1229820 | 48.74 | ppm | 99 |
| 78) Anthracene | 10.308 | 178 | 1131788 | 42.58 | ppm | 99 |
| 79) Carbazole | 10.687 | 167 | 1103365 | 43.18 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.488 | 149 | 1399065 | 45.45 | ppm | 99 |
| 81) Fluoranthene | 12.471 | 202 | 1367660 | 41.00 | ppm | 96 |
| 82) Octadecane | 10.211 | 57 | 500000 | 61.20 | ppm | 99 |
| 84) Pyrene | 12.887 | 202 | 1390642 | 38.29 | ppm | 98 |
| 86) Butylbenzylphthalate | 14.388 | 149 | 605393 | 40.59 | ppm | 92 |
| 87) Benzo[a]anthracene | 15.264 | 228 | 1306316 | 38.47 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 15.323 | 252 | 981862 | 85.60 | ppm | 98 |
| 89) Chrysene | 15.328 | 228 | 1314025 | 43.53 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 15.611 | 149 | 830980 | 41.39 | ppm | 98 |
| 92) Di-n-octylphthalate | 16.829 | 149 | 1322236 | 40.08 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 17.240 | 252 | 1359399 | 43.55 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.294 | 252 | 1156056 | 38.91 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154395.d
Acq On : 15 May 2019 11:18 am
Operator : christc2
Sample : op20268-bs1 Inst : MSM
Misc : op20268,em6594,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:40:00 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

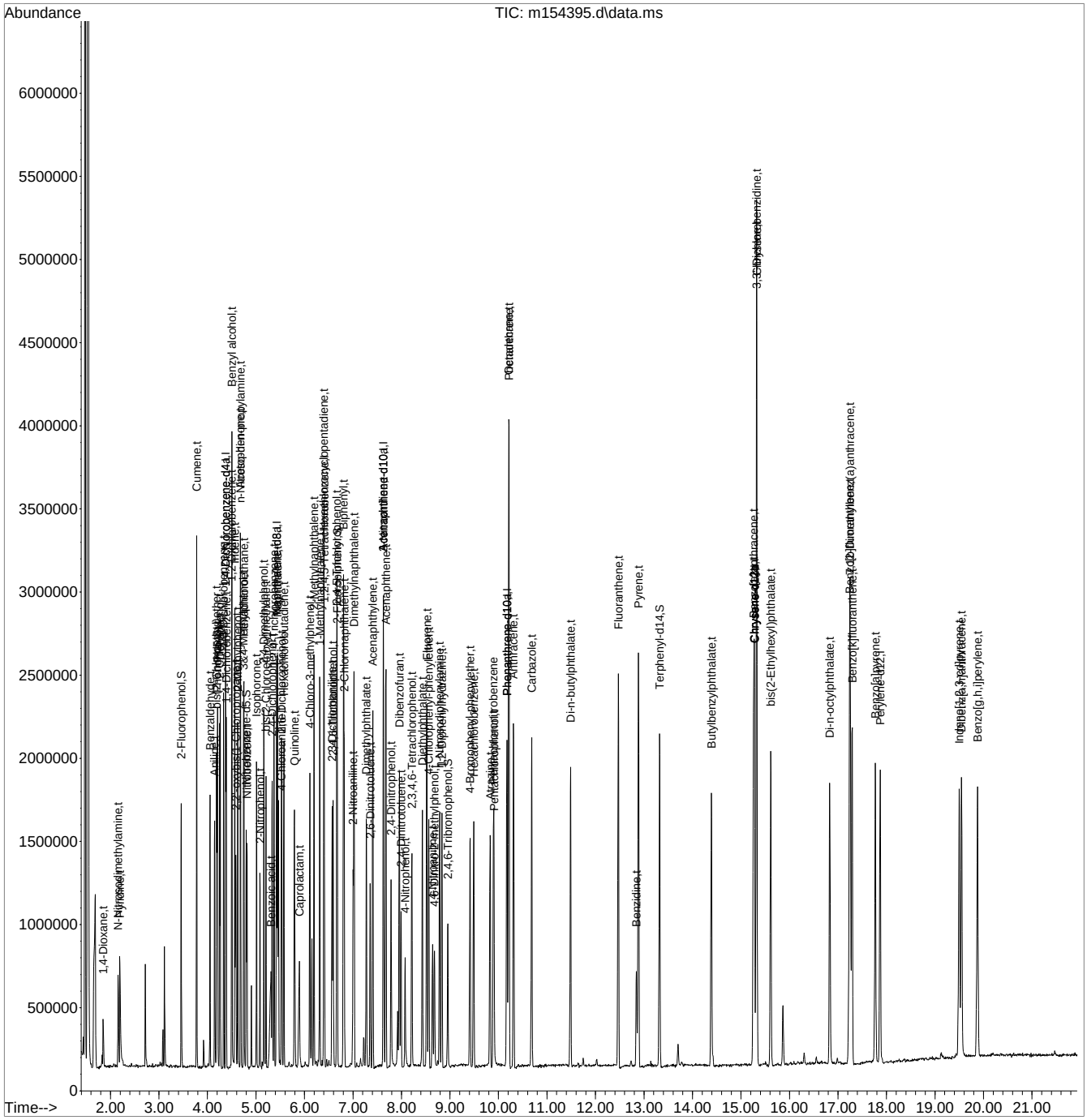
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 95) Benzo[a]pyrene | 17.769 | 252 | 1087354 | 39.68 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 19.500 | 276 | 1052757 | 38.65 | ppm | 94 |
| 98) Dibenz[a,h]anthracene | 19.548 | 278 | 1096799 | 43.43 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 17.251 | 256 | 564751 | 47.18 | ppm | 96 |
| 100) Benzo[g,h,i]perylene | 19.879 | 276 | 1114851 | 42.90 | ppm | 97 |
| 102) Benzaldehyde | 4.053 | 105 | 263212 | 32.08 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.409 | 216 | 350747 | 38.86 | ppm | 97 |
| 105) Atrazine | 9.832 | 215 | 123492 | 49.89 | ppm | 97 |
| 107) Benzidine | 12.845 | 184 | 364530 | 19.46 | ppm | 98 |
| 112) Pentachloronitrobenzene | 9.896 | 295 | 54089 | 45.07 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154395.d
Acq On : 15 May 2019 11:18 am
Operator : christc2
Sample : op20268-bs1 Inst : MSM
Misc : op20268,em6594,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:40:00 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/20/19 13:20

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4980\
Data File : 2m111987.D
Acq On : 18 May 2019 4:20 am
Operator : chriss2
Sample : op20269-bs1
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 04:55:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 429671 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.871 | 136 | 1593366 | 40.00 | ppm | -0.04 |
| 47) Acenaphthene-d10 | 7.952 | 164 | 860039 | 40.00 | ppm | -0.05 |
| 69) Phenanthrene-d10 | 10.118 | 188 | 1508459 | 40.00 | ppm | -0.05 |
| 83) Chrysene-d12 | 14.290 | 240 | 1206144 | 40.00 | ppm | -0.05 |
| 91) Perylene-d12 | 16.392 | 264 | 1251888 | 40.00 | ppm | -0.05 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 429671 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 7.952 | 164 | 860039 | 40.00 | ppm | -0.05 |
| 105) Chrysene-d12a | 14.290 | 240 | 1206144 | 40.00 | ppm | -0.05 |
| 107) Phenanthrene-d10a | 10.118 | 188 | 1508459 | 40.00 | ppm | -0.05 |
| 112) Naphthalene-d8a | 5.871 | 136 | 1593366 | 40.00 | ppm | -0.04 |
| 114) Chrysene-d12b | 14.290 | 240 | 1206144 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.887 | 112 | 637492 | 40.89 | ppm | 0.09 |
| Spiked Amount 50.000 | | | Recovery = 81.78% | | | |
| 8) Phenol-d5 | 4.604 | 99 | 837797 | 43.61 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 87.22% | | | |
| 25) Nitrobenzene-d5 | 5.208 | 82 | 631896 | 45.58 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 91.16% | | | |
| 51) 2-Fluorobiphenyl | 7.075 | 172 | 1331905 | 42.64 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 85.28% | | | |
| 73) 2,4,6-Tribromophenol | 9.091 | 330 | 188194 | 46.94 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = 93.88% | | | |
| 85) Terphenyl-d14 | 12.664 | 244 | 1375830 | 48.10 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 96.20% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.347 | 88 | 187845 | 25.05 | ppm | 94 |
| 3) Pyridine | 2.657 | 79 | 536820 | 28.46 | ppm | 96 |
| 4) N-Nitrosodimethylamine | 2.625 | 74 | 352831 | 31.02 | ppm | 96 |
| 6) Indene | 4.968 | 116 | 1059743 | 42.07 | ppm | 100 |
| 7) Cumene | 4.165 | 105 | 1386669 | 35.18 | ppm | 100 |
| 9) Phenol | 4.614 | 94 | 833409 | 39.80 | ppm | 96 |
| 10) Aniline | 4.518 | 93 | 542984 | 23.83 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.556 | 93 | 656490 | 39.95 | ppm | 99 |
| 12) 2-Chlorophenol | 4.663 | 128 | 679662 | 41.62 | ppm | 97 |
| 13) Decane | 4.641 | 43 | 506838 | 33.77 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.721 | 146 | 659554 | 37.22 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.775 | 146 | 663372 | 37.52 | ppm | 99 |
| 16) Benzyl alcohol | 4.887 | 108 | 386538 | 39.60 | ppm | 94 |
| 17) 1,2-Dichlorobenzene | 4.898 | 146 | 623678 | 37.21 | ppm | 99 |
| 18) Acetophenone | 5.080 | 105 | 799584 | 39.16 | ppm | 83 |
| 19) 2-Methylphenol | 5.042 | 108 | 609065 | 44.74 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.978 | 45 | 728964 | 42.94 | ppm | 98 |
| 21) 3&4-Methylphenol | 5.165 | 108 | 625357 | 48.46 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 5.080 | 70 | 406431 | 38.59 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4980\
Data File : 2m111987.D
Acq On : 18 May 2019 4:20 am
Operator : chriss2
Sample : op20269-bs1
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 04:55:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.176 | 201 | 188417 | 38.52 | ppm | | 90 |
| 26) Nitrobenzene | 5.230 | 77 | 640844 | 43.44 | ppm | | 95 |
| 27) Quinoline | 6.230 | 129 | 1301332 | 43.32 | ppm | | 98 |
| 28) Isophorone | 5.433 | 82 | 1081050 | 40.48 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.508 | 139 | 310114 | 51.86 | ppm | | 99 |
| 30) 2,4-Dimethylphenol | 5.593 | 107 | 634200 | 53.71 | ppm | | 99 |
| 31) Benzoic acid | 5.727 | 105 | 381285m | 54.75 | ppm | | |
| 32) bis(2-Chloroethoxy)met... | 5.625 | 93 | 707447 | 39.47 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 5.813 | 162 | 510482 | 44.39 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.973 | 162 | 532782 | 46.96 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.813 | 180 | 487149 | 40.49 | ppm | | 98 |
| 38) Naphthalene | 5.893 | 128 | 1819867 | 40.76 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.946 | 127 | 369084 | 20.75 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.973 | 161 | 574670 | 39.84 | ppm | | 99 |
| 41) Caprolactam | 6.315 | 55 | 298880 | 46.35 | ppm | | 98 |
| 42) Hexachlorobutadiene | 6.021 | 225 | 268468 | 44.88 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.556 | 107 | 561982 | 48.90 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 6.631 | 141 | 964717 | 42.04 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.743 | 141 | 1049099 | 41.05 | ppm | | 99 |
| 46) Dimethylnaphthalene | 7.396 | 156 | 1143133 | 43.53 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 6.829 | 237 | 420643 | 93.25 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 7.005 | 196 | 355341 | 54.18 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 7.134 | 196 | 364630 | 51.23 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 7.219 | 162 | 1126172 | 43.38 | ppm | | 99 |
| 53) Biphenyl | 7.198 | 154 | 1515795 | 43.16 | ppm | | 100 |
| 54) 2-Nitroaniline | 7.364 | 65 | 330143 | 49.88 | ppm | | 93 |
| 55) Dimethylphthalate | 7.604 | 163 | 1340416 | 46.65 | ppm | | 100 |
| 56) Acenaphthylene | 7.754 | 152 | 1825882 | 44.78 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 7.674 | 165 | 278517 | 49.78 | ppm | | 97 |
| 58) 3-Nitroaniline | 7.915 | 138 | 222917 | 32.54 | ppm | | 97 |
| 59) Acenaphthene | 7.995 | 153 | 1228898 | 46.19 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 8.054 | 184 | 210885 | 105.94 | ppm | # | 33 |
| 61) 4-Nitrophenol | 8.433 | 109 | 181218 | 51.09 | ppm | | 93 |
| 62) Dibenzofuran | 8.236 | 168 | 1550282 | 42.09 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 8.230 | 165 | 373968 | 48.87 | ppm | | 90 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.460 | 232 | 282663 | 49.38 | ppm | | 98 |
| 65) Diethylphthalate | 8.599 | 149 | 1290147 | 47.04 | ppm | | 99 |
| 66) Fluorene | 8.722 | 166 | 1379474 | 47.10 | ppm | | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.744 | 204 | 600458 | 45.77 | ppm | | 97 |
| 68) 4-Nitroaniline | 8.792 | 138 | 318558 | 44.17 | ppm | | 97 |
| 70) 4,6-Dinitro-2-methylph... | 8.819 | 198 | 189980 | 55.76 | ppm | | 98 |
| 71) n-Nitrosodiphenylamine | 8.920 | 169 | 900280 | 37.82 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 8.974 | 77 | 1314693 | 40.58 | ppm | | 100 |
| 74) 4-Bromophenyl-phenylether | 9.466 | 248 | 341193 | 43.60 | ppm | | 99 |
| 75) Hexachlorobenzene | 9.546 | 284 | 362464 | 42.98 | ppm | | 99 |
| 76) Pentachlorophenol | 9.899 | 266 | 211641 | 40.61 | ppm | | 99 |
| 77) Phenanthrene | 10.156 | 178 | 1870762 | 42.62 | ppm | | 99 |
| 78) Anthracene | 10.236 | 178 | 1782583 | 41.29 | ppm | | 100 |
| 79) Carbazole | 10.519 | 167 | 1766265 | 40.59 | ppm | | 100 |
| 80) Di-n-butylphthalate | 11.129 | 149 | 2094973 | 45.92 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4980\
Data File : 2m111987.D
Acq On : 18 May 2019 4:20 am
Operator : chriss2
Sample : op20269-bs1
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 04:55:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

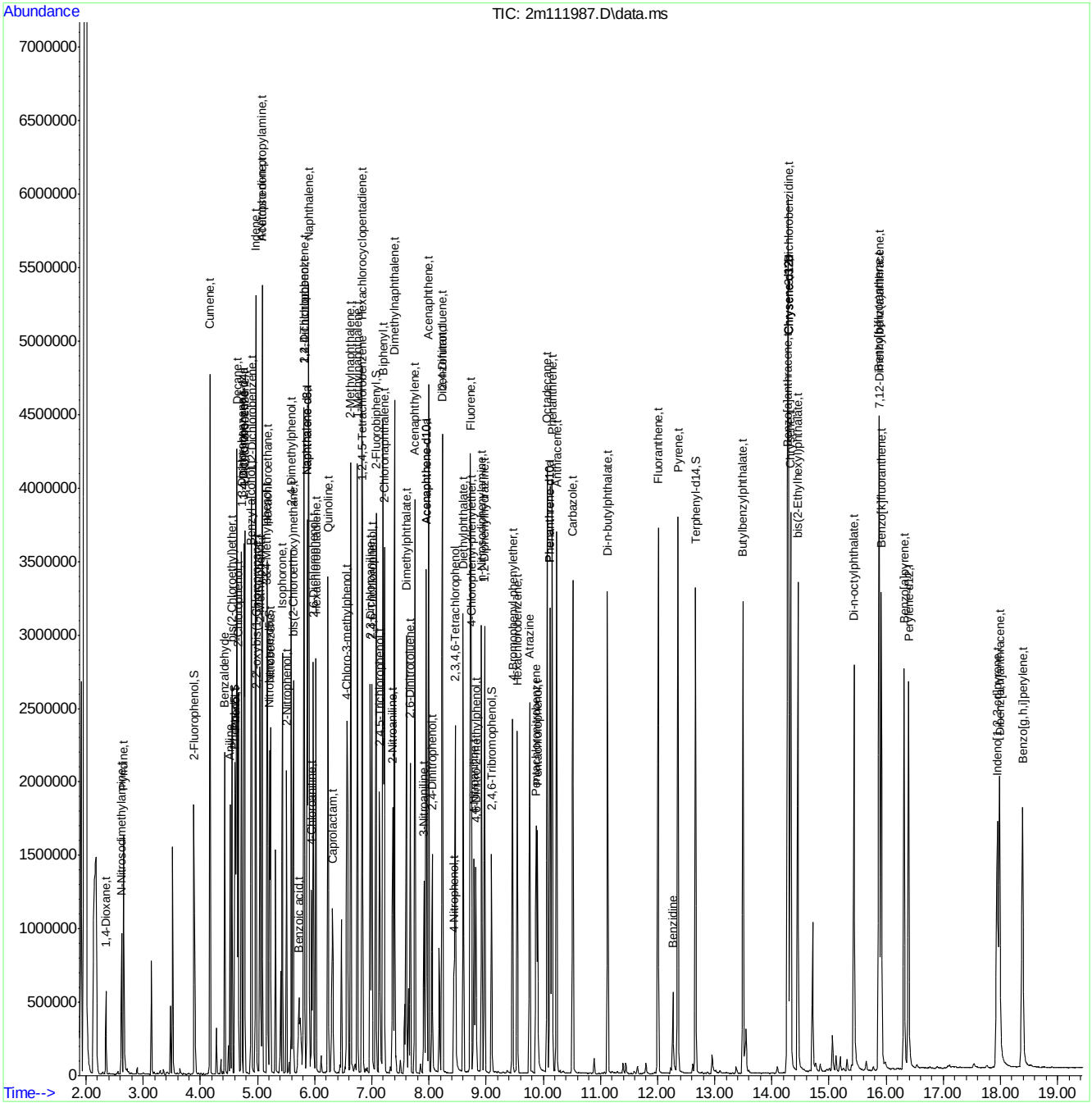
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 81) Fluoranthene | 12.012 | 202 | 1905870 | 45.17 | ppm | 98 |
| 82) Octadecane | 10.070 | 57 | 885646 | 43.77 | ppm | 99 |
| 84) Pyrene | 12.359 | 202 | 1968907 | 43.60 | ppm | 99 |
| 86) Butylbenzylphthalate | 13.493 | 149 | 894439 | 40.94 | ppm | 99 |
| 87) Benzo[a]anthracene | 14.269 | 228 | 1560446 | 42.51 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.285 | 252 | 808513 | 66.60 | ppm | 97 |
| 89) Chrysene | 14.328 | 228 | 1726275 | 43.24 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 14.456 | 149 | 1210530 | 41.01 | ppm | 99 |
| 92) Di-n-octylphthalate | 15.435 | 149 | 1868354 | 39.09 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 15.873 | 252 | 1633811 | 46.06 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 15.916 | 252 | 1686663 | 47.21 | ppm | 97 |
| 95) Benzo[a]pyrene | 16.312 | 252 | 1380277 | 43.63 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 17.943 | 276 | 1262414 | 43.05 | ppm | 96 |
| 98) Dibenz[a,h]anthracene | 17.986 | 278 | 1381911 | 43.18 | ppm | 97 |
| 99) 7,12-Dimethylbenz(a)an... | 15.879 | 256 | 569415 | 35.13 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 18.387 | 276 | 1375127 | 45.90 | ppm | 98 |
| 102) Benzaldehyde | 4.427 | 105 | 329432 | 24.64 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.834 | 216 | 431420 | 40.55 | ppm | 98 |
| 106) Benzidine | 12.268 | 184 | 310986 | 15.55 | ppm | 99 |
| 108) Atrazine | 9.765 | 215 | 192402 | 51.12 | ppm | 96 |
| 111) Pentachloronitrobenzene | 9.878 | 295 | 62096 | 48.39 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4980\
Data File : 2m111987.D
Acq On : 18 May 2019 4:20 am
Operator : chriss2
Sample : op20269-bs1
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 04:55:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



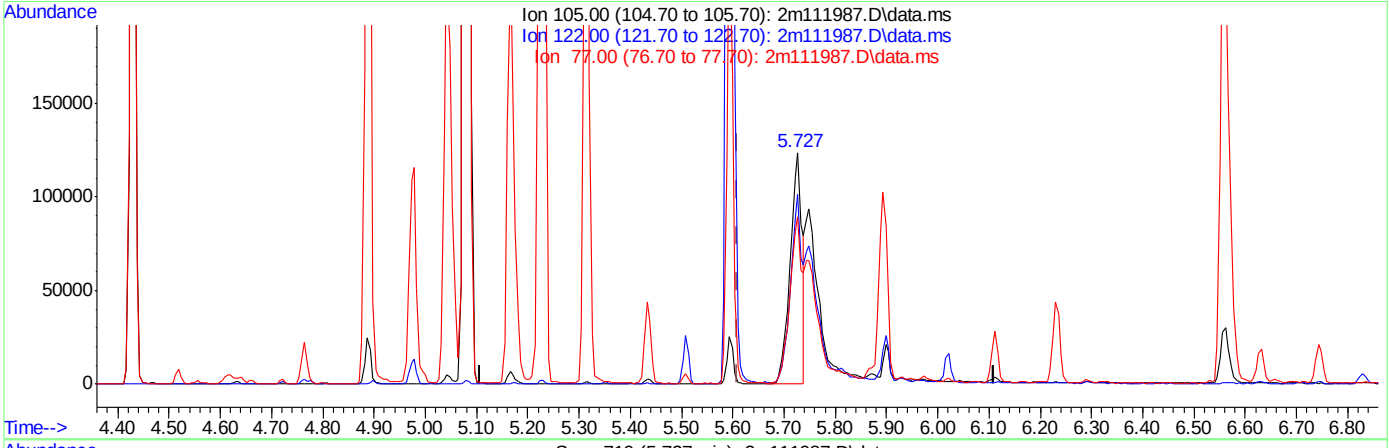
| | | | |
|---|---|---|---|
| **Sample Number:** | OP20269-BS1 | **Method:** | SW846 8270D |
| **Lab FileID:** | 2M111987.D | **Analyst approved:** | 05/18/19 04:57 Christopher Sowa |
| **Injection Time:** | 05/18/19 04:20 | **Supervisor approved:** | 05/20/19 13:20 Nancy Ma |

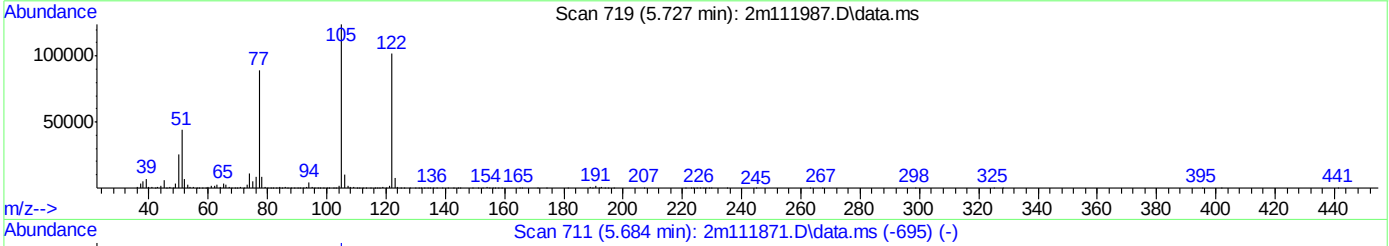
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 5.73 | Split peak |

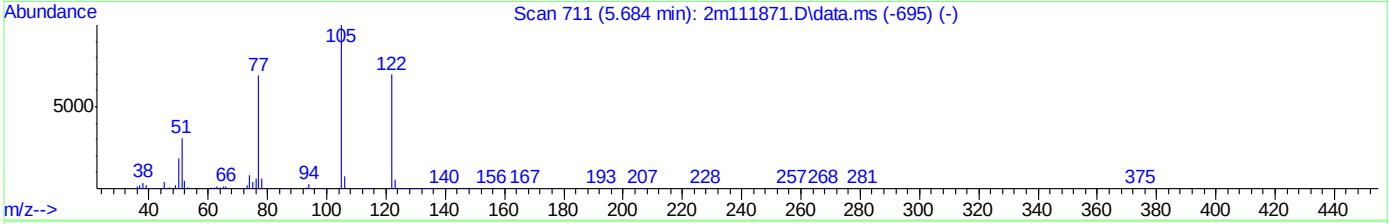
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4980\
Data File : 2m111987.D
Acq On : 18 May 2019 4:20 am
Operator : chriss2
Sample : op20269-bs1
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 04:39:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration




TIC: 2m111987.D\data.ms

(31) Benzoic acid (t)

5.727min (+0.118) 28.89ppm

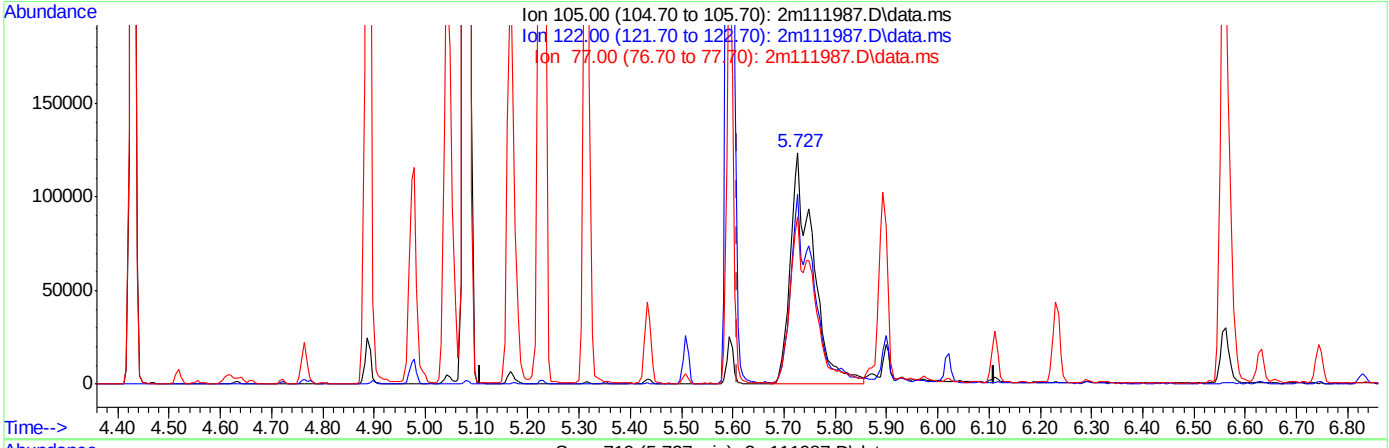
response 199353

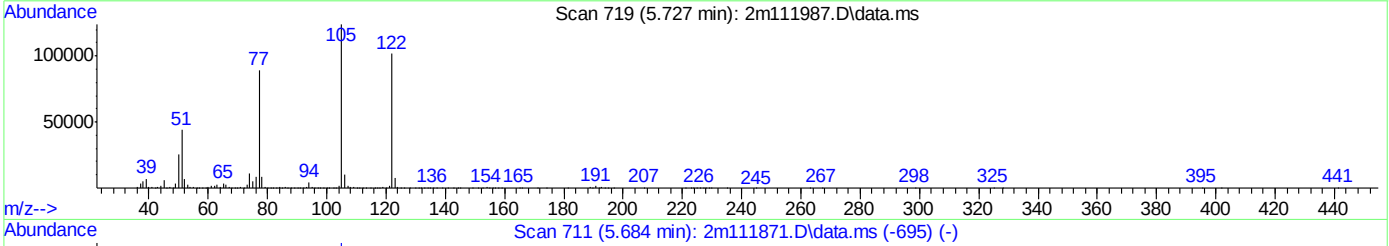
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 75.90 | 82.30 |
| 77.00 | 70.70 | 70.68 |
| 0.00 | 0.00 | 0.00 |

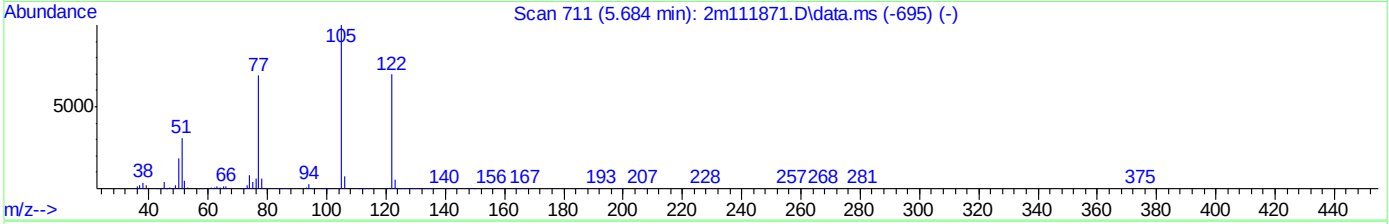
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4980\
Data File : 2m111987.D
Acq On : 18 May 2019 4:20 am
Operator : chriss2
Sample : op20269-bs1
Misc : op20269,e2m4980,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 04:39:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration




TIC: 2m111987.D\data.ms

(31) Benzoic acid (t)

5.727min (+0.118) 54.75ppm m

response 381285

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 75.90 | 82.03 |
| 77.00 | 70.70 | 72.24 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481850.d
Acq On : 14 May 2019 6:26 pm
Operator : angelar
Sample : op20353-bs Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:14:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 472675 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 1772109 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 975126 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.493 | 188 | 1786192 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.649 | 240 | 1755658 | 40.00 | ppm | | -0.01 |
| 91) Perylene-d12 | 13.248 | 264 | 1637956 | 40.00 | ppm | | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 472675 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 975126 | 40.00 | ppm | | 0.00 |
| 105) Phenanthrene-d10a | 8.493 | 188 | 1786192 | 40.00 | ppm | | 0.00 |
| 109) Chrysene-d12a | 11.649 | 240 | 1755658 | 40.00 | ppm | | -0.01 |
| 111) Naphthalene-d8a | 5.167 | 136 | 1772109 | 40.00 | ppm | | 0.00 |
| 113) Phenanthrene-d10b | 8.493 | 188 | 1786192 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12b | 11.649 | 240 | 1755658 | 40.00 | ppm | | -0.01 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 3.225 | 112 | 376254 | 27.21 | ppm | | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 54.42% | | | |
| 8) Phenol-d5 | 3.979 | 99 | 356566 | 21.12 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 42.24% | | | |
| 25) Nitrobenzene-d5 | 4.610 | 82 | 664892 | 45.08 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 90.16% | | | |
| 51) 2-Fluorobiphenyl | 6.151 | 172 | 1372200 | 39.83 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 79.66% | | | |
| 73) 2,4,6-Tribromophenol | 7.713 | 330 | 217384 | 37.82 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 75.64% | | | |
| 85) Terphenyl-d14 | 10.414 | 244 | 1595794 | 39.02 | ppm | | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 78.04% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Target Compounds | | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.621 | 88 | 140291 | 22.55 | ppm | | 99 |
| 3) Pyridine | 1.931 | 79 | 263682 | 18.63 | ppm | | 98 |
| 4) N-Nitrosodimethylamine | 1.909 | 74 | 209550 | 25.40 | ppm | | 96 |
| 6) Indene | 4.380 | 116 | 1025685 | 40.02 | ppm | | 98 |
| 7) Cumene | 3.583 | 105 | 1216742 | 33.14 | ppm | | 98 |
| 9) Phenol | 3.990 | 94 | 420762 | 20.42 | ppm | | 92 |
| 10) Aniline | 3.958 | 93 | 604483 | 32.87 | ppm | | 97 |
| 11) bis(2-Chloroethyl)ether | 4.006 | 93 | 560267 | 39.24 | ppm | | 96 |
| 12) 2-Chlorophenol | 4.054 | 128 | 599744 | 36.70 | ppm | | 98 |
| 13) Decane | 4.086 | 43 | 367307 | 29.28 | ppm | | 97 |
| 14) 1,3-Dichlorobenzene | 4.150 | 146 | 545406 | 29.28 | ppm | | 99 |
| 15) 1,4-Dichlorobenzene | 4.204 | 146 | 557276 | 29.22 | ppm | | 99 |
| 16) Benzyl alcohol | 4.322 | 108 | 356816 | 40.20 | ppm | | 89 |
| 17) 1,2-Dichlorobenzene | 4.316 | 146 | 544481 | 31.08 | ppm | | 99 |
| 18) Acetophenone | 4.503 | 105 | 866361 | 39.44 | ppm | | 94 |
| 19) 2-Methylphenol | 4.423 | 108 | 497805 | 35.89 | ppm | | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.407 | 121 | 208448 | 40.94 | ppm | | 87 |
| 21) 3&4-Methylphenol | 4.535 | 108 | 493948 | 33.87 | ppm | | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.509 | 70 | 409243 | 41.64 | ppm | | 98 |
| 23) Hexachloroethane | 4.557 | 201 | 167352 | 25.15 | ppm | | 95 |
| 26) Nitrobenzene | 4.626 | 77 | 638873 | 42.57 | ppm | | 95 |
| 27) Quinoline | 5.488 | 129 | 1245857 | 38.75 | ppm | | 99 |
| 28) Isophorone | 4.808 | 82 | 1071065 | 41.77 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.872 | 139 | 360239 | 41.06 | ppm | # | 69 |
| 30) 2,4-Dimethylphenol | 4.926 | 107 | 667213 | 49.82 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481850.d
Acq On : 14 May 2019 6:26 pm
Operator : angelar
Sample : op20353-bs Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:14:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.076 | 105 | 296305 | 21.90 | ppm | | 97 |
| 32) bis(2-Chloroethoxy)met... | 4.985 | 93 | 638629 | 39.64 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.081 | 162 | 520588 | 39.32 | ppm | | 98 |
| 34) 2,6-Dichlorophenol | 5.252 | 162 | 532550 | 40.61 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.124 | 180 | 437494 | 28.87 | ppm | | 96 |
| 38) Naphthalene | 5.183 | 128 | 1757223 | 38.07 | ppm | | 100 |
| 39) 4-Chloroaniline | 5.252 | 127 | 431223 | 23.20 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.071 | 161 | 551856 | 32.85 | ppm | | 98 |
| 41) Caprolactam | 5.573 | 55 | 75207 | 13.27 | ppm | | 96 |
| 42) Hexachlorobutadiene | 5.290 | 225 | 245548 | 28.47 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.707 | 107 | 605326 | 44.55 | ppm | # | 35 |
| 44) 2-Methylnaphthalene | 5.792 | 141 | 971352 | 37.21 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 5.883 | 141 | 1067263 | 36.59 | ppm | | 98 |
| 46) Dimethylnaphthalene | 6.408 | 156 | 1103385 | 35.56 | ppm | | 100 |
| 48) Hexachlorocyclopentadiene | 5.948 | 237 | 152805 | 28.89 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.087 | 196 | 380492 | 41.83 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.140 | 196 | 392606 | 40.57 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.263 | 162 | 1078160 | 37.49 | ppm | | 99 |
| 53) Biphenyl | 6.247 | 154 | 1543635 | 41.38 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.391 | 65 | 384660 | 51.46 | ppm | | 97 |
| 55) Dimethylphthalate | 6.579 | 163 | 1447879 | 43.35 | ppm | | 99 |
| 56) Acenaphthylene | 6.680 | 152 | 1831853 | 41.28 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 6.648 | 165 | 325202 | 43.06 | ppm | | 100 |
| 58) 3-Nitroaniline | 6.830 | 138 | 254551 | 30.99 | ppm | | 97 |
| 59) Acenaphthene | 6.868 | 153 | 1270876 | 43.14 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 6.964 | 184 | 385693 | 74.73 | ppm | | 96 |
| 61) 4-Nitrophenol | 7.098 | 109 | 114350 | 27.17 | ppm | | 98 |
| 62) Dibenzofuran | 7.055 | 168 | 1674536 | 40.82 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.092 | 165 | 439379 | 41.89 | ppm | | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.221 | 232 | 291608 | 36.83 | ppm | | 96 |
| 65) Diethylphthalate | 7.349 | 149 | 1490806 | 45.27 | ppm | | 99 |
| 66) Fluorene | 7.434 | 166 | 1414836 | 42.48 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.440 | 204 | 622535 | 36.88 | ppm | | 98 |
| 68) 4-Nitroaniline | 7.509 | 138 | 351058 | 40.37 | ppm | | 91 |
| 70) 4,6-Dinitro-2-methylph... | 7.557 | 198 | 268263 | 38.89 | ppm | | 92 |
| 71) n-Nitrosodiphenylamine | 7.590 | 169 | 905106 | 36.68 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.622 | 77 | 1418584 | 50.77 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 7.991 | 248 | 353076 | 36.79 | ppm | | 99 |
| 75) Hexachlorobenzene | 8.066 | 284 | 425237 | 37.72 | ppm | | 100 |
| 76) Pentachlorophenol | 8.317 | 266 | 270396 | 38.81 | ppm | | 98 |
| 77) Phenanthrene | 8.526 | 178 | 1965128 | 40.98 | ppm | | 99 |
| 78) Anthracene | 8.584 | 178 | 1858675 | 38.64 | ppm | | 98 |
| 79) Carbazole | 8.798 | 167 | 1946996 | 42.76 | ppm | | 99 |
| 80) Di-n-butylphthalate | 9.253 | 149 | 2565621 | 48.24 | ppm | | 99 |
| 81) Fluoranthene | 9.927 | 202 | 2075377 | 39.83 | ppm | | 99 |
| 82) Octadecane | 8.451 | 57 | 758092 | 47.17 | ppm | | 100 |
| 84) Pyrene | 10.189 | 202 | 2118095 | 36.21 | ppm | | 99 |
| 86) Butylbenzylphthalate | 11.034 | 149 | 1175072 | 46.61 | ppm | | 91 |
| 87) Benzo[a]anthracene | 11.639 | 228 | 2084298 | 37.27 | ppm | | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.639 | 252 | 1098886 | 52.31 | ppm | | 98 |
| 89) Chrysene | 11.681 | 228 | 1923861 | 35.08 | ppm | | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 11.756 | 149 | 1503485 | 43.14 | ppm | | 98 |
| 92) Di-n-octylphthalate | 12.494 | 149 | 2419307 | 49.58 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 12.858 | 252 | 2088179 | 41.74 | ppm | | 97 |
| 94) Benzo[k]fluoranthene | 12.885 | 252 | 1789530 | 40.41 | ppm | | 98 |
| 95) Benzo[a]pyrene | 13.190 | 252 | 1539270 | 37.45 | ppm | | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.275 | 276 | 2198103 | 40.05 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481850.d
Acq On : 14 May 2019 6:26 pm
Operator : angelar
Sample : op20353-bs Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:14:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

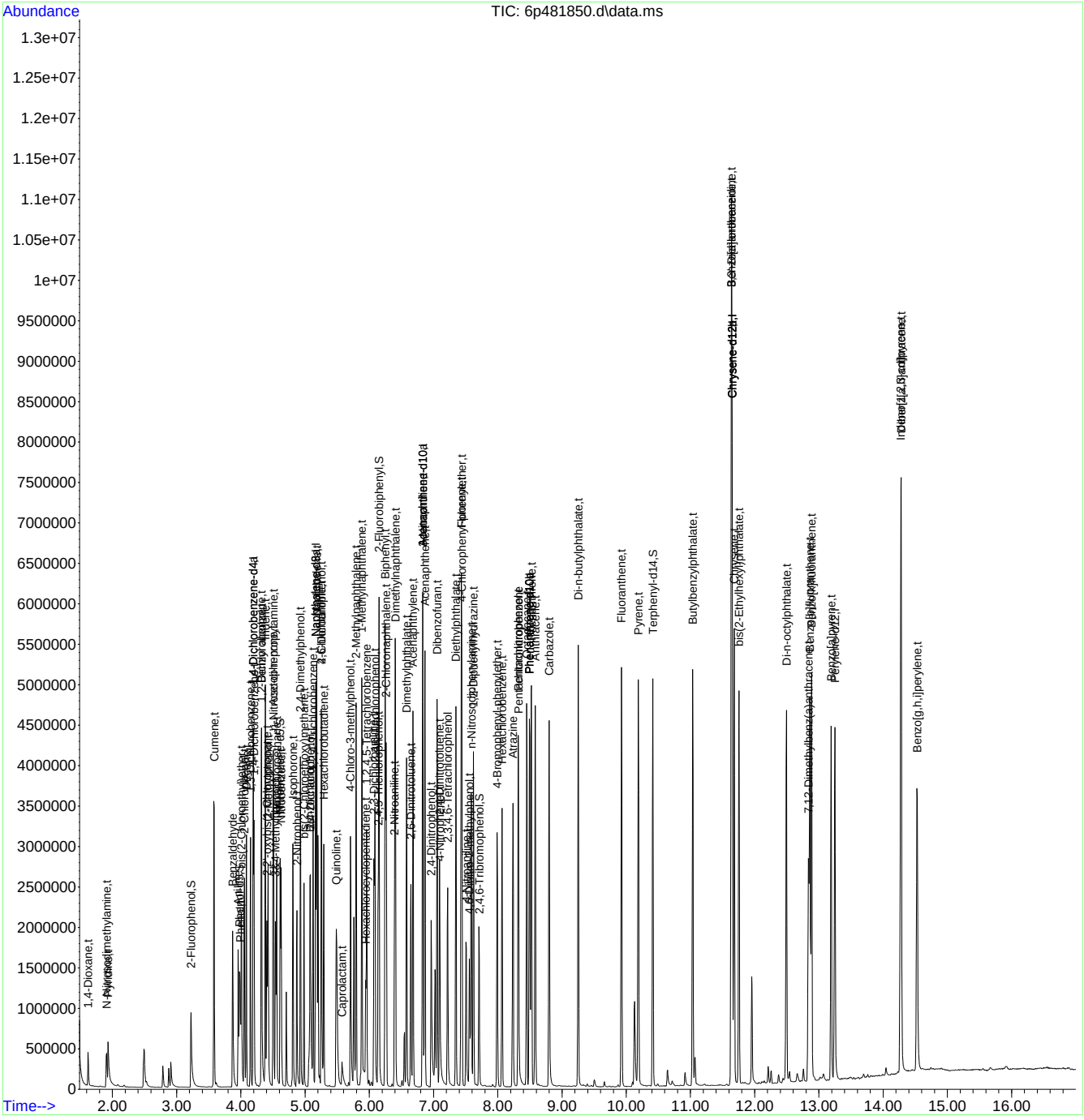
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.281 | 278 | 1985778 | 40.83 | ppm | 98 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.837 | 256 | 679223 | 29.99 | ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 14.532 | 276 | 1678861 | 39.23 | ppm | 97 |
| 102) | Benzaldehyde | 3.872 | 105 | 390525 | 33.29 | ppm | 99 |
| 104) | 1,2,4,5-Tetrachloroben... | 5.958 | 216 | 415691 | 31.94 | ppm | 96 |
| 108) | Atrazine | 8.237 | 215 | 206491 | 39.58 | ppm | 94 |
| 114) | Pentachloronitrobenzene | 8.322 | 295 | 76075 | 34.80 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481850.d
Acq On : 14 May 2019 6:26 pm
Operator : angelar
Sample : op20353-bs Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:14:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154405.d
Acq On : 15 May 2019 4:03 pm
Operator : christc2
Sample : op20268-ms Inst : MSM
Misc : op20268,em6594,30.8,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:11 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.373 | 152 | 281324 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.426 | 136 | 888225 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.626 | 164 | 482094 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.174 | 188 | 913542 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.280 | 240 | 830750 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.870 | 264 | 893250 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.373 | 152 | 281324 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.626 | 164 | 481356 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.280 | 240 | 830750 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.280 | 240 | 830657 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.174 | 188 | 913542 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.426 | 136 | 888225 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.280 | 240 | 830750 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.460 | 112 | 365703 | 33.25 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 66.50% | | |
| 8) Phenol-d5 | 4.197 | 99 | 468156 | 34.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 68.94% | | |
| 25) Nitrobenzene-d5 | 4.801 | 82 | 373217 | 39.39 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.78% | | |
| 51) 2-Fluorobiphenyl | 6.675 | 172 | 690094 | 38.50 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.00% | | |
| 73) 2,4,6-Tribromophenol | 8.956 | 330 | 145679 | 47.40 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.80% | | |
| 85) Terphenyl-d14 | 13.325 | 244 | 910994 | 40.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 81.34% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.847 | 88 | 96530 | 17.34 | ppm | 98 |
| 3) Pyridine | 2.194 | 79 | 300195 | 22.40 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.162 | 42 | 105246 | 22.08 | ppm | 87 |
| 6) Indene | 4.566 | 116 | 517358 | 34.78 | ppm | 99 |
| 7) Cumene | 3.775 | 105 | 675131 | 25.69 | ppm | 96 |
| 9) Phenol | 4.208 | 94 | 494266 | 34.63 | ppm | 96 |
| 10) Aniline | 4.149 | 93 | 326395 | 22.83 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.186 | 93 | 336984 | 34.13 | ppm | 99 |
| 12) 2-Chlorophenol | 4.251 | 128 | 347111 | 35.40 | ppm | 96 |
| 13) Decane | 4.267 | 43 | 257310 | 34.36 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 4.331 | 146 | 312948 | 27.47 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.389 | 146 | 293136 | 28.34 | ppm | 98 |
| 16) Benzyl alcohol | 4.502 | 108 | 210932 | 36.51 | ppm | 83 |
| 17) 1,2-Dichlorobenzene | 4.502 | 146 | 320655 | 31.33 | ppm | 97 |
| 18) Acetophenone | 4.678 | 105 | 406166 | 31.38 | ppm | 91 |
| 19) 2-Methylphenol | 4.619 | 108 | 342687 | 41.51 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.582 | 121 | 76440 | 29.95 | ppm # | 61 |
| 21) 3&4-Methylphenol | 4.742 | 108 | 369177 | 44.47 | ppm | 97 |
| 22) n-Nitroso-di-n-propyla... | 4.683 | 70 | 231588 | 35.87 | ppm | 94 |
| 23) Hexachloroethane | 4.753 | 201 | 108997 | 24.94 | ppm | 93 |
| 26) Nitrobenzene | 4.817 | 77 | 298381 | 32.43 | ppm | 98 |
| 27) Quinoline | 5.794 | 129 | 565740 | 33.62 | ppm | 99 |
| 28) Isophorone | 5.014 | 82 | 557219 | 32.46 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154405.d
Acq On : 15 May 2019 4:03 pm
Operator : christc2
Sample : op20268-ms Inst : MSM
Misc : op20268,em6594,30.8,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:11 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 29) 2-Nitrophenol | 5.084 | 139 | 187225 | 43.99 | ppm | 84 |
| 30) 2,4-Dimethylphenol | 5.159 | 107 | 338965 | 48.10 | ppm | 97 |
| 31) Benzoic acid | 5.297 | 105 | 226538 | 40.44 | ppm | 90 |
| 32) bis(2-Chloroethoxy)met... | 5.207 | 93 | 339193 | 32.57 | ppm | 97 |
| 33) 2,4-Dichlorophenol | 5.335 | 162 | 289039 | 39.12 | ppm | 97 |
| 34) 2,6-Dichlorophenol | 5.532 | 162 | 285221 | 42.58 | ppm | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.372 | 180 | 259911 | 28.78 | ppm | 98 |
| 38) Naphthalene | 5.447 | 128 | 752419 | 34.60 | ppm | 99 |
| 39) 4-Chloroaniline | 5.522 | 127 | 169606 | 17.60 | ppm | 92 |
| 40) 2,3-Dichloroaniline | 6.569 | 161 | 278479 | 29.56 | ppm | 99 |
| 41) Caprolactam | 5.880 | 55 | 136844 | 40.03 | ppm | 99 |
| 42) Hexachlorobutadiene | 5.575 | 225 | 144343 | 26.82 | ppm | 96 |
| 43) 4-Chloro-3-methylphenol | 6.109 | 107 | 298485 | 39.03 | ppm | 93 |
| 44) 2-Methylnaphthalene | 6.195 | 141 | 446977 | 32.41 | ppm | 98 |
| 45) 1-Methylnaphthalene | 6.318 | 142 | 540707 | 30.84 | ppm | 95 |
| 46) Dimethylnaphthalene | 7.023 | 156 | 482735 | 31.63 | ppm | 98 |
| 48) Hexachlorocyclopentadiene | 6.398 | 237 | 225893 | 48.18 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.590 | 196 | 231368 | 44.33 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.665 | 196 | 252122 | 45.01 | ppm | 99 |
| 52) 2-Chloronaphthalene | 6.820 | 162 | 488297 | 32.92 | ppm | 99 |
| 53) Biphenyl | 6.804 | 154 | 680263 | 35.12 | ppm | 99 |
| 54) 2-Nitroaniline | 7.001 | 65 | 180947 | 45.24 | ppm | 85 |
| 55) Dimethylphthalate | 7.279 | 163 | 586125 | 32.35 | ppm | 98 |
| 56) Acenaphthylene | 7.407 | 152 | 783473 | 33.64 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 7.354 | 165 | 134143 | 39.53 | ppm | 96 |
| 58) 3-Nitroaniline | 7.626 | 138 | 123546 | 29.52 | ppm | 97 |
| 59) Acenaphthene | 7.680 | 153 | 524846 | 37.22 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 7.786 | 184 | 119082 | 62.41 | ppm | 92 |
| 61) 4-Nitrophenol | 8.069 | 109 | 71752 | 30.89 | ppm | 88 |
| 62) Dibenzofuran | 7.957 | 168 | 737517 | 34.98 | ppm | 98 |
| 63) 2,4-Dinitrotoluene | 7.989 | 165 | 165211 | 34.51 | ppm | 95 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.214 | 232 | 192139 | 38.31 | ppm | 97 |
| 65) Diethylphthalate | 8.433 | 149 | 565492 | 32.30 | ppm | 98 |
| 66) Fluorene | 8.523 | 166 | 602297 | 34.43 | ppm | 97 |
| 67) 4-Chlorophenyl-phenyle... | 8.561 | 204 | 286597 | 31.54 | ppm | 100 |
| 68) 4-Nitroaniline | 8.641 | 138 | 144038 | 38.63 | ppm | 94 |
| 70) 4,6-Dinitro-2-methylph... | 8.678 | 198 | 121020 | 42.38 | ppm | 95 |
| 71) n-Nitrosodiphenylamine | 8.785 | 169 | 374522 | 30.84 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 8.833 | 77 | 664589 | 39.91 | ppm | 98 |
| 74) 4-Bromophenyl-phenylether | 9.415 | 248 | 191768 | 30.74 | ppm | 95 |
| 75) Hexachlorobenzene | 9.490 | 284 | 226486 | 32.69 | ppm | 97 |
| 76) Pentachlorophenol | 9.907 | 266 | 173951 | 45.08 | ppm | 95 |
| 77) Phenanthrene | 10.217 | 178 | 1071920 | 47.32 | ppm | 99 |
| 78) Anthracene | 10.313 | 178 | 877042 | 36.76 | ppm | 97 |
| 79) Carbazole | 10.687 | 167 | 863460 | 37.64 | ppm | 98 |
| 80) Di-n-butylphthalate | 11.488 | 149 | 1005291 | 36.38 | ppm | 98 |
| 81) Fluoranthene | 12.476 | 202 | 1456283 | 48.64 | ppm | 98 |
| 82) Octadecane | 10.211 | 57 | 393714 | 53.69 | ppm | 97 |
| 84) Pyrene | 12.892 | 202 | 1380416 | 45.38 | ppm | 99 |
| 86) Butylbenzylphthalate | 14.388 | 149 | 426983 | 34.18 | ppm | 91 |
| 87) Benzo[a]anthracene | 15.264 | 228 | 1098377 | 38.62 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 15.323 | 252 | 648459 | 67.50 | ppm | 99 |
| 89) Chrysene | 15.328 | 228 | 1044273 | 41.30 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 15.616 | 149 | 588932 | 35.37 | ppm | 97 |
| 92) Di-n-octylphthalate | 16.829 | 149 | 906518 | 30.64 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 17.240 | 252 | 1100449 | 39.10 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.288 | 252 | 890266 | 33.23 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154405.d
Acq On : 15 May 2019 4:03 pm
Operator : christc2
Sample : op20268-ms Inst : MSM
Misc : op20268,em6594,30.8,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:11 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

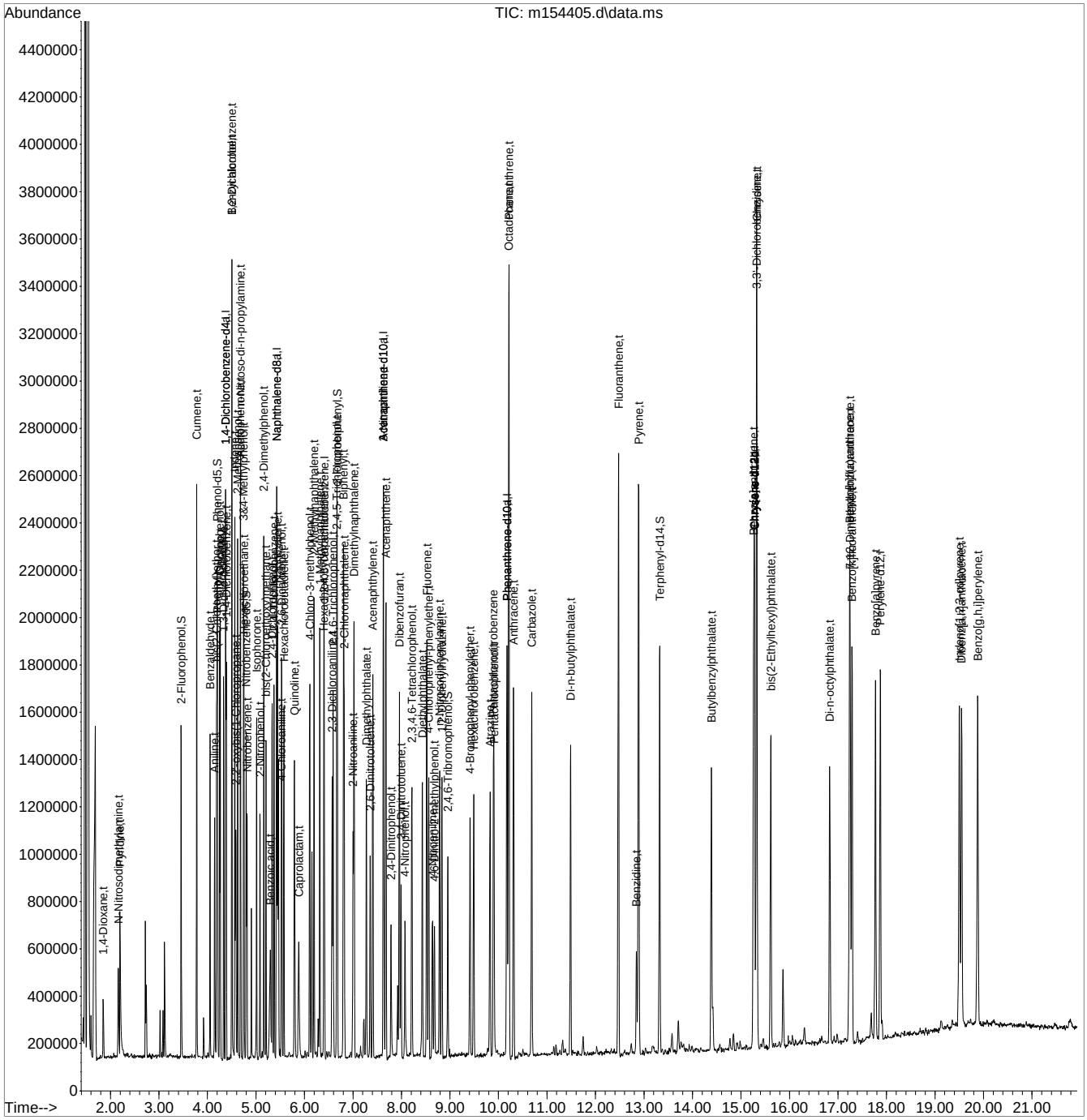
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 95) Benzo[a]pyrene | 17.774 | 252 | 897609 | 36.34 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 19.505 | 276 | 872321 | 35.50 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 19.547 | 278 | 830476 | 36.48 | ppm | 100 |
| 99) 7,12-Dimethylbenz(a)an... | 17.251 | 256 | 273739 | 25.37 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 19.884 | 276 | 926387 | 39.54 | ppm | 97 |
| 102) Benzaldehyde | 4.053 | 105 | 208363 | 26.39 | ppm | 95 |
| 104) 1,2,4,5-Tetrachloroben... | 6.408 | 216 | 258858 | 31.49 | ppm | 97 |
| 105) Atrazine | 9.827 | 215 | 92984 | 41.24 | ppm | 87 |
| 107) Benzidine | 12.844 | 184 | 281638 | 17.96 | ppm | 97 |
| 112) Pentachloronitrobenzene | 9.896 | 295 | 42269 | 39.24 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154405.d
Acq On : 15 May 2019 4:03 pm
Operator : christc2
Sample : op20268-ms Inst : MSM
Misc : op20268,em6594,30.8,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:11 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154406.d
Acq On : 15 May 2019 4:31 pm
Operator : christc2
Sample : op20268-msd Inst : MSM
Misc : op20268,em6594,31.6,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:51 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.377 | 152 | 262931 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.423 | 136 | 866298 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.629 | 164 | 469415 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 891882 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.278 | 240 | 838498 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.873 | 264 | 881478 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.377 | 152 | 262931 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.629 | 164 | 469415 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.278 | 240 | 838498 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.278 | 240 | 837065 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.172 | 188 | 891882 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.423 | 136 | 866298 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.278 | 240 | 838498 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.458 | 112 | 365194 | 35.53 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 71.06% | | |
| 8) Phenol-d5 | 4.195 | 99 | 474049 | 37.34 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 74.68% | | |
| 25) Nitrobenzene-d5 | 4.799 | 82 | 374542 | 40.53 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 81.06% | | |
| 51) 2-Fluorobiphenyl | 6.673 | 172 | 680409 | 38.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.98% | | |
| 73) 2,4,6-Tribromophenol | 8.954 | 330 | 149948 | 49.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 99.94% | | |
| 85) Terphenyl-d14 | 13.323 | 244 | 940260 | 41.58 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 83.16% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.850 | 88 | 89960 | 17.29 | ppm | 97 |
| 3) Pyridine | 2.192 | 79 | 296415 | 23.66 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 2.160 | 42 | 99237 | 22.27 | ppm | 93 |
| 6) Indene | 4.564 | 116 | 511269 | 36.78 | ppm | 98 |
| 7) Cumene | 3.778 | 105 | 652711 | 26.57 | ppm | 97 |
| 9) Phenol | 4.206 | 94 | 480976 | 36.05 | ppm | 97 |
| 10) Aniline | 4.147 | 93 | 312897 | 23.41 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.184 | 93 | 311310 | 33.73 | ppm | 93 |
| 12) 2-Chlorophenol | 4.248 | 128 | 340243 | 37.13 | ppm | 93 |
| 13) Decane | 4.264 | 43 | 253860 | 36.27 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.334 | 146 | 290574 | 27.29 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.387 | 146 | 286407 | 29.62 | ppm | 97 |
| 16) Benzyl alcohol | 4.505 | 108 | 202477 | 37.50 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.499 | 146 | 304343 | 31.81 | ppm | 97 |
| 18) Acetophenone | 4.681 | 105 | 409732 | 33.87 | ppm | 95 |
| 19) 2-Methylphenol | 4.622 | 108 | 336807 | 43.65 | ppm | 96 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.585 | 121 | 73376 | 30.76 | ppm # | 71 |
| 21) 3&4-Methylphenol | 4.745 | 108 | 358565 | 46.22 | ppm | 87 |
| 22) n-Nitroso-di-n-propyla... | 4.686 | 70 | 218554 | 36.22 | ppm | 98 |
| 23) Hexachloroethane | 4.756 | 201 | 99949 | 24.47 | ppm | 96 |
| 26) Nitrobenzene | 4.815 | 77 | 287858 | 32.08 | ppm | 93 |
| 27) Quinoline | 5.792 | 129 | 552930 | 33.69 | ppm | 99 |
| 28) Isophorone | 5.012 | 82 | 525614 | 31.40 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154406.d
Acq On : 15 May 2019 4:31 pm
Operator : christc2
Sample : op20268-msd Inst : MSM
Misc : op20268,em6594,31.6,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:51 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 29) 2-Nitrophenol | 5.082 | 139 | 184712 | 44.50 | ppm | 79 |
| 30) 2,4-Dimethylphenol | 5.162 | 107 | 321079 | 46.71 | ppm | 99 |
| 31) Benzoic acid | 5.295 | 105 | 190897 | 34.94 | ppm | 93 |
| 32) bis(2-Chloroethoxy)met... | 5.204 | 93 | 320097 | 31.52 | ppm | 98 |
| 33) 2,4-Dichlorophenol | 5.333 | 162 | 278588 | 38.66 | ppm | 98 |
| 34) 2,6-Dichlorophenol | 5.530 | 162 | 275786 | 42.22 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.375 | 180 | 244044 | 27.70 | ppm | 100 |
| 38) Naphthalene | 5.445 | 128 | 727303 | 34.29 | ppm | 99 |
| 39) 4-Chloroaniline | 5.520 | 127 | 182959 | 19.47 | ppm | 91 |
| 40) 2,3-Dichloroaniline | 6.566 | 161 | 277690 | 30.22 | ppm | 99 |
| 41) Caprolactam | 5.877 | 55 | 141846 | 42.54 | ppm | 94 |
| 42) Hexachlorobutadiene | 5.573 | 225 | 135550 | 25.82 | ppm | 97 |
| 43) 4-Chloro-3-methylphenol | 6.107 | 107 | 293341 | 39.33 | ppm | 85 |
| 44) 2-Methylnaphthalene | 6.198 | 141 | 412003 | 30.63 | ppm | 98 |
| 45) 1-Methylnaphthalene | 6.315 | 142 | 530327 | 31.01 | ppm | 98 |
| 46) Dimethylnaphthalene | 7.020 | 156 | 480443 | 32.27 | ppm | 96 |
| 48) Hexachlorocyclopentadiene | 6.401 | 237 | 213998 | 46.88 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 6.593 | 196 | 222985 | 43.88 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 6.663 | 196 | 254129 | 46.60 | ppm | 98 |
| 52) 2-Chloronaphthalene | 6.817 | 162 | 453293 | 31.39 | ppm | 99 |
| 53) Biphenyl | 6.807 | 154 | 667326 | 35.39 | ppm | 98 |
| 54) 2-Nitroaniline | 6.999 | 65 | 171152 | 43.95 | ppm | 84 |
| 55) Dimethylphthalate | 7.277 | 163 | 544231 | 30.85 | ppm | 97 |
| 56) Acenaphthylene | 7.410 | 152 | 735106 | 32.42 | ppm | 97 |
| 57) 2,6-Dinitrotoluene | 7.357 | 165 | 126107 | 38.17 | ppm | 98 |
| 58) 3-Nitroaniline | 7.624 | 138 | 127041 | 31.18 | ppm | 90 |
| 59) Acenaphthene | 7.677 | 153 | 493952 | 35.98 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 7.784 | 184 | 105540 | 57.35 | ppm | 90 |
| 61) 4-Nitrophenol | 8.073 | 109 | 69323 | 30.65 | ppm | 97 |
| 62) Dibenzofuran | 7.955 | 168 | 698527 | 34.03 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.993 | 165 | 148394 | 31.81 | ppm | 93 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.211 | 232 | 197502 | 40.44 | ppm | 93 |
| 65) Diethylphthalate | 8.430 | 149 | 531561 | 31.18 | ppm | 100 |
| 66) Fluorene | 8.521 | 166 | 570897 | 33.51 | ppm | 95 |
| 67) 4-Chlorophenyl-phenyle... | 8.564 | 204 | 262180 | 29.63 | ppm | 96 |
| 68) 4-Nitroaniline | 8.639 | 138 | 138479 | 38.14 | ppm | 98 |
| 70) 4,6-Dinitro-2-methylph... | 8.682 | 198 | 118618 | 42.55 | ppm | 94 |
| 71) n-Nitrosodiphenylamine | 8.783 | 169 | 354740 | 29.92 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 8.831 | 77 | 624652 | 38.42 | ppm | 98 |
| 74) 4-Bromophenyl-phenylether | 9.413 | 248 | 183091 | 30.07 | ppm | 97 |
| 75) Hexachlorobenzene | 9.488 | 284 | 222749 | 32.93 | ppm | 96 |
| 76) Pentachlorophenol | 9.905 | 266 | 179491 | 47.65 | ppm | 97 |
| 77) Phenanthrene | 10.214 | 178 | 1128134 | 51.02 | ppm | 99 |
| 78) Anthracene | 10.311 | 178 | 861140 | 36.97 | ppm | 97 |
| 79) Carbazole | 10.684 | 167 | 830308 | 37.08 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.486 | 149 | 948287 | 35.15 | ppm | 99 |
| 81) Fluoranthene | 12.474 | 202 | 1744868 | 59.69 | ppm | 97 |
| 82) Octadecane | 10.209 | 57 | 392891 | 54.88 | ppm | 96 |
| 84) Pyrene | 12.890 | 202 | 1629720 | 53.08 | ppm | 99 |
| 86) Butylbenzylphthalate | 14.391 | 149 | 415882 | 32.98 | ppm | 92 |
| 87) Benzo[a]anthracene | 15.262 | 228 | 1213585 | 42.27 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 15.320 | 252 | 681313 | 70.26 | ppm | 98 |
| 89) Chrysene | 15.331 | 228 | 1134287 | 44.45 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 15.614 | 149 | 563876 | 33.66 | ppm | 96 |
| 92) Di-n-octylphthalate | 16.832 | 149 | 879348 | 30.13 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 17.243 | 252 | 1222505 | 44.02 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.291 | 252 | 884133 | 33.45 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154406.d
Acq On : 15 May 2019 4:31 pm
Operator : christc2
Sample : op20268-msd Inst : MSM
Misc : op20268,em6594,31.6,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:51 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration

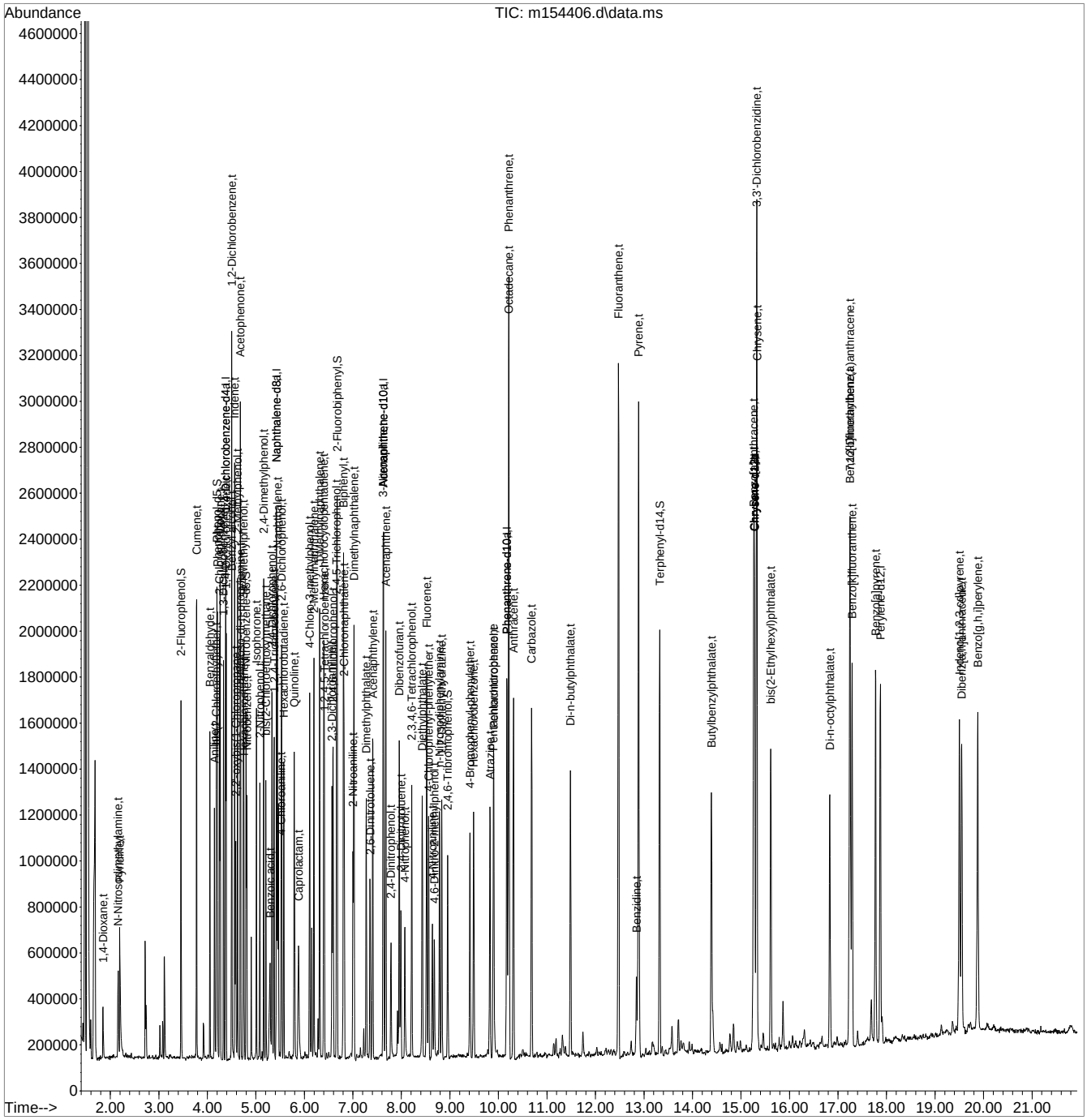
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 95) Benzo[a]pyrene | 17.777 | 252 | 955817 | 39.21 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 19.503 | 276 | 843460 | 34.78 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 19.551 | 278 | 798030 | 35.52 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 17.249 | 256 | 278678 | 26.17 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 19.882 | 276 | 907866 | 39.27 | ppm | 97 |
| 102) Benzaldehyde | 4.051 | 105 | 196424 | 26.62 | ppm | 93 |
| 104) 1,2,4,5-Tetrachloroben... | 6.412 | 216 | 242742 | 30.28 | ppm | 96 |
| 105) Atrazine | 9.830 | 215 | 92199 | 41.93 | ppm | 96 |
| 107) Benzidine | 12.848 | 184 | 235262 | 14.86 | ppm | 98 |
| 112) Pentachloronitrobenzene | 9.894 | 295 | 40833 | 38.83 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154406.d
Acq On : 15 May 2019 4:31 pm
Operator : christc2
Sample : op20268-msd Inst : MSM
Misc : op20268,em6594,31.6,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 14:29:51 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:31:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112000.d
Acq On : 18 May 2019 10:08 am
Operator : chriss2
Sample : op20269-ms2 Inst : MS2M
Misc : op20269,e2m4980,30.2,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:19:54 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 480650 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.872 | 136 | 1712956 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.952 | 164 | 933072 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.124 | 188 | 1589854 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.301 | 240 | 1216203 | 40.00 | ppm | 0.01 |
| 91) Perylene-d12 | 16.398 | 264 | 1308641 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 480650 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.952 | 164 | 933072 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.301 | 240 | 1216203 | 40.00 | ppm | 0.01 |
| 107) Phenanthrene-d10a | 10.124 | 188 | 1589854 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.872 | 136 | 1712956 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.301 | 240 | 1216203 | 40.00 | ppm | 0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.887 | 112 | 702416 | 40.28 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 80.56% | | |
| 8) Phenol-d5 | 4.599 | 99 | 908213 | 42.26 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 84.52% | | |
| 25) Nitrobenzene-d5 | 5.214 | 82 | 686446 | 46.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 92.10% | | |
| 51) 2-Fluorobiphenyl | 7.075 | 172 | 1390107 | 41.02 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 82.04% | | |
| 73) 2,4,6-Tribromophenol | 9.097 | 330 | 194706 | 46.08 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 92.16% | | |
| 85) Terphenyl-d14 | 12.670 | 244 | 1337993 | 46.39 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 92.78% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.358 | 88 | 170132 | 20.28 | ppm | 99 |
| 3) Pyridine | 2.662 | 79 | 578692 | 27.43 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 2.630 | 74 | 341251 | 26.82 | ppm | 98 |
| 6) Indene | 4.968 | 116 | 1051216 | 37.30 | ppm | 100 |
| 7) Cumene | 4.165 | 105 | 1366609 | 31.00 | ppm | 99 |
| 9) Phenol | 4.609 | 94 | 810634 | 34.61 | ppm | 98 |
| 10) Aniline | 4.518 | 93 | 589923 | 23.14 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.556 | 93 | 645348 | 35.10 | ppm | 97 |
| 12) 2-Chlorophenol | 4.657 | 128 | 681327 | 37.29 | ppm | 99 |
| 13) Decane | 4.641 | 43 | 520248 | 30.99 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 4.722 | 146 | 651693 | 32.88 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.775 | 146 | 649064 | 32.82 | ppm | 99 |
| 16) Benzyl alcohol | 4.887 | 108 | 417898 | 38.27 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.898 | 146 | 611992 | 32.64 | ppm | 100 |
| 18) Acetophenone | 5.080 | 105 | 776339 | 33.99 | ppm | 97 |
| 19) 2-Methylphenol | 5.043 | 108 | 608589 | 39.96 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.978 | 45 | 737064 | 38.81 | ppm | 98 |
| 21) 3&4-Methylphenol | 5.166 | 108 | 638151 | 44.21 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 5.080 | 70 | 406773 | 34.52 | ppm | 99 |
| 23) Hexachloroethane | 5.176 | 201 | 182155 | 33.29 | ppm | 99 |
| 26) Nitrobenzene | 5.230 | 77 | 623609 | 39.32 | ppm | 95 |
| 27) Quinoline | 6.230 | 129 | 1197836 | 37.09 | ppm | 99 |
| 28) Isophorone | 5.438 | 82 | 1072275 | 37.35 | ppm | 99 |
| 29) 2-Nitrophenol | 5.508 | 139 | 340210 | 52.92 | ppm | 97 |
| 30) 2,4-Dimethylphenol | 5.593 | 107 | 652963 | 51.44 | ppm | 99 |
| 31) Benzoic acid | 5.738 | 105 | 48894 | 8.78 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112000.d
Acq On : 18 May 2019 10:08 am
Operator : chriss2
Sample : op20269-ms2 Inst : MS2M
Misc : op20269,e2m4980,30.2,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:19:54 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 32) bis(2-Chloroethoxy)met... | 5.626 | 93 | 689357 | 35.78 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.807 | 162 | 503814 | 40.75 | ppm | | 98 |
| 34) 2,6-Dichlorophenol | 5.973 | 162 | 514323 | 42.17 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.813 | 180 | 472113 | 36.50 | ppm | | 99 |
| 38) Naphthalene | 5.893 | 128 | 2244059 | 46.75 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.952 | 127 | 435756 | 22.79 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.973 | 161 | 549658 | 35.44 | ppm | | 99 |
| 41) Caprolactam | 6.300 | 55 | 249486 | 35.99 | ppm | | 98 |
| 42) Hexachlorobutadiene | 6.021 | 225 | 255963 | 39.80 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 6.556 | 107 | 554046 | 44.85 | ppm | # | 72 |
| 44) 2-Methylnaphthalene | 6.631 | 141 | 1113365 | 45.13 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.749 | 141 | 1196800 | 43.56 | ppm | | 98 |
| 46) Dimethylnaphthalene | 7.396 | 156 | 1180128 | 41.80 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.829 | 237 | 221417 | 45.24 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 7.006 | 196 | 329653 | 46.33 | ppm | | 97 |
| 50) 2,4,5-Trichlorophenol | 7.129 | 196 | 345317 | 44.72 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 7.219 | 162 | 1051598 | 37.33 | ppm | | 99 |
| 53) Biphenyl | 7.198 | 154 | 1456654 | 38.23 | ppm | | 98 |
| 54) 2-Nitroaniline | 7.364 | 65 | 349194 | 48.63 | ppm | | 95 |
| 55) Dimethylphthalate | 7.605 | 163 | 1259748 | 40.41 | ppm | | 99 |
| 56) Acenaphthylene | 7.754 | 152 | 1884440 | 42.60 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.679 | 165 | 270145 | 44.65 | ppm | | 94 |
| 58) 3-Nitroaniline | 7.915 | 138 | 266571 | 35.87 | ppm | | 96 |
| 59) Acenaphthene | 8.000 | 153 | 1952328 | 67.64 | ppm | | 100 |
| 60) 2,4-Dinitrophenol | 8.054 | 184 | 64216 | 37.08 | ppm | # | 87 |
| 61) 4-Nitrophenol | 8.434 | 109 | 147113 | 38.23 | ppm | | 99 |
| 62) Dibenzofuran | 8.236 | 168 | 1978656 | 49.51 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 8.230 | 165 | 339788 | 40.79 | ppm | | 92 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.460 | 232 | 236139 | 38.02 | ppm | | 98 |
| 65) Diethylphthalate | 8.599 | 149 | 1189433 | 39.98 | ppm | | 99 |
| 66) Fluorene | 8.728 | 166 | 2209217 | 69.53 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.744 | 204 | 543742 | 38.20 | ppm | | 96 |
| 68) 4-Nitroaniline | 8.792 | 138 | 307635 | 39.31 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 8.824 | 198 | 89732 | 28.19 | ppm | | 99 |
| 71) n-Nitrosodiphenylamine | 8.920 | 169 | 889062 | 35.44 | ppm | | 90 |
| 72) 1,2-Diphenylhydrazine | 8.974 | 77 | 1236521 | 36.22 | ppm | | 84 |
| 74) 4-Bromophenyl-phenylether | 9.466 | 248 | 315583 | 38.26 | ppm | | 98 |
| 75) Hexachlorobenzene | 9.552 | 284 | 326286 | 36.71 | ppm | | 98 |
| 76) Pentachlorophenol | 9.905 | 266 | 143768 | 27.37 | ppm | | 99 |
| 77) Phenanthrene | 10.172 | 178 | 5404156 | 116.81 | ppm | | 99 |
| 78) Anthracene | 10.252 | 178 | 5225621 | 114.84 | ppm | | 99 |
| 79) Carbazole | 10.525 | 167 | 2341720 | 51.06 | ppm | | 99 |
| 80) Di-n-butylphthalate | 11.129 | 149 | 1956602 | 40.69 | ppm | | 100 |
| 81) Fluoranthene | 12.039 | 202 | 4392747 | 98.77 | ppm | | 98 |
| 82) Octadecane | 10.070 | 57 | 831497 | 38.99 | ppm | | 97 |
| 84) Pyrene | 12.376 | 202 | 4458237 | 97.92 | ppm | | 96 |
| 86) Butylbenzylphthalate | 13.499 | 149 | 797710 | 36.27 | ppm | | 98 |
| 87) Benzo[a]anthracene | 14.280 | 228 | 2509578 | 67.80 | ppm | | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.290 | 252 | 823867 | 67.30 | ppm | | 97 |
| 89) Chrysene | 14.344 | 228 | 3066500 | 76.17 | ppm | | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.462 | 149 | 1146869 | 38.57 | ppm | | 99 |
| 92) Di-n-octylphthalate | 15.440 | 149 | 1815918 | 36.32 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 15.884 | 252 | 2329203 | 62.82 | ppm | | 98 |
| 94) Benzo[k]fluoranthene | 15.922 | 252 | 1713810 | 45.89 | ppm | | 97 |
| 95) Benzo[a]pyrene | 16.323 | 252 | 1884496 | 56.98 | ppm | | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 17.954 | 276 | 1540318 | 50.25 | ppm | | 99 |
| 98) Dibenz[a,h]anthracene | 17.992 | 278 | 1384633 | 41.39 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112000.d
Acq On : 18 May 2019 10:08 am
Operator : chriss2
Sample : op20269-ms2 Inst : MS2M
Misc : op20269,e2m4980,30.2,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:19:54 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

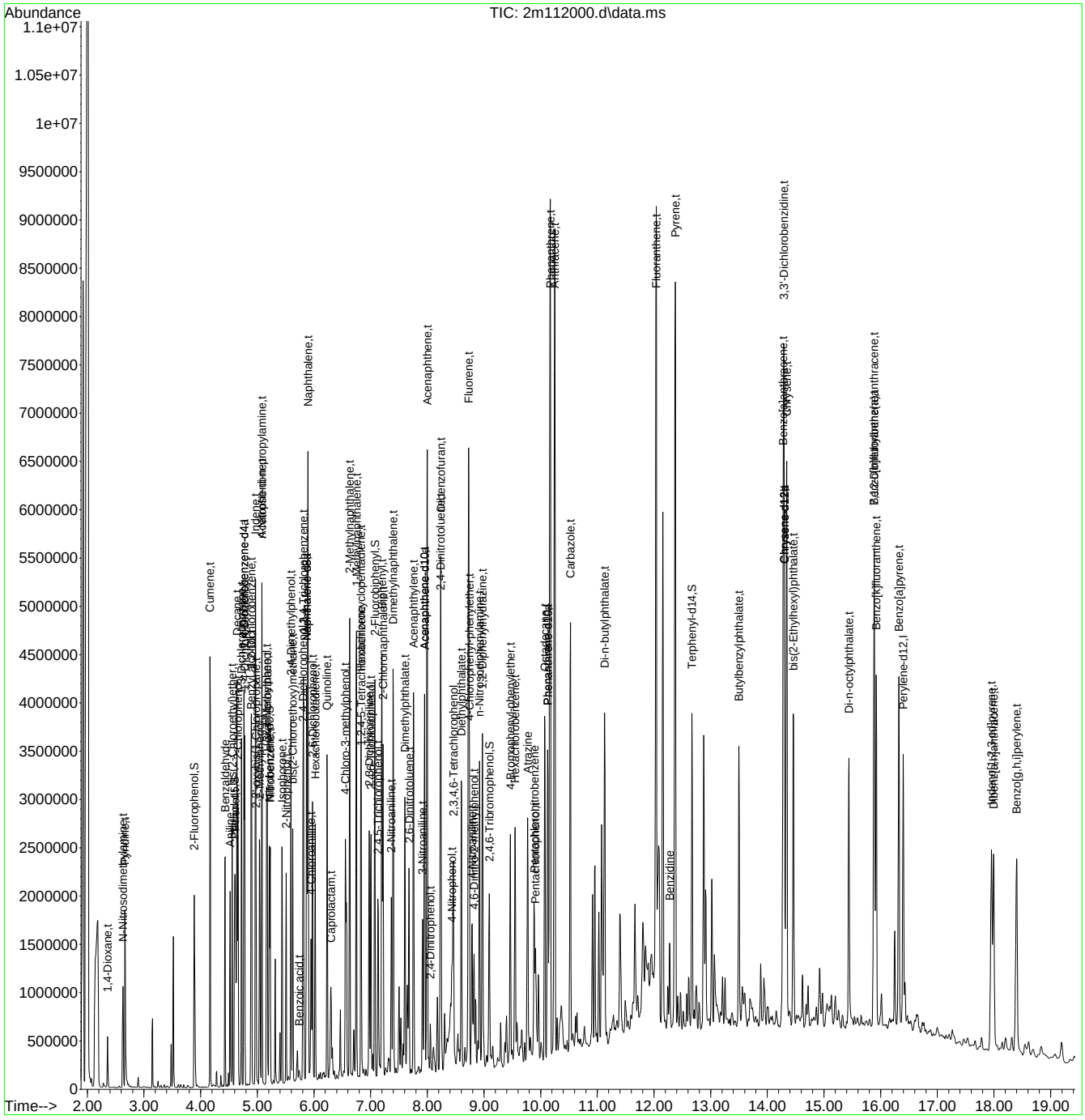
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 99) 7,12-Dimethylbenz(a)an... | 15.884 | 256 | 456577 | 27.29 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 18.398 | 276 | 1593818 | 50.89 | ppm | 100 |
| 102) Benzaldehyde | 4.433 | 105 | 394614 | 26.39 | ppm | 96 |
| 104) 1,2,4,5-Tetrachloroben... | 6.834 | 216 | 438083 | 37.96 | ppm | 97 |
| 106) Benzidine | 12.279 | 184 | 468970 | 20.56 | ppm | 98 |
| 108) Atrazine | 9.771 | 215 | 169540 | 42.74 | ppm | 96 |
| 111) Pentachloronitrobenzene | 9.888 | 295 | 60524 | 45.21 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112000.d
Acq On : 18 May 2019 10:08 am
Operator : chriss2
Sample : op20269-ms2 Inst : MS2M
Misc : op20269,e2m4980,30.2,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:19:54 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112001.d
Acq On : 18 May 2019 10:34 am
Operator : chriss2
Sample : op20269-msd2 Inst : MS2M
Misc : op20269,e2m4980,31.6,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:22:30 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 471329 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.872 | 136 | 1696590 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.952 | 164 | 931450 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.129 | 188 | 1569589 | 40.00 | ppm | 0.01 |
| 83) Chrysene-d12 | 14.301 | 240 | 1195585 | 40.00 | ppm | 0.01 |
| 91) Perylene-d12 | 16.403 | 264 | 1399469 | 40.00 | ppm | 0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 471329 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.952 | 164 | 931450 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.301 | 240 | 1195585 | 40.00 | ppm | 0.01 |
| 107) Phenanthrene-d10a | 10.129 | 188 | 1569589 | 40.00 | ppm | 0.01 |
| 112) Naphthalene-d8a | 5.872 | 136 | 1696590 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.301 | 240 | 1195585 | 40.00 | ppm | 0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.887 | 112 | 667537 | 39.04 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 78.08% | | |
| 8) Phenol-d5 | 4.599 | 99 | 861092 | 40.86 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 81.72% | | |
| 25) Nitrobenzene-d5 | 5.214 | 82 | 650435 | 44.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 88.12% | | |
| 51) 2-Fluorobiphenyl | 7.075 | 172 | 1338864 | 39.58 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 79.16% | | |
| 73) 2,4,6-Tribromophenol | 9.097 | 330 | 184915 | 44.32 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 88.64% | | |
| 85) Terphenyl-d14 | 12.670 | 244 | 1338624 | 47.21 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.42% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.352 | 88 | 180589 | 21.96 | ppm | 99 |
| 3) Pyridine | 2.657 | 79 | 551886 | 26.68 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.625 | 74 | 349413 | 28.00 | ppm | 99 |
| 6) Indene | 4.968 | 116 | 1097768 | 39.73 | ppm | 98 |
| 7) Cumene | 4.165 | 105 | 1416583 | 32.77 | ppm | 99 |
| 9) Phenol | 4.609 | 94 | 844327 | 36.76 | ppm | 99 |
| 10) Aniline | 4.518 | 93 | 557758 | 22.32 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.556 | 93 | 673347 | 37.35 | ppm | 97 |
| 12) 2-Chlorophenol | 4.657 | 128 | 701321 | 39.15 | ppm | 98 |
| 13) Decane | 4.641 | 43 | 544031 | 33.05 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 4.722 | 146 | 675033 | 34.73 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.775 | 146 | 668813 | 34.49 | ppm | 99 |
| 16) Benzyl alcohol | 4.887 | 108 | 398389 | 37.20 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.898 | 146 | 621670 | 33.81 | ppm | 99 |
| 18) Acetophenone | 5.080 | 105 | 809028 | 36.12 | ppm | 97 |
| 19) 2-Methylphenol | 5.037 | 108 | 629004 | 42.12 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.978 | 45 | 754103 | 40.50 | ppm | 99 |
| 21) 3&4-Methylphenol | 5.166 | 108 | 663630 | 46.88 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 5.080 | 70 | 414419 | 35.87 | ppm | 99 |
| 23) Hexachloroethane | 5.176 | 201 | 181969 | 33.91 | ppm | 99 |
| 26) Nitrobenzene | 5.230 | 77 | 633709 | 40.35 | ppm | 95 |
| 27) Quinoline | 6.230 | 129 | 1268508 | 39.66 | ppm | 99 |
| 28) Isophorone | 5.438 | 82 | 1104827 | 38.85 | ppm | 100 |
| 29) 2-Nitrophenol | 5.508 | 139 | 348069 | 54.66 | ppm | 96 |
| 30) 2,4-Dimethylphenol | 5.593 | 107 | 676937 | 53.84 | ppm | 98 |
| 31) Benzoic acid | 5.738 | 105 | 56427 | 9.73 | ppm | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112001.d
Acq On : 18 May 2019 10:34 am
Operator : chriss2
Sample : op20269-msd2 Inst : MS2M
Misc : op20269,e2m4980,31.6,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:22:30 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 32) bis(2-Chloroethoxy)met... | 5.626 | 93 | 709638 | 37.19 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.807 | 162 | 533735 | 43.59 | ppm | | 95 |
| 34) 2,6-Dichlorophenol | 5.973 | 162 | 535584 | 44.34 | ppm | | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.813 | 180 | 484886 | 37.85 | ppm | | 98 |
| 38) Naphthalene | 5.893 | 128 | 2881279 | 60.60 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.952 | 127 | 422676 | 22.32 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.973 | 161 | 590830 | 38.46 | ppm | | 99 |
| 41) Caprolactam | 6.299 | 55 | 283021 | 41.22 | ppm | | 99 |
| 42) Hexachlorobutadiene | 6.021 | 225 | 266366 | 41.82 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 6.556 | 107 | 572060 | 46.75 | ppm | # | 29 |
| 44) 2-Methylnaphthalene | 6.631 | 141 | 1122400 | 45.93 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.749 | 141 | 1275420 | 46.87 | ppm | | 100 |
| 46) Dimethylnaphthalene | 7.401 | 156 | 1243726 | 44.48 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.829 | 237 | 177300 | 36.29 | ppm | | 100 |
| 49) 2,4,6-Trichlorophenol | 7.005 | 196 | 352745 | 49.66 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 7.128 | 196 | 367102 | 47.62 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 7.219 | 162 | 1099046 | 39.09 | ppm | | 100 |
| 53) Biphenyl | 7.198 | 154 | 1607786 | 42.27 | ppm | | 99 |
| 54) 2-Nitroaniline | 7.369 | 65 | 340812 | 47.55 | ppm | | 96 |
| 55) Dimethylphthalate | 7.605 | 163 | 1314470 | 42.24 | ppm | | 99 |
| 56) Acenaphthylene | 7.760 | 152 | 2226961 | 50.43 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.679 | 165 | 283402 | 46.85 | ppm | | 96 |
| 58) 3-Nitroaniline | 7.920 | 138 | 263393 | 35.51 | ppm | | 98 |
| 59) Acenaphthene | 8.000 | 153 | 2160767 | 74.99 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 8.059 | 184 | 84324 | 45.82 | ppm | # | 100 |
| 61) 4-Nitrophenol | 8.428 | 109 | 170211 | 44.31 | ppm | | 99 |
| 62) Dibenzofuran | 8.241 | 168 | 2414806 | 60.53 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 8.236 | 165 | 351422 | 42.28 | ppm | | 87 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.460 | 232 | 256571 | 41.39 | ppm | | 99 |
| 65) Diethylphthalate | 8.605 | 149 | 1235172 | 41.59 | ppm | | 100 |
| 66) Fluorene | 8.733 | 166 | 3029939 | 95.53 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.744 | 204 | 547474 | 38.53 | ppm | | 96 |
| 68) 4-Nitroaniline | 8.792 | 138 | 294616 | 37.72 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 8.824 | 198 | 103842 | 32.06 | ppm | | 96 |
| 71) n-Nitrosodiphenylamine | 8.926 | 169 | 915721 | 36.97 | ppm | | 94 |
| 72) 1,2-Diphenylhydrazine | 8.974 | 77 | 1290617 | 38.29 | ppm | | 80 |
| 74) 4-Bromophenyl-phenylether | 9.466 | 248 | 327052 | 40.16 | ppm | | 96 |
| 75) Hexachlorobenzene | 9.551 | 284 | 344152 | 39.22 | ppm | | 96 |
| 76) Pentachlorophenol | 9.910 | 266 | 164862 | 31.21 | ppm | | 99 |
| 77) Phenanthrene | 10.172 | 178 | 5994111 | 131.24 | ppm | | 98 |
| 78) Anthracene | 10.247 | 178 | 4726188 | 105.20 | ppm | | 99 |
| 79) Carbazole | 10.525 | 167 | 2954639 | 65.26 | ppm | | 99 |
| 80) Di-n-butylphthalate | 11.135 | 149 | 2046275 | 43.10 | ppm | | 99 |
| 81) Fluoranthene | 12.044 | 202 | 5075031 | 115.59 | ppm | | 97 |
| 82) Octadecane | 10.076 | 57 | 894207 | 42.47 | ppm | | 99 |
| 84) Pyrene | 12.381 | 202 | 5030386 | 112.39 | ppm | | 99 |
| 86) Butylbenzylphthalate | 13.499 | 149 | 872931 | 40.32 | ppm | | 99 |
| 87) Benzo[a]anthracene | 14.285 | 228 | 3039272 | 83.52 | ppm | | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.296 | 252 | 912935 | 75.87 | ppm | | 97 |
| 89) Chrysene | 14.344 | 228 | 3256925 | 82.29 | ppm | | 97 |
| 90) bis(2-Ethylhexyl)phtha... | 14.461 | 149 | 1218671 | 41.65 | ppm | | 99 |
| 92) Di-n-octylphthalate | 15.440 | 149 | 1994839 | 37.32 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 15.890 | 252 | 3285696 | 82.87 | ppm | | 97 |
| 94) Benzo[k]fluoranthene | 15.927 | 252 | 2157305 | 54.01 | ppm | | 97 |
| 95) Benzo[a]pyrene | 16.328 | 252 | 2711096 | 76.65 | ppm | | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 17.965 | 276 | 2545372 | 77.66 | ppm | | 99 |
| 98) Dibenz[a,h]anthracene | 17.997 | 278 | 1727633 | 48.29 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112001.d
Acq On : 18 May 2019 10:34 am
Operator : chriss2
Sample : op20269-msd2 Inst : MS2M
Misc : op20269,e2m4980,31.6,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:22:30 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration

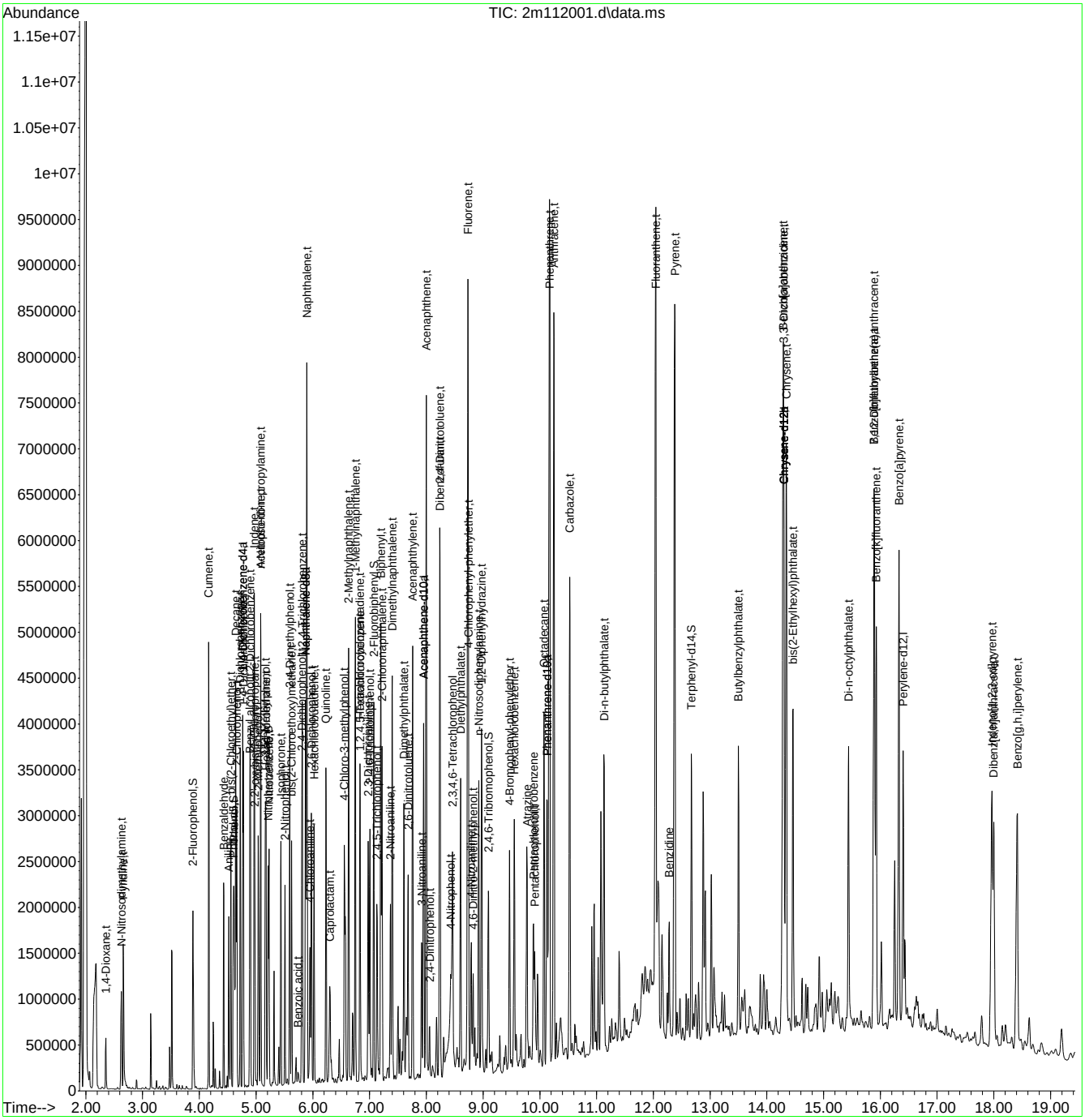
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 99) 7,12-Dimethylbenz(a)an... | 15.890 | 256 | 549749 | 30.50 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 18.414 | 276 | 2206211 | 65.87 | ppm | 99 |
| 102) Benzaldehyde | 4.433 | 105 | 366049 | 24.96 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.834 | 216 | 461612 | 40.07 | ppm | 98 |
| 106) Benzidine | 12.279 | 184 | 643187 | 26.35 | ppm | 98 |
| 108) Atrazine | 9.776 | 215 | 175534 | 44.82 | ppm | 98 |
| 111) Pentachloronitrobenzene | 9.888 | 295 | 61121 | 46.11 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\data_aimeel\e2m4980\
Data File : 2m112001.d
Acq On : 18 May 2019 10:34 am
Operator : chriss2
Sample : op20269-msd2 Inst : MS2M
Misc : op20269,e2m4980,31.6,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 11:22:30 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:30:45 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 488653 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 1850240 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 1038068 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.494 | 188 | 1955046 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.649 | 240 | 1957340 | 40.00 | ppm | | -0.01 |
| 91) Perylene-d12 | 13.249 | 264 | 1680376 | 40.00 | ppm | | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 488653 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 1038068 | 40.00 | ppm | | 0.00 |
| 105) Phenanthrene-d10a | 8.494 | 188 | 1955046 | 40.00 | ppm | | 0.00 |
| 109) Chrysene-d12a | 11.649 | 240 | 1957340 | 40.00 | ppm | | -0.01 |
| 111) Naphthalene-d8a | 5.167 | 136 | 1850240 | 40.00 | ppm | | 0.00 |
| 113) Phenanthrene-d10b | 8.494 | 188 | 1955046 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12b | 11.649 | 240 | 1957340 | 40.00 | ppm | | -0.01 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 3.225 | 112 | 411958 | 28.82 | ppm | | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 57.64% | | | |
| 8) Phenol-d5 | 3.979 | 99 | 376382 | 21.56 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 43.12% | | | |
| 25) Nitrobenzene-d5 | 4.611 | 82 | 763536 | 49.59 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 99.18% | | | |
| 51) 2-Fluorobiphenyl | 6.151 | 172 | 1582722 | 43.16 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 86.32% | | | |
| 73) 2,4,6-Tribromophenol | 7.707 | 330 | 244262 | 38.83 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.66% | | | |
| 85) Terphenyl-d14 | 10.414 | 244 | 1611184 | 35.33 | ppm | | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 70.66% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Target Compounds | | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.626 | 88 | 152171 | 23.65 | ppm | | 97 |
| 3) Pyridine | 1.947 | 79 | 335697 | 22.94 | ppm | | 98 |
| 4) N-Nitrosodimethylamine | 1.915 | 74 | 228297 | 26.77 | ppm | | 95 |
| 6) Indene | 4.381 | 116 | 1217561 | 45.95 | ppm | | 99 |
| 7) Cumene | 3.584 | 105 | 1374346 | 36.21 | ppm | | 98 |
| 9) Phenol | 3.990 | 94 | 458108 | 21.51 | ppm | | 95 |
| 10) Aniline | 3.963 | 93 | 711622 | 37.43 | ppm | | 98 |
| 11) bis(2-Chloroethyl)ether | 4.011 | 93 | 667801 | 45.24 | ppm | | 96 |
| 12) 2-Chlorophenol | 4.054 | 128 | 671985 | 39.78 | ppm | | 99 |
| 13) Decane | 4.086 | 43 | 397449 | 30.65 | ppm | | 97 |
| 14) 1,3-Dichlorobenzene | 4.151 | 146 | 629740 | 32.70 | ppm | | 98 |
| 15) 1,4-Dichlorobenzene | 4.204 | 146 | 647833 | 32.86 | ppm | | 99 |
| 16) Benzyl alcohol | 4.322 | 108 | 411248 | 44.82 | ppm | | 93 |
| 17) 1,2-Dichlorobenzene | 4.316 | 146 | 637362 | 35.20 | ppm | | 98 |
| 18) Acetophenone | 4.504 | 105 | 1042384 | 45.90 | ppm | | 94 |
| 19) 2-Methylphenol | 4.423 | 108 | 564560 | 39.37 | ppm | | 96 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.407 | 121 | 247519 | 47.03 | ppm | | 91 |
| 21) 3&4-Methylphenol | 4.536 | 108 | 563143 | 37.35 | ppm | | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.509 | 70 | 488746 | 48.11 | ppm | | 96 |
| 23) Hexachloroethane | 4.557 | 201 | 200448 | 29.14 | ppm | | 93 |
| 26) Nitrobenzene | 4.627 | 77 | 766987 | 48.95 | ppm | | 96 |
| 27) Quinoline | 5.488 | 129 | 1443220 | 42.99 | ppm | | 99 |
| 28) Isophorone | 4.808 | 82 | 1255561 | 46.90 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.873 | 139 | 420709 | 45.93 | ppm | # | 67 |
| 30) 2,4-Dimethylphenol | 4.926 | 107 | 764531 | 54.68 | ppm | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.081 | 105 | 302908 | 21.44 | ppm | 96 |
| 32) bis(2-Chloroethoxy)met... | 4.985 | 93 | 768418 | 45.68 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.081 | 162 | 595132 | 43.05 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.252 | 162 | 616551 | 45.04 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.124 | 180 | 515965 | 32.61 | ppm | 98 |
| 38) Naphthalene | 5.183 | 128 | 2104530 | 43.67 | ppm | 100 |
| 39) 4-Chloroaniline | 5.252 | 127 | 533361 | 27.48 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.071 | 161 | 650438 | 37.09 | ppm | 98 |
| 41) Caprolactam | 5.579 | 55 | 88088 | 14.89 | ppm | 92 |
| 42) Hexachlorobutadiene | 5.290 | 225 | 292380 | 32.47 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.707 | 107 | 657826 | 46.37 | ppm | 93 |
| 44) 2-Methylnaphthalene | 5.793 | 141 | 1154640 | 42.36 | ppm | 99 |
| 45) 1-Methylnaphthalene | 5.883 | 141 | 1261283 | 41.42 | ppm | 99 |
| 46) Dimethylnaphthalene | 6.408 | 156 | 1302696 | 40.21 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 5.942 | 237 | 179220 | 31.04 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.087 | 196 | 442490 | 45.70 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.140 | 196 | 458119 | 44.47 | ppm | 95 |
| 52) 2-Chloronaphthalene | 6.263 | 162 | 1243102 | 40.60 | ppm | 99 |
| 53) Biphenyl | 6.247 | 154 | 1793611 | 45.17 | ppm | 99 |
| 54) 2-Nitroaniline | 6.392 | 65 | 451889 | 56.79 | ppm | 98 |
| 55) Dimethylphthalate | 6.579 | 163 | 1689327 | 47.51 | ppm | 99 |
| 56) Acenaphthylene | 6.680 | 152 | 2132264 | 45.13 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.648 | 165 | 376509 | 46.83 | ppm | 98 |
| 58) 3-Nitroaniline | 6.830 | 138 | 320606 | 36.67 | ppm | 97 |
| 59) Acenaphthene | 6.868 | 153 | 1467189 | 46.78 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 6.964 | 184 | 437297 | 79.24 | ppm | 92 |
| 61) 4-Nitrophenol | 7.098 | 109 | 126936 | 28.33 | ppm | 94 |
| 62) Dibenzofuran | 7.055 | 168 | 1951830 | 44.69 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.092 | 165 | 516401 | 46.25 | ppm | 97 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.221 | 232 | 340266 | 40.37 | ppm | 99 |
| 65) Diethylphthalate | 7.349 | 149 | 1712564 | 48.85 | ppm | 100 |
| 66) Fluorene | 7.429 | 166 | 1656379 | 46.72 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.440 | 204 | 722654 | 40.21 | ppm | 99 |
| 68) 4-Nitroaniline | 7.509 | 138 | 407360 | 44.00 | ppm | 97 |
| 70) 4,6-Dinitro-2-methylph... | 7.558 | 198 | 314918 | 41.71 | ppm | 92 |
| 71) n-Nitrosodiphenylamine | 7.590 | 169 | 1065147 | 39.44 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 7.622 | 77 | 1550947 | 50.72 | ppm | 98 |
| 74) 4-Bromophenyl-phenylether | 7.991 | 248 | 420629 | 40.04 | ppm | 97 |
| 75) Hexachlorobenzene | 8.066 | 284 | 496553 | 40.24 | ppm | 94 |
| 76) Pentachlorophenol | 8.317 | 266 | 314336 | 40.99 | ppm | 99 |
| 77) Phenanthrene | 8.520 | 178 | 2316651 | 44.13 | ppm | 99 |
| 78) Anthracene | 8.585 | 178 | 2206985 | 41.92 | ppm | 98 |
| 79) Carbazole | 8.799 | 167 | 2337597 | 46.91 | ppm | 100 |
| 80) Di-n-butylphthalate | 9.253 | 149 | 3099128 | 53.24 | ppm | 100 |
| 81) Fluoranthene | 9.927 | 202 | 2444970 | 42.87 | ppm | 99 |
| 82) Octadecane | 8.451 | 57 | 731461 | 41.58 | ppm | 99 |
| 84) Pyrene | 10.189 | 202 | 2511614 | 38.52 | ppm | 98 |
| 86) Butylbenzylphthalate | 11.034 | 149 | 1290774 | 45.93 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.639 | 228 | 2596756 | 41.65 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.639 | 252 | 1717544 | 73.33 | ppm | 97 |
| 89) Chrysene | 11.681 | 228 | 2326493 | 38.05 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.751 | 149 | 1870859 | 48.15 | ppm | 99 |
| 92) Di-n-octylphthalate | 12.494 | 149 | 2926749 | 58.47 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.858 | 252 | 2346539 | 45.72 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 12.885 | 252 | 1940094 | 42.70 | ppm | 98 |
| 95) Benzo[a]pyrene | 13.190 | 252 | 1691189 | 40.11 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.276 | 276 | 2452059 | 43.55 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

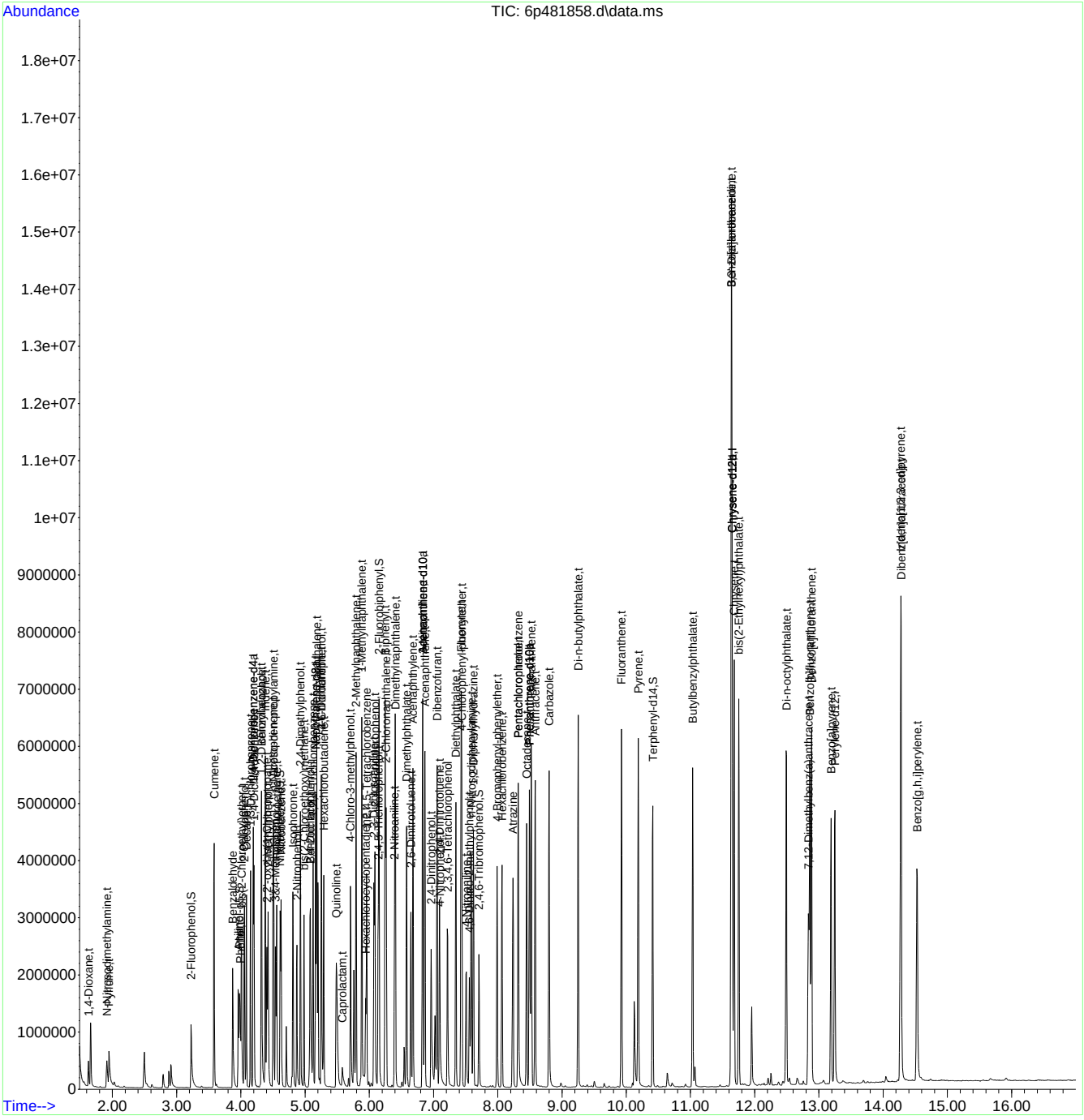
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 98) Dibenz[a,h]anthracene | 14.281 | 278 | 2230330 | 44.70 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 12.837 | 256 | 698665 | 30.07 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 14.532 | 276 | 1874989 | 42.70 | ppm | 98 |
| 102) Benzaldehyde | 3.872 | 105 | 406218 | 33.49 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 5.958 | 216 | 479128 | 34.58 | ppm | 99 |
| 108) Atrazine | 8.237 | 215 | 238160 | 41.66 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.317 | 295 | 92744 | 38.76 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481859.d
Acq On : 14 May 2019 10:04 pm
Operator : angelar
Sample : op20353-msd Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:36:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 451406 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 1687236 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 925378 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.493 | 188 | 1839986 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.649 | 240 | 1812457 | 40.00 | ppm | | -0.01 |
| 91) Perylene-d12 | 13.248 | 264 | 1583508 | 40.00 | ppm | | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 451406 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 925378 | 40.00 | ppm | | 0.00 |
| 105) Phenanthrene-d10a | 8.493 | 188 | 1839986 | 40.00 | ppm | | 0.00 |
| 109) Chrysene-d12a | 11.649 | 240 | 1812457 | 40.00 | ppm | | -0.01 |
| 111) Naphthalene-d8a | 5.167 | 136 | 1687236 | 40.00 | ppm | | 0.00 |
| 113) Phenanthrene-d10b | 8.493 | 188 | 1839986 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12b | 11.649 | 240 | 1812457 | 40.00 | ppm | | -0.01 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 3.225 | 112 | 376172 | 28.49 | ppm | | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 56.98% | | | |
| 8) Phenol-d5 | 3.979 | 99 | 348984 | 21.64 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 43.28% | | | |
| 25) Nitrobenzene-d5 | 4.610 | 82 | 711754 | 50.69 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 101.38% | | | |
| 51) 2-Fluorobiphenyl | 6.151 | 172 | 1427736 | 43.67 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 87.34% | | | |
| 73) 2,4,6-Tribromophenol | 7.707 | 330 | 220448 | 37.23 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 74.46% | | | |
| 85) Terphenyl-d14 | 10.414 | 244 | 1413119 | 33.47 | ppm | | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 66.94% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Target Compounds | | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.620 | 88 | 145162 | 24.43 | ppm | | 96 |
| 3) Pyridine | 1.947 | 79 | 234594 | 17.36 | ppm | | 96 |
| 4) N-Nitrosodimethylamine | 1.909 | 74 | 208324 | 26.44 | ppm | | 99 |
| 6) Indene | 4.380 | 116 | 1157858 | 47.31 | ppm | | 97 |
| 7) Cumene | 3.578 | 105 | 1365194 | 38.93 | ppm | | 99 |
| 9) Phenol | 3.990 | 94 | 418348 | 21.26 | ppm | | 93 |
| 10) Aniline | 3.958 | 93 | 623089 | 35.48 | ppm | | 97 |
| 11) bis(2-Chloroethyl)ether | 4.006 | 93 | 612647 | 44.93 | ppm | | 97 |
| 12) 2-Chlorophenol | 4.054 | 128 | 627343 | 40.20 | ppm | | 99 |
| 13) Decane | 4.086 | 43 | 379722 | 31.70 | ppm | | 97 |
| 14) 1,3-Dichlorobenzene | 4.150 | 146 | 581720 | 32.70 | ppm | | 100 |
| 15) 1,4-Dichlorobenzene | 4.204 | 146 | 596489 | 32.75 | ppm | | 100 |
| 16) Benzyl alcohol | 4.321 | 108 | 369912 | 43.64 | ppm | | 94 |
| 17) 1,2-Dichlorobenzene | 4.316 | 146 | 584568 | 34.95 | ppm | | 99 |
| 18) Acetophenone | 4.498 | 105 | 954456 | 45.50 | ppm | | 99 |
| 19) 2-Methylphenol | 4.423 | 108 | 517844 | 39.09 | ppm | | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.407 | 121 | 228262 | 46.95 | ppm | | 92 |
| 21) 3&4-Methylphenol | 4.535 | 108 | 514903 | 36.97 | ppm | | 97 |
| 22) n-Nitroso-di-n-propyla... | 4.509 | 70 | 443261 | 47.23 | ppm | | 97 |
| 23) Hexachloroethane | 4.557 | 201 | 182979 | 28.79 | ppm | | 94 |
| 26) Nitrobenzene | 4.626 | 77 | 696050 | 48.72 | ppm | | 94 |
| 27) Quinoline | 5.487 | 129 | 1322428 | 43.20 | ppm | | 99 |
| 28) Isophorone | 4.808 | 82 | 1139113 | 46.66 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.872 | 139 | 390848 | 46.79 | ppm | # | 70 |
| 30) 2,4-Dimethylphenol | 4.926 | 107 | 694401 | 54.46 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481859.d
Acq On : 14 May 2019 10:04 pm
Operator : angelar
Sample : op20353-msd Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:36:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.081 | 105 | 279193 | 21.67 | ppm | 95 |
| 32) bis(2-Chloroethoxy)met... | 4.985 | 93 | 690969 | 45.04 | ppm | 97 |
| 33) 2,4-Dichlorophenol | 5.081 | 162 | 540479 | 42.88 | ppm | 95 |
| 34) 2,6-Dichlorophenol | 5.252 | 162 | 561895 | 45.01 | ppm | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.124 | 180 | 479922 | 33.26 | ppm | 96 |
| 38) Naphthalene | 5.183 | 128 | 1940494 | 44.16 | ppm | 100 |
| 39) 4-Chloroaniline | 5.252 | 127 | 509454 | 28.78 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.070 | 161 | 618822 | 38.69 | ppm | 99 |
| 41) Caprolactam | 5.578 | 55 | 80077 | 14.85 | ppm | 94 |
| 42) Hexachlorobutadiene | 5.290 | 225 | 256137 | 31.19 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.707 | 107 | 598806 | 46.28 | ppm | 93 |
| 44) 2-Methylnaphthalene | 5.792 | 141 | 1045511 | 42.07 | ppm | 99 |
| 45) 1-Methylnaphthalene | 5.883 | 141 | 1178663 | 42.45 | ppm | 98 |
| 46) Dimethylnaphthalene | 6.402 | 156 | 1218607 | 41.25 | ppm | 98 |
| 48) Hexachlorocyclopentadiene | 5.942 | 237 | 188105 | 35.16 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 6.087 | 196 | 398511 | 46.17 | ppm | 98 |
| 50) 2,4,5-Trichlorophenol | 6.140 | 196 | 405782 | 44.19 | ppm | 98 |
| 52) 2-Chloronaphthalene | 6.263 | 162 | 1132747 | 41.51 | ppm | 99 |
| 53) Biphenyl | 6.247 | 154 | 1646614 | 46.52 | ppm | 99 |
| 54) 2-Nitroaniline | 6.391 | 65 | 422764 | 59.60 | ppm | 98 |
| 55) Dimethylphthalate | 6.579 | 163 | 1493344 | 47.11 | ppm | 99 |
| 56) Acenaphthylene | 6.680 | 152 | 1930262 | 45.83 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.648 | 165 | 343605 | 47.94 | ppm | 97 |
| 58) 3-Nitroaniline | 6.830 | 138 | 297352 | 38.15 | ppm | 98 |
| 59) Acenaphthene | 6.867 | 153 | 1364914 | 48.82 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 6.964 | 184 | 396804 | 80.56 | ppm | 97 |
| 61) 4-Nitrophenol | 7.097 | 109 | 114331 | 28.62 | ppm | 92 |
| 62) Dibenzofuran | 7.055 | 168 | 1773473 | 45.55 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.092 | 165 | 468755 | 47.09 | ppm | 95 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.220 | 232 | 311763 | 41.49 | ppm | 98 |
| 65) Diethylphthalate | 7.349 | 149 | 1551593 | 49.65 | ppm | 99 |
| 66) Fluorene | 7.429 | 166 | 1499303 | 47.44 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.440 | 204 | 667295 | 41.65 | ppm | 96 |
| 68) 4-Nitroaniline | 7.504 | 138 | 366257 | 44.38 | ppm | 99 |
| 70) 4,6-Dinitro-2-methylph... | 7.557 | 198 | 273977 | 38.56 | ppm | 94 |
| 71) n-Nitrosodiphenylamine | 7.584 | 169 | 963526 | 37.90 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 7.622 | 77 | 1424264 | 49.49 | ppm | 97 |
| 74) 4-Bromophenyl-phenylether | 7.991 | 248 | 398161 | 40.27 | ppm | 97 |
| 75) Hexachlorobenzene | 8.066 | 284 | 465381 | 40.07 | ppm | 98 |
| 76) Pentachlorophenol | 8.317 | 266 | 291399 | 40.43 | ppm | 98 |
| 77) Phenanthrene | 8.520 | 178 | 2237440 | 45.29 | ppm | 100 |
| 78) Anthracene | 8.584 | 178 | 2074666 | 41.87 | ppm | 99 |
| 79) Carbazole | 8.798 | 167 | 2188340 | 46.66 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.253 | 149 | 2869147 | 52.37 | ppm | 99 |
| 81) Fluoranthene | 9.927 | 202 | 2289811 | 42.66 | ppm | 99 |
| 82) Octadecane | 8.451 | 57 | 722399 | 43.64 | ppm | 99 |
| 84) Pyrene | 10.189 | 202 | 2334477 | 38.66 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.034 | 149 | 1282674 | 49.29 | ppm | 93 |
| 87) Benzo[a]anthracene | 11.638 | 228 | 2351774 | 40.74 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.638 | 252 | 1601502 | 73.84 | ppm | 97 |
| 89) Chrysene | 11.681 | 228 | 2058460 | 36.36 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.751 | 149 | 1692250 | 47.04 | ppm | 96 |
| 92) Di-n-octylphthalate | 12.489 | 149 | 2664990 | 56.50 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 12.858 | 252 | 2016190 | 41.69 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 12.885 | 252 | 1994459 | 46.58 | ppm | 98 |
| 95) Benzo[a]pyrene | 13.190 | 252 | 1581543 | 39.80 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.275 | 276 | 2211524 | 41.68 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481859.d
Acq On : 14 May 2019 10:04 pm
Operator : angelar
Sample : op20353-msd Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:36:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

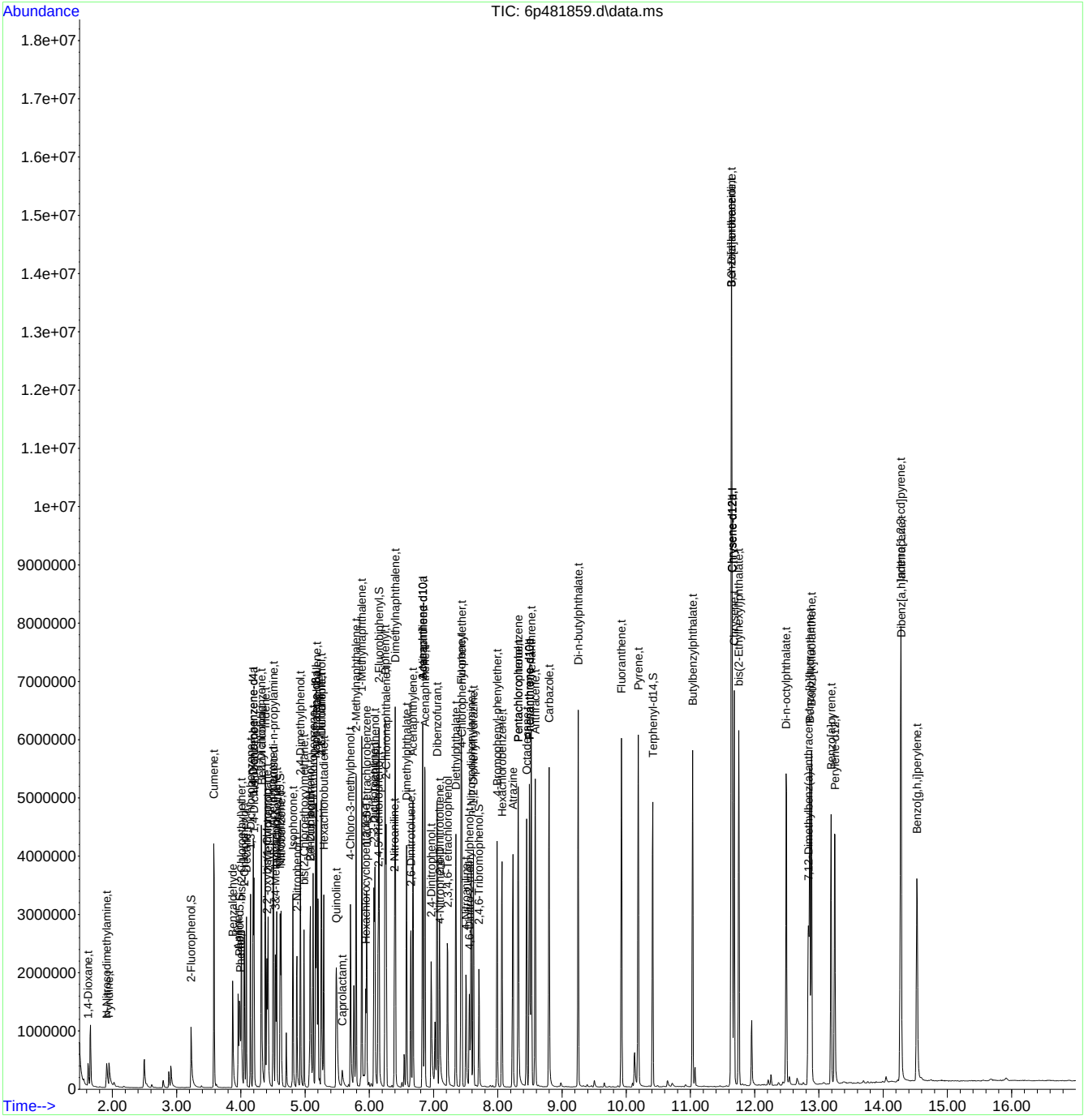
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 98) Dibenz[a,h]anthracene | 14.281 | 278 | 2007840 | 42.70 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 12.837 | 256 | 657229 | 30.02 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 14.527 | 276 | 1759458 | 42.52 | ppm | 99 |
| 102) Benzaldehyde | 3.872 | 105 | 364009 | 32.49 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 5.958 | 216 | 435253 | 35.24 | ppm | 94 |
| 108) Atrazine | 8.237 | 215 | 223430 | 41.53 | ppm | 91 |
| 114) Pentachloronitrobenzene | 8.317 | 295 | 84785 | 37.65 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481859.d
Acq On : 14 May 2019 10:04 pm
Operator : angelar
Sample : op20353-msd Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:36:36 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 488653 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 1850240 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 1038068 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.494 | 188 | 1955046 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.649 | 240 | 1957340 | 40.00 | ppm | | -0.01 |
| 91) Perylene-d12 | 13.249 | 264 | 1680376 | 40.00 | ppm | | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 488653 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 1038068 | 40.00 | ppm | | 0.00 |
| 105) Phenanthrene-d10a | 8.494 | 188 | 1955046 | 40.00 | ppm | | 0.00 |
| 109) Chrysene-d12a | 11.649 | 240 | 1957340 | 40.00 | ppm | | -0.01 |
| 111) Naphthalene-d8a | 5.167 | 136 | 1850240 | 40.00 | ppm | | 0.00 |
| 113) Phenanthrene-d10b | 8.494 | 188 | 1955046 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12b | 11.649 | 240 | 1957340 | 40.00 | ppm | | -0.01 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 3.225 | 112 | 411958 | 28.82 | ppm | | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 57.64% | | | |
| 8) Phenol-d5 | 3.979 | 99 | 376382 | 21.56 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 43.12% | | | |
| 25) Nitrobenzene-d5 | 4.611 | 82 | 763536 | 49.59 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 99.18% | | | |
| 51) 2-Fluorobiphenyl | 6.151 | 172 | 1582722 | 43.16 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 86.32% | | | |
| 73) 2,4,6-Tribromophenol | 7.707 | 330 | 244262 | 38.83 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.66% | | | |
| 85) Terphenyl-d14 | 10.414 | 244 | 1611184 | 35.33 | ppm | | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 70.66% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Target Compounds | | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.626 | 88 | 152171 | 23.65 | ppm | | 97 |
| 3) Pyridine | 1.947 | 79 | 335697 | 22.94 | ppm | | 98 |
| 4) N-Nitrosodimethylamine | 1.915 | 74 | 228297 | 26.77 | ppm | | 95 |
| 6) Indene | 4.381 | 116 | 1217561 | 45.95 | ppm | | 99 |
| 7) Cumene | 3.584 | 105 | 1374346 | 36.21 | ppm | | 98 |
| 9) Phenol | 3.990 | 94 | 458108 | 21.51 | ppm | | 95 |
| 10) Aniline | 3.963 | 93 | 711622 | 37.43 | ppm | | 98 |
| 11) bis(2-Chloroethyl)ether | 4.011 | 93 | 667801 | 45.24 | ppm | | 96 |
| 12) 2-Chlorophenol | 4.054 | 128 | 671985 | 39.78 | ppm | | 99 |
| 13) Decane | 4.086 | 43 | 397449 | 30.65 | ppm | | 97 |
| 14) 1,3-Dichlorobenzene | 4.151 | 146 | 629740 | 32.70 | ppm | | 98 |
| 15) 1,4-Dichlorobenzene | 4.204 | 146 | 647833 | 32.86 | ppm | | 99 |
| 16) Benzyl alcohol | 4.322 | 108 | 411248 | 44.82 | ppm | | 93 |
| 17) 1,2-Dichlorobenzene | 4.316 | 146 | 637362 | 35.20 | ppm | | 98 |
| 18) Acetophenone | 4.504 | 105 | 1042384 | 45.90 | ppm | | 94 |
| 19) 2-Methylphenol | 4.423 | 108 | 564560 | 39.37 | ppm | | 96 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.407 | 121 | 247519 | 47.03 | ppm | | 91 |
| 21) 3&4-Methylphenol | 4.536 | 108 | 563143 | 37.35 | ppm | | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.509 | 70 | 488746 | 48.11 | ppm | | 96 |
| 23) Hexachloroethane | 4.557 | 201 | 200448 | 29.14 | ppm | | 93 |
| 26) Nitrobenzene | 4.627 | 77 | 766987 | 48.95 | ppm | | 96 |
| 27) Quinoline | 5.488 | 129 | 1443220 | 42.99 | ppm | | 99 |
| 28) Isophorone | 4.808 | 82 | 1255561 | 46.90 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.873 | 139 | 420709 | 45.93 | ppm | # | 67 |
| 30) 2,4-Dimethylphenol | 4.926 | 107 | 764531 | 54.68 | ppm | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.081 | 105 | 302908 | 21.44 | ppm | 96 |
| 32) bis(2-Chloroethoxy)met... | 4.985 | 93 | 768418 | 45.68 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.081 | 162 | 595132 | 43.05 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.252 | 162 | 616551 | 45.04 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.124 | 180 | 515965 | 32.61 | ppm | 98 |
| 38) Naphthalene | 5.183 | 128 | 2104530 | 43.67 | ppm | 100 |
| 39) 4-Chloroaniline | 5.252 | 127 | 533361 | 27.48 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.071 | 161 | 650438 | 37.09 | ppm | 98 |
| 41) Caprolactam | 5.579 | 55 | 88088 | 14.89 | ppm | 92 |
| 42) Hexachlorobutadiene | 5.290 | 225 | 292380 | 32.47 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.707 | 107 | 657826 | 46.37 | ppm | 93 |
| 44) 2-Methylnaphthalene | 5.793 | 141 | 1154640 | 42.36 | ppm | 99 |
| 45) 1-Methylnaphthalene | 5.883 | 141 | 1261283 | 41.42 | ppm | 99 |
| 46) Dimethylnaphthalene | 6.408 | 156 | 1302696 | 40.21 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 5.942 | 237 | 179220 | 31.04 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.087 | 196 | 442490 | 45.70 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.140 | 196 | 458119 | 44.47 | ppm | 95 |
| 52) 2-Chloronaphthalene | 6.263 | 162 | 1243102 | 40.60 | ppm | 99 |
| 53) Biphenyl | 6.247 | 154 | 1793611 | 45.17 | ppm | 99 |
| 54) 2-Nitroaniline | 6.392 | 65 | 451889 | 56.79 | ppm | 98 |
| 55) Dimethylphthalate | 6.579 | 163 | 1689327 | 47.51 | ppm | 99 |
| 56) Acenaphthylene | 6.680 | 152 | 2132264 | 45.13 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.648 | 165 | 376509 | 46.83 | ppm | 98 |
| 58) 3-Nitroaniline | 6.830 | 138 | 320606 | 36.67 | ppm | 97 |
| 59) Acenaphthene | 6.868 | 153 | 1467189 | 46.78 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 6.964 | 184 | 437297 | 79.24 | ppm | 92 |
| 61) 4-Nitrophenol | 7.098 | 109 | 126936 | 28.33 | ppm | 94 |
| 62) Dibenzofuran | 7.055 | 168 | 1951830 | 44.69 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.092 | 165 | 516401 | 46.25 | ppm | 97 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.221 | 232 | 340266 | 40.37 | ppm | 99 |
| 65) Diethylphthalate | 7.349 | 149 | 1712564 | 48.85 | ppm | 100 |
| 66) Fluorene | 7.429 | 166 | 1656379 | 46.72 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.440 | 204 | 722654 | 40.21 | ppm | 99 |
| 68) 4-Nitroaniline | 7.509 | 138 | 407360 | 44.00 | ppm | 97 |
| 70) 4,6-Dinitro-2-methylph... | 7.558 | 198 | 314918 | 41.71 | ppm | 92 |
| 71) n-Nitrosodiphenylamine | 7.590 | 169 | 1065147 | 39.44 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 7.622 | 77 | 1550947 | 50.72 | ppm | 98 |
| 74) 4-Bromophenyl-phenylether | 7.991 | 248 | 420629 | 40.04 | ppm | 97 |
| 75) Hexachlorobenzene | 8.066 | 284 | 496553 | 40.24 | ppm | 94 |
| 76) Pentachlorophenol | 8.317 | 266 | 314336 | 40.99 | ppm | 99 |
| 77) Phenanthrene | 8.520 | 178 | 2316651 | 44.13 | ppm | 99 |
| 78) Anthracene | 8.585 | 178 | 2206985 | 41.92 | ppm | 98 |
| 79) Carbazole | 8.799 | 167 | 2337597 | 46.91 | ppm | 100 |
| 80) Di-n-butylphthalate | 9.253 | 149 | 3099128 | 53.24 | ppm | 100 |
| 81) Fluoranthene | 9.927 | 202 | 2444970 | 42.87 | ppm | 99 |
| 82) Octadecane | 8.451 | 57 | 731461 | 41.58 | ppm | 99 |
| 84) Pyrene | 10.189 | 202 | 2511614 | 38.52 | ppm | 98 |
| 86) Butylbenzylphthalate | 11.034 | 149 | 1290774 | 45.93 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.639 | 228 | 2596756 | 41.65 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.639 | 252 | 1717544 | 73.33 | ppm | 97 |
| 89) Chrysene | 11.681 | 228 | 2326493 | 38.05 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.751 | 149 | 1870859 | 48.15 | ppm | 99 |
| 92) Di-n-octylphthalate | 12.494 | 149 | 2926749 | 58.47 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.858 | 252 | 2346539 | 45.72 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 12.885 | 252 | 1940094 | 42.70 | ppm | 98 |
| 95) Benzo[a]pyrene | 13.190 | 252 | 1691189 | 40.11 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.276 | 276 | 2452059 | 43.55 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration

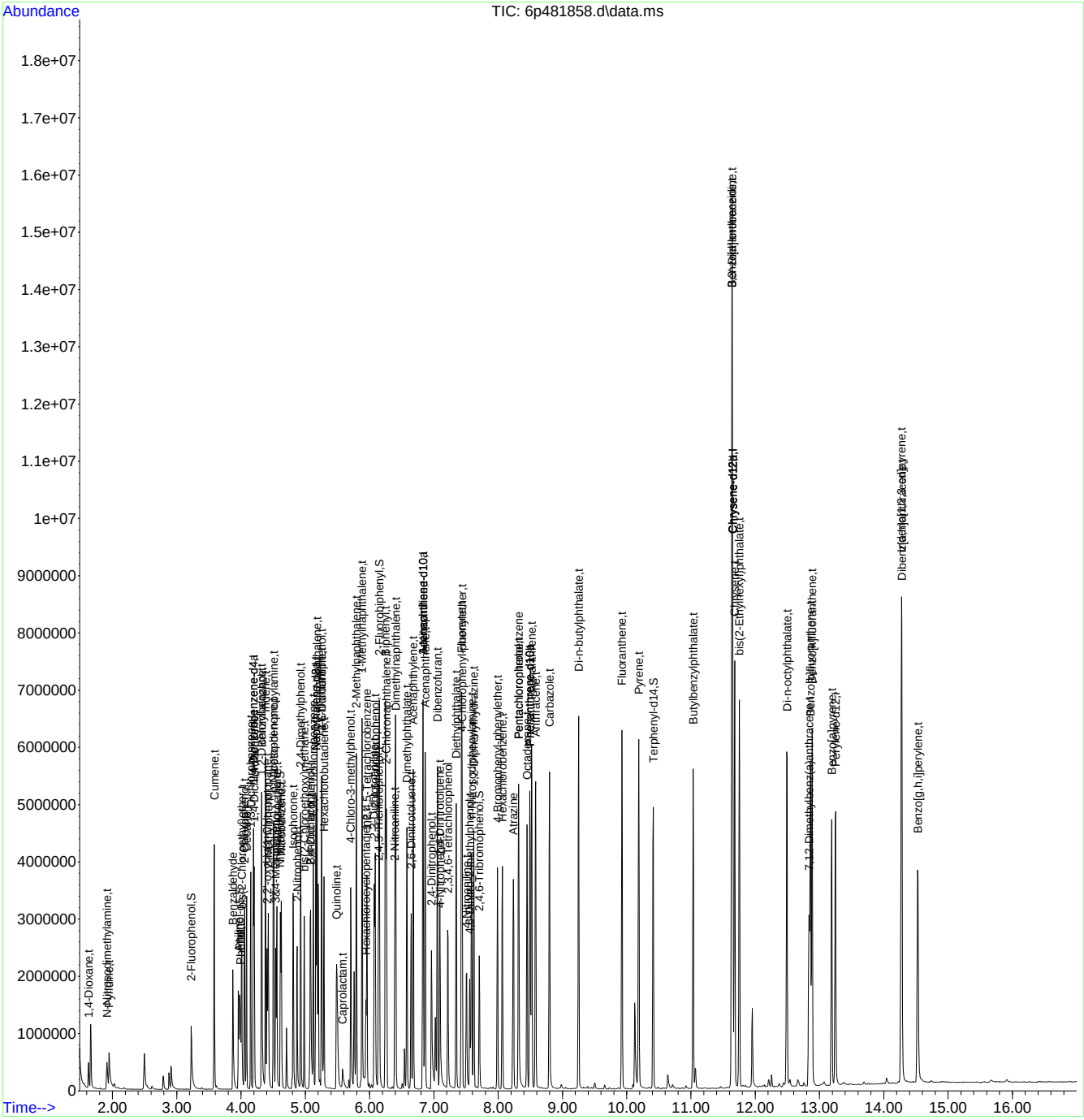
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 98) Dibenz[a,h]anthracene | 14.281 | 278 | 2230330 | 44.70 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 12.837 | 256 | 698665 | 30.07 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 14.532 | 276 | 1874989 | 42.70 | ppm | 98 |
| 102) Benzaldehyde | 3.872 | 105 | 406218 | 33.49 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 5.958 | 216 | 479128 | 34.58 | ppm | 99 |
| 108) Atrazine | 8.237 | 215 | 238160 | 41.66 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.317 | 295 | 92744 | 38.76 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481858.d
Acq On : 14 May 2019 9:40 pm
Operator : angelar
Sample : op20353-ms Inst : MS6P
Misc : op20353,e6p2590,100,,,1,1
ALS Vial : 16 Sample Multiplier: 1

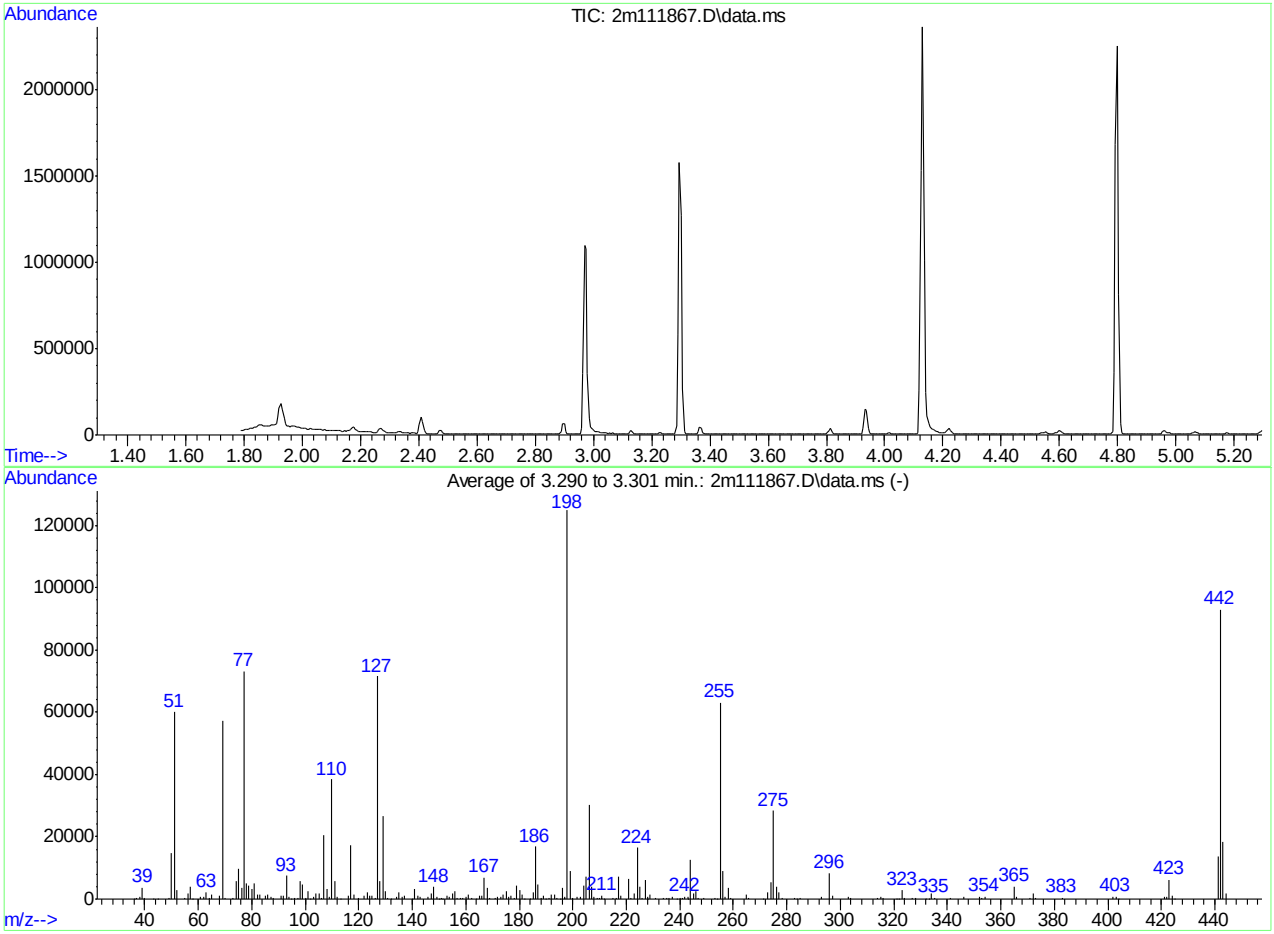
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 06:34:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:56:05 2019
Response via : Initial Calibration



DFTPP

Data File : C:\msdchem\1\DATA\E2M4974\2m111867.D  Vial: 1
Acq On : 14 May 2019 3:43 pm  Operator: christc2
Sample : dftpp  Inst : MS2M
Misc : op13721,e2m4974,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 282, 283, 284; Background Corrected with Scan 278

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 48.1 | 60005 | PASS |
| 68 | 69 | 0.00 | 2 | 1.8 | 1055 | PASS |
| 69 | 198 | 0.00 | 100 | 45.9 | 57353 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 284 | PASS |
| 127 | 198 | 40 | 60 | 57.3 | 71530 | PASS |
| 197 | 198 | 0.00 | 1 | 0.7 | 903 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 124821 | PASS |
| 199 | 198 | 5 | 9 | 7.2 | 8978 | PASS |
| 275 | 198 | 10 | 30 | 22.8 | 28403 | PASS |
| 365 | 198 | 1 | 100 | 3.3 | 4128 | PASS |
| 441 | 443 | 0.10 | 100 | 74.2 | 13616 | PASS |
| 442 | 198 | 40 | 100 | 74.6 | 93076 | PASS |
| 443 | 442 | 17 | 23 | 19.7 | 18348 | PASS |

2m111867.D DFTPP2M.M Wed May 15 08:20:09 2019

Average of 3.290 to 3.301 min.: 2m111867.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.90 | 31 | 55.00 | 379 | 70.00 | 284 | 83.00 | 1370 |
| 37.05 | 240 | 56.00 | 1883 | 72.95 | 531 | 84.95 | 1087 |
| 38.00 | 750 | 57.00 | 4078 | 74.00 | 5930 | 86.00 | 1331 |
| 39.05 | 3676 | 57.90 | 104 | 75.00 | 9618 | 87.05 | 668 |
| 39.95 | 332 | 60.95 | 766 | 76.10 | 3714 | 87.90 | 252 |
| 43.00 | 55 | 62.00 | 840 | 77.10 | 73173 | 90.95 | 1172 |
| 45.00 | 112 | 63.00 | 2337 | 78.10 | 5021 | 92.00 | 1226 |
| 49.00 | 217 | 63.95 | 300 | 79.00 | 4273 | 93.00 | 7400 |
| 50.05 | 14874 | 65.05 | 1297 | 80.00 | 3398 | 94.00 | 575 |
| 51.10 | 60005 | 68.05 | 1055 | 81.00 | 4963 | 94.90 | 101 |
| 52.05 | 3044 | 69.00 | 57353 | 82.00 | 1337 | 96.00 | 431 |

Average of 3.290 to 3.301 min.: 2m111867.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 97.05 | 289 | 108.00 | 3375 | 123.05 | 2131 | 135.00 | 2224 |
| 98.00 | 5699 | 109.05 | 619 | 124.00 | 926 | 136.00 | 881 |
| 99.00 | 4519 | 110.00 | 38461 | 125.00 | 917 | 137.00 | 1202 |
| 100.00 | 470 | 111.00 | 5822 | 126.20 | 406 | 140.00 | 171 |
| 101.00 | 2607 | 111.95 | 838 | 127.00 | 71530 | 141.00 | 3249 |
| 102.00 | 104 | 113.00 | 127 | 128.00 | 5815 | 142.05 | 1002 |
| 102.95 | 806 | 115.95 | 914 | 129.00 | 26728 | 142.95 | 721 |
| 104.00 | 1704 | 117.00 | 17213 | 130.00 | 2602 | 146.00 | 662 |
| 105.00 | 1687 | 118.00 | 1327 | 130.95 | 499 | 147.00 | 1811 |
| 106.00 | 484 | 120.05 | 238 | 132.00 | 135 | 148.00 | 3897 |
| 107.00 | 20432 | 122.00 | 1092 | 133.95 | 776 | 149.00 | 766 |

Average of 3.290 to 3.301 min.: 2m111867.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 149.90 | 142 | 161.00 | 1415 | 174.00 | 1518 | 186.05 | 16920 |
| 151.05 | 425 | 162.00 | 366 | 175.05 | 2377 | 187.00 | 4827 |
| 151.50 | 172 | 164.00 | 108 | 176.00 | 748 | 188.00 | 374 |
| 153.00 | 1065 | 164.95 | 1205 | 177.00 | 1019 | 189.00 | 1017 |
| 153.95 | 838 | 166.00 | 1070 | 177.95 | 353 | 190.00 | 109 |
| 155.05 | 1896 | 166.95 | 7014 | 179.00 | 4290 | 190.95 | 315 |
| 156.00 | 2705 | 168.00 | 3440 | 180.00 | 3059 | 192.00 | 1495 |
| 156.90 | 431 | 169.00 | 491 | 181.00 | 1587 | 193.00 | 1630 |
| 158.00 | 475 | 170.90 | 262 | 182.00 | 129 | 194.00 | 323 |
| 158.90 | 297 | 172.00 | 593 | 184.00 | 151 | 195.10 | 190 |
| 159.95 | 879 | 172.95 | 794 | 185.05 | 2183 | 196.00 | 3718 |

Average of 3.290 to 3.301 min.: 2m111867.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 196.80 | 508 | 208.00 | 898 | 221.60 | 317 | 235.00 | 423 |
| 197.10 | 903 | 209.00 | 269 | 223.00 | 1775 | 236.00 | 352 |
| 198.00 | 124821 | 210.00 | 231 | 224.10 | 16533 | 237.00 | 615 |
| 199.00 | 8978 | 210.60 | 286 | 225.10 | 4101 | 239.00 | 100 |
| 200.00 | 499 | 211.00 | 1144 | 226.00 | 399 | 240.00 | 267 |
| 201.60 | 682 | 211.80 | 141 | 227.00 | 6291 | 241.00 | 398 |
| 203.00 | 771 | 215.00 | 333 | 227.90 | 116 | 241.95 | 861 |
| 204.05 | 4230 | 216.05 | 499 | 228.05 | 803 | 242.90 | 104 |
| 205.05 | 7316 | 217.00 | 7307 | 229.00 | 1581 | 243.10 | 767 |
| 206.10 | 30358 | 218.00 | 1133 | 231.05 | 501 | 244.10 | 12787 |
| 207.05 | 4035 | 221.00 | 6459 | 234.00 | 422 | 245.00 | 1787 |

Average of 3.290 to 3.301 min.: 2m111867.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 246.00 | 2479 | 265.85 | 315 | 293.00 | 589 | 324.00 | 513 |
| 247.00 | 468 | 271.00 | 101 | 296.00 | 8310 | 327.00 | 502 |
| 249.00 | 389 | 273.00 | 2161 | 297.00 | 1125 | 327.95 | 274 |
| 252.95 | 262 | 274.00 | 5378 | 303.10 | 850 | 332.00 | 119 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 254.00 | 188 | 275.10 | 28403 | 304.00 | 291 | 333.00 | 184 |
| 255.00 | 63125 | 276.05 | 3864 | 314.00 | 370 | 334.00 | 1965 |
| 256.05 | 8904 | 277.00 | 2287 | 315.00 | 826 | 335.05 | 416 |
| 257.00 | 653 | 278.05 | 358 | 316.00 | 544 | 341.00 | 314 |
| 258.00 | 3725 | 283.05 | 309 | 321.00 | 141 | 346.00 | 596 |
| 259.00 | 491 | 283.90 | 111 | 321.90 | 120 | 352.00 | 813 |
| 265.00 | 1583 | 285.00 | 415 | 323.10 | 2996 | 353.00 | 545 |

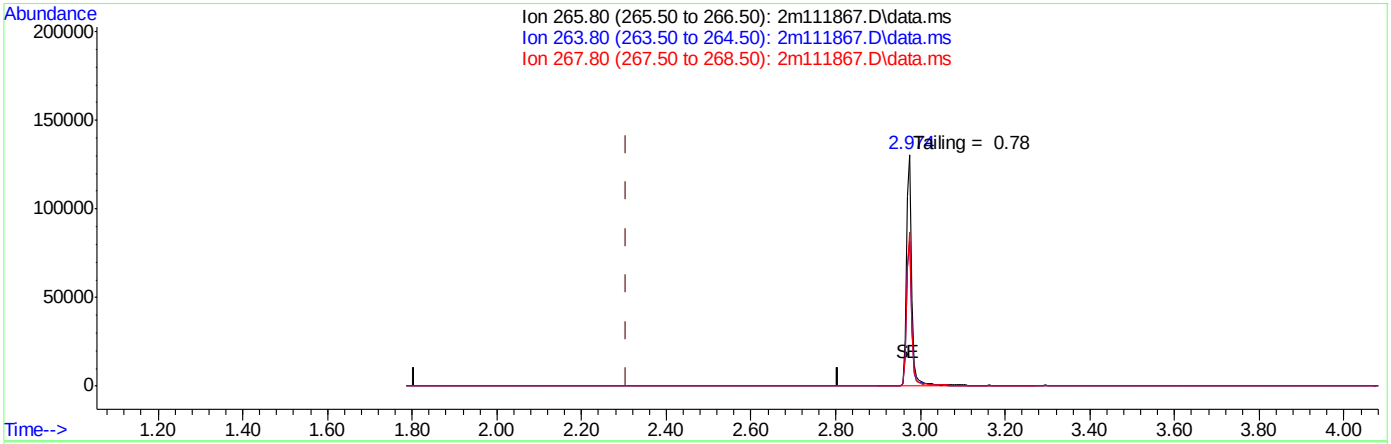
Average of 3.290 to 3.301 min.: 2m111867.D\data.ms
dftpp
Modified:subtracted

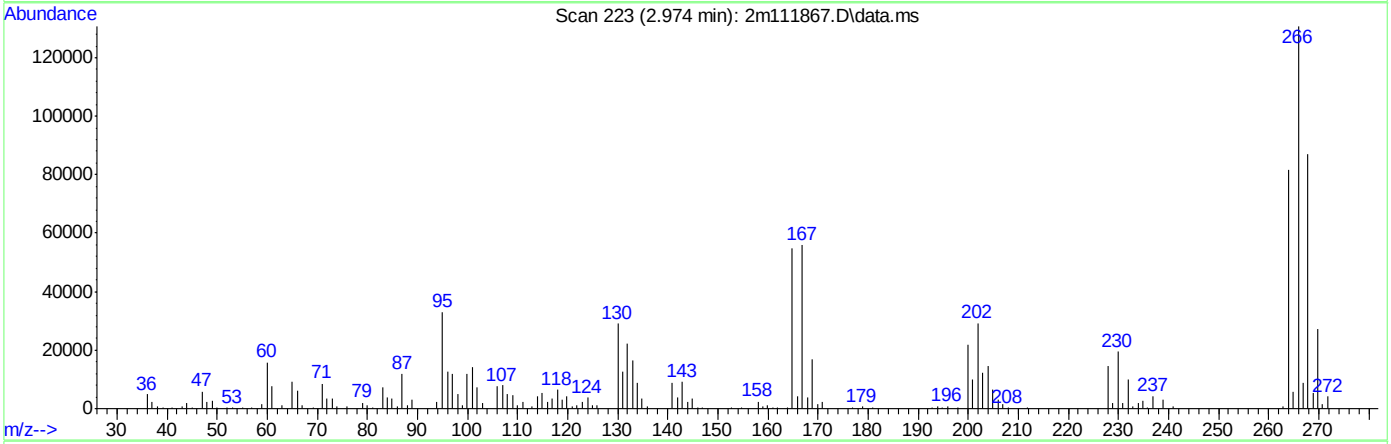
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 354.00 | 902 | 422.00 | 743 | | | | |
| 365.00 | 4128 | 423.00 | 6250 | | | | |
| 365.95 | 622 | 424.00 | 1180 | | | | |
| 370.95 | 235 | 425.00 | 111 | | | | |
| 372.00 | 1768 | 441.05 | 13616 | | | | |
| 373.00 | 447 | 442.05 | 93076 | | | | |
| 383.00 | 403 | 443.00 | 18348 | | | | |
| 402.00 | 590 | 444.00 | 1648 | | | | |
| 403.05 | 848 | | | | | | |
| 404.00 | 184 | | | | | | |
| 420.95 | 766 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111867.D
Acq On : 14 May 2019 3:43 pm
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 15:49:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111867.D\data.ms

(1) Pentachlorophenol (t)

2.974min (+0.668) 0.00ng m

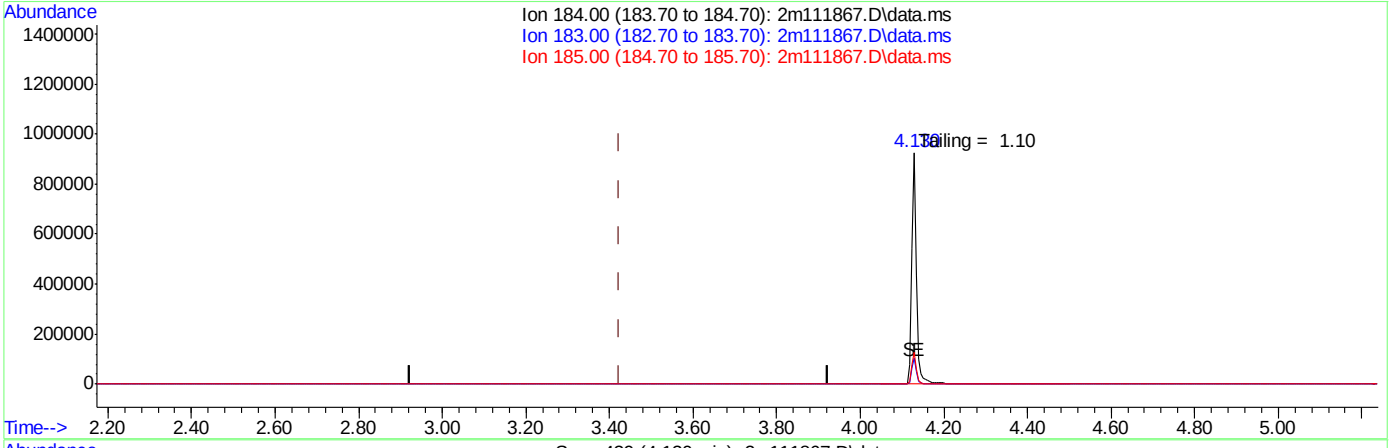
response 114415

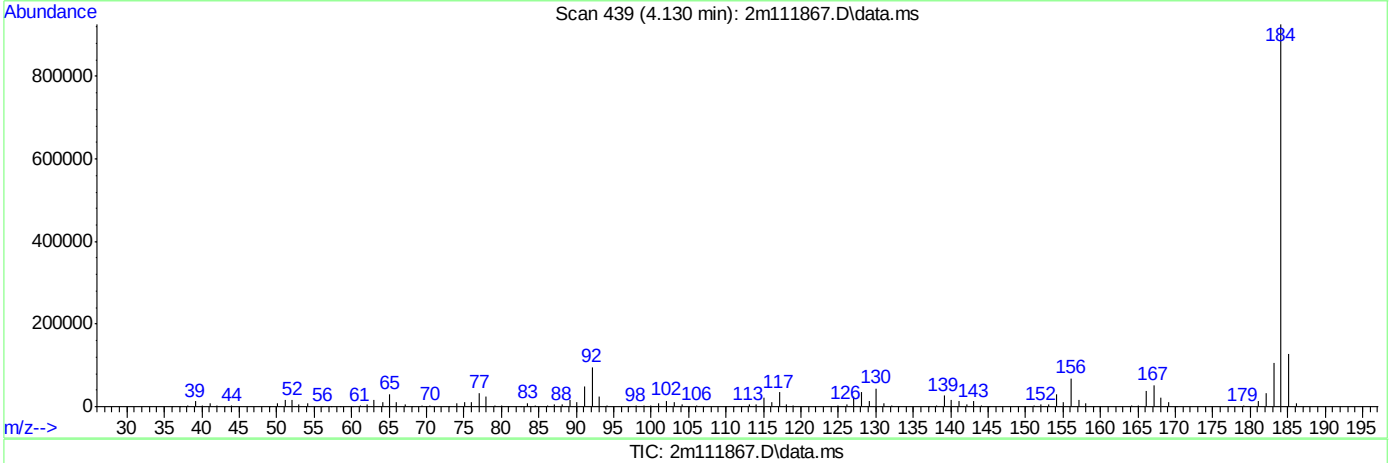
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 62.30 | 62.43 |
| 267.80 | 63.10 | 66.65 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111867.D
Acq On : 14 May 2019 3:43 pm
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 15:49:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111867.D\data.ms

(2) Benzidine (t)

4.130min (+0.706) 0.00ng m

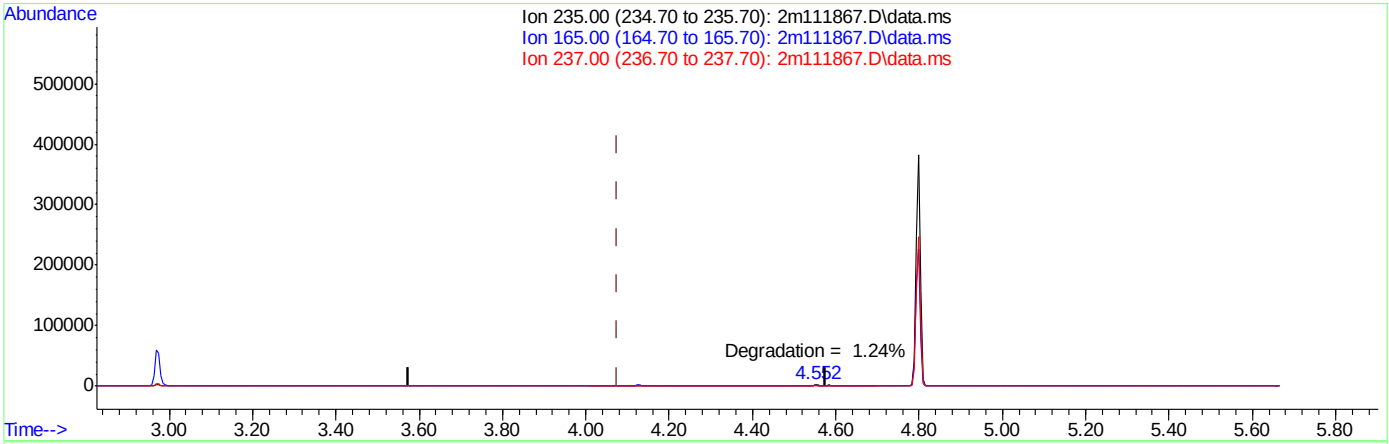
response 726011

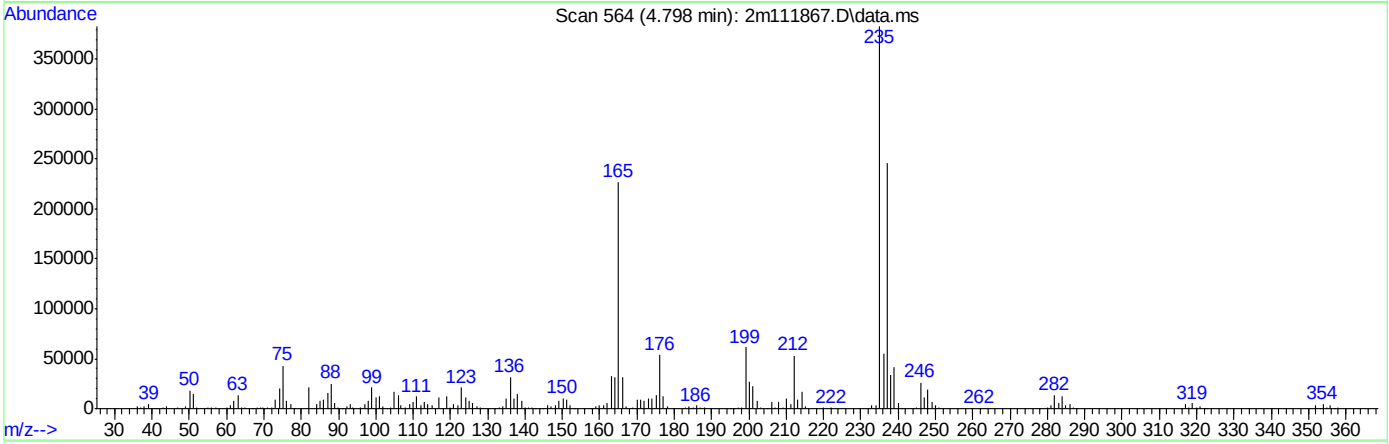
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.60 | 11.40 |
| 185.00 | 14.20 | 13.80 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111867.D
Acq On : 14 May 2019 3:43 pm
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 15:49:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111867.D\data.ms

(3) PP-DDT (t)

4.798min (+0.722) 0.00ng m

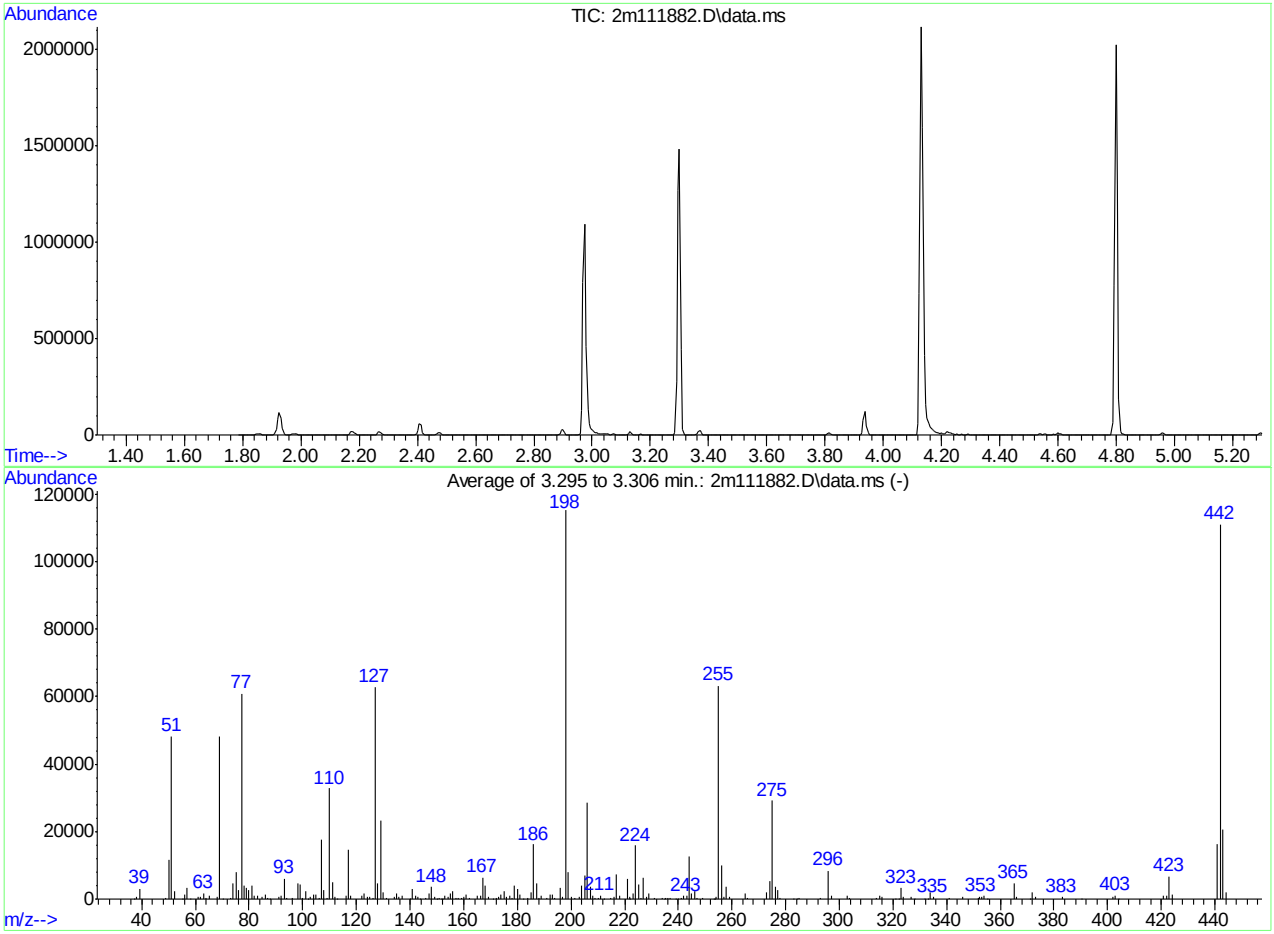
response 271088

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 46.60 | 0.00# |
| 237.00 | 63.20 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E2M4975\2m111882.D  Vial: 1
Acq On : 14 May 2019 10:18 pm  Operator: christc2
Sample : dftpp  Inst : MS2M
Misc : op13721,e2m4975,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 283, 284, 285; Background Corrected with Scan 278

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 41.9 | 48249 | PASS |
| 68 | 69 | 0.00 | 2 | 1.7 | 805 | PASS |
| 69 | 198 | 0.00 | 100 | 41.9 | 48193 | PASS |
| 70 | 69 | 0.00 | 2 | 0.2 | 107 | PASS |
| 127 | 198 | 40 | 60 | 54.6 | 62832 | PASS |
| 197 | 198 | 0.00 | 1 | 0.5 | 616 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 115138 | PASS |
| 199 | 198 | 5 | 9 | 7.0 | 8091 | PASS |
| 275 | 198 | 10 | 30 | 25.3 | 29101 | PASS |
| 365 | 198 | 1 | 100 | 4.1 | 4676 | PASS |
| 441 | 443 | 0.10 | 100 | 78.8 | 16152 | PASS |
| 442 | 198 | 40 | 100 | 96.5 | 111061 | PASS |
| 443 | 442 | 17 | 23 | 18.5 | 20509 | PASS |

2m111882.D DFTPP2M.M Wed May 15 09:59:46 2019

Average of 3.295 to 3.306 min.: 2m111882.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.00 | 108 | 61.00 | 548 | 76.05 | 2725 | 87.90 | 136 |
| 38.00 | 532 | 62.00 | 592 | 77.10 | 60899 | 91.00 | 775 |
| 39.10 | 3064 | 63.05 | 1783 | 78.05 | 3980 | 92.00 | 844 |
| 48.95 | 350 | 63.95 | 291 | 79.00 | 3319 | 93.00 | 6123 |
| 50.10 | 11513 | 65.00 | 1042 | 80.00 | 2764 | 94.00 | 388 |
| 51.10 | 48249 | 68.05 | 805 | 81.00 | 4097 | 95.95 | 297 |
| 52.10 | 2337 | 69.00 | 48193 | 82.00 | 1024 | 98.00 | 4640 |
| 55.00 | 163 | 70.00 | 107 | 83.00 | 871 | 99.00 | 4294 |
| 56.00 | 1414 | 73.00 | 453 | 85.00 | 668 | 99.95 | 390 |
| 57.00 | 3180 | 74.00 | 4773 | 86.00 | 1259 | 101.00 | 2300 |
| 58.00 | 115 | 75.00 | 8113 | 87.00 | 454 | 102.00 | 101 |

Average of 3.295 to 3.306 min.: 2m111882.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 102.95 | 664 | 116.00 | 883 | 130.00 | 1892 | 145.95 | 471 |
| 104.00 | 1293 | 117.00 | 14679 | 131.00 | 441 | 147.00 | 1682 |
| 105.00 | 1283 | 118.00 | 1127 | 134.00 | 623 | 148.00 | 3648 |
| 105.95 | 369 | 121.95 | 901 | 135.00 | 1671 | 149.00 | 708 |
| 107.00 | 17733 | 123.00 | 1812 | 135.95 | 658 | 150.00 | 122 |
| 108.00 | 2774 | 123.95 | 748 | 137.00 | 1168 | 151.00 | 275 |
| 109.10 | 493 | 125.00 | 687 | 140.00 | 126 | 151.70 | 142 |
| 110.00 | 32874 | 126.20 | 182 | 141.00 | 2849 | 152.00 | 119 |
| 111.00 | 4948 | 127.00 | 62832 | 142.00 | 949 | 153.00 | 976 |
| 112.00 | 566 | 128.05 | 4797 | 142.95 | 563 | 154.00 | 554 |
| 113.00 | 116 | 129.00 | 23353 | 143.90 | 116 | 155.00 | 1698 |

Average of 3.295 to 3.306 min.: 2m111882.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 156.05 | 2445 | 169.05 | 552 | 181.00 | 1295 | 194.00 | 267 |
| 156.95 | 399 | 171.00 | 118 | 182.00 | 152 | 196.00 | 3437 |
| 157.95 | 420 | 171.95 | 431 | 183.95 | 272 | 196.90 | 616 |
| 159.00 | 375 | 173.05 | 801 | 185.05 | 2058 | 198.00 | 115138 |
| 160.00 | 761 | 174.00 | 1296 | 186.00 | 16237 | 199.00 | 8091 |
| 161.00 | 1419 | 175.05 | 2232 | 187.10 | 4556 | 200.00 | 529 |
| 162.00 | 416 | 176.00 | 595 | 188.00 | 488 | 201.50 | 456 |
| 164.95 | 1135 | 177.00 | 1070 | 189.05 | 846 | 203.00 | 774 |
| 166.10 | 948 | 178.05 | 373 | 191.05 | 288 | 204.05 | 3917 |
| 167.00 | 6438 | 179.00 | 4116 | 192.00 | 1277 | 205.10 | 7021 |
| 168.00 | 3898 | 180.00 | 3012 | 193.00 | 1466 | 206.10 | 28606 |

Average of 3.295 to 3.306 min.: 2m111882.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 207.10 | 3717 | 221.70 | 561 | 234.90 | 159 | 246.00 | 2262 |
| 208.00 | 948 | 222.00 | 157 | 235.10 | 217 | 247.00 | 390 |
| 209.00 | 258 | 223.00 | 1592 | 236.00 | 241 | 249.00 | 363 |
| 210.05 | 390 | 224.10 | 15874 | 237.00 | 504 | 253.10 | 164 |
| 211.00 | 1104 | 225.10 | 4379 | 238.90 | 123 | 253.80 | 111 |
| 212.10 | 119 | 226.10 | 387 | 240.00 | 132 | 254.15 | 539 |
| 214.95 | 261 | 227.00 | 6386 | 240.90 | 337 | 255.00 | 63168 |
| 216.00 | 622 | 228.00 | 768 | 242.00 | 877 | 256.00 | 9853 |
| 217.00 | 7388 | 229.00 | 1524 | 243.00 | 976 | 257.05 | 763 |
| 218.00 | 980 | 231.00 | 472 | 244.10 | 12528 | 258.00 | 3701 |
| 221.05 | 5939 | 234.00 | 345 | 245.05 | 1722 | 258.95 | 571 |

Average of 3.295 to 3.306 min.: 2m111882.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 265.00 | 1523 | 293.00 | 409 | 324.00 | 529 | 352.95 | 813 |
| 265.85 | 305 | 296.00 | 8396 | 326.95 | 530 | 354.05 | 1117 |
| 273.00 | 1873 | 296.90 | 1052 | 328.00 | 139 | 355.00 | 100 |
| 274.00 | 5266 | 303.05 | 1121 | 331.90 | 178 | 365.00 | 4676 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 275.05 | 29101 | 303.95 | 275 | 333.00 | 177 | 366.00 | 635 |
| 276.00 | 3813 | 313.95 | 481 | 334.05 | 2084 | 370.90 | 142 |
| 277.00 | 2706 | 314.95 | 1041 | 335.00 | 637 | 372.00 | 1843 |
| 277.95 | 346 | 316.00 | 562 | 341.00 | 283 | 373.00 | 585 |
| 283.00 | 110 | 321.10 | 133 | 345.95 | 752 | 383.00 | 533 |
| 284.00 | 126 | 322.00 | 106 | 351.90 | 273 | 390.10 | 106 |
| 285.00 | 354 | 323.05 | 3262 | 352.05 | 763 | 402.00 | 766 |

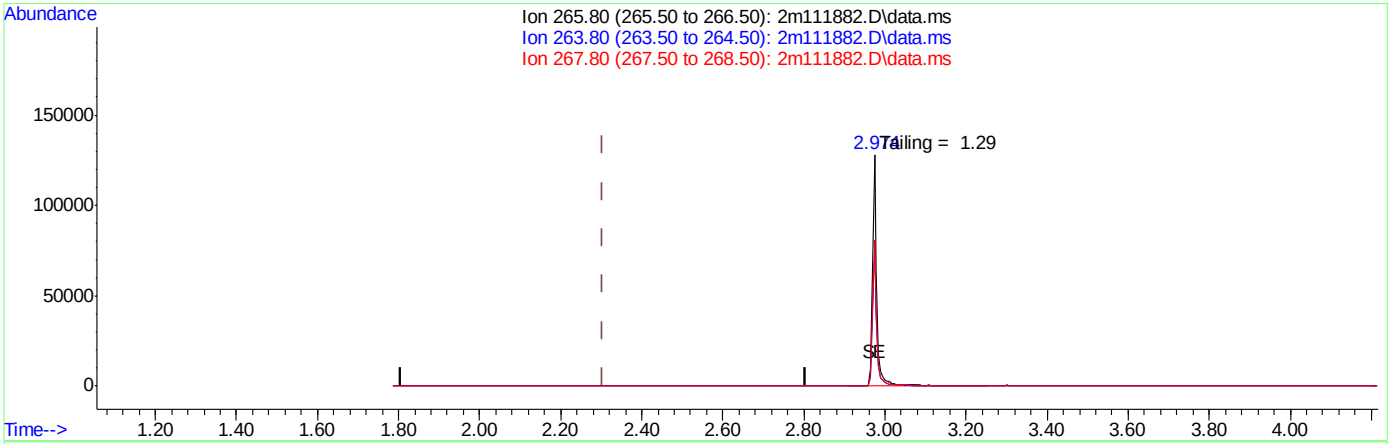
Average of 3.295 to 3.306 min.: 2m111882.D\data.ms
dftpp
Modified:subtracted

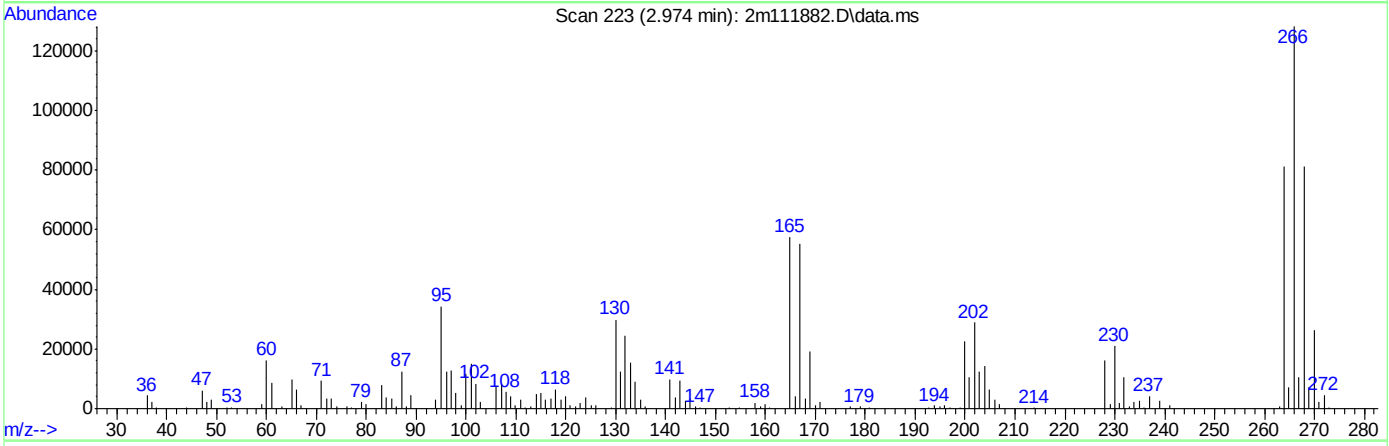
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 403.00 | 1089 | | | | | | |
| 403.90 | 157 | | | | | | |
| 420.95 | 999 | | | | | | |
| 421.95 | 953 | | | | | | |
| 423.00 | 6774 | | | | | | |
| 424.00 | 1494 | | | | | | |
| 441.00 | 16152 | | | | | | |
| 442.05 | 111061 | | | | | | |
| 443.05 | 20509 | | | | | | |
| 444.00 | 1964 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111882.D
Acq On : 14 May 2019 10:18 pm
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 22:23:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111882.D\data.ms

(1) Pentachlorophenol (t)

2.974min (+0.668) 0.00ng m

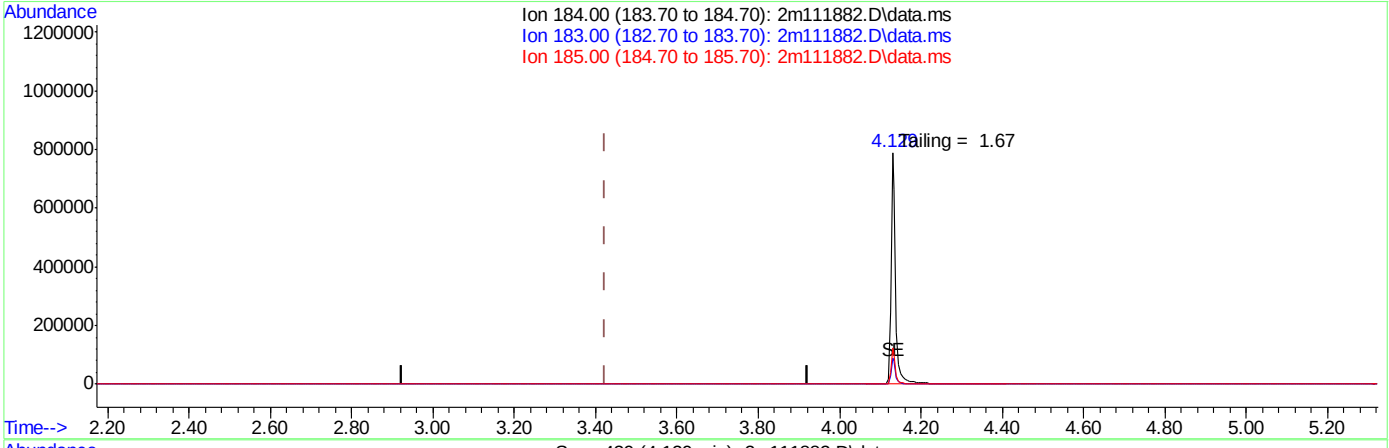
response 105750

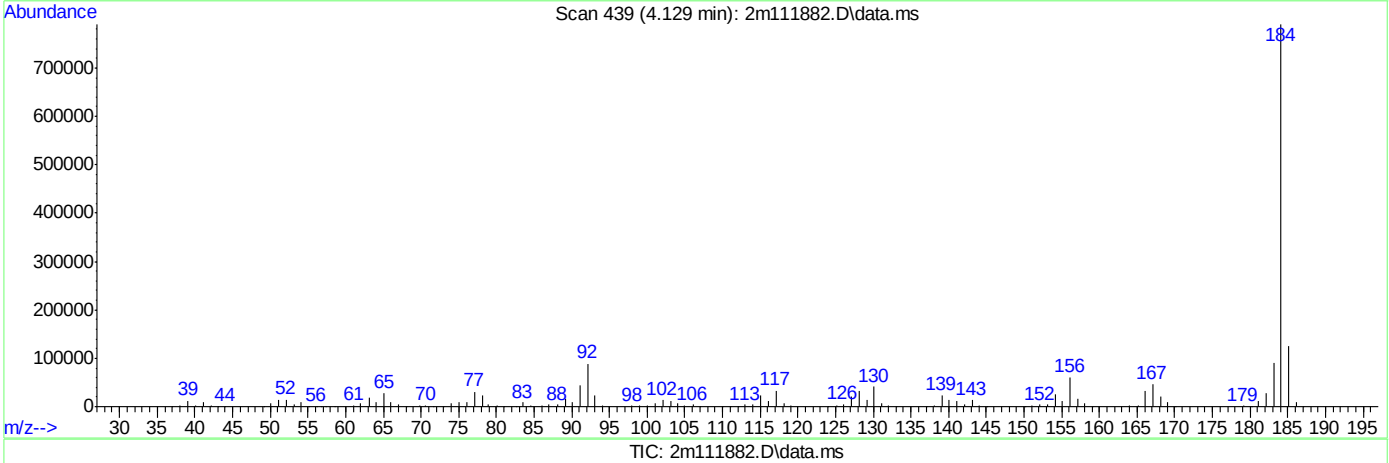
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 62.30 | 63.24 |
| 267.80 | 63.10 | 63.31 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111882.D
Acq On : 14 May 2019 10:18 pm
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 22:23:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111882.D\data.ms

(2) Benzidine (t)

4.129min (+0.706) 0.00ng m

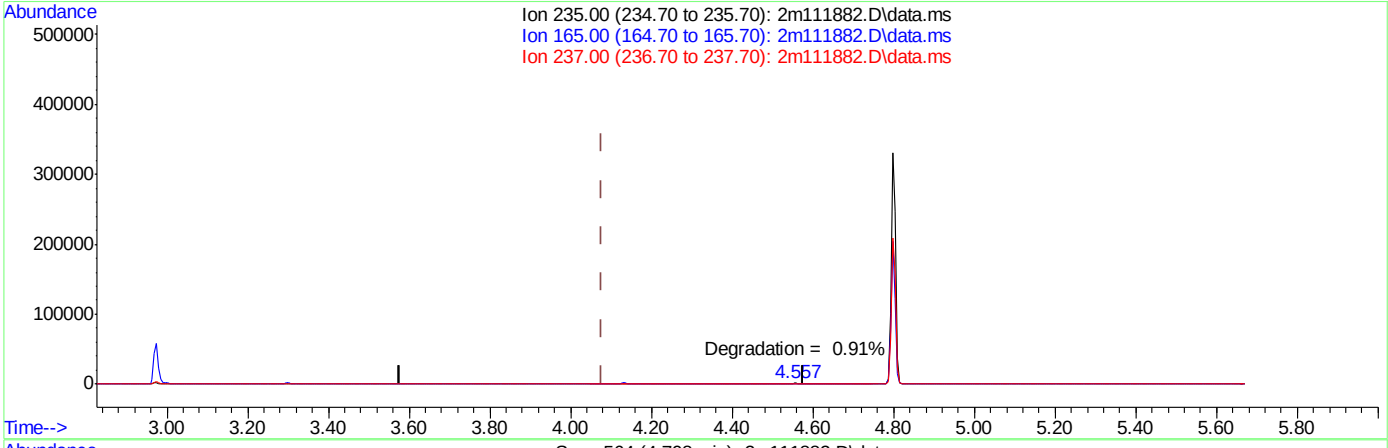
response 688451

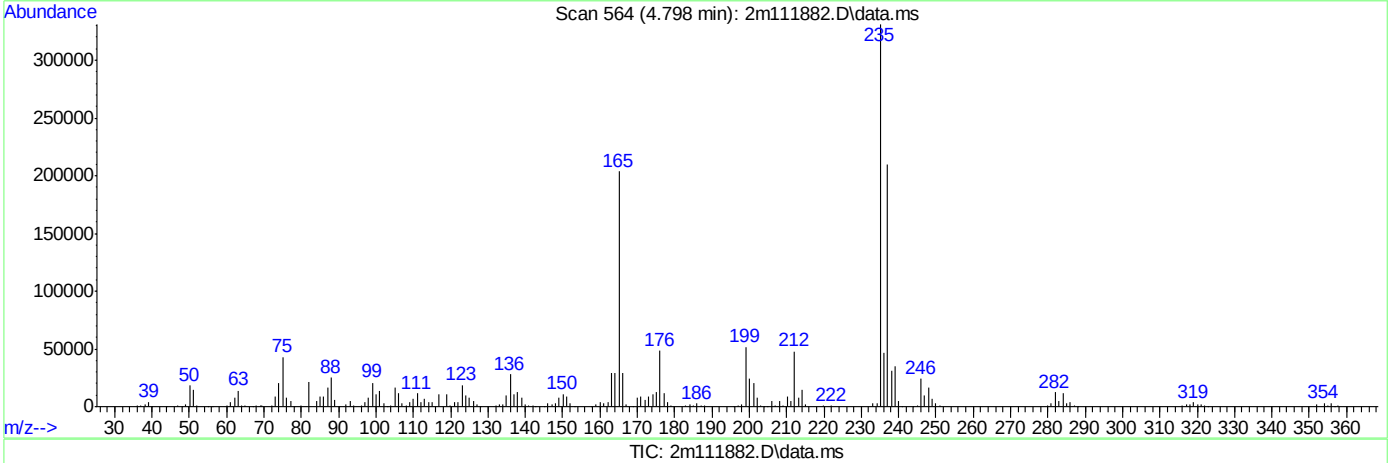
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.60 | 11.49 |
| 185.00 | 14.20 | 15.81 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111882.D
Acq On : 14 May 2019 10:18 pm
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 22:23:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111882.D\data.ms

(3) PP-DDT (t)

4.798min (+0.722) 0.00ng m

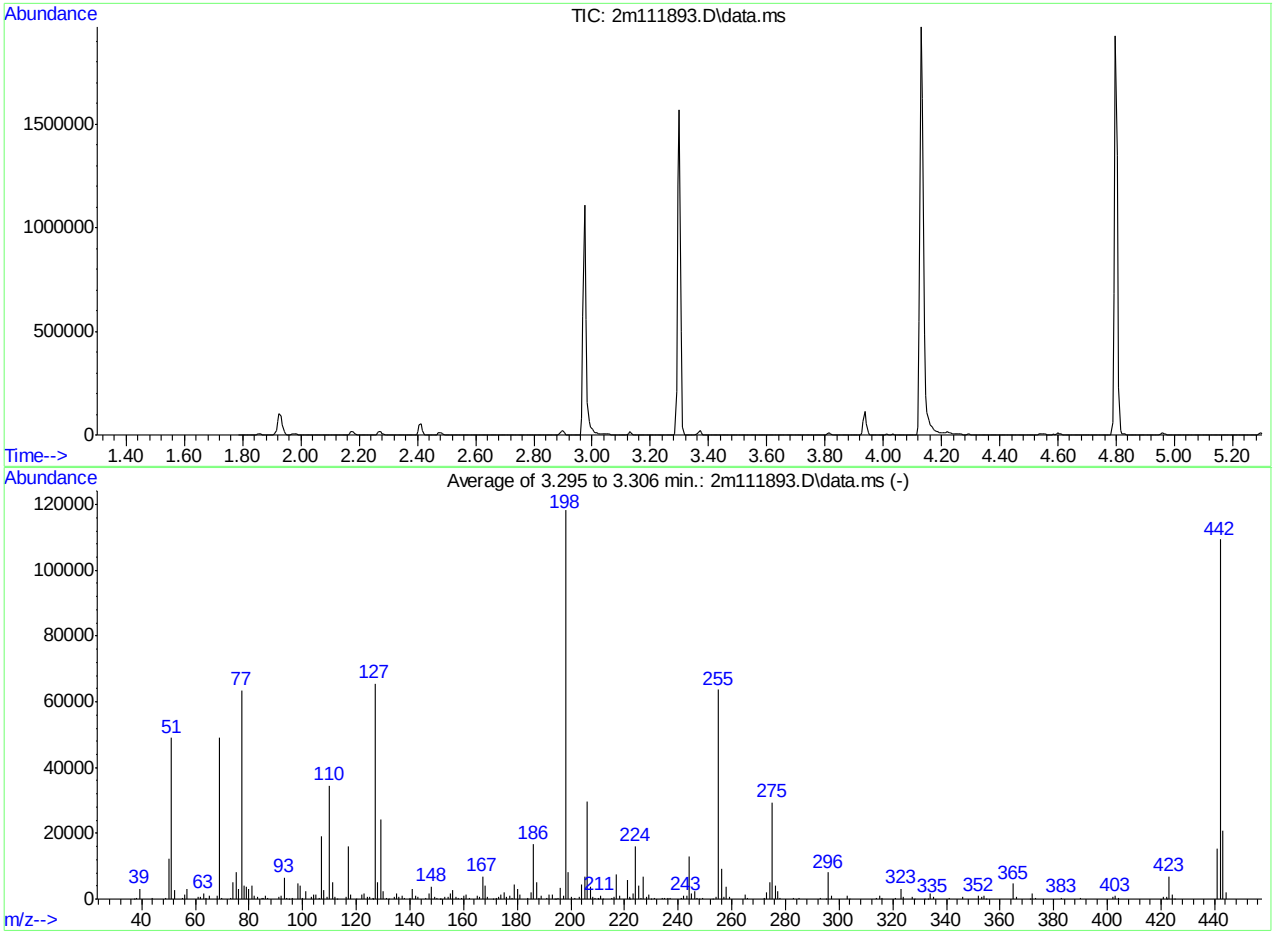
response 234091

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 46.60 | 0.00# |
| 237.00 | 63.20 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E2M4975\2m111893.D  Vial: 1
Acq On : 15 May 2019 3:03 am  Operator: christc2
Sample : dftpp  Inst : MS2M
Misc : op13721,e2m4976,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 283, 284, 285; Background Corrected with Scan 278

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 41.4 | 48944 | PASS |
| 68 | 69 | 0.00 | 2 | 1.8 | 871 | PASS |
| 69 | 198 | 0.00 | 100 | 41.6 | 49163 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 234 | PASS |
| 127 | 198 | 40 | 60 | 55.5 | 65554 | PASS |
| 197 | 198 | 0.00 | 1 | 0.9 | 1101 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 118192 | PASS |
| 199 | 198 | 5 | 9 | 6.9 | 8129 | PASS |
| 275 | 198 | 10 | 30 | 24.9 | 29376 | PASS |
| 365 | 198 | 1 | 100 | 3.9 | 4636 | PASS |
| 441 | 443 | 0.10 | 100 | 74.1 | 15365 | PASS |
| 442 | 198 | 40 | 100 | 92.5 | 109370 | PASS |
| 443 | 442 | 17 | 23 | 19.0 | 20746 | PASS |

2m111893.D DFTPP2M.M Wed May 15 10:35:48 2019

Average of 3.295 to 3.306 min.: 2m111893.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.00 | 114 | 61.00 | 530 | 76.10 | 3101 | 87.00 | 488 |
| 38.00 | 460 | 62.00 | 678 | 77.10 | 63446 | 91.00 | 766 |
| 39.10 | 3098 | 63.00 | 1884 | 78.00 | 4012 | 91.95 | 968 |
| 43.95 | 383 | 64.00 | 254 | 79.00 | 3637 | 93.00 | 6512 |
| 49.05 | 351 | 65.10 | 1005 | 80.00 | 3020 | 93.95 | 461 |
| 50.10 | 12248 | 68.00 | 871 | 81.00 | 4242 | 95.00 | 104 |
| 51.10 | 48944 | 69.00 | 49163 | 81.95 | 998 | 95.95 | 320 |
| 52.10 | 2603 | 69.95 | 234 | 83.00 | 853 | 98.00 | 4898 |
| 55.00 | 254 | 72.95 | 364 | 84.90 | 446 | 99.00 | 4270 |
| 56.00 | 1337 | 74.00 | 5132 | 85.10 | 324 | 100.00 | 420 |
| 57.00 | 3147 | 75.00 | 8297 | 86.00 | 1095 | 101.00 | 2563 |

Average of 3.295 to 3.306 min.: 2m111893.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 103.00 | 674 | 116.05 | 771 | 128.00 | 5110 | 141.00 | 3008 |
| 103.95 | 1471 | 117.00 | 15893 | 129.00 | 24349 | 141.95 | 953 |
| 105.00 | 1398 | 118.00 | 1262 | 130.00 | 2246 | 143.00 | 641 |
| 105.95 | 440 | 119.90 | 107 | 131.05 | 418 | 145.95 | 434 |
| 107.00 | 19043 | 122.00 | 1247 | 132.00 | 110 | 147.00 | 1631 |
| 108.00 | 2734 | 123.00 | 1674 | 134.00 | 749 | 148.00 | 3808 |
| 109.00 | 537 | 124.00 | 683 | 135.00 | 1783 | 149.00 | 777 |
| 110.00 | 34443 | 125.00 | 703 | 136.00 | 685 | 149.95 | 236 |
| 111.00 | 5218 | 126.00 | 190 | 137.05 | 1166 | 151.20 | 170 |
| 112.00 | 550 | 126.20 | 156 | 138.00 | 296 | 151.40 | 175 |
| 112.90 | 124 | 127.00 | 65554 | 139.95 | 220 | 153.00 | 831 |

Average of 3.295 to 3.306 min.: 2m111893.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 154.00 | 669 | 167.00 | 6921 | 179.00 | 4342 | 193.00 | 1501 |
| 155.00 | 1775 | 168.00 | 4170 | 180.00 | 2980 | 193.90 | 154 |
| 156.05 | 2882 | 169.00 | 755 | 181.05 | 1516 | 194.10 | 158 |
| 157.00 | 549 | 170.90 | 117 | 183.95 | 338 | 194.95 | 252 |
| 157.95 | 493 | 172.00 | 448 | 185.00 | 2173 | 196.00 | 3490 |
| 159.00 | 355 | 173.00 | 745 | 186.10 | 16749 | 197.10 | 1101 |
| 159.95 | 979 | 174.00 | 1315 | 187.00 | 5080 | 198.00 | 118192 |
| 161.00 | 1383 | 175.05 | 2218 | 188.05 | 481 | 199.00 | 8129 |
| 162.00 | 375 | 176.00 | 829 | 189.00 | 990 | 200.00 | 526 |
| 164.95 | 1154 | 177.05 | 1052 | 191.00 | 374 | 201.50 | 483 |
| 166.00 | 797 | 177.95 | 367 | 192.00 | 1443 | 203.00 | 778 |

Average of 3.295 to 3.306 min.: 2m111893.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 204.10 | 4352 | 216.00 | 582 | 227.95 | 863 | 244.10 | 13017 |
| 205.00 | 6800 | 217.00 | 7507 | 229.00 | 1398 | 245.05 | 1800 |
| 206.10 | 29656 | 218.00 | 1065 | 229.90 | 134 | 246.00 | 2263 |
| 207.10 | 3862 | 221.10 | 5731 | 231.00 | 498 | 247.00 | 378 |
| 208.00 | 833 | 221.70 | 585 | 233.95 | 319 | 247.90 | 104 |
| 208.95 | 299 | 222.00 | 128 | 234.95 | 454 | 249.00 | 444 |
| 210.00 | 146 | 223.05 | 1738 | 236.00 | 253 | 253.00 | 171 |
| 210.20 | 245 | 224.10 | 16203 | 236.95 | 455 | 254.10 | 555 |
| 211.00 | 1168 | 225.10 | 4016 | 241.00 | 311 | 255.00 | 63744 |
| 212.00 | 124 | 225.95 | 312 | 242.00 | 986 | 256.00 | 9323 |
| 215.00 | 248 | 227.00 | 6753 | 243.00 | 1084 | 257.00 | 571 |

Average of 3.295 to 3.306 min.: 2m111893.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 258.00 | 3650 | 283.00 | 273 | 321.00 | 230 | 351.95 | 983 |
| 259.05 | 532 | 285.00 | 429 | 323.05 | 3123 | 353.00 | 690 |
| 265.00 | 1451 | 292.95 | 495 | 324.05 | 695 | 354.00 | 1058 |
| 265.95 | 316 | 294.90 | 112 | 327.00 | 639 | 354.90 | 117 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 272.05 | 221 | 296.00 | 8155 | 328.00 | 161 | 365.00 | 4636 |
| 273.00 | 1977 | 297.00 | 1130 | 332.00 | 123 | 365.95 | 727 |
| 274.00 | 5270 | 303.05 | 898 | 332.90 | 164 | 371.00 | 154 |
| 275.10 | 29376 | 304.00 | 157 | 334.00 | 1794 | 372.05 | 1806 |
| 276.05 | 4037 | 314.00 | 477 | 335.00 | 542 | 373.05 | 443 |
| 277.00 | 2567 | 315.00 | 1015 | 341.05 | 313 | 382.95 | 489 |
| 278.00 | 469 | 316.05 | 495 | 345.95 | 764 | 390.05 | 229 |

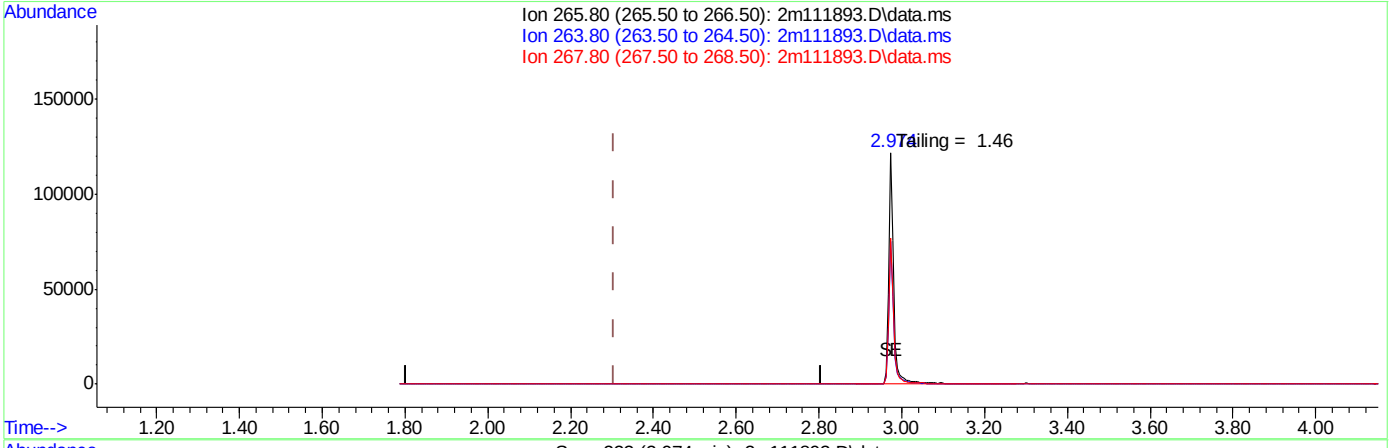
Average of 3.295 to 3.306 min.: 2m111893.D\data.ms
dftpp
Modified:subtracted

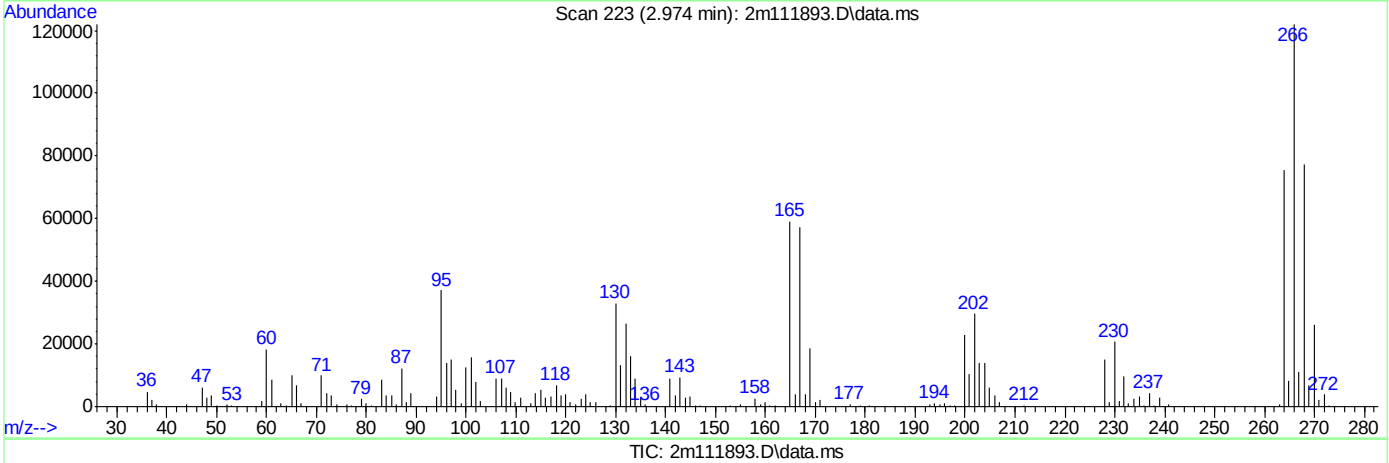
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 402.00 | 813 | 443.05 | 20746 | | | | |
| 402.95 | 1001 | 444.05 | 1977 | | | | |
| 403.95 | 343 | | | | | | |
| 421.00 | 811 | | | | | | |
| 421.90 | 131 | | | | | | |
| 422.05 | 633 | | | | | | |
| 423.05 | 6857 | | | | | | |
| 424.05 | 1387 | | | | | | |
| 424.90 | 107 | | | | | | |
| 441.05 | 15365 | | | | | | |
| 442.10 | 109370 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111893.D
Acq On : 15 May 2019 3:03 am
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 03:09:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111893.D\data.ms

(1) Pentachlorophenol (t)

2.974min (+0.668) 0.00ng m

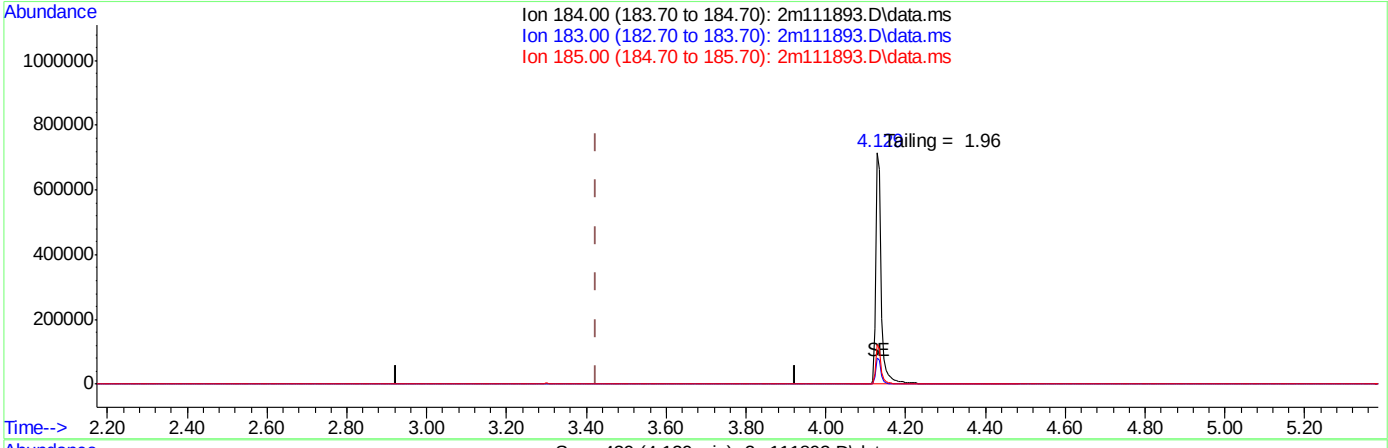
response 100664

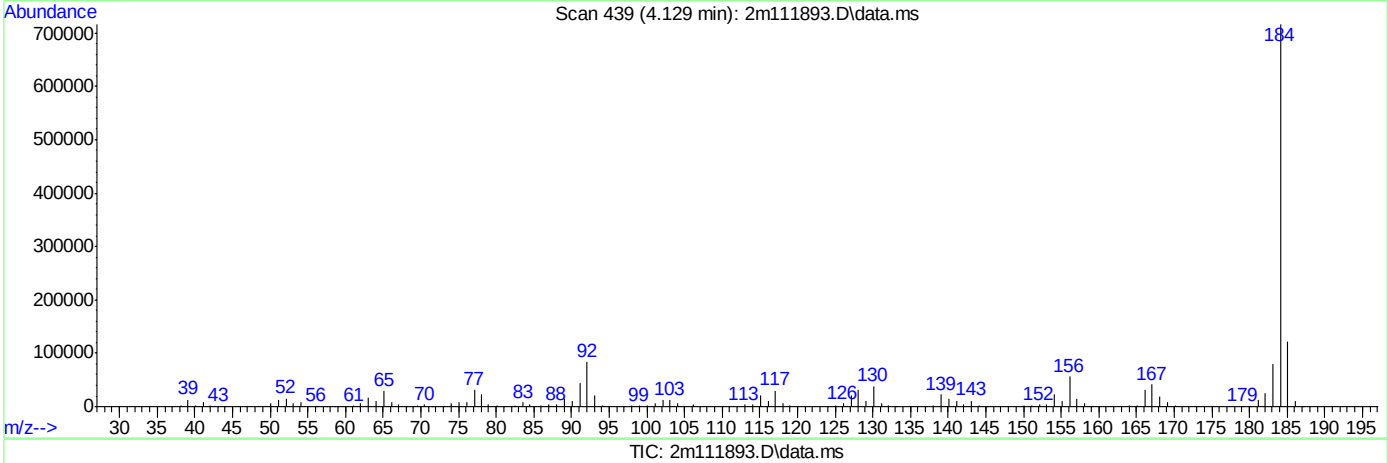
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 62.30 | 61.84 |
| 267.80 | 63.10 | 63.29 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111893.D
Acq On : 15 May 2019 3:03 am
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 03:09:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111893.D\data.ms

(2) Benzidine (t)

4.129min (+0.706) 0.00ng m

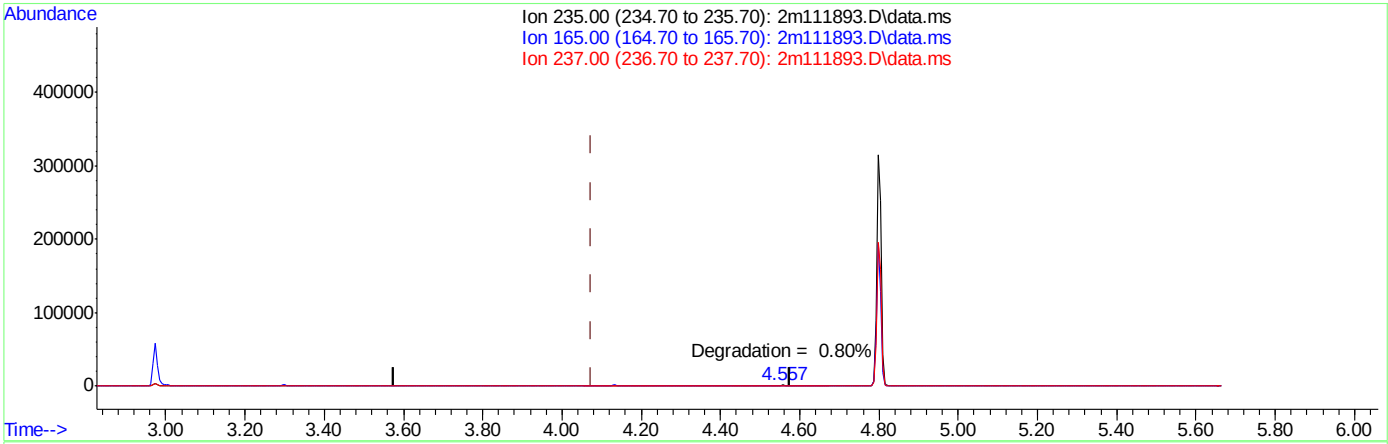
response 665392

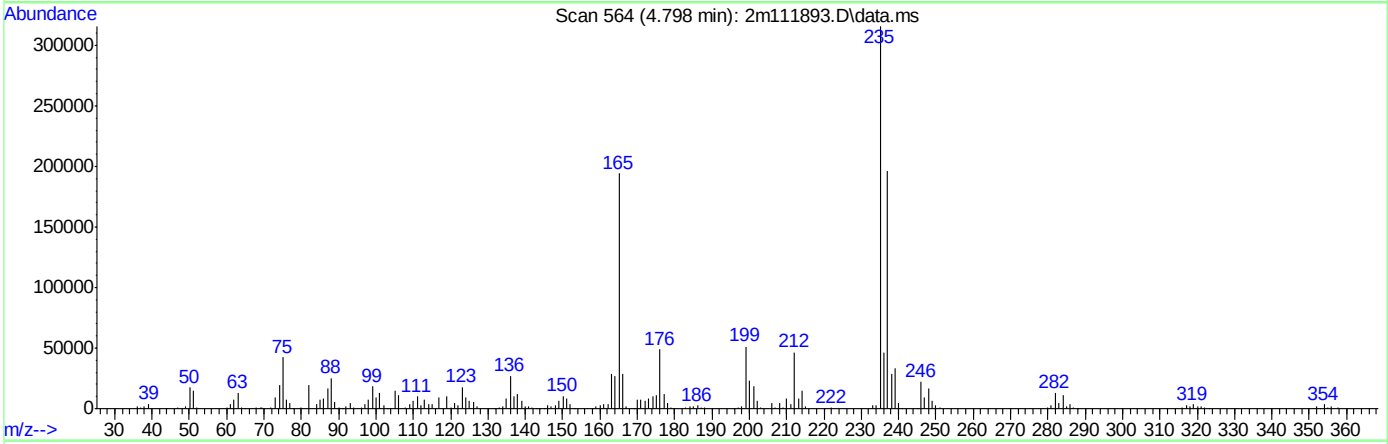
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.60 | 11.29 |
| 185.00 | 14.20 | 17.00 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111893.D
Acq On : 15 May 2019 3:03 am
Operator : christc2
Sample : dftpp
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 03:09:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111893.D\data.ms

(3) PP-DDT (t)

4.798min (+0.722) 0.00ng m

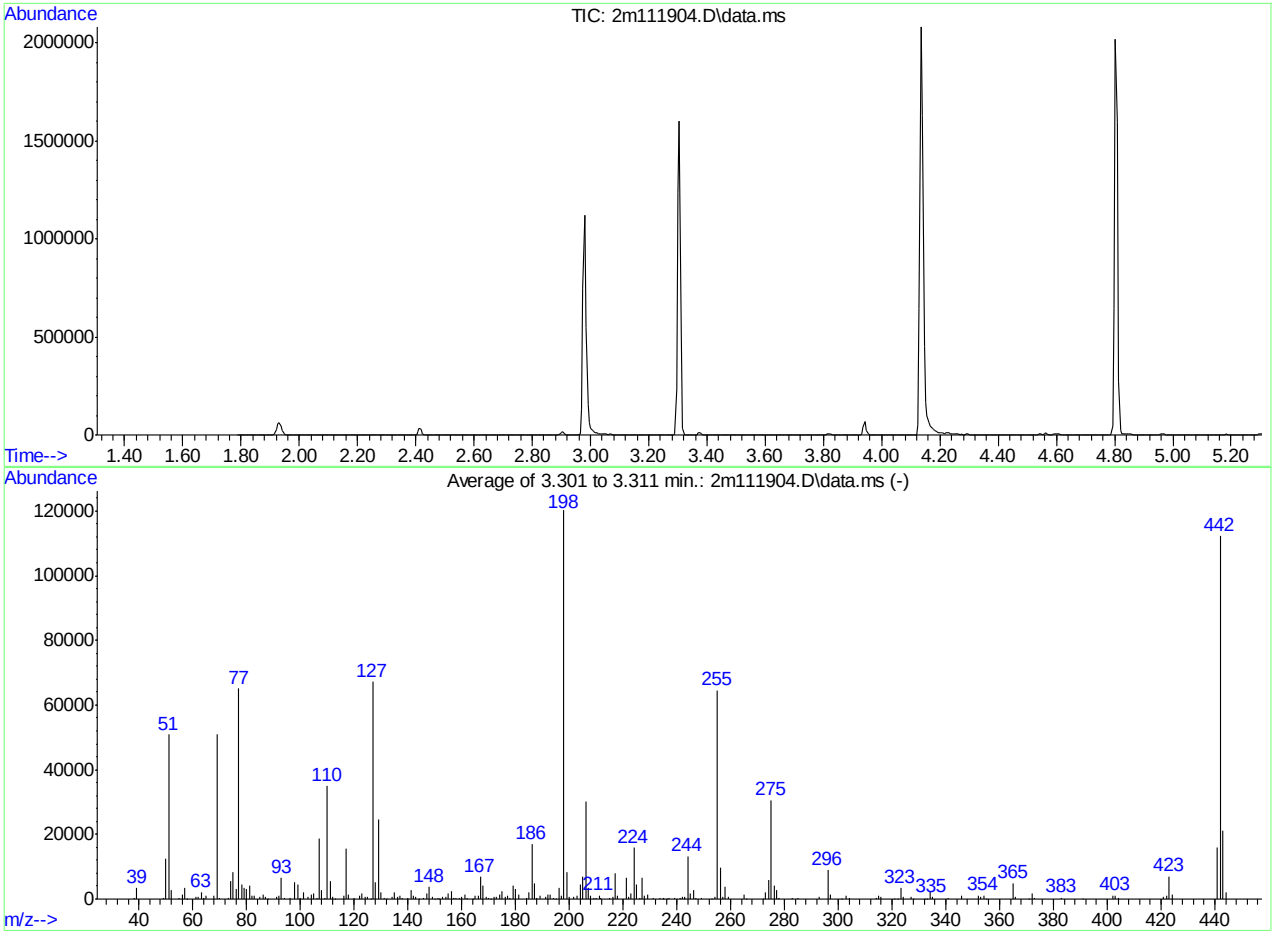
response 229934

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 46.60 | 0.00# |
| 237.00 | 63.20 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E2M4977\2m111904.D  Vial: 1
Acq On : 15 May 2019 12:04 pm  Operator: angelar
Sample : dftpp  Inst : MS2M
Misc : op13721,e2m4977,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 284, 285, 286; Background Corrected with Scan 279

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 42.4 | 50924 | PASS |
| 68 | 69 | 0.00 | 2 | 1.8 | 899 | PASS |
| 69 | 198 | 0.00 | 100 | 42.5 | 51010 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 239 | PASS |
| 127 | 198 | 40 | 60 | 55.9 | 67176 | PASS |
| 197 | 198 | 0.00 | 1 | 1.0 | 1164 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 120160 | PASS |
| 199 | 198 | 5 | 9 | 6.9 | 8247 | PASS |
| 275 | 198 | 10 | 30 | 25.4 | 30504 | PASS |
| 365 | 198 | 1 | 100 | 4.2 | 4989 | PASS |
| 441 | 443 | 0.10 | 100 | 76.1 | 16062 | PASS |
| 442 | 198 | 40 | 100 | 93.4 | 112176 | PASS |
| 443 | 442 | 17 | 23 | 18.8 | 21118 | PASS |

2m111904.D DFTPP2M.M Wed May 15 12:46:28 2019

Average of 3.301 to 3.311 min.: 2m111904.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 38.05 | 373 | 62.00 | 700 | 77.10 | 65077 | 91.00 | 793 |
| 39.10 | 3420 | 63.05 | 2101 | 78.10 | 4422 | 92.00 | 1048 |
| 49.00 | 391 | 64.05 | 220 | 79.00 | 3634 | 93.00 | 6467 |
| 50.10 | 12645 | 65.00 | 1216 | 80.00 | 3005 | 94.05 | 424 |
| 51.10 | 50924 | 68.00 | 899 | 81.00 | 4212 | 96.00 | 312 |
| 52.10 | 2672 | 69.00 | 51010 | 82.00 | 991 | 98.00 | 5114 |
| 54.95 | 262 | 70.00 | 239 | 83.00 | 953 | 99.00 | 4645 |
| 56.00 | 1487 | 73.05 | 372 | 85.00 | 696 | 99.95 | 354 |
| 57.00 | 3616 | 74.00 | 5592 | 86.00 | 1305 | 101.00 | 2257 |
| 58.00 | 106 | 75.00 | 8372 | 86.95 | 551 | 102.95 | 673 |
| 61.00 | 771 | 76.05 | 3261 | 88.00 | 146 | 104.00 | 1462 |

Average of 3.301 to 3.311 min.: 2m111904.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 105.00 | 1607 | 118.00 | 1254 | 131.00 | 384 | 144.00 | 109 |
| 106.05 | 431 | 119.95 | 247 | 132.00 | 106 | 145.95 | 460 |
| 107.00 | 18677 | 122.00 | 1221 | 134.00 | 652 | 147.00 | 1644 |
| 108.00 | 2761 | 123.00 | 1831 | 135.00 | 1963 | 148.00 | 3736 |
| 109.05 | 486 | 123.95 | 716 | 136.05 | 808 | 149.00 | 824 |
| 110.00 | 34924 | 125.00 | 815 | 137.00 | 1135 | 150.00 | 112 |
| 111.00 | 5427 | 126.10 | 118 | 137.85 | 249 | 151.10 | 324 |
| 112.00 | 646 | 127.00 | 67176 | 139.95 | 274 | 151.70 | 101 |
| 113.00 | 107 | 128.00 | 5155 | 141.00 | 2917 | 153.00 | 838 |
| 116.00 | 1011 | 129.00 | 24782 | 142.00 | 1022 | 154.00 | 718 |
| 117.00 | 15453 | 130.00 | 2131 | 142.95 | 733 | 155.00 | 1849 |

Average of 3.301 to 3.311 min.: 2m111904.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 156.05 | 2575 | 168.00 | 4277 | 179.00 | 4185 | 193.00 | 1437 |
| 157.00 | 465 | 169.00 | 697 | 180.00 | 3025 | 194.00 | 306 |
| 158.00 | 486 | 170.00 | 260 | 181.00 | 1502 | 194.90 | 109 |
| 158.95 | 359 | 170.80 | 116 | 183.90 | 320 | 196.05 | 3363 |
| 159.95 | 796 | 171.95 | 587 | 185.00 | 2088 | 197.10 | 1164 |
| 161.00 | 1464 | 173.05 | 629 | 186.05 | 17149 | 198.00 | 120160 |
| 162.00 | 373 | 174.00 | 1451 | 187.05 | 4968 | 199.00 | 8247 |
| 164.00 | 103 | 175.00 | 2601 | 188.00 | 451 | 200.00 | 712 |
| 165.00 | 1152 | 176.00 | 764 | 189.00 | 1007 | 201.50 | 634 |
| 166.00 | 945 | 177.00 | 951 | 191.00 | 631 | 203.00 | 967 |
| 167.00 | 6862 | 178.00 | 328 | 192.00 | 1448 | 204.05 | 4521 |

Average of 3.301 to 3.311 min.: 2m111904.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 205.10 | 7059 | 218.05 | 1020 | 233.90 | 281 | 245.10 | 1760 |
| 206.10 | 30066 | 221.05 | 6442 | 234.80 | 147 | 246.00 | 2626 |
| 207.00 | 3601 | 221.95 | 555 | 235.00 | 239 | 246.95 | 419 |
| 208.00 | 1061 | 223.00 | 1611 | 236.00 | 161 | 249.00 | 389 |
| 208.90 | 337 | 224.10 | 15919 | 236.95 | 488 | 253.00 | 169 |
| 210.00 | 506 | 225.05 | 4376 | 239.00 | 226 | 254.00 | 595 |
| 211.05 | 1080 | 226.00 | 450 | 241.00 | 384 | 255.00 | 64600 |
| 211.80 | 246 | 227.00 | 6618 | 242.00 | 836 | 256.00 | 9681 |
| 214.95 | 288 | 228.00 | 944 | 242.90 | 305 | 257.00 | 765 |
| 216.00 | 598 | 229.00 | 1525 | 243.05 | 646 | 258.00 | 3771 |
| 217.00 | 7815 | 231.00 | 530 | 244.10 | 13196 | 259.00 | 574 |

Average of 3.301 to 3.311 min.: 2m111904.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 264.95 | 1507 | 292.95 | 605 | 323.10 | 3412 | 353.00 | 776 |
| 265.90 | 178 | 296.00 | 8897 | 324.05 | 584 | 354.00 | 1059 |
| 272.00 | 101 | 297.00 | 1370 | 326.95 | 564 | 355.00 | 115 |
| 273.00 | 2067 | 301.00 | 102 | 328.00 | 156 | 365.00 | 4989 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 274.00 | 5763 | 303.00 | 1134 | 332.00 | 119 | 365.95 | 601 |
| 275.05 | 30504 | 304.00 | 270 | 333.00 | 148 | 371.00 | 114 |
| 276.00 | 4074 | 314.00 | 479 | 334.00 | 2307 | 372.00 | 1907 |
| 277.00 | 2672 | 315.00 | 1060 | 334.95 | 548 | 373.00 | 483 |
| 278.00 | 495 | 316.00 | 607 | 341.00 | 309 | 383.00 | 405 |
| 282.95 | 306 | 320.90 | 112 | 346.00 | 945 | 391.00 | 127 |
| 285.05 | 397 | 322.10 | 109 | 352.05 | 1015 | 401.95 | 906 |

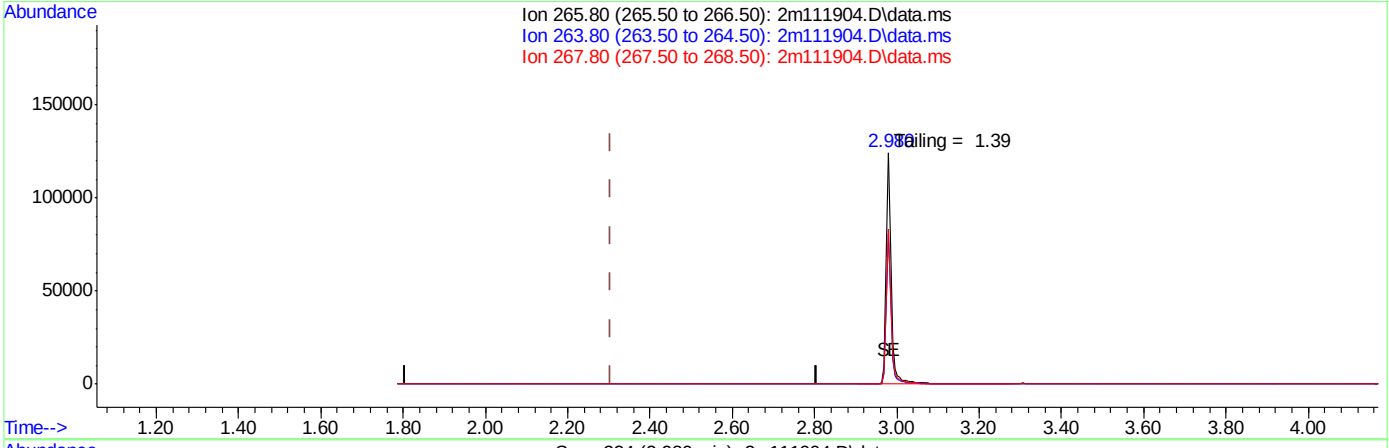
Average of 3.301 to 3.311 min.: 2m111904.D\data.ms
dftpp
Modified:subtracted

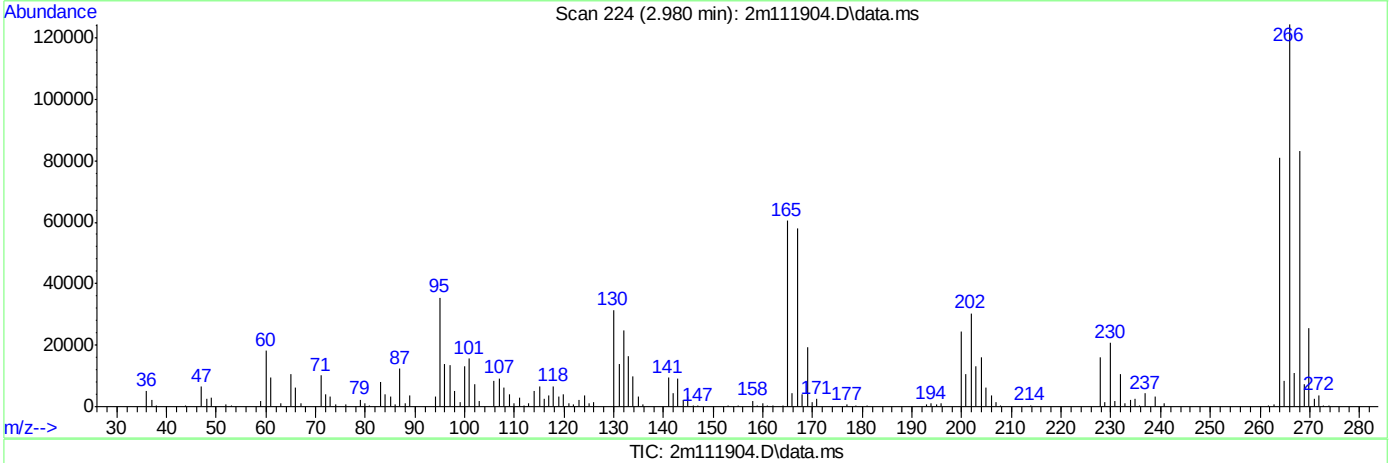
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 402.95 | 1186 | | | | | | |
| 403.95 | 320 | | | | | | |
| 420.95 | 795 | | | | | | |
| 422.05 | 916 | | | | | | |
| 423.05 | 7011 | | | | | | |
| 424.05 | 1461 | | | | | | |
| 441.00 | 16062 | | | | | | |
| 442.05 | 112176 | | | | | | |
| 443.10 | 21118 | | | | | | |
| 444.00 | 2138 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4977\
Data File : 2m111904.D
Acq On : 15 May 2019 12:04 pm
Operator : angelar
Sample : dftpp
Misc : op13721,e2m4977,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 12:09:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111904.D\data.ms

(1) Pentachlorophenol (t)

2.980min (+0.674) 0.00ng m

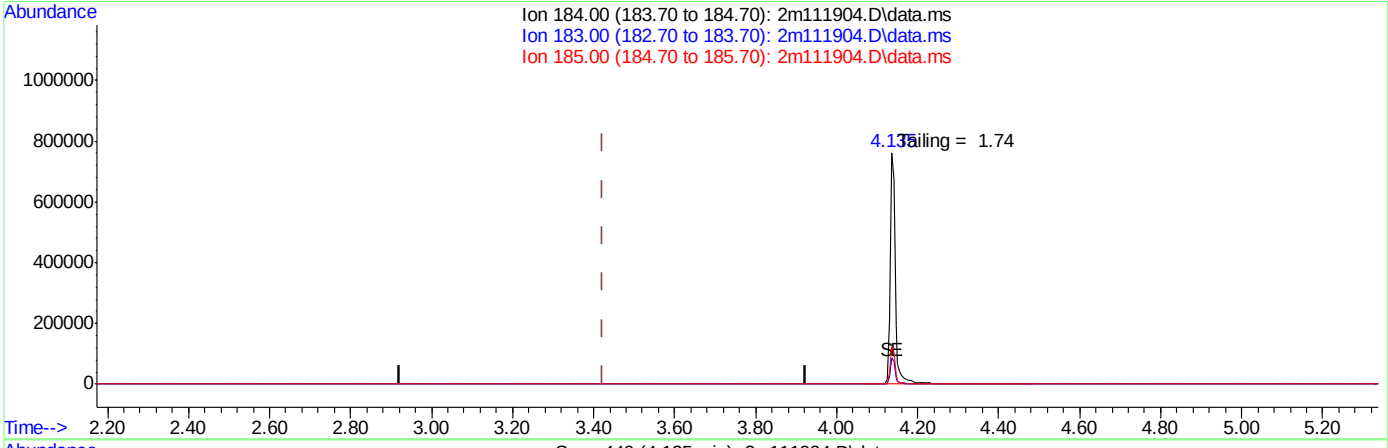
response 106977

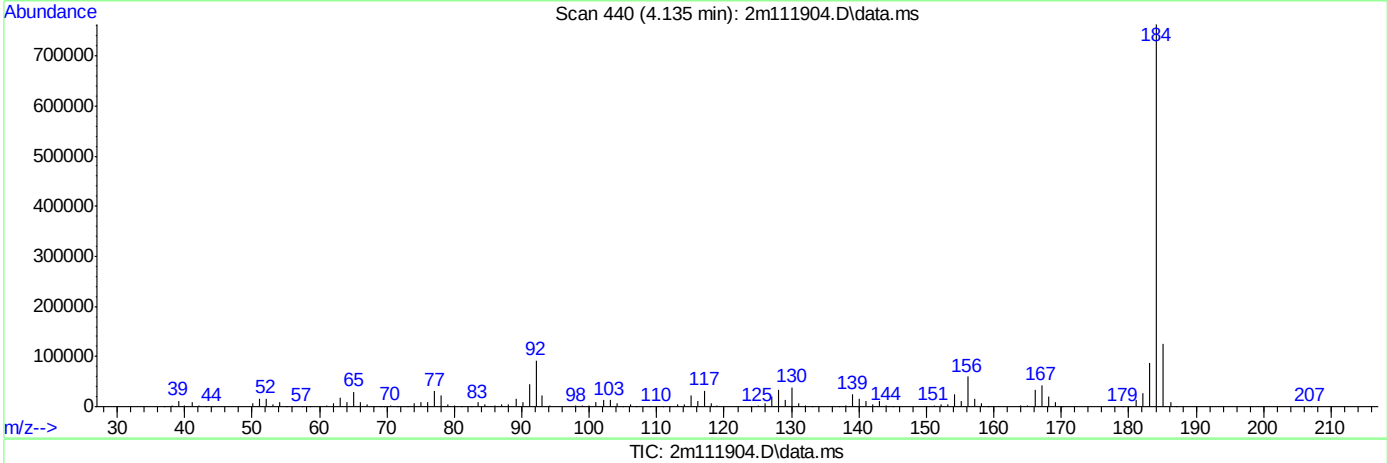
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 62.30 | 65.22 |
| 267.80 | 63.10 | 66.79 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4977\
Data File : 2m111904.D
Acq On : 15 May 2019 12:04 pm
Operator : angelar
Sample : dftpp
Misc : op13721,e2m4977,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 12:09:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111904.D\data.ms

(2) Benzidine (t)

4.135min (+0.711) 0.00ng m

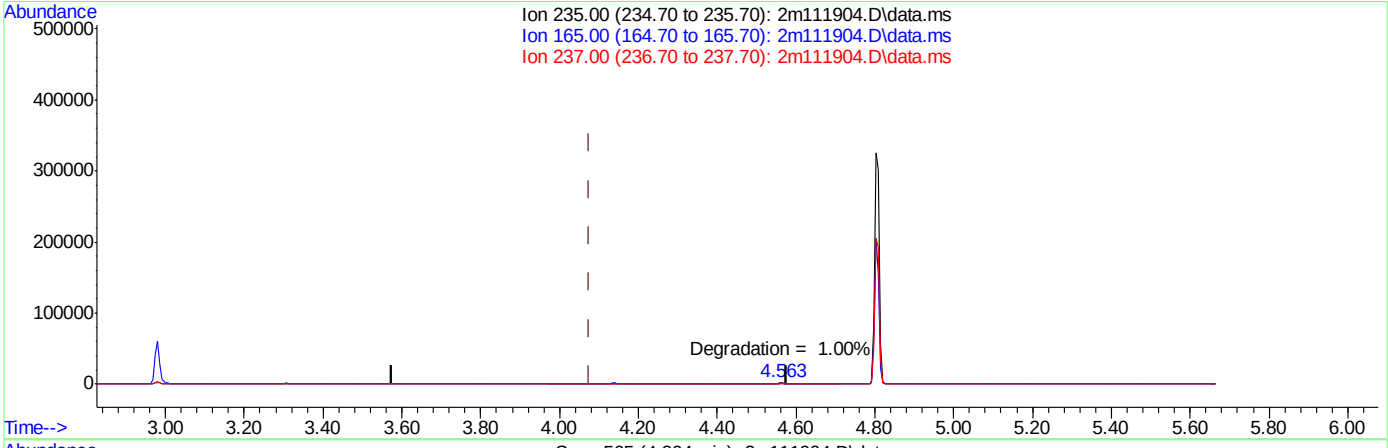
response 682357

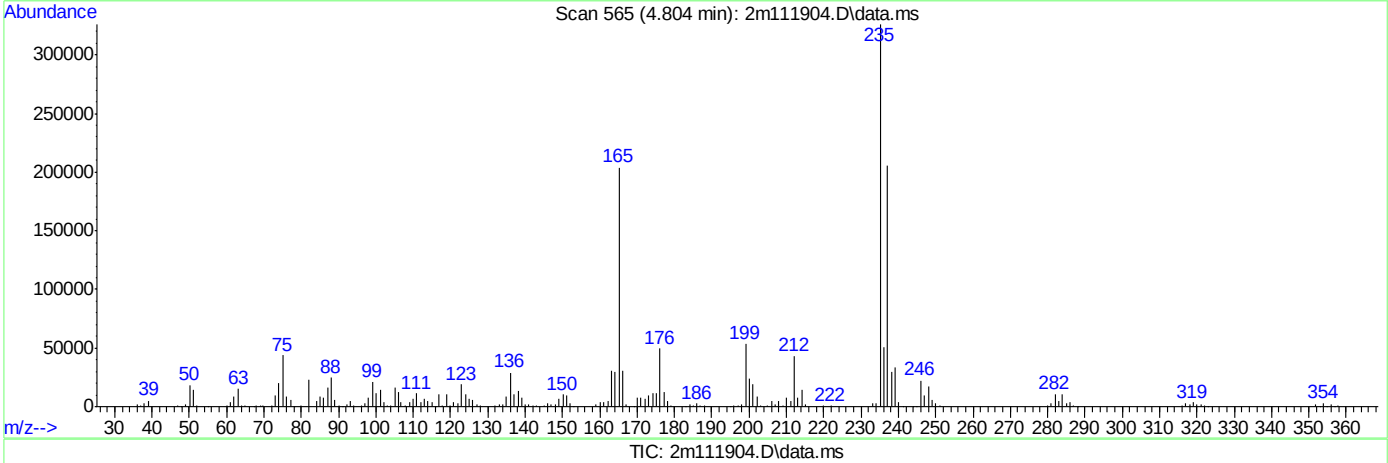
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.60 | 11.42 |
| 185.00 | 14.20 | 16.32 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4977\
Data File : 2m111904.D
Acq On : 15 May 2019 12:04 pm
Operator : angelar
Sample : dftpp
Misc : op13721,e2m4977,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 12:09:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m111904.D\data.ms

(3) PP-DDT (t)

4.804min (+0.727) 0.00ng m

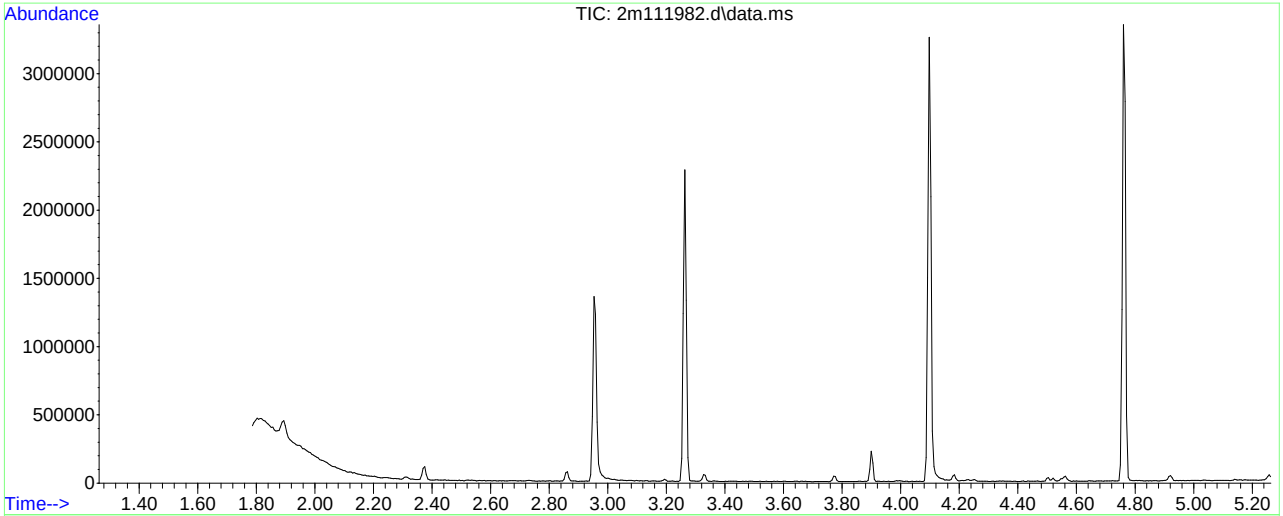
response 250438

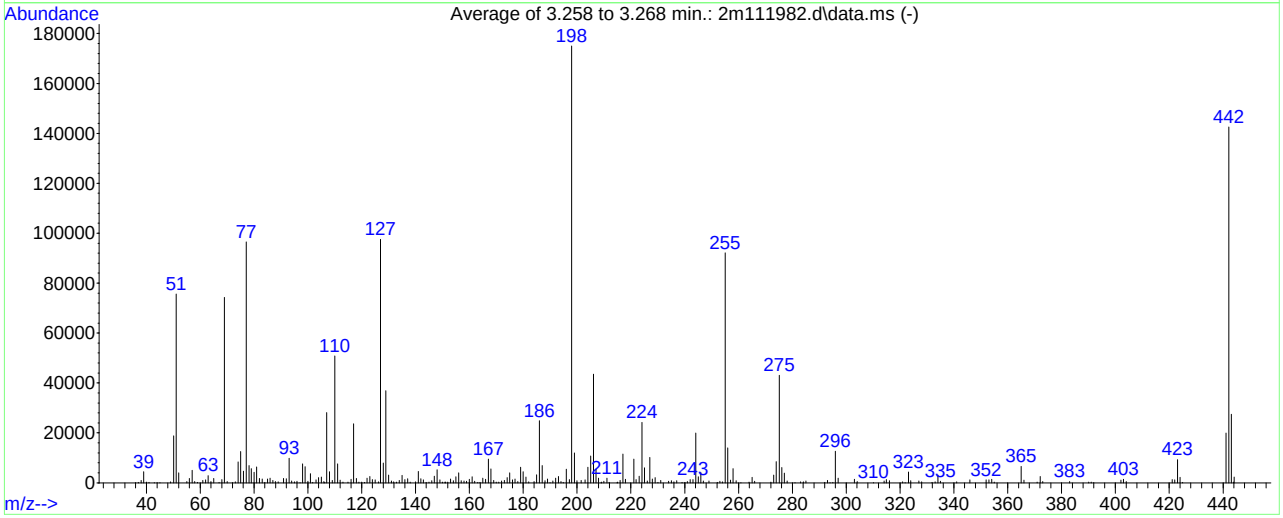
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 46.60 | 0.00# |
| 237.00 | 63.20 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\data\jeryllr\e2m4980\2m111982.d Vial: 1
Acq On : 18 May 2019 2:10 am Operator: chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 276, 277, 278; Background Corrected with Scan 271

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 43.3 | 75685 | PASS |
| 68 | 69 | 0.00 | 2 | 1.7 | 1283 | PASS |
| 69 | 198 | 0.00 | 100 | 42.5 | 74270 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 475 | PASS |
| 127 | 198 | 40 | 60 | 55.7 | 97533 | PASS |
| 197 | 198 | 0.00 | 1 | 0.8 | 1328 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 174955 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 11922 | PASS |
| 275 | 198 | 10 | 30 | 24.6 | 43091 | PASS |
| 365 | 198 | 1 | 100 | 3.8 | 6607 | PASS |
| 441 | 443 | 0.10 | 100 | 72.8 | 19973 | PASS |
| 442 | 198 | 40 | 100 | 81.5 | 142560 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 27453 | PASS |

2m111982.d DFTPP2M.M Mon May 20 05:28:13 2019

Average of 3.258 to 3.268 min.: 2m111982.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 102 | 51.10 | 75685 | 65.00 | 1723 | 78.10 | 6920 |
| 37.00 | 226 | 52.05 | 4037 | 67.05 | 227 | 79.00 | 5698 |
| 38.10 | 1005 | 55.00 | 538 | 68.05 | 1283 | 80.00 | 4181 |
| 39.05 | 4403 | 56.00 | 1734 | 69.00 | 74270 | 81.00 | 6366 |
| 40.00 | 294 | 57.00 | 5006 | 70.05 | 475 | 82.00 | 1740 |
| 41.00 | 159 | 58.00 | 483 | 72.00 | 105 | 83.00 | 1540 |
| 43.00 | 54 | 59.00 | 221 | 73.00 | 382 | 83.95 | 160 |
| 44.00 | 90 | 61.00 | 979 | 74.05 | 8403 | 85.00 | 1511 |
| 45.00 | 115 | 62.00 | 1136 | 75.00 | 12533 | 86.00 | 1840 |
| 48.95 | 399 | 63.00 | 2907 | 76.05 | 4637 | 87.00 | 988 |
| 50.10 | 18811 | 64.00 | 536 | 77.10 | 96485 | 87.90 | 504 |

Average of 3.258 to 3.268 min.: 2m111982.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 88.95 | 345 | 101.00 | 3707 | 111.00 | 7617 | 123.00 | 2561 |
| 91.00 | 1703 | 101.80 | 122 | 112.00 | 1050 | 124.00 | 1242 |
| 91.95 | 1580 | 103.00 | 1183 | 113.00 | 281 | 125.00 | 1233 |
| 93.00 | 9868 | 104.00 | 2102 | 114.95 | 266 | 126.20 | 401 |
| 94.00 | 713 | 105.00 | 2326 | 116.00 | 1403 | 127.00 | 97533 |
| 95.00 | 438 | 105.95 | 530 | 117.00 | 23607 | 128.00 | 7882 |
| 95.95 | 588 | 106.30 | 151 | 118.00 | 1753 | 129.00 | 36912 |
| 97.05 | 58 | 107.00 | 28123 | 118.95 | 242 | 130.00 | 3145 |
| 98.00 | 7614 | 108.00 | 4416 | 120.05 | 299 | 131.00 | 752 |
| 99.00 | 6459 | 109.05 | 922 | 121.00 | 143 | 131.85 | 366 |
| 100.00 | 580 | 110.00 | 50779 | 122.00 | 1911 | 132.95 | 234 |

Average of 3.258 to 3.268 min.: 2m111982.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 134.00 | 984 | 146.00 | 860 | 156.05 | 4037 | 167.05 | 9504 |
| 135.00 | 2933 | 147.00 | 2637 | 157.00 | 861 | 168.00 | 5592 |
| 136.00 | 1261 | 148.00 | 5278 | 158.00 | 765 | 169.00 | 957 |
| 137.05 | 1649 | 149.00 | 1201 | 158.95 | 632 | 170.00 | 280 |
| 138.05 | 285 | 149.95 | 330 | 160.00 | 1419 | 170.95 | 338 |
| 140.00 | 383 | 150.90 | 281 | 161.00 | 2404 | 171.95 | 724 |
| 141.00 | 4526 | 151.10 | 276 | 162.00 | 633 | 173.00 | 1011 |
| 142.00 | 1604 | 151.95 | 307 | 163.10 | 120 | 174.00 | 2073 |
| 142.95 | 1143 | 153.00 | 1493 | 163.90 | 158 | 175.00 | 4017 |
| 144.00 | 208 | 154.00 | 899 | 165.00 | 1836 | 176.05 | 1152 |
| 144.95 | 313 | 155.00 | 2442 | 166.05 | 1372 | 177.00 | 1548 |

Average of 3.258 to 3.268 min.: 2m111982.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 177.95 | 550 | 190.00 | 110 | 201.50 | 977 | 211.90 | 164 |
| 179.00 | 6257 | 191.00 | 744 | 203.00 | 1210 | 214.90 | 115 |
| 180.00 | 4455 | 192.00 | 1915 | 204.05 | 6240 | 215.05 | 277 |
| 181.00 | 2266 | 193.05 | 2495 | 205.10 | 10712 | 216.00 | 928 |
| 182.05 | 438 | 194.05 | 513 | 206.10 | 43480 | 217.00 | 11477 |
| 184.05 | 550 | 194.90 | 202 | 207.05 | 5510 | 218.00 | 1388 |
| 185.00 | 3227 | 196.00 | 5400 | 208.00 | 1836 | 221.10 | 9467 |
| 186.05 | 24883 | 197.10 | 1328 | 208.90 | 111 | 221.95 | 1289 |
| 187.05 | 6948 | 198.00 | 174955 | 209.10 | 311 | 223.05 | 2626 |
| 188.05 | 826 | 199.00 | 11922 | 210.00 | 672 | 224.10 | 24197 |
| 189.00 | 1553 | 200.00 | 896 | 211.10 | 1835 | 225.10 | 6053 |

Average of 3.258 to 3.268 min.: 2m111982.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 226.05 | 760 | 240.00 | 140 | 254.05 | 420 | 273.00 | 3104 |
| 227.00 | 10149 | 240.95 | 510 | 255.00 | 92181 | 274.00 | 8438 |
| 228.00 | 1472 | 242.05 | 1332 | 256.00 | 13945 | 275.10 | 43091 |
| 229.05 | 2070 | 243.05 | 1333 | 257.05 | 1031 | 276.05 | 6088 |
| 230.00 | 167 | 244.10 | 19885 | 258.00 | 5669 | 277.00 | 3897 |
| 231.05 | 995 | 245.05 | 2386 | 259.05 | 824 | 278.00 | 728 |
| 234.05 | 576 | 246.00 | 4146 | 260.90 | 113 | 281.00 | 103 |
| 235.05 | 827 | 246.95 | 778 | 263.90 | 262 | 283.00 | 399 |
| 236.00 | 440 | 249.00 | 685 | 265.00 | 2184 | 284.05 | 366 |
| 237.00 | 874 | 252.10 | 148 | 265.95 | 573 | 285.05 | 756 |
| 239.00 | 198 | 253.05 | 602 | 272.00 | 282 | 292.00 | 128 |

Average of 3.258 to 3.268 min.: 2m111982.d\data.ms

DFTPP2M.M Mon May 20 05:27:12 2019

dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 293.00 | 974 | 320.95 | 370 | 345.95 | 1179 | 390.05 | 252 |
| 294.00 | 117 | 321.90 | 107 | 352.00 | 1206 | 391.00 | 296 |
| 295.00 | 144 | 323.10 | 4345 | 353.05 | 1140 | 392.00 | 114 |
| 296.00 | 12603 | 324.00 | 800 | 354.05 | 1386 | 402.00 | 1076 |
| 297.00 | 1844 | 327.00 | 782 | 355.00 | 314 | 403.00 | 1429 |
| 303.05 | 1372 | 328.05 | 356 | 365.00 | 6607 | 404.05 | 469 |
| 304.05 | 489 | 331.90 | 145 | 366.00 | 1032 | 421.05 | 1253 |
| 310.10 | 113 | 333.00 | 350 | 370.95 | 252 | 422.00 | 1150 |
| 314.05 | 714 | 334.05 | 3086 | 372.05 | 2566 | 423.10 | 9222 |
| 314.95 | 1306 | 335.05 | 649 | 372.95 | 509 | 424.00 | 2149 |
| 316.00 | 891 | 341.00 | 442 | 383.00 | 563 | 425.00 | 134 |

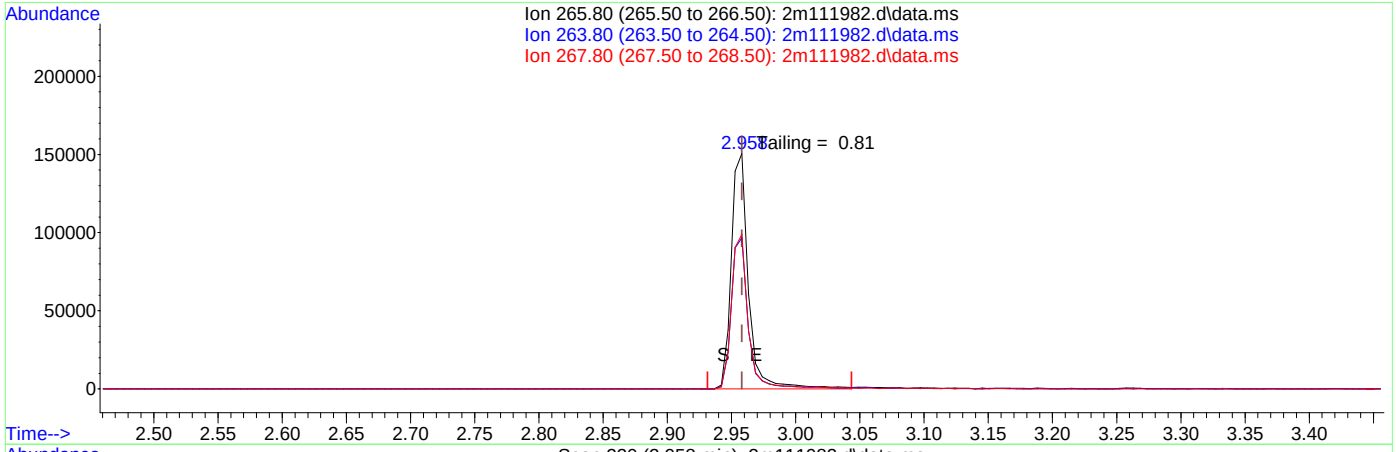
Average of 3.258 to 3.268 min.: 2m111982.d\data.ms
dftpp
Modified:subtracted

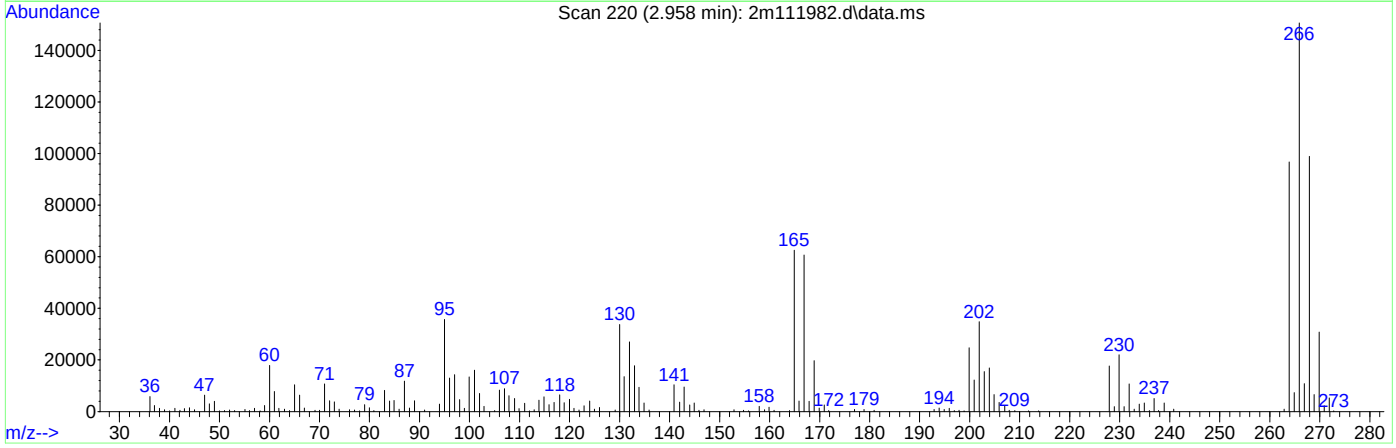
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 441.10 | 19973 | | | | | | |
| 442.10 | 142560 | | | | | | |
| 443.10 | 27453 | | | | | | |
| 443.90 | 258 | | | | | | |
| 444.10 | 2298 | | | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111982.d
Acq On : 18 May 2019 2:10 am
Operator : chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Results File: DFTPP2M.RES
Quant Time: May 20 05:28:57 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Mon May 20 05:28:52 2019
Response via : Initial Calibration




TIC: 2m111982.d\data.ms

(1) Pentachlorophenol (t)

2.958min (0.000) 0.00ppb

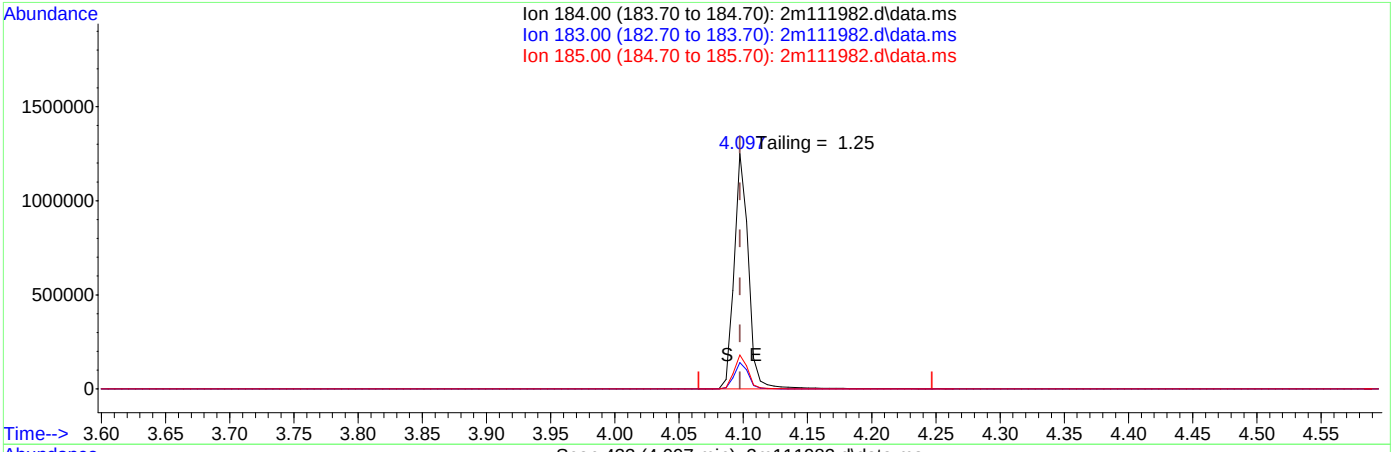
response 142204

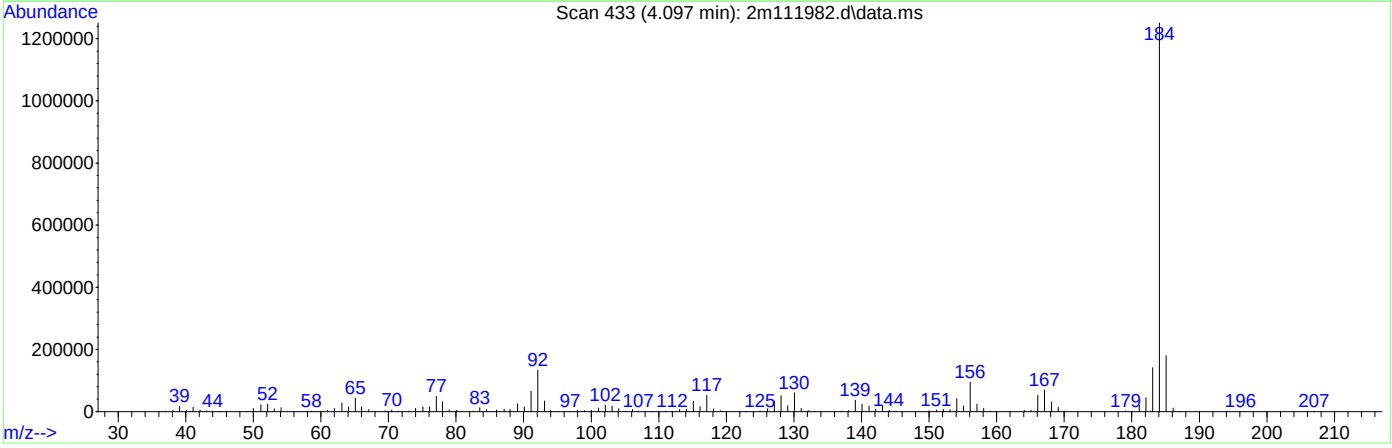
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 64.20 | 64.15 |
| 267.80 | 65.60 | 65.61 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111982.d
Acq On : 18 May 2019 2:10 am
Operator : chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Results File: DFTPP2M.RES
Quant Time: May 20 05:28:57 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Mon May 20 05:28:52 2019
Response via : Initial Calibration




TIC: 2m111982.d\data.ms

(2) Benzidine (t)

4.097min (0.000) 0.00ppb

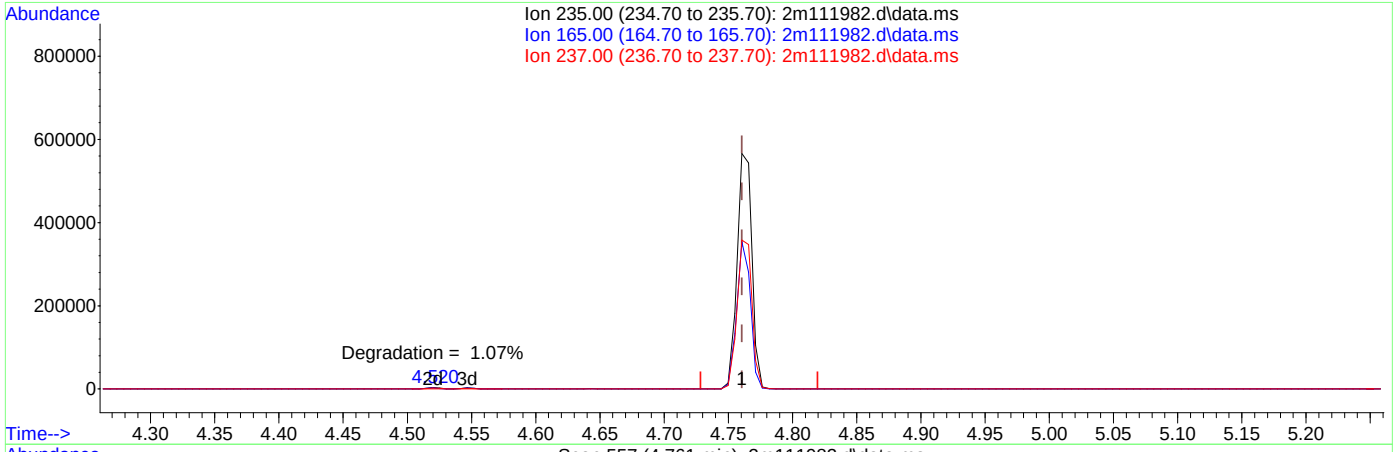
response 978101

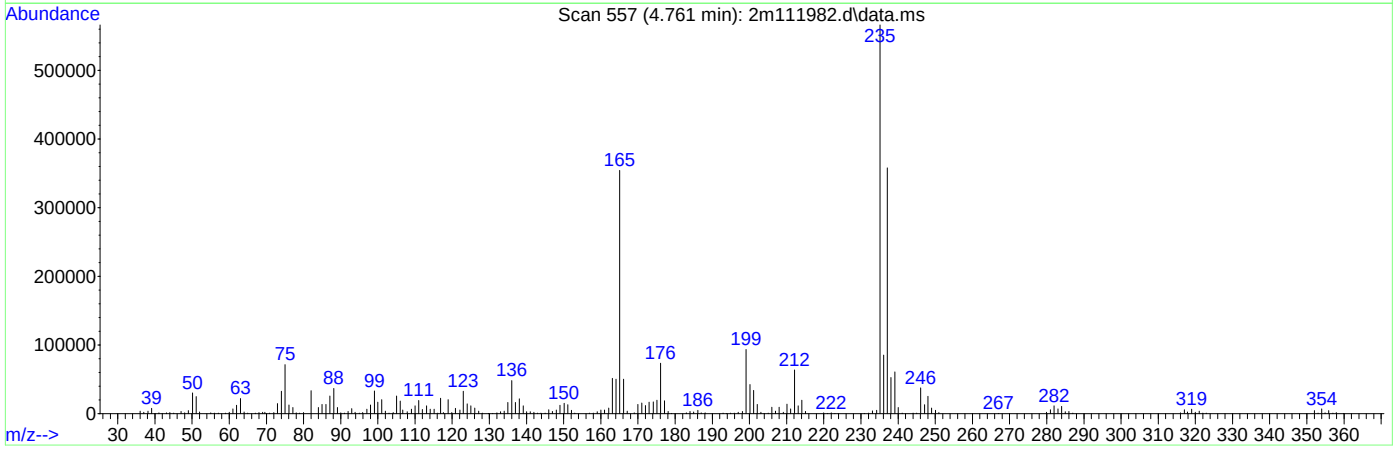
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.30 | 11.30 |
| 185.00 | 14.40 | 14.41 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111982.d
Acq On : 18 May 2019 2:10 am
Operator : chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Results File: DFTPP2M.RES
Quant Time: May 20 05:28:57 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Mon May 20 05:28:52 2019
Response via : Initial Calibration




TIC: 2m111982.d\data.ms

(3) PP-DDT (t)

4.761min (0.000) 0.00ppb

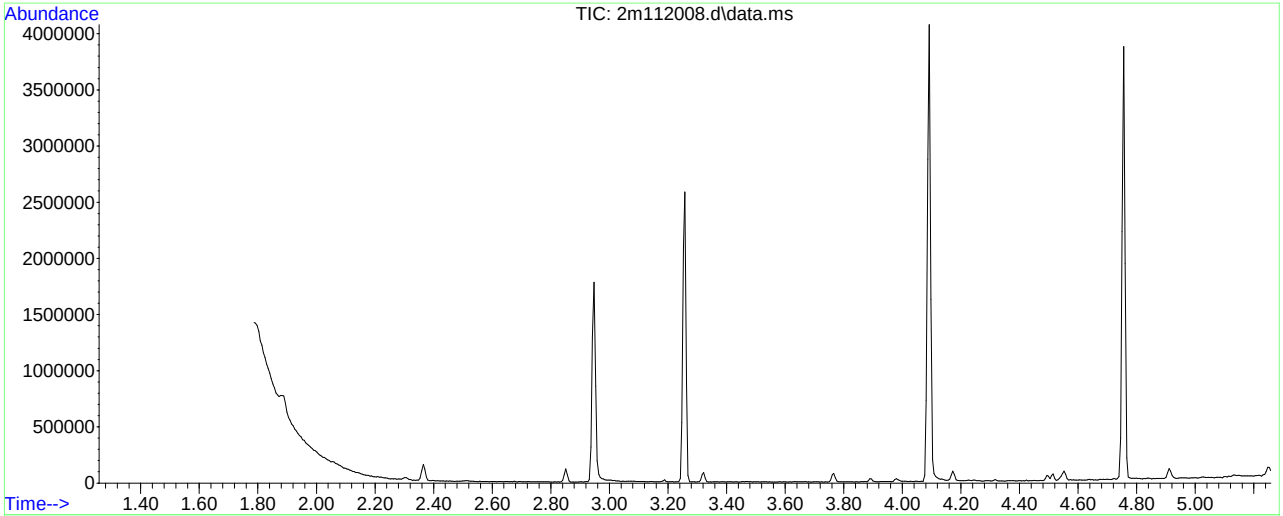
response 455963

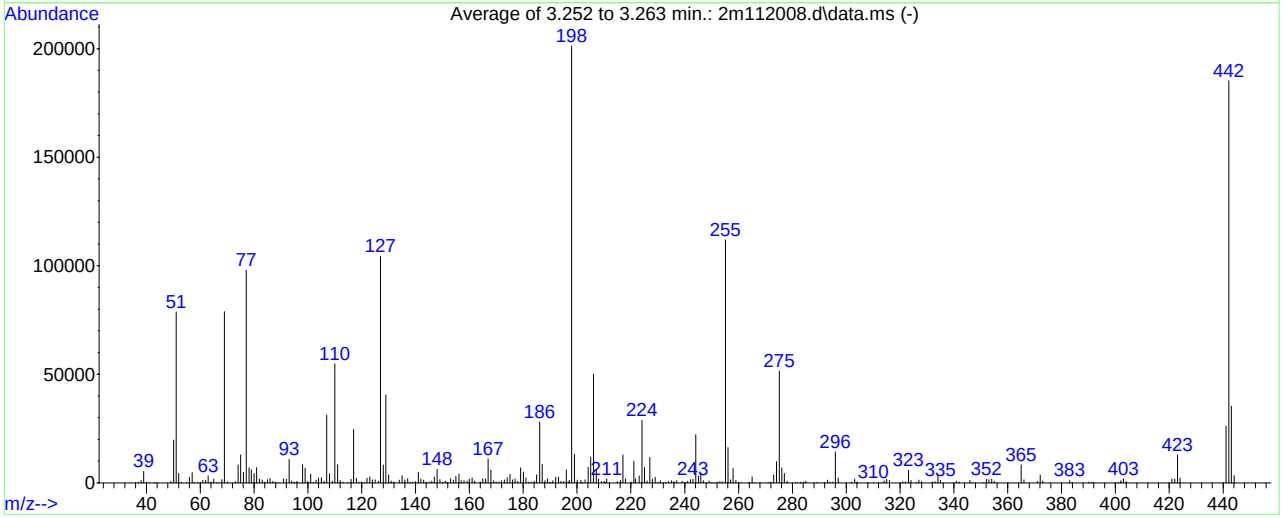
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 62.50 | 58.07 |
| 237.00 | 63.20 | 63.91 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\data\mi...lc\e2m4981\2m112008.d Vial: 1
Acq On : 18 May 2019 6:49 pm Operator: chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 275, 276, 277; Background Corrected with Scan 270

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 39.1 | 78643 | PASS |
| 68 | 69 | 0.00 | 2 | 2.0 | 1555 | PASS |
| 69 | 198 | 0.00 | 100 | 39.2 | 78769 | PASS |
| 70 | 69 | 0.00 | 2 | 0.7 | 527 | PASS |
| 127 | 198 | 40 | 60 | 51.8 | 104229 | PASS |
| 197 | 198 | 0.00 | 1 | 0.5 | 1104 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 201176 | PASS |
| 199 | 198 | 5 | 9 | 6.5 | 13123 | PASS |
| 275 | 198 | 10 | 30 | 25.6 | 51480 | PASS |
| 365 | 198 | 1 | 100 | 4.1 | 8348 | PASS |
| 441 | 443 | 0.10 | 100 | 74.3 | 26211 | PASS |
| 442 | 198 | 40 | 100 | 92.0 | 185165 | PASS |
| 443 | 442 | 17 | 23 | 19.1 | 35291 | PASS |

2m112008.d DFTPP2M.M Mon May 20 03:34:39 2019

Average of 3.252 to 3.263 min.: 2m112008.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 107 | 52.00 | 4318 | 64.00 | 447 | 77.10 | 97947 |
| 37.00 | 288 | 53.00 | 294 | 65.05 | 1747 | 78.10 | 6966 |
| 38.05 | 1069 | 55.00 | 201 | 66.10 | 101 | 79.00 | 6056 |
| 39.05 | 5231 | 56.00 | 2517 | 66.90 | 106 | 80.00 | 4373 |
| 40.05 | 387 | 57.00 | 4765 | 68.05 | 1555 | 81.00 | 7093 |
| 41.05 | 69 | 58.00 | 135 | 69.00 | 78769 | 82.00 | 1734 |
| 43.00 | 81 | 59.00 | 112 | 70.10 | 527 | 83.00 | 1315 |
| 44.00 | 19 | 60.00 | 247 | 73.00 | 650 | 83.95 | 280 |
| 49.05 | 563 | 61.00 | 1066 | 74.05 | 8244 | 85.00 | 1520 |
| 50.10 | 19729 | 62.00 | 1041 | 75.00 | 12872 | 86.00 | 1985 |
| 51.10 | 78643 | 63.00 | 3219 | 76.10 | 4876 | 87.00 | 703 |

Average of 3.252 to 3.263 min.: 2m112008.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 88.00 | 291 | 99.95 | 559 | 111.00 | 8335 | 123.00 | 2738 |
| 89.00 | 122 | 101.05 | 3901 | 112.00 | 1151 | 124.00 | 1363 |
| 91.00 | 1770 | 101.95 | 212 | 113.00 | 387 | 125.00 | 1337 |
| 92.00 | 1657 | 103.00 | 1206 | 114.90 | 144 | 126.20 | 673 |
| 93.00 | 10809 | 104.00 | 2314 | 116.00 | 1589 | 127.00 | 104229 |
| 94.00 | 826 | 105.00 | 2352 | 117.00 | 24540 | 128.05 | 8173 |
| 94.90 | 170 | 106.05 | 777 | 118.00 | 2008 | 129.00 | 40452 |
| 95.05 | 327 | 107.00 | 31133 | 119.00 | 308 | 130.00 | 3649 |
| 96.00 | 713 | 108.00 | 4221 | 119.95 | 449 | 130.95 | 788 |
| 98.00 | 8356 | 109.05 | 895 | 121.00 | 134 | 131.95 | 411 |
| 99.00 | 6777 | 110.00 | 54789 | 122.00 | 2161 | 134.00 | 1204 |

Average of 3.252 to 3.263 min.: 2m112008.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 135.00 | 3289 | 146.00 | 766 | 156.10 | 4080 | 168.00 | 5830 |
| 136.00 | 1337 | 147.00 | 2692 | 157.00 | 1004 | 169.05 | 914 |
| 137.05 | 1872 | 148.00 | 6165 | 158.00 | 980 | 169.95 | 318 |
| 137.95 | 309 | 149.05 | 1439 | 159.10 | 845 | 171.00 | 435 |
| 138.95 | 289 | 150.00 | 320 | 160.00 | 1662 | 172.00 | 934 |
| 140.00 | 583 | 151.05 | 674 | 161.00 | 2310 | 173.00 | 1318 |
| 141.00 | 4825 | 151.70 | 168 | 162.00 | 791 | 174.00 | 2372 |
| 142.00 | 1697 | 152.00 | 238 | 164.05 | 425 | 175.10 | 3910 |
| 143.00 | 1185 | 153.00 | 1818 | 165.00 | 1868 | 176.05 | 1395 |
| 144.00 | 386 | 154.00 | 1274 | 166.00 | 1703 | 177.00 | 1777 |
| 145.05 | 313 | 155.00 | 2970 | 167.00 | 11037 | 178.00 | 765 |

Average of 3.252 to 3.263 min.: 2m112008.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 179.00 | 6897 | 189.80 | 101 | 199.00 | 13123 | 210.05 | 728 |
| 180.05 | 4935 | 190.05 | 262 | 200.05 | 1205 | 210.50 | 185 |
| 181.00 | 2326 | 191.00 | 957 | 201.45 | 1046 | 211.05 | 1825 |
| 182.05 | 357 | 192.05 | 2506 | 202.00 | 215 | 215.00 | 641 |
| 182.95 | 278 | 193.10 | 2718 | 203.00 | 1370 | 216.05 | 1120 |
| 184.05 | 722 | 194.00 | 702 | 204.10 | 7210 | 217.00 | 12826 |
| 185.00 | 3714 | 195.05 | 536 | 205.10 | 11887 | 218.00 | 1866 |
| 186.10 | 28040 | 196.05 | 6058 | 206.10 | 50051 | 220.20 | 359 |
| 187.05 | 8456 | 196.70 | 506 | 207.10 | 6322 | 221.10 | 10020 |
| 188.05 | 986 | 197.10 | 1104 | 208.00 | 1792 | 221.70 | 1834 |
| 189.00 | 1760 | 198.00 | 201176 | 209.00 | 596 | 223.05 | 3177 |

Average of 3.252 to 3.263 min.: 2m112008.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 224.10 | 28780 | 234.00 | 579 | 245.10 | 3045 | 256.10 | 16278 |
| 225.10 | 7069 | 235.00 | 1009 | 246.00 | 4408 | 257.05 | 1415 |
| 226.00 | 869 | 236.00 | 556 | 246.95 | 968 | 258.00 | 6646 |
| 227.00 | 11657 | 237.05 | 953 | 248.00 | 108 | 259.00 | 1108 |
| 228.00 | 1707 | 239.00 | 659 | 249.00 | 818 | 259.90 | 129 |
| 229.05 | 2497 | 239.90 | 150 | 250.00 | 222 | 261.00 | 110 |
| 230.00 | 323 | 240.10 | 183 | 250.90 | 117 | 263.80 | 128 |
| 231.00 | 979 | 241.05 | 710 | 252.05 | 349 | 263.95 | 242 |
| 232.00 | 104 | 242.10 | 1474 | 253.05 | 567 | 265.00 | 2736 |
| 232.90 | 121 | 243.10 | 1564 | 254.10 | 499 | 265.90 | 91 |
| 233.10 | 116 | 244.10 | 22102 | 255.10 | 111851 | 268.00 | 131 |

Average of 3.252 to 3.263 min.: 2m112008.d\data.ms

M5P2761.M Mon May 20 03:13:30 2019

dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 271.00 | 225 | 284.05 | 319 | 303.90 | 173 | 324.10 | 1070 |
| 272.05 | 387 | 285.05 | 724 | 304.05 | 389 | 325.95 | 261 |
| 273.05 | 3635 | 289.05 | 218 | 308.10 | 103 | 327.00 | 1174 |
| 274.05 | 9715 | 292.00 | 136 | 310.10 | 106 | 328.00 | 611 |
| 275.10 | 51480 | 293.00 | 1186 | 313.00 | 120 | 332.00 | 450 |
| 276.10 | 6863 | 294.00 | 311 | 314.05 | 889 | 333.00 | 553 |
| 277.00 | 4337 | 295.05 | 321 | 315.00 | 1574 | 334.05 | 3639 |
| 278.00 | 775 | 296.00 | 14289 | 316.05 | 1161 | 335.05 | 1066 |
| 281.20 | 101 | 297.00 | 2095 | 321.05 | 483 | 341.05 | 733 |
| 282.00 | 104 | 302.00 | 324 | 322.00 | 427 | 342.10 | 265 |
| 283.05 | 347 | 303.10 | 1754 | 323.10 | 5780 | 345.95 | 1130 |

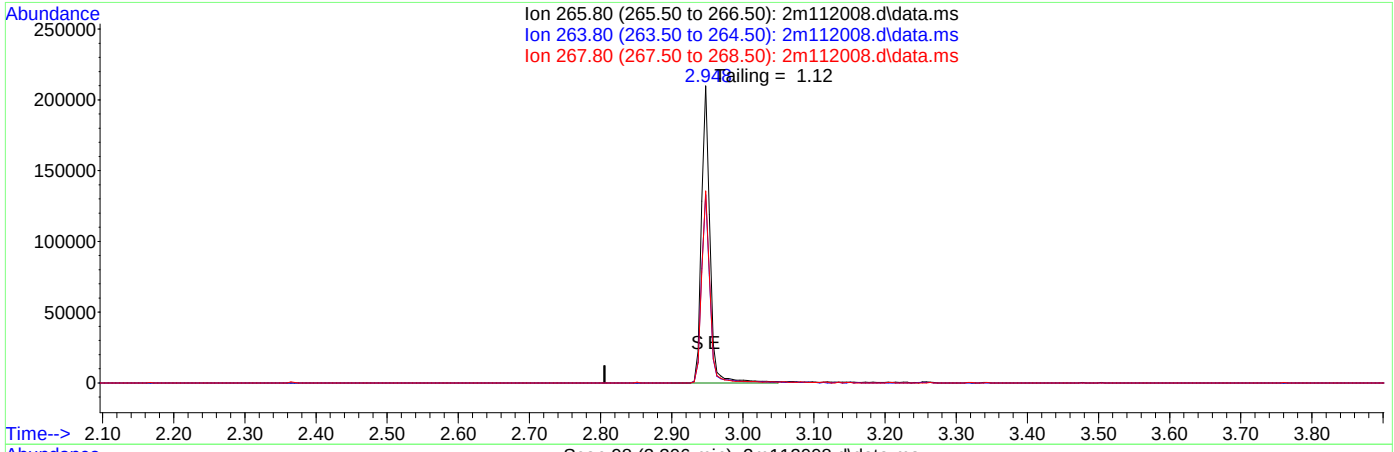
Average of 3.252 to 3.263 min.: 2m112008.d\data.ms
dftpp
Modified:subtracted

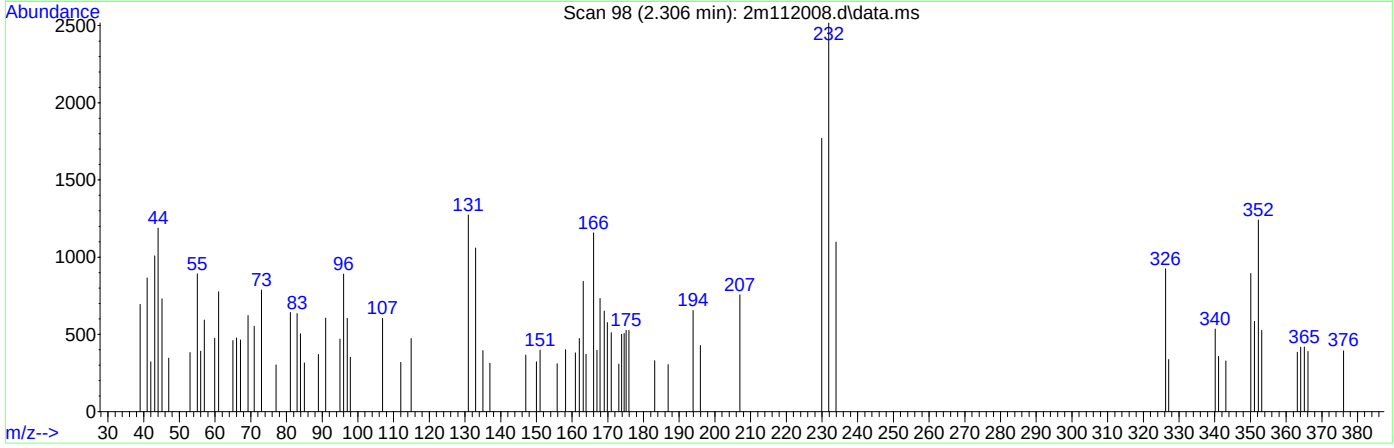
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 347.10 | 105 | 383.00 | 965 | 422.05 | 1704 | | |
| 351.10 | 103 | 383.90 | 130 | 423.10 | 12883 | | |
| 352.05 | 1659 | 390.05 | 326 | 424.05 | 2158 | | |
| 353.05 | 1469 | 391.00 | 335 | 441.10 | 26211 | | |
| 354.05 | 1799 | 392.00 | 149 | 442.10 | 185165 | | |
| 355.00 | 574 | 401.05 | 261 | 443.10 | 35291 | | |
| 365.00 | 8348 | 401.90 | 309 | 444.10 | 3292 | | |
| 366.05 | 1325 | 402.05 | 978 | | | | |
| 371.05 | 617 | 403.00 | 1901 | | | | |
| 372.05 | 3532 | 404.00 | 590 | | | | |
| 373.00 | 876 | 421.00 | 1719 | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112008.d
Acq On : 18 May 2019 6:49 pm
Operator : chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Results File: DFTPP2M.RES
Quant Time: May 18 18:55:33 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m112008.d\data.ms

(1) Pentachlorophenol (t)

2.306min (-2.306) 0.00ng

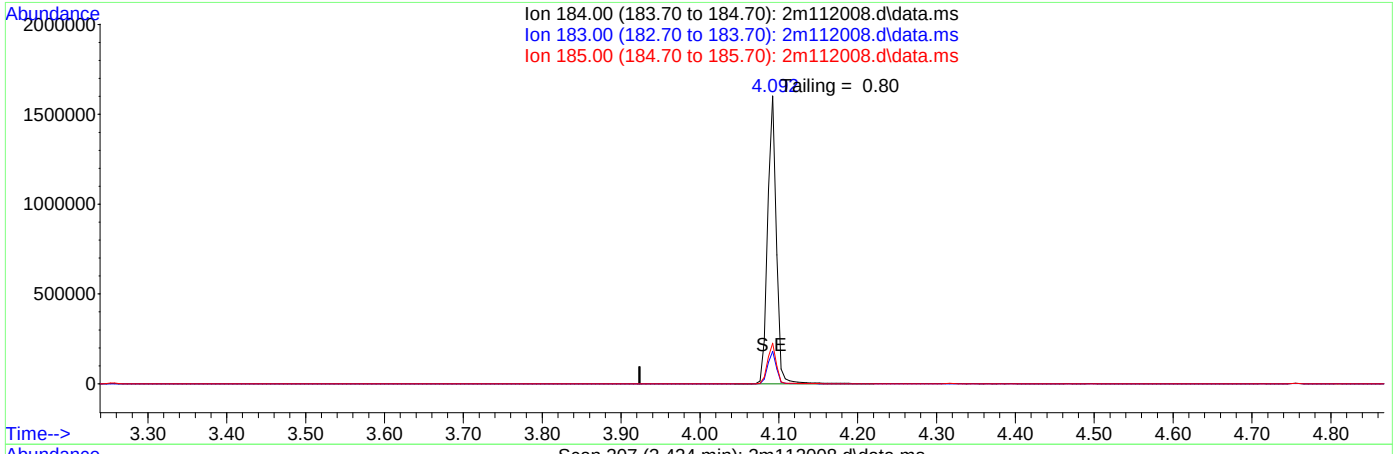
response 0

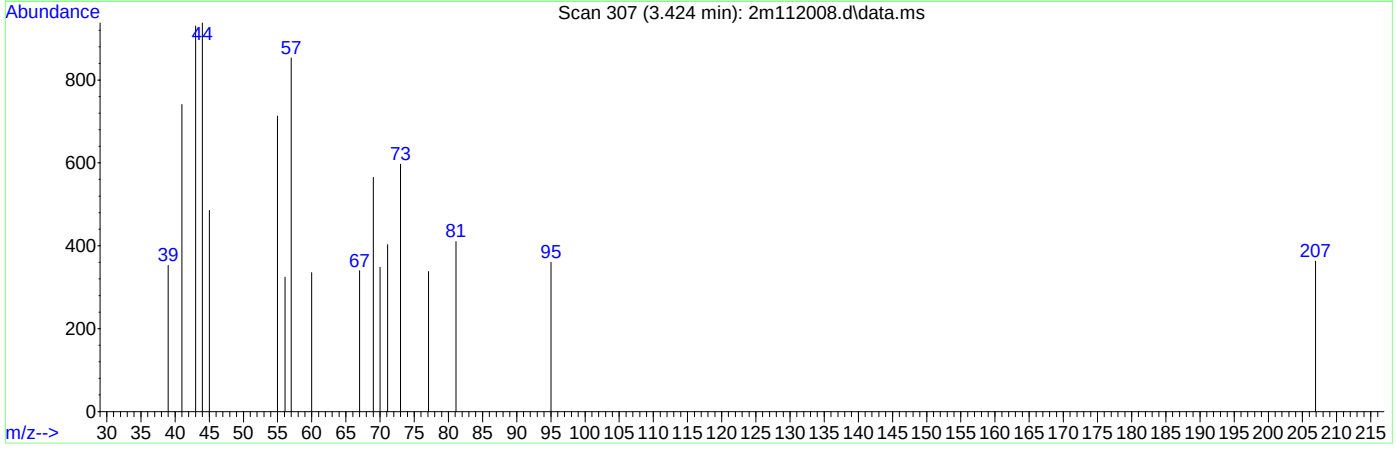
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 0.00 |
| 263.80 | 62.30 | 0.00# |
| 267.80 | 63.10 | 0.00# |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112008.d
Acq On : 18 May 2019 6:49 pm
Operator : chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Results File: DFTPP2M.RES
Quant Time: May 18 18:55:33 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m112008.d\data.ms

(2) Benzidine (t)

3.424min (-3.424) 0.00ng

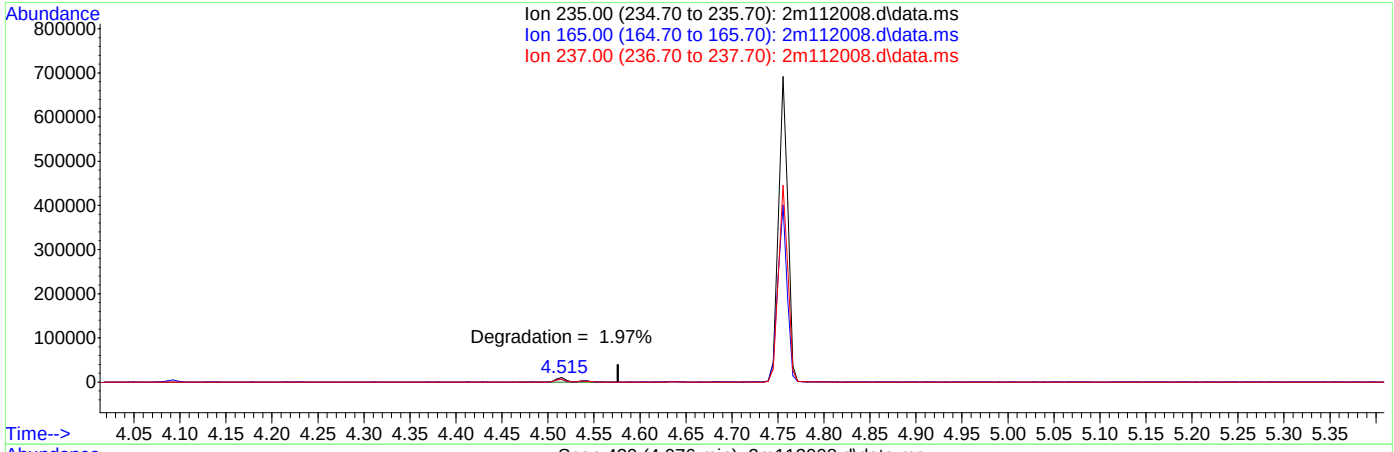
response 0

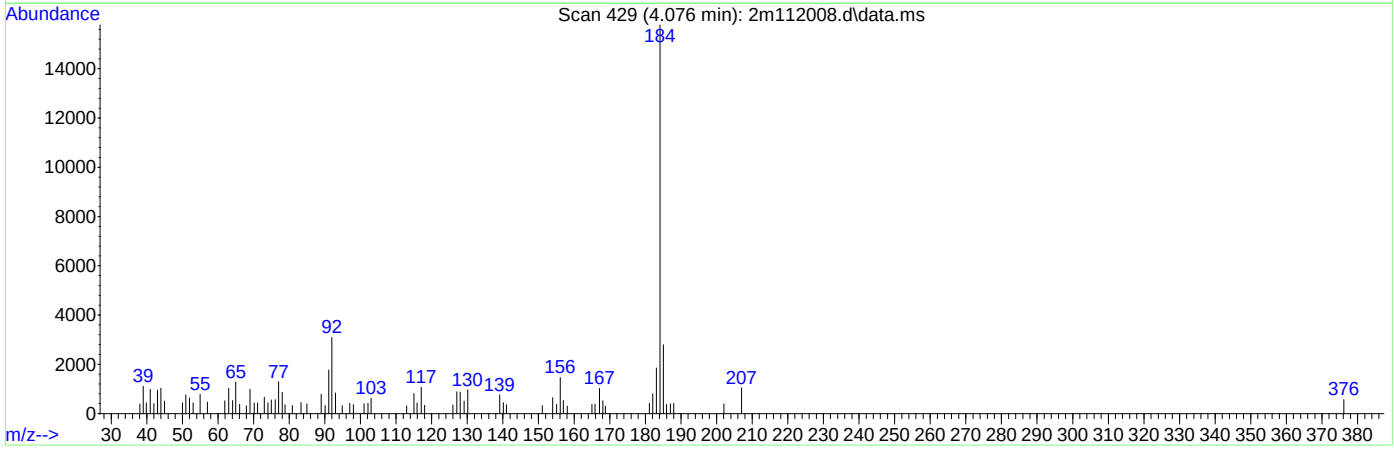
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 0.00 |
| 183.00 | 11.60 | 0.00 |
| 185.00 | 14.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112008.d
Acq On : 18 May 2019 6:49 pm
Operator : chriss2
Sample : dftpp Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Results File: DFTPP2M.RES
Quant Time: May 18 18:55:33 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m112008.d\data.ms

(3) PP-DDT (t)

4.076min (-4.076) 0.00ng

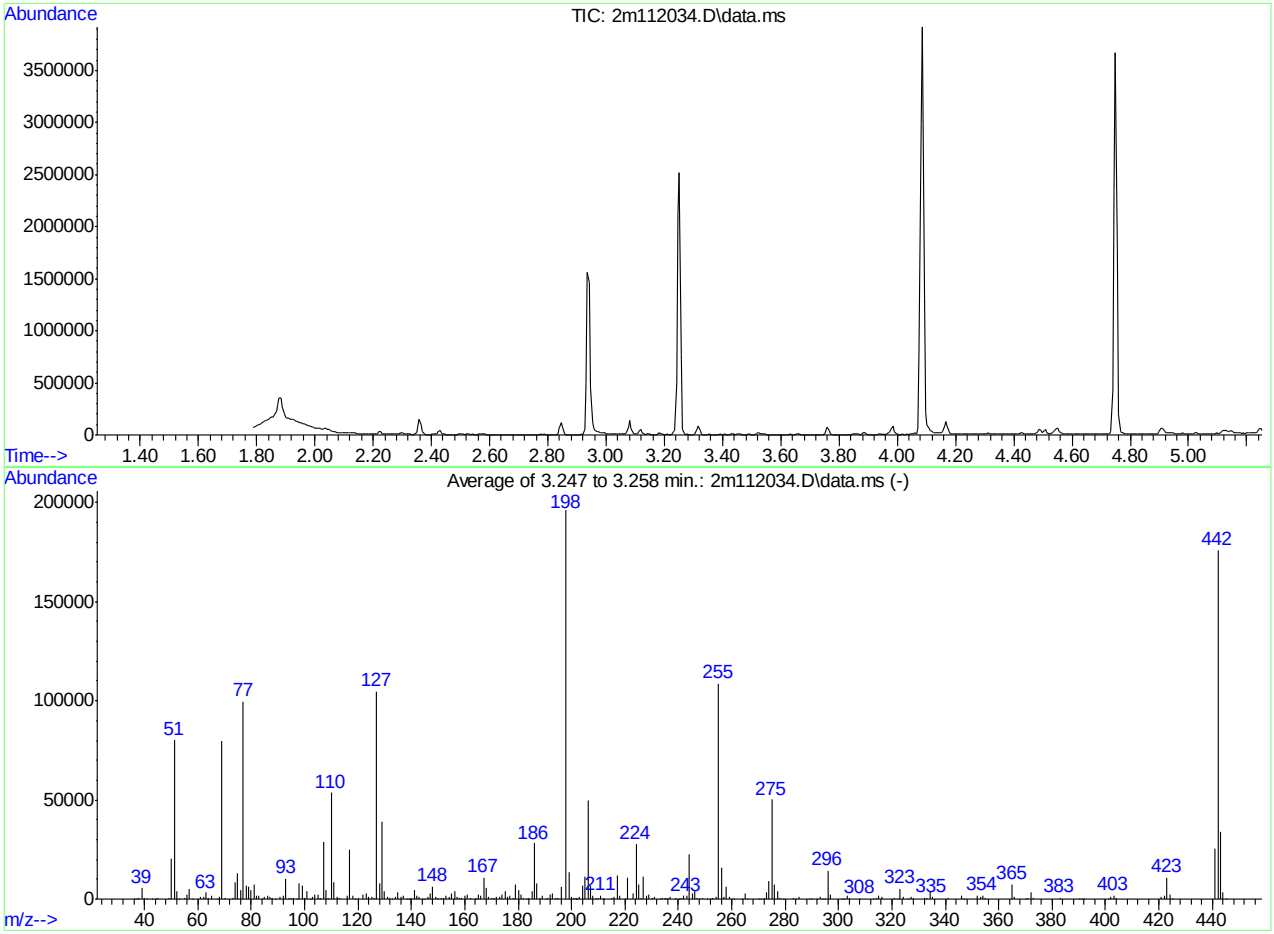
response 0

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 0.00 |
| 165.00 | 46.60 | 0.00# |
| 237.00 | 63.20 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E2M4982\2m112034.D  Vial: 1
Acq On : 19 May 2019 11:10 am  Operator: carolb
Sample : dftpp  Inst : MS2M
Misc : op13721,e2m4982,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 274, 275, 276; Background Corrected with Scan 269

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 40.8 | 80045 | PASS |
| 68 | 69 | 0.00 | 2 | 1.7 | 1389 | PASS |
| 69 | 198 | 0.00 | 100 | 40.6 | 79640 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 482 | PASS |
| 127 | 198 | 40 | 60 | 53.4 | 104698 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 196002 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 13334 | PASS |
| 275 | 198 | 10 | 30 | 25.6 | 50205 | PASS |
| 365 | 198 | 1 | 100 | 3.8 | 7376 | PASS |
| 441 | 443 | 0.10 | 100 | 74.9 | 25589 | PASS |
| 442 | 198 | 40 | 100 | 89.8 | 176096 | PASS |
| 443 | 442 | 17 | 23 | 19.4 | 34170 | PASS |

2m112034.D DFTPP2M.M Mon May 20 10:28:41 2019

Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 110 | 51.10 | 80045 | 65.00 | 1632 | 79.00 | 6217 |
| 37.00 | 294 | 52.10 | 4222 | 67.10 | 104 | 80.00 | 4724 |
| 38.00 | 864 | 53.00 | 104 | 68.00 | 1389 | 81.00 | 7152 |
| 39.05 | 5495 | 55.05 | 688 | 69.00 | 79640 | 82.00 | 1451 |
| 40.05 | 340 | 56.00 | 2477 | 70.05 | 482 | 83.00 | 1891 |
| 41.00 | 269 | 56.95 | 5030 | 73.00 | 650 | 84.00 | 261 |
| 43.00 | 140 | 58.00 | 279 | 74.10 | 8359 | 85.00 | 1370 |
| 44.00 | 156 | 61.10 | 998 | 75.00 | 12821 | 86.00 | 1969 |
| 45.05 | 394 | 62.05 | 1243 | 76.10 | 4608 | 87.00 | 911 |
| 49.00 | 507 | 63.00 | 3143 | 77.10 | 99600 | 88.00 | 338 |
| 50.10 | 20192 | 64.00 | 441 | 78.10 | 6921 | 89.10 | 136 |

Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 90.95 | 1299 | 102.00 | 101 | 113.05 | 306 | 127.00 | 104698 |
| 92.00 | 1611 | 103.00 | 1305 | 116.05 | 1666 | 128.05 | 7698 |
| 93.00 | 10334 | 104.00 | 2418 | 117.00 | 24704 | 129.00 | 39190 |
| 94.05 | 740 | 105.00 | 2193 | 118.00 | 1799 | 130.00 | 3704 |
| 94.95 | 306 | 106.00 | 681 | 119.00 | 101 | 131.00 | 887 |
| 96.00 | 591 | 107.00 | 28947 | 120.05 | 339 | 131.95 | 379 |
| 97.10 | 164 | 108.00 | 4425 | 122.00 | 2035 | 132.85 | 236 |
| 98.00 | 8140 | 109.00 | 740 | 123.00 | 2922 | 134.00 | 1014 |
| 99.00 | 6700 | 110.00 | 53620 | 124.00 | 1315 | 135.00 | 3305 |
| 100.00 | 532 | 111.00 | 8413 | 125.00 | 1317 | 136.00 | 1262 |
| 101.00 | 3884 | 112.00 | 1014 | 126.10 | 422 | 137.05 | 1696 |

Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 138.10 | 245 | 149.00 | 1431 | 160.00 | 1645 | 171.00 | 438 |
| 139.05 | 253 | 150.05 | 331 | 161.00 | 2347 | 172.00 | 910 |
| 139.95 | 518 | 151.10 | 780 | 162.00 | 511 | 173.00 | 1232 |
| 141.00 | 4789 | 152.00 | 410 | 163.90 | 157 | 174.00 | 2276 |
| 142.00 | 1663 | 153.00 | 1715 | 164.10 | 117 | 175.05 | 4247 |
| 143.00 | 1100 | 154.00 | 1348 | 165.00 | 2060 | 176.05 | 1170 |
| 144.10 | 276 | 155.05 | 2746 | 166.00 | 1566 | 177.00 | 1747 |
| 145.00 | 290 | 156.10 | 4112 | 167.00 | 10767 | 178.00 | 410 |
| 146.00 | 943 | 157.00 | 896 | 168.00 | 5522 | 179.00 | 7213 |
| 147.00 | 2811 | 158.00 | 786 | 169.00 | 993 | 180.05 | 4782 |
| 148.00 | 6279 | 159.00 | 747 | 169.95 | 398 | 181.00 | 2191 |

Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 182.00 | 388 | 193.00 | 2801 | 203.00 | 1231 | 215.10 | 503 |
| 183.05 | 230 | 194.00 | 564 | 204.10 | 6781 | 216.00 | 1086 |
| 183.95 | 483 | 195.10 | 390 | 205.10 | 11239 | 217.00 | 12019 |
| 185.05 | 3706 | 196.05 | 6105 | 206.10 | 49957 | 218.00 | 1594 |
| 186.10 | 28229 | 198.00 | 196002 | 207.10 | 6692 | 220.10 | 149 |
| 187.10 | 7924 | 199.00 | 13334 | 208.00 | 1781 | 221.10 | 10648 |
| 188.00 | 729 | 199.95 | 971 | 209.00 | 459 | 223.00 | 2729 |
| 189.00 | 1538 | 200.95 | 310 | 209.95 | 372 | 224.10 | 27967 |
| 190.10 | 213 | 201.50 | 645 | 211.00 | 1713 | 225.10 | 7199 |
| 191.00 | 795 | 201.80 | 171 | 211.70 | 170 | 226.10 | 836 |
| 192.00 | 2377 | 202.10 | 179 | 212.00 | 121 | 227.00 | 11076 |

Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 228.00 | 1532 | 240.05 | 256 | 252.00 | 250 | 265.05 | 2642 |
| 229.00 | 2422 | 241.05 | 616 | 253.00 | 588 | 265.85 | 90 |
| 230.05 | 317 | 242.00 | 1580 | 254.05 | 951 | 270.00 | 114 |
| 231.05 | 1056 | 243.10 | 1628 | 255.05 | 108640 | 271.10 | 110 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 233.00 | 101 | 244.10 | 22574 | 256.00 | 15897 | 272.00 | 335 |
| 234.00 | 686 | 245.10 | 2961 | 257.00 | 1274 | 273.00 | 3556 |
| 234.90 | 244 | 246.00 | 4054 | 258.00 | 6255 | 274.05 | 9265 |
| 235.05 | 605 | 247.00 | 748 | 259.00 | 924 | 275.10 | 50205 |
| 235.95 | 446 | 248.00 | 130 | 259.90 | 102 | 276.10 | 7168 |
| 237.00 | 898 | 249.05 | 606 | 261.00 | 157 | 277.00 | 4132 |
| 239.00 | 578 | 250.90 | 102 | 263.95 | 218 | 278.00 | 737 |

Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 279.10 | 120 | 297.00 | 2098 | 322.00 | 243 | 346.00 | 1535 |
| 283.00 | 523 | 301.00 | 106 | 323.10 | 5259 | 347.00 | 124 |
| 284.10 | 194 | 301.95 | 229 | 324.05 | 1111 | 352.05 | 1585 |
| 285.05 | 972 | 303.05 | 1772 | 326.10 | 142 | 353.05 | 1292 |
| 289.00 | 124 | 304.00 | 551 | 327.00 | 1154 | 354.05 | 1995 |
| 290.00 | 120 | 308.00 | 120 | 328.05 | 579 | 355.05 | 353 |
| 291.90 | 109 | 312.90 | 114 | 332.00 | 371 | 365.00 | 7376 |
| 293.00 | 923 | 314.00 | 706 | 333.00 | 579 | 366.00 | 1113 |
| 294.00 | 154 | 314.95 | 1554 | 334.10 | 3819 | 370.00 | 146 |
| 294.90 | 146 | 316.05 | 1080 | 335.00 | 918 | 371.00 | 539 |
| 296.00 | 14354 | 321.00 | 441 | 341.05 | 727 | 372.05 | 3372 |

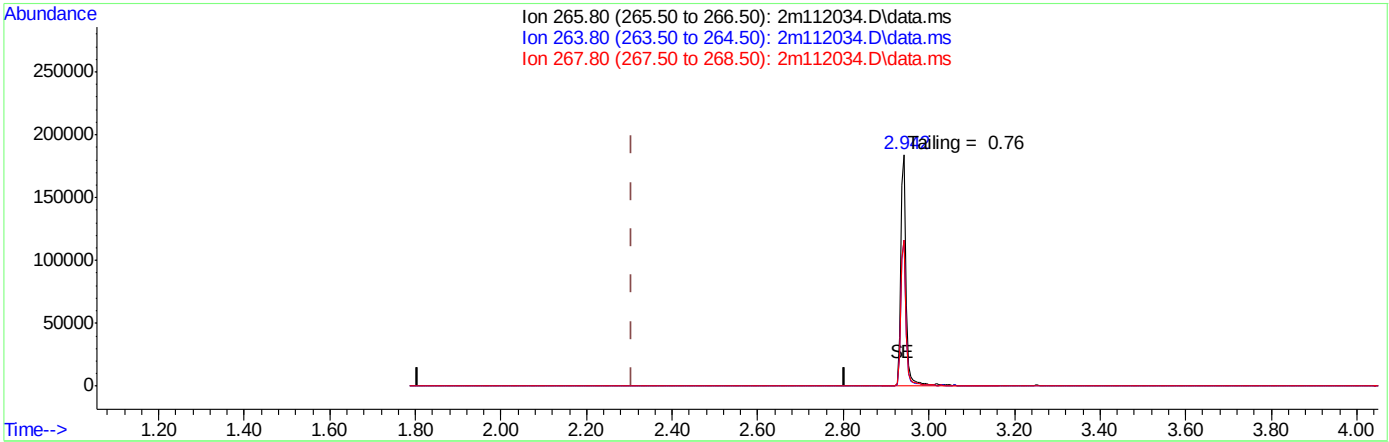
Average of 3.247 to 3.258 min.: 2m112034.D\data.ms
dftpp
Modified:subtracted

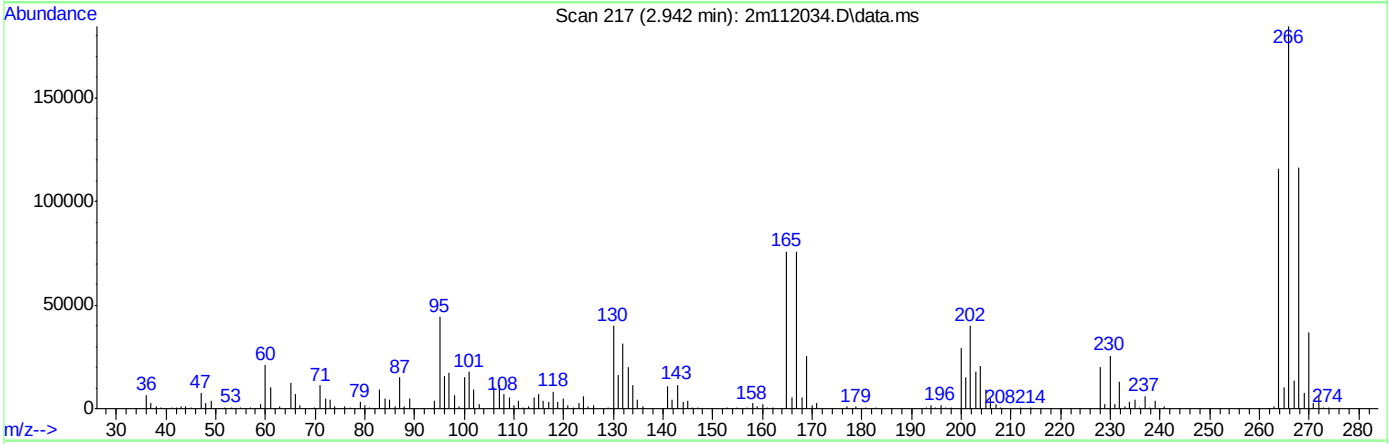
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 373.05 | 825 | 423.10 | 10863 | | | | |
| 382.95 | 840 | 424.00 | 2326 | | | | |
| 390.00 | 253 | 424.90 | 147 | | | | |
| 391.00 | 164 | 441.10 | 25589 | | | | |
| 391.90 | 122 | 442.10 | 176096 | | | | |
| 401.00 | 150 | 443.10 | 34170 | | | | |
| 401.95 | 1060 | 444.05 | 3156 | | | | |
| 403.00 | 1843 | 445.00 | 112 | | | | |
| 404.00 | 637 | | | | | | |
| 420.95 | 1382 | | | | | | |
| 422.00 | 1529 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112034.D
Acq On : 19 May 2019 11:10 am
Operator : carolb
Sample : dftpp
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 19 11:15:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m112034.D\data.ms

(1) Pentachlorophenol (t)

2.942min (+0.636) 0.00ng m

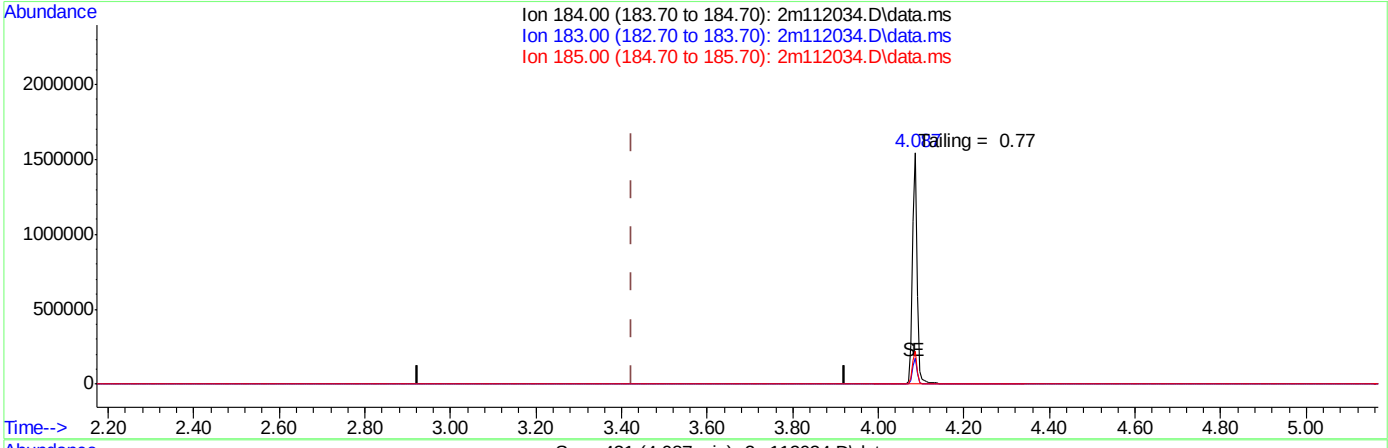
response 162614

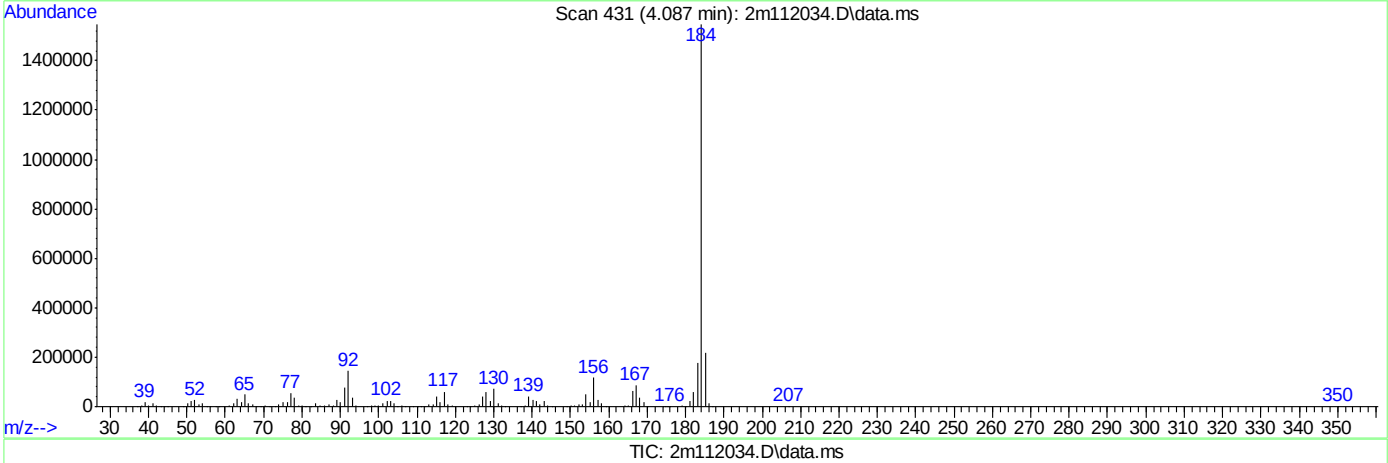
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 62.30 | 62.84 |
| 267.80 | 63.10 | 63.09 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112034.D
Acq On : 19 May 2019 11:10 am
Operator : carolb
Sample : dftpp
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 19 11:15:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m112034.D\data.ms

(2) Benzidine (t)

4.087min (+0.663) 0.00ng m

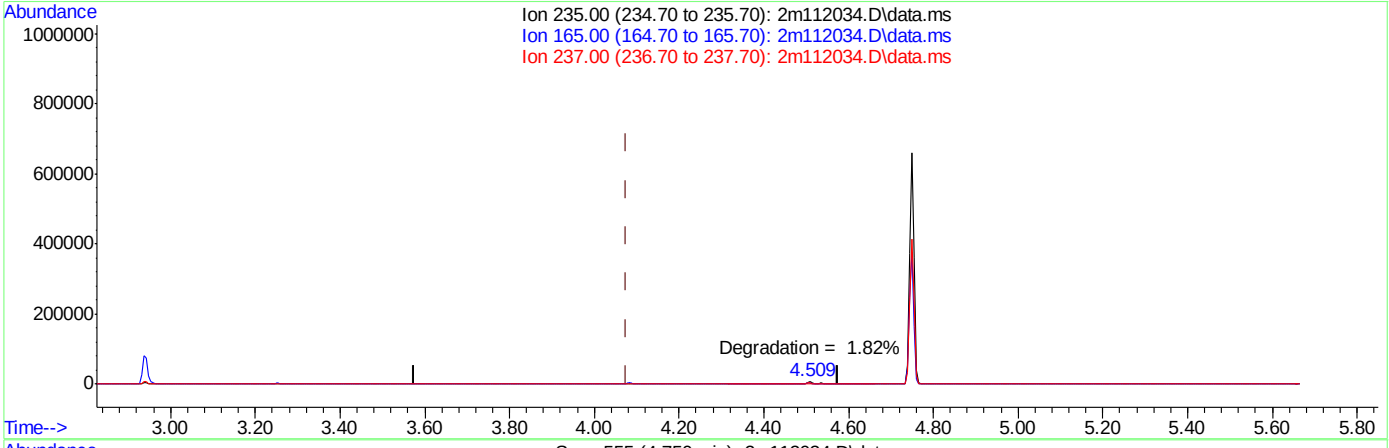
response 1192711

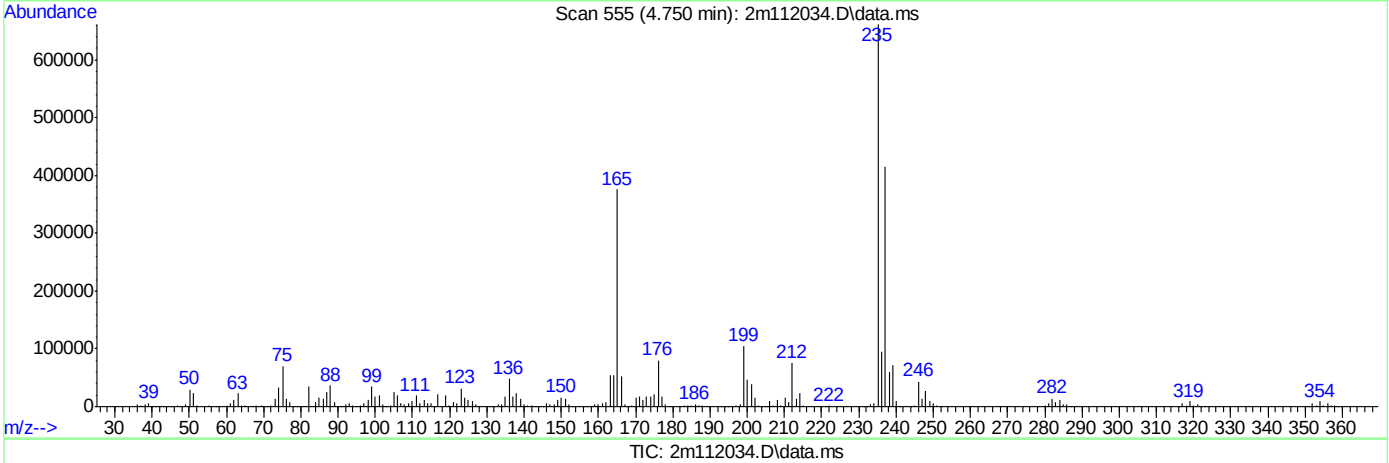
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.60 | 11.37 |
| 185.00 | 14.20 | 14.16 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112034.D
Acq On : 19 May 2019 11:10 am
Operator : carolb
Sample : dftpp
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 19 11:15:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP2M.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sat Mar 23 02:48:15 2019
Response via : Initial Calibration




TIC: 2m112034.D\data.ms

(3) PP-DDT (t)

4.750min (+0.674) 0.00ng m

response 481234

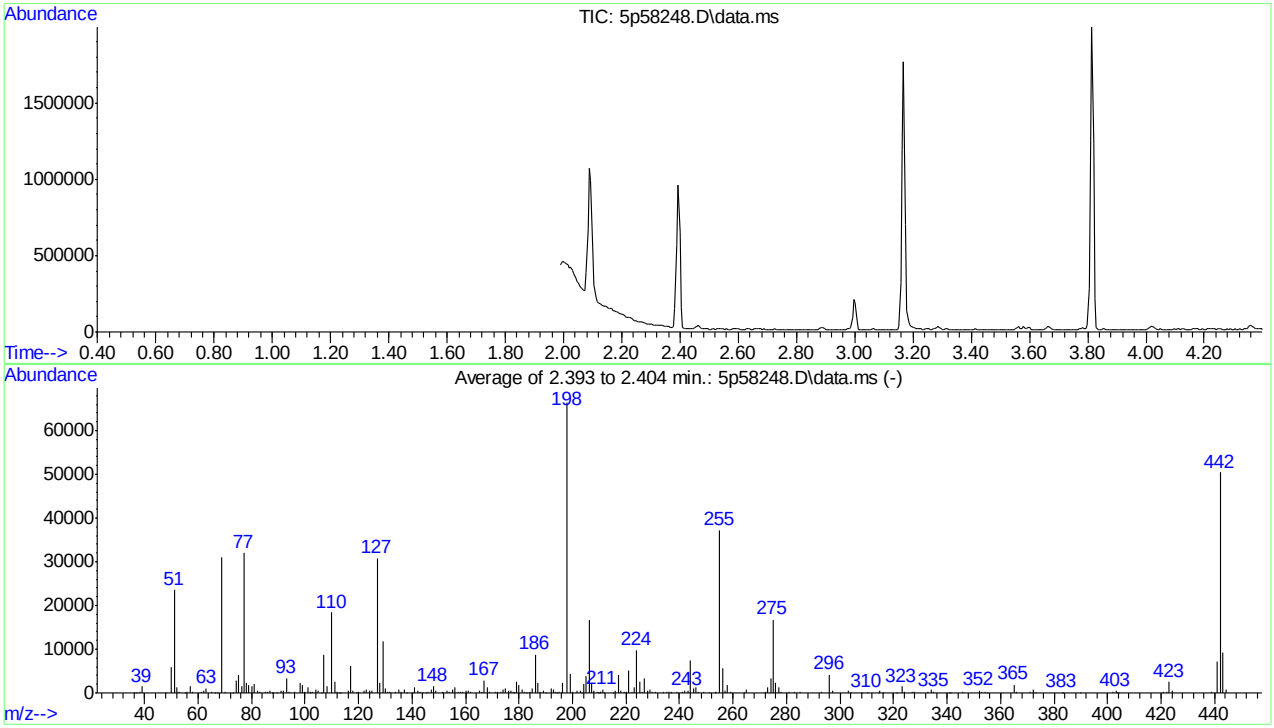
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 46.60 | 0.00# |
| 237.00 | 63.20 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58248.D
Acq On : 8 Apr 2019 11:58 pm
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
Last Update : Wed Feb 13 11:39:00 2019




AutoFind: Scans 77, 78, 79; Background Corrected with Scan 72
AUTOFIND via AUTOINTEGRATE

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 35.4 | 23529 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 46.8 | 31106 | PASS |
| 70 | 69 | 0.00 | 2 | 0.8 | 262 | PASS |
| 127 | 198 | 40 | 60 | 46.5 | 30894 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 66418 | PASS |
| 199 | 198 | 5 | 9 | 6.6 | 4395 | PASS |
| 275 | 198 | 10 | 30 | 25.1 | 16668 | PASS |
| 365 | 198 | 1 | 100 | 2.7 | 1813 | PASS |
| 441 | 443 | 0.10 | 100 | 77.5 | 7217 | PASS |
| 442 | 198 | 40 | 100 | 75.9 | 50432 | PASS |
| 443 | 442 | 17 | 23 | 18.5 | 9310 | PASS |

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 83 | 57.10 | 1562 | 74.10 | 2813 | 85.95 | 296 |
| 37.20 | 75 | 57.90 | 194 | 75.10 | 4149 | 87.05 | 398 |
| 38.10 | 324 | 61.10 | 338 | 76.20 | 1567 | 87.80 | 93 |
| 39.10 | 1475 | 62.15 | 407 | 77.10 | 31959 | 88.00 | 102 |
| 47.90 | 71 | 63.05 | 1039 | 78.05 | 2238 | 89.20 | 66 |
| 50.05 | 5878 | 65.00 | 355 | 79.10 | 1765 | 91.05 | 482 |
| 51.10 | 23529 | 66.20 | 72 | 80.05 | 1544 | 92.05 | 490 |
| 52.10 | 1213 | 67.00 | 26 | 81.00 | 2187 | 93.00 | 3351 |
| 53.05 | 250 | 69.00 | 31106 | 82.05 | 596 | 94.00 | 261 |
| 55.10 | 50 | 70.10 | 262 | 83.00 | 327 | 96.05 | 141 |
| 56.05 | 296 | 73.10 | 69 | 85.00 | 272 | 98.05 | 2254 |

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 99.05 | 1688 | 110.00 | 18387 | 123.10 | 801 | 136.00 | 347 |
| 99.95 | 198 | 111.00 | 2557 | 124.10 | 398 | 137.10 | 721 |
| 101.05 | 1278 | 112.00 | 360 | 125.05 | 404 | 138.00 | 84 |
| 101.80 | 69 | 112.80 | 87 | 127.00 | 30894 | 140.10 | 139 |
| 102.10 | 168 | 113.10 | 82 | 128.05 | 2363 | 141.00 | 1228 |
| 102.95 | 346 | 116.00 | 452 | 129.00 | 11931 | 142.10 | 544 |
| 104.00 | 763 | 117.00 | 6262 | 130.05 | 1065 | 143.05 | 373 |
| 105.00 | 568 | 117.95 | 540 | 131.00 | 224 | 144.00 | 84 |
| 106.00 | 95 | 119.10 | 80 | 131.90 | 172 | 144.90 | 84 |
| 107.00 | 8848 | 120.10 | 184 | 133.90 | 303 | 145.90 | 281 |
| 108.10 | 1562 | 122.00 | 585 | 134.95 | 789 | 147.00 | 843 |

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 148.00 | 1594 | 160.00 | 636 | 174.10 | 697 | 183.95 | 167 |
| 149.05 | 466 | 161.05 | 478 | 175.05 | 1075 | 185.05 | 1065 |
| 151.30 | 111 | 162.05 | 193 | 176.05 | 457 | 186.05 | 8853 |
| 151.60 | 186 | 165.05 | 409 | 177.00 | 632 | 187.05 | 2203 |
| 153.00 | 470 | 166.05 | 239 | 177.80 | 148 | 188.00 | 380 |
| 154.10 | 362 | 167.00 | 2860 | 178.20 | 100 | 189.10 | 508 |
| 155.00 | 840 | 167.95 | 1295 | 179.00 | 2578 | 190.00 | 101 |
| 156.00 | 1347 | 169.00 | 246 | 180.00 | 1733 | 192.00 | 933 |
| 157.05 | 289 | 171.05 | 179 | 181.00 | 758 | 193.05 | 834 |
| 157.95 | 338 | 172.00 | 336 | 182.00 | 157 | 193.90 | 163 |
| 159.00 | 192 | 173.05 | 338 | 183.00 | 87 | 194.10 | 70 |

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 195.05 | 259 | 206.10 | 16718 | 216.10 | 409 | 227.00 | 3467 |
| 195.70 | 97 | 207.05 | 1968 | 217.00 | 4234 | 228.05 | 519 |
| 196.05 | 2402 | 208.10 | 639 | 217.95 | 439 | 229.00 | 852 |
| 198.00 | 66418 | 209.05 | 323 | 219.10 | 151 | 229.95 | 200 |
| 199.00 | 4395 | 209.60 | 68 | 220.00 | 147 | 231.05 | 371 |
| 200.05 | 315 | 210.10 | 127 | 221.10 | 5032 | 234.05 | 213 |
| 201.65 | 473 | 210.40 | 265 | 222.10 | 197 | 235.00 | 238 |
| 203.00 | 473 | 210.60 | 202 | 223.00 | 1228 | 236.00 | 285 |
| 203.20 | 107 | 211.15 | 786 | 224.05 | 9820 | 236.70 | 73 |
| 204.05 | 2122 | 211.70 | 129 | 225.05 | 2633 | 237.05 | 247 |
| 205.05 | 3831 | 215.00 | 133 | 226.10 | 183 | 239.00 | 205 |

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 240.95 | 194 | 255.00 | 37263 | 276.00 | 2320 | 308.00 | 72 |
| 241.90 | 454 | 256.00 | 5598 | 277.00 | 1226 | 310.00 | 89 |
| 243.00 | 528 | 257.00 | 470 | 278.10 | 185 | 314.20 | 108 |
| 244.10 | 7394 | 258.00 | 1861 | 280.95 | 185 | 314.95 | 398 |

DFTPP5P.M Tue Apr 09 12:43:59 2019 RPT1 Page: 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 245.05 | 1029 | 259.00 | 287 | 282.95 | 160 | 316.00 | 101 |
| 246.00 | 1386 | 263.90 | 116 | 285.05 | 268 | 321.00 | 76 |
| 247.05 | 256 | 265.00 | 766 | 293.00 | 296 | 323.05 | 1509 |
| 249.00 | 190 | 272.05 | 171 | 296.00 | 4219 | 324.05 | 303 |
| 251.00 | 68 | 273.05 | 1278 | 297.00 | 605 | 327.05 | 279 |
| 253.10 | 116 | 274.05 | 3273 | 303.00 | 617 | 328.00 | 151 |
| 253.50 | 158 | 275.00 | 16668 | 304.00 | 137 | 333.00 | 192 |

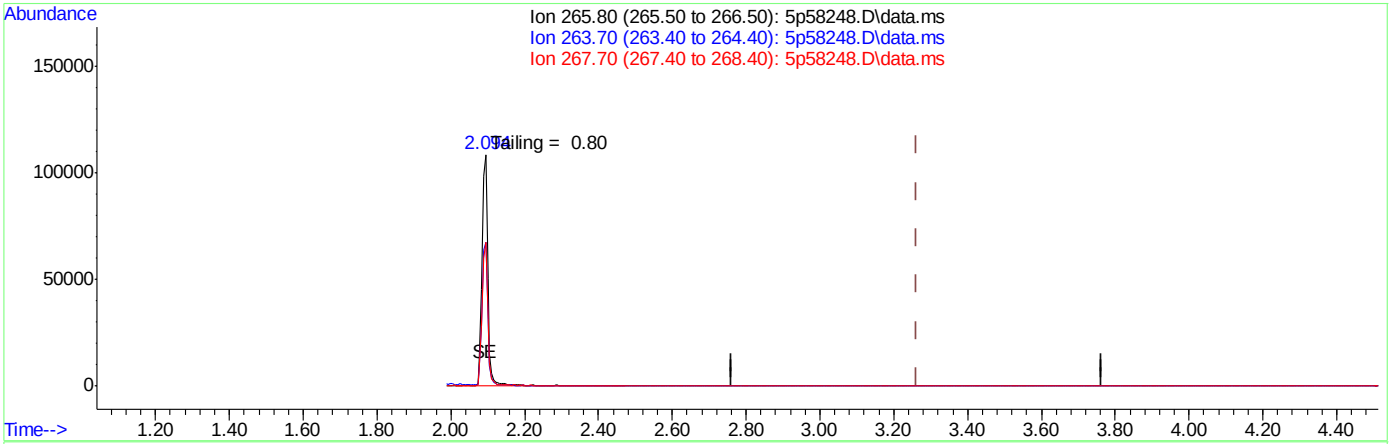
Average of 2.393 to 2.404 min.: 5p58248.D\data.ms
dftpp
Modified:subtracted

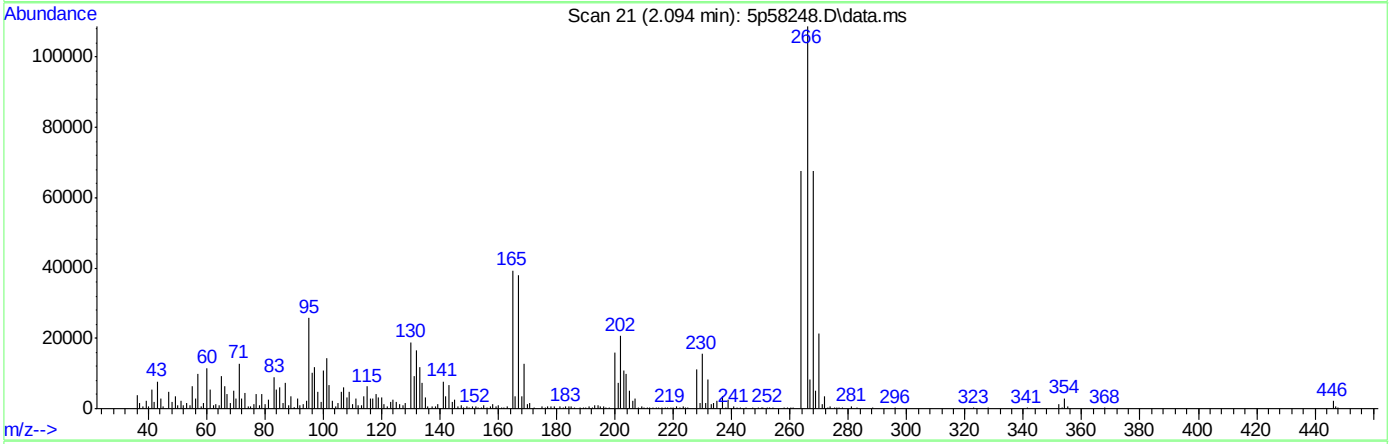
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 334.00 | 889 | 371.10 | 141 | 421.95 | 269 | | |
| 335.10 | 301 | 372.00 | 767 | 423.00 | 2525 | | |
| 340.90 | 99 | 373.00 | 70 | 424.10 | 634 | | |
| 341.10 | 68 | 382.90 | 93 | 438.80 | 142 | | |
| 346.00 | 345 | 383.20 | 79 | 441.05 | 7217 | | |
| 352.05 | 562 | 390.00 | 89 | 442.00 | 50432 | | |
| 353.10 | 253 | 402.05 | 267 | 443.00 | 9310 | | |
| 354.00 | 328 | 403.05 | 419 | 444.10 | 906 | | |
| 355.00 | 110 | 403.80 | 93 | | | | |
| 365.00 | 1813 | 404.10 | 102 | | | | |
| 365.95 | 173 | 421.00 | 271 | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58248.D
Acq On : 8 Apr 2019 11:58 pm
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 00:03:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58248.D\data.ms

(1) Pentachlorophenol (MC)

2.094min (-1.168) 69.45ng m

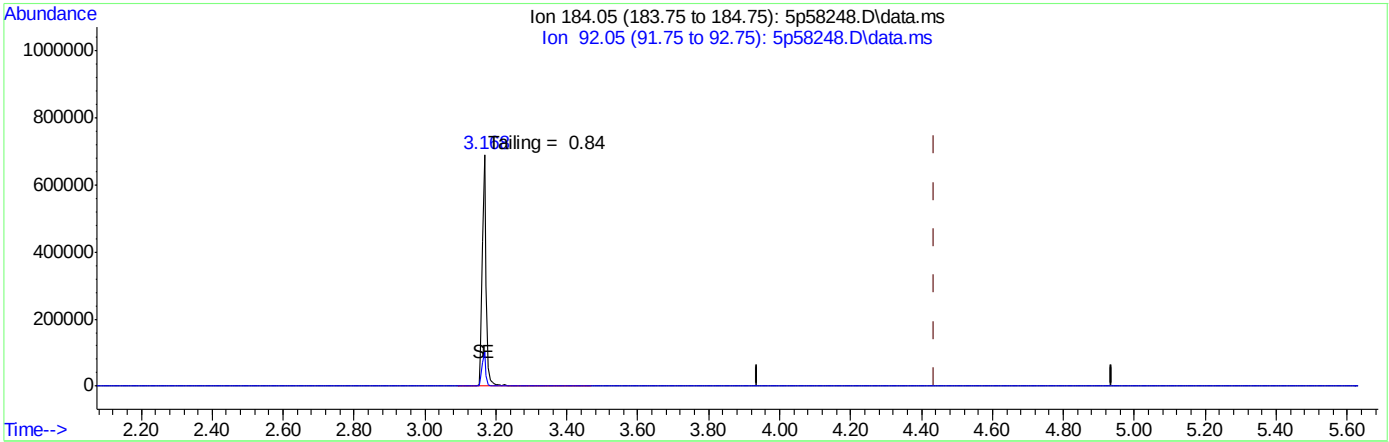
response 115798

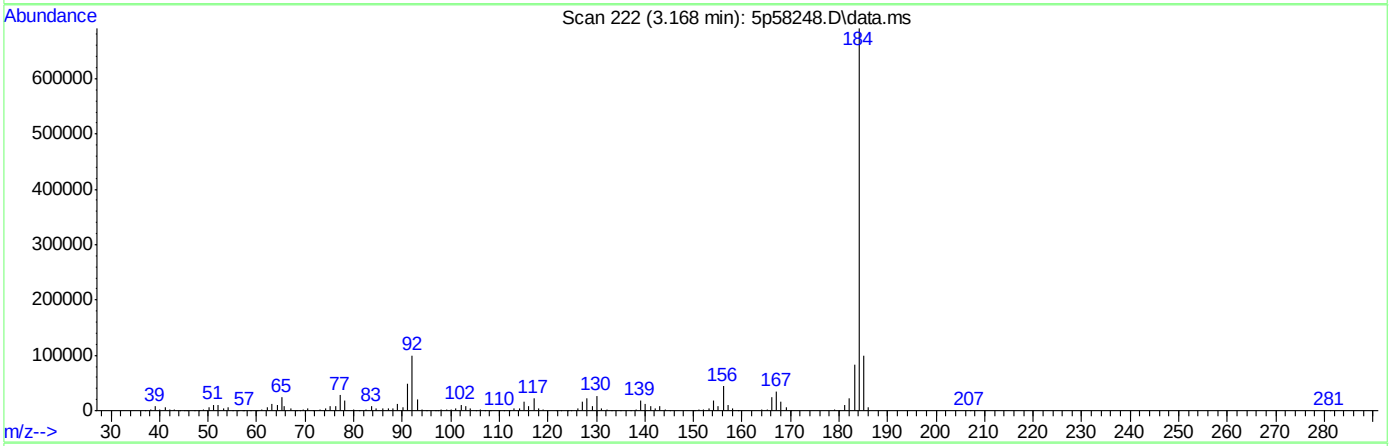
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 62.60 | 62.31 |
| 267.70 | 64.20 | 62.05 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58248.D
Acq On : 8 Apr 2019 11:58 pm
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 00:03:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58248.D\data.ms

(2) Benzidine (M)

3.168min (-1.270) 106.50ng m

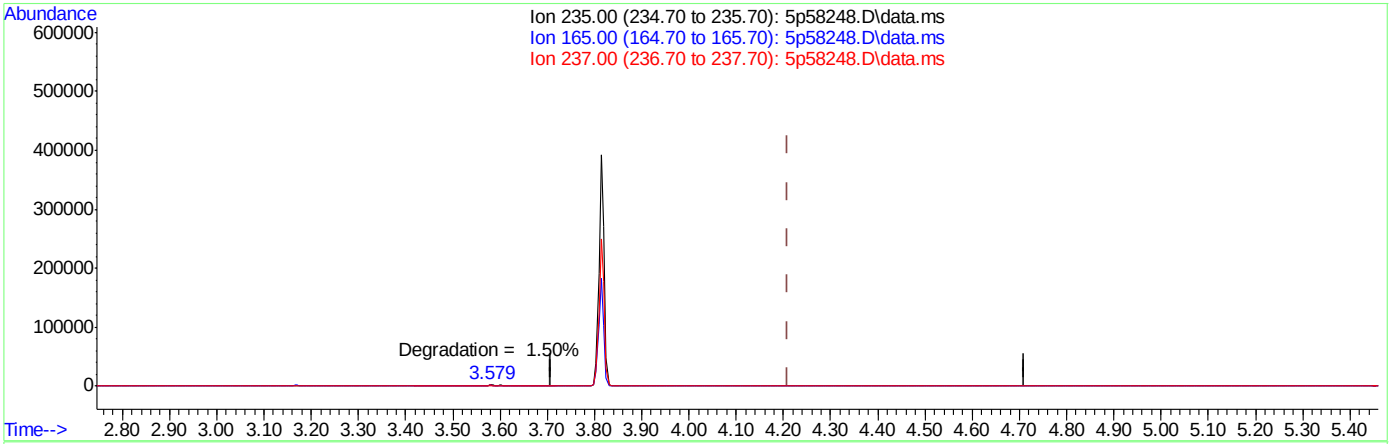
response 539055

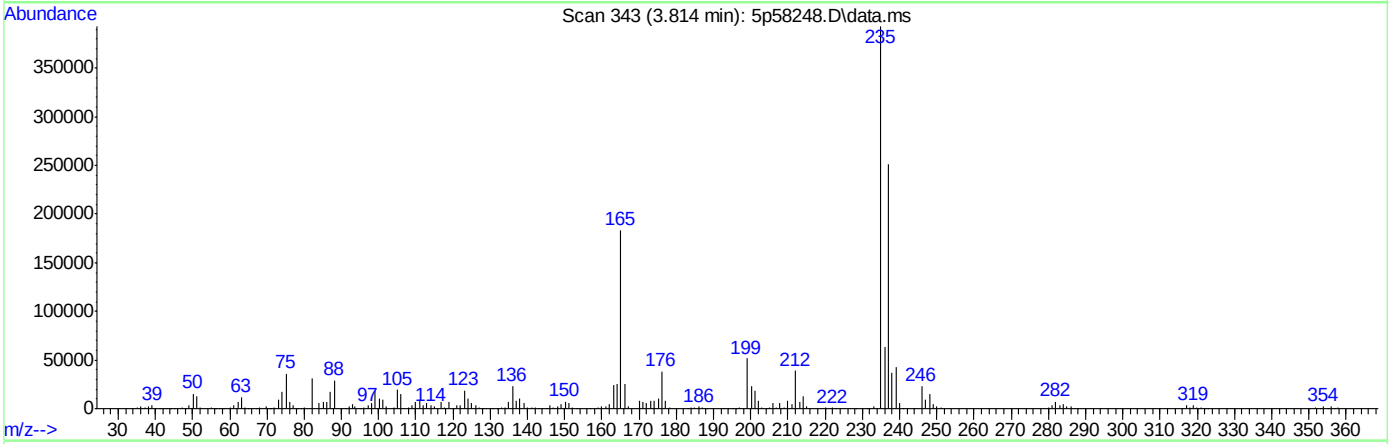
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 10.80 | 14.51# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58248.D
Acq On : 8 Apr 2019 11:58 pm
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 00:03:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58248.D\data.ms

(3) PP-DDT (MC)

3.814min (-0.396) 155.95ng m

response 306032

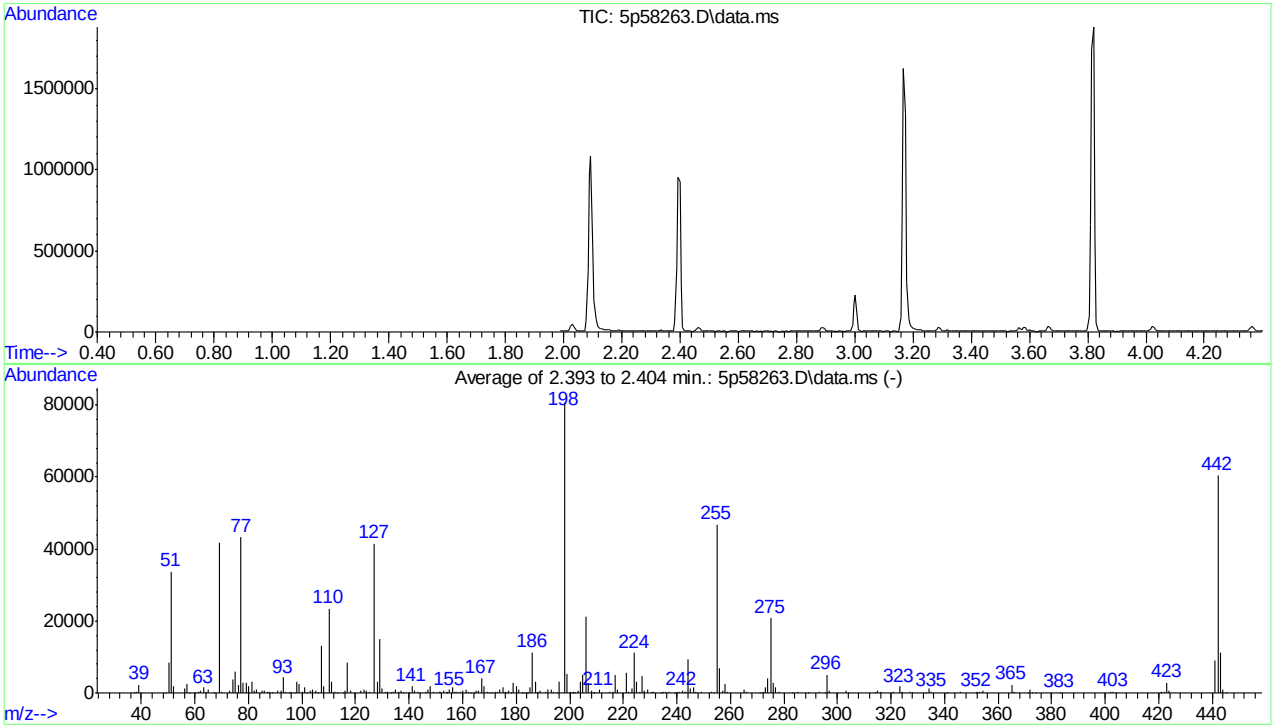
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 57.30 | 46.63 |
| 237.00 | 65.20 | 63.79 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58263.D
Acq On : 9 Apr 2019 6:15 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
Last Update : Wed Feb 13 11:39:00 2019




AutoFind: Scans 77, 78, 79; Background Corrected with Scan 63

AUTOFIND via AUTOINTEGRATE

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 41.8 | 33747 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 51.8 | 41796 | PASS |
| 70 | 69 | 0.00 | 2 | 0.4 | 186 | PASS |
| 127 | 198 | 40 | 60 | 51.4 | 41473 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 80698 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 5419 | PASS |
| 275 | 198 | 10 | 30 | 25.8 | 20801 | PASS |
| 365 | 198 | 1 | 100 | 2.9 | 2339 | PASS |
| 441 | 443 | 0.10 | 100 | 80.1 | 9063 | PASS |
| 442 | 198 | 40 | 100 | 75.0 | 60528 | PASS |
| 443 | 442 | 17 | 23 | 18.7 | 11319 | PASS |

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.10 | 86 | 61.10 | 439 | 76.10 | 2259 | 88.05 | 220 |
| 38.10 | 395 | 62.15 | 505 | 77.10 | 43414 | 89.00 | 67 |
| 39.10 | 2193 | 63.10 | 1492 | 78.10 | 2940 | 91.05 | 777 |
| 49.05 | 118 | 64.10 | 170 | 79.05 | 2800 | 92.00 | 700 |
| 50.10 | 8279 | 65.10 | 792 | 80.00 | 1912 | 93.00 | 4279 |
| 51.10 | 33747 | 67.10 | 71 | 81.10 | 3052 | 93.95 | 292 |
| 52.10 | 1816 | 69.00 | 41796 | 82.10 | 700 | 95.10 | 148 |
| 56.05 | 1235 | 70.10 | 186 | 83.10 | 830 | 96.05 | 249 |
| 57.10 | 2584 | 73.10 | 518 | 85.05 | 586 | 97.10 | 79 |
| 58.00 | 117 | 74.10 | 3672 | 86.00 | 576 | 98.05 | 3146 |
| 60.10 | 71 | 75.10 | 5874 | 87.10 | 269 | 99.00 | 2436 |

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 100.05 | 216 | 112.15 | 336 | 128.00 | 3277 | 139.90 | 88 |
| 100.95 | 1454 | 113.10 | 69 | 129.05 | 14947 | 141.00 | 1945 |
| 101.90 | 84 | 115.00 | 81 | 130.00 | 1370 | 142.05 | 684 |
| 103.05 | 550 | 116.05 | 725 | 131.05 | 199 | 143.05 | 397 |
| 104.00 | 998 | 117.00 | 8283 | 132.10 | 185 | 144.00 | 69 |
| 105.00 | 667 | 118.00 | 638 | 133.20 | 89 | 146.05 | 225 |
| 106.00 | 87 | 122.00 | 750 | 134.00 | 244 | 147.05 | 993 |
| 107.05 | 12990 | 123.00 | 1027 | 135.00 | 1036 | 148.00 | 1807 |
| 108.00 | 1888 | 124.00 | 519 | 136.05 | 378 | 149.05 | 372 |
| 110.00 | 23520 | 125.05 | 475 | 137.05 | 544 | 151.00 | 256 |
| 111.00 | 3208 | 127.10 | 41473 | 137.95 | 158 | 151.75 | 201 |

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 152.95 | 695 | 163.00 | 73 | 174.00 | 796 | 183.10 | 113 |
| 154.00 | 384 | 164.00 | 94 | 175.10 | 1437 | 183.90 | 151 |
| 154.20 | 76 | 165.00 | 523 | 175.80 | 76 | 184.10 | 98 |
| 155.10 | 799 | 166.00 | 489 | 176.05 | 446 | 185.10 | 1474 |
| 156.10 | 1595 | 167.05 | 4083 | 176.70 | 95 | 186.10 | 11261 |
| 157.05 | 328 | 168.05 | 1734 | 177.00 | 741 | 187.05 | 3141 |
| 157.90 | 269 | 169.05 | 420 | 177.90 | 118 | 188.05 | 296 |
| 159.00 | 219 | 170.00 | 84 | 179.00 | 2777 | 189.00 | 639 |
| 160.10 | 605 | 170.95 | 151 | 180.10 | 1976 | 190.95 | 398 |
| 161.10 | 904 | 171.95 | 272 | 181.00 | 1049 | 192.00 | 817 |
| 162.10 | 316 | 173.00 | 435 | 182.10 | 92 | 193.05 | 888 |

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 194.00 | 237 | 204.00 | 3186 | 217.95 | 798 | 231.10 | 319 |
| 195.10 | 104 | 205.00 | 4983 | 221.05 | 5494 | 233.90 | 87 |
| 196.00 | 3165 | 206.10 | 21141 | 222.10 | 471 | 235.00 | 349 |
| 198.00 | 80698 | 207.05 | 2769 | 223.05 | 1288 | 235.95 | 251 |
| 199.00 | 5419 | 208.00 | 700 | 224.10 | 11214 | 237.05 | 310 |
| 200.05 | 404 | 208.90 | 70 | 225.05 | 3073 | 239.20 | 79 |
| 200.30 | 81 | 209.10 | 148 | 225.95 | 224 | 239.70 | 78 |
| 201.20 | 93 | 211.00 | 911 | 227.00 | 4786 | 240.10 | 69 |
| 201.50 | 375 | 215.00 | 204 | 228.00 | 565 | 240.95 | 432 |
| 201.90 | 148 | 216.00 | 436 | 229.00 | 876 | 242.05 | 759 |
| 202.95 | 571 | 217.00 | 5073 | 230.90 | 174 | 242.95 | 411 |

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 243.20 | 407 | 258.05 | 2348 | 278.00 | 216 | 315.00 | 627 |
| 244.10 | 9342 | 259.00 | 386 | 283.05 | 166 | 316.10 | 317 |
| 245.05 | 1184 | 265.00 | 900 | 285.00 | 241 | 320.95 | 171 |
| 246.05 | 1636 | 265.95 | 335 | 289.00 | 72 | 323.10 | 1849 |

DFTPP5P.M Tue Apr 09 15:00:36 2019 RPT1 Page: 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 247.05 | 410 | 271.00 | 79 | 293.00 | 375 | 324.00 | 302 |
| 249.00 | 280 | 272.00 | 196 | 295.10 | 138 | 326.95 | 271 |
| 253.00 | 275 | 273.00 | 1566 | 296.05 | 5115 | 327.90 | 68 |
| 253.90 | 121 | 274.05 | 4001 | 297.00 | 622 | 333.10 | 95 |
| 255.00 | 46794 | 275.00 | 20801 | 303.05 | 731 | 334.05 | 1135 |
| 256.00 | 6779 | 276.10 | 2863 | 304.00 | 103 | 335.05 | 336 |
| 257.05 | 588 | 277.00 | 1622 | 314.00 | 76 | 341.00 | 97 |

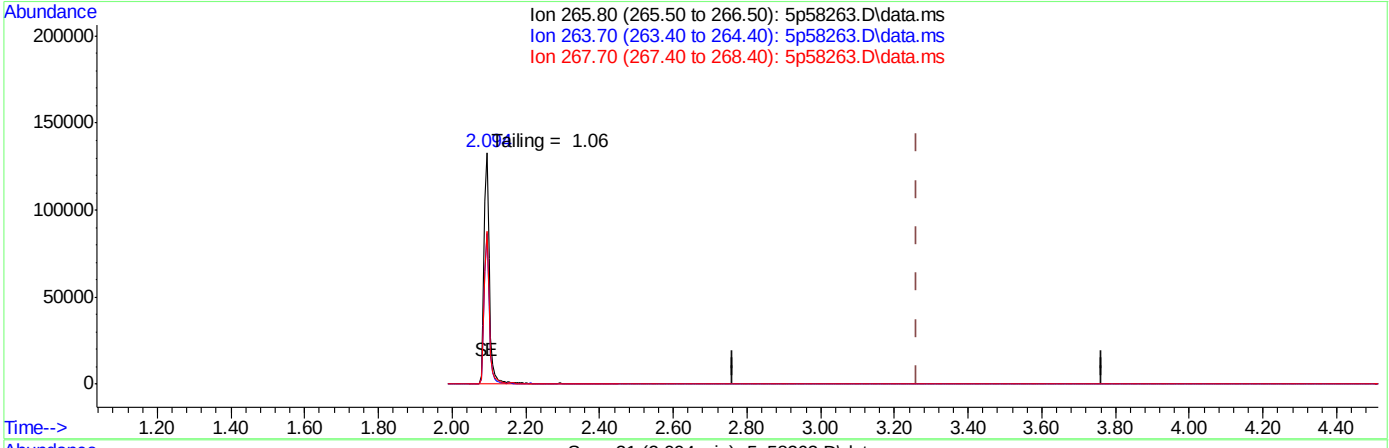
Average of 2.393 to 2.404 min.: 5p58263.D\data.ms
dftpp
Modified:subtracted

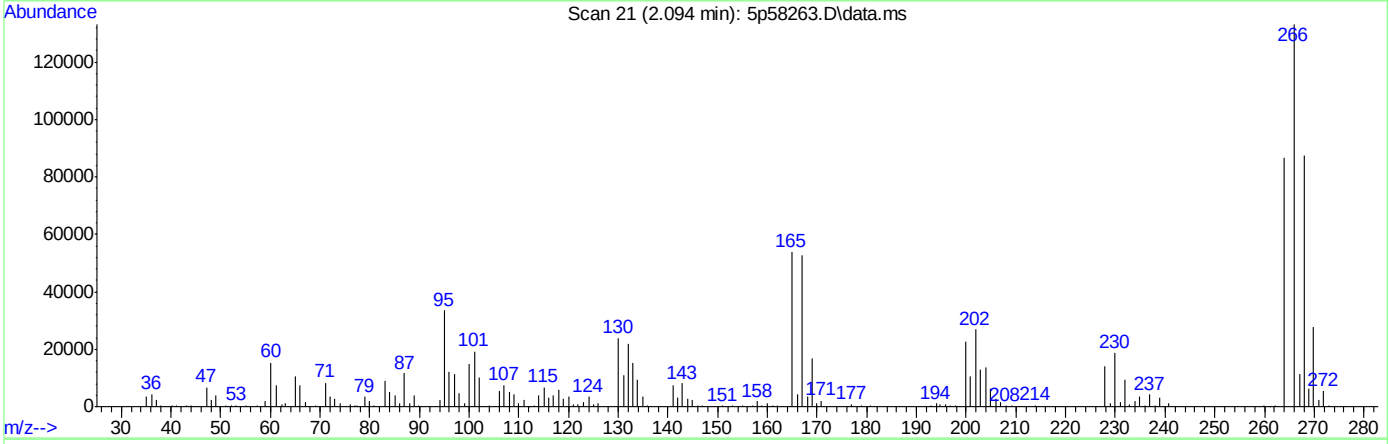
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 345.95 | 323 | 383.00 | 114 | 443.05 | 11319 | | |
| 351.80 | 102 | 402.00 | 362 | 444.05 | 1016 | | |
| 352.10 | 454 | 403.05 | 421 | 445.00 | 87 | | |
| 353.05 | 411 | 404.00 | 115 | | | | |
| 354.10 | 591 | 420.70 | 122 | | | | |
| 365.00 | 2339 | 421.05 | 288 | | | | |
| 366.05 | 259 | 421.95 | 279 | | | | |
| 371.00 | 67 | 423.05 | 2879 | | | | |
| 372.05 | 810 | 423.90 | 688 | | | | |
| 372.80 | 85 | 441.10 | 9063 | | | | |
| 373.80 | 85 | 442.10 | 60528 | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58263.D
Acq On : 9 Apr 2019 6:15 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 06:21:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58263.D\data.ms

(1) Pentachlorophenol (MC)

2.094min (-1.168) 79.99ng m

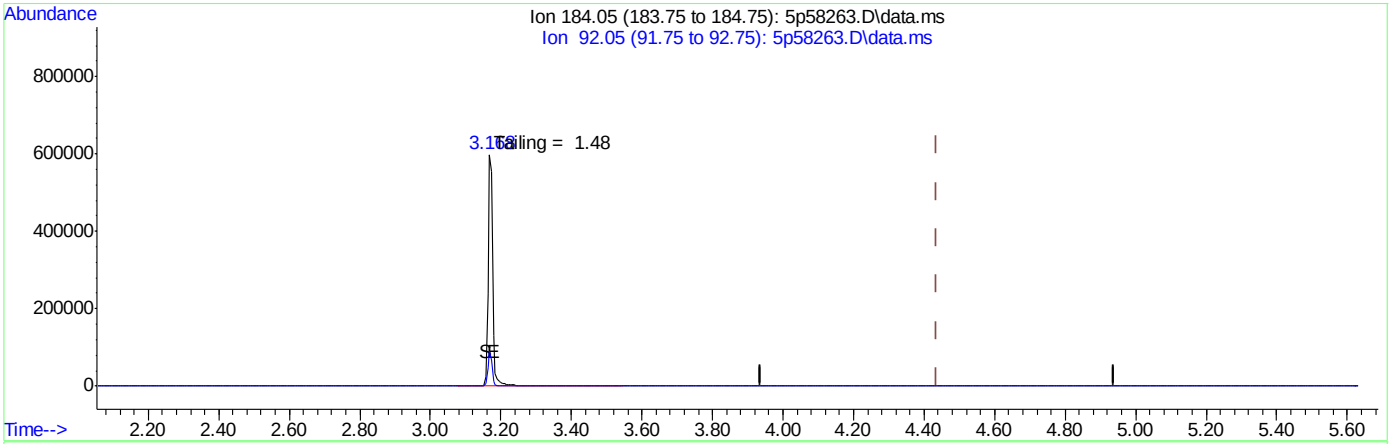
response 133370

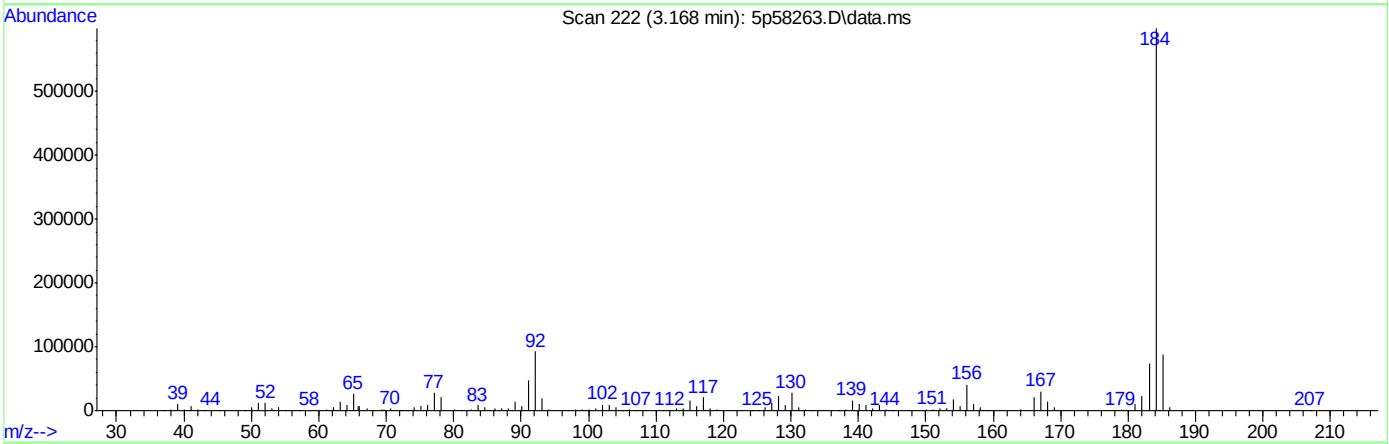
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 62.60 | 65.00 |
| 267.70 | 64.20 | 65.77 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58263.D
Acq On : 9 Apr 2019 6:15 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 06:21:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58263.D\data.ms

(2) Benzidine (M)

3.168min (-1.270) 107.28ng m

response 543009

| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 10.80 | 15.42# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

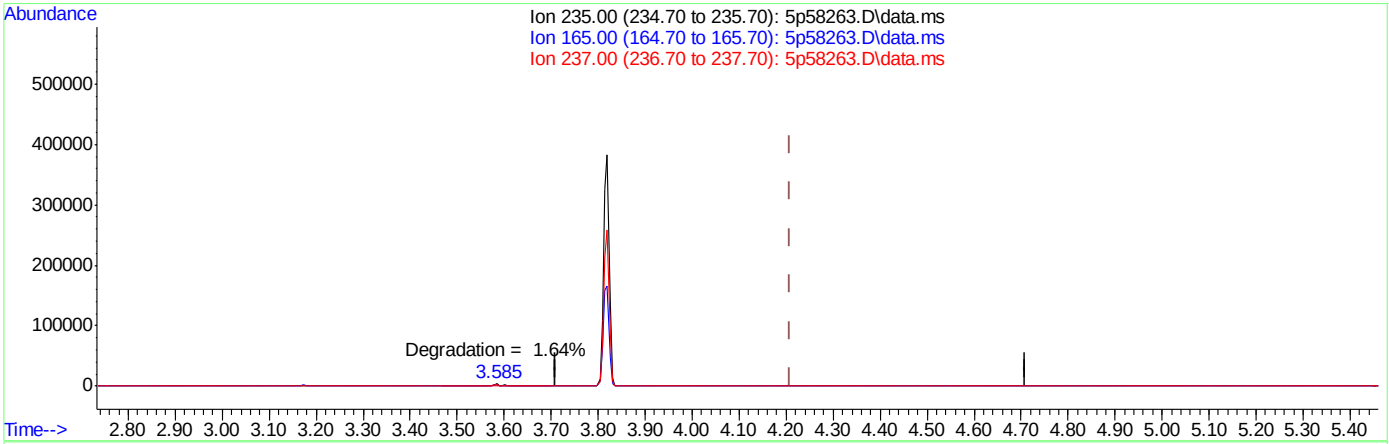
9.7.9.2

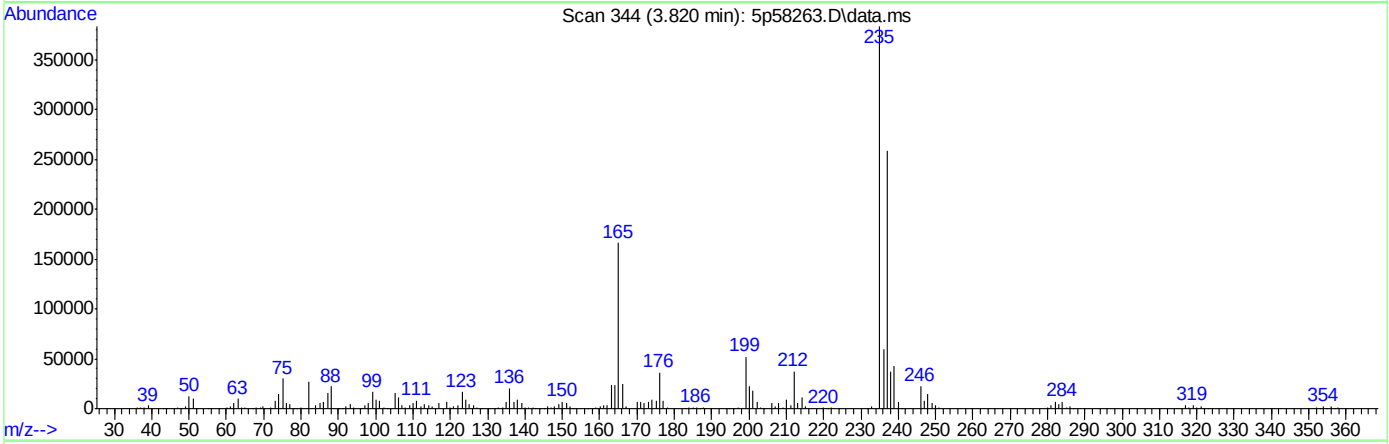
9

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58263.D
Acq On : 9 Apr 2019 6:15 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 06:21:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58263.D\data.ms

(3) PP-DDT (MC)

3.820min (-0.390) 160.86ng m

response 315679

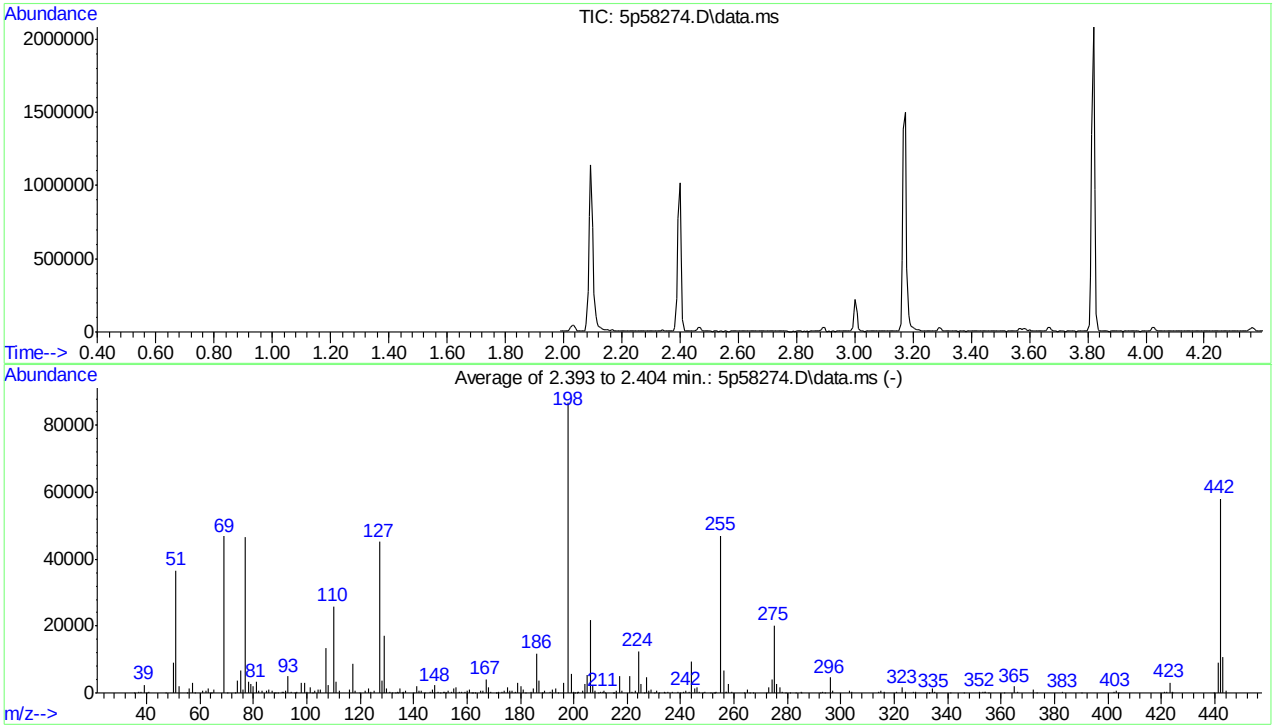
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 57.30 | 43.38 |
| 237.00 | 65.20 | 67.38 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58274.D
Acq On : 9 Apr 2019 10:54 am
Operator : yujiac
Sample : dftpp
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
Last Update : Wed Feb 13 11:39:00 2019




AutoFind: Scans 77, 78, 79; Background Corrected with Scan 72
AUTOFIND via AUTOINTEGRATE

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 42.2 | 36653 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 53.9 | 46813 | PASS |
| 70 | 69 | 0.00 | 2 | 0.4 | 168 | PASS |
| 127 | 198 | 40 | 60 | 52.1 | 45240 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 86840 | PASS |
| 199 | 198 | 5 | 9 | 6.5 | 5619 | PASS |
| 275 | 198 | 10 | 30 | 23.3 | 20259 | PASS |
| 365 | 198 | 1 | 100 | 2.3 | 1987 | PASS |
| 441 | 443 | 0.10 | 100 | 82.4 | 8952 | PASS |
| 442 | 198 | 40 | 100 | 66.8 | 58045 | PASS |
| 443 | 442 | 17 | 23 | 18.7 | 10863 | PASS |

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.20 | 79 | 56.05 | 1246 | 73.05 | 164 | 85.00 | 553 |
| 37.05 | 284 | 57.10 | 2884 | 74.10 | 3644 | 85.95 | 891 |
| 38.10 | 440 | 58.00 | 69 | 75.10 | 6806 | 87.05 | 548 |
| 39.10 | 2497 | 61.10 | 550 | 76.10 | 919 | 87.90 | 127 |
| 39.95 | 163 | 62.05 | 657 | 77.10 | 46720 | 88.10 | 86 |
| 41.05 | 229 | 63.10 | 1391 | 78.10 | 3342 | 89.00 | 79 |
| 47.00 | 83 | 64.00 | 90 | 79.05 | 2718 | 90.90 | 227 |
| 50.10 | 8963 | 64.20 | 96 | 80.05 | 2081 | 91.10 | 485 |
| 51.05 | 36653 | 65.10 | 1006 | 81.05 | 3246 | 92.05 | 773 |
| 52.10 | 2114 | 69.00 | 46813 | 82.00 | 793 | 93.05 | 4999 |
| 55.05 | 60 | 70.10 | 168 | 83.10 | 851 | 94.05 | 406 |

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 95.20 | 77 | 107.05 | 13362 | 124.00 | 484 | 135.00 | 1231 |
| 95.80 | 85 | 108.10 | 2310 | 125.05 | 617 | 135.80 | 87 |
| 96.10 | 315 | 110.05 | 25937 | 127.10 | 45240 | 136.05 | 384 |
| 98.10 | 3039 | 111.10 | 3459 | 128.10 | 3708 | 137.10 | 718 |
| 99.05 | 3108 | 112.05 | 598 | 129.00 | 17068 | 140.00 | 116 |
| 100.05 | 377 | 116.10 | 991 | 130.00 | 1232 | 141.05 | 1929 |
| 101.10 | 1579 | 117.05 | 8887 | 131.10 | 332 | 142.05 | 580 |
| 102.10 | 100 | 118.05 | 598 | 132.10 | 161 | 143.00 | 540 |
| 103.00 | 799 | 119.90 | 77 | 133.00 | 73 | 144.00 | 93 |
| 104.05 | 1057 | 122.00 | 832 | 133.90 | 122 | 146.00 | 355 |
| 105.05 | 967 | 123.05 | 1241 | 134.05 | 389 | 147.00 | 1091 |

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 148.00 | 2206 | 158.05 | 472 | 169.00 | 339 | 180.00 | 1938 |
| 148.95 | 411 | 159.05 | 205 | 170.80 | 77 | 181.05 | 940 |
| 150.00 | 94 | 160.05 | 575 | 171.00 | 79 | 182.00 | 70 |
| 151.05 | 334 | 161.05 | 874 | 172.00 | 257 | 184.10 | 286 |
| 151.60 | 242 | 161.90 | 167 | 173.00 | 487 | 185.00 | 1355 |
| 152.20 | 75 | 162.10 | 101 | 174.10 | 768 | 186.10 | 11888 |
| 153.00 | 603 | 163.10 | 107 | 175.05 | 1774 | 187.10 | 3666 |
| 154.05 | 404 | 164.95 | 608 | 176.10 | 724 | 188.00 | 82 |
| 155.05 | 1342 | 166.10 | 551 | 177.00 | 803 | 188.20 | 68 |
| 156.00 | 1725 | 167.05 | 4133 | 177.90 | 204 | 189.00 | 652 |
| 157.05 | 464 | 168.05 | 1797 | 179.00 | 3073 | 191.05 | 446 |

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 192.00 | 1096 | 203.10 | 634 | 214.80 | 71 | 227.00 | 4568 |
| 193.05 | 1304 | 204.05 | 2810 | 215.00 | 108 | 228.00 | 714 |
| 194.00 | 171 | 205.10 | 5441 | 216.05 | 626 | 229.00 | 1106 |
| 196.05 | 3098 | 206.10 | 21884 | 217.00 | 5026 | 230.00 | 128 |
| 198.00 | 86840 | 207.05 | 2480 | 218.05 | 561 | 230.90 | 518 |
| 199.00 | 5619 | 208.00 | 768 | 221.10 | 4962 | 231.90 | 110 |
| 200.00 | 514 | 209.05 | 29 | 221.70 | 501 | 233.80 | 89 |
| 200.20 | 91 | 210.20 | 344 | 223.15 | 840 | 234.05 | 238 |
| 201.20 | 147 | 210.80 | 274 | 224.10 | 12405 | 235.05 | 389 |
| 201.40 | 224 | 211.05 | 659 | 225.00 | 2848 | 237.00 | 427 |
| 201.70 | 345 | 211.60 | 104 | 226.20 | 107 | 239.00 | 228 |

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 240.00 | 79 | 252.50 | 82 | 265.85 | 57 | 282.95 | 150 |
| 241.00 | 334 | 252.90 | 112 | 266.90 | 68 | 285.00 | 119 |
| 242.05 | 676 | 253.10 | 180 | 272.10 | 116 | 285.15 | 197 |
| 243.10 | 316 | 255.00 | 46933 | 273.05 | 1673 | 292.10 | 72 |

DFTPP5P.M Tue Apr 09 15:38:52 2019 RPT1 Page: 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 244.10 | 9469 | 256.05 | 6623 | 274.05 | 4037 | 293.00 | 380 |
| 245.05 | 1307 | 256.90 | 230 | 275.00 | 20259 | 293.90 | 77 |
| 246.05 | 1730 | 257.10 | 259 | 276.05 | 2573 | 296.00 | 4641 |
| 247.00 | 329 | 258.05 | 2554 | 277.00 | 1575 | 296.95 | 688 |
| 248.10 | 73 | 258.90 | 311 | 277.95 | 206 | 303.00 | 728 |
| 249.00 | 273 | 263.90 | 83 | 279.10 | 71 | 304.00 | 202 |
| 251.00 | 81 | 264.95 | 1100 | 281.00 | 77 | 313.90 | 275 |

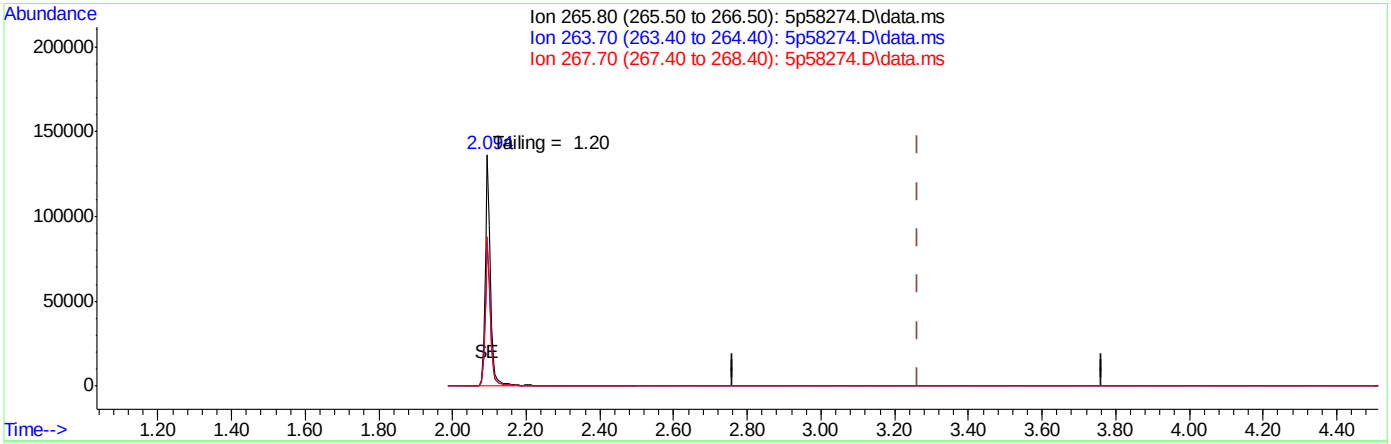
Average of 2.393 to 2.404 min.: 5p58274.D\data.ms
dftpp
Modified:subtracted

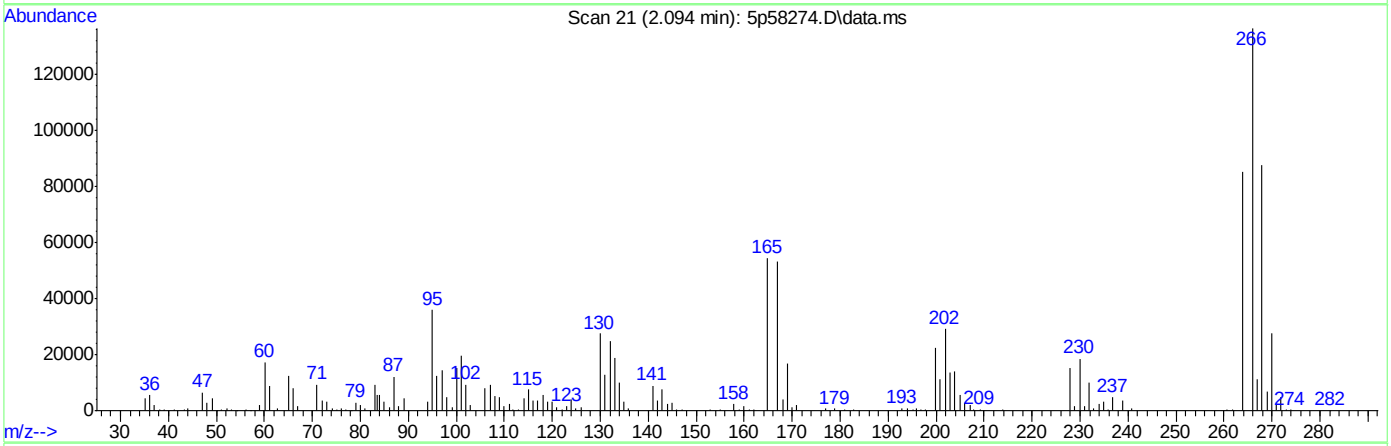
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 315.05 | 626 | 335.05 | 200 | 372.05 | 1097 | 424.10 | 458 |
| 316.05 | 340 | 340.80 | 138 | 373.10 | 147 | 439.60 | 79 |
| 320.95 | 203 | 346.00 | 95 | 383.05 | 197 | 441.10 | 8952 |
| 323.05 | 1563 | 352.05 | 487 | 390.05 | 157 | 442.10 | 58045 |
| 324.05 | 394 | 353.05 | 429 | 402.10 | 348 | 443.05 | 10863 |
| 326.95 | 365 | 353.90 | 184 | 403.05 | 566 | 444.05 | 827 |
| 328.05 | 200 | 354.05 | 464 | 404.10 | 71 | | |
| 332.05 | 163 | 355.10 | 82 | 421.10 | 336 | | |
| 332.90 | 68 | 360.90 | 69 | 422.00 | 444 | | |
| 333.10 | 77 | 365.00 | 1987 | 423.05 | 3116 | | |
| 334.05 | 1234 | 365.95 | 352 | 423.90 | 87 | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58274.D
Acq On : 9 Apr 2019 10:54 am
Operator : yujiac
Sample : dftpp
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 11:00:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58274.D\data.ms

(1) Pentachlorophenol (MC)

2.094min (-1.168) 81.42ng m

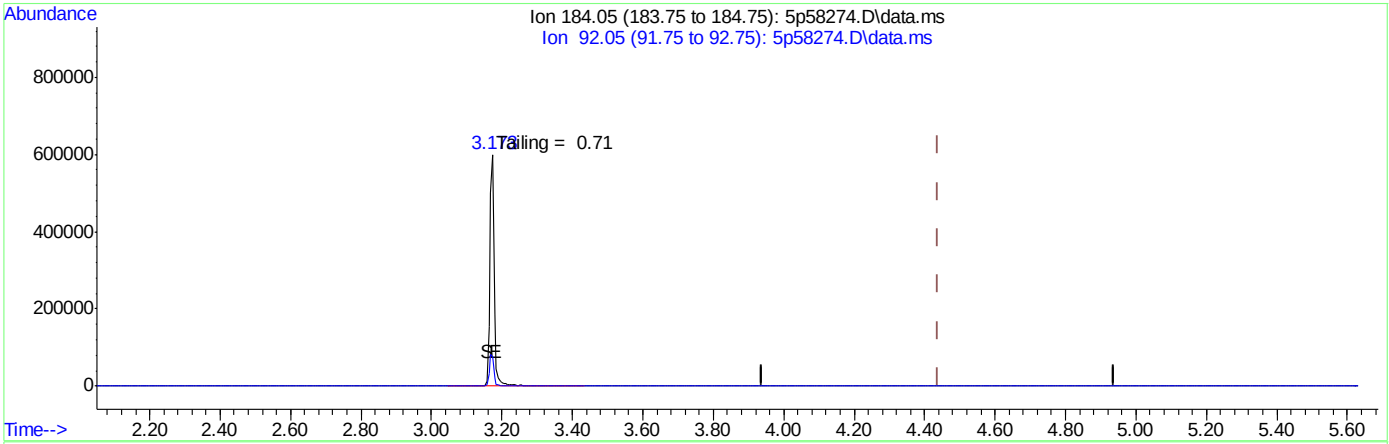
response 135744

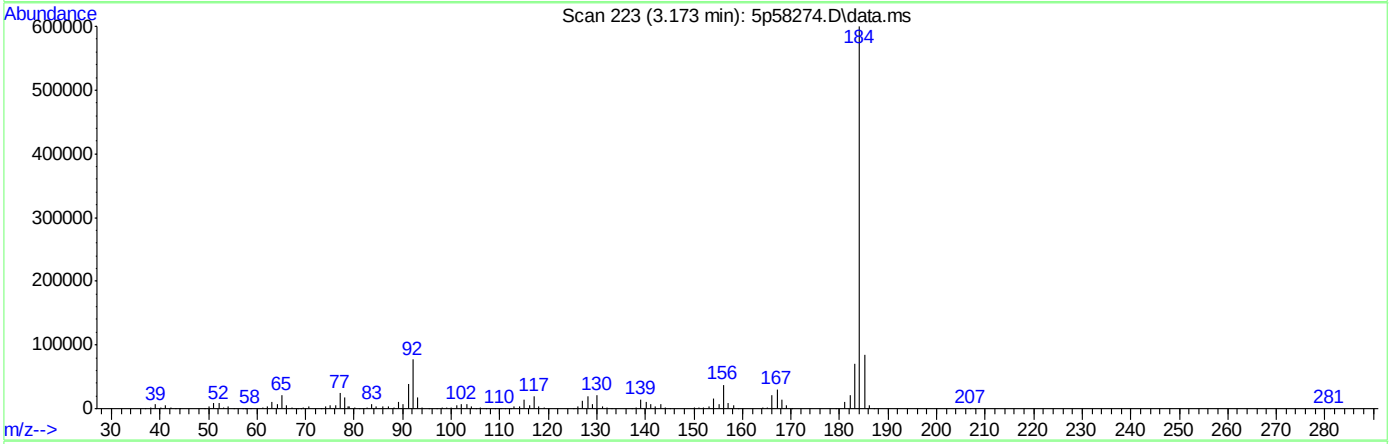
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 62.60 | 62.34 |
| 267.70 | 64.20 | 64.38 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58274.D
Acq On : 9 Apr 2019 10:54 am
Operator : yujiac
Sample : dftpp
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 11:00:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58274.D\data.ms

(2) Benzidine (M)

3.173min (-1.264) 102.99ng m

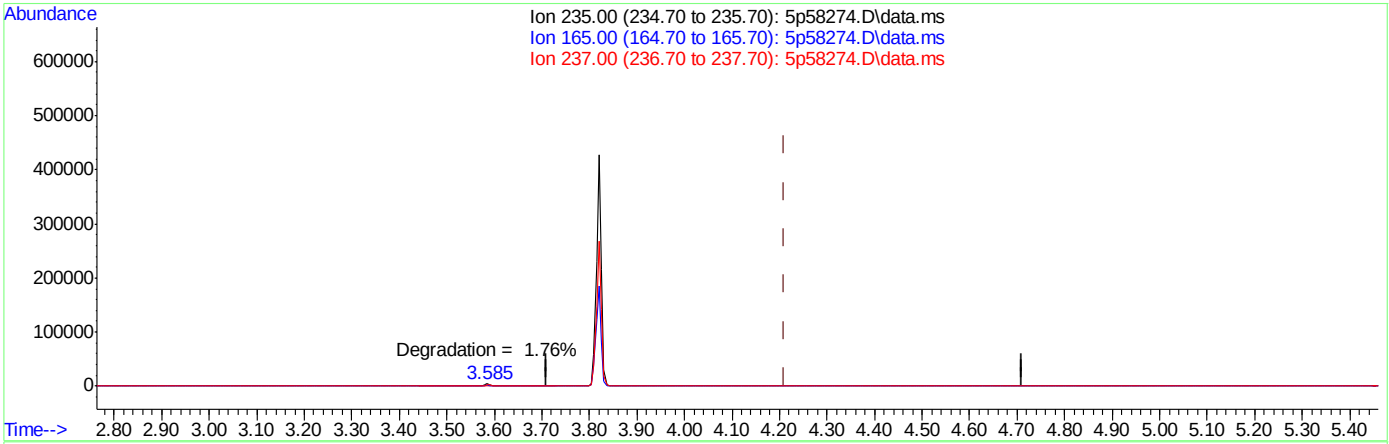
response 521290

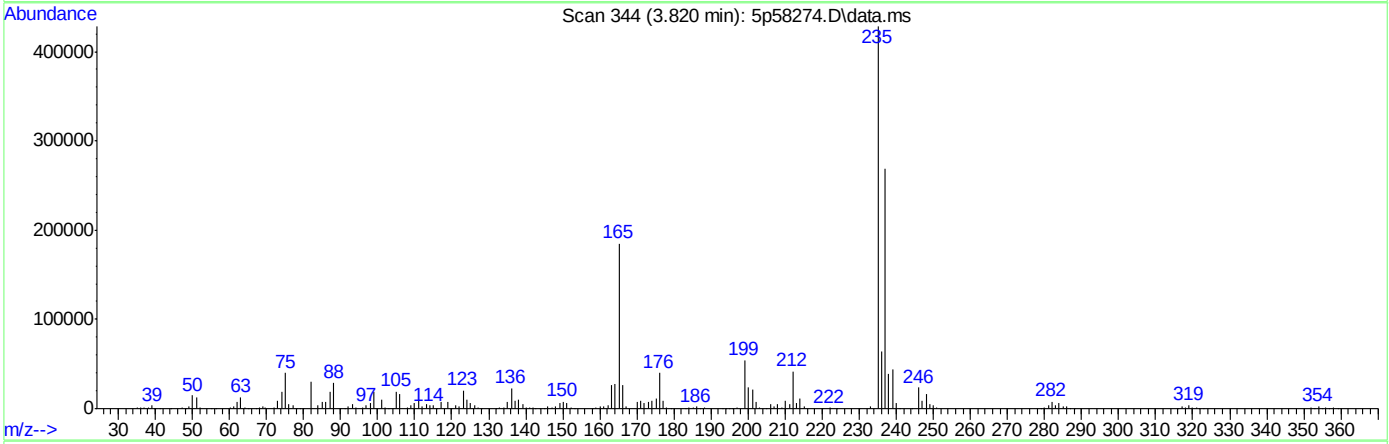
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 10.80 | 12.79 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58274.D
Acq On : 9 Apr 2019 10:54 am
Operator : yujiac
Sample : dftpp
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 11:00:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019
QLast Update : Wed Feb 13 11:39:00 2019
Response via : Initial Calibration




TIC: 5p58274.D\data.ms

(3) PP-DDT (MC)

3.820min (-0.390) 159.61ng m

response 313214

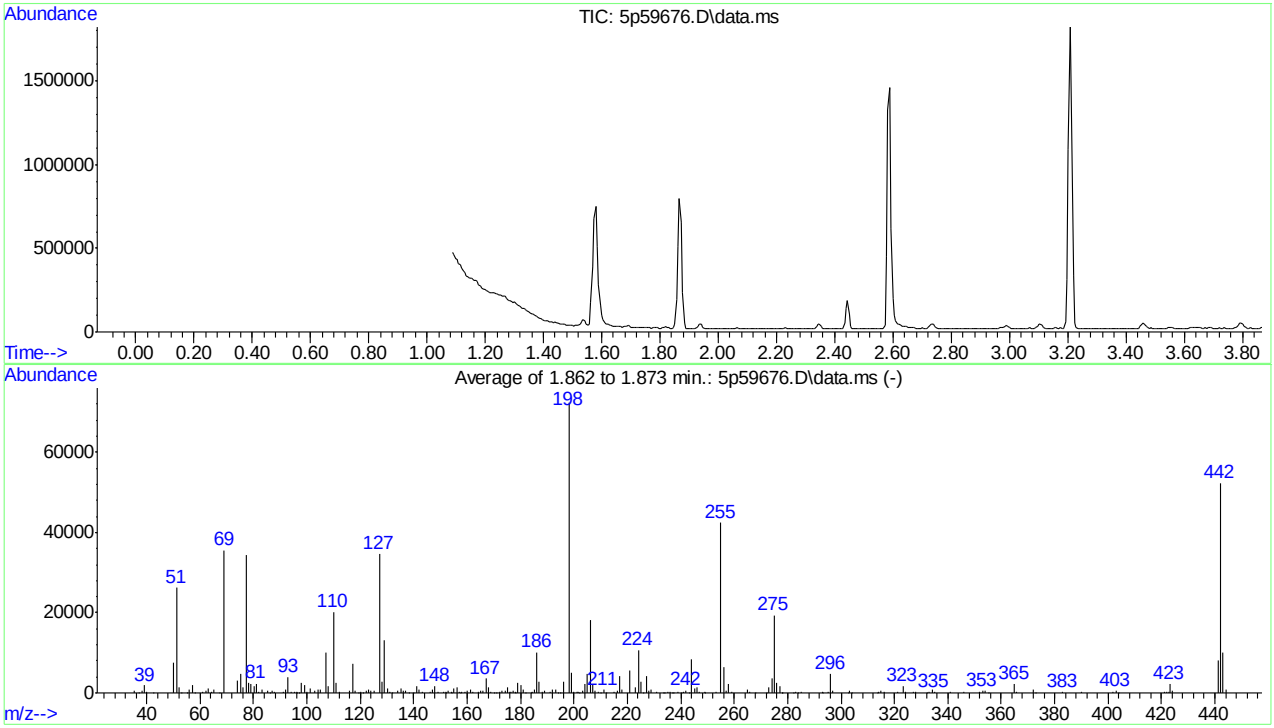
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 57.30 | 43.17 |
| 237.00 | 65.20 | 62.78 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59676.D
Acq On : 16 May 2019 9:45 am
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
Last Update : Sun Apr 14 16:00:36 2019




AutoFind: Scans 146, 147, 148; Background Corrected with Scan 139

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.2 | 26230 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 49.1 | 35542 | PASS |
| 70 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 127 | 198 | 40 | 60 | 47.9 | 34645 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 72384 | PASS |
| 199 | 198 | 5 | 9 | 7.2 | 5176 | PASS |
| 275 | 198 | 10 | 30 | 26.7 | 19357 | PASS |
| 365 | 198 | 1 | 100 | 3.0 | 2141 | PASS |
| 441 | 443 | 0.10 | 100 | 79.8 | 8056 | PASS |
| 442 | 198 | 40 | 100 | 72.3 | 52322 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 10089 | PASS |

Average of 1.862 to 1.873 min.: 5p59676.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.10 | 428 | 56.00 | 858 | 75.10 | 4875 | 87.00 | 487 |
| 37.10 | 66 | 57.05 | 1994 | 76.15 | 1355 | 87.95 | 232 |
| 38.05 | 498 | 58.05 | 148 | 77.10 | 34425 | 91.00 | 426 |
| 39.10 | 1861 | 61.00 | 420 | 78.10 | 2479 | 92.05 | 725 |
| 40.05 | 253 | 62.10 | 474 | 79.05 | 2239 | 93.00 | 3993 |
| 42.30 | 80 | 63.10 | 1204 | 80.05 | 1731 | 94.10 | 340 |
| 50.10 | 7593 | 64.05 | 255 | 81.00 | 2332 | 95.20 | 169 |
| 51.05 | 26230 | 65.05 | 743 | 82.00 | 391 | 96.00 | 104 |
| 52.10 | 1446 | 67.10 | 40 | 83.10 | 840 | 96.15 | 212 |
| 53.10 | 80 | 69.00 | 35542 | 85.15 | 581 | 97.00 | 104 |
| 55.10 | 114 | 74.10 | 3009 | 86.00 | 25 | 98.00 | 2566 |

Average of 1.862 to 1.873 min.: 5p59676.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 99.00 | 1864 | 116.05 | 463 | 128.05 | 2880 | 141.00 | 1647 |
| 100.10 | 225 | 117.00 | 7274 | 129.00 | 13171 | 142.05 | 729 |
| 101.00 | 1256 | 118.00 | 591 | 130.05 | 1094 | 143.05 | 392 |
| 103.05 | 706 | 119.10 | 89 | 131.05 | 273 | 146.05 | 363 |
| 104.05 | 817 | 120.05 | 156 | 131.90 | 68 | 147.05 | 816 |
| 105.05 | 951 | 120.90 | 85 | 134.00 | 455 | 148.00 | 1808 |
| 107.05 | 9943 | 122.05 | 657 | 135.05 | 991 | 149.00 | 263 |
| 108.00 | 1688 | 123.05 | 906 | 136.05 | 430 | 151.05 | 331 |
| 109.95 | 20148 | 123.95 | 467 | 137.00 | 588 | 151.80 | 66 |
| 111.05 | 2509 | 125.05 | 442 | 138.00 | 86 | 152.10 | 179 |
| 112.10 | 415 | 127.10 | 34645 | 139.90 | 67 | 153.05 | 511 |

Average of 1.862 to 1.873 min.: 5p59676.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 153.95 | 371 | 164.10 | 171 | 175.05 | 1299 | 184.15 | 172 |
| 154.20 | 135 | 165.00 | 669 | 175.90 | 316 | 185.05 | 981 |
| 155.05 | 1020 | 166.05 | 644 | 176.20 | 161 | 186.10 | 10159 |
| 156.10 | 1469 | 167.05 | 3630 | 177.00 | 611 | 187.05 | 2799 |
| 157.05 | 399 | 168.00 | 1390 | 177.90 | 96 | 188.05 | 386 |
| 157.60 | 115 | 169.00 | 370 | 178.05 | 268 | 189.05 | 578 |
| 158.00 | 372 | 170.10 | 82 | 179.00 | 2615 | 191.00 | 398 |
| 159.10 | 199 | 171.00 | 104 | 180.05 | 1905 | 192.00 | 918 |
| 160.05 | 527 | 172.00 | 333 | 181.05 | 866 | 193.05 | 928 |
| 161.05 | 846 | 173.00 | 578 | 182.00 | 97 | 194.10 | 68 |
| 161.95 | 377 | 174.05 | 690 | 183.80 | 71 | 194.70 | 67 |

Average of 1.862 to 1.873 min.: 5p59676.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 196.00 | 2911 | 207.05 | 2124 | 223.05 | 1354 | 236.05 | 228 |
| 198.00 | 72384 | 208.00 | 662 | 224.05 | 10621 | 236.90 | 148 |
| 199.00 | 5176 | 209.05 | 220 | 225.05 | 2697 | 237.10 | 137 |
| 200.05 | 303 | 209.90 | 108 | 226.10 | 131 | 239.00 | 248 |
| 201.30 | 348 | 211.10 | 822 | 227.00 | 4214 | 240.10 | 78 |
| 201.60 | 191 | 211.90 | 136 | 228.05 | 636 | 241.00 | 356 |
| 202.05 | 142 | 215.00 | 164 | 229.00 | 876 | 242.05 | 597 |
| 203.05 | 557 | 216.05 | 464 | 230.95 | 365 | 242.90 | 79 |
| 204.05 | 2325 | 217.00 | 4291 | 233.50 | 73 | 244.10 | 8329 |
| 205.05 | 4719 | 218.00 | 752 | 233.70 | 72 | 245.05 | 1059 |
| 206.10 | 18132 | 221.00 | 5671 | 234.95 | 371 | 246.00 | 1444 |

Average of 1.862 to 1.873 min.: 5p59676.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 247.00 | 188 | 267.80 | 68 | 283.95 | 146 | 314.10 | 248 |
| 248.85 | 246 | 272.00 | 92 | 285.10 | 208 | 315.05 | 507 |
| 249.10 | 96 | 273.00 | 1325 | 292.95 | 223 | 316.00 | 392 |
| 253.05 | 249 | 274.05 | 3771 | 293.20 | 94 | 321.10 | 269 |

DFTPP5P.M Thu May 16 12:07:40 2019 RPT1 Page: 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 255.00 | 42453 | 275.00 | 19357 | 295.00 | 161 | 323.10 | 1686 |
| 256.00 | 6470 | 276.00 | 2559 | 296.05 | 4722 | 324.05 | 253 |
| 257.05 | 615 | 277.05 | 1575 | 297.05 | 707 | 327.00 | 336 |
| 258.00 | 2299 | 277.90 | 117 | 302.90 | 128 | 328.05 | 175 |
| 259.00 | 412 | 278.10 | 105 | 303.10 | 492 | 332.05 | 151 |
| 265.05 | 862 | 282.00 | 100 | 304.00 | 127 | 333.05 | 222 |
| 265.80 | 227 | 283.15 | 196 | 313.80 | 120 | 334.05 | 973 |

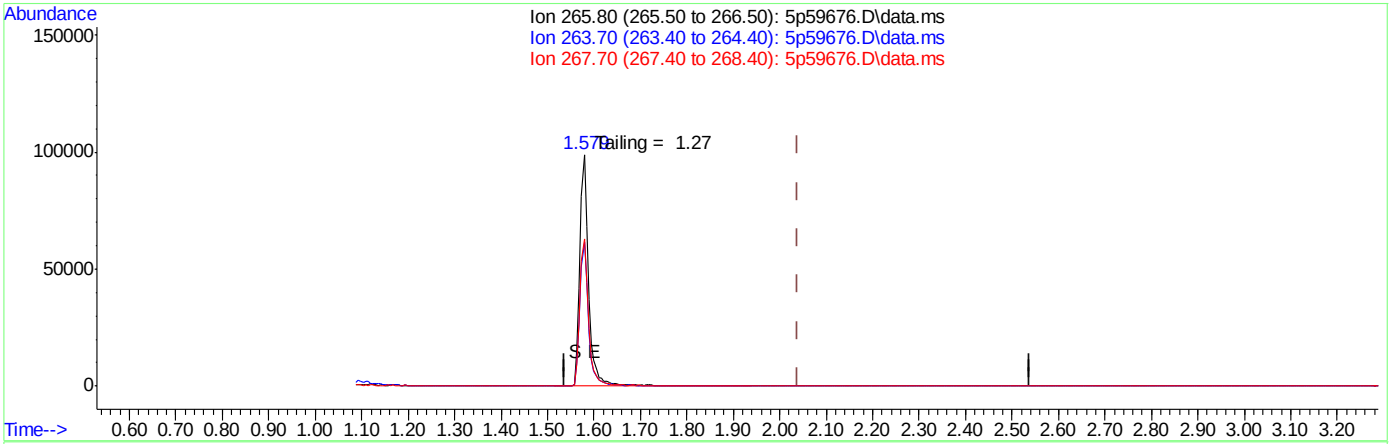
Average of 1.862 to 1.873 min.: 5p59676.D\data.ms
dftpp
Modified:subtracted

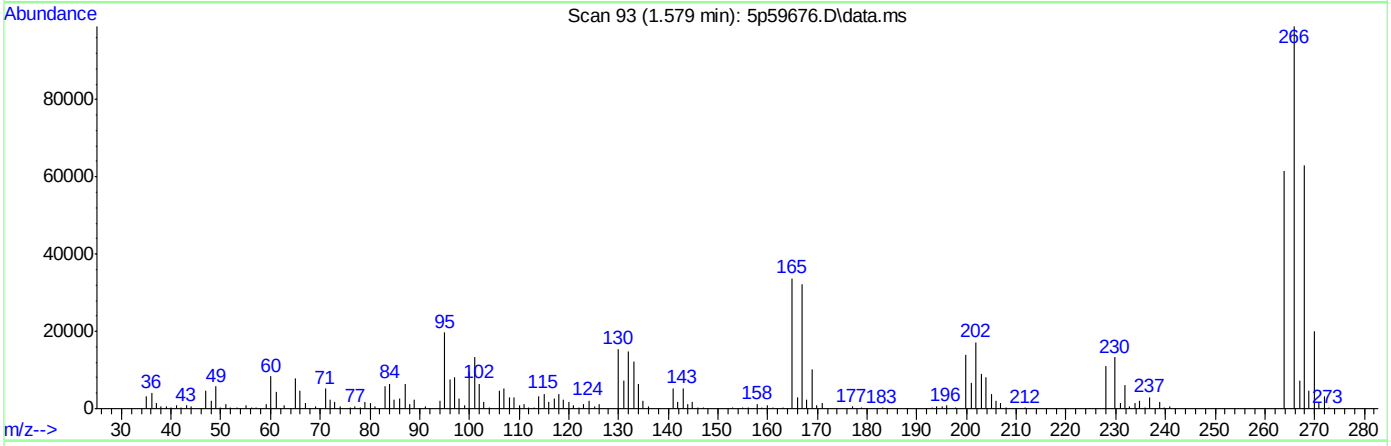
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 335.00 | 231 | 383.00 | 204 | 442.10 | 52322 | | |
| 341.05 | 221 | 389.95 | 168 | 443.10 | 10089 | | |
| 346.00 | 420 | 402.00 | 267 | 444.05 | 938 | | |
| 352.05 | 424 | 403.05 | 449 | | | | |
| 353.05 | 442 | 404.00 | 78 | | | | |
| 354.05 | 620 | 421.05 | 426 | | | | |
| 355.00 | 140 | 422.05 | 280 | | | | |
| 365.00 | 2141 | 422.90 | 356 | | | | |
| 365.90 | 235 | 423.10 | 2215 | | | | |
| 372.05 | 883 | 424.05 | 553 | | | | |
| 373.00 | 81 | 441.10 | 8056 | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59676.D
Acq On : 16 May 2019 9:45 am
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 16 09:51:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59676.D\data.ms

(1) Pentachlorophenol (MC)

1.579min (-0.460) 77.94ng m

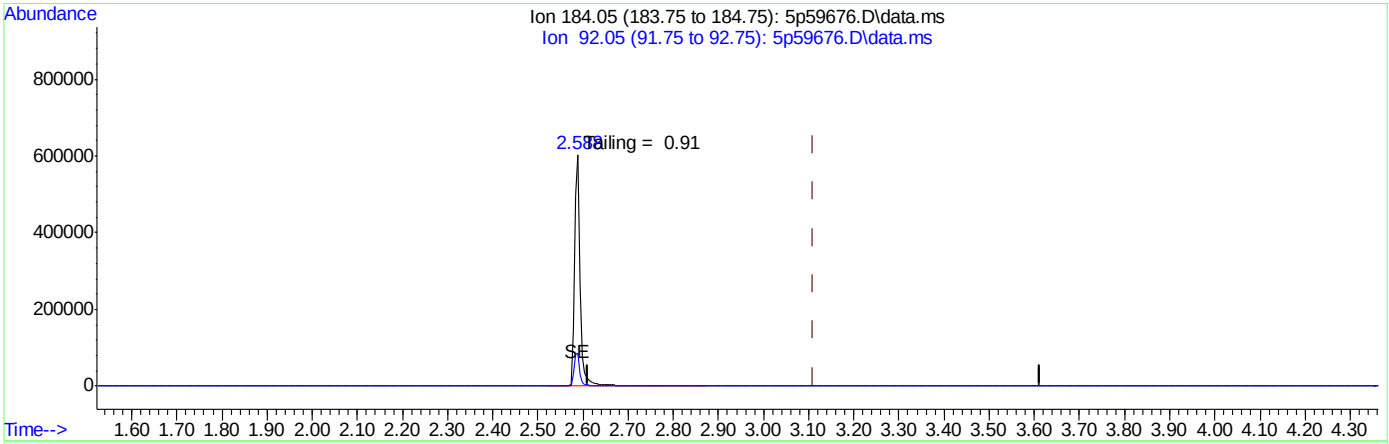
response 129949

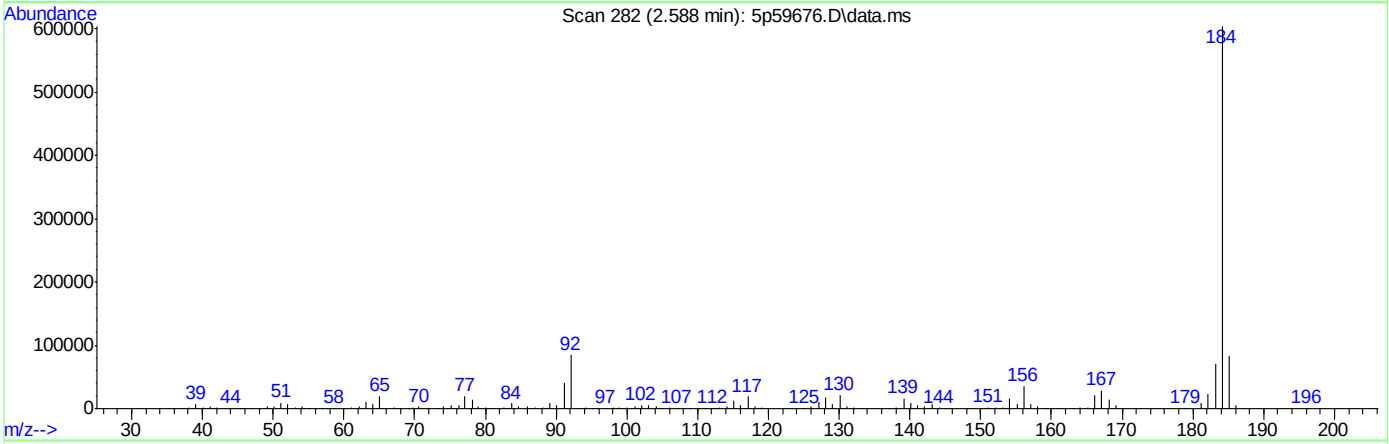
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 60.70 | 62.16 |
| 267.70 | 65.20 | 63.56 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59676.D
Acq On : 16 May 2019 9:45 am
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 16 09:51:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59676.D\data.ms

(2) Benzidine (M)

2.588min (-0.524) 109.53ng m

response 554392

| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 12.90 | 13.99 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

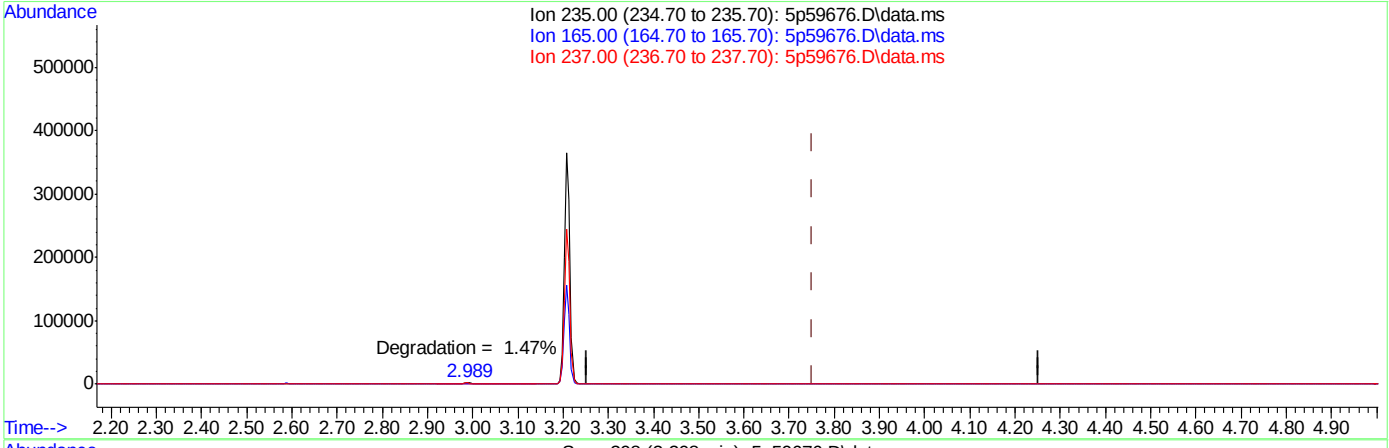
9.7.11.2

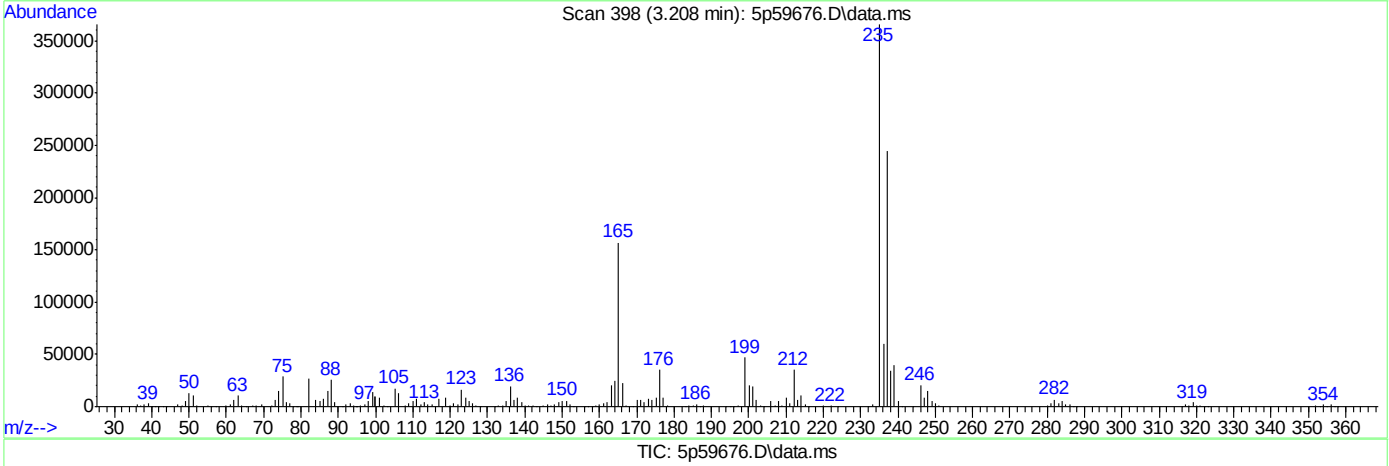
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59676.D
Acq On : 16 May 2019 9:45 am
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 16 09:51:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59676.D\data.ms

(3) PP-DDT (MC)

3.208min (-0.545) 163.04ng m

response 319955

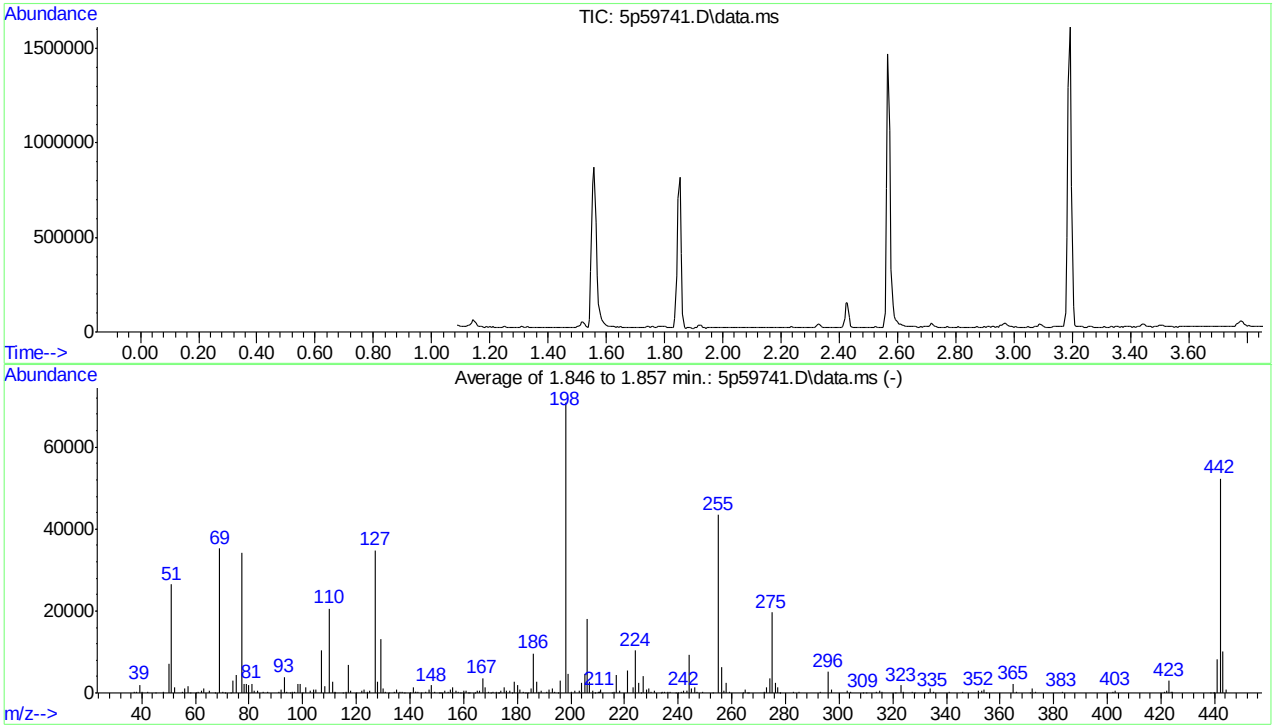
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 48.20 | 42.94 |
| 237.00 | 63.60 | 66.76 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59741.D
Acq On : 17 May 2019 4:08 pm
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
Last Update : Sun Apr 14 16:00:36 2019




AutoFind: Scans 143, 144, 145; Background Corrected with Scan 137
AUTOFIND via AUTOINTEGRATE

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 37.3 | 26458 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 49.7 | 35196 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 202 | PASS |
| 127 | 198 | 40 | 60 | 49.2 | 34842 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 70877 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 4782 | PASS |
| 275 | 198 | 10 | 30 | 27.7 | 19633 | PASS |
| 365 | 198 | 1 | 100 | 2.9 | 2076 | PASS |
| 441 | 443 | 0.10 | 100 | 80.1 | 8146 | PASS |
| 442 | 198 | 40 | 100 | 73.9 | 52370 | PASS |
| 443 | 442 | 17 | 23 | 19.4 | 10176 | PASS |

Average of 1.846 to 1.857 min.: 5p59741.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.00 | 166 | 56.10 | 1104 | 71.10 | 78 | 83.20 | 296 |
| 38.00 | 253 | 57.05 | 1783 | 73.10 | 145 | 85.05 | 235 |
| 39.10 | 1921 | 58.20 | 75 | 74.05 | 3131 | 87.00 | 155 |
| 40.05 | 155 | 60.10 | 69 | 75.10 | 4482 | 91.05 | 356 |
| 42.10 | 221 | 61.00 | 365 | 77.10 | 34322 | 92.10 | 709 |
| 45.00 | 66 | 62.05 | 424 | 78.10 | 2244 | 93.05 | 3858 |
| 48.20 | 153 | 63.10 | 1049 | 79.10 | 2205 | 94.05 | 257 |
| 50.10 | 7087 | 65.10 | 619 | 80.00 | 1830 | 95.10 | 78 |
| 51.10 | 26458 | 67.30 | 98 | 81.05 | 2247 | 96.05 | 216 |
| 52.10 | 1439 | 69.00 | 35196 | 82.10 | 695 | 97.05 | 195 |
| 55.05 | 243 | 70.05 | 202 | 83.00 | 458 | 98.10 | 2072 |

Average of 1.846 to 1.857 min.: 5p59741.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 99.00 | 2231 | 112.10 | 196 | 128.05 | 2793 | 141.10 | 1416 |
| 99.80 | 97 | 115.00 | 70 | 129.00 | 13060 | 141.90 | 269 |
| 101.05 | 1274 | 116.10 | 344 | 130.00 | 1156 | 142.05 | 364 |
| 103.00 | 536 | 117.00 | 6876 | 131.00 | 216 | 143.10 | 369 |
| 104.05 | 778 | 118.05 | 581 | 132.10 | 113 | 144.00 | 74 |
| 105.05 | 861 | 119.90 | 77 | 134.00 | 371 | 146.05 | 295 |
| 107.05 | 10378 | 122.00 | 665 | 135.05 | 964 | 147.00 | 841 |
| 108.10 | 1666 | 123.00 | 878 | 136.05 | 406 | 148.00 | 1798 |
| 110.00 | 20533 | 124.05 | 280 | 137.10 | 415 | 149.00 | 356 |
| 111.10 | 2610 | 124.95 | 504 | 137.80 | 68 | 150.80 | 82 |
| 111.80 | 88 | 127.10 | 34842 | 140.00 | 92 | 151.20 | 90 |

Average of 1.846 to 1.857 min.: 5p59741.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 151.70 | 112 | 162.10 | 69 | 173.10 | 147 | 184.00 | 93 |
| 153.00 | 535 | 164.10 | 73 | 174.05 | 620 | 185.05 | 1209 |
| 154.05 | 412 | 165.00 | 616 | 175.05 | 1311 | 186.05 | 9708 |
| 155.05 | 864 | 166.05 | 547 | 176.00 | 492 | 187.05 | 2735 |
| 156.05 | 1448 | 167.10 | 3610 | 177.00 | 695 | 188.10 | 215 |
| 157.05 | 477 | 168.05 | 1493 | 177.90 | 139 | 189.00 | 549 |
| 157.90 | 282 | 169.05 | 352 | 179.00 | 2704 | 191.10 | 303 |
| 159.00 | 104 | 170.00 | 68 | 180.00 | 1870 | 191.95 | 828 |
| 160.05 | 487 | 170.95 | 157 | 181.00 | 767 | 193.05 | 1114 |
| 161.00 | 645 | 172.00 | 211 | 182.10 | 267 | 194.00 | 168 |
| 161.70 | 70 | 172.90 | 106 | 183.10 | 141 | 195.00 | 130 |

Average of 1.846 to 1.857 min.: 5p59741.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 196.05 | 3144 | 209.10 | 107 | 224.10 | 10333 | 236.00 | 197 |
| 198.00 | 70877 | 210.05 | 185 | 225.10 | 2478 | 237.00 | 205 |
| 199.00 | 4782 | 210.50 | 269 | 226.00 | 76 | 239.00 | 73 |
| 200.05 | 367 | 210.70 | 176 | 227.00 | 4037 | 240.00 | 145 |
| 201.55 | 532 | 210.95 | 823 | 228.00 | 766 | 241.05 | 275 |
| 202.95 | 469 | 215.30 | 79 | 229.00 | 1026 | 242.00 | 665 |
| 204.05 | 2504 | 216.00 | 273 | 229.95 | 158 | 243.05 | 478 |
| 205.10 | 4548 | 217.00 | 4312 | 231.05 | 481 | 244.10 | 9256 |
| 206.10 | 18152 | 217.95 | 471 | 233.80 | 88 | 245.05 | 1071 |
| 207.00 | 2680 | 221.05 | 5388 | 234.00 | 228 | 246.00 | 1427 |
| 207.95 | 543 | 223.10 | 1352 | 235.00 | 271 | 247.10 | 379 |

Average of 1.846 to 1.857 min.: 5p59741.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 249.00 | 238 | 272.05 | 176 | 296.00 | 5180 | 324.00 | 355 |
| 252.90 | 119 | 273.00 | 1359 | 297.05 | 820 | 327.05 | 291 |
| 255.00 | 43469 | 274.00 | 3692 | 303.00 | 505 | 328.00 | 81 |
| 256.00 | 6278 | 275.00 | 19633 | 304.10 | 158 | 332.00 | 97 |

DFTPP5P.M Fri May 17 17:24:36 2019 RPT1 Page: 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 257.05 | 447 | 276.05 | 2487 | 309.00 | 73 | 333.00 | 90 |
| 258.05 | 2514 | 277.00 | 1487 | 310.10 | 71 | 334.05 | 1127 |
| 259.00 | 312 | 277.90 | 84 | 314.05 | 282 | 335.05 | 360 |
| 264.00 | 134 | 278.10 | 79 | 315.10 | 615 | 341.10 | 159 |
| 265.05 | 966 | 282.95 | 170 | 316.00 | 408 | 345.95 | 419 |
| 265.80 | 86 | 285.15 | 242 | 320.90 | 91 | 352.05 | 597 |
| 266.10 | 69 | 293.00 | 328 | 323.10 | 1794 | 353.00 | 461 |

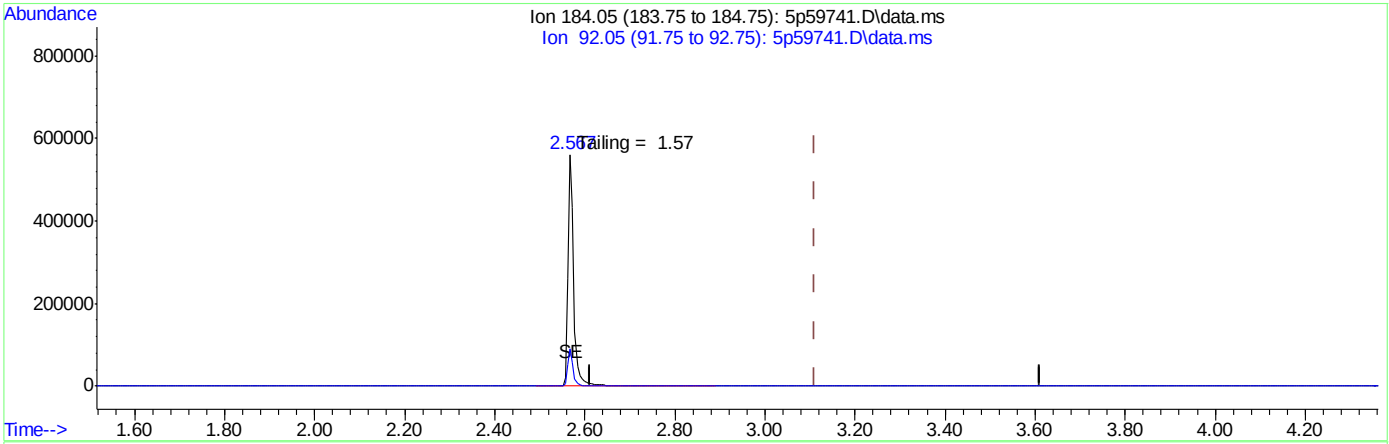
Average of 1.846 to 1.857 min.: 5p59741.D\data.ms
dftpp
Modified:subtracted

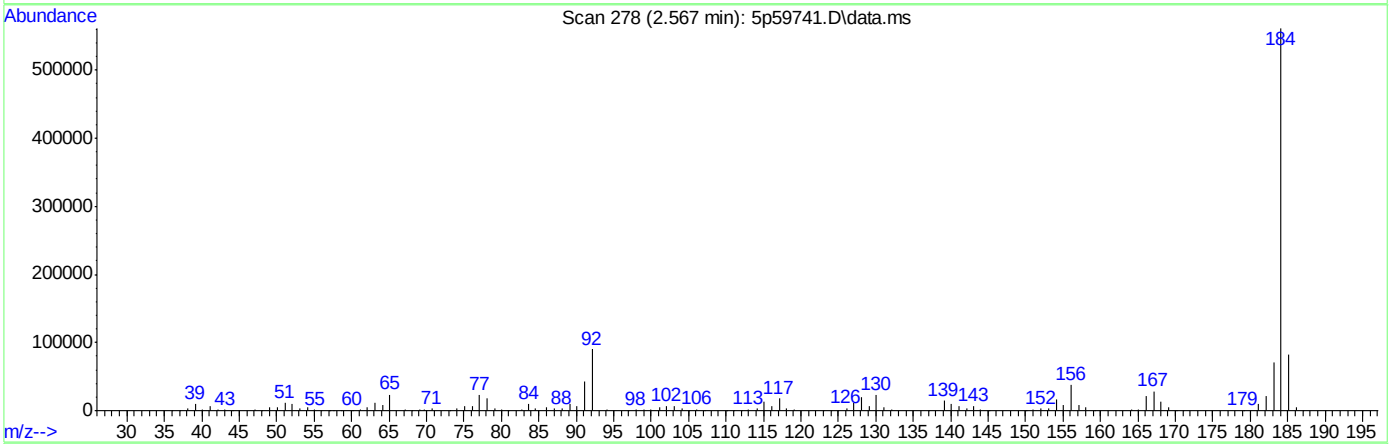
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 354.00 | 742 | 422.05 | 546 | | | | |
| 355.00 | 85 | 423.10 | 2981 | | | | |
| 365.00 | 2076 | 423.90 | 353 | | | | |
| 366.00 | 234 | 424.10 | 211 | | | | |
| 371.10 | 88 | 438.60 | 67 | | | | |
| 372.10 | 996 | 439.50 | 75 | | | | |
| 373.20 | 162 | 439.70 | 75 | | | | |
| 383.05 | 296 | 441.10 | 8146 | | | | |
| 402.00 | 258 | 442.10 | 52370 | | | | |
| 403.05 | 626 | 443.10 | 10176 | | | | |
| 421.10 | 412 | 444.10 | 890 | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59741.D
Acq On : 17 May 2019 4:08 pm
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 16:14:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59741.D\data.ms

(2) Benzidine (M)

2.567min (-0.545) 100.32ng m

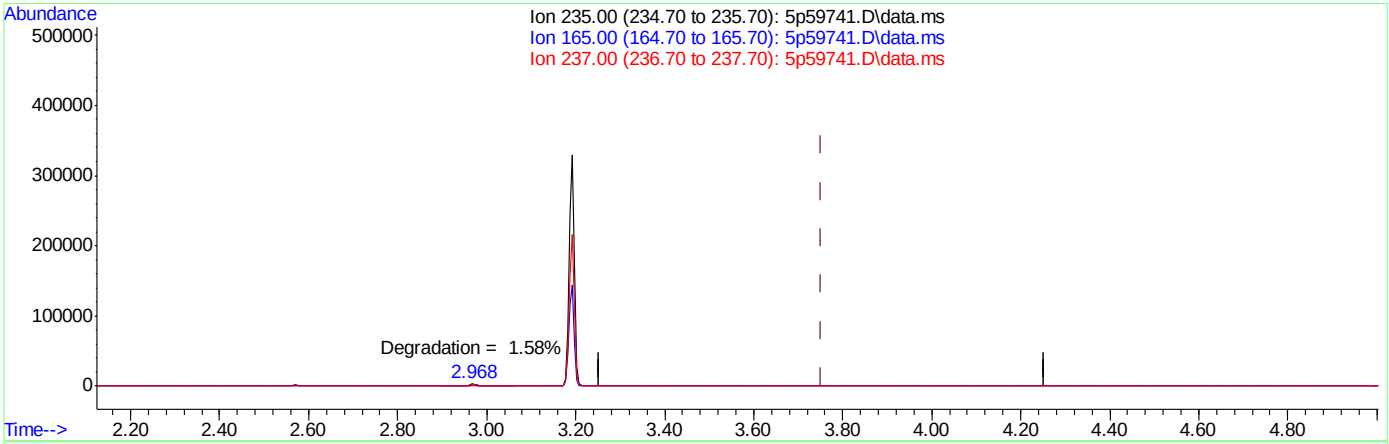
response 507767

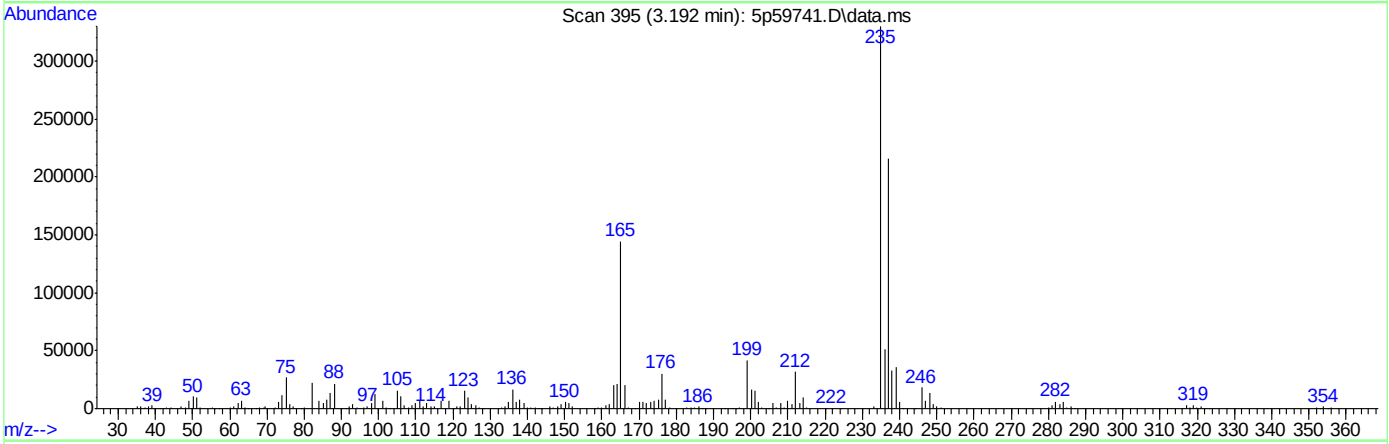
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 12.90 | 16.09 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59741.D
Acq On : 17 May 2019 4:08 pm
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 16:14:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59741.D\data.ms

(3) PP-DDT (MC)

3.192min (-0.561) 142.80ng m

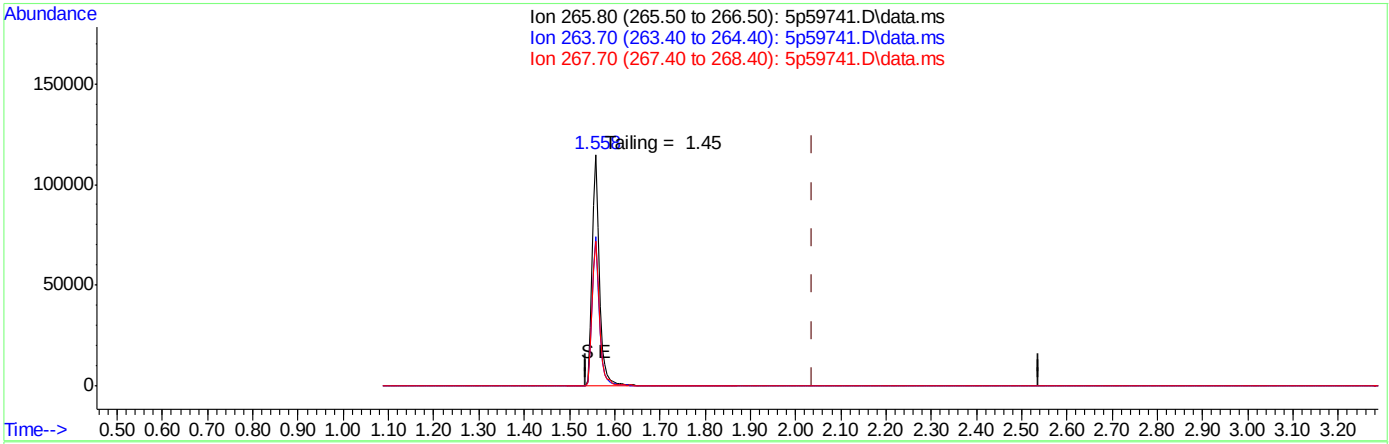
response 280235

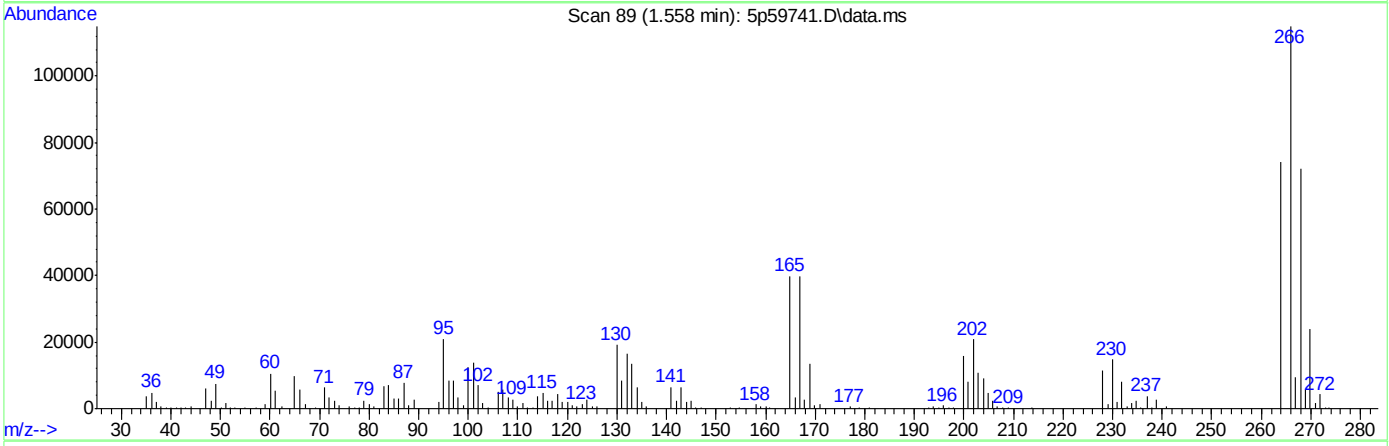
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 48.20 | 43.73 |
| 237.00 | 63.60 | 65.45 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59741.D
Acq On : 17 May 2019 4:08 pm
Operator : christc2
Sample : dftpp
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 17:23:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59741.D\data.ms

(1) Pentachlorophenol (MC)

1.558min (-0.481) 79.02ng m

response 131740

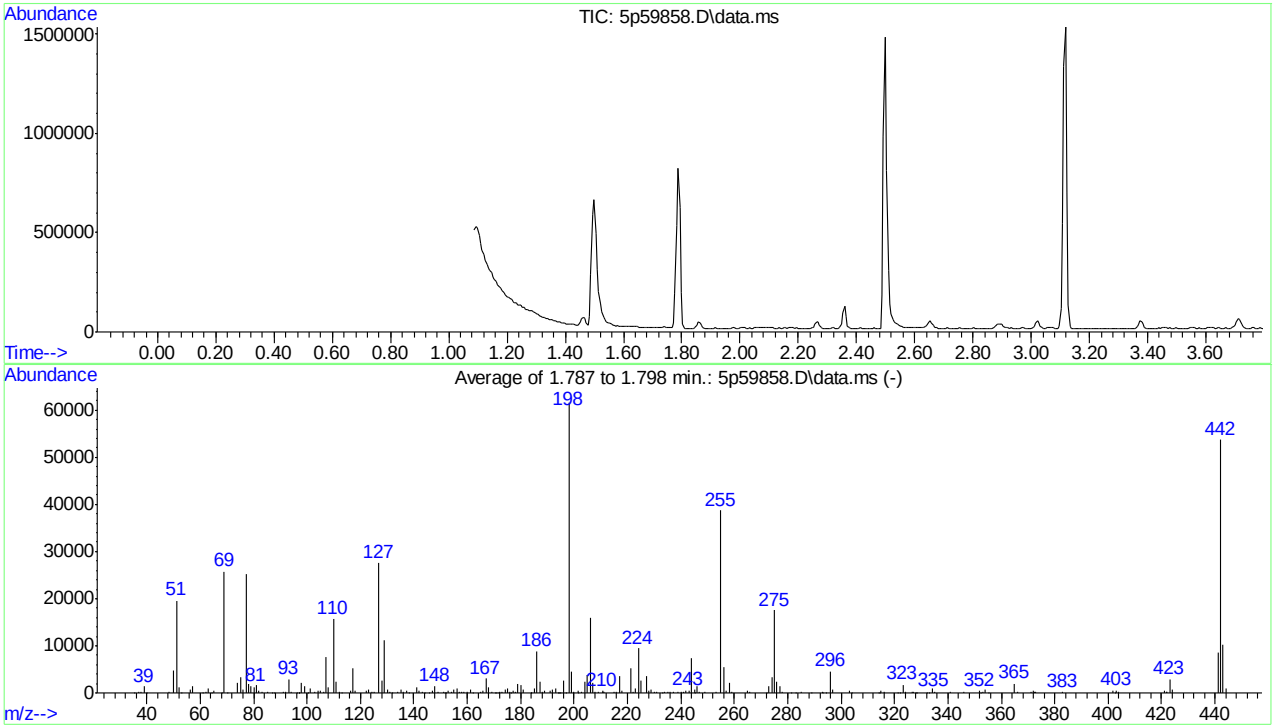
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 60.70 | 64.46 |
| 267.70 | 65.20 | 62.78 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59858.D
Acq On : 21 May 2019 3:22 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
Last Update : Sun Apr 14 16:00:36 2019




AutoFind: Scans 132, 133, 134; Background Corrected with Scan 126
AUTOFIND via AUTOINTEGRATE

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 31.8 | 19571 | PASS |
| 68 | 69 | 0.00 | 2 | 0.5 | 123 | PASS |
| 69 | 198 | 0.00 | 100 | 41.8 | 25749 | PASS |
| 70 | 69 | 0.00 | 2 | 0.4 | 91 | PASS |
| 127 | 198 | 40 | 60 | 44.6 | 27480 | PASS |
| 197 | 198 | 0.00 | 1 | 0.1 | 87 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 61602 | PASS |
| 199 | 198 | 5 | 9 | 7.2 | 4418 | PASS |
| 275 | 198 | 10 | 30 | 28.6 | 17593 | PASS |
| 365 | 198 | 1 | 100 | 3.3 | 2018 | PASS |
| 441 | 443 | 0.10 | 100 | 81.8 | 8457 | PASS |
| 442 | 198 | 40 | 100 | 87.2 | 53704 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 10339 | PASS |

Average of 1.787 to 1.798 min.: 5p59858.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.10 | 124 | 57.05 | 1453 | 76.05 | 684 | 91.10 | 324 |
| 37.10 | 221 | 61.00 | 95 | 77.10 | 25132 | 92.00 | 319 |
| 38.00 | 166 | 62.05 | 261 | 78.10 | 1948 | 93.05 | 2904 |
| 39.05 | 1339 | 63.10 | 917 | 79.10 | 1480 | 94.10 | 299 |
| 40.00 | 6 | 64.10 | 114 | 80.00 | 1307 | 96.00 | 1 |
| 48.20 | 146 | 65.10 | 442 | 81.00 | 1644 | 97.00 | 119 |
| 50.05 | 4700 | 68.10 | 123 | 82.00 | 510 | 97.20 | 88 |
| 51.05 | 19571 | 68.95 | 25749 | 83.10 | 312 | 98.00 | 2094 |
| 52.05 | 1092 | 70.00 | 91 | 85.10 | 159 | 99.00 | 1402 |
| 53.00 | 76 | 74.10 | 2201 | 86.90 | 99 | 100.20 | 107 |
| 56.10 | 780 | 75.05 | 3372 | 87.95 | 124 | 101.00 | 927 |

Average of 1.787 to 1.798 min.: 5p59858.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 102.95 | 342 | 117.00 | 5147 | 132.00 | 76 | 147.00 | 546 |
| 103.95 | 515 | 118.05 | 484 | 134.05 | 364 | 147.95 | 1532 |
| 105.00 | 505 | 122.05 | 549 | 135.00 | 616 | 149.05 | 281 |
| 106.10 | 179 | 123.00 | 659 | 136.05 | 256 | 151.05 | 185 |
| 107.00 | 7606 | 124.10 | 271 | 137.10 | 412 | 151.40 | 88 |
| 108.00 | 1181 | 125.05 | 295 | 138.10 | 107 | 152.10 | 85 |
| 110.00 | 15606 | 127.00 | 27480 | 141.00 | 1307 | 153.00 | 487 |
| 111.00 | 2297 | 128.05 | 2561 | 142.10 | 486 | 154.00 | 278 |
| 112.00 | 275 | 129.00 | 11080 | 143.00 | 246 | 155.05 | 804 |
| 112.80 | 76 | 130.00 | 828 | 143.90 | 67 | 156.00 | 935 |
| 116.10 | 522 | 131.10 | 171 | 145.90 | 90 | 157.00 | 303 |

Average of 1.787 to 1.798 min.: 5p59858.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 158.05 | 203 | 171.00 | 111 | 180.00 | 1618 | 193.05 | 910 |
| 158.90 | 167 | 171.90 | 121 | 181.00 | 697 | 193.90 | 101 |
| 160.05 | 279 | 172.20 | 134 | 183.80 | 110 | 194.20 | 71 |
| 161.05 | 667 | 173.05 | 295 | 184.00 | 76 | 194.90 | 89 |
| 162.00 | 122 | 174.05 | 636 | 185.10 | 1073 | 196.00 | 2621 |
| 165.00 | 350 | 175.10 | 952 | 186.10 | 8834 | 196.70 | 87 |
| 166.05 | 475 | 175.95 | 274 | 187.05 | 2400 | 198.00 | 61602 |
| 167.00 | 3047 | 176.40 | 70 | 188.10 | 206 | 199.00 | 4418 |
| 168.05 | 1236 | 177.05 | 556 | 189.00 | 438 | 200.00 | 363 |
| 169.00 | 265 | 178.05 | 222 | 191.10 | 371 | 201.45 | 478 |
| 170.50 | 78 | 179.00 | 1871 | 192.00 | 672 | 201.70 | 87 |

Average of 1.787 to 1.798 min.: 5p59858.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 202.95 | 265 | 215.90 | 141 | 230.05 | 160 | 243.05 | 531 |
| 204.05 | 2373 | 217.00 | 3510 | 231.00 | 308 | 244.10 | 7480 |
| 205.05 | 3743 | 218.00 | 555 | 233.00 | 81 | 245.00 | 833 |
| 206.10 | 15899 | 221.10 | 5133 | 234.00 | 129 | 245.20 | 78 |
| 207.00 | 2115 | 222.10 | 255 | 235.00 | 348 | 246.05 | 1381 |
| 208.00 | 328 | 223.05 | 875 | 236.00 | 184 | 247.00 | 241 |
| 208.95 | 191 | 224.05 | 9456 | 237.00 | 244 | 248.95 | 279 |
| 210.55 | 465 | 225.10 | 2555 | 238.95 | 168 | 253.05 | 213 |
| 210.90 | 268 | 227.00 | 3554 | 240.00 | 150 | 255.00 | 38684 |
| 211.10 | 348 | 227.95 | 452 | 241.05 | 189 | 256.00 | 5533 |
| 215.10 | 235 | 229.00 | 689 | 242.00 | 527 | 257.00 | 430 |

Average of 1.787 to 1.798 min.: 5p59858.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 258.00 | 2072 | 281.10 | 75 | 314.10 | 76 | 328.10 | 74 |
| 259.00 | 311 | 283.00 | 67 | 314.30 | 81 | 332.00 | 70 |
| 265.00 | 593 | 285.00 | 202 | 314.95 | 496 | 333.00 | 83 |
| 265.95 | 195 | 288.90 | 67 | 316.00 | 196 | 334.00 | 953 |

DFTPP5P.M Tue May 21 09:22:35 2019 RPT1 Page: 2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 272.10 | 82 | 292.90 | 143 | 321.10 | 79 | 335.00 | 241 |
| 273.05 | 1410 | 293.10 | 111 | 321.80 | 75 | 341.00 | 129 |
| 274.05 | 3393 | 294.10 | 84 | 323.10 | 1697 | 345.95 | 337 |
| 275.00 | 17593 | 296.00 | 4591 | 324.05 | 305 | 352.00 | 392 |
| 276.00 | 2309 | 296.95 | 647 | 326.80 | 132 | 352.20 | 80 |
| 277.00 | 1457 | 303.00 | 446 | 327.05 | 203 | 353.10 | 303 |
| 278.00 | 235 | 303.90 | 77 | 327.80 | 69 | 354.05 | 626 |

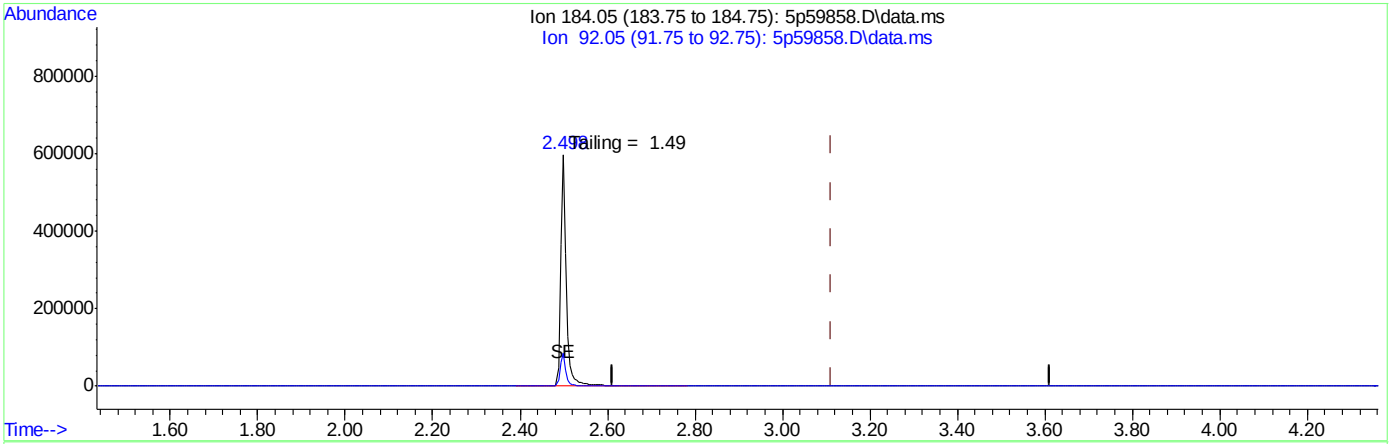
Average of 1.787 to 1.798 min.: 5p59858.D\data.ms
dftpp
Modified:subtracted

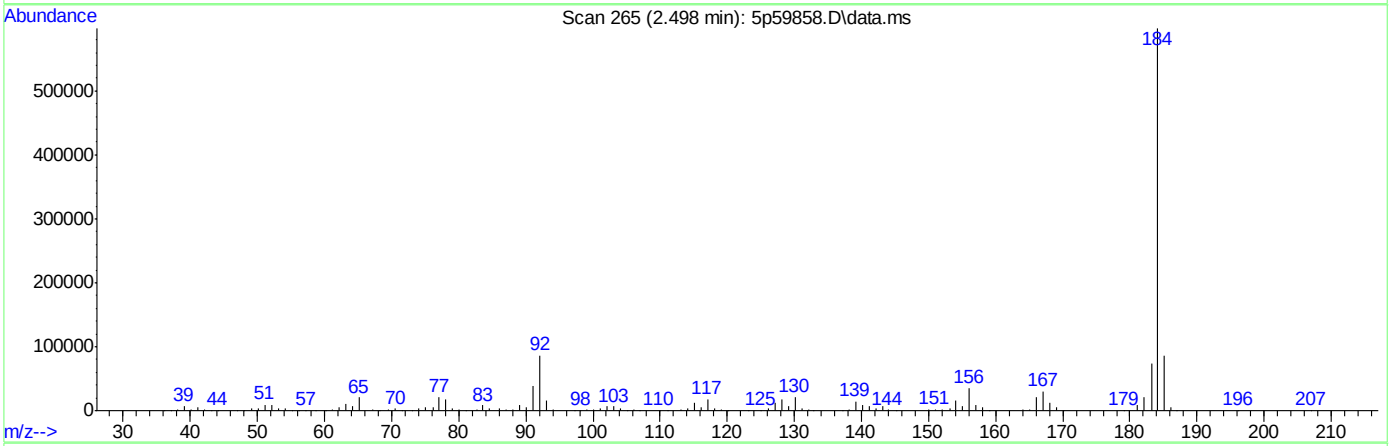
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 355.10 | 116 | 404.05 | 179 | | | | |
| 365.00 | 2018 | 421.00 | 485 | | | | |
| 365.95 | 251 | 421.90 | 202 | | | | |
| 371.00 | 176 | 422.05 | 252 | | | | |
| 372.00 | 412 | 423.10 | 2950 | | | | |
| 372.20 | 324 | 424.10 | 662 | | | | |
| 373.00 | 263 | 441.10 | 8457 | | | | |
| 383.00 | 211 | 442.10 | 53704 | | | | |
| 401.95 | 390 | 443.05 | 10339 | | | | |
| 402.80 | 74 | 444.00 | 997 | | | | |
| 403.10 | 490 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59858.D
Acq On : 21 May 2019 3:22 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 21 03:28:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59858.D\data.ms

(2) Benzidine (M)

2.498min (-0.614) 106.47ng m

response 538915

| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 12.90 | 14.44 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

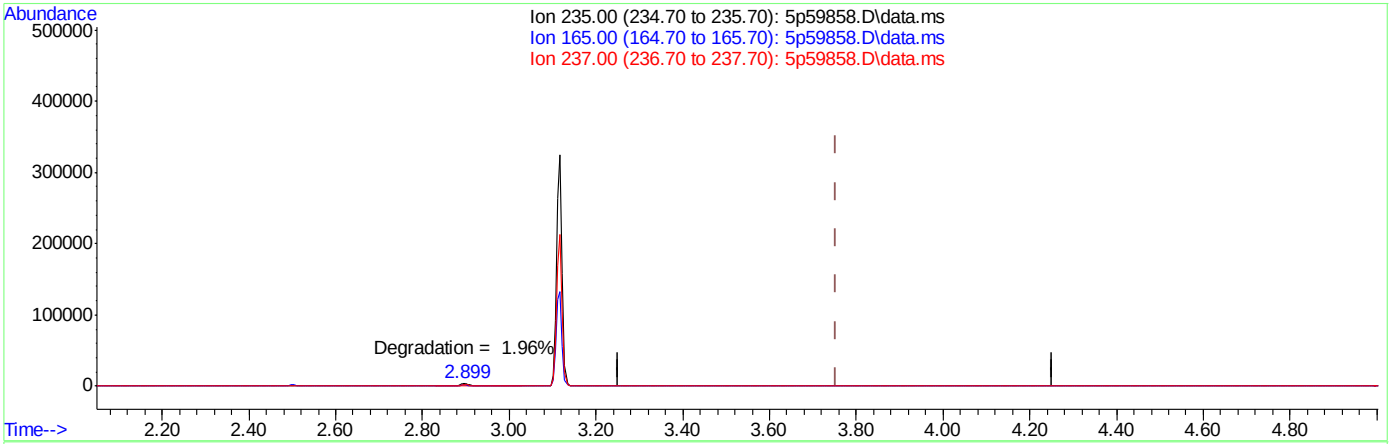
9.7.13.1

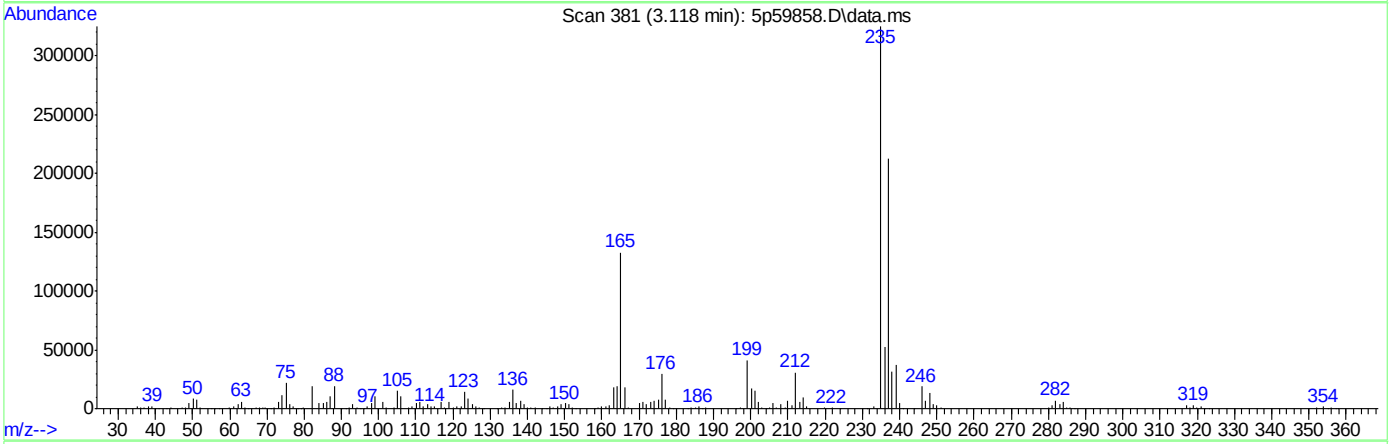
9

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59858.D
Acq On : 21 May 2019 3:22 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 21 03:28:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59858.D\data.ms

(3) PP-DDT (MC)

3.118min (-0.636) 146.47ng m

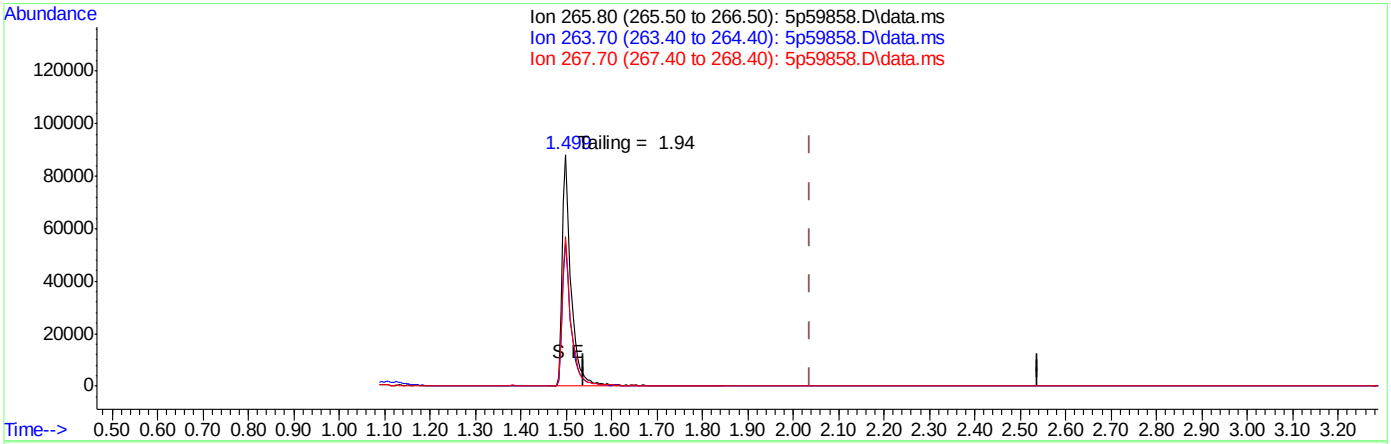
response 287445

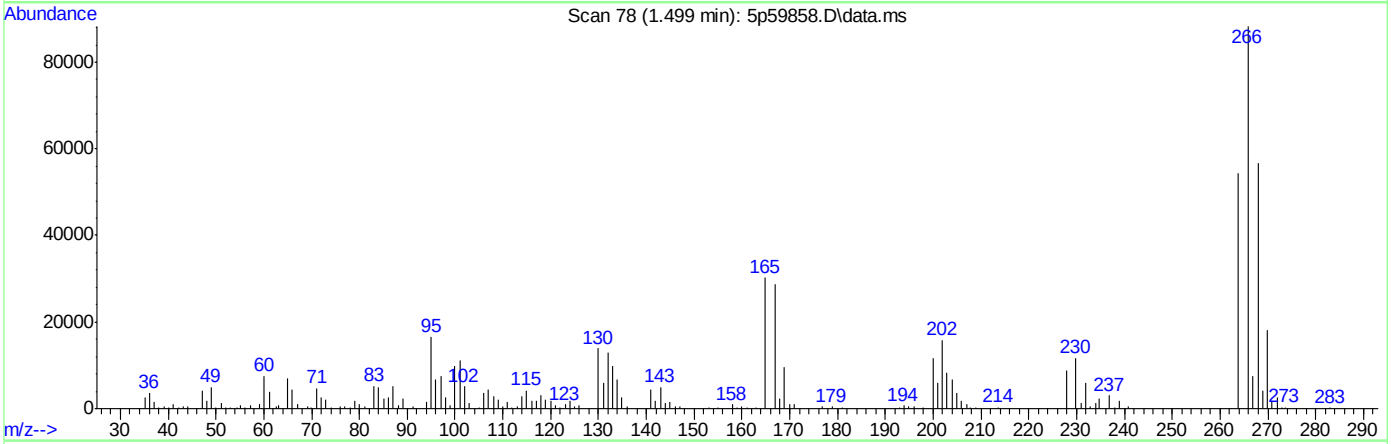
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 48.20 | 40.92 |
| 237.00 | 63.60 | 65.36 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59858.D
Acq On : 21 May 2019 3:22 am
Operator : chriss2
Sample : dftpp
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 21 09:21:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M
Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019
QLast Update : Sun Apr 14 16:00:36 2019
Response via : Initial Calibration




TIC: 5p59858.D\data.ms

(1) Pentachlorophenol (MC)

1.499min (-0.540) 74.16ng m

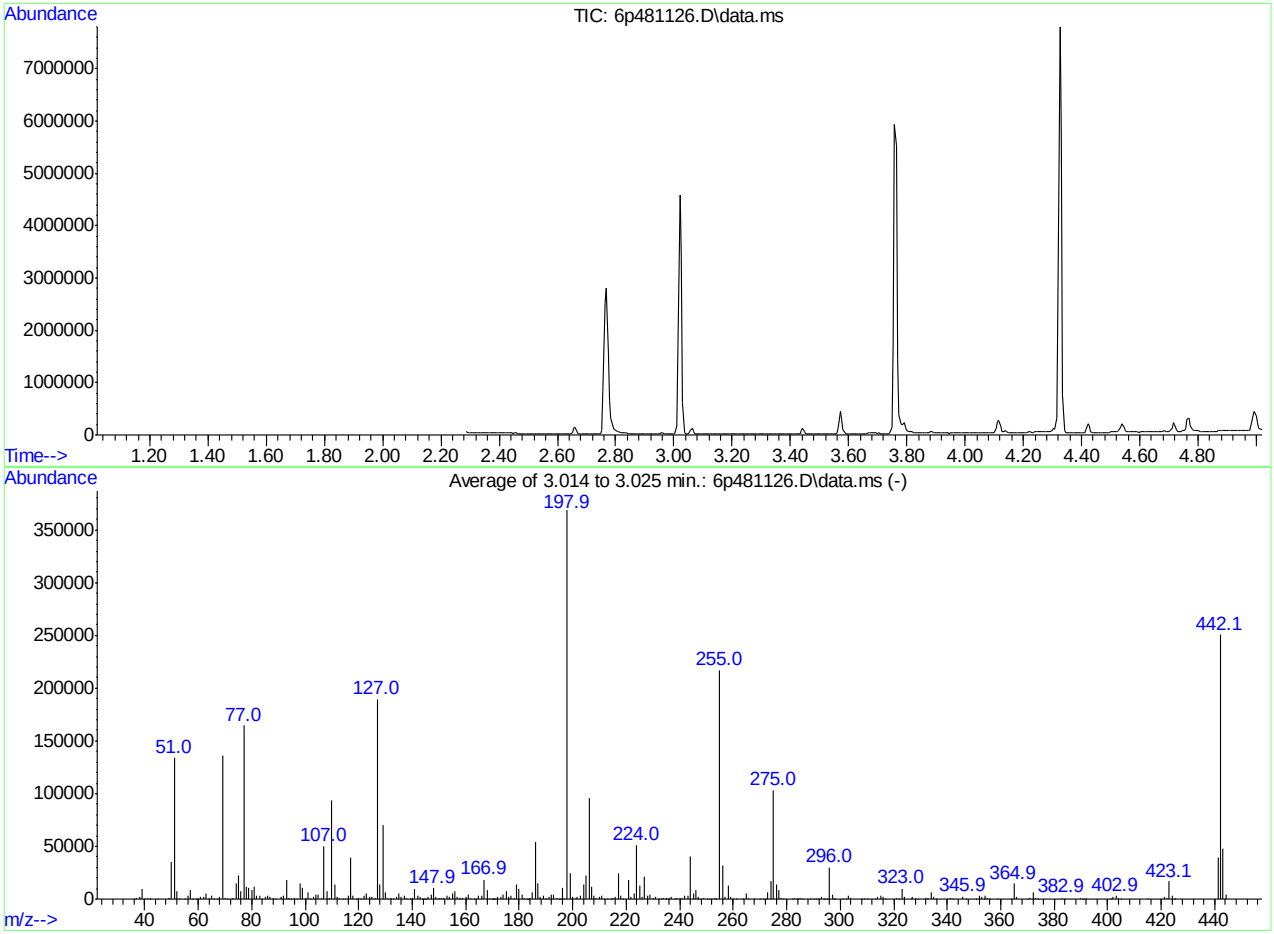
response 123643

| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 60.70 | 61.64 |
| 267.70 | 65.20 | 64.34 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2562\6p481126.D  Vial: 1
Acq On : 16 Apr 2019 9:34 am  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 137, 138, 139; Background Corrected with Scan 132

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.3 | 133701 | PASS |
| 68 | 69 | 0.00 | 2 | 1.7 | 2251 | PASS |
| 69 | 198 | 0.00 | 100 | 36.9 | 136031 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 671 | PASS |
| 127 | 198 | 40 | 60 | 51.5 | 189621 | PASS |
| 197 | 198 | 0.00 | 1 | 0.1 | 428 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 368448 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 24693 | PASS |
| 275 | 198 | 10 | 30 | 28.0 | 103277 | PASS |
| 365 | 198 | 1 | 100 | 4.0 | 14732 | PASS |
| 441 | 443 | 0.10 | 100 | 81.7 | 39477 | PASS |
| 442 | 198 | 40 | 100 | 68.1 | 250821 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 48343 | PASS |

6p481126.D DFTPP6P.M Tue Apr 16 14:36:15 2019 ACLIMS

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.90 | 26 | 51.00 | 133701 | 63.00 | 5851 | 75.00 | 22738 |
| 36.90 | 826 | 52.00 | 7043 | 63.95 | 747 | 76.05 | 7738 |
| 38.00 | 1938 | 52.95 | 505 | 64.95 | 3339 | 76.95 | 164429 |
| 39.00 | 9763 | 55.00 | 393 | 66.00 | 145 | 78.00 | 11829 |
| 39.95 | 306 | 56.00 | 3608 | 67.00 | 107 | 79.00 | 10233 |
| 41.00 | 611 | 57.00 | 8621 | 67.95 | 2251 | 79.90 | 8233 |
| 41.80 | 127 | 57.95 | 570 | 69.00 | 136031 | 81.00 | 11711 |
| 42.05 | 324 | 58.95 | 326 | 69.95 | 671 | 81.90 | 2972 |
| 44.95 | 146 | 59.95 | 220 | 71.00 | 50 | 83.00 | 2708 |
| 49.05 | 1141 | 60.90 | 1974 | 72.95 | 877 | 83.90 | 198 |
| 50.00 | 34925 | 62.00 | 1902 | 74.00 | 14717 | 84.90 | 1694 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 85.95 | 3064 | 98.00 | 14492 | 109.00 | 1579 | 119.95 | 703 |
| 86.95 | 1633 | 99.00 | 11157 | 110.00 | 93232 | 120.80 | 132 |
| 87.95 | 668 | 100.00 | 1041 | 111.00 | 14016 | 121.95 | 3267 |
| 89.00 | 280 | 100.90 | 6472 | 111.95 | 1797 | 122.95 | 5323 |
| 90.90 | 2528 | 101.85 | 353 | 112.90 | 690 | 123.90 | 2295 |
| 92.00 | 3190 | 103.00 | 2352 | 113.90 | 132 | 124.95 | 2547 |
| 92.95 | 18235 | 103.90 | 4454 | 114.95 | 566 | 126.10 | 686 |
| 93.90 | 1197 | 104.95 | 4207 | 115.95 | 3284 | 127.00 | 189621 |
| 94.85 | 569 | 105.95 | 1271 | 116.95 | 39605 | 128.00 | 14058 |
| 96.00 | 810 | 107.00 | 50173 | 117.95 | 3113 | 128.95 | 70453 |
| 97.00 | 104 | 107.95 | 7869 | 118.95 | 365 | 129.95 | 5996 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 130.95 | 1251 | 141.95 | 2991 | 151.00 | 1070 | 161.00 | 4378 |
| 131.95 | 910 | 142.95 | 2109 | 151.90 | 754 | 161.95 | 1339 |
| 132.95 | 403 | 143.90 | 253 | 152.95 | 2848 | 162.95 | 337 |
| 133.95 | 1975 | 144.10 | 229 | 154.00 | 2222 | 163.95 | 422 |
| 134.95 | 5536 | 144.70 | 117 | 154.95 | 4830 | 164.90 | 3332 |
| 135.95 | 2099 | 145.00 | 443 | 156.00 | 8015 | 166.00 | 3174 |
| 136.95 | 2958 | 145.90 | 1720 | 156.95 | 1745 | 166.95 | 18386 |
| 137.95 | 680 | 146.95 | 4316 | 157.80 | 263 | 167.95 | 8738 |
| 138.95 | 468 | 147.90 | 10344 | 157.95 | 1445 | 168.95 | 1597 |
| 139.95 | 1026 | 148.90 | 2347 | 158.95 | 1344 | 169.80 | 256 |
| 140.95 | 9404 | 150.00 | 742 | 159.95 | 2666 | 170.05 | 441 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 170.75 | 428 | 180.95 | 4547 | 190.95 | 1905 | 201.20 | 643 |
| 171.00 | 343 | 182.00 | 841 | 191.90 | 4122 | 201.45 | 1963 |
| 171.85 | 1742 | 182.80 | 353 | 192.95 | 4815 | 202.95 | 2836 |
| 173.00 | 1984 | 183.00 | 167 | 193.95 | 1099 | 204.00 | 13498 |
| 174.00 | 3840 | 183.95 | 1242 | 194.80 | 416 | 205.00 | 22398 |
| 175.00 | 7304 | 185.00 | 6467 | 195.10 | 442 | 206.00 | 96040 |
| 176.00 | 2130 | 186.00 | 54237 | 196.00 | 10885 | 207.00 | 12162 |
| 176.95 | 3692 | 187.00 | 14540 | 196.70 | 428 | 207.95 | 3235 |
| 177.95 | 1291 | 187.95 | 1710 | 197.90 | 368448 | 208.85 | 1075 |
| 178.90 | 13551 | 188.95 | 3372 | 198.90 | 24693 | 209.95 | 1771 |
| 179.95 | 9555 | 189.85 | 534 | 199.95 | 2359 | 211.00 | 3471 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 211.60 | 171 | 224.00 | 51053 | 234.80 | 183 | 245.00 | 5361 |
| 212.95 | 365 | 225.00 | 12703 | 234.95 | 1320 | 246.00 | 8249 |
| 214.00 | 136 | 226.00 | 1680 | 235.90 | 1018 | 246.70 | 228 |
| 214.90 | 1296 | 226.90 | 21548 | 236.90 | 2140 | 246.95 | 1643 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 215.95 | 2386 | 227.95 | 3212 | 237.90 | 217 | 247.85 | 264 |
| 216.90 | 24713 | 228.95 | 4750 | 238.90 | 1070 | 249.00 | 1558 |
| 217.90 | 3022 | 229.95 | 584 | 239.95 | 807 | 250.00 | 308 |
| 218.95 | 372 | 230.90 | 1810 | 240.90 | 1278 | 251.00 | 536 |
| 221.00 | 18639 | 232.05 | 402 | 242.00 | 2986 | 251.95 | 396 |
| 221.60 | 2612 | 232.95 | 366 | 243.00 | 2940 | 252.95 | 762 |
| 222.95 | 4902 | 233.95 | 1524 | 244.00 | 40357 | 253.70 | 147 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 255.00 | 217101 | 269.85 | 318 | 282.95 | 1151 | 293.80 | 144 |
| 256.00 | 32189 | 270.95 | 441 | 283.80 | 187 | 294.00 | 254 |
| 257.00 | 2496 | 271.90 | 521 | 284.05 | 544 | 294.95 | 297 |
| 258.00 | 12771 | 273.00 | 6463 | 285.00 | 1293 | 296.00 | 30007 |
| 259.00 | 1967 | 274.00 | 17576 | 286.00 | 266 | 297.00 | 4006 |
| 259.80 | 233 | 275.00 | 103277 | 288.90 | 350 | 297.70 | 147 |
| 261.00 | 327 | 276.00 | 13924 | 289.85 | 329 | 297.90 | 179 |
| 263.80 | 336 | 277.00 | 8110 | 290.90 | 101 | 300.90 | 156 |
| 265.00 | 5214 | 277.95 | 1604 | 291.70 | 128 | 302.00 | 480 |
| 265.90 | 1124 | 278.90 | 267 | 292.00 | 157 | 303.00 | 3257 |
| 267.80 | 67 | 281.90 | 477 | 292.95 | 2146 | 304.05 | 836 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 307.90 | 372 | 324.00 | 2165 | 340.95 | 1398 | 358.90 | 111 |
| 308.90 | 229 | 326.60 | 173 | 341.95 | 336 | 363.80 | 110 |
| 309.95 | 317 | 326.90 | 1678 | 345.95 | 2425 | 364.95 | 14732 |
| 312.90 | 162 | 328.00 | 962 | 346.95 | 361 | 365.95 | 2215 |
| 313.95 | 1880 | 328.80 | 100 | 350.90 | 116 | 369.95 | 240 |
| 314.95 | 3483 | 331.95 | 834 | 351.95 | 3314 | 371.00 | 908 |
| 316.00 | 1900 | 332.95 | 860 | 353.00 | 1935 | 372.00 | 6002 |
| 316.95 | 370 | 334.00 | 6215 | 353.80 | 281 | 373.05 | 1203 |
| 321.00 | 779 | 335.00 | 1820 | 354.00 | 2981 | 373.80 | 113 |
| 322.00 | 264 | 335.90 | 133 | 354.95 | 610 | 382.90 | 1158 |
| 323.00 | 9632 | 340.00 | 138 | 355.90 | 115 | 383.95 | 330 |

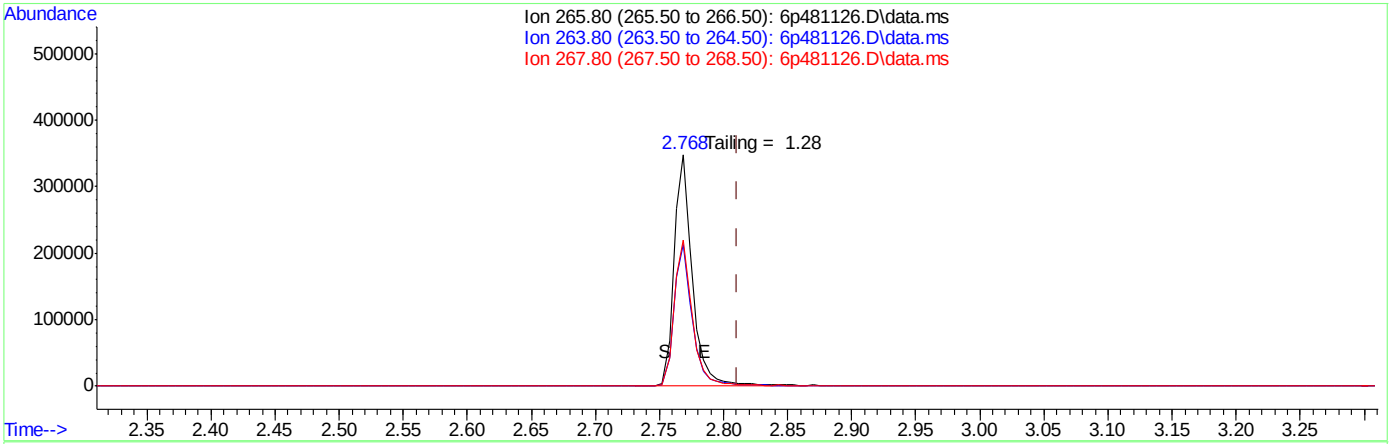
Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

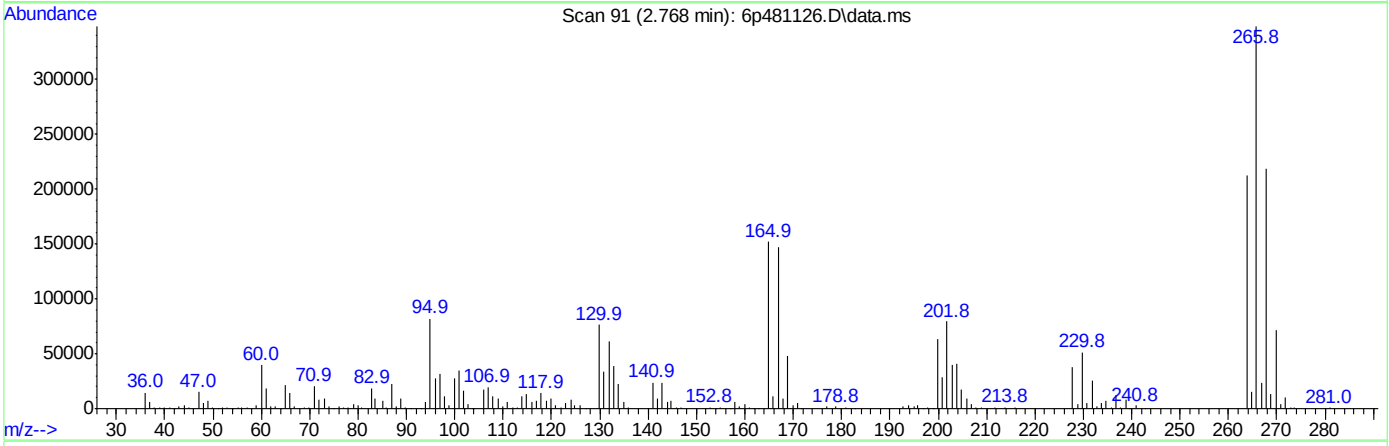
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 389.90 | 706 | 422.00 | 1455 | | | | |
| 390.60 | 138 | 423.05 | 16779 | | | | |
| 391.05 | 478 | 424.10 | 3728 | | | | |
| 391.90 | 347 | 424.80 | 143 | | | | |
| 401.00 | 310 | 425.10 | 374 | | | | |
| 401.95 | 2390 | 441.10 | 39477 | | | | |
| 402.95 | 2852 | 442.05 | 250821 | | | | |
| 404.00 | 986 | 443.00 | 48343 | | | | |
| 404.90 | 116 | 444.05 | 4468 | | | | |
| 414.80 | 116 | | | | | | |
| 421.00 | 2116 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481126.D
Acq On : 16 Apr 2019 9:34 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 09:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481126.D\data.ms

(1) Pentachlorophenol (t)

2.768min (-0.043) 0.00ng

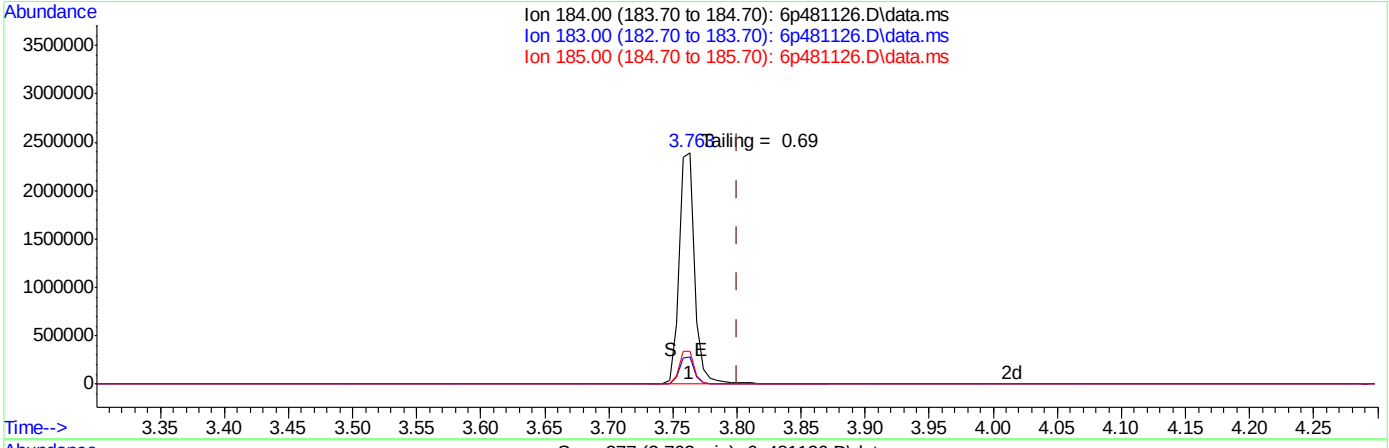
response 356010

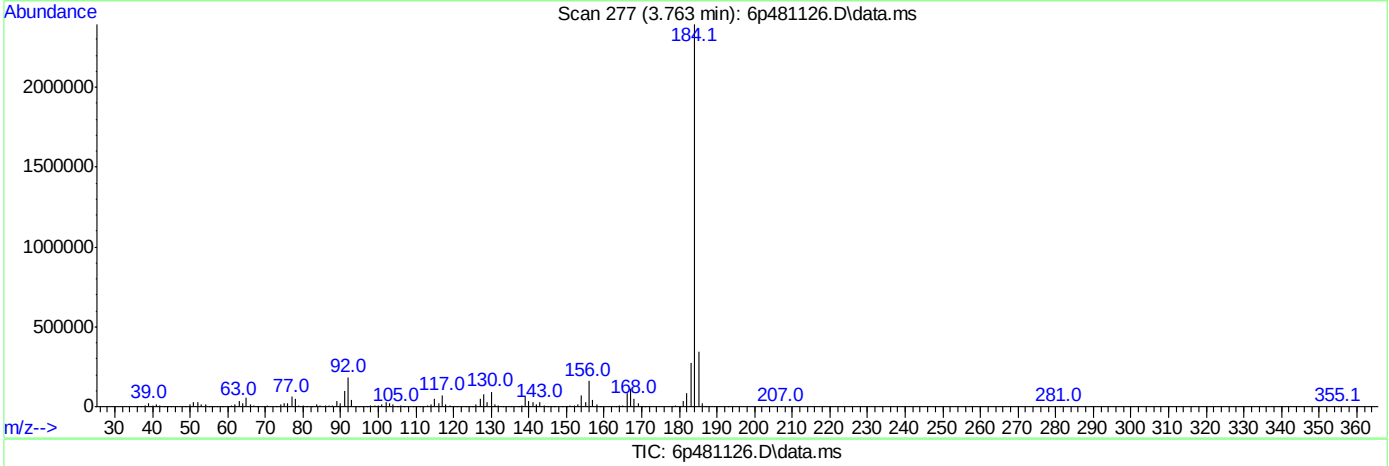
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 60.10 | 61.11 |
| 267.80 | 65.70 | 62.85 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481126.D
Acq On : 16 Apr 2019 9:34 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 09:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481126.D\data.ms

(2) Benzidine (t)

3.763min (-0.037) 0.00ng

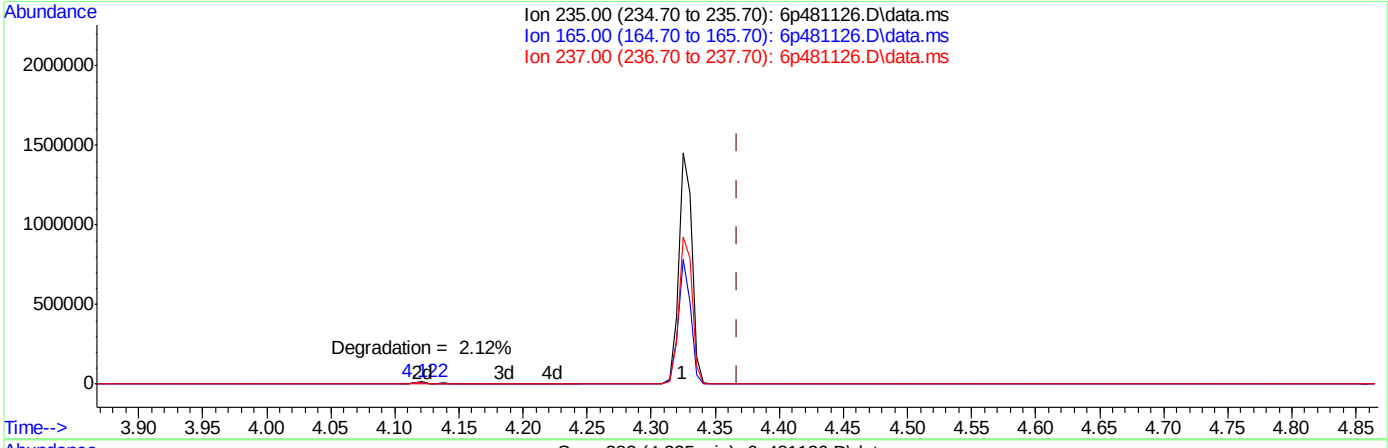
response 2079722

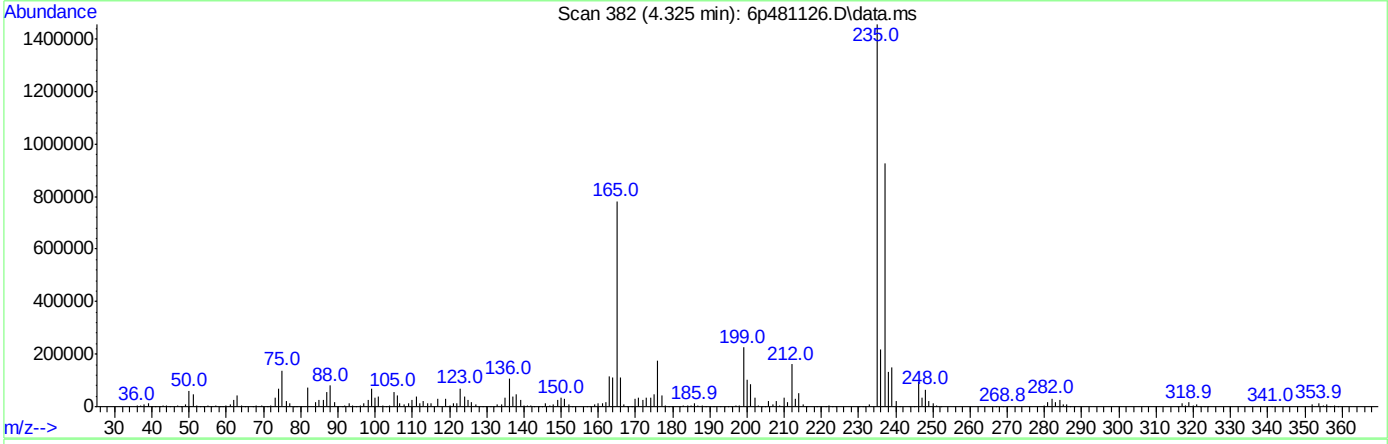
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.58 |
| 185.00 | 14.10 | 14.28 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481126.D
Acq On : 16 Apr 2019 9:34 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 09:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481126.D\data.ms

(3) PP-DDT (t)

4.325min (-0.043) 0.00ng

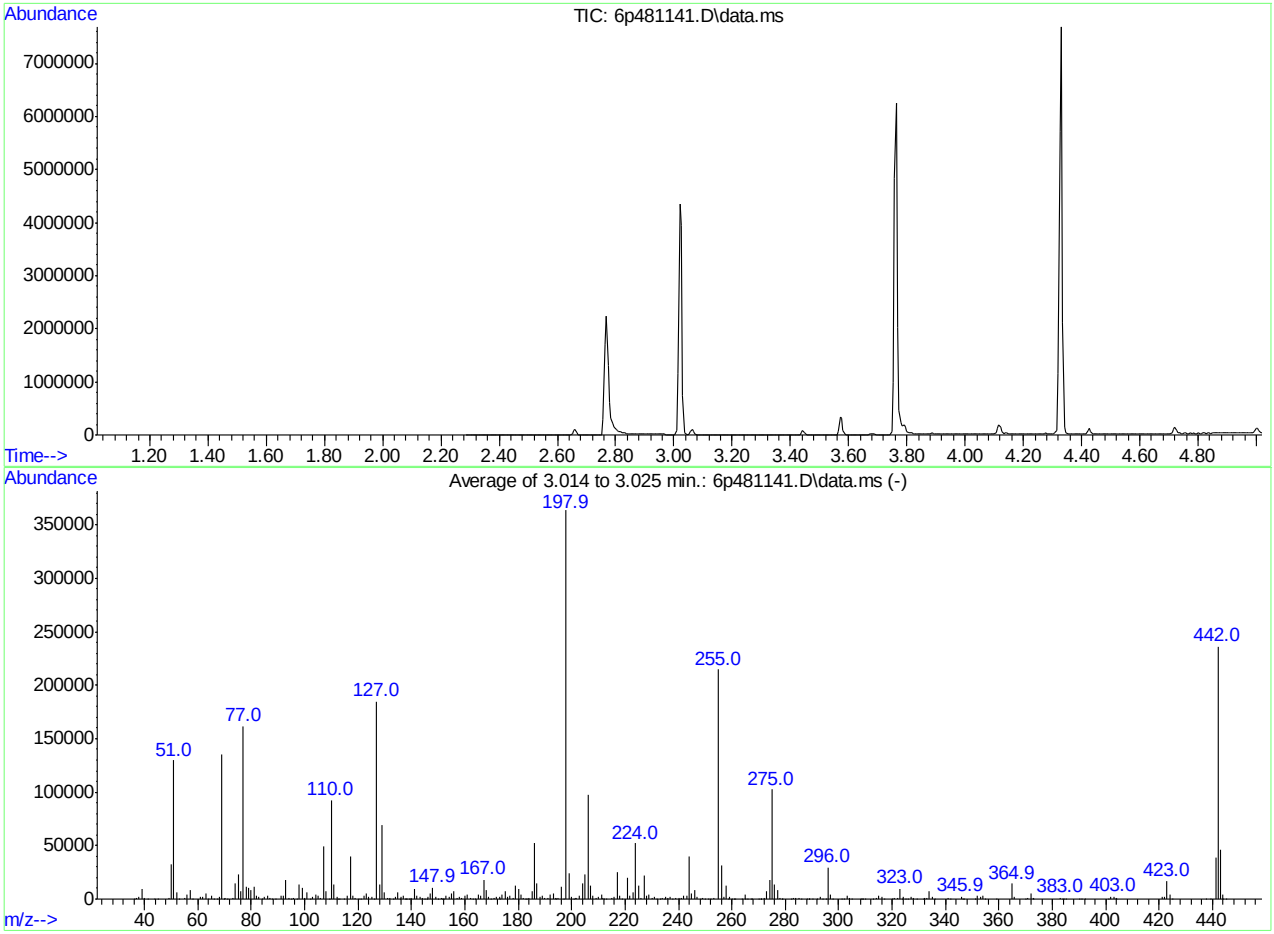
response 1056559

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 53.40 | 50.71 |
| 237.00 | 64.90 | 64.39 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2562\6p481141.D  Vial: 1
Acq On : 16 Apr 2019 3:25 pm  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2563,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 137, 138, 139; Background Corrected with Scan 133

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 35.7 | 129768 | PASS |
| 68 | 69 | 0.00 | 2 | 1.9 | 2510 | PASS |
| 69 | 198 | 0.00 | 100 | 37.3 | 135637 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 674 | PASS |
| 127 | 198 | 40 | 60 | 50.8 | 184520 | PASS |
| 197 | 198 | 0.00 | 1 | 0.1 | 403 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 363402 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 24236 | PASS |
| 275 | 198 | 10 | 30 | 28.2 | 102661 | PASS |
| 365 | 198 | 1 | 100 | 4.0 | 14598 | PASS |
| 441 | 443 | 0.10 | 100 | 85.7 | 39268 | PASS |
| 442 | 198 | 40 | 100 | 65.0 | 236114 | PASS |
| 443 | 442 | 17 | 23 | 19.4 | 45838 | PASS |

6p481141.D DFTPP6P.M Tue Apr 16 16:43:19 2019 ACLIMS

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.95 | 8 | 52.00 | 6487 | 65.90 | 138 | 77.00 | 161464 |
| 36.90 | 590 | 53.00 | 222 | 67.05 | 252 | 78.00 | 11161 |
| 38.00 | 1660 | 54.95 | 750 | 68.05 | 2510 | 78.95 | 10482 |
| 39.00 | 9933 | 56.00 | 3732 | 69.00 | 135637 | 79.95 | 8176 |
| 39.95 | 840 | 56.95 | 8060 | 69.80 | 153 | 80.95 | 11135 |
| 41.00 | 279 | 57.95 | 418 | 69.95 | 674 | 81.90 | 2804 |
| 43.90 | 212 | 60.95 | 1880 | 71.00 | 122 | 82.90 | 2539 |
| 44.95 | 258 | 61.95 | 1924 | 72.90 | 1131 | 83.95 | 353 |
| 49.00 | 977 | 63.00 | 5480 | 74.00 | 14645 | 84.95 | 1999 |
| 50.00 | 32600 | 64.05 | 519 | 75.00 | 23497 | 85.95 | 2965 |
| 51.00 | 129768 | 65.00 | 2695 | 76.05 | 7725 | 87.00 | 1538 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 87.90 | 534 | 99.90 | 1024 | 111.00 | 13577 | 122.00 | 3512 |
| 89.05 | 446 | 100.95 | 5860 | 111.95 | 1883 | 122.95 | 5238 |
| 90.95 | 2751 | 101.95 | 287 | 112.60 | 114 | 123.95 | 2186 |
| 91.95 | 2657 | 102.95 | 2232 | 112.95 | 301 | 124.95 | 1848 |
| 93.00 | 17405 | 103.95 | 4332 | 114.70 | 213 | 126.10 | 192 |
| 93.95 | 1233 | 104.95 | 3570 | 115.95 | 2963 | 127.00 | 184520 |
| 94.90 | 202 | 106.00 | 1228 | 117.00 | 39674 | 128.00 | 13879 |
| 95.90 | 723 | 107.00 | 49045 | 117.95 | 2829 | 129.00 | 69261 |
| 97.05 | 393 | 107.95 | 7754 | 118.95 | 572 | 129.95 | 6354 |
| 97.95 | 13709 | 109.00 | 251 | 119.95 | 434 | 130.95 | 1289 |
| 98.95 | 10880 | 110.00 | 92602 | 121.05 | 279 | 131.90 | 669 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 132.95 | 534 | 141.00 | 9361 | 151.00 | 1470 | 159.95 | 2802 |
| 133.90 | 1989 | 141.95 | 3409 | 151.50 | 141 | 160.95 | 4164 |
| 134.95 | 5882 | 143.00 | 2032 | 151.75 | 516 | 161.90 | 1070 |
| 135.80 | 328 | 143.90 | 683 | 152.10 | 159 | 163.05 | 270 |
| 135.95 | 1822 | 144.85 | 472 | 152.95 | 3363 | 163.95 | 445 |
| 136.95 | 2923 | 145.70 | 207 | 154.00 | 2398 | 164.90 | 3865 |
| 137.65 | 328 | 145.95 | 1643 | 155.00 | 4963 | 166.00 | 3133 |
| 137.90 | 311 | 146.90 | 4957 | 156.00 | 7778 | 167.00 | 18239 |
| 138.10 | 166 | 147.90 | 10626 | 156.95 | 1521 | 168.00 | 8780 |
| 138.95 | 365 | 148.95 | 2283 | 158.00 | 1756 | 168.95 | 1714 |
| 139.90 | 937 | 149.90 | 472 | 158.90 | 1585 | 169.85 | 535 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 170.90 | 643 | 181.00 | 4713 | 190.95 | 1318 | 200.70 | 296 |
| 171.95 | 1650 | 182.00 | 603 | 191.95 | 3939 | 201.40 | 1159 |
| 172.80 | 235 | 182.60 | 206 | 193.00 | 5146 | 201.65 | 939 |
| 172.95 | 1703 | 183.00 | 411 | 193.80 | 134 | 202.90 | 2899 |
| 173.95 | 4109 | 183.90 | 918 | 194.00 | 875 | 204.00 | 14394 |
| 175.00 | 7278 | 185.00 | 6905 | 194.90 | 577 | 205.00 | 22591 |
| 176.05 | 2290 | 186.00 | 52912 | 196.00 | 11387 | 206.00 | 97074 |
| 176.95 | 3517 | 187.00 | 14931 | 197.00 | 403 | 207.00 | 12328 |
| 177.95 | 1341 | 188.00 | 1620 | 197.90 | 363402 | 208.00 | 3220 |
| 178.90 | 13007 | 188.90 | 3502 | 198.90 | 24236 | 208.90 | 938 |
| 180.00 | 9237 | 189.90 | 572 | 199.95 | 2119 | 210.10 | 1847 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 211.00 | 3818 | 223.00 | 5916 | 233.95 | 1546 | 244.00 | 40369 |
| 211.60 | 578 | 224.00 | 52001 | 234.60 | 122 | 245.00 | 5804 |
| 211.90 | 244 | 225.00 | 12550 | 235.00 | 1690 | 246.00 | 8316 |
| 213.00 | 100 | 226.00 | 1594 | 235.90 | 1227 | 247.00 | 1847 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 214.95 | 1012 | 227.00 | 21775 | 236.90 | 1885 | 248.00 | 356 |
| 215.95 | 2080 | 227.95 | 3450 | 237.70 | 105 | 248.95 | 1367 |
| 216.90 | 24923 | 228.90 | 4595 | 238.95 | 801 | 249.90 | 162 |
| 217.90 | 3091 | 229.95 | 771 | 240.00 | 745 | 250.90 | 391 |
| 218.95 | 349 | 230.95 | 1818 | 241.00 | 1111 | 252.00 | 302 |
| 221.00 | 19906 | 231.95 | 456 | 241.95 | 2682 | 253.00 | 895 |
| 221.60 | 2772 | 232.90 | 531 | 243.00 | 2734 | 255.00 | 214853 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 256.00 | 31453 | 265.80 | 402 | 276.95 | 8123 | 289.00 | 148 |
| 257.00 | 2588 | 266.90 | 234 | 277.90 | 1388 | 289.95 | 386 |
| 257.90 | 12373 | 267.60 | 205 | 278.70 | 146 | 291.95 | 346 |
| 258.70 | 308 | 269.80 | 364 | 278.90 | 116 | 292.90 | 1858 |
| 258.90 | 1759 | 270.70 | 186 | 281.95 | 229 | 293.95 | 431 |
| 259.80 | 313 | 271.00 | 176 | 282.90 | 965 | 295.00 | 252 |
| 260.90 | 219 | 271.95 | 609 | 283.85 | 798 | 296.00 | 29912 |
| 261.10 | 184 | 273.00 | 6905 | 284.95 | 1560 | 297.00 | 4232 |
| 263.80 | 354 | 274.00 | 17871 | 285.95 | 342 | 297.90 | 256 |
| 264.80 | 448 | 275.00 | 102661 | 287.90 | 105 | 300.95 | 369 |
| 265.00 | 4722 | 276.00 | 13814 | 288.80 | 206 | 301.85 | 523 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 303.00 | 3309 | 317.00 | 181 | 329.00 | 103 | 346.80 | 223 |
| 303.95 | 964 | 320.10 | 121 | 331.50 | 122 | 350.90 | 144 |
| 304.80 | 115 | 320.95 | 1166 | 331.95 | 594 | 352.00 | 3174 |
| 308.00 | 435 | 322.00 | 636 | 332.95 | 894 | 352.95 | 2131 |
| 308.70 | 134 | 323.00 | 9696 | 334.00 | 6916 | 354.00 | 3280 |
| 309.00 | 183 | 323.80 | 102 | 335.00 | 1842 | 354.95 | 462 |
| 309.95 | 521 | 324.05 | 1880 | 335.80 | 114 | 358.90 | 137 |
| 312.80 | 135 | 324.95 | 266 | 341.00 | 1128 | 364.95 | 14598 |
| 314.00 | 1298 | 325.90 | 112 | 341.95 | 250 | 365.90 | 2066 |
| 314.95 | 3254 | 326.90 | 1726 | 345.90 | 2264 | 370.05 | 360 |
| 316.00 | 2075 | 327.90 | 905 | 346.60 | 163 | 370.95 | 918 |

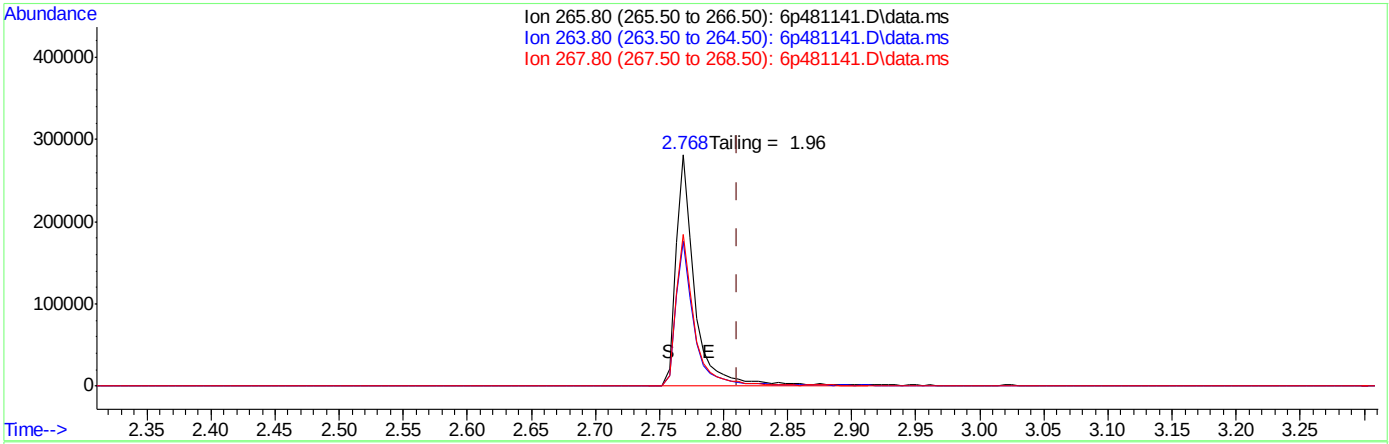
Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

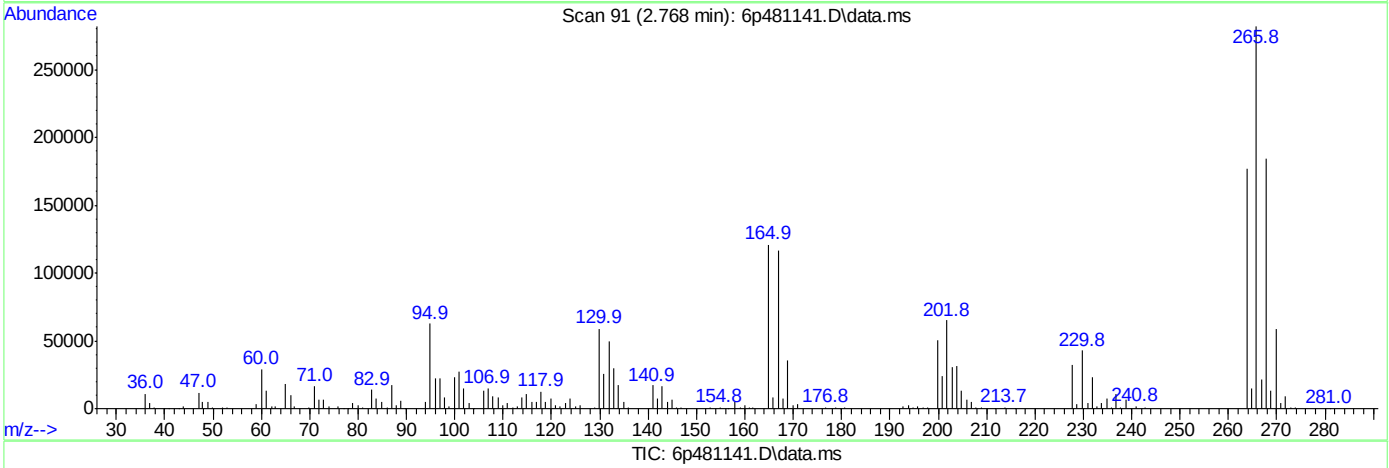
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 372.00 | 5216 | 402.00 | 1797 | 441.10 | 39268 | | |
| 372.70 | 247 | 403.00 | 2568 | 442.00 | 236114 | | |
| 373.05 | 1086 | 403.80 | 408 | 443.00 | 45838 | | |
| 383.00 | 1275 | 404.00 | 765 | 443.80 | 153 | | |
| 383.80 | 218 | 421.00 | 2245 | 444.00 | 3803 | | |
| 384.10 | 142 | 422.00 | 2426 | 444.90 | 250 | | |
| 384.90 | 106 | 423.00 | 16992 | | | | |
| 390.00 | 530 | 424.00 | 3735 | | | | |
| 390.95 | 334 | 424.85 | 318 | | | | |
| 392.00 | 328 | 437.70 | 100 | | | | |
| 401.00 | 281 | 439.30 | 256 | | | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481141.D
Acq On : 16 Apr 2019 3:25 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 15:31:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481141.D\data.ms

(1) Pentachlorophenol (t)

2.768min (-0.043) 0.00ng

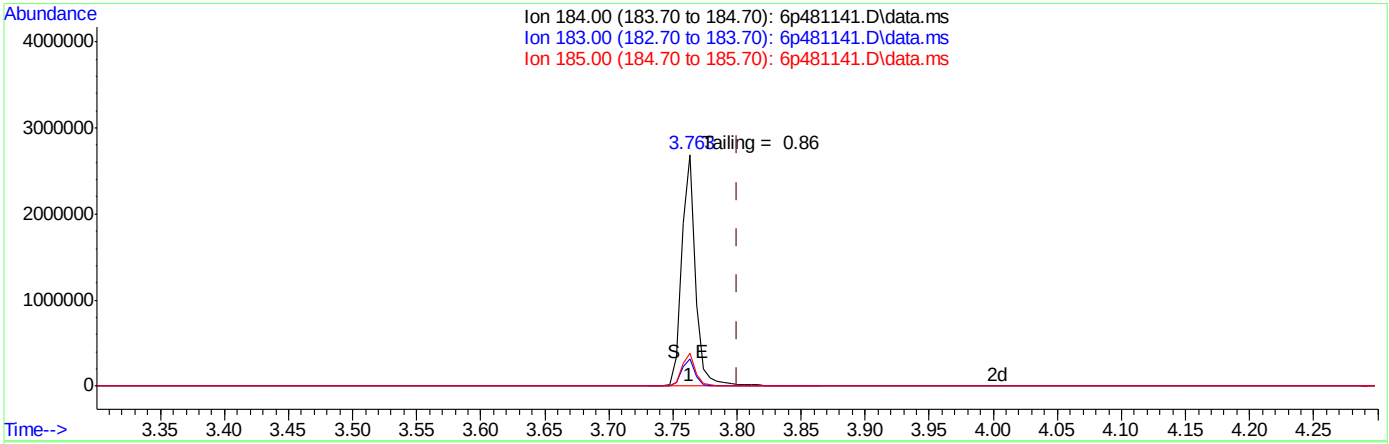
response 300355

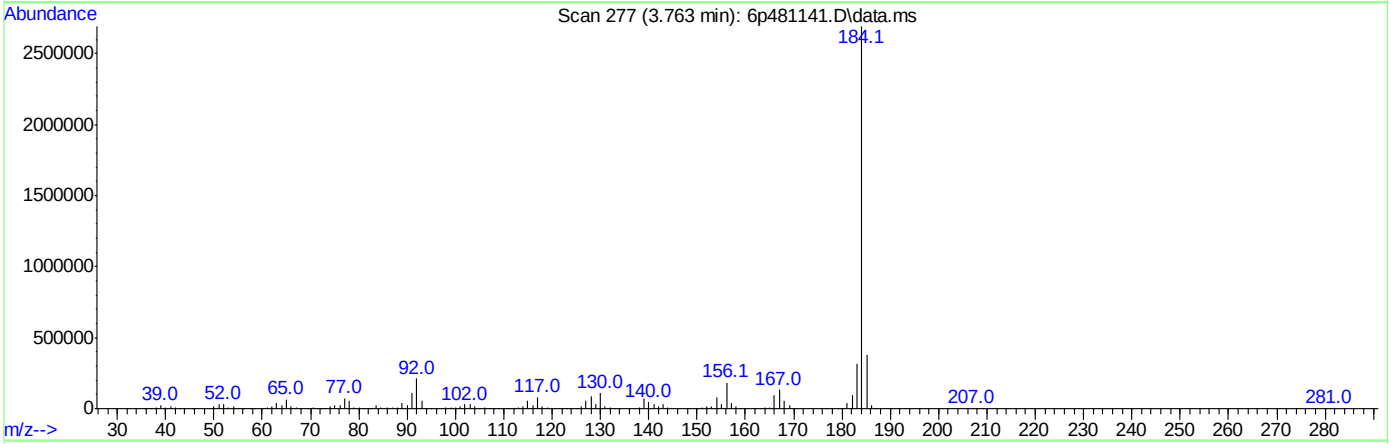
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 60.10 | 62.72 |
| 267.80 | 65.70 | 65.50 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481141.D
Acq On : 16 Apr 2019 3:25 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 15:31:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481141.D\data.ms

(2) Benzidine (t)

3.763min (-0.037) 0.00ng

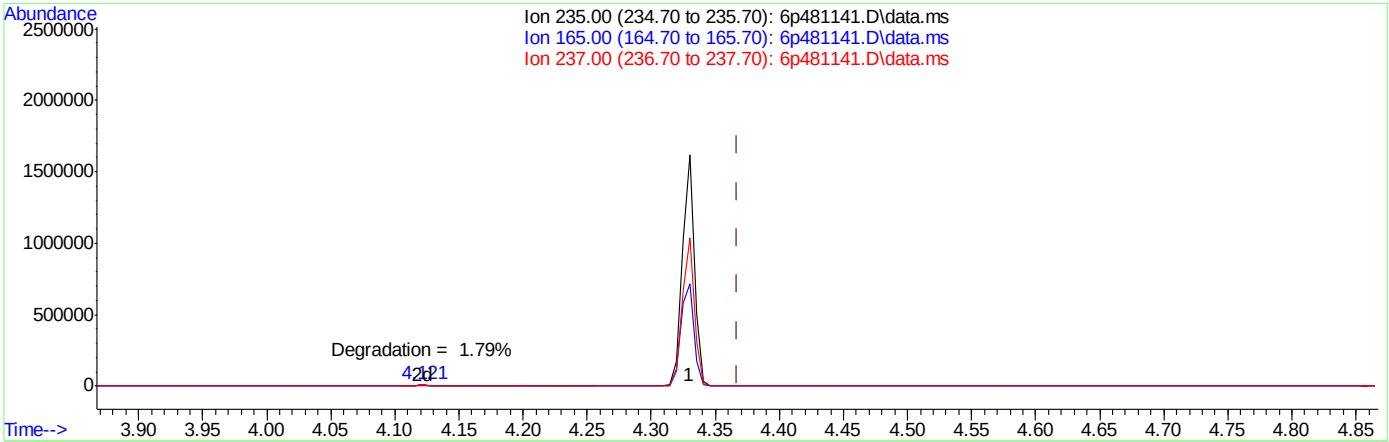
response 2078030

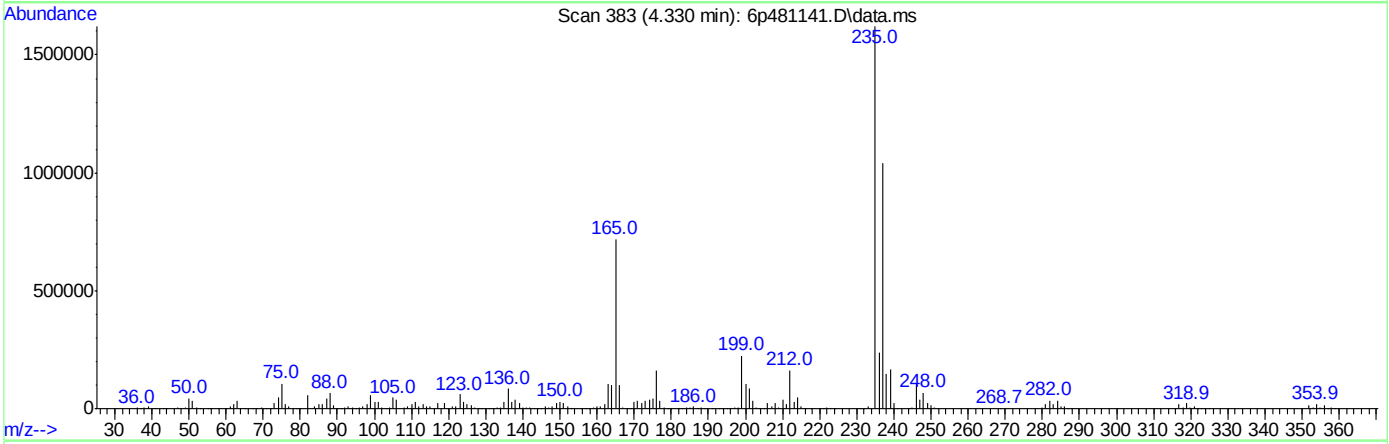
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.79 |
| 185.00 | 14.10 | 14.11 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481141.D
Acq On : 16 Apr 2019 3:25 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 15:31:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481141.D\data.ms

(3) PP-DDT (t)

4.330min (-0.037) 0.00ng

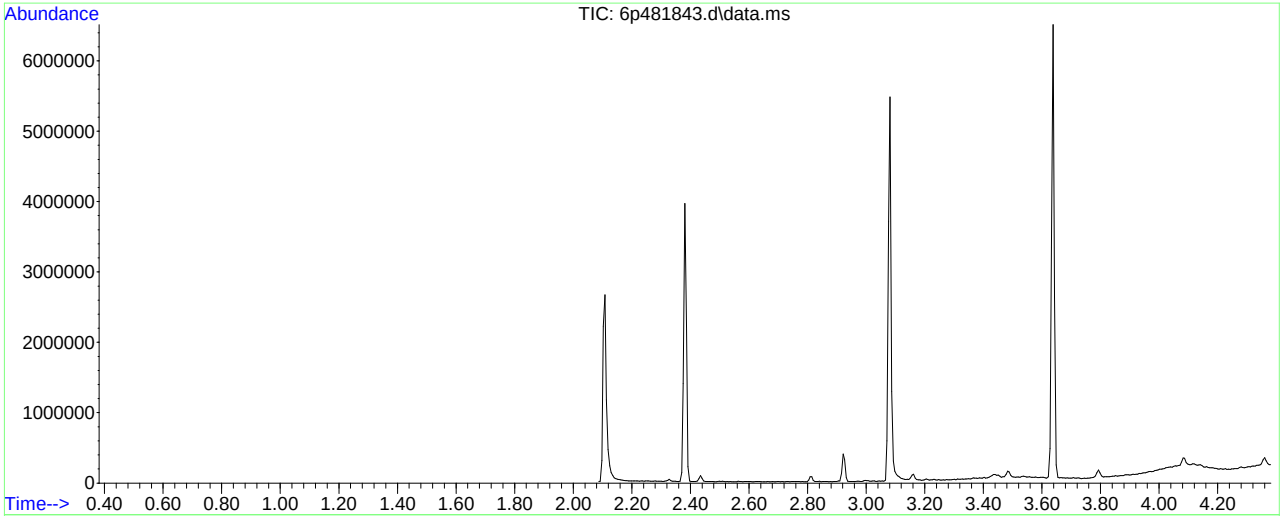
response 1083814

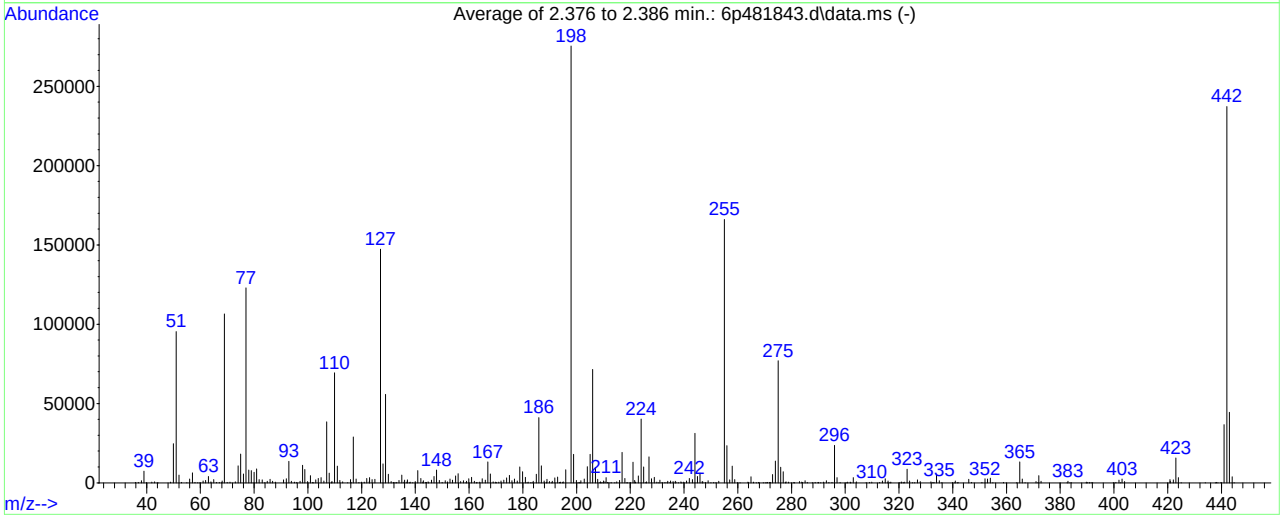
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 53.40 | 48.06 |
| 237.00 | 64.90 | 64.09 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\data\jeryllr\e6p2590\6p481843.d Vial: 1
Acq On : 14 May 2019 3:47 pm Operator: angelar
Sample : dftpp Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 55, 56, 57; Background Corrected with Scan 50

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 34.6 | 95272 | PASS |
| 68 | 69 | 0.00 | 2 | 1.1 | 1140 | PASS |
| 69 | 198 | 0.00 | 100 | 38.7 | 106565 | PASS |
| 70 | 69 | 0.00 | 2 | 0.3 | 318 | PASS |
| 127 | 198 | 40 | 60 | 53.5 | 147272 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 275349 | PASS |
| 199 | 198 | 5 | 9 | 6.5 | 17950 | PASS |
| 275 | 198 | 10 | 30 | 27.9 | 76896 | PASS |
| 365 | 198 | 1 | 100 | 4.8 | 13154 | PASS |
| 441 | 443 | 0.10 | 100 | 82.7 | 36767 | PASS |
| 442 | 198 | 40 | 100 | 86.2 | 237309 | PASS |
| 443 | 442 | 17 | 23 | 18.7 | 44436 | PASS |

6p481843.d DFTPP6P.M Wed May 15 05:26:11 2019

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.90 | 269 | 52.00 | 4926 | 63.95 | 653 | 74.95 | 18114 |
| 36.95 | 359 | 52.95 | 314 | 65.00 | 2065 | 76.00 | 5567 |
| 38.00 | 1284 | 54.90 | 145 | 66.00 | 315 | 76.95 | 122947 |
| 39.00 | 7272 | 56.00 | 2333 | 67.00 | 214 | 78.00 | 8104 |
| 39.90 | 125 | 57.00 | 6240 | 67.90 | 19 | 78.95 | 7691 |
| 41.95 | 412 | 57.95 | 353 | 68.10 | 1140 | 79.95 | 6550 |
| 43.00 | 569 | 59.00 | 154 | 68.95 | 106565 | 80.90 | 8743 |
| 43.90 | 14 | 59.90 | 133 | 70.00 | 318 | 81.85 | 2120 |
| 48.90 | 531 | 60.95 | 1245 | 71.00 | 485 | 83.00 | 1845 |
| 49.95 | 24688 | 61.95 | 1442 | 72.95 | 692 | 83.95 | 85 |
| 51.00 | 95272 | 63.00 | 4040 | 74.00 | 10752 | 84.90 | 1063 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 85.95 | 2300 | 98.90 | 8429 | 108.80 | 368 | 118.95 | 229 |
| 86.90 | 1004 | 99.95 | 864 | 109.00 | 751 | 119.90 | 487 |
| 87.90 | 420 | 100.95 | 4461 | 109.90 | 69350 | 120.95 | 496 |
| 90.95 | 1786 | 101.80 | 255 | 110.95 | 10582 | 121.95 | 2841 |
| 91.95 | 2662 | 102.00 | 182 | 111.90 | 1511 | 122.80 | 836 |
| 92.90 | 13525 | 102.95 | 1859 | 112.90 | 619 | 122.95 | 3271 |
| 93.90 | 934 | 103.90 | 2797 | 114.85 | 68 | 123.90 | 2036 |
| 95.05 | 435 | 104.95 | 3264 | 115.90 | 1993 | 124.95 | 2215 |
| 95.85 | 349 | 105.90 | 1112 | 116.10 | 345 | 127.00 | 147272 |
| 97.05 | 917 | 107.00 | 38476 | 116.90 | 28944 | 128.00 | 11924 |
| 98.00 | 10979 | 107.90 | 6148 | 117.90 | 2321 | 128.95 | 55842 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 129.95 | 5357 | 137.00 | 1907 | 144.80 | 580 | 155.00 | 4325 |
| 130.95 | 778 | 137.80 | 179 | 145.00 | 130 | 155.95 | 5839 |
| 131.80 | 281 | 138.05 | 475 | 146.00 | 1659 | 156.90 | 755 |
| 132.00 | 280 | 139.00 | 137 | 146.90 | 3997 | 157.85 | 1366 |
| 132.80 | 174 | 140.00 | 835 | 147.90 | 8028 | 158.80 | 183 |
| 133.05 | 345 | 140.90 | 7638 | 148.90 | 1508 | 159.00 | 949 |
| 133.90 | 1594 | 142.00 | 2811 | 150.00 | 346 | 159.85 | 2584 |
| 134.95 | 4901 | 142.80 | 371 | 151.10 | 1330 | 160.95 | 3475 |
| 135.80 | 439 | 143.00 | 1417 | 152.00 | 574 | 162.00 | 989 |
| 136.00 | 1715 | 143.80 | 193 | 152.90 | 2413 | 162.80 | 109 |
| 136.80 | 413 | 144.10 | 255 | 153.85 | 1726 | 162.95 | 344 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 163.95 | 402 | 173.95 | 3061 | 183.50 | 177 | 191.95 | 3188 |
| 164.90 | 2523 | 174.95 | 4673 | 183.85 | 957 | 192.95 | 3708 |
| 166.00 | 1679 | 175.95 | 1315 | 185.00 | 5344 | 193.70 | 265 |
| 166.95 | 13188 | 176.90 | 2377 | 185.95 | 41176 | 193.95 | 528 |
| 167.95 | 5527 | 177.95 | 1123 | 186.90 | 10722 | 194.80 | 302 |
| 168.90 | 706 | 178.90 | 9963 | 187.90 | 1224 | 195.05 | 570 |
| 169.85 | 391 | 179.95 | 6989 | 188.80 | 401 | 196.00 | 8231 |
| 170.10 | 211 | 180.90 | 3422 | 189.00 | 2229 | 197.90 | 275349 |
| 171.00 | 428 | 181.60 | 112 | 189.90 | 819 | 198.90 | 17950 |
| 171.90 | 1218 | 181.95 | 424 | 190.70 | 148 | 199.95 | 1516 |
| 172.90 | 1647 | 182.90 | 101 | 191.00 | 966 | 200.60 | 167 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 201.00 | 361 | 209.20 | 177 | 216.90 | 19169 | 225.80 | 261 |
| 201.30 | 318 | 209.80 | 276 | 217.95 | 2681 | 226.00 | 551 |
| 201.55 | 1267 | 210.10 | 1136 | 218.70 | 106 | 226.95 | 16411 |
| 202.90 | 2349 | 210.60 | 562 | 219.00 | 178 | 227.90 | 2561 |
| 203.95 | 10235 | 210.95 | 3231 | 220.00 | 254 | 228.90 | 3415 |
| 205.00 | 17892 | 211.50 | 322 | 220.95 | 12977 | 229.85 | 391 |
| 206.00 | 71509 | 212.00 | 104 | 221.60 | 1489 | 230.60 | 126 |
| 207.00 | 9591 | 212.90 | 257 | 221.90 | 492 | 231.00 | 1700 |
| 207.90 | 2284 | 214.20 | 107 | 223.00 | 4312 | 231.80 | 288 |
| 208.70 | 325 | 214.95 | 702 | 224.00 | 40173 | 232.90 | 198 |
| 208.90 | 620 | 215.95 | 1572 | 224.95 | 9930 | 233.70 | 193 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms

DFTPP6P.M Wed May 15 05:25:34 2019 Page: 0

dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 233.95 | 954 | 242.00 | 2730 | 251.90 | 172 | 264.95 | 3802 |
| 234.80 | 290 | 243.10 | 2056 | 252.95 | 931 | 265.80 | 510 |
| 235.00 | 1150 | 244.00 | 31158 | 255.00 | 166011 | 266.90 | 165 |
| 235.95 | 856 | 245.00 | 4025 | 255.95 | 23377 | 267.70 | 340 |
| 236.75 | 901 | 245.90 | 6056 | 257.00 | 1783 | 267.90 | 160 |
| 237.00 | 452 | 246.80 | 731 | 257.95 | 10471 | 269.50 | 107 |
| 237.90 | 169 | 247.00 | 694 | 258.90 | 1966 | 270.20 | 151 |
| 238.85 | 607 | 247.95 | 270 | 259.90 | 149 | 270.80 | 124 |
| 239.10 | 150 | 248.95 | 1379 | 260.80 | 101 | 271.05 | 243 |
| 239.90 | 402 | 250.00 | 100 | 263.75 | 467 | 271.80 | 284 |
| 240.95 | 1220 | 251.00 | 240 | 264.00 | 258 | 272.10 | 263 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 272.95 | 5249 | 283.75 | 387 | 293.90 | 271 | 307.80 | 185 |
| 274.00 | 13620 | 284.10 | 253 | 295.10 | 254 | 309.05 | 328 |
| 275.00 | 76896 | 285.00 | 1301 | 295.95 | 23607 | 309.90 | 415 |
| 276.00 | 9870 | 285.85 | 330 | 296.95 | 3317 | 312.75 | 267 |
| 276.95 | 6916 | 287.80 | 109 | 298.05 | 289 | 313.80 | 1176 |
| 277.70 | 288 | 288.85 | 288 | 300.60 | 164 | 314.90 | 2484 |
| 278.00 | 620 | 289.80 | 258 | 300.90 | 387 | 315.80 | 175 |
| 278.90 | 370 | 290.05 | 225 | 301.80 | 527 | 315.95 | 1101 |
| 280.85 | 253 | 290.90 | 140 | 302.00 | 216 | 316.70 | 219 |
| 281.10 | 142 | 291.90 | 421 | 302.95 | 3240 | 316.95 | 447 |
| 282.95 | 836 | 292.95 | 1342 | 304.10 | 591 | 320.10 | 104 |

Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 320.80 | 408 | 332.60 | 262 | 346.95 | 252 | 370.95 | 834 |
| 321.00 | 520 | 333.05 | 363 | 350.90 | 225 | 371.70 | 308 |
| 321.70 | 189 | 334.00 | 5386 | 352.00 | 2611 | 372.00 | 4569 |
| 321.95 | 406 | 335.05 | 1346 | 352.95 | 2364 | 372.90 | 958 |
| 323.00 | 8525 | 335.90 | 130 | 353.95 | 2863 | 382.60 | 121 |
| 323.95 | 1187 | 339.90 | 120 | 354.90 | 112 | 382.90 | 1006 |
| 325.00 | 153 | 340.70 | 117 | 358.90 | 264 | 383.60 | 184 |
| 325.80 | 143 | 340.95 | 1086 | 363.80 | 117 | 384.10 | 129 |
| 326.90 | 1777 | 341.70 | 116 | 364.90 | 13154 | 389.70 | 184 |
| 327.90 | 788 | 342.00 | 313 | 365.85 | 2357 | 389.90 | 380 |
| 331.90 | 627 | 345.95 | 2162 | 366.90 | 116 | 390.20 | 148 |

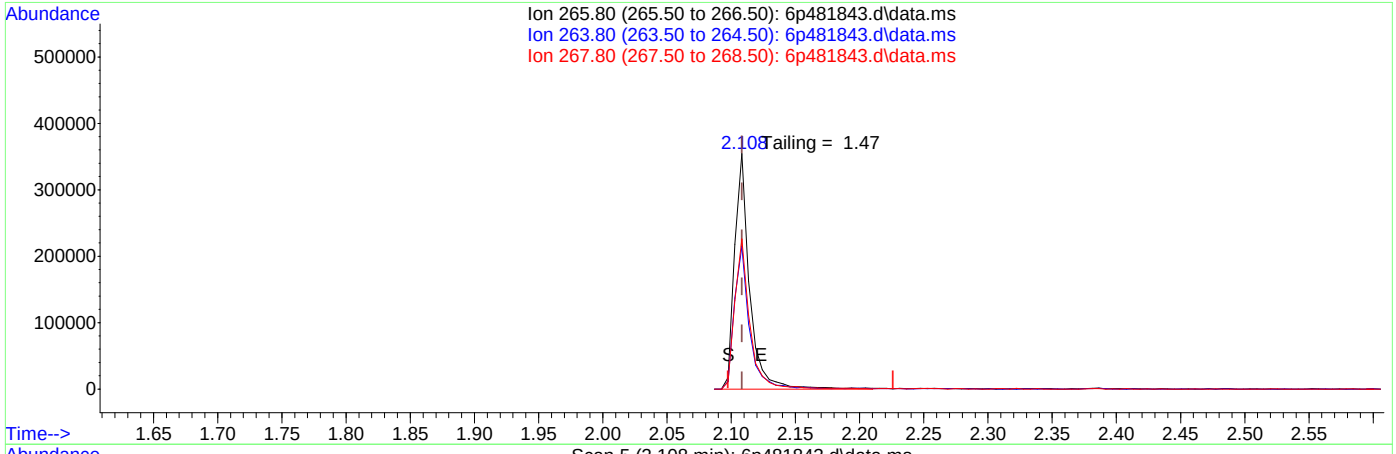
Average of 2.376 to 2.386 min.: 6p481843.d\data.ms
dftpp
Modified:subtracted

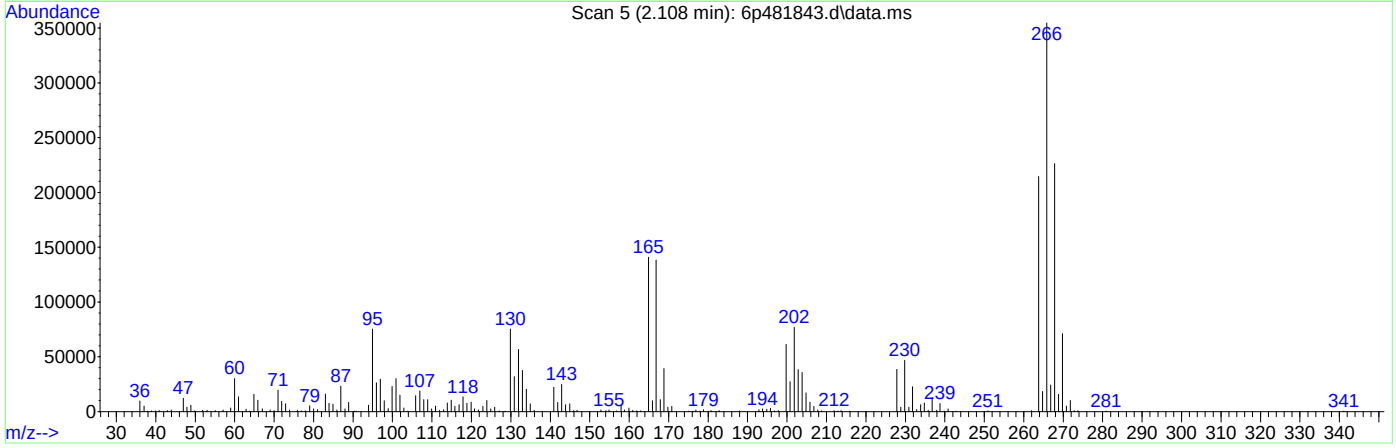
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 390.80 | 120 | 421.00 | 1048 | 442.00 | 237309 | | |
| 391.00 | 298 | 422.05 | 1858 | 443.00 | 44436 | | |
| 391.80 | 110 | 423.00 | 15686 | 444.05 | 3849 | | |
| 392.10 | 113 | 424.00 | 3268 | 444.70 | 143 | | |
| 399.80 | 108 | 425.00 | 114 | | | | |
| 400.75 | 272 | 434.00 | 117 | | | | |
| 401.85 | 1673 | 437.70 | 131 | | | | |
| 402.50 | 131 | 438.20 | 273 | | | | |
| 403.00 | 2458 | 438.70 | 131 | | | | |
| 403.90 | 783 | 439.80 | 240 | | | | |
| 420.80 | 2081 | 441.00 | 36767 | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481843.d
Acq On : 14 May 2019 3:47 pm
Operator : angelar
Sample : dftpp Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Results File: DFTPP6P.RES
Quant Time: May 15 05:28:29 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Wed May 15 05:26:47 2019
Response via : Initial Calibration




TIC: 6p481843.d\data.ms

(1) Pentachlorophenol (t)

2.108min (0.000) 0.00ppb

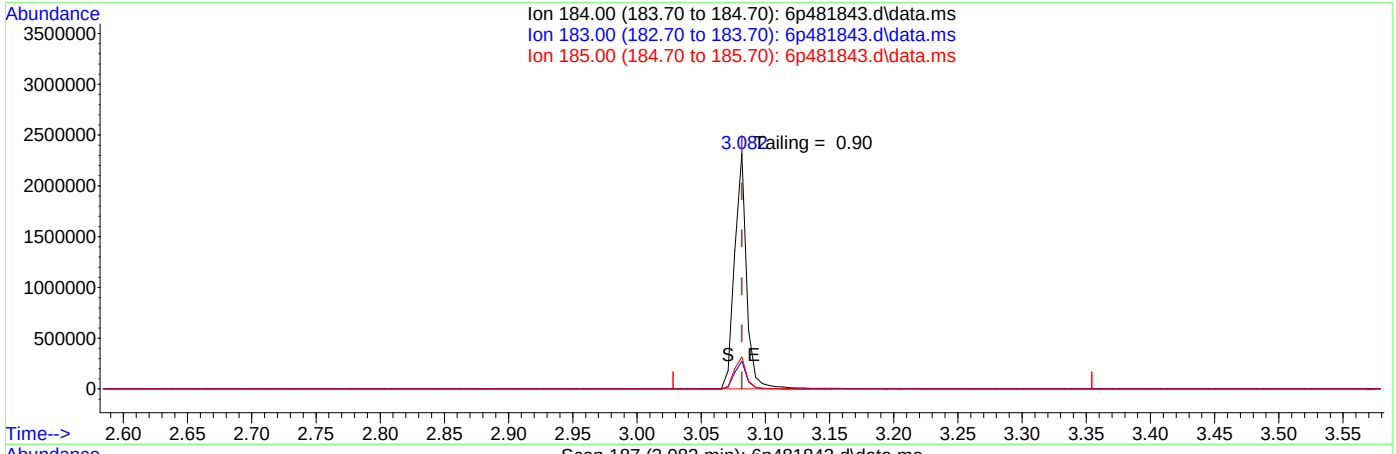
response 282344

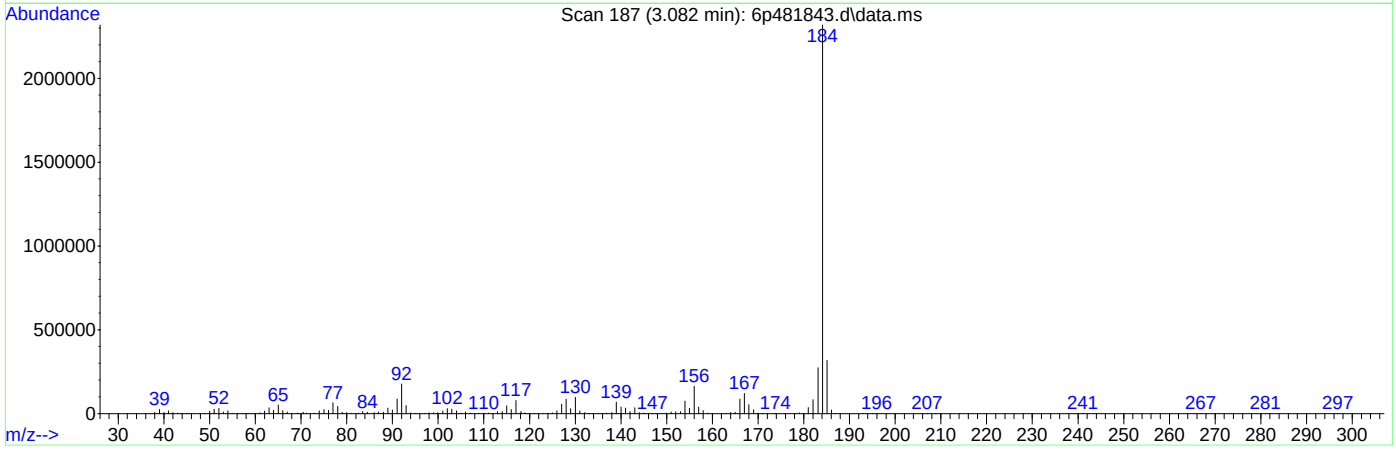
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 60.40 | 60.22 |
| 267.80 | 63.80 | 63.70 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481843.d
Acq On : 14 May 2019 3:47 pm
Operator : angelar
Sample : dftpp Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Results File: DFTPP6P.RES
Quant Time: May 15 05:28:29 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Wed May 15 05:26:47 2019
Response via : Initial Calibration




TIC: 6p481843.d\data.ms

(2) Benzidine (t)

3.082min (0.000) 0.00ppb

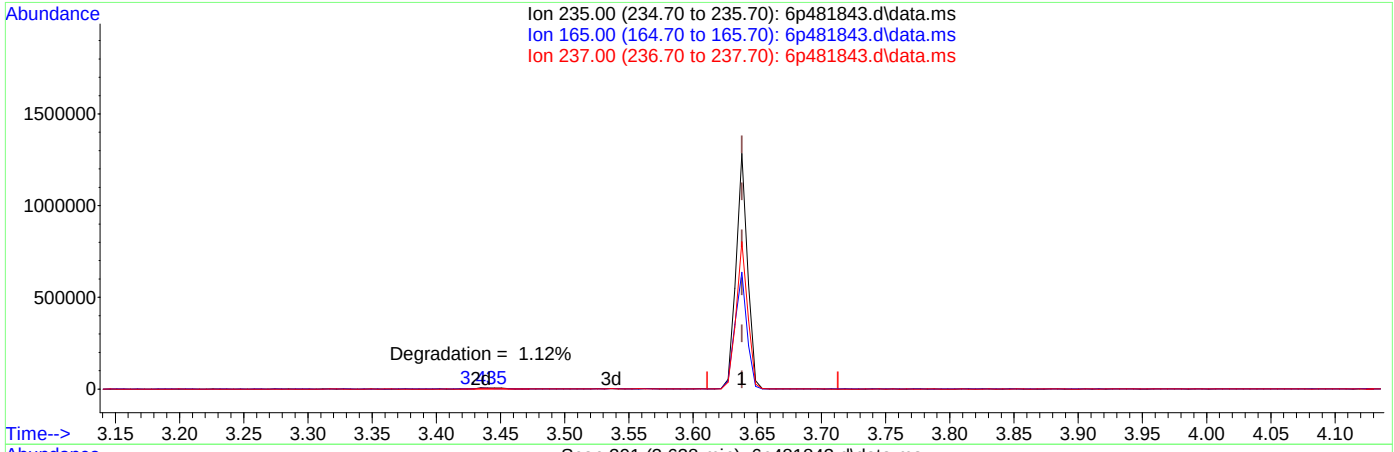
response 1557005

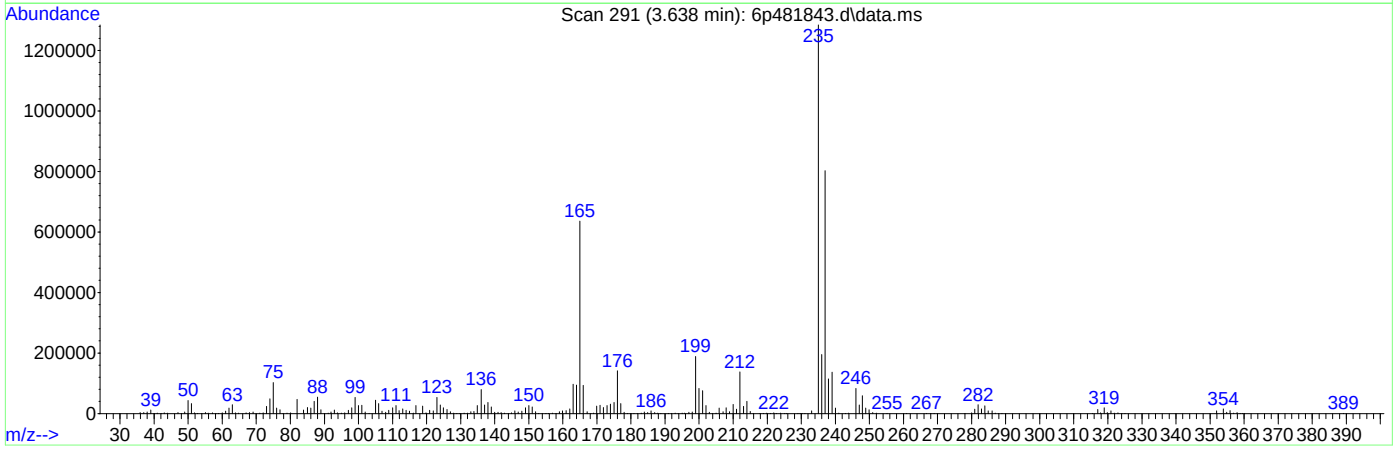
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.80 | 11.78 |
| 185.00 | 13.70 | 13.67 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481843.d
Acq On : 14 May 2019 3:47 pm
Operator : angelar
Sample : dftpp Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Results File: DFTPP6P.RES
Quant Time: May 15 05:28:29 2019
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Wed May 15 05:26:47 2019
Response via : Initial Calibration




TIC: 6p481843.d\data.ms

(3) PP-DDT (t)

3.638min (0.000) 0.00ppb

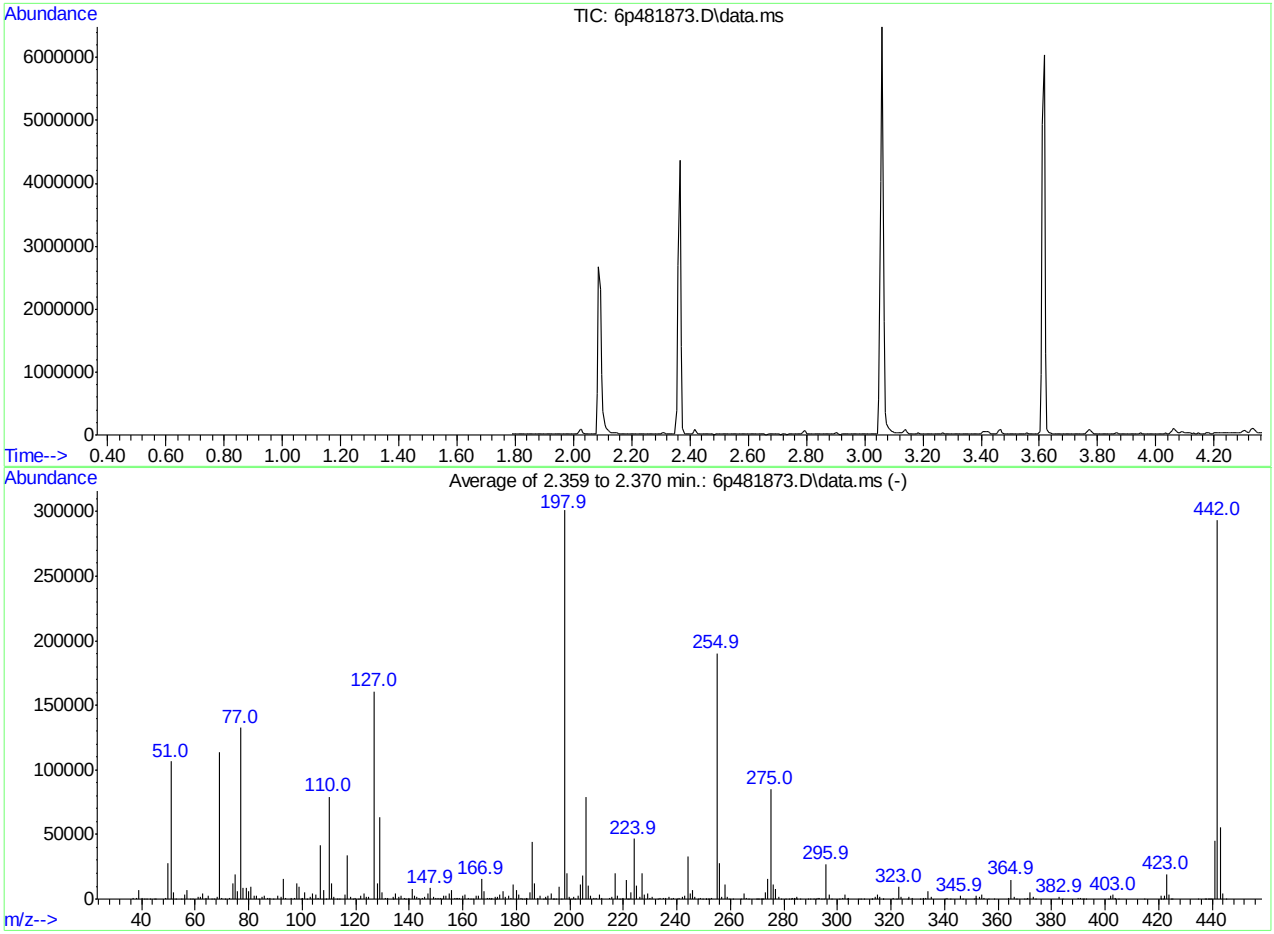
response 806172

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 49.50 | 51.21 |
| 237.00 | 62.50 | 63.19 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2591\6p481873.D  Vial: 1
Acq On : 15 May 2019 9:04 am  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2591,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 108, 109, 110; Background Corrected with Scan 103

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 35.4 | 106480 | PASS |
| 68 | 69 | 0.00 | 2 | 1.8 | 2019 | PASS |
| 69 | 198 | 0.00 | 100 | 37.8 | 113631 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 530 | PASS |
| 127 | 198 | 40 | 60 | 53.5 | 160946 | PASS |
| 197 | 198 | 0.00 | 1 | 0.1 | 445 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 300802 | PASS |
| 199 | 198 | 5 | 9 | 6.5 | 19677 | PASS |
| 275 | 198 | 10 | 30 | 28.3 | 85264 | PASS |
| 365 | 198 | 1 | 100 | 4.9 | 14859 | PASS |
| 441 | 443 | 0.10 | 100 | 81.7 | 45128 | PASS |
| 442 | 198 | 40 | 100 | 97.6 | 293648 | PASS |
| 443 | 442 | 17 | 23 | 18.8 | 55253 | PASS |

6p481873.D DFTPP6P.M Wed May 15 15:11:13 2019 ACLIMS

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.05 | 623 | 50.95 | 106480 | 63.95 | 542 | 76.00 | 6287 |
| 37.95 | 1085 | 52.00 | 5456 | 65.00 | 2508 | 77.00 | 132384 |
| 38.95 | 7279 | 52.95 | 333 | 66.00 | 109 | 78.00 | 8654 |
| 40.00 | 635 | 55.00 | 314 | 66.85 | 121 | 79.00 | 8553 |
| 40.95 | 293 | 55.95 | 3280 | 68.05 | 2019 | 80.00 | 5992 |
| 41.80 | 100 | 57.00 | 6900 | 68.95 | 113631 | 81.00 | 9811 |
| 43.00 | 374 | 58.00 | 361 | 69.95 | 530 | 81.95 | 2512 |
| 44.90 | 143 | 59.00 | 269 | 71.00 | 242 | 82.95 | 2265 |
| 45.10 | 168 | 60.95 | 1779 | 72.95 | 1160 | 83.90 | 252 |
| 48.95 | 944 | 61.95 | 1668 | 74.00 | 12416 | 85.00 | 1702 |
| 50.00 | 27772 | 63.00 | 4239 | 75.00 | 19128 | 85.95 | 2499 |

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 86.95 | 1247 | 99.70 | 145 | 109.95 | 79186 | 121.95 | 2615 |
| 87.90 | 563 | 100.00 | 883 | 110.95 | 12170 | 122.95 | 4686 |
| 89.00 | 156 | 100.95 | 5003 | 111.90 | 1784 | 123.90 | 1934 |
| 90.95 | 2256 | 101.90 | 133 | 112.90 | 299 | 124.95 | 2055 |
| 91.95 | 2002 | 102.90 | 2056 | 114.00 | 134 | 127.00 | 160946 |
| 92.95 | 15299 | 104.00 | 3962 | 116.00 | 3095 | 128.00 | 12563 |
| 93.95 | 1315 | 105.00 | 3284 | 117.00 | 33525 | 128.95 | 62970 |
| 95.95 | 830 | 106.00 | 1310 | 117.95 | 2008 | 129.95 | 5175 |
| 97.10 | 469 | 107.00 | 41370 | 118.90 | 338 | 130.90 | 870 |
| 98.00 | 12285 | 108.00 | 6767 | 119.85 | 539 | 131.95 | 568 |
| 98.95 | 9210 | 108.95 | 336 | 121.10 | 111 | 133.90 | 1634 |

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 134.10 | 138 | 144.85 | 624 | 154.95 | 4436 | 164.90 | 2682 |
| 134.95 | 4659 | 145.95 | 1660 | 156.00 | 7263 | 165.95 | 2836 |
| 135.95 | 2092 | 146.95 | 4017 | 156.90 | 970 | 166.95 | 15590 |
| 137.05 | 2564 | 147.95 | 8291 | 157.80 | 635 | 168.00 | 5790 |
| 138.05 | 490 | 149.00 | 1841 | 158.00 | 626 | 169.00 | 976 |
| 138.80 | 411 | 150.05 | 477 | 158.90 | 979 | 169.85 | 569 |
| 139.80 | 559 | 150.95 | 1147 | 159.85 | 2768 | 170.60 | 243 |
| 140.95 | 7685 | 151.50 | 662 | 160.95 | 3412 | 170.95 | 702 |
| 141.90 | 2537 | 152.10 | 231 | 161.95 | 1123 | 171.95 | 1621 |
| 142.95 | 1934 | 152.95 | 2410 | 162.85 | 346 | 172.70 | 144 |
| 143.80 | 484 | 153.90 | 2249 | 163.95 | 437 | 172.95 | 1762 |

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 174.00 | 3382 | 183.80 | 648 | 193.00 | 4700 | 201.45 | 1344 |
| 175.00 | 6061 | 184.00 | 121 | 193.75 | 433 | 202.00 | 419 |
| 176.00 | 1739 | 185.00 | 5669 | 194.00 | 339 | 203.00 | 2320 |
| 177.00 | 3011 | 186.00 | 44632 | 194.85 | 373 | 204.00 | 11073 |
| 177.95 | 963 | 186.95 | 12236 | 195.95 | 9380 | 205.00 | 18050 |
| 179.00 | 10963 | 188.00 | 1262 | 196.70 | 445 | 206.00 | 78656 |
| 179.95 | 7355 | 188.90 | 2688 | 197.90 | 300802 | 207.00 | 10825 |
| 180.90 | 3782 | 189.95 | 331 | 198.90 | 19677 | 207.90 | 3066 |
| 181.90 | 891 | 190.80 | 236 | 199.60 | 168 | 208.90 | 629 |
| 182.10 | 117 | 191.05 | 1350 | 199.95 | 1587 | 210.00 | 932 |
| 182.90 | 405 | 192.00 | 3059 | 200.80 | 245 | 210.95 | 3381 |

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 211.75 | 700 | 222.90 | 4873 | 234.85 | 1143 | 245.95 | 7309 |
| 214.95 | 802 | 223.95 | 46768 | 235.85 | 1112 | 246.90 | 1439 |
| 215.90 | 1985 | 225.00 | 10807 | 236.95 | 1732 | 247.95 | 365 |
| 216.90 | 19580 | 226.05 | 1525 | 237.90 | 213 | 248.85 | 1201 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 217.90 | 2671 | 226.95 | 19866 | 238.90 | 731 | 249.80 | 153 |
| 218.80 | 219 | 227.90 | 3334 | 239.95 | 444 | 250.70 | 172 |
| 219.30 | 118 | 228.90 | 4766 | 240.95 | 1188 | 250.90 | 111 |
| 220.00 | 495 | 229.95 | 585 | 242.00 | 2082 | 251.90 | 420 |
| 221.00 | 14842 | 230.95 | 1757 | 243.05 | 2882 | 252.20 | 229 |
| 221.60 | 320 | 233.00 | 309 | 244.00 | 33034 | 252.95 | 876 |
| 222.00 | 358 | 233.90 | 1216 | 245.00 | 4652 | 254.95 | 190314 |

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 255.95 | 27721 | 270.00 | 211 | 278.90 | 153 | 290.00 | 202 |
| 256.95 | 1999 | 270.75 | 373 | 280.80 | 162 | 291.00 | 157 |
| 257.90 | 11497 | 271.60 | 173 | 282.00 | 154 | 292.05 | 377 |
| 258.85 | 1761 | 271.80 | 321 | 282.80 | 403 | 292.75 | 625 |
| 259.80 | 163 | 272.05 | 385 | 283.00 | 554 | 293.00 | 941 |
| 260.90 | 196 | 272.95 | 5394 | 283.85 | 661 | 293.90 | 193 |
| 263.70 | 154 | 274.00 | 15258 | 284.10 | 112 | 295.00 | 137 |
| 264.95 | 4587 | 275.00 | 85264 | 284.70 | 194 | 295.90 | 27328 |
| 265.80 | 1018 | 276.00 | 11611 | 284.95 | 1548 | 296.95 | 3719 |
| 267.00 | 128 | 277.00 | 7713 | 286.00 | 295 | 297.90 | 242 |
| 269.80 | 104 | 277.90 | 1412 | 289.00 | 186 | 300.90 | 237 |

Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 301.90 | 467 | 315.95 | 1989 | 331.95 | 797 | 351.95 | 2662 |
| 302.95 | 3191 | 316.90 | 142 | 332.90 | 1000 | 353.00 | 1949 |
| 303.70 | 182 | 317.10 | 150 | 334.00 | 6202 | 353.95 | 3112 |
| 303.95 | 757 | 321.00 | 1040 | 335.00 | 1694 | 354.95 | 796 |
| 307.95 | 377 | 321.95 | 442 | 340.10 | 232 | 356.40 | 120 |
| 308.70 | 240 | 323.00 | 9357 | 340.95 | 1181 | 358.60 | 122 |
| 310.00 | 335 | 323.95 | 1526 | 342.00 | 228 | 363.80 | 485 |
| 312.80 | 250 | 326.10 | 160 | 345.95 | 2238 | 364.95 | 14859 |
| 313.00 | 120 | 326.90 | 2069 | 346.85 | 322 | 365.90 | 2068 |
| 313.95 | 1703 | 327.90 | 975 | 350.90 | 340 | 367.00 | 188 |
| 314.90 | 3249 | 331.00 | 108 | 351.80 | 689 | 370.00 | 181 |

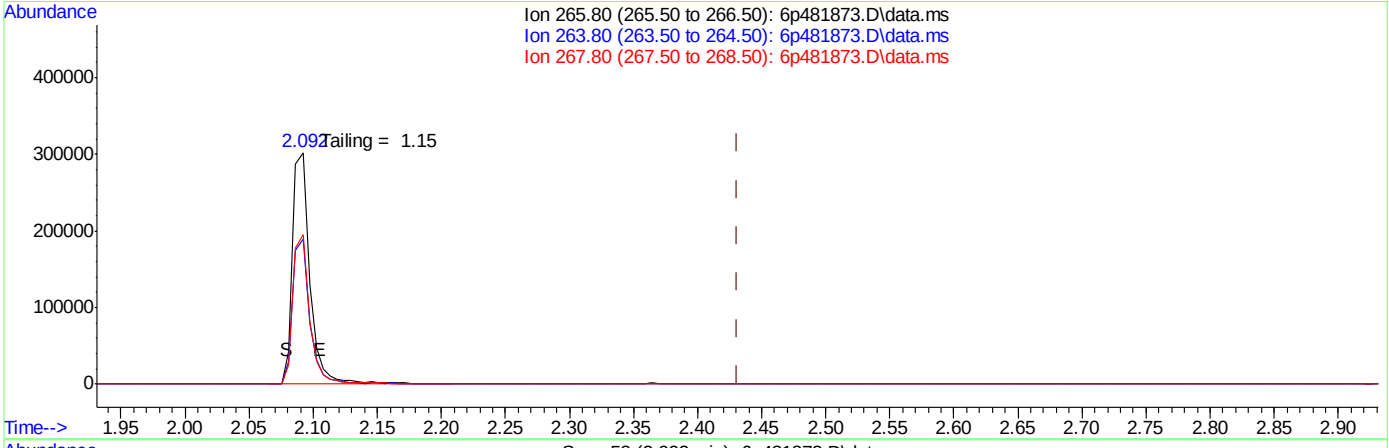
Average of 2.359 to 2.370 min.: 6p481873.D\data.ms
dftpp
Modified:subtracted

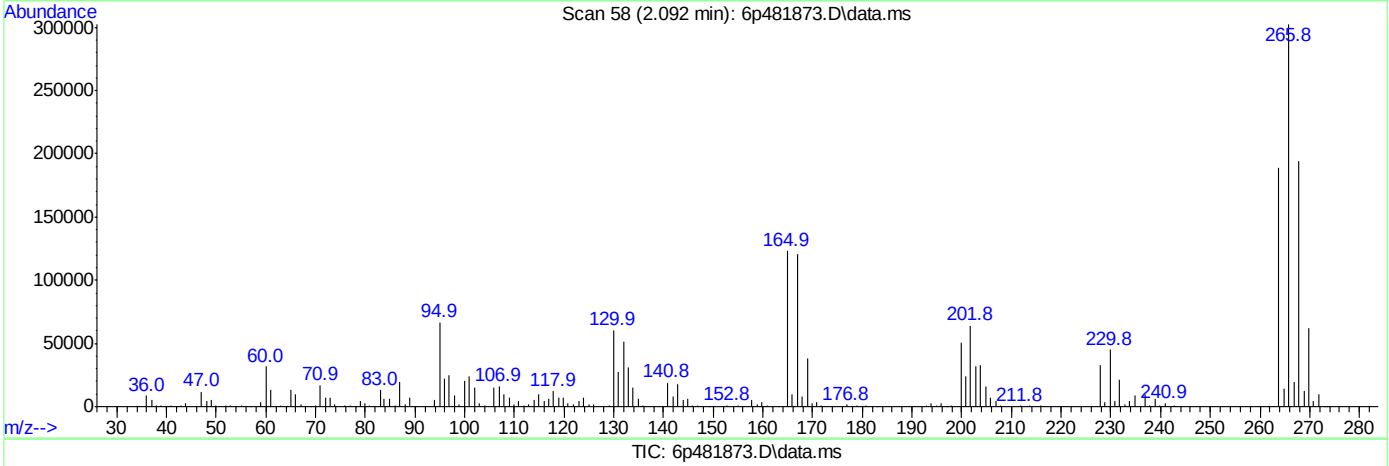
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 370.70 | 126 | 392.90 | 104 | 422.05 | 2453 | 439.70 | 110 |
| 370.95 | 534 | 401.05 | 445 | 423.00 | 19431 | 441.00 | 45128 |
| 371.95 | 5477 | 401.95 | 2343 | 424.00 | 3367 | 442.00 | 293648 |
| 373.00 | 1398 | 403.00 | 3148 | 424.80 | 122 | 443.00 | 55253 |
| 374.10 | 146 | 403.70 | 134 | 425.00 | 121 | 444.00 | 4665 |
| 382.95 | 1643 | 403.95 | 945 | 434.80 | 131 | 445.05 | 356 |
| 384.00 | 433 | 404.90 | 147 | 437.20 | 105 | | |
| 390.00 | 857 | 414.80 | 151 | 437.90 | 128 | | |
| 390.90 | 600 | 420.80 | 431 | 438.40 | 106 | | |
| 391.60 | 110 | 420.95 | 2355 | 439.00 | 121 | | |
| 392.00 | 171 | 421.80 | 377 | 439.50 | 301 | | |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481873.D
Acq On : 15 May 2019 9:04 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 09:09:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481873.D\data.ms

(1) Pentachlorophenol (t)

2.092min (-0.339) 0.00ng m

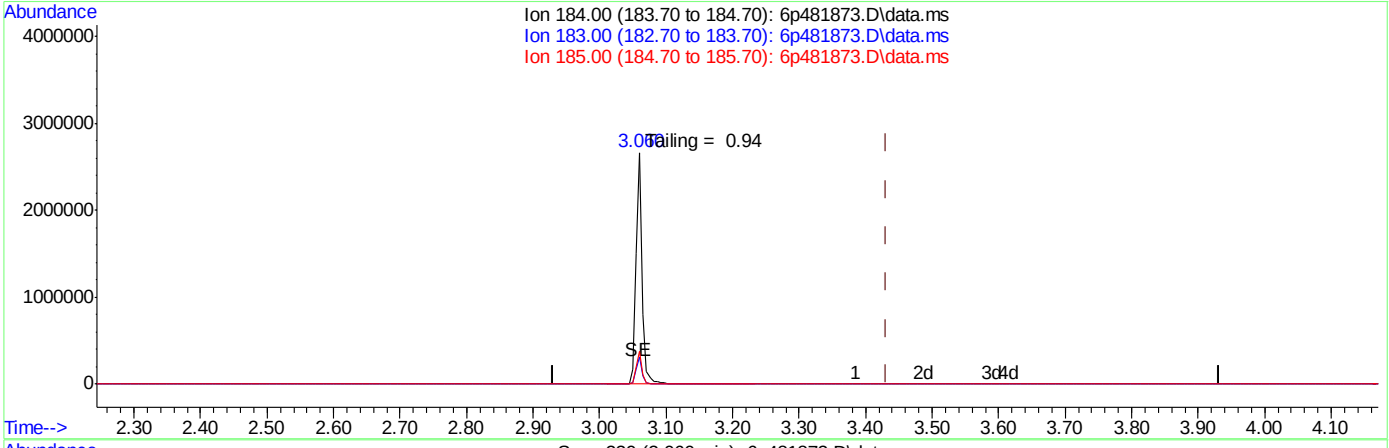
response 288801

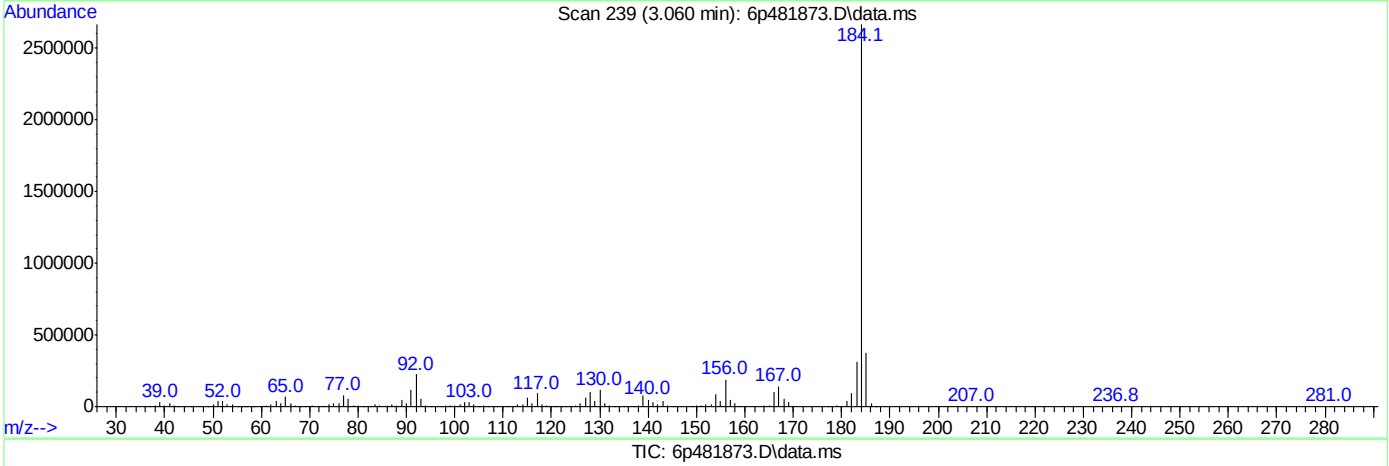
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 63.30 | 62.36 |
| 267.80 | 63.40 | 64.37 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481873.D
Acq On : 15 May 2019 9:04 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 09:09:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481873.D\data.ms

(2) Benzidine (t)

3.060min (-0.371) 0.00ng m

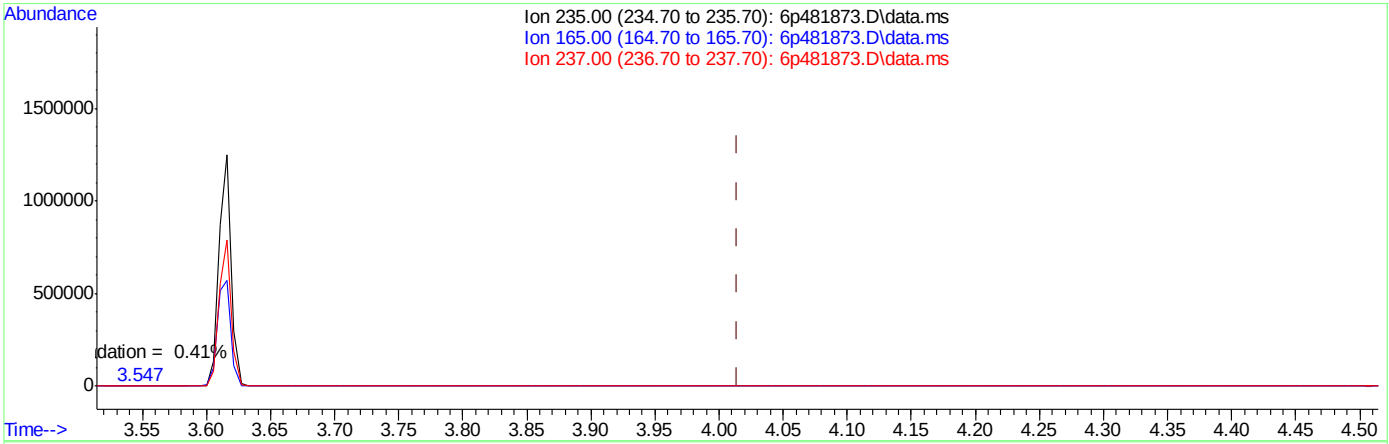
response 1803430

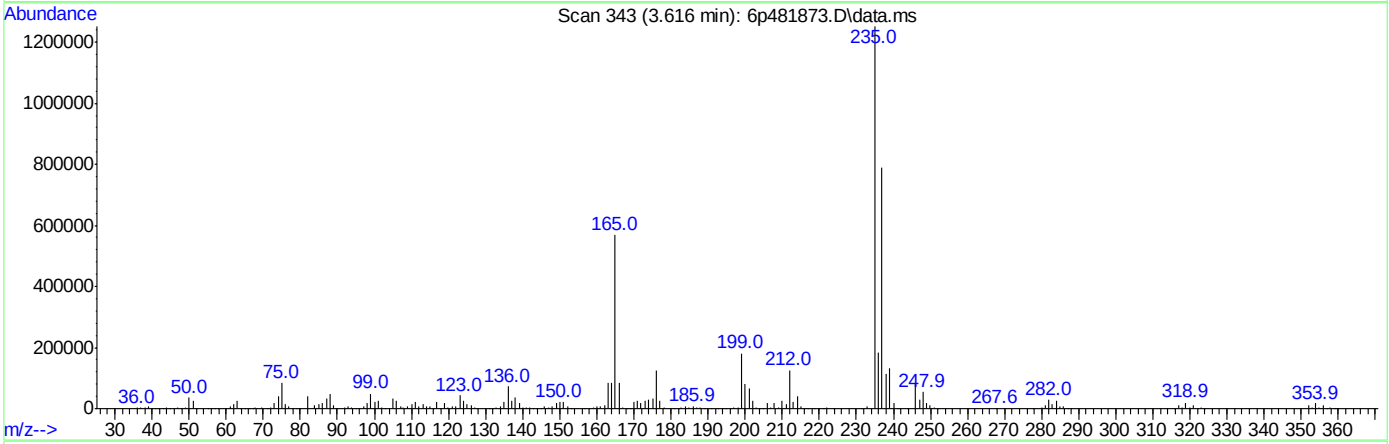
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.89 |
| 185.00 | 14.60 | 14.20 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481873.D
Acq On : 15 May 2019 9:04 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 15 09:09:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481873.D\data.ms

(3) PP-DDT (t)

3.616min (-0.398) 0.00ng m

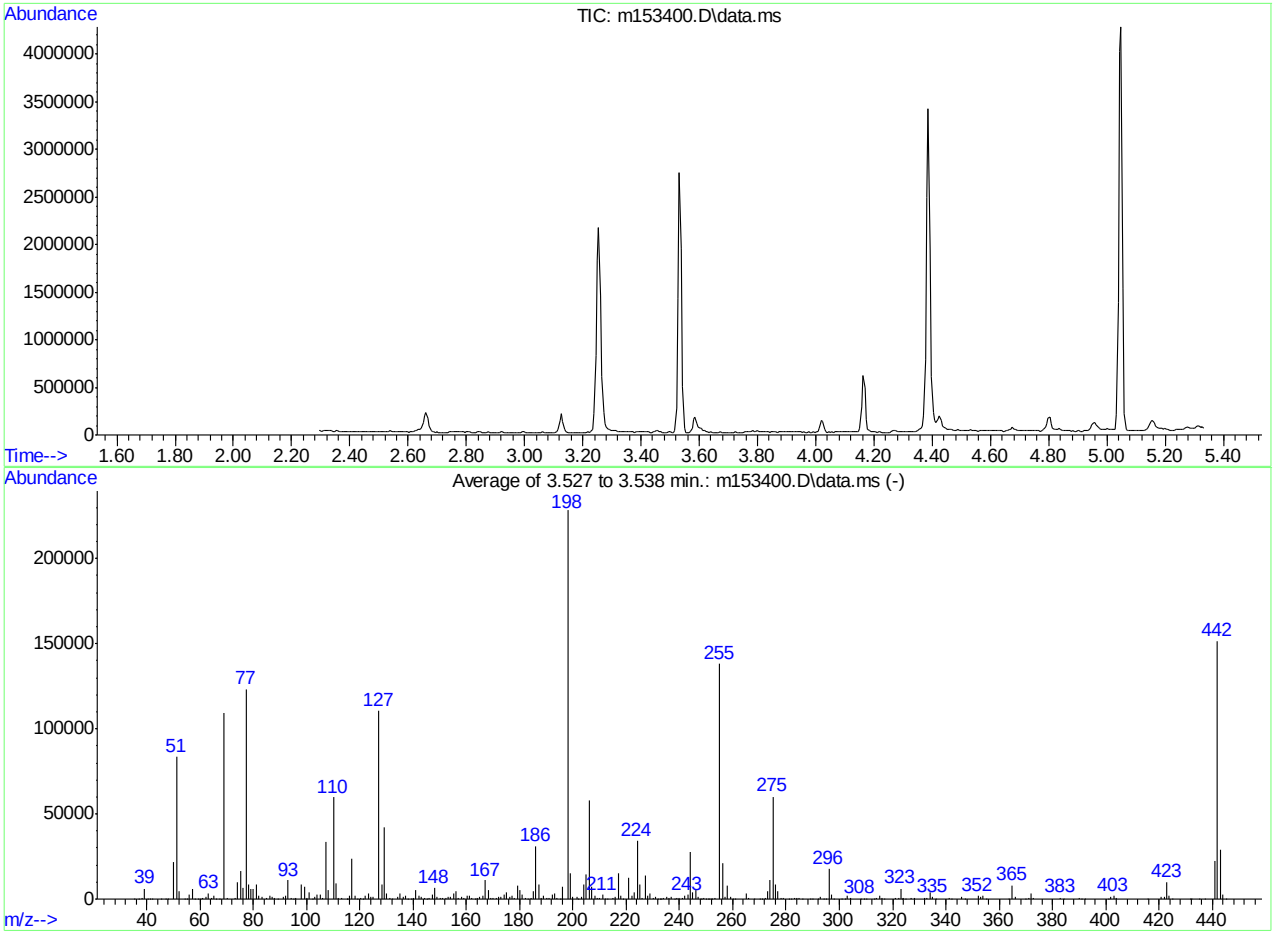
response 830631

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 48.50 | 0.00# |
| 237.00 | 63.10 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data File : C:\msdchem\1\DATA\EM6556\m153400.D  Vial: 1
Acq On : 12 Apr 2019 4:58 pm  Operator: christc2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6556,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018




AutoFind: Scans 232, 233, 234; Background Corrected with Scan 227

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.5 | 83353 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 47.9 | 109417 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 587 | PASS |
| 127 | 198 | 40 | 60 | 48.3 | 110333 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 228245 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 15342 | PASS |
| 275 | 198 | 10 | 30 | 26.3 | 60088 | PASS |
| 365 | 198 | 1 | 100 | 3.5 | 7944 | PASS |
| 441 | 443 | 0.10 | 100 | 76.7 | 22441 | PASS |
| 442 | 198 | 40 | 100 | 66.4 | 151640 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 29258 | PASS |

m153400.D DFTPPM.M Mon Apr 15 10:09:48 2019

Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.05 | 145 | 51.10 | 83353 | 63.10 | 3596 | 77.15 | 123209 |
| 37.10 | 209 | 52.15 | 4307 | 64.10 | 625 | 78.15 | 8467 |
| 38.05 | 897 | 54.05 | 87 | 65.15 | 2129 | 79.05 | 6159 |
| 39.15 | 6253 | 55.15 | 232 | 66.15 | 73 | 80.05 | 5853 |
| 40.10 | 195 | 56.05 | 2688 | 67.25 | 67 | 81.05 | 8537 |
| 41.10 | 120 | 57.10 | 5718 | 69.05 | 109417 | 82.05 | 2132 |
| 42.10 | 208 | 58.05 | 177 | 70.10 | 587 | 83.05 | 1534 |
| 45.15 | 195 | 59.10 | 164 | 73.15 | 628 | 85.10 | 720 |
| 47.05 | 84 | 60.25 | 76 | 74.15 | 10167 | 86.00 | 2187 |
| 48.05 | 35 | 61.10 | 999 | 75.05 | 16325 | 87.10 | 1201 |
| 50.10 | 21429 | 62.10 | 1285 | 76.15 | 6286 | 88.00 | 403 |

Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 88.90 | 187 | 102.05 | 27 | 115.15 | 89 | 125.05 | 1325 |
| 91.05 | 1664 | 103.05 | 1155 | 115.35 | 80 | 127.05 | 110333 |
| 92.05 | 2036 | 104.05 | 2618 | 116.10 | 1891 | 128.05 | 8651 |
| 93.05 | 11119 | 105.05 | 2668 | 117.05 | 24037 | 129.05 | 42210 |
| 94.10 | 847 | 106.05 | 577 | 118.05 | 1706 | 130.05 | 3478 |
| 95.05 | 66 | 107.05 | 33346 | 119.05 | 243 | 131.05 | 599 |
| 96.05 | 472 | 108.05 | 5277 | 120.05 | 485 | 132.10 | 350 |
| 98.05 | 8449 | 110.05 | 59730 | 121.05 | 83 | 134.00 | 1116 |
| 99.05 | 7050 | 111.05 | 9373 | 122.05 | 1973 | 135.05 | 3321 |
| 100.05 | 488 | 112.00 | 1011 | 123.05 | 3147 | 136.10 | 1328 |
| 101.00 | 4263 | 113.10 | 394 | 124.05 | 1393 | 137.10 | 1798 |

Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 138.10 | 290 | 149.05 | 1241 | 160.05 | 1874 | 171.00 | 474 |
| 139.00 | 164 | 150.10 | 368 | 161.00 | 2310 | 172.00 | 1168 |
| 140.05 | 637 | 151.10 | 927 | 162.10 | 764 | 173.05 | 1392 |
| 141.05 | 5052 | 152.05 | 420 | 163.05 | 306 | 174.05 | 2424 |
| 142.05 | 1814 | 153.05 | 1518 | 164.00 | 402 | 175.05 | 4285 |
| 143.05 | 1255 | 154.05 | 1495 | 165.00 | 1548 | 176.05 | 1345 |
| 144.05 | 426 | 155.05 | 3367 | 166.05 | 1862 | 177.05 | 2049 |
| 145.10 | 258 | 156.05 | 4406 | 167.00 | 10980 | 178.05 | 797 |
| 146.00 | 993 | 157.00 | 731 | 168.05 | 5142 | 179.00 | 8027 |
| 147.05 | 2537 | 158.05 | 1066 | 169.05 | 828 | 180.05 | 5622 |
| 148.05 | 6361 | 159.05 | 821 | 170.10 | 369 | 181.05 | 2868 |

Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 182.00 | 648 | 193.05 | 3156 | 205.05 | 14674 | 217.00 | 15393 |
| 182.85 | 239 | 194.05 | 685 | 206.05 | 58202 | 218.05 | 2071 |
| 184.10 | 798 | 195.10 | 323 | 207.05 | 7007 | 218.95 | 243 |
| 185.05 | 4312 | 196.05 | 7412 | 208.05 | 2262 | 221.05 | 12676 |
| 186.05 | 31280 | 198.05 | 228245 | 209.05 | 834 | 222.05 | 1753 |
| 187.05 | 8815 | 199.05 | 15342 | 210.05 | 550 | 223.05 | 3874 |
| 188.05 | 825 | 200.00 | 1360 | 211.05 | 2390 | 224.05 | 34048 |
| 189.05 | 1776 | 201.50 | 1132 | 212.15 | 132 | 225.05 | 8703 |
| 190.10 | 440 | 202.05 | 125 | 213.05 | 114 | 226.05 | 787 |
| 191.00 | 857 | 203.00 | 1463 | 215.00 | 687 | 227.05 | 13699 |
| 192.05 | 2666 | 204.05 | 8600 | 216.00 | 1389 | 228.00 | 1864 |

Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 229.00 | 3009 | 239.00 | 645 | 249.00 | 980 | 259.00 | 1289 |
| 230.00 | 543 | 240.00 | 459 | 250.00 | 238 | 260.05 | 243 |
| 231.05 | 1290 | 241.00 | 798 | 250.90 | 214 | 261.05 | 247 |
| 231.95 | 88 | 242.05 | 1723 | 251.15 | 124 | 265.05 | 3210 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 232.85 | 67 | 243.05 | 2595 | 251.85 | 192 | 265.90 | 369 |
| 233.05 | 224 | 244.05 | 27525 | 252.05 | 175 | 267.95 | 218 |
| 234.05 | 941 | 245.05 | 3763 | 253.10 | 830 | 269.90 | 199 |
| 235.05 | 1105 | 246.00 | 5027 | 255.05 | 138016 | 271.00 | 331 |
| 235.95 | 727 | 247.00 | 1057 | 256.05 | 20895 | 272.10 | 371 |
| 237.00 | 1179 | 247.85 | 74 | 257.00 | 1533 | 273.00 | 4347 |
| 237.95 | 151 | 248.10 | 315 | 258.05 | 7770 | 274.05 | 11288 |

Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 275.05 | 60088 | 288.95 | 243 | 303.00 | 2082 | 322.10 | 448 |
| 276.05 | 8382 | 289.95 | 90 | 304.05 | 497 | 323.05 | 5936 |
| 277.00 | 4694 | 292.00 | 274 | 308.00 | 262 | 323.75 | 151 |
| 278.05 | 974 | 293.00 | 1257 | 309.05 | 87 | 324.10 | 877 |
| 278.95 | 369 | 294.00 | 282 | 310.05 | 107 | 324.75 | 67 |
| 281.00 | 108 | 294.95 | 260 | 313.05 | 167 | 326.95 | 998 |
| 282.05 | 150 | 296.05 | 17684 | 314.05 | 770 | 328.00 | 485 |
| 283.05 | 650 | 297.00 | 2329 | 315.00 | 2071 | 332.05 | 479 |
| 284.05 | 377 | 297.95 | 152 | 315.95 | 997 | 333.00 | 704 |
| 285.05 | 933 | 300.95 | 176 | 316.95 | 103 | 334.00 | 4003 |
| 285.95 | 106 | 302.10 | 273 | 321.00 | 603 | 335.05 | 1055 |

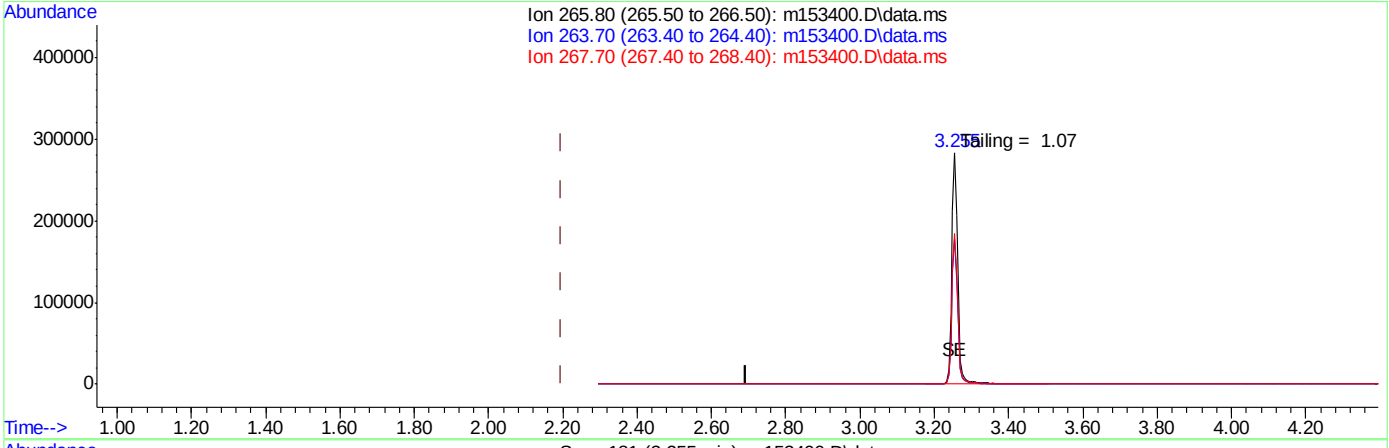
Average of 3.527 to 3.538 min.: m153400.D\data.ms
DFTPP
Modified:subtracted

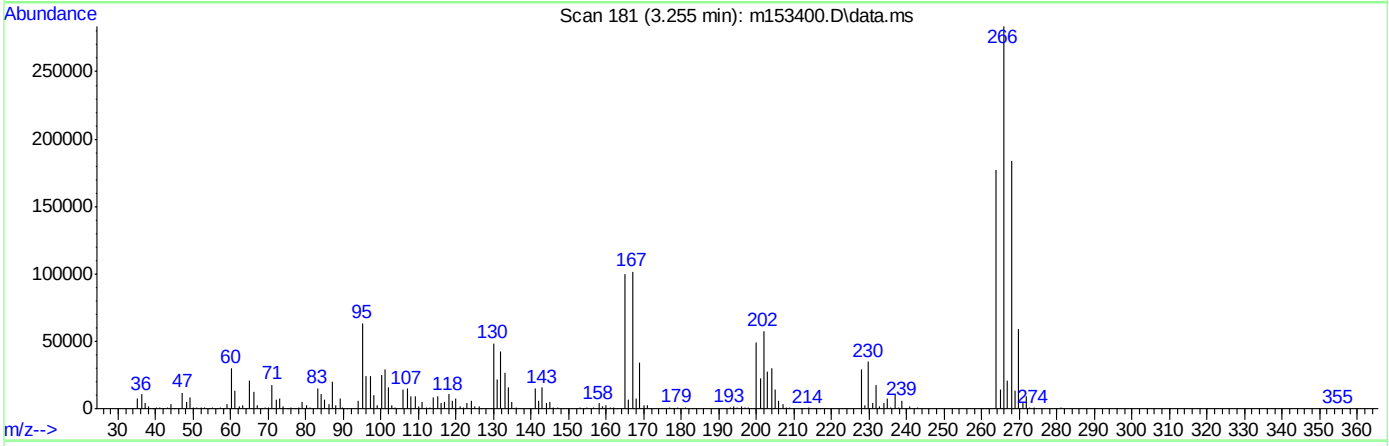
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 336.00 | 158 | 366.00 | 1213 | 402.00 | 1403 | 435.15 | 76 |
| 341.05 | 758 | 369.95 | 83 | 403.00 | 1720 | 437.35 | 68 |
| 342.05 | 113 | 370.95 | 450 | 404.05 | 694 | 441.05 | 22441 |
| 345.90 | 1329 | 372.05 | 3189 | 415.85 | 75 | 442.05 | 151640 |
| 347.00 | 309 | 373.00 | 932 | 421.00 | 1660 | 443.05 | 29258 |
| 352.05 | 1697 | 383.05 | 897 | 422.05 | 1409 | 444.05 | 2810 |
| 353.05 | 1382 | 384.05 | 131 | 423.05 | 10152 | 445.05 | 96 |
| 354.05 | 1721 | 390.05 | 411 | 423.95 | 1897 | | |
| 355.10 | 287 | 390.95 | 241 | 425.10 | 175 | | |
| 363.75 | 104 | 392.05 | 178 | 431.65 | 69 | | |
| 364.95 | 7944 | 400.95 | 239 | 432.05 | 120 | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153400.D
Acq On : 12 Apr 2019 4:58 pm
Operator : christc2
Sample : DFTPP
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 12 17:03:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153400.D\data.ms

(1) Pentachlorophenol (MC)

3.255min (+1.059) 0.00ppm m

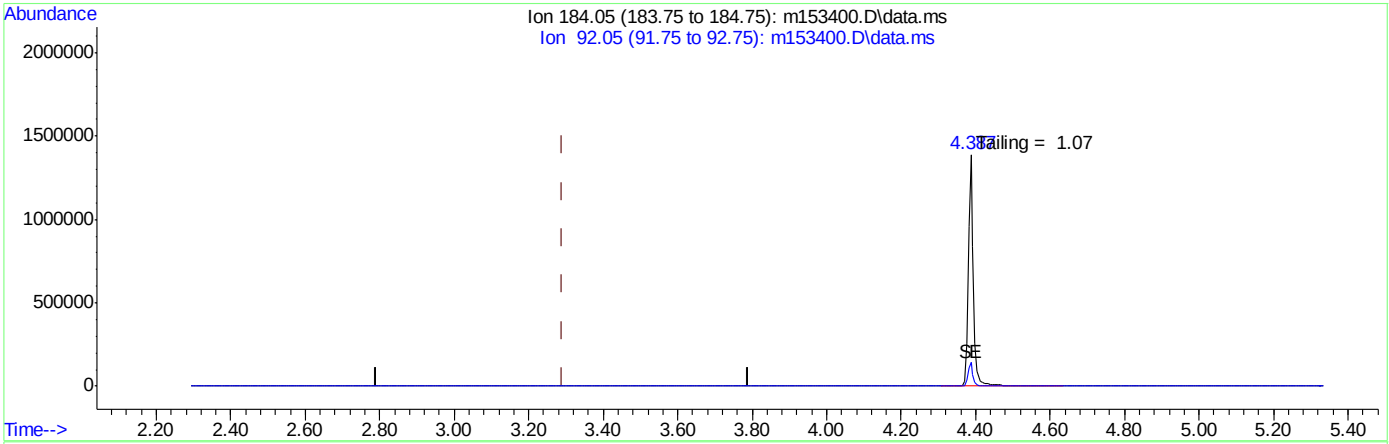
response 314549

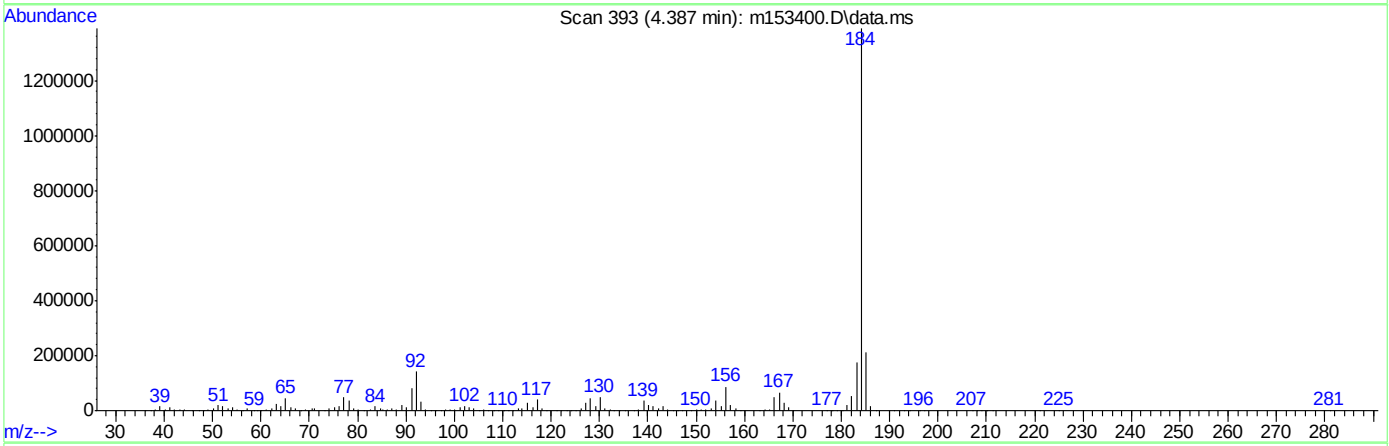
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 68.00 | 62.39 |
| 267.70 | 67.90 | 64.91 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153400.D
Acq On : 12 Apr 2019 4:58 pm
Operator : christc2
Sample : DFTPP
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 12 17:03:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153400.D\data.ms

(2) Benzidine (M)

4.387min (+1.096) 0.00ppm m

response 1290999

| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 7.00 | 10.16# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

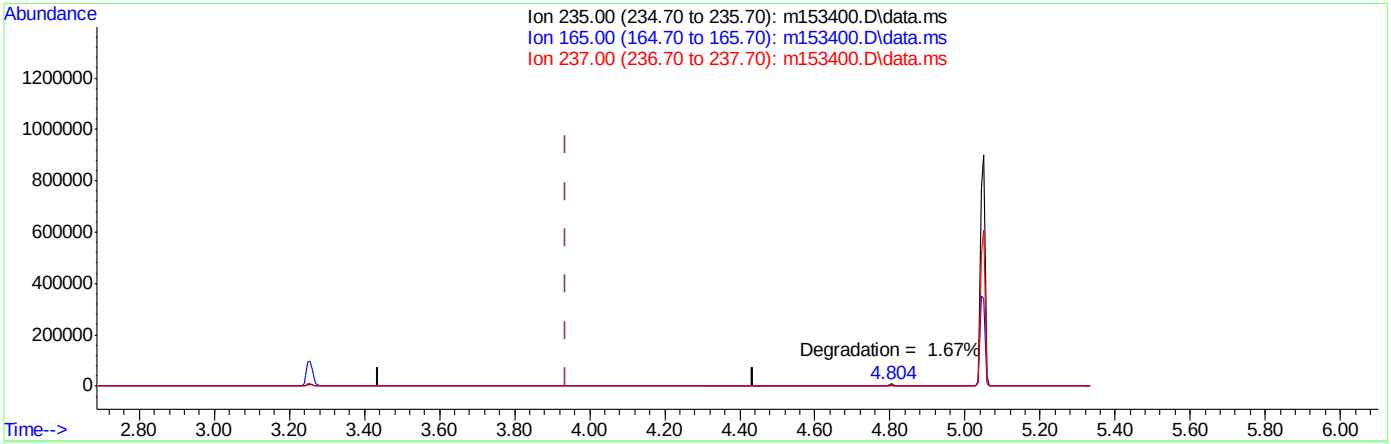
9.7.18.2

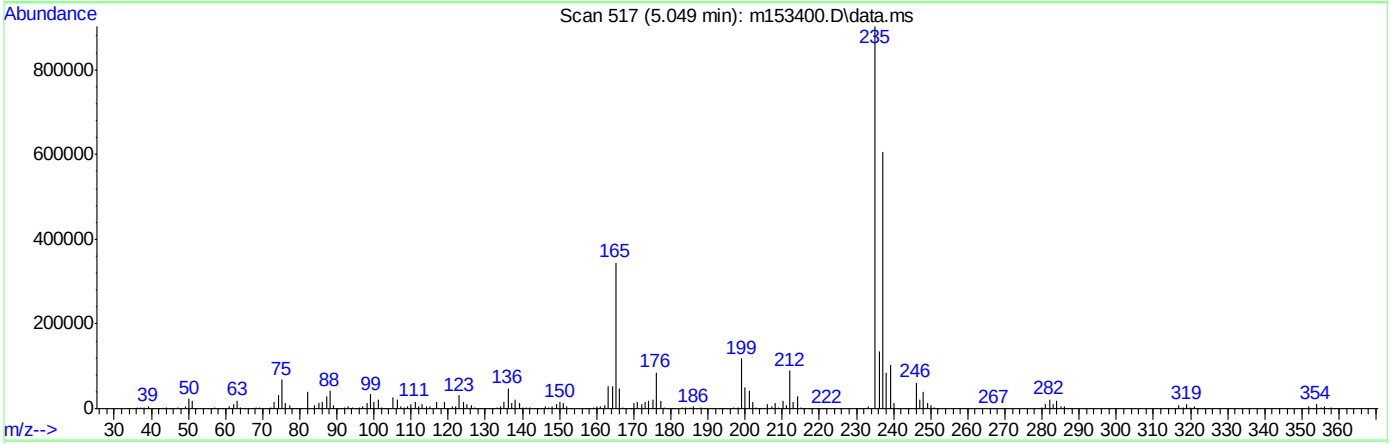
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153400.D
Acq On : 12 Apr 2019 4:58 pm
Operator : christc2
Sample : DFTPP
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 12 17:03:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153400.D\data.ms

(3) PP-DDT (MC)

5.049min (+1.112) 0.00ppm m

response 741987

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 61.30 | 38.16# |
| 237.00 | 66.90 | 67.26 |
| 0.00 | 0.00 | 0.00 |

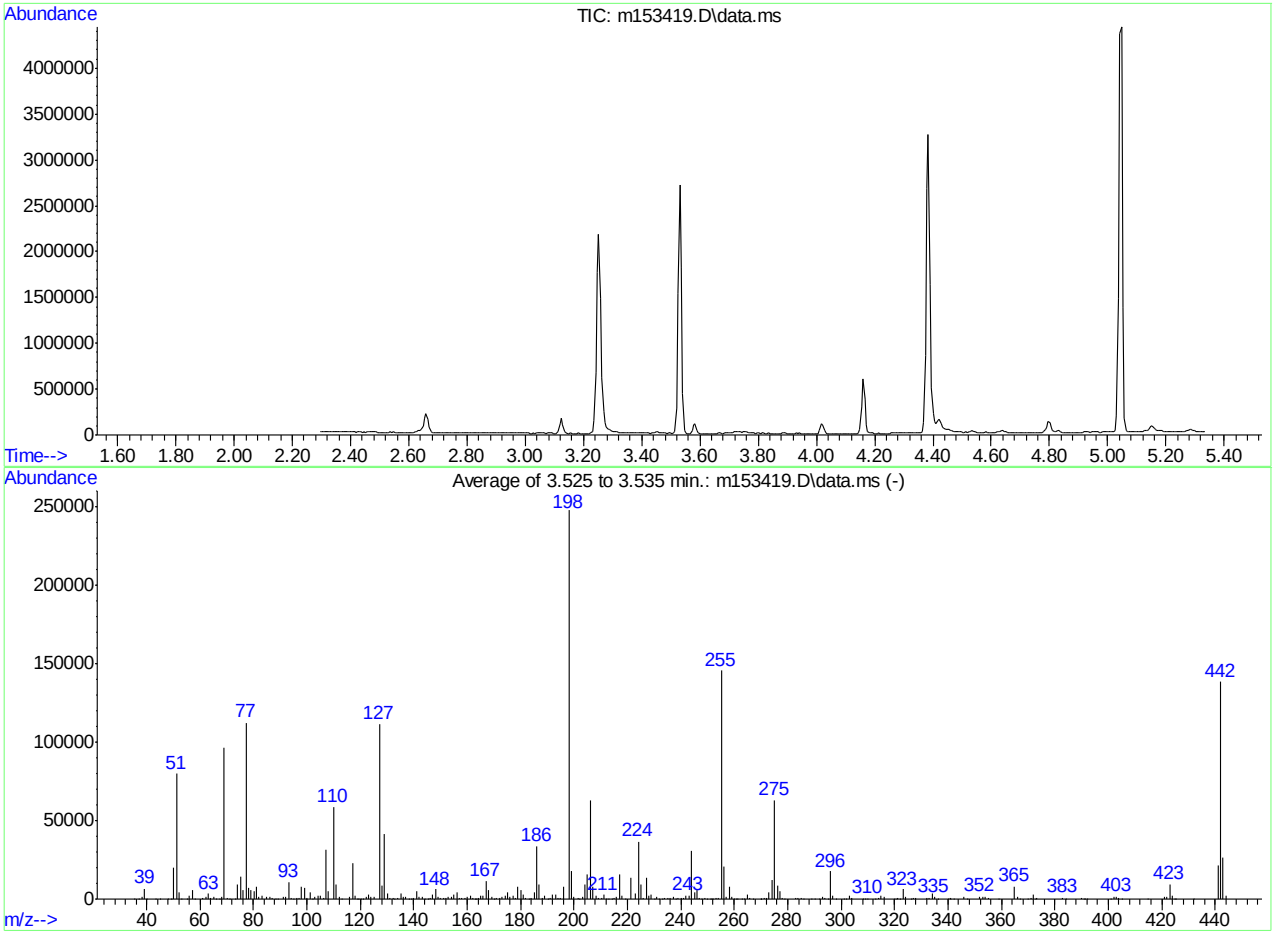
9.7.18.3

9

DFTPPR

Data File : C:\msdchem\1\DATA\EM6557\m153419.D  Vial: 1
Acq On : 13 Apr 2019 1:19 am  Operator: chriss2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6557,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018




AutoFind: Scans 231, 232, 233; Background Corrected with Scan 226

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 32.2 | 79824 | PASS |
| 68 | 69 | 0.00 | 2 | 1.4 | 1315 | PASS |
| 69 | 198 | 0.00 | 100 | 39.1 | 96837 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 513 | PASS |
| 127 | 198 | 40 | 60 | 45.1 | 111752 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 247893 | PASS |
| 199 | 198 | 5 | 9 | 7.1 | 17598 | PASS |
| 275 | 198 | 10 | 30 | 25.5 | 63149 | PASS |
| 365 | 198 | 1 | 100 | 3.3 | 8195 | PASS |
| 441 | 443 | 0.10 | 100 | 80.5 | 21483 | PASS |
| 442 | 198 | 40 | 100 | 55.9 | 138565 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 26703 | PASS |

m153419.D DFTPPM.M Mon Apr 15 12:14:59 2019

Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.15 | 193 | 52.15 | 3977 | 66.10 | 158 | 78.15 | 7432 |
| 37.10 | 285 | 53.15 | 174 | 67.25 | 81 | 79.05 | 5986 |
| 38.15 | 1157 | 55.10 | 229 | 68.10 | 1315 | 80.05 | 5150 |
| 39.15 | 6629 | 56.05 | 2387 | 69.05 | 96837 | 81.05 | 7646 |
| 40.05 | 302 | 57.05 | 5636 | 70.15 | 513 | 82.05 | 1465 |
| 43.15 | 41 | 58.05 | 272 | 71.10 | 275 | 83.05 | 1816 |
| 45.10 | 188 | 61.10 | 897 | 73.05 | 271 | 85.05 | 1363 |
| 48.05 | 123 | 62.05 | 1289 | 74.05 | 9374 | 86.05 | 1470 |
| 49.05 | 372 | 63.15 | 3298 | 75.05 | 14679 | 87.05 | 967 |
| 50.15 | 20225 | 64.05 | 433 | 76.15 | 5453 | 88.05 | 194 |
| 51.10 | 79824 | 65.15 | 1755 | 77.15 | 112440 | 88.95 | 101 |

Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 91.05 | 1589 | 102.00 | 165 | 116.05 | 1615 | 127.05 | 111752 |
| 92.10 | 1670 | 103.05 | 1321 | 117.05 | 22864 | 128.05 | 8605 |
| 93.05 | 10868 | 104.05 | 2167 | 118.05 | 1829 | 129.05 | 41613 |
| 94.05 | 858 | 105.10 | 2382 | 119.00 | 274 | 130.05 | 3279 |
| 95.05 | 15 | 106.10 | 449 | 119.25 | 84 | 131.05 | 755 |
| 96.10 | 493 | 107.05 | 31480 | 120.10 | 350 | 132.10 | 394 |
| 97.10 | 401 | 108.05 | 5240 | 121.05 | 68 | 132.85 | 67 |
| 98.05 | 7546 | 110.05 | 58845 | 122.05 | 1741 | 134.05 | 928 |
| 99.05 | 7176 | 111.05 | 9347 | 123.05 | 2726 | 135.05 | 3606 |
| 100.05 | 675 | 112.05 | 1202 | 124.05 | 1425 | 136.05 | 1312 |
| 101.05 | 4091 | 113.05 | 338 | 125.05 | 1144 | 137.05 | 1632 |

Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 138.00 | 376 | 149.05 | 1486 | 160.05 | 1663 | 170.10 | 259 |
| 139.05 | 117 | 150.05 | 389 | 161.05 | 2307 | 171.00 | 473 |
| 140.00 | 436 | 151.10 | 907 | 162.05 | 767 | 172.00 | 1035 |
| 141.05 | 4895 | 152.00 | 461 | 162.95 | 75 | 173.05 | 1224 |
| 142.05 | 1553 | 153.00 | 1813 | 163.15 | 95 | 174.05 | 2357 |
| 143.00 | 1396 | 154.10 | 1209 | 164.00 | 405 | 175.05 | 4039 |
| 144.00 | 251 | 155.05 | 3183 | 165.05 | 2112 | 176.05 | 1252 |
| 145.10 | 253 | 156.05 | 4262 | 166.05 | 1844 | 177.05 | 1888 |
| 146.05 | 799 | 157.10 | 766 | 167.05 | 11530 | 178.05 | 844 |
| 147.00 | 2586 | 158.05 | 783 | 168.05 | 5833 | 179.00 | 8239 |
| 148.05 | 6261 | 159.00 | 835 | 169.05 | 1199 | 180.05 | 5972 |

Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 181.05 | 2717 | 192.00 | 2860 | 204.05 | 9075 | 215.00 | 640 |
| 182.00 | 495 | 193.00 | 2830 | 205.05 | 15542 | 216.00 | 1593 |
| 183.00 | 307 | 194.10 | 804 | 206.05 | 62842 | 217.00 | 15595 |
| 184.05 | 682 | 195.00 | 453 | 207.05 | 7890 | 218.00 | 2287 |
| 185.05 | 4024 | 196.05 | 8130 | 208.05 | 2387 | 219.00 | 214 |
| 186.05 | 33794 | 198.05 | 247893 | 209.05 | 794 | 221.05 | 13950 |
| 187.05 | 9482 | 199.00 | 17598 | 210.20 | 686 | 223.00 | 3633 |
| 188.00 | 944 | 200.00 | 1561 | 211.05 | 2578 | 224.05 | 36498 |
| 189.00 | 1878 | 201.50 | 1082 | 212.05 | 329 | 225.05 | 9028 |
| 190.05 | 240 | 201.95 | 58 | 213.00 | 169 | 226.00 | 890 |
| 191.00 | 1095 | 203.00 | 1718 | 213.95 | 78 | 227.05 | 13846 |

Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 228.00 | 2076 | 239.00 | 537 | 249.90 | 351 | 259.95 | 92 |
| 229.00 | 2752 | 240.00 | 613 | 250.90 | 289 | 260.85 | 91 |
| 229.90 | 181 | 241.00 | 937 | 251.65 | 71 | 261.15 | 122 |
| 231.05 | 1253 | 242.00 | 2116 | 252.05 | 325 | 262.95 | 80 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 231.95 | 302 | 243.05 | 2410 | 253.00 | 785 | 263.85 | 123 |
| 233.05 | 217 | 244.05 | 30928 | 253.95 | 384 | 265.00 | 3138 |
| 234.00 | 939 | 245.05 | 4208 | 255.05 | 145861 | 265.85 | 570 |
| 235.00 | 927 | 246.00 | 5673 | 256.05 | 21114 | 267.05 | 101 |
| 236.00 | 795 | 247.00 | 815 | 257.00 | 1676 | 269.85 | 195 |
| 237.00 | 1231 | 247.85 | 69 | 258.00 | 7741 | 270.05 | 103 |
| 237.95 | 169 | 249.00 | 965 | 259.00 | 1212 | 271.00 | 391 |

Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 272.05 | 493 | 286.05 | 123 | 302.00 | 223 | 320.85 | 90 |
| 273.00 | 4649 | 288.95 | 158 | 303.00 | 2148 | 321.00 | 632 |
| 274.05 | 12184 | 289.95 | 239 | 304.05 | 481 | 321.95 | 118 |
| 275.05 | 63149 | 291.90 | 333 | 308.05 | 83 | 323.05 | 6148 |
| 276.05 | 8481 | 293.00 | 1366 | 309.05 | 113 | 324.00 | 1379 |
| 277.00 | 5064 | 294.05 | 406 | 309.95 | 123 | 326.00 | 141 |
| 278.00 | 869 | 295.05 | 381 | 312.95 | 77 | 326.90 | 909 |
| 278.95 | 177 | 296.00 | 17858 | 314.00 | 793 | 328.00 | 468 |
| 283.00 | 631 | 297.00 | 2470 | 315.00 | 1942 | 332.00 | 627 |
| 283.95 | 416 | 298.05 | 124 | 316.00 | 1184 | 333.00 | 566 |
| 285.00 | 942 | 300.95 | 193 | 320.05 | 86 | 334.00 | 3776 |

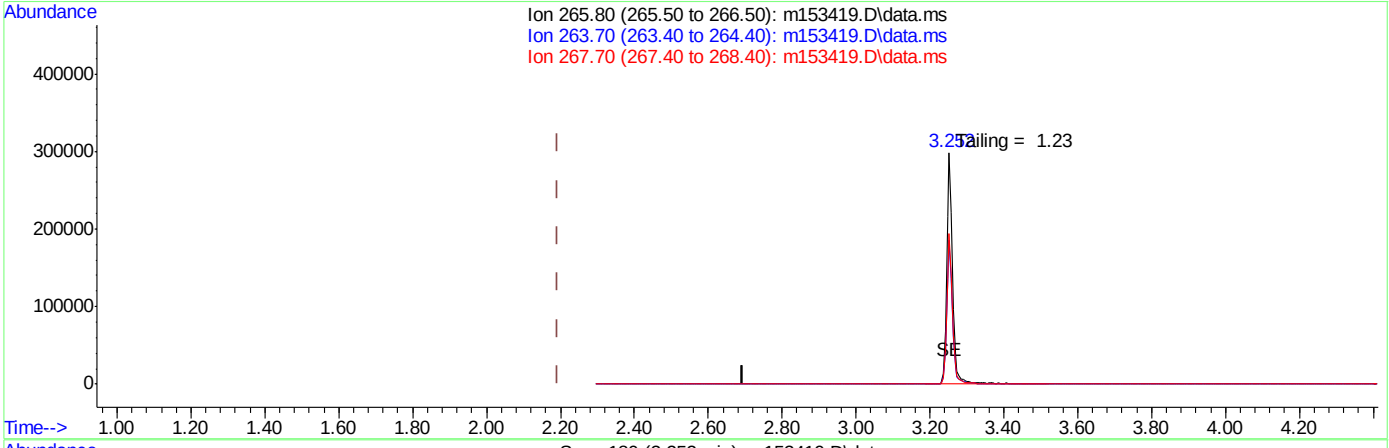
Average of 3.525 to 3.535 min.: m153419.D\data.ms
DFTPP
Modified:subtracted

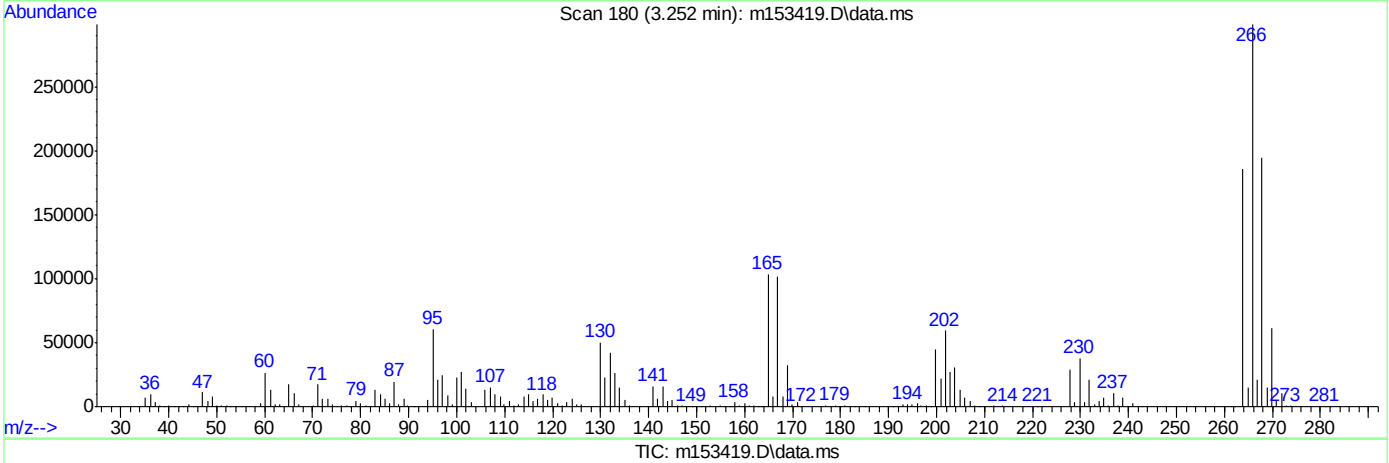
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 335.00 | 1152 | 355.00 | 394 | 384.05 | 255 | 421.00 | 1512 |
| 336.05 | 67 | 358.95 | 86 | 390.00 | 555 | 422.00 | 1371 |
| 340.05 | 68 | 364.95 | 8195 | 390.85 | 121 | 423.05 | 9346 |
| 340.85 | 180 | 365.90 | 1231 | 391.05 | 81 | 424.00 | 1930 |
| 341.05 | 510 | 366.95 | 97 | 391.90 | 207 | 424.95 | 97 |
| 342.05 | 78 | 370.00 | 202 | 400.95 | 106 | 425.15 | 87 |
| 345.95 | 1174 | 371.00 | 446 | 401.95 | 1208 | 432.05 | 77 |
| 347.00 | 238 | 372.05 | 3059 | 403.00 | 1644 | 441.00 | 21483 |
| 351.95 | 1730 | 372.85 | 123 | 403.90 | 653 | 442.05 | 138565 |
| 353.00 | 1450 | 373.05 | 605 | 404.95 | 89 | 443.05 | 26703 |
| 354.05 | 1729 | 382.95 | 754 | 414.85 | 75 | 443.95 | 2465 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153419.D
Acq On : 13 Apr 2019 1:19 am
Operator : chriss2
Sample : DFTPP
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 13 01:24:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153419.D\data.ms

(1) Pentachlorophenol (MC)

3.252min (+1.057) 0.00ppm m

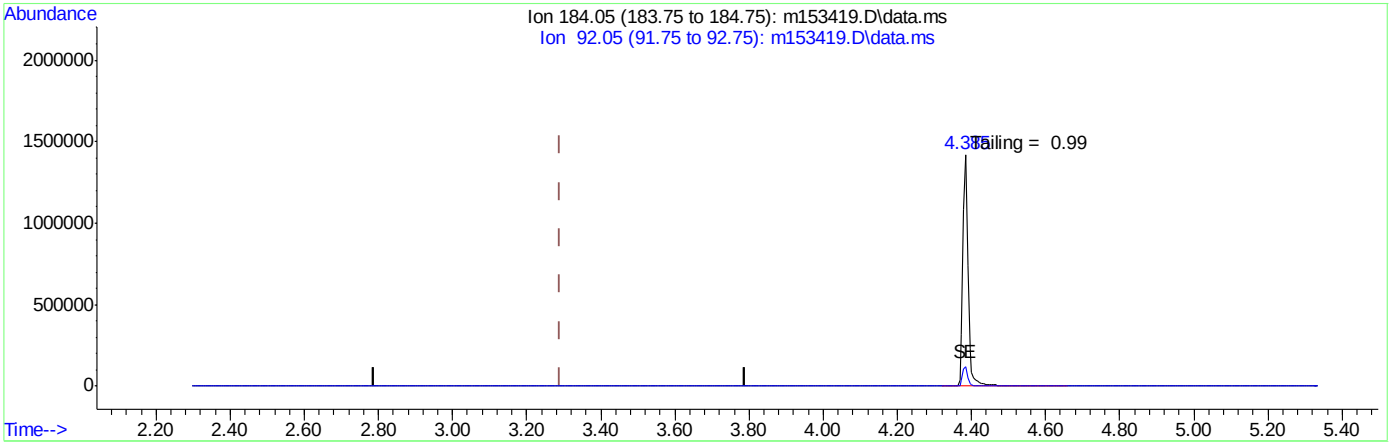
response 330705

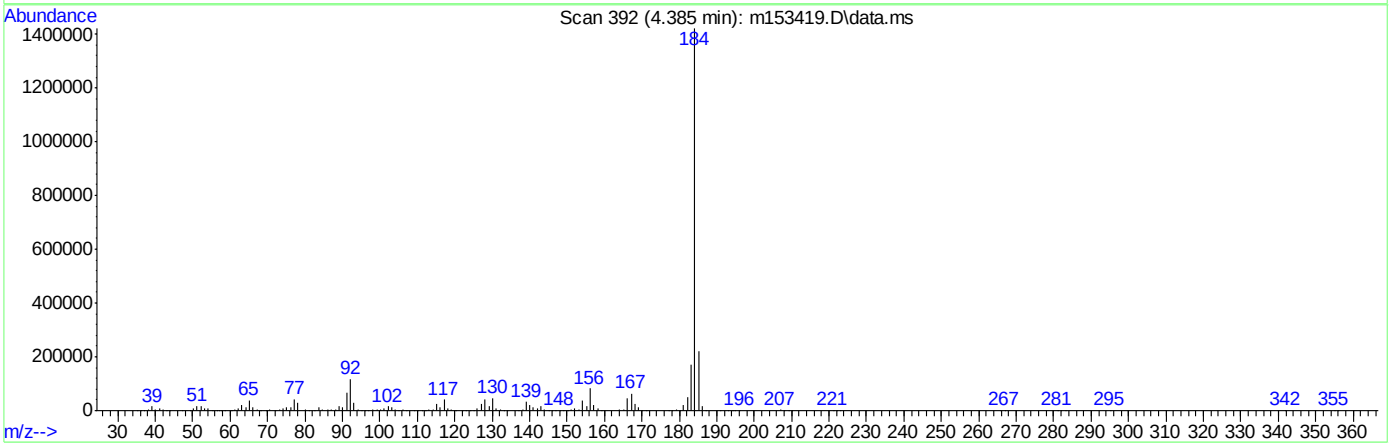
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 68.00 | 62.19 |
| 267.70 | 67.90 | 65.22 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153419.D
Acq On : 13 Apr 2019 1:19 am
Operator : chriss2
Sample : DFTPP
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 13 01:24:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153419.D\data.ms

(2) Benzidine (M)

4.385min (+1.094) 0.00ppm m

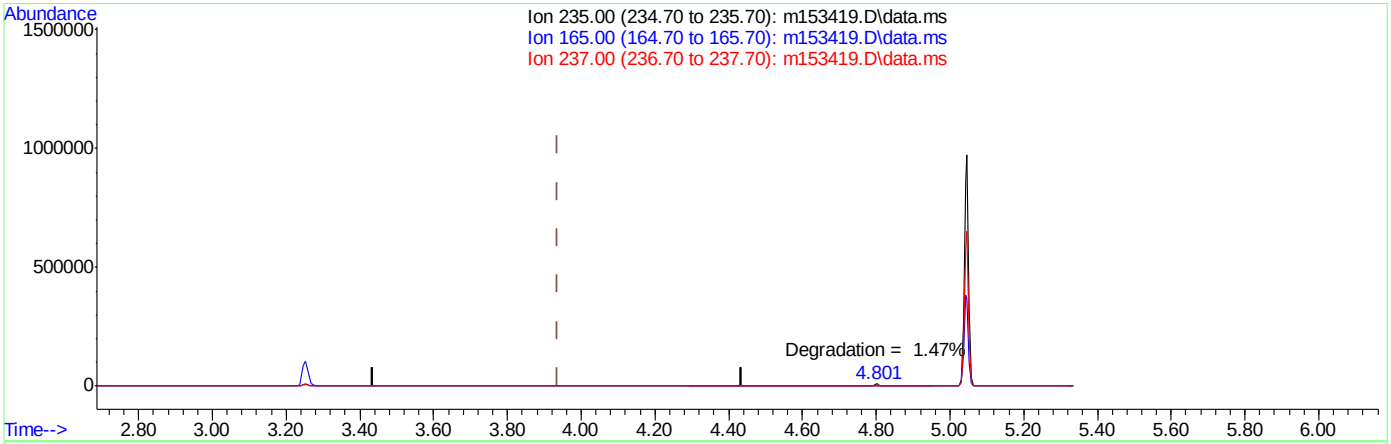
response 1335399

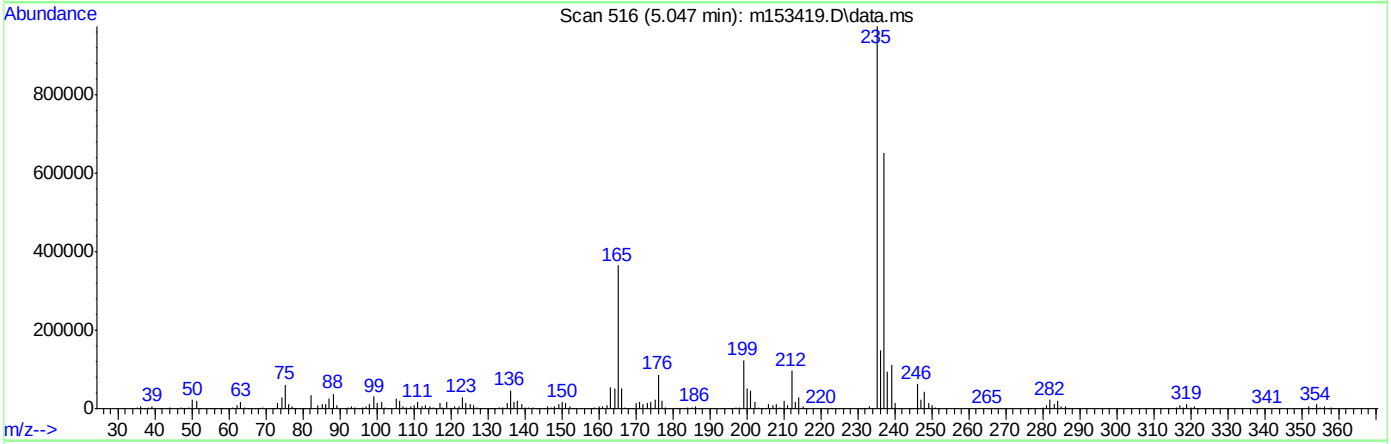
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 7.00 | 8.35 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153419.D
Acq On : 13 Apr 2019 1:19 am
Operator : chriss2
Sample : DFTPP
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 13 01:24:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153419.D\data.ms

(3) PP-DDT (MC)

5.047min (+1.110) 0.00ppm m

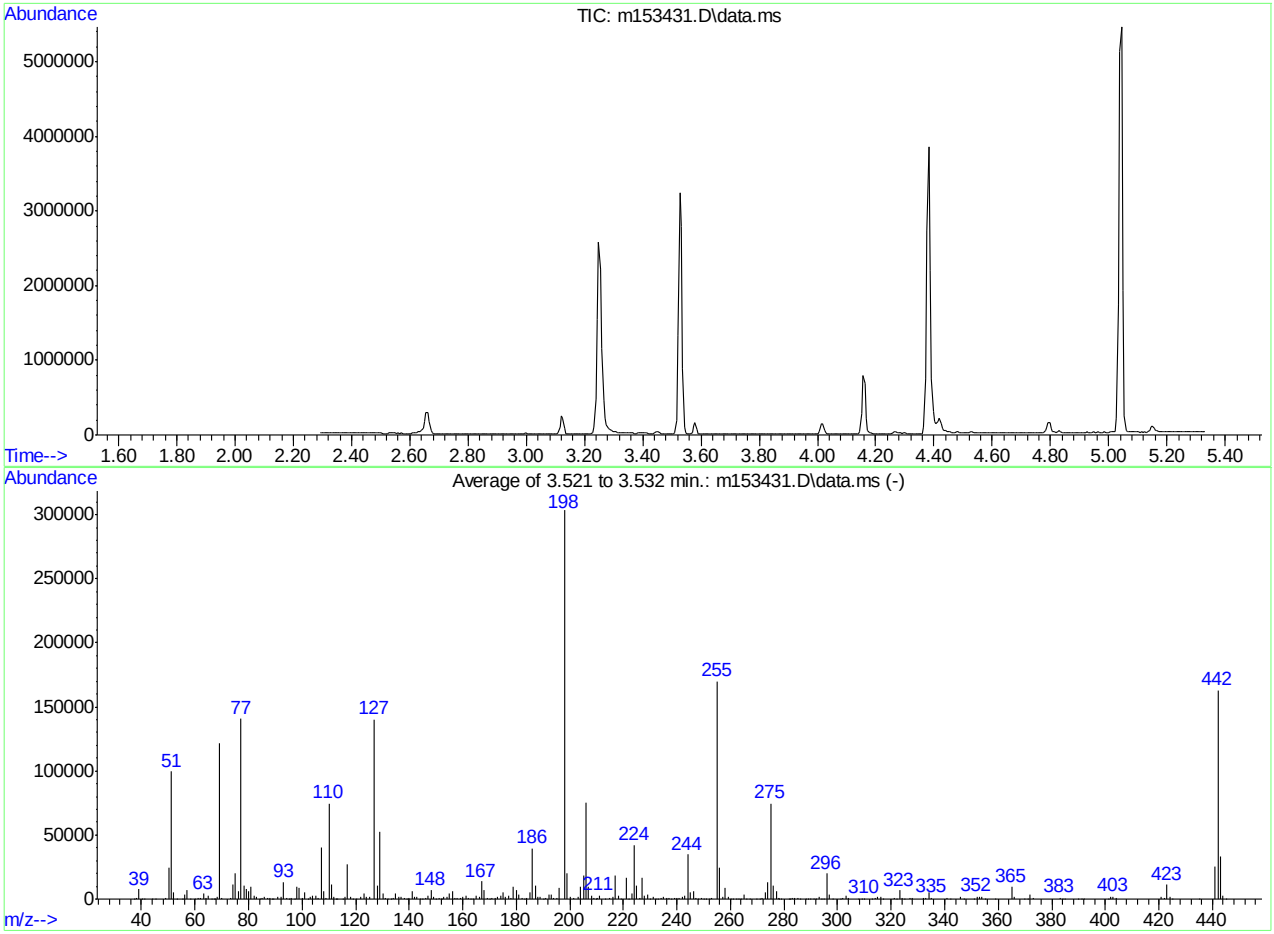
response 800686

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 61.30 | 37.44# |
| 237.00 | 66.90 | 66.98 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data File : C:\msdchem\1\DATA\EM6557\m153431.D  Vial: 1
Acq On : 14 Apr 2019 2:31 pm  Operator: chriss2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6558,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018




AutoFind: Scans 231, 232, 233; Background Corrected with Scan 226

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 32.8 | 99360 | PASS |
| 68 | 69 | 0.00 | 2 | 1.6 | 1999 | PASS |
| 69 | 198 | 0.00 | 100 | 40.2 | 121985 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 727 | PASS |
| 127 | 198 | 40 | 60 | 46.2 | 139984 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 303253 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 20557 | PASS |
| 275 | 198 | 10 | 30 | 24.5 | 74381 | PASS |
| 365 | 198 | 1 | 100 | 3.0 | 9225 | PASS |
| 441 | 443 | 0.10 | 100 | 75.9 | 24993 | PASS |
| 442 | 198 | 40 | 100 | 53.7 | 162856 | PASS |
| 443 | 442 | 17 | 23 | 20.2 | 32909 | PASS |

m153431.D DFTPPM.M Mon Apr 15 13:13:17 2019

Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.10 | 398 | 53.10 | 338 | 66.05 | 86 | 78.15 | 10220 |
| 38.10 | 1298 | 55.10 | 41 | 67.00 | 150 | 79.05 | 8132 |
| 39.15 | 7601 | 56.05 | 3206 | 67.25 | 86 | 80.05 | 5980 |
| 40.05 | 259 | 57.05 | 6702 | 68.10 | 1999 | 81.05 | 9416 |
| 41.10 | 70 | 58.10 | 434 | 69.05 | 121985 | 82.05 | 2241 |
| 44.10 | 134 | 60.05 | 79 | 70.10 | 727 | 83.05 | 2172 |
| 45.15 | 227 | 61.05 | 1041 | 73.10 | 789 | 84.00 | 178 |
| 49.05 | 598 | 62.10 | 1339 | 74.10 | 11176 | 85.05 | 1295 |
| 50.15 | 24760 | 63.10 | 4206 | 75.00 | 19830 | 86.05 | 2102 |
| 51.15 | 99360 | 64.05 | 688 | 76.15 | 6484 | 87.05 | 1160 |
| 52.15 | 5234 | 65.10 | 2592 | 77.10 | 140523 | 88.05 | 546 |

Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 88.95 | 86 | 100.00 | 818 | 111.05 | 11776 | 123.05 | 4016 |
| 89.15 | 102 | 101.05 | 5075 | 112.00 | 1463 | 124.00 | 1859 |
| 91.05 | 2110 | 102.00 | 392 | 112.85 | 72 | 125.05 | 1764 |
| 92.05 | 2219 | 103.05 | 1572 | 113.05 | 237 | 127.05 | 139984 |
| 93.05 | 13235 | 104.05 | 2772 | 115.05 | 110 | 128.05 | 10446 |
| 94.05 | 1173 | 105.05 | 2905 | 116.05 | 1991 | 129.05 | 52821 |
| 95.05 | 165 | 106.05 | 930 | 117.05 | 27530 | 130.05 | 4377 |
| 96.10 | 596 | 107.05 | 40237 | 118.05 | 2076 | 131.00 | 828 |
| 97.10 | 463 | 108.05 | 5953 | 119.05 | 421 | 132.10 | 360 |
| 98.05 | 9454 | 109.10 | 1155 | 120.05 | 407 | 133.00 | 230 |
| 99.05 | 8770 | 110.05 | 74805 | 122.05 | 2212 | 134.00 | 1235 |

Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 135.05 | 4115 | 146.00 | 1198 | 156.05 | 5765 | 167.05 | 13822 |
| 136.05 | 1791 | 147.05 | 3063 | 157.05 | 1179 | 168.05 | 6877 |
| 137.05 | 1969 | 148.05 | 7280 | 158.00 | 1004 | 169.05 | 943 |
| 138.00 | 514 | 149.05 | 1779 | 159.00 | 904 | 170.05 | 424 |
| 139.00 | 367 | 150.05 | 479 | 160.00 | 2028 | 171.00 | 603 |
| 140.05 | 507 | 151.10 | 858 | 161.05 | 3052 | 172.00 | 1280 |
| 141.05 | 6023 | 151.95 | 226 | 162.05 | 974 | 173.05 | 1657 |
| 142.05 | 2131 | 152.15 | 188 | 163.00 | 479 | 174.05 | 2911 |
| 143.00 | 1562 | 153.05 | 2044 | 163.95 | 341 | 175.05 | 5440 |
| 144.05 | 418 | 154.05 | 1565 | 165.00 | 2446 | 176.05 | 1799 |
| 145.00 | 362 | 155.05 | 4051 | 166.05 | 2053 | 177.05 | 2334 |

Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 177.95 | 784 | 189.00 | 1885 | 201.45 | 1330 | 212.95 | 241 |
| 179.00 | 9935 | 190.00 | 417 | 203.00 | 2185 | 215.00 | 762 |
| 180.05 | 7300 | 190.95 | 798 | 204.05 | 10010 | 216.00 | 1556 |
| 181.00 | 3493 | 192.05 | 3316 | 205.05 | 18016 | 216.95 | 18422 |
| 182.05 | 614 | 193.05 | 3747 | 206.05 | 75304 | 218.00 | 2536 |
| 183.10 | 213 | 194.05 | 732 | 207.00 | 10024 | 219.05 | 179 |
| 184.00 | 787 | 195.10 | 497 | 208.05 | 2296 | 221.05 | 17058 |
| 185.05 | 4854 | 196.05 | 9021 | 209.00 | 877 | 221.95 | 381 |
| 186.05 | 39656 | 197.95 | 303253 | 209.95 | 172 | 223.00 | 4531 |
| 187.05 | 10866 | 199.00 | 20557 | 210.15 | 556 | 224.05 | 42005 |
| 188.05 | 1366 | 200.00 | 1707 | 211.00 | 2941 | 225.05 | 10171 |

Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 226.05 | 933 | 237.05 | 1286 | 247.90 | 232 | 260.00 | 284 |
| 227.05 | 16604 | 237.95 | 315 | 249.00 | 1239 | 260.95 | 323 |
| 228.00 | 2741 | 239.00 | 714 | 249.95 | 174 | 262.05 | 69 |
| 229.00 | 3320 | 240.05 | 496 | 251.00 | 250 | 262.95 | 149 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 229.85 | 325 | 240.95 | 915 | 252.00 | 393 | 263.75 | 78 |
| 231.00 | 1598 | 242.05 | 2157 | 253.05 | 819 | 265.00 | 3870 |
| 232.00 | 273 | 243.05 | 2460 | 255.05 | 169738 | 265.85 | 100 |
| 232.95 | 215 | 244.05 | 34728 | 256.05 | 24767 | 266.95 | 249 |
| 234.00 | 1021 | 245.05 | 5260 | 256.95 | 2023 | 269.85 | 93 |
| 235.05 | 1490 | 246.05 | 6372 | 257.95 | 8949 | 271.00 | 261 |
| 236.00 | 929 | 247.00 | 1017 | 259.00 | 1597 | 271.95 | 511 |

Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 273.05 | 5297 | 284.00 | 499 | 296.05 | 20103 | 314.00 | 907 |
| 274.05 | 13499 | 285.05 | 1089 | 297.00 | 3199 | 314.95 | 2021 |
| 275.05 | 74381 | 285.95 | 92 | 297.95 | 211 | 316.00 | 1387 |
| 276.05 | 10104 | 288.05 | 84 | 300.95 | 241 | 317.00 | 191 |
| 277.00 | 5791 | 288.95 | 300 | 302.00 | 584 | 321.00 | 584 |
| 277.85 | 87 | 289.90 | 167 | 303.05 | 2502 | 322.05 | 308 |
| 278.05 | 842 | 291.10 | 164 | 304.00 | 552 | 323.05 | 6967 |
| 279.00 | 163 | 292.05 | 386 | 307.90 | 255 | 324.00 | 1261 |
| 281.85 | 112 | 293.00 | 1470 | 308.95 | 166 | 324.95 | 179 |
| 282.05 | 114 | 293.95 | 271 | 309.95 | 305 | 326.90 | 1289 |
| 283.00 | 856 | 294.95 | 242 | 312.85 | 72 | 328.00 | 778 |

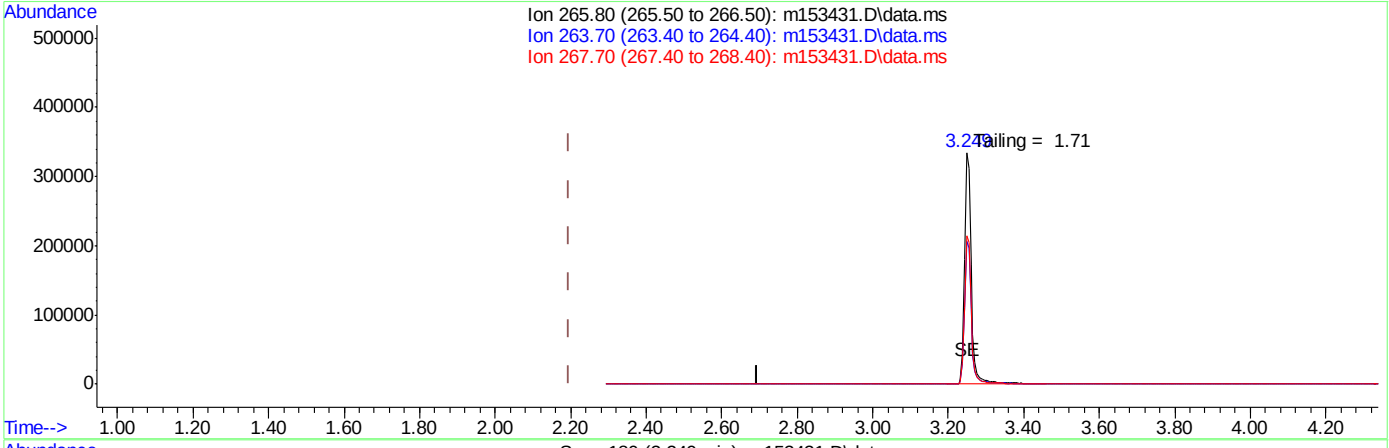
Average of 3.521 to 3.532 min.: m153431.D\data.ms
DFTPP
Modified:subtracted

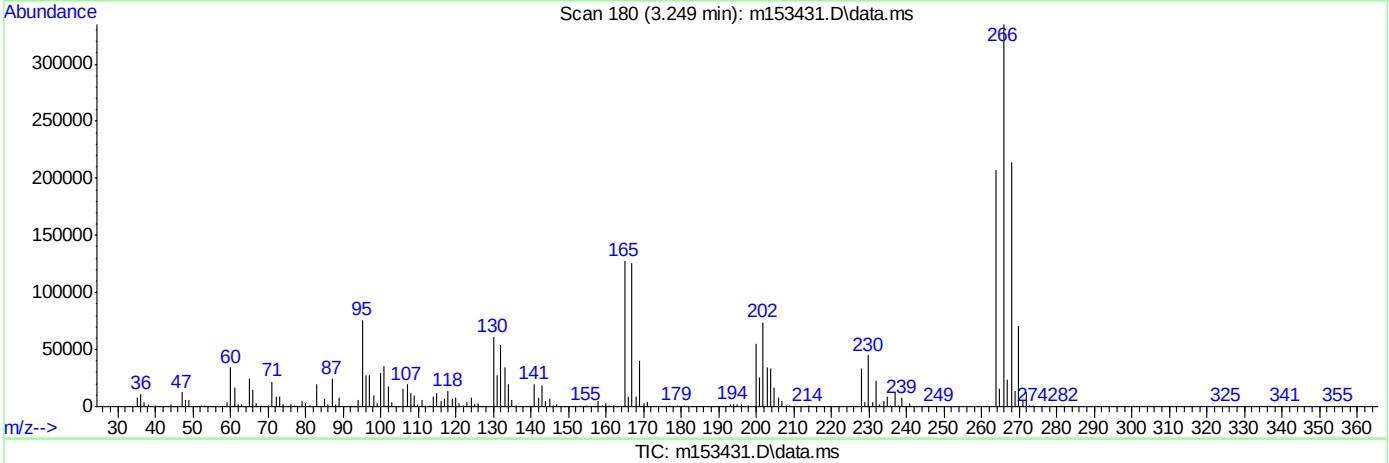
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 332.00 | 570 | 354.00 | 2175 | 384.95 | 82 | 424.00 | 2183 |
| 332.95 | 610 | 355.00 | 476 | 389.95 | 444 | 425.00 | 272 |
| 334.05 | 5090 | 358.95 | 69 | 391.10 | 316 | 435.25 | 79 |
| 335.00 | 1180 | 364.95 | 9225 | 392.00 | 205 | 441.00 | 24993 |
| 341.00 | 667 | 365.95 | 1460 | 400.95 | 214 | 442.05 | 162856 |
| 342.00 | 238 | 369.90 | 168 | 401.95 | 1384 | 443.05 | 32909 |
| 345.95 | 1447 | 371.00 | 384 | 403.00 | 2194 | 444.00 | 2798 |
| 346.95 | 300 | 372.00 | 3641 | 403.90 | 684 | 444.95 | 195 |
| 351.05 | 80 | 373.00 | 883 | 421.00 | 1541 | | |
| 352.05 | 2071 | 383.00 | 892 | 421.95 | 1249 | | |
| 352.95 | 1486 | 384.00 | 238 | 422.95 | 11345 | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153431.D
Acq On : 14 Apr 2019 2:31 pm
Operator : chriss2
Sample : DFTPP
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 15 13:08:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153431.D\data.ms

(1) Pentachlorophenol (MC)

3.249min (+1.053) 0.00ppm m

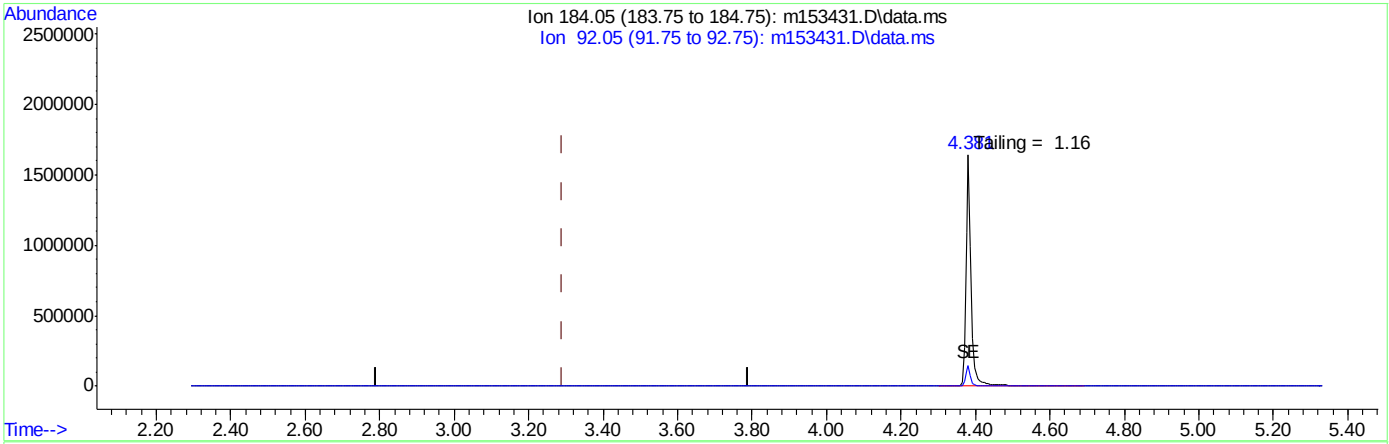
response 394185

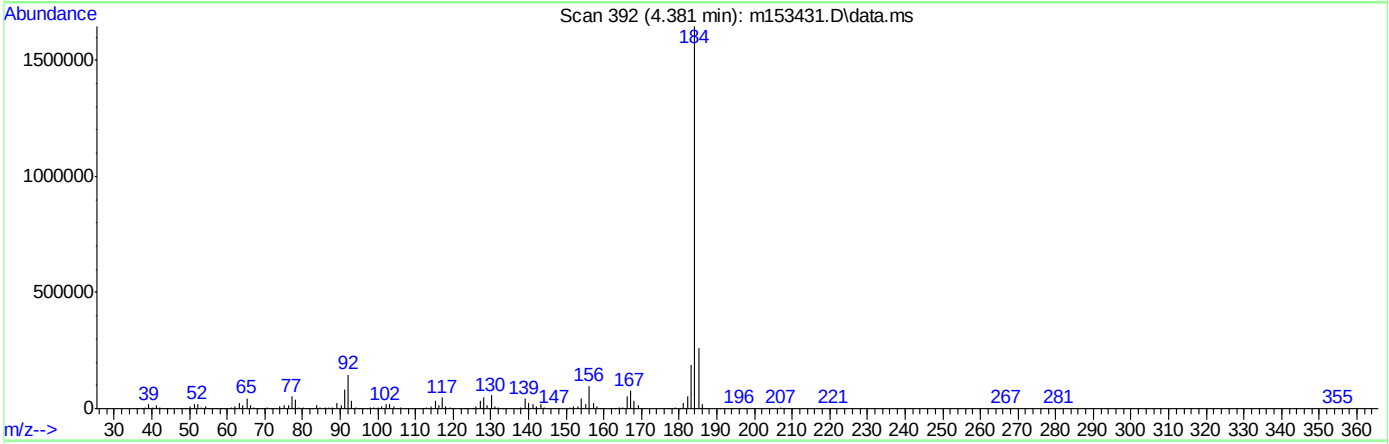
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 68.00 | 61.77 |
| 267.70 | 67.90 | 63.84 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153431.D
Acq On : 14 Apr 2019 2:31 pm
Operator : chriss2
Sample : DFTPP
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 15 13:08:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153431.D\data.ms

(2) Benzidine (M)

4.381min (+1.091) 0.00ppm m

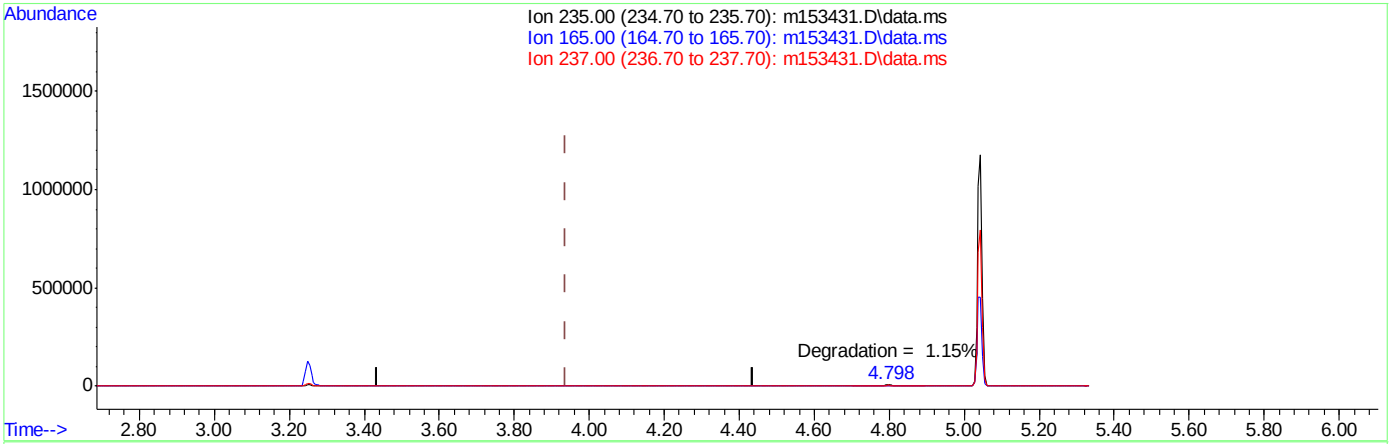
response 1550554

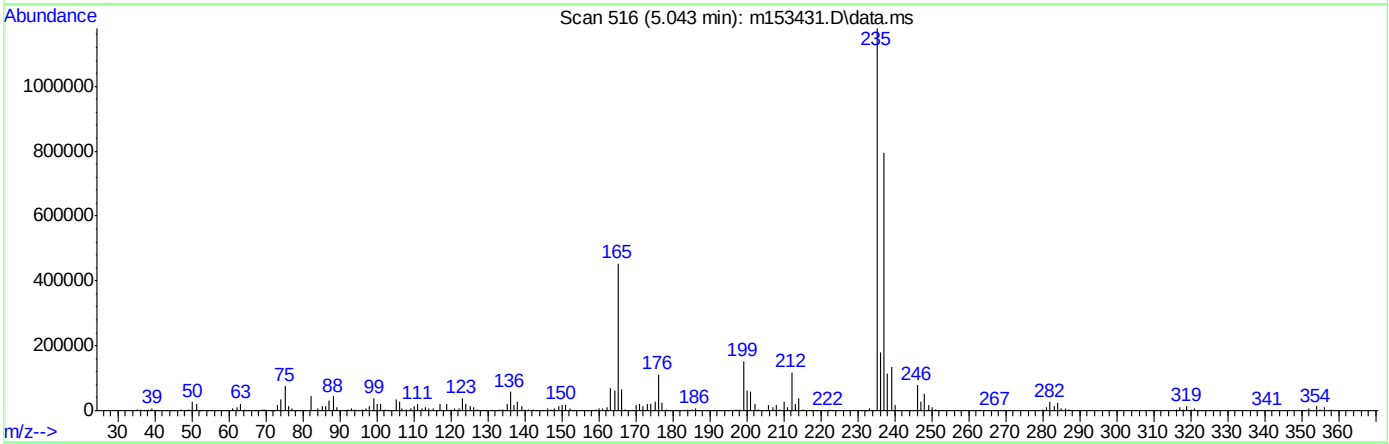
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 7.00 | 8.89 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153431.D
Acq On : 14 Apr 2019 2:31 pm
Operator : chriss2
Sample : DFTPP
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 15 13:08:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153431.D\data.ms

(3) PP-DDT (MC)

5.043min (+1.107) 0.00ppm m

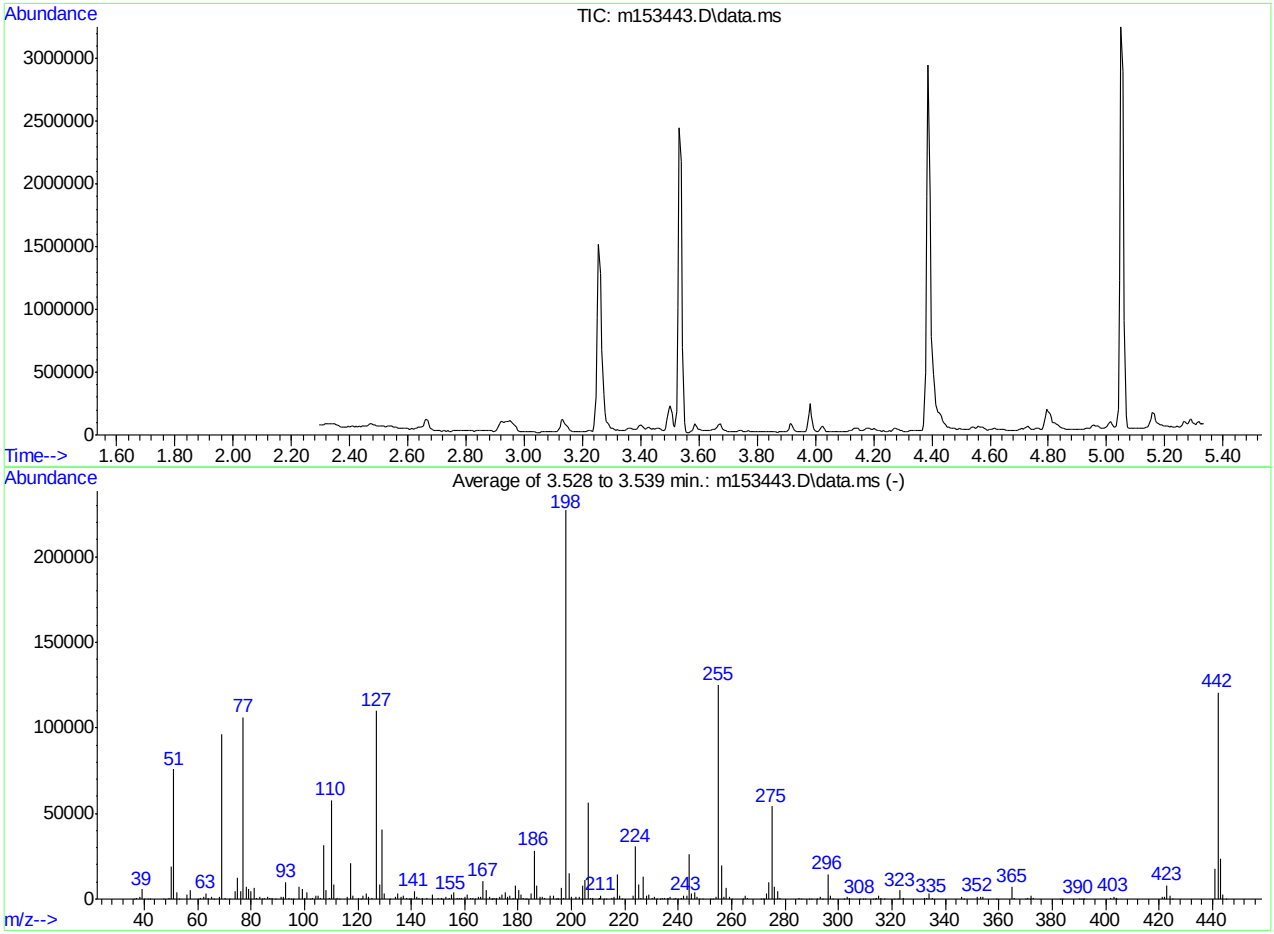
response 970552

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 61.30 | 38.55# |
| 237.00 | 66.90 | 67.38 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data File : C:\msdchem\1\DATA\EM6559\m153443.D  Vial: 1
Acq On : 15 Apr 2019 1:54 pm  Operator: christc2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6559,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018




AutoFind: Scans 232, 233, 234; Background Corrected with Scan 227

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 33.3 | 75686 | PASS |
| 68 | 69 | 0.00 | 2 | 1.2 | 1135 | PASS |
| 69 | 198 | 0.00 | 100 | 42.4 | 96290 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 481 | PASS |
| 127 | 198 | 40 | 60 | 48.4 | 109790 | PASS |
| 197 | 198 | 0.00 | 1 | 0.2 | 521 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 227010 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 15330 | PASS |
| 275 | 198 | 10 | 30 | 23.9 | 54288 | PASS |
| 365 | 198 | 1 | 100 | 3.1 | 6995 | PASS |
| 441 | 443 | 0.10 | 100 | 73.0 | 17393 | PASS |
| 442 | 198 | 40 | 100 | 53.2 | 120749 | PASS |
| 443 | 442 | 17 | 23 | 19.7 | 23826 | PASS |

m153443.D DFTPPM.M Mon Apr 15 14:50:53 2019

Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.05 | 69 | 52.10 | 3815 | 68.10 | 1135 | 81.05 | 6792 |
| 37.10 | 431 | 53.10 | 265 | 69.00 | 96290 | 82.10 | 992 |
| 38.15 | 1103 | 56.10 | 2472 | 70.05 | 481 | 83.05 | 1617 |
| 39.15 | 5667 | 57.10 | 5312 | 72.10 | 186 | 84.05 | 152 |
| 40.05 | 199 | 60.05 | 67 | 74.10 | 4745 | 85.10 | 626 |
| 41.15 | 182 | 61.05 | 1005 | 75.00 | 12273 | 86.00 | 1341 |
| 42.10 | 1 | 62.10 | 1104 | 76.05 | 4561 | 87.05 | 504 |
| 47.05 | 118 | 63.10 | 3409 | 77.10 | 106422 | 88.05 | 378 |
| 49.05 | 517 | 64.10 | 524 | 78.15 | 7379 | 89.05 | 288 |
| 50.15 | 18749 | 65.15 | 1468 | 79.05 | 6168 | 91.05 | 1499 |
| 51.10 | 75686 | 66.10 | 319 | 80.05 | 4876 | 92.05 | 1153 |

Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 93.05 | 10066 | 105.00 | 1915 | 118.05 | 1684 | 132.00 | 202 |
| 94.10 | 910 | 106.10 | 793 | 120.00 | 470 | 134.05 | 1090 |
| 95.05 | 37 | 107.00 | 31271 | 121.05 | 189 | 135.05 | 3007 |
| 96.05 | 290 | 108.05 | 4938 | 122.05 | 1880 | 136.05 | 1148 |
| 98.05 | 7369 | 109.10 | 353 | 123.05 | 3023 | 137.05 | 1799 |
| 99.05 | 6043 | 110.05 | 57754 | 124.05 | 1472 | 138.10 | 523 |
| 100.10 | 725 | 111.05 | 8673 | 125.05 | 920 | 139.05 | 302 |
| 101.05 | 4031 | 112.05 | 914 | 127.00 | 109790 | 140.05 | 493 |
| 101.95 | 264 | 113.05 | 291 | 128.05 | 8253 | 141.00 | 4708 |
| 103.00 | 971 | 116.05 | 1440 | 129.05 | 40373 | 142.05 | 1481 |
| 104.05 | 2236 | 117.05 | 20778 | 130.05 | 3392 | 143.05 | 998 |

Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 144.05 | 355 | 158.00 | 847 | 169.10 | 1119 | 179.00 | 7762 |
| 146.00 | 882 | 159.00 | 743 | 170.00 | 325 | 180.05 | 5345 |
| 148.00 | 2802 | 160.00 | 1627 | 170.35 | 74 | 181.05 | 2540 |
| 150.00 | 368 | 161.05 | 2528 | 171.05 | 545 | 182.00 | 425 |
| 151.15 | 585 | 162.05 | 709 | 172.00 | 846 | 182.95 | 79 |
| 151.45 | 141 | 163.00 | 379 | 173.00 | 1404 | 183.15 | 73 |
| 153.00 | 1552 | 163.95 | 182 | 174.00 | 2486 | 185.05 | 3038 |
| 154.00 | 897 | 164.95 | 1645 | 175.05 | 4253 | 186.05 | 28210 |
| 155.05 | 2806 | 166.00 | 1601 | 176.00 | 1135 | 187.05 | 7784 |
| 156.05 | 4221 | 167.00 | 10672 | 177.05 | 2077 | 188.05 | 1072 |
| 157.05 | 954 | 168.05 | 5167 | 178.00 | 720 | 189.05 | 1629 |

Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 189.95 | 356 | 201.50 | 1126 | 213.05 | 109 | 228.00 | 1718 |
| 192.00 | 2289 | 202.95 | 1177 | 215.00 | 592 | 228.95 | 2573 |
| 193.05 | 2261 | 204.05 | 7771 | 216.00 | 1063 | 230.00 | 440 |
| 193.95 | 290 | 205.05 | 11485 | 217.00 | 14279 | 231.00 | 1183 |
| 194.95 | 94 | 206.05 | 56466 | 218.00 | 1698 | 232.00 | 299 |
| 195.10 | 364 | 207.05 | 980 | 218.95 | 155 | 232.95 | 266 |
| 196.05 | 6356 | 208.05 | 534 | 223.00 | 2206 | 233.95 | 743 |
| 196.85 | 521 | 210.00 | 291 | 224.00 | 30559 | 235.00 | 842 |
| 197.95 | 227010 | 210.45 | 522 | 225.05 | 8549 | 235.85 | 77 |
| 198.95 | 15330 | 211.00 | 2170 | 226.05 | 829 | 236.00 | 596 |
| 200.05 | 1132 | 212.00 | 242 | 227.00 | 13004 | 237.00 | 1063 |

Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 238.05 | 81 | 248.95 | 138 | 265.00 | 1709 | 285.00 | 939 |
| 239.05 | 562 | 252.00 | 224 | 265.90 | 394 | 285.95 | 167 |
| 240.00 | 326 | 252.95 | 76 | 271.00 | 315 | 289.05 | 238 |
| 241.00 | 732 | 254.00 | 1074 | 271.85 | 118 | 289.95 | 71 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 242.05 | 1789 | 255.05 | 124837 | 272.15 | 288 | 291.95 | 238 |
| 243.00 | 1975 | 256.00 | 19407 | 273.05 | 3425 | 293.00 | 1241 |
| 244.05 | 26131 | 256.95 | 1410 | 274.00 | 9925 | 294.00 | 217 |
| 245.05 | 3408 | 258.00 | 6568 | 275.05 | 54288 | 296.00 | 14475 |
| 246.00 | 4263 | 258.95 | 1081 | 276.05 | 7532 | 296.95 | 1897 |
| 247.00 | 1044 | 260.00 | 172 | 277.00 | 4730 | 297.90 | 203 |
| 248.00 | 246 | 264.05 | 133 | 278.05 | 747 | 302.00 | 219 |

Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 303.05 | 1595 | 321.05 | 349 | 353.00 | 1058 | 383.90 | 262 |
| 304.00 | 451 | 321.95 | 67 | 354.00 | 1410 | 390.05 | 302 |
| 307.95 | 255 | 323.05 | 5083 | 359.05 | 83 | 390.85 | 91 |
| 308.95 | 104 | 324.00 | 917 | 364.95 | 6995 | 391.65 | 89 |
| 309.95 | 188 | 332.00 | 552 | 365.95 | 923 | 392.00 | 204 |
| 312.90 | 148 | 333.00 | 482 | 369.95 | 84 | 401.90 | 771 |
| 313.85 | 104 | 334.05 | 3301 | 370.95 | 393 | 403.00 | 1345 |
| 314.05 | 546 | 335.00 | 790 | 371.85 | 201 | 403.85 | 102 |
| 314.95 | 1766 | 345.95 | 1066 | 372.05 | 2266 | 404.00 | 450 |
| 316.00 | 859 | 347.00 | 155 | 372.95 | 653 | 421.05 | 1291 |
| 317.00 | 238 | 352.05 | 1581 | 382.95 | 185 | 421.95 | 1202 |

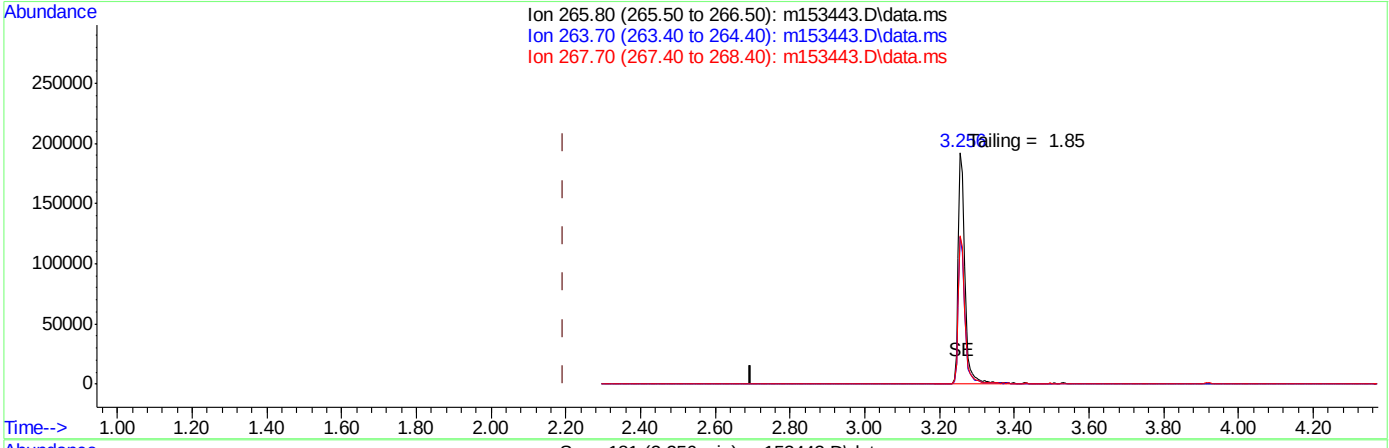
Average of 3.528 to 3.539 min.: m153443.D\data.ms
DFTPP
Modified:subtracted

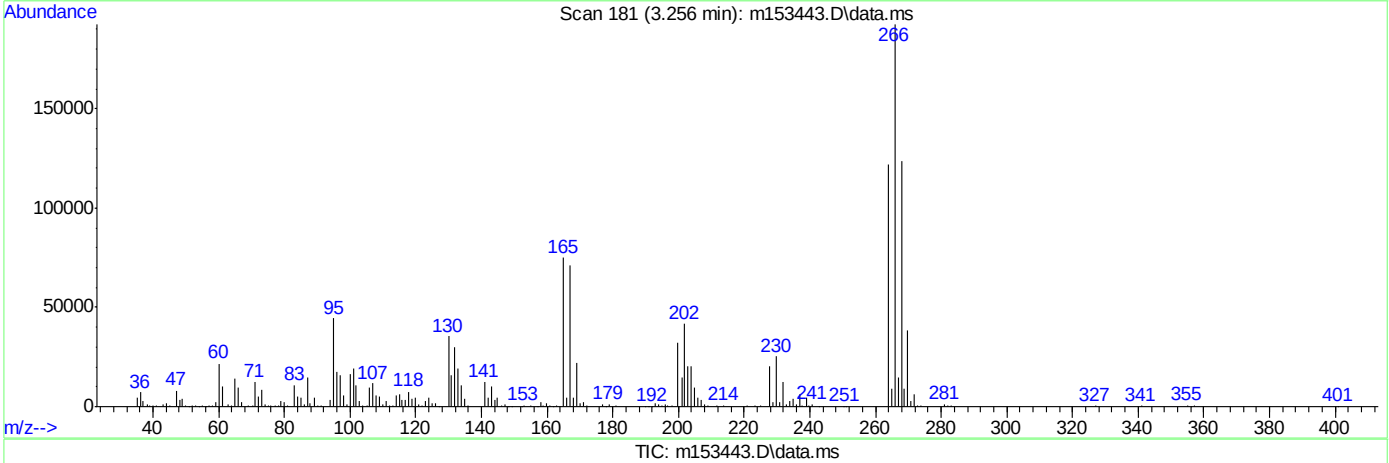
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 422.95 | 8040 | | | | | | |
| 423.95 | 1668 | | | | | | |
| 425.00 | 243 | | | | | | |
| 441.00 | 17393 | | | | | | |
| 442.05 | 120749 | | | | | | |
| 443.00 | 23826 | | | | | | |
| 444.00 | 2377 | | | | | | |
| 444.95 | 77 | | | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6559\
Data File : m153443.D
Acq On : 15 Apr 2019 1:54 pm
Operator : christc2
Sample : DFTPP
Misc : op17006,em6559,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 15 14:00:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153443.D\data.ms

(1) Pentachlorophenol (MC)

3.256min (+1.060) 0.00ppm m

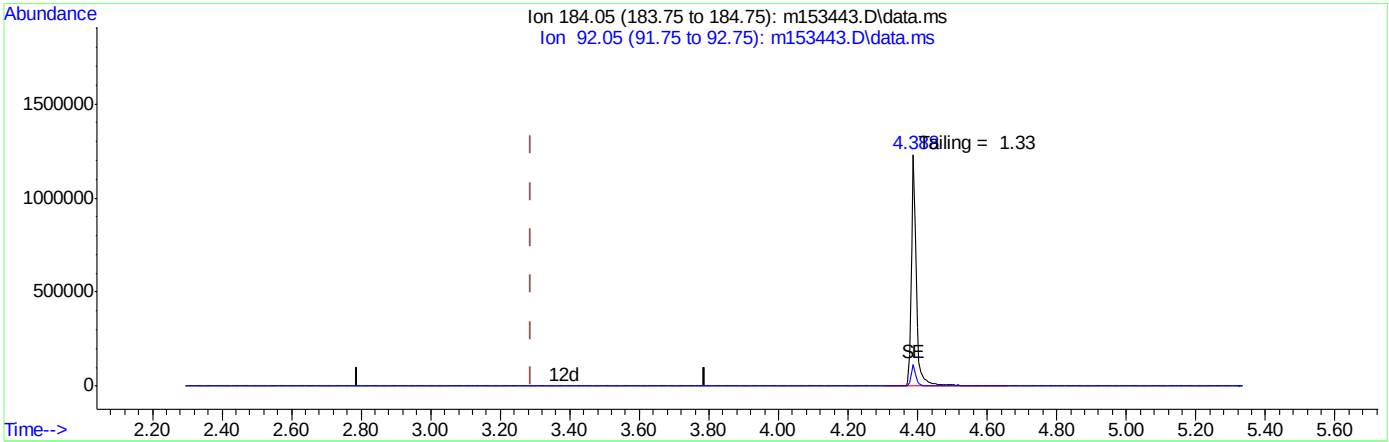
response 233348

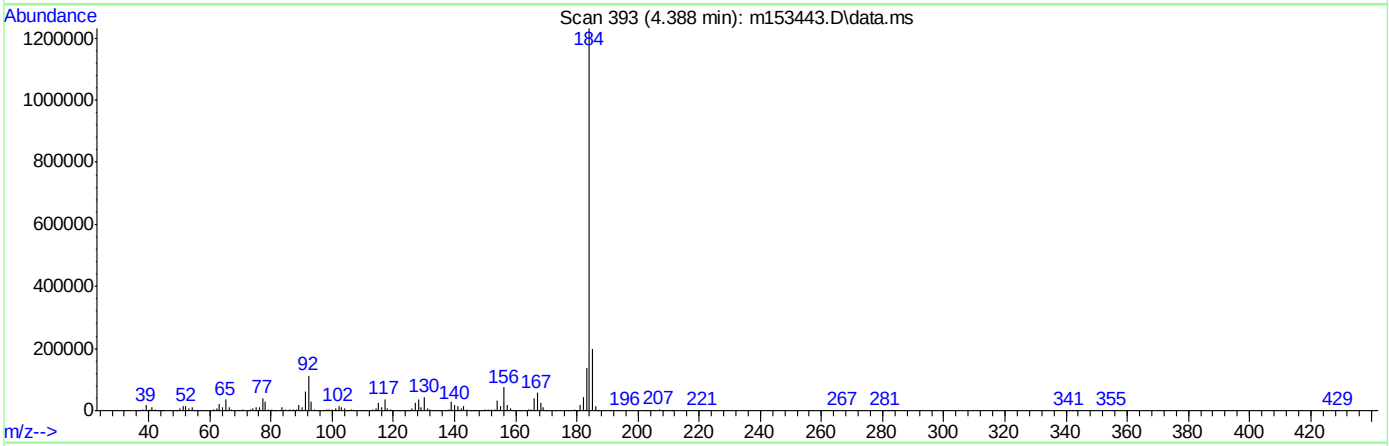
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 68.00 | 63.39 |
| 267.70 | 67.90 | 64.16 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6559\
Data File : m153443.D
Acq On : 15 Apr 2019 1:54 pm
Operator : christc2
Sample : DFTPP
Misc : op17006,em6559,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 15 14:00:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153443.D\data.ms

(2) Benzidine (M)

4.388min (+1.097) 0.00ppm m

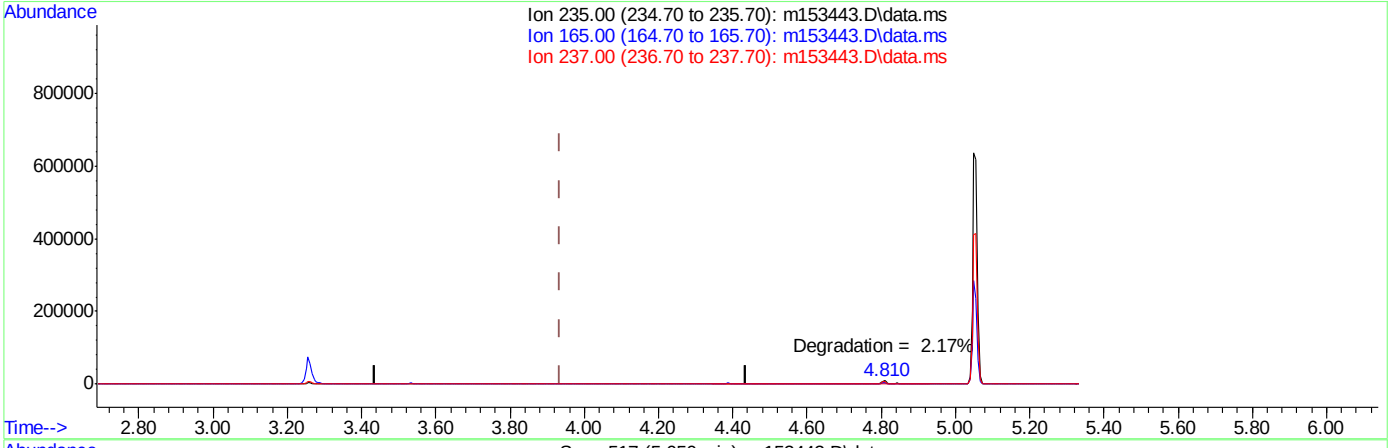
response 1246674

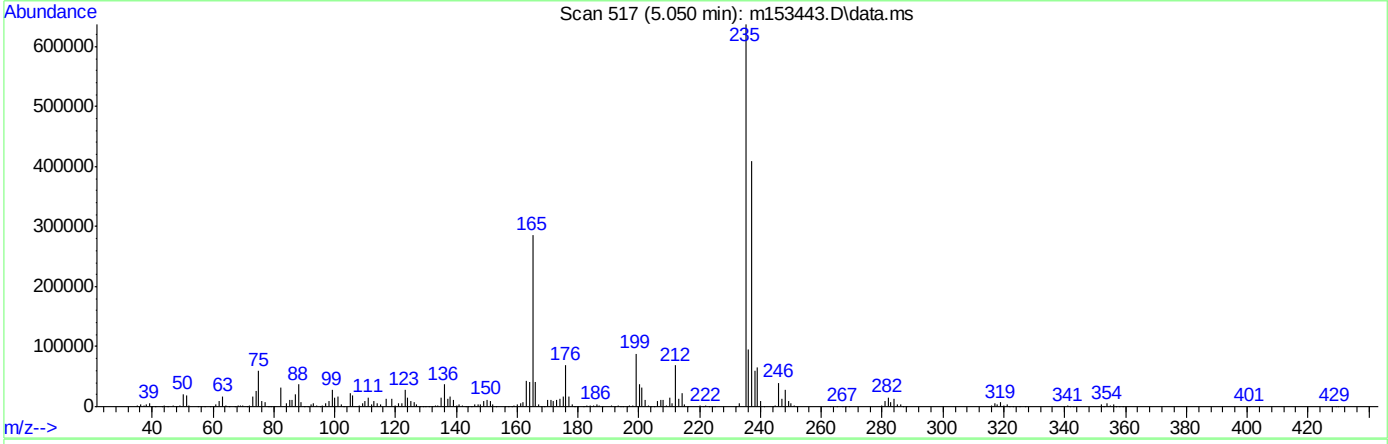
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 7.00 | 9.25# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6559\
Data File : m153443.D
Acq On : 15 Apr 2019 1:54 pm
Operator : christc2
Sample : DFTPP
Misc : op17006,em6559,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 15 14:00:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat Nov 03 03:21:13 2018
QLast Update : Sat Nov 03 03:21:13 2018
Response via : Continuing Cal File:




TIC: m153443.D\data.ms

(3) PP-DDT (MC)

5.050min (+1.113) 0.00ppm m

response 547854

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 61.30 | 44.89 |
| 237.00 | 66.90 | 64.29 |
| 0.00 | 0.00 | 0.00 |

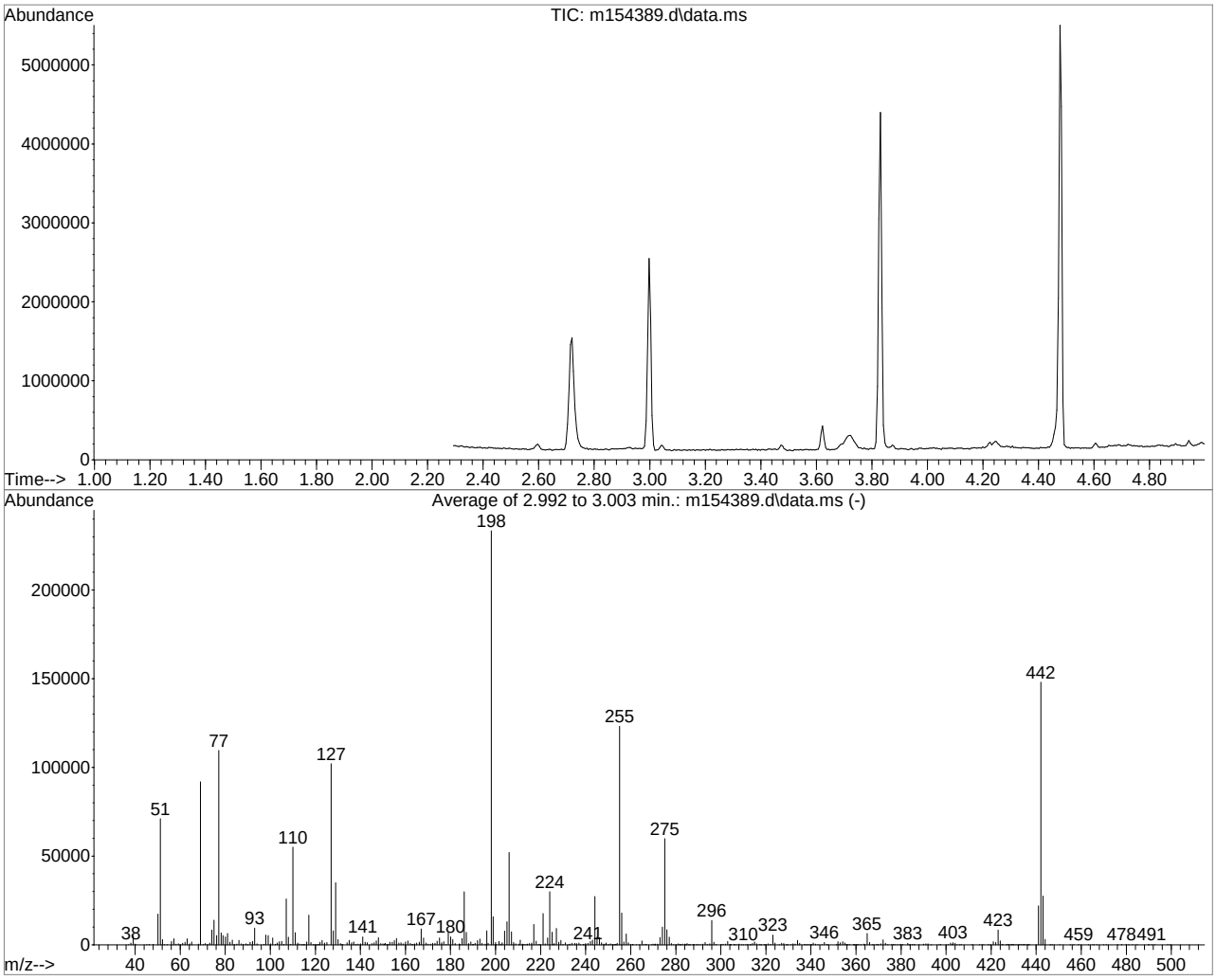
9.7.21.3

9

DFTPPR

Data File : C:\msdchem\1\data\jonkm\em6594\m154389.d  Vial: 1
Acq On : 15 May 2019 8:39 am  Operator: christc2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6594,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSun Feb 18 15:20:41 2018




AutoFind: Scans 132, 133, 134; Background Corrected with Scan 124

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 30.5 | 71066 | PASS |
| 68 | 69 | 0.00 | 2 | 0.4 | 350 | PASS |
| 69 | 198 | 0.00 | 100 | 39.3 | 91803 | PASS |
| 70 | 69 | 0.00 | 2 | 0.3 | 304 | PASS |
| 127 | 198 | 40 | 60 | 43.8 | 102096 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 233323 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 15740 | PASS |
| 275 | 198 | 10 | 30 | 25.6 | 59805 | PASS |
| 365 | 198 | 1 | 100 | 2.7 | 6318 | PASS |
| 441 | 443 | 0.10 | 100 | 79.7 | 21930 | PASS |
| 442 | 198 | 40 | 100 | 63.4 | 147976 | PASS |
| 443 | 442 | 17 | 23 | 18.6 | 27524 | PASS |

m154389.d DFTPPM.M Thu May 16 12:27:17 2019

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.05 | 138 | 54.25 | 108 | 68.15 | 350 | 79.05 | 5141 |
| 38.10 | 928 | 56.10 | 1912 | 69.00 | 91803 | 80.10 | 4440 |
| 39.15 | 5177 | 57.15 | 3367 | 70.15 | 304 | 81.05 | 6438 |
| 40.05 | 404 | 58.10 | 374 | 71.15 | 673 | 82.05 | 1454 |
| 45.20 | 113 | 59.15 | 590 | 72.15 | 185 | 83.10 | 2655 |
| 46.25 | 178 | 60.05 | 123 | 73.15 | 977 | 84.05 | 188 |
| 48.05 | 221 | 61.10 | 788 | 74.10 | 8348 | 85.15 | 322 |
| 50.10 | 17301 | 62.10 | 1391 | 75.05 | 13817 | 86.05 | 2549 |
| 51.15 | 71066 | 63.10 | 3411 | 76.15 | 5120 | 87.10 | 520 |
| 52.15 | 2923 | 64.10 | 579 | 77.10 | 109531 | 88.05 | 258 |
| 53.05 | 58 | 65.15 | 1655 | 78.15 | 6609 | 89.15 | 566 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 89.95 | 94 | 102.20 | 257 | 112.95 | 424 | 120.75 | 127 |
| 90.15 | 95 | 103.05 | 1018 | 113.95 | 105 | 121.25 | 98 |
| 91.05 | 1439 | 104.00 | 1674 | 114.15 | 120 | 121.55 | 136 |
| 92.05 | 1894 | 105.05 | 1911 | 114.85 | 165 | 122.05 | 1374 |
| 93.05 | 9361 | 106.00 | 183 | 115.05 | 230 | 123.05 | 2419 |
| 94.05 | 536 | 107.05 | 25803 | 116.10 | 1621 | 124.00 | 921 |
| 97.15 | 273 | 108.05 | 4302 | 117.05 | 16707 | 125.10 | 1260 |
| 98.05 | 5522 | 109.05 | 203 | 118.05 | 1305 | 127.05 | 102096 |
| 99.05 | 5230 | 110.05 | 54997 | 119.05 | 90 | 128.00 | 7867 |
| 100.10 | 470 | 111.05 | 6745 | 119.25 | 144 | 129.05 | 35005 |
| 101.05 | 3775 | 112.10 | 1027 | 120.05 | 20 | 130.05 | 2946 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 131.10 | 702 | 141.05 | 4424 | 151.75 | 202 | 161.10 | 2219 |
| 131.65 | 74 | 142.10 | 1463 | 151.95 | 37 | 162.10 | 833 |
| 132.15 | 218 | 143.05 | 1162 | 152.45 | 197 | 163.00 | 241 |
| 134.05 | 1175 | 145.10 | 682 | 153.05 | 1452 | 163.35 | 213 |
| 135.00 | 2433 | 146.10 | 1094 | 154.10 | 1362 | 164.05 | 463 |
| 136.05 | 1166 | 147.05 | 2122 | 155.05 | 2288 | 165.00 | 1055 |
| 137.05 | 1603 | 148.05 | 4037 | 156.00 | 3577 | 166.10 | 1398 |
| 137.85 | 92 | 149.05 | 694 | 157.05 | 952 | 167.00 | 8840 |
| 138.15 | 123 | 150.00 | 463 | 158.00 | 1104 | 168.05 | 3811 |
| 139.05 | 381 | 150.55 | 335 | 158.95 | 508 | 169.05 | 971 |
| 140.10 | 476 | 151.10 | 806 | 160.00 | 1525 | 170.10 | 429 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 171.05 | 356 | 182.10 | 752 | 191.95 | 2330 | 202.20 | 331 |
| 172.00 | 775 | 183.95 | 481 | 193.00 | 3177 | 202.95 | 1127 |
| 173.10 | 783 | 184.15 | 283 | 194.00 | 844 | 204.05 | 7734 |
| 174.00 | 2067 | 185.10 | 3513 | 195.35 | 426 | 205.05 | 12942 |
| 175.10 | 3847 | 186.05 | 29915 | 196.05 | 7838 | 206.05 | 51996 |
| 176.10 | 1196 | 187.05 | 7035 | 196.65 | 773 | 207.05 | 7280 |
| 177.00 | 1716 | 188.05 | 724 | 198.05 | 233323 | 208.00 | 1337 |
| 178.05 | 194 | 189.05 | 1585 | 198.95 | 15740 | 208.90 | 456 |
| 179.00 | 6947 | 189.90 | 268 | 200.05 | 1248 | 210.35 | 356 |
| 180.05 | 4419 | 190.15 | 199 | 200.35 | 163 | 211.00 | 2596 |
| 181.05 | 2925 | 190.95 | 805 | 201.50 | 1811 | 211.70 | 7 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 212.05 | 368 | 221.05 | 17568 | 231.00 | 1068 | 241.00 | 822 |
| 212.65 | 126 | 222.05 | 489 | 232.55 | 94 | 242.05 | 1888 |
| 213.05 | 194 | 223.05 | 3793 | 233.00 | 427 | 243.00 | 2553 |
| 213.95 | 77 | 224.05 | 29907 | 234.00 | 770 | 244.05 | 27235 |
| 214.10 | 322 | 225.05 | 7148 | 235.10 | 765 | 245.05 | 4247 |
| 215.00 | 736 | 225.75 | 257 | 235.95 | 662 | 246.05 | 4042 |
| 216.00 | 937 | 226.05 | 711 | 237.05 | 918 | 247.00 | 1080 |
| 217.00 | 11414 | 227.05 | 9167 | 237.75 | 70 | 247.95 | 376 |
| 218.00 | 1963 | 228.00 | 1377 | 238.85 | 304 | 248.45 | 163 |
| 218.95 | 150 | 229.00 | 2505 | 239.15 | 241 | 249.00 | 1053 |
| 219.45 | 162 | 230.00 | 222 | 239.95 | 666 | 249.80 | 77 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms

DFTPPM.M Thu May 16 12:27:08 2019

DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 250.35 | 74 | 256.95 | 1511 | 267.00 | 309 | 277.05 | 4261 |
| 251.00 | 508 | 258.00 | 6102 | 269.15 | 96 | 278.00 | 659 |
| 251.85 | 158 | 259.00 | 1195 | 269.90 | 346 | 278.95 | 144 |
| 252.05 | 103 | 260.05 | 166 | 270.45 | 134 | 280.35 | 102 |
| 252.35 | 143 | 260.85 | 262 | 270.85 | 192 | 281.15 | 573 |
| 252.95 | 146 | 261.05 | 147 | 271.00 | 370 | 281.65 | 136 |
| 253.15 | 305 | 262.65 | 78 | 271.95 | 425 | 281.95 | 155 |
| 253.55 | 212 | 263.85 | 37 | 273.00 | 4184 | 282.20 | 289 |
| 254.05 | 867 | 264.95 | 2229 | 274.00 | 9922 | 283.00 | 438 |
| 255.05 | 123141 | 265.75 | 195 | 275.05 | 59805 | 284.05 | 436 |
| 256.05 | 17889 | 266.75 | 160 | 276.05 | 8462 | 284.25 | 106 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 284.65 | 86 | 292.00 | 340 | 303.95 | 127 | 311.90 | 172 |
| 285.00 | 648 | 293.00 | 1254 | 304.15 | 205 | 312.95 | 136 |
| 285.65 | 149 | 294.00 | 272 | 304.60 | 178 | 313.20 | 293 |
| 286.05 | 120 | 295.00 | 542 | 305.90 | 192 | 314.00 | 690 |
| 286.55 | 92 | 296.00 | 13732 | 306.25 | 80 | 315.00 | 1610 |
| 287.55 | 95 | 296.95 | 1494 | 306.95 | 86 | 315.95 | 516 |
| 287.80 | 225 | 297.95 | 180 | 307.85 | 68 | 317.05 | 219 |
| 288.25 | 68 | 300.25 | 169 | 308.15 | 322 | 317.80 | 159 |
| 289.10 | 262 | 301.10 | 246 | 309.15 | 69 | 318.05 | 106 |
| 290.00 | 177 | 302.05 | 346 | 310.05 | 93 | 319.15 | 68 |
| 290.95 | 69 | 303.00 | 1841 | 311.05 | 112 | 319.50 | 155 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 320.05 | 68 | 331.15 | 79 | 340.45 | 93 | 353.00 | 1121 |
| 320.95 | 592 | 332.10 | 575 | 341.05 | 970 | 354.05 | 1701 |
| 322.00 | 204 | 333.00 | 421 | 342.05 | 341 | 355.05 | 1022 |
| 323.05 | 5478 | 334.05 | 2508 | 343.15 | 86 | 355.65 | 99 |
| 324.05 | 940 | 335.00 | 772 | 344.95 | 80 | 356.05 | 85 |
| 325.95 | 123 | 337.05 | 67 | 346.00 | 1212 | 356.35 | 102 |
| 326.95 | 888 | 337.65 | 165 | 347.00 | 277 | 357.10 | 208 |
| 327.90 | 703 | 338.15 | 78 | 347.65 | 155 | 358.95 | 192 |
| 329.05 | 142 | 338.95 | 109 | 351.35 | 160 | 359.25 | 74 |
| 329.35 | 89 | 339.35 | 72 | 351.95 | 1765 | 359.45 | 75 |
| 329.95 | 79 | 340.05 | 92 | 352.45 | 147 | 360.00 | 254 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 360.55 | 77 | 369.90 | 222 | 380.70 | 185 | 392.00 | 478 |
| 361.20 | 233 | 371.00 | 481 | 382.95 | 822 | 393.35 | 71 |
| 362.25 | 111 | 372.00 | 2842 | 383.55 | 114 | 396.95 | 105 |
| 363.50 | 352 | 373.05 | 800 | 383.95 | 92 | 397.45 | 165 |
| 363.85 | 89 | 374.15 | 211 | 384.15 | 84 | 400.95 | 128 |
| 364.95 | 6318 | 375.85 | 94 | 384.95 | 268 | 401.95 | 986 |
| 366.00 | 1315 | 376.60 | 172 | 385.85 | 85 | 402.85 | 197 |
| 367.15 | 88 | 377.25 | 229 | 386.05 | 71 | 403.00 | 1134 |
| 367.95 | 152 | 378.35 | 100 | 387.95 | 103 | 403.95 | 889 |
| 369.10 | 191 | 379.35 | 126 | 390.00 | 438 | 404.95 | 113 |
| 369.65 | 124 | 379.90 | 195 | 391.00 | 478 | 405.95 | 71 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 406.75 | 187 | 424.85 | 163 | 431.45 | 87 | 441.05 | 21930 |
| 411.65 | 170 | 425.15 | 98 | 432.25 | 155 | 442.05 | 147976 |
| 414.85 | 106 | 426.65 | 87 | 432.65 | 100 | 443.05 | 27524 |
| 415.95 | 118 | 427.25 | 157 | 433.20 | 186 | 444.00 | 3042 |
| 416.75 | 100 | 427.60 | 167 | 434.05 | 227 | 446.15 | 83 |
| 418.75 | 85 | 427.95 | 110 | 434.35 | 271 | 446.55 | 101 |
| 419.35 | 145 | 428.65 | 91 | 434.95 | 160 | 447.25 | 87 |
| 421.00 | 1693 | 429.05 | 223 | 435.85 | 129 | 450.45 | 89 |
| 422.00 | 1217 | 429.55 | 86 | 436.45 | 78 | 455.15 | 69 |
| 423.05 | 8316 | 429.90 | 168 | 436.65 | 144 | 456.65 | 97 |
| 424.05 | 2201 | 430.65 | 126 | 436.95 | 69 | 458.85 | 182 |

Average of 2.992 to 3.003 min.: m154389.d\data.ms
DFTPP

DFTPPM.M Thu May 16 12:27:08 2019

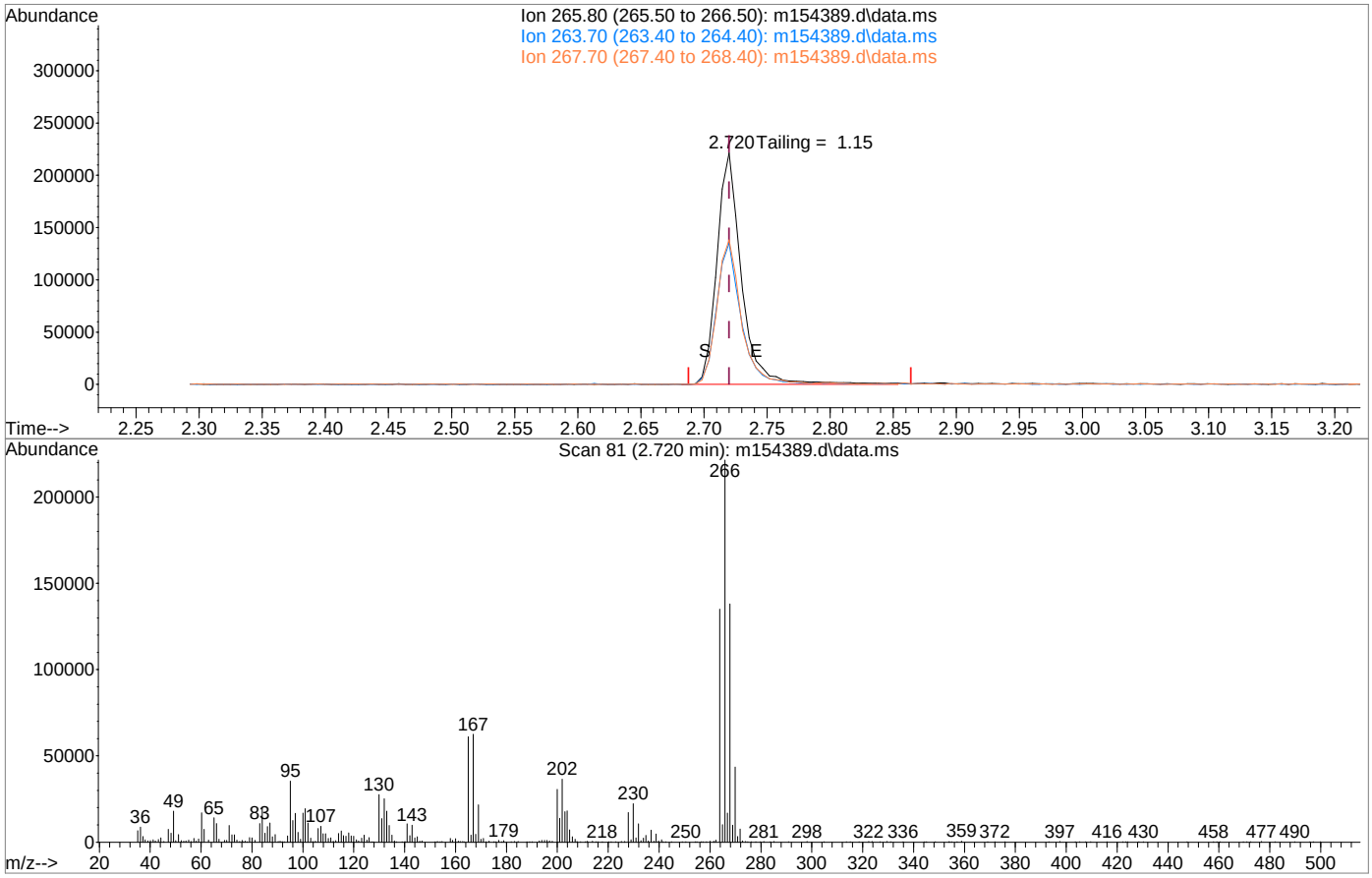
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 463.15 | 80 | 484.85 | 67 | | | | |
| 465.05 | 76 | 489.75 | 74 | | | | |
| 465.75 | 79 | 490.15 | 77 | | | | |
| 466.95 | 72 | 491.25 | 81 | | | | |
| 469.85 | 91 | 492.65 | 73 | | | | |
| 471.05 | 82 | 498.35 | 72 | | | | |
| 476.25 | 81 | 499.25 | 77 | | | | |
| 477.95 | 185 | | | | | | |
| 479.95 | 76 | | | | | | |
| 481.15 | 70 | | | | | | |
| 482.75 | 73 | | | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154389.d
Acq On : 15 May 2019 8:39 am
Operator : christc2
Sample : DFTPP Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Results File: DFTPPM.RES
Quant Time: May 16 12:27:08 2019
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSun Feb 18 15:20:41 2018
QLast Update : Thu May 16 12:26:52 2019
Response via : Continuing Cal File:




TIC: m154389.d\data.ms

(1) Pentachlorophenol (MC)

2.720min (0.000) 0.00ppm

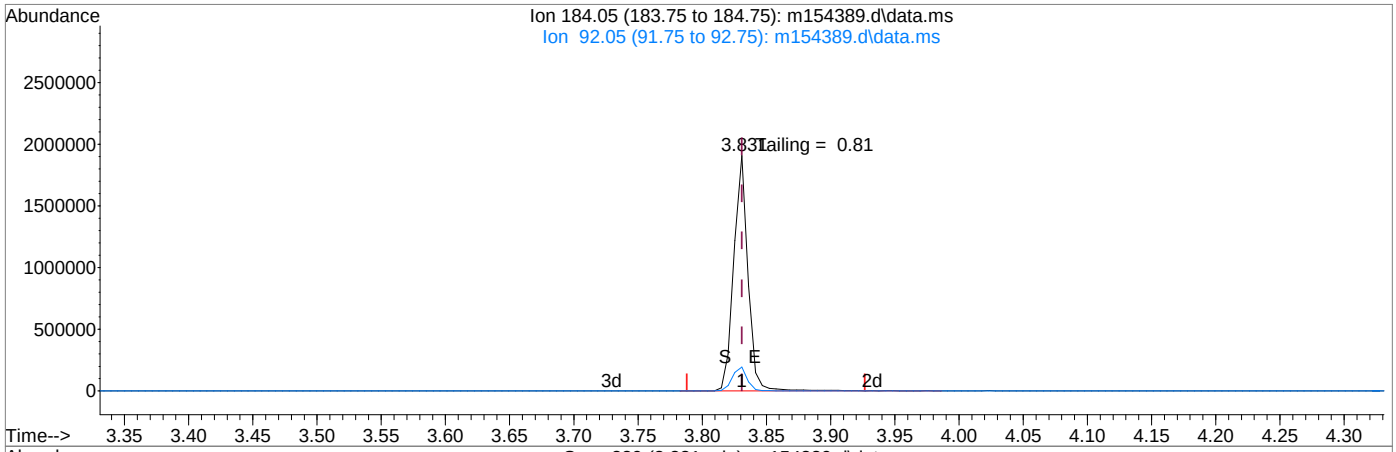
response 301960

| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 61.00 | 60.91 |
| 267.70 | 62.40 | 62.30 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154389.d
Acq On : 15 May 2019 8:39 am
Operator : christc2
Sample : DFTPP Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Results File: DFTPPM.RES
Quant Time: May 16 12:27:08 2019
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSun Feb 18 15:20:41 2018
QLast Update : Thu May 16 12:26:52 2019
Response via : Continuing Cal File:




TIC: m154389.d\data.ms

(2) Benzidine (M)

3.831min (0.000) 0.00ppm

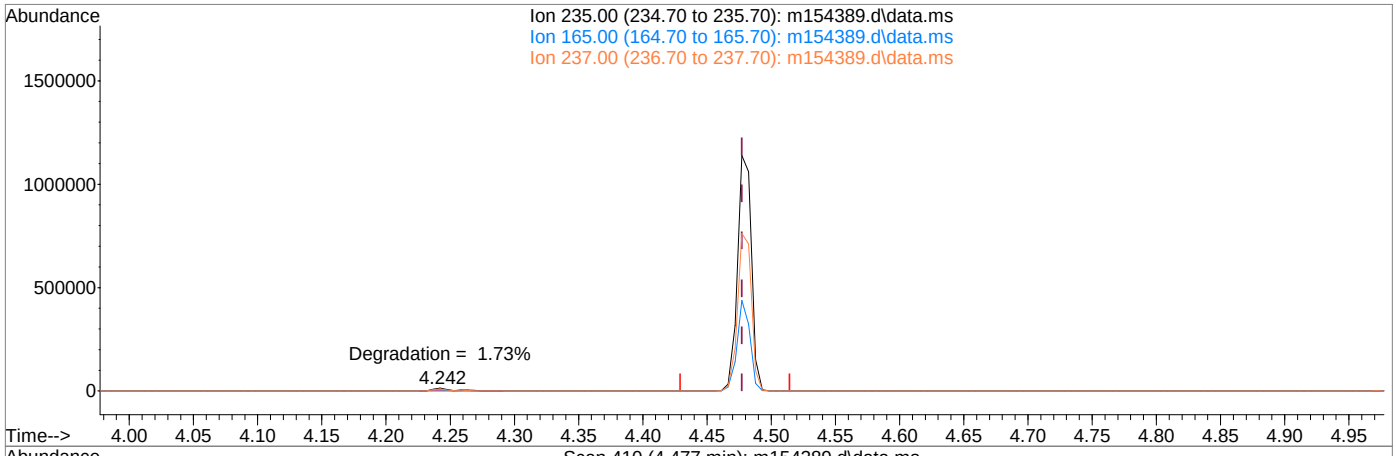
response 1479830

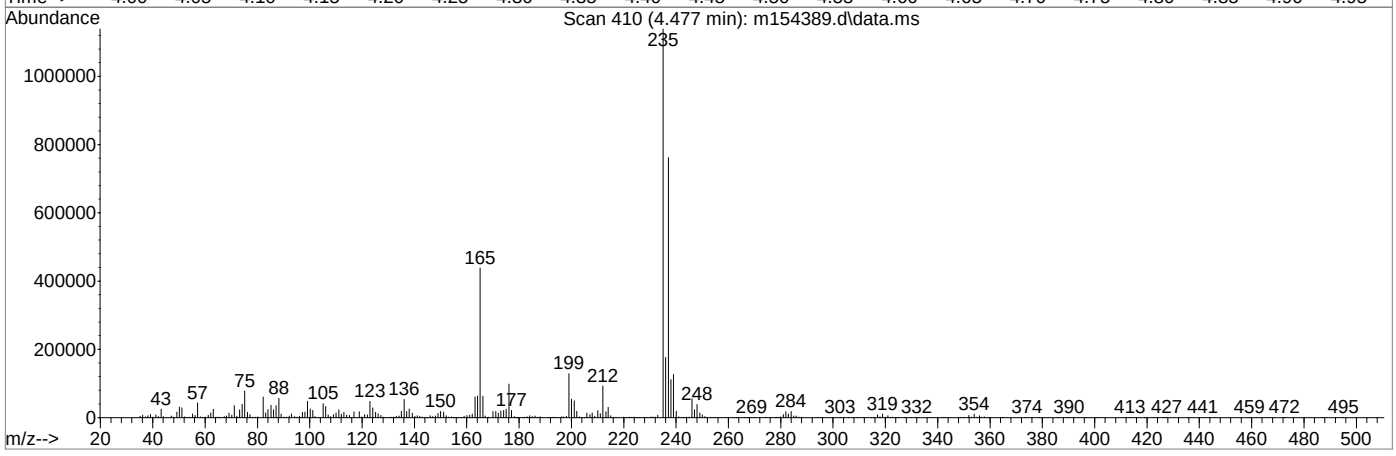
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 10.20 | 10.15 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154389.d
Acq On : 15 May 2019 8:39 am
Operator : christc2
Sample : DFTPP Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Results File: DFTPPM.RES
Quant Time: May 16 12:27:08 2019
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSun Feb 18 15:20:41 2018
QLast Update : Thu May 16 12:26:52 2019
Response via : Continuing Cal File:




TIC: m154389.d\data.ms

(3) PP-DDT (MC)

4.477min (0.000) 0.00ppm

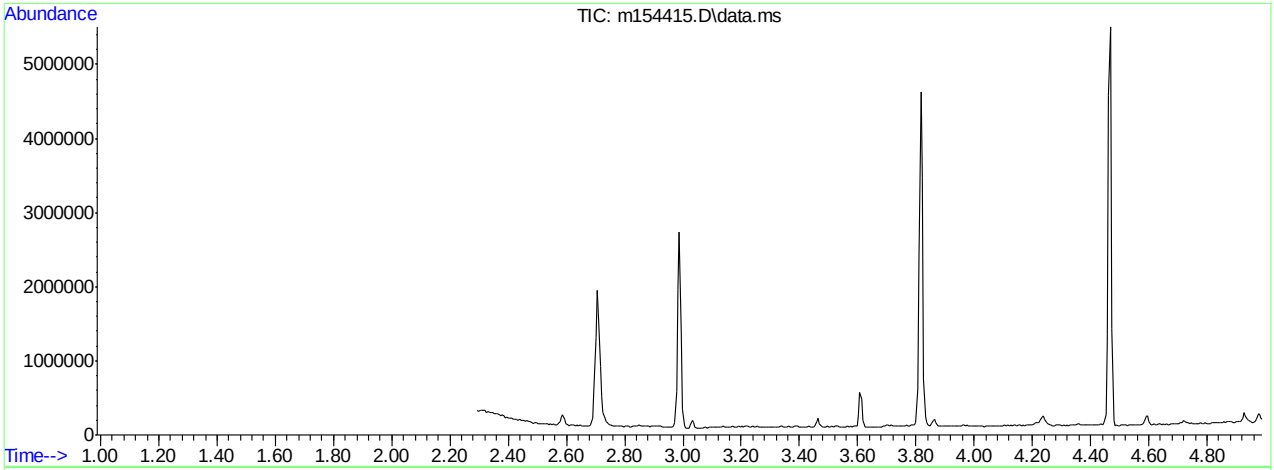
response 870375

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 38.50 | 38.47 |
| 237.00 | 66.90 | 66.88 |
| 0.00 | 0.00 | 0.00 |

DFTPPR

Data File : C:\msdchem\1\DATA\EM6595\m154415.D  Vial: 1
Acq On : 16 May 2019 8:45 am  Operator: christc2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6595,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019




AutoFind: Scans 130, 131, 132; Background Corrected with Scan 124

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 32.4 | 77848 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 43.8 | 105401 | PASS |
| 70 | 69 | 0.00 | 2 | 0.8 | 796 | PASS |
| 127 | 198 | 40 | 60 | 45.3 | 109116 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 240618 | PASS |
| 199 | 198 | 5 | 9 | 7.1 | 16987 | PASS |
| 275 | 198 | 10 | 30 | 23.9 | 57506 | PASS |
| 365 | 198 | 1 | 100 | 2.4 | 5856 | PASS |
| 441 | 443 | 0.10 | 100 | 78.6 | 24321 | PASS |
| 442 | 198 | 40 | 100 | 67.0 | 161160 | PASS |
| 443 | 442 | 17 | 23 | 19.2 | 30926 | PASS |

m154415.D DFTPPM.M Thu May 16 12:43:36 2019

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.10 | 168 | 52.15 | 4300 | 64.15 | 408 | 77.15 | 119712 |
| 38.10 | 1451 | 53.10 | 536 | 65.10 | 1743 | 78.15 | 7910 |
| 39.15 | 6250 | 54.15 | 119 | 67.10 | 189 | 79.05 | 6088 |
| 40.05 | 107 | 55.10 | 344 | 69.05 | 105401 | 80.10 | 4506 |
| 41.10 | 400 | 56.15 | 2194 | 70.15 | 796 | 81.05 | 8096 |
| 43.15 | 14 | 57.15 | 5524 | 71.05 | 78 | 82.05 | 1417 |
| 45.05 | 14 | 58.80 | 296 | 71.75 | 85 | 83.10 | 1080 |
| 47.05 | 47 | 59.85 | 178 | 73.15 | 148 | 84.05 | 1314 |
| 49.10 | 1281 | 61.15 | 1054 | 74.15 | 8066 | 85.15 | 991 |
| 50.15 | 17561 | 62.05 | 862 | 75.05 | 14782 | 86.00 | 1520 |
| 51.10 | 77848 | 63.15 | 3029 | 76.15 | 5876 | 87.05 | 715 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 88.05 | 362 | 100.00 | 857 | 111.05 | 9069 | 120.20 | 395 |
| 89.20 | 328 | 101.05 | 4022 | 112.10 | 1377 | 122.00 | 1562 |
| 89.45 | 78 | 102.35 | 80 | 113.00 | 682 | 123.05 | 2884 |
| 91.05 | 1854 | 103.05 | 1608 | 114.05 | 314 | 124.00 | 1000 |
| 92.10 | 1009 | 104.05 | 2142 | 114.30 | 201 | 125.10 | 801 |
| 93.05 | 9414 | 105.05 | 2162 | 115.05 | 14 | 127.05 | 109116 |
| 94.10 | 585 | 106.00 | 606 | 115.30 | 373 | 128.05 | 7975 |
| 96.05 | 797 | 107.05 | 28115 | 116.05 | 1078 | 129.05 | 40034 |
| 97.05 | 159 | 108.10 | 4940 | 117.00 | 17106 | 130.05 | 3449 |
| 98.05 | 7209 | 109.10 | 540 | 118.05 | 1652 | 131.05 | 599 |
| 99.05 | 5433 | 110.05 | 61109 | 119.10 | 79 | 131.75 | 86 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 132.15 | 538 | 141.05 | 4144 | 151.65 | 369 | 161.95 | 792 |
| 133.15 | 45 | 142.05 | 1914 | 153.00 | 1534 | 163.00 | 313 |
| 134.05 | 1246 | 143.05 | 681 | 153.75 | 307 | 163.55 | 78 |
| 135.00 | 2558 | 145.00 | 266 | 154.05 | 1432 | 164.00 | 333 |
| 136.05 | 882 | 146.00 | 657 | 155.05 | 2135 | 165.05 | 1430 |
| 137.05 | 1579 | 147.05 | 2124 | 156.05 | 3407 | 166.05 | 1780 |
| 137.85 | 234 | 148.05 | 4684 | 157.05 | 1189 | 167.00 | 10142 |
| 138.15 | 85 | 149.05 | 1480 | 158.00 | 805 | 168.05 | 4425 |
| 139.25 | 102 | 150.00 | 587 | 159.05 | 536 | 169.00 | 771 |
| 139.85 | 142 | 151.10 | 535 | 159.95 | 1282 | 169.90 | 252 |
| 140.05 | 355 | 151.35 | 244 | 161.05 | 2302 | 170.25 | 358 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 171.05 | 595 | 181.95 | 302 | 190.95 | 294 | 201.60 | 881 |
| 172.00 | 528 | 182.15 | 216 | 191.15 | 465 | 202.95 | 1355 |
| 173.05 | 1184 | 182.45 | 86 | 192.05 | 2638 | 204.05 | 7150 |
| 174.00 | 1911 | 183.15 | 163 | 193.00 | 1818 | 205.05 | 11906 |
| 175.05 | 3367 | 184.05 | 574 | 194.05 | 910 | 206.05 | 55752 |
| 176.00 | 1558 | 185.05 | 3247 | 194.95 | 492 | 207.05 | 7163 |
| 177.05 | 1583 | 186.05 | 28378 | 196.05 | 8908 | 207.95 | 1565 |
| 178.05 | 566 | 187.05 | 7875 | 198.05 | 240618 | 209.05 | 484 |
| 179.00 | 7280 | 188.05 | 743 | 199.00 | 16987 | 209.55 | 280 |
| 180.05 | 5869 | 189.05 | 1306 | 200.10 | 1592 | 210.15 | 336 |
| 181.05 | 3050 | 190.10 | 393 | 201.40 | 515 | 210.55 | 1105 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 211.05 | 1001 | 219.25 | 306 | 230.05 | 573 | 240.00 | 354 |
| 211.35 | 1024 | 220.00 | 286 | 231.05 | 1768 | 240.25 | 89 |
| 212.05 | 673 | 221.05 | 16782 | 232.10 | 322 | 241.05 | 1052 |
| 213.05 | 324 | 222.05 | 439 | 233.00 | 384 | 242.05 | 1836 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 213.90 | 279 | 223.05 | 3040 | 233.85 | 456 | 243.10 | 2115 |
| 214.25 | 69 | 224.05 | 30880 | 234.05 | 417 | 244.05 | 25621 |
| 215.00 | 716 | 225.05 | 7295 | 234.90 | 807 | 245.05 | 3581 |
| 215.95 | 1150 | 225.95 | 972 | 236.00 | 612 | 246.05 | 3924 |
| 217.00 | 11898 | 227.05 | 11294 | 236.95 | 946 | 247.00 | 1089 |
| 218.05 | 1960 | 228.00 | 1425 | 238.05 | 354 | 247.65 | 69 |
| 218.75 | 96 | 229.05 | 2792 | 238.90 | 621 | 247.95 | 291 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 248.15 | 97 | 257.95 | 5577 | 266.00 | 771 | 274.05 | 9283 |
| 249.00 | 1042 | 259.00 | 1304 | 267.15 | 245 | 275.05 | 57506 |
| 250.15 | 172 | 259.95 | 147 | 267.80 | 57 | 276.05 | 7488 |
| 250.75 | 186 | 260.85 | 179 | 268.45 | 76 | 277.00 | 3709 |
| 251.15 | 107 | 261.10 | 331 | 269.90 | 127 | 277.90 | 435 |
| 251.55 | 122 | 261.95 | 77 | 270.50 | 190 | 279.00 | 178 |
| 253.10 | 709 | 262.15 | 90 | 271.00 | 436 | 279.95 | 153 |
| 254.00 | 1557 | 262.75 | 96 | 271.85 | 318 | 281.05 | 326 |
| 255.05 | 123681 | 263.55 | 120 | 272.10 | 418 | 281.35 | 188 |
| 256.05 | 16996 | 264.25 | 150 | 272.35 | 282 | 282.20 | 174 |
| 257.00 | 969 | 265.00 | 2317 | 273.05 | 4657 | 283.10 | 272 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 284.05 | 386 | 294.15 | 317 | 306.75 | 74 | 315.05 | 1376 |
| 285.00 | 934 | 295.00 | 228 | 307.95 | 215 | 316.00 | 594 |
| 286.15 | 218 | 296.05 | 12736 | 308.35 | 107 | 318.35 | 100 |
| 287.10 | 232 | 297.05 | 1968 | 308.95 | 130 | 319.55 | 92 |
| 288.10 | 173 | 298.05 | 106 | 309.35 | 148 | 321.00 | 555 |
| 289.05 | 108 | 298.35 | 93 | 309.75 | 72 | 321.85 | 121 |
| 289.25 | 102 | 299.35 | 72 | 310.25 | 77 | 322.15 | 256 |
| 289.95 | 290 | 301.05 | 170 | 311.00 | 171 | 323.05 | 4624 |
| 291.20 | 243 | 301.90 | 295 | 312.15 | 110 | 323.75 | 168 |
| 291.95 | 232 | 303.05 | 1711 | 313.05 | 129 | 324.05 | 970 |
| 293.00 | 1092 | 304.10 | 17 | 314.10 | 692 | 324.65 | 95 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 325.05 | 172 | 332.55 | 100 | 341.05 | 289 | 352.00 | 1374 |
| 325.75 | 129 | 332.85 | 190 | 342.05 | 125 | 353.00 | 1205 |
| 326.05 | 165 | 333.05 | 398 | 343.05 | 173 | 354.00 | 1817 |
| 327.00 | 839 | 333.35 | 162 | 345.35 | 74 | 354.75 | 117 |
| 327.95 | 565 | 334.05 | 2997 | 346.00 | 1556 | 354.95 | 235 |
| 328.95 | 83 | 335.00 | 1079 | 346.95 | 301 | 355.25 | 167 |
| 329.55 | 76 | 336.15 | 314 | 347.75 | 80 | 355.85 | 95 |
| 329.95 | 92 | 337.25 | 68 | 348.25 | 78 | 356.80 | 213 |
| 330.95 | 109 | 338.30 | 141 | 350.00 | 224 | 358.15 | 82 |
| 331.15 | 82 | 339.65 | 73 | 350.60 | 172 | 358.45 | 80 |
| 331.95 | 336 | 340.85 | 278 | 350.95 | 94 | 360.05 | 72 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 360.95 | 94 | 368.35 | 71 | 382.30 | 160 | 395.95 | 114 |
| 361.25 | 89 | 369.05 | 80 | 383.00 | 731 | 396.85 | 74 |
| 361.55 | 85 | 369.55 | 104 | 383.85 | 70 | 398.25 | 186 |
| 362.15 | 88 | 369.95 | 128 | 388.05 | 73 | 400.65 | 20 |
| 363.15 | 342 | 370.95 | 852 | 388.25 | 95 | 401.05 | 236 |
| 365.00 | 5856 | 372.00 | 2476 | 390.00 | 521 | 401.95 | 1244 |
| 365.90 | 980 | 373.05 | 845 | 390.95 | 201 | 403.00 | 1724 |
| 366.75 | 68 | 374.05 | 116 | 391.15 | 316 | 403.90 | 848 |
| 367.35 | 74 | 376.25 | 99 | 392.95 | 151 | 404.85 | 111 |
| 367.65 | 100 | 377.05 | 75 | 393.85 | 91 | 405.75 | 100 |
| 368.05 | 79 | 379.05 | 100 | 394.30 | 224 | 406.15 | 73 |

Average of 2.983 to 2.994 min.: m154415.D\data.ms

DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 407.85 | 131 | 424.00 | 2232 | 432.55 | 88 | 441.00 | 24321 |
| 408.85 | 94 | 425.00 | 306 | 432.90 | 290 | 442.05 | 161160 |
| 410.85 | 91 | 426.35 | 138 | 433.95 | 144 | 443.05 | 30926 |
| 411.45 | 79 | 426.65 | 156 | 434.80 | 204 | 443.95 | 1910 |
| 414.25 | 91 | 426.85 | 90 | 435.55 | 111 | 444.15 | 1000 |
| 415.05 | 99 | 427.75 | 100 | 436.65 | 188 | 445.00 | 291 |
| 415.50 | 251 | 427.95 | 140 | 437.25 | 85 | 446.05 | 141 |
| 420.05 | 108 | 428.95 | 82 | 437.85 | 73 | 449.55 | 72 |
| 421.00 | 1713 | 430.65 | 141 | 438.30 | 155 | 449.75 | 78 |
| 422.00 | 1074 | 431.00 | 275 | 438.55 | 68 | 452.05 | 100 |
| 423.05 | 9593 | 431.65 | 37 | 438.95 | 83 | 455.65 | 106 |

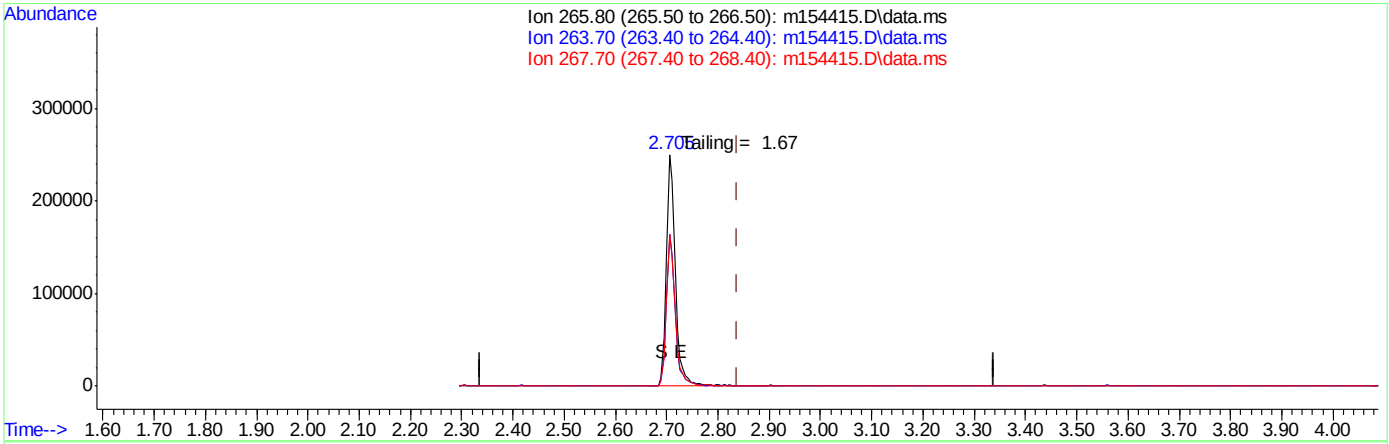
Average of 2.983 to 2.994 min.: m154415.D\data.ms
DFTPP
Modified:subtracted

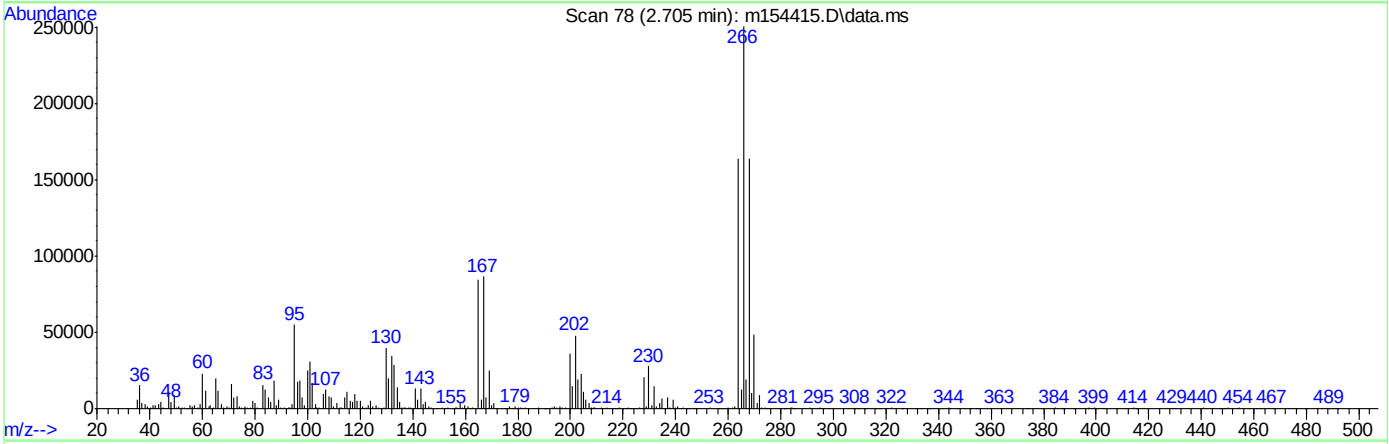
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 457.35 | 143 | 476.05 | 77 | | | | |
| 457.95 | 72 | 481.65 | 78 | | | | |
| 459.55 | 95 | 485.95 | 78 | | | | |
| 463.05 | 82 | 487.95 | 77 | | | | |
| 464.85 | 77 | 488.90 | 160 | | | | |
| 465.25 | 80 | 491.75 | 68 | | | | |
| 466.05 | 82 | 493.65 | 81 | | | | |
| 467.95 | 91 | 493.85 | 73 | | | | |
| 469.85 | 99 | 495.75 | 91 | | | | |
| 472.15 | 90 | 497.65 | 68 | | | | |
| 473.45 | 116 | | | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154415.D
Acq On : 16 May 2019 8:45 am
Operator : christc2
Sample : DFTPP
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 16 08:50:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019
QLast Update : Sat May 04 11:03:10 2019
Response via : Continuing Cal File:




TIC: m154415.D\data.ms

(1) Pentachlorophenol (MC)

2.705min (-0.133) 0.00ppm

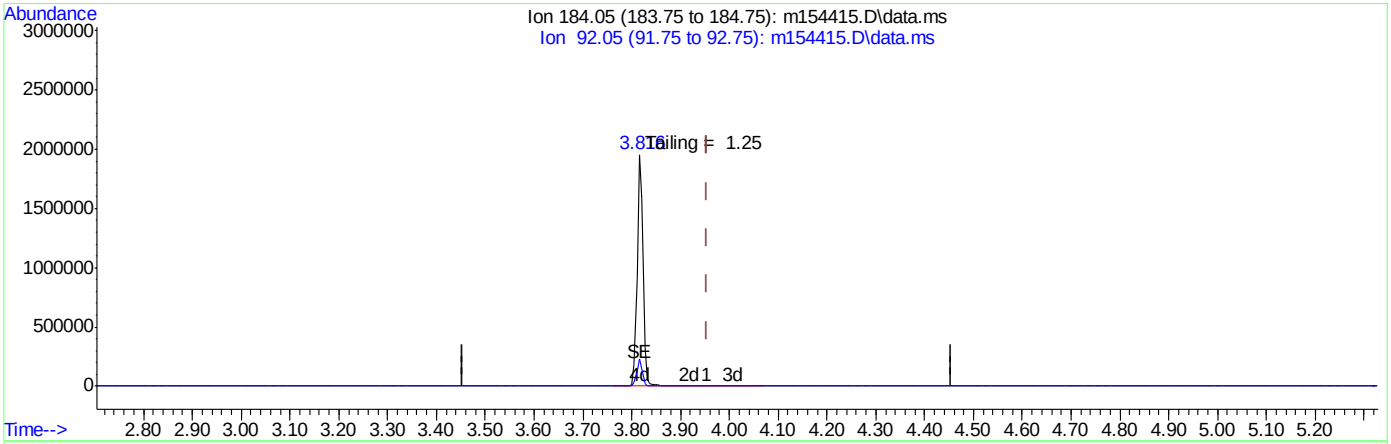
response 303557

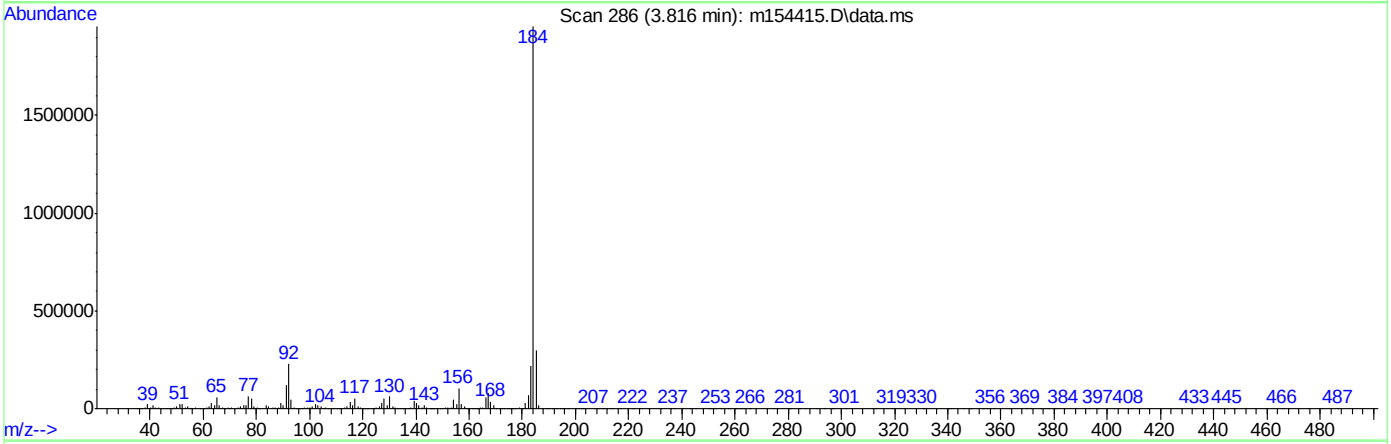
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 64.00 | 65.34 |
| 267.70 | 67.40 | 65.38 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154415.D
Acq On : 16 May 2019 8:45 am
Operator : christc2
Sample : DFTPP
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 16 08:50:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019
QLast Update : Sat May 04 11:03:10 2019
Response via : Continuing Cal File:




TIC: m154415.D\data.ms

(2) Benzidine (M)

3.816min (-0.138) 0.00ppm m

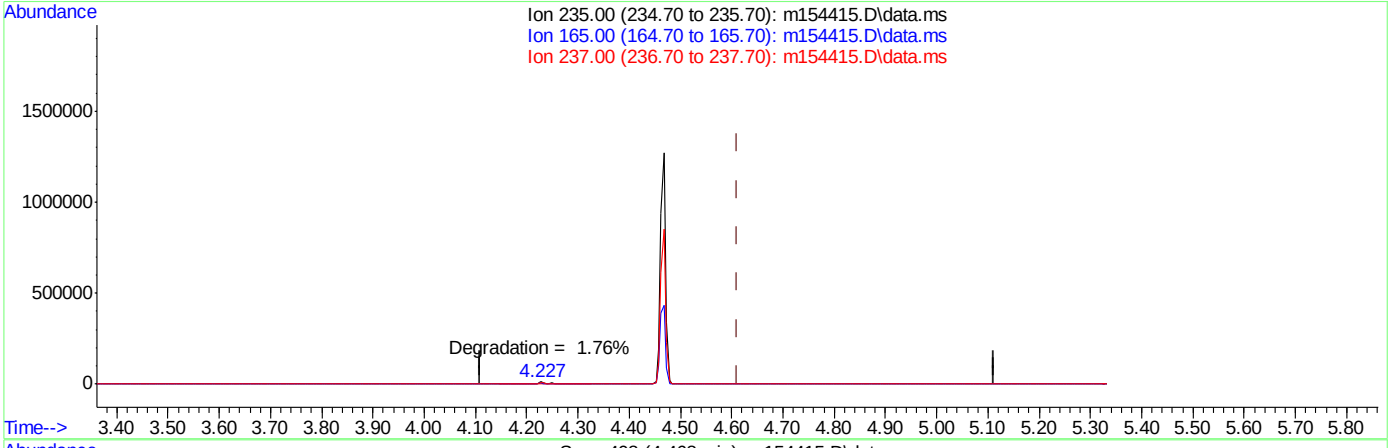
response 1665133

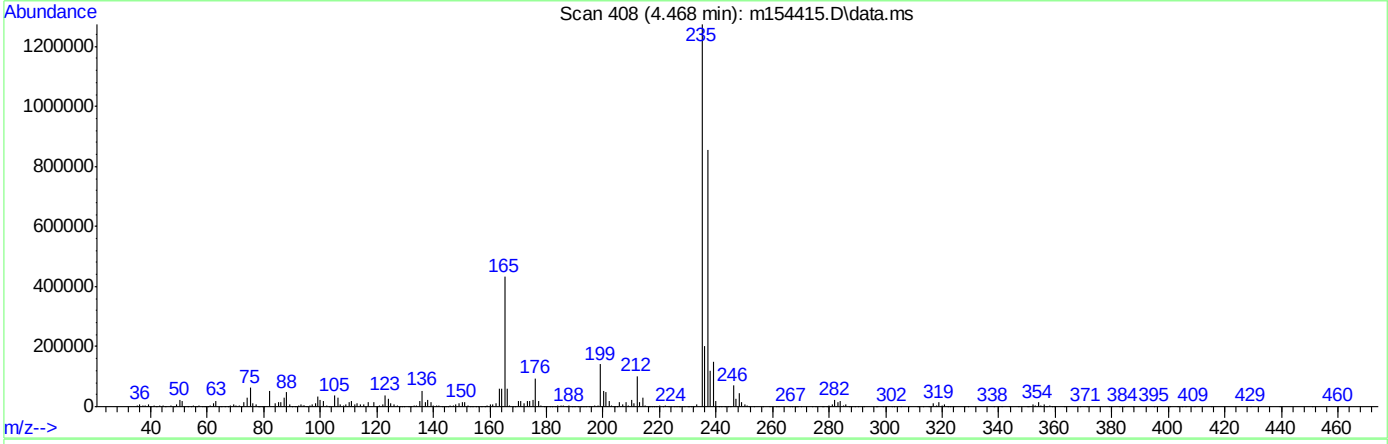
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 8.10 | 11.62# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154415.D
Acq On : 16 May 2019 8:45 am
Operator : christc2
Sample : DFTPP
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 16 08:50:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019
QLast Update : Sat May 04 11:03:10 2019
Response via : Continuing Cal File:




TIC: m154415.D\data.ms

(3) PP-DDT (MC)

4.468min (-0.144) 0.00ppm

response 893223

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 34.90 | 33.92 |
| 237.00 | 66.20 | 67.00 |
| 0.00 | 0.00 | 0.00 |

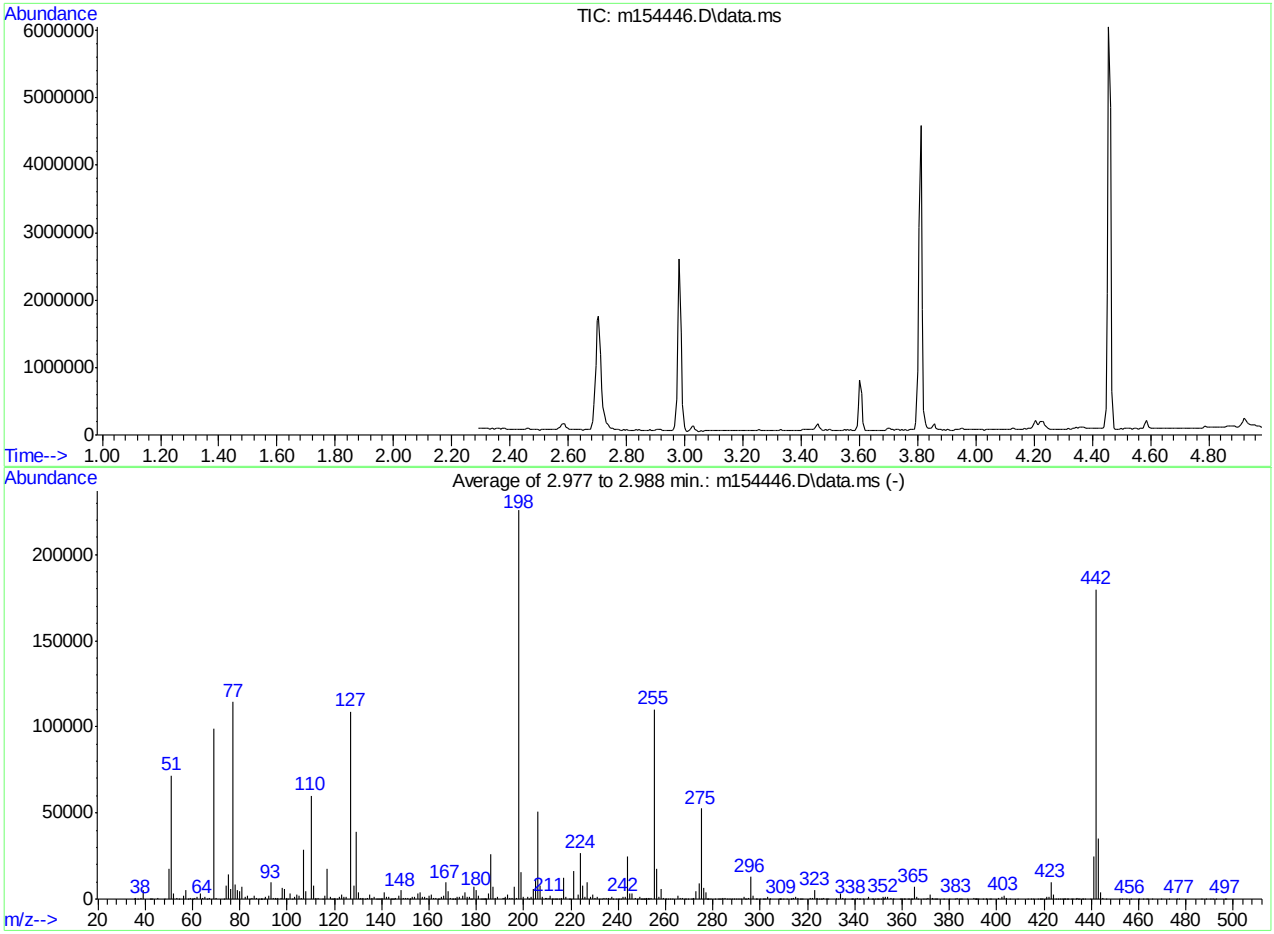
9.7.23.3

9

DFTPPR

Data File : C:\msdchem\1\DATA\EM6596\m154446.D  Vial: 1
Acq On : 17 May 2019 11:41 am  Operator: christc2
Sample : DFTPP  Inst : MSM
Misc : op17006,em6596,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPPM.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019




AutoFind: Scans 129, 130, 131; Background Corrected with Scan 122

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 31.8 | 71710 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 43.7 | 98689 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 449 | PASS |
| 127 | 198 | 40 | 60 | 48.2 | 108717 | PASS |
| 197 | 198 | 0.00 | 1 | 0.3 | 597 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 225642 | PASS |
| 199 | 198 | 5 | 9 | 6.9 | 15561 | PASS |
| 275 | 198 | 10 | 30 | 23.4 | 52706 | PASS |
| 365 | 198 | 1 | 100 | 3.1 | 6974 | PASS |
| 441 | 443 | 0.10 | 100 | 71.4 | 25075 | PASS |
| 442 | 198 | 40 | 100 | 79.7 | 179946 | PASS |
| 443 | 442 | 17 | 23 | 19.5 | 35128 | PASS |

m154446.D DFTPPM.M Fri May 17 15:58:33 2019

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.15 | 258 | 51.10 | 71710 | 62.10 | 1011 | 76.15 | 5745 |
| 36.05 | 422 | 52.10 | 3325 | 63.15 | 3340 | 77.10 | 114470 |
| 36.95 | 224 | 53.15 | 471 | 64.05 | 361 | 78.15 | 8240 |
| 38.10 | 488 | 54.15 | 104 | 65.15 | 1515 | 79.05 | 5150 |
| 39.15 | 5391 | 56.10 | 2194 | 66.20 | 290 | 80.05 | 4880 |
| 42.15 | 113 | 57.10 | 4933 | 67.20 | 422 | 81.05 | 7213 |
| 42.55 | 132 | 58.05 | 350 | 69.05 | 98689 | 82.05 | 1421 |
| 43.10 | 80 | 59.00 | 400 | 70.10 | 449 | 83.15 | 1858 |
| 45.10 | 385 | 59.95 | 172 | 73.05 | 85 | 84.05 | 142 |
| 48.10 | 22 | 60.15 | 67 | 74.15 | 8106 | 85.15 | 978 |
| 50.10 | 17346 | 61.15 | 989 | 75.05 | 14222 | 86.05 | 1692 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 87.05 | 940 | 95.20 | 383 | 105.05 | 2237 | 118.10 | 1358 |
| 88.00 | 220 | 96.00 | 791 | 106.05 | 784 | 118.75 | 91 |
| 88.85 | 108 | 97.30 | 447 | 107.05 | 28369 | 119.05 | 113 |
| 89.05 | 216 | 98.00 | 6712 | 108.10 | 4424 | 119.75 | 194 |
| 89.35 | 74 | 99.05 | 5893 | 110.05 | 60229 | 120.20 | 397 |
| 90.25 | 79 | 99.95 | 382 | 111.05 | 8075 | 120.95 | 103 |
| 91.05 | 1154 | 100.15 | 37 | 112.05 | 801 | 122.05 | 1249 |
| 92.05 | 1901 | 101.05 | 3457 | 113.05 | 482 | 123.05 | 2364 |
| 93.05 | 9528 | 102.05 | 139 | 115.10 | 254 | 124.05 | 1534 |
| 94.05 | 376 | 103.00 | 1179 | 116.00 | 1717 | 125.00 | 1016 |
| 94.95 | 154 | 104.10 | 2307 | 117.05 | 17572 | 127.05 | 108717 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 128.10 | 7997 | 137.00 | 1487 | 144.95 | 76 | 154.05 | 1178 |
| 129.05 | 39034 | 137.55 | 169 | 145.20 | 325 | 155.05 | 3030 |
| 130.10 | 3663 | 138.05 | 195 | 146.00 | 919 | 156.05 | 3853 |
| 130.65 | 250 | 138.85 | 87 | 147.05 | 1921 | 157.10 | 1088 |
| 131.00 | 517 | 139.00 | 200 | 148.05 | 4964 | 158.00 | 1043 |
| 131.65 | 188 | 140.10 | 527 | 149.05 | 669 | 159.05 | 747 |
| 132.10 | 595 | 141.05 | 3912 | 150.15 | 560 | 160.00 | 1942 |
| 132.90 | 303 | 142.05 | 1346 | 151.00 | 905 | 161.05 | 2660 |
| 134.00 | 630 | 143.05 | 1498 | 151.90 | 277 | 162.05 | 797 |
| 135.05 | 2880 | 143.95 | 285 | 152.15 | 223 | 163.00 | 387 |
| 136.05 | 930 | 144.15 | 153 | 153.00 | 1402 | 163.95 | 267 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 164.25 | 158 | 173.00 | 1427 | 182.25 | 92 | 191.10 | 815 |
| 165.00 | 1264 | 174.05 | 2081 | 182.65 | 79 | 191.95 | 784 |
| 166.05 | 1742 | 175.05 | 3747 | 183.05 | 322 | 192.10 | 1349 |
| 167.05 | 9641 | 176.05 | 1204 | 183.55 | 203 | 193.05 | 2622 |
| 168.05 | 4671 | 177.05 | 1359 | 183.85 | 269 | 194.10 | 823 |
| 169.00 | 921 | 177.75 | 115 | 184.20 | 209 | 194.95 | 576 |
| 169.95 | 71 | 178.00 | 64 | 185.05 | 3527 | 196.05 | 7488 |
| 170.15 | 268 | 179.00 | 7077 | 186.00 | 25777 | 196.75 | 597 |
| 170.85 | 191 | 180.05 | 5314 | 187.00 | 6867 | 198.05 | 225642 |
| 171.05 | 181 | 181.05 | 2063 | 188.00 | 926 | 199.00 | 15561 |
| 172.00 | 1125 | 182.00 | 344 | 189.00 | 1406 | 199.95 | 1526 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 201.55 | 1422 | 211.05 | 1952 | 219.85 | 111 | 232.05 | 229 |
| 202.05 | 7 | 212.05 | 321 | 221.05 | 16078 | 233.00 | 169 |
| 202.95 | 1027 | 212.25 | 69 | 223.00 | 2401 | 233.95 | 799 |
| 204.00 | 5816 | 213.15 | 279 | 224.05 | 26941 | 235.00 | 525 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 205.05 | 11671 | 213.55 | 95 | 225.05 | 7535 | 236.05 | 700 |
| 206.05 | 50666 | 214.00 | 146 | 226.10 | 1015 | 236.25 | 101 |
| 207.00 | 7654 | 215.10 | 306 | 227.05 | 9559 | 237.05 | 1217 |
| 208.05 | 1333 | 216.00 | 695 | 228.05 | 1390 | 237.75 | 116 |
| 209.05 | 513 | 217.00 | 12432 | 229.05 | 2621 | 239.00 | 164 |
| 209.90 | 359 | 218.00 | 1509 | 230.00 | 531 | 239.90 | 9 |
| 210.50 | 922 | 219.35 | 351 | 231.10 | 1127 | 240.15 | 215 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 241.00 | 316 | 250.35 | 156 | 257.00 | 1092 | 268.05 | 180 |
| 242.05 | 1620 | 250.75 | 95 | 258.00 | 5655 | 268.65 | 68 |
| 243.05 | 1384 | 251.00 | 260 | 258.95 | 616 | 269.65 | 219 |
| 244.05 | 25034 | 251.40 | 211 | 259.75 | 82 | 271.05 | 208 |
| 245.05 | 3591 | 252.00 | 635 | 259.95 | 141 | 271.35 | 222 |
| 246.00 | 3561 | 252.55 | 159 | 261.05 | 71 | 272.05 | 462 |
| 247.00 | 932 | 252.85 | 193 | 261.95 | 93 | 273.00 | 4438 |
| 248.00 | 318 | 253.10 | 761 | 262.85 | 201 | 274.00 | 9448 |
| 249.05 | 1108 | 253.95 | 559 | 265.00 | 2058 | 275.05 | 52706 |
| 249.70 | 208 | 255.05 | 110240 | 266.00 | 371 | 276.05 | 6852 |
| 250.05 | 172 | 256.05 | 17700 | 267.00 | 352 | 277.05 | 4169 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 277.75 | 177 | 286.95 | 213 | 297.00 | 1804 | 308.10 | 247 |
| 277.95 | 234 | 287.95 | 85 | 298.15 | 100 | 308.35 | 103 |
| 278.15 | 153 | 289.00 | 244 | 298.55 | 71 | 309.00 | 310 |
| 279.10 | 293 | 290.05 | 280 | 299.95 | 90 | 309.85 | 112 |
| 280.80 | 193 | 290.95 | 195 | 301.00 | 191 | 311.35 | 76 |
| 282.15 | 72 | 291.85 | 169 | 301.85 | 81 | 312.85 | 83 |
| 282.85 | 234 | 292.95 | 1313 | 302.00 | 278 | 313.10 | 203 |
| 283.15 | 327 | 293.75 | 164 | 303.10 | 1626 | 313.85 | 438 |
| 284.05 | 582 | 294.00 | 187 | 304.00 | 90 | 314.10 | 438 |
| 285.05 | 621 | 295.05 | 503 | 304.25 | 96 | 315.00 | 1473 |
| 286.05 | 101 | 295.95 | 12847 | 307.75 | 230 | 316.00 | 717 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 316.95 | 227 | 326.95 | 976 | 338.75 | 101 | 348.45 | 77 |
| 317.35 | 155 | 327.85 | 288 | 339.05 | 71 | 349.35 | 98 |
| 317.95 | 72 | 328.15 | 211 | 340.05 | 254 | 349.75 | 81 |
| 321.05 | 737 | 328.65 | 105 | 340.95 | 635 | 350.15 | 145 |
| 322.05 | 503 | 331.80 | 261 | 341.80 | 173 | 350.85 | 311 |
| 323.05 | 5500 | 332.15 | 196 | 342.20 | 196 | 351.75 | 200 |
| 323.80 | 45 | 333.10 | 252 | 343.25 | 123 | 352.00 | 1269 |
| 324.05 | 908 | 334.00 | 3392 | 345.15 | 107 | 352.25 | 116 |
| 325.10 | 308 | 335.00 | 490 | 345.90 | 1222 | 352.95 | 1119 |
| 325.85 | 164 | 335.65 | 73 | 347.05 | 188 | 354.00 | 1391 |
| 326.05 | 82 | 338.50 | 197 | 347.55 | 93 | 355.05 | 383 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 355.95 | 200 | 364.95 | 6974 | 374.75 | 76 | 391.05 | 187 |
| 356.25 | 109 | 366.00 | 1012 | 377.65 | 104 | 391.25 | 74 |
| 359.05 | 216 | 366.55 | 83 | 379.95 | 117 | 391.75 | 145 |
| 359.55 | 87 | 369.15 | 147 | 382.05 | 81 | 392.35 | 98 |
| 359.95 | 82 | 370.00 | 183 | 383.05 | 854 | 394.05 | 76 |
| 360.85 | 150 | 371.05 | 515 | 384.00 | 321 | 395.55 | 182 |
| 361.15 | 112 | 372.05 | 2667 | 384.65 | 158 | 395.75 | 85 |
| 362.15 | 81 | 372.75 | 122 | 384.95 | 96 | 397.15 | 69 |
| 363.05 | 79 | 373.00 | 618 | 387.55 | 77 | 397.45 | 80 |
| 363.95 | 100 | 373.85 | 132 | 390.10 | 476 | 400.95 | 442 |
| 364.25 | 215 | 374.05 | 142 | 390.75 | 253 | 402.00 | 1185 |

Average of 2.977 to 2.988 min.: m154446.D\data.ms

DFTPP
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 403.05 | 2151 | 420.75 | 174 | 428.85 | 87 | 437.35 | 208 |
| 404.00 | 886 | 421.00 | 1229 | 429.55 | 157 | 439.45 | 71 |
| 405.25 | 97 | 421.95 | 1143 | 430.15 | 322 | 441.00 | 25075 |
| 408.75 | 74 | 423.00 | 10007 | 431.35 | 124 | 442.05 | 179946 |
| 413.00 | 189 | 424.00 | 2395 | 432.15 | 333 | 443.05 | 35128 |
| 414.55 | 181 | 425.00 | 130 | 433.30 | 175 | 444.00 | 3664 |
| 415.65 | 114 | 426.00 | 181 | 433.80 | 368 | 444.90 | 390 |
| 417.25 | 67 | 426.95 | 178 | 434.25 | 72 | 446.10 | 201 |
| 418.25 | 71 | 427.75 | 81 | 434.95 | 186 | 451.85 | 73 |
| 418.65 | 82 | 428.25 | 164 | 436.05 | 204 | 453.05 | 79 |
| 419.05 | 70 | 428.45 | 95 | 436.45 | 159 | 454.85 | 90 |

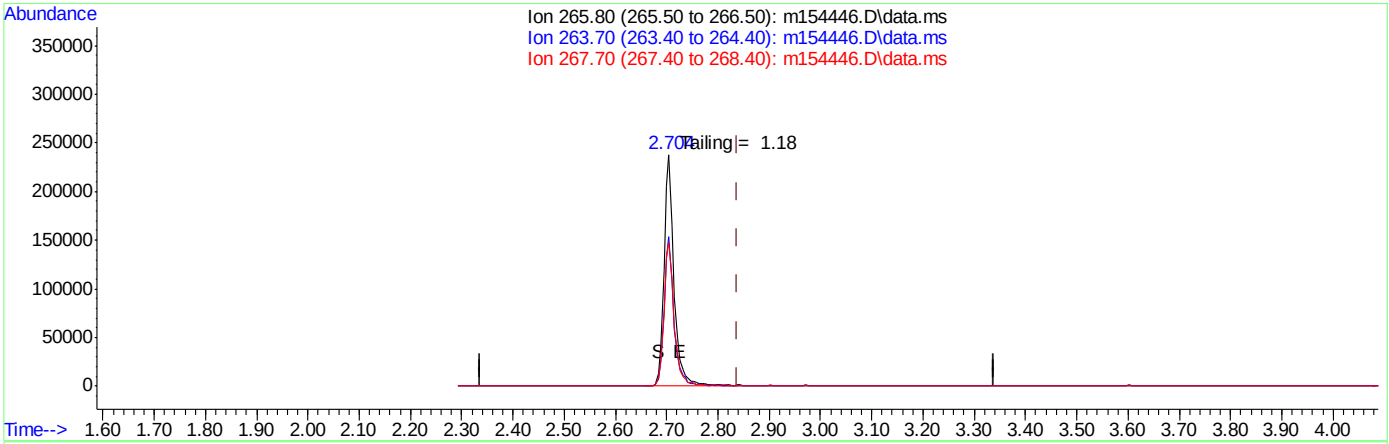
Average of 2.977 to 2.988 min.: m154446.D\data.ms
DFTPP
Modified:subtracted

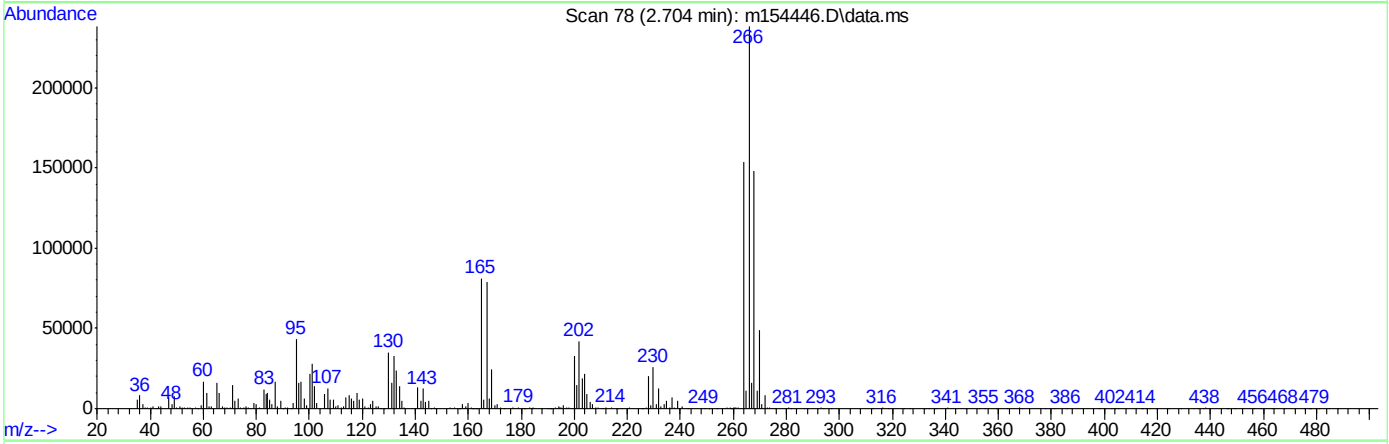
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 456.45 | 109 | 486.65 | 68 | | | | |
| 459.75 | 72 | 488.55 | 75 | | | | |
| 460.15 | 83 | 490.15 | 73 | | | | |
| 461.85 | 76 | 491.45 | 86 | | | | |
| 463.25 | 73 | 492.75 | 80 | | | | |
| 463.75 | 88 | 496.25 | 82 | | | | |
| 465.85 | 104 | 496.75 | 175 | | | | |
| 469.25 | 90 | | | | | | |
| 472.65 | 92 | | | | | | |
| 475.85 | 92 | | | | | | |
| 477.05 | 179 | | | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154446.D
Acq On : 17 May 2019 11:41 am
Operator : christc2
Sample : DFTPP
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 11:47:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019
QLast Update : Sat May 04 11:03:10 2019
Response via : Continuing Cal File:




TIC: m154446.D\data.ms

(1) Pentachlorophenol (MC)

2.704min (-0.134) 0.00ppm

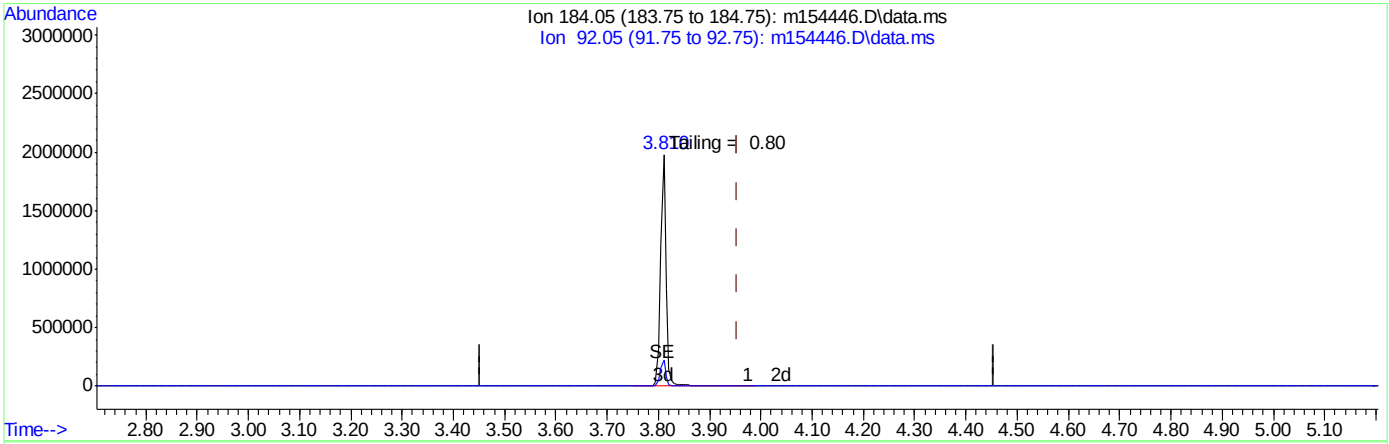
response 325019

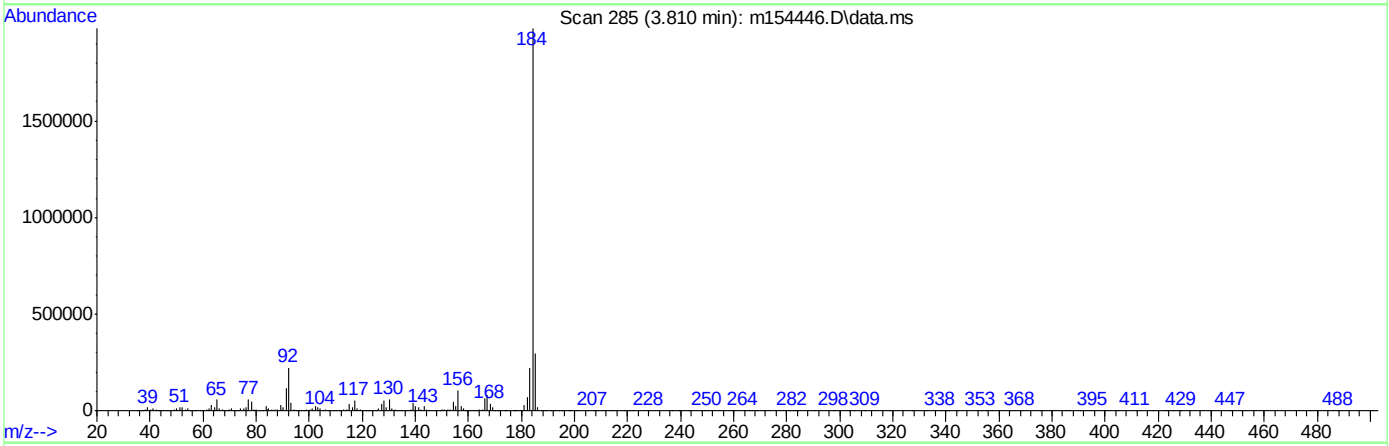
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.70 | 64.00 | 64.44 |
| 267.70 | 67.40 | 61.94 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154446.D
Acq On : 17 May 2019 11:41 am
Operator : christc2
Sample : DFTPP
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 11:47:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019
QLast Update : Sat May 04 11:03:10 2019
Response via : Continuing Cal File:




TIC: m154446.D\data.ms

(2) Benzidine (M)

3.810min (-0.144) 0.00ppm m

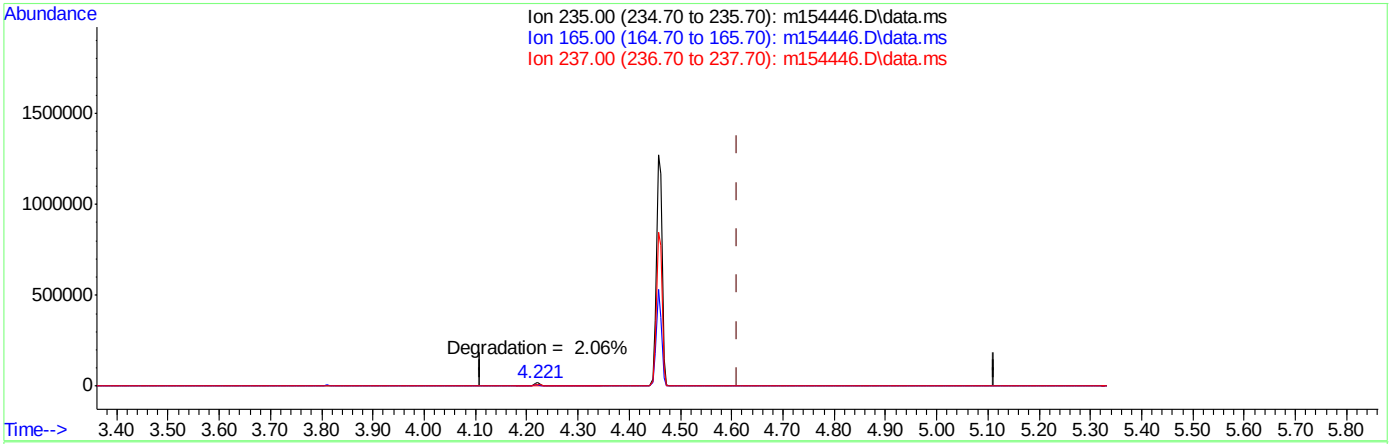
response 1511549

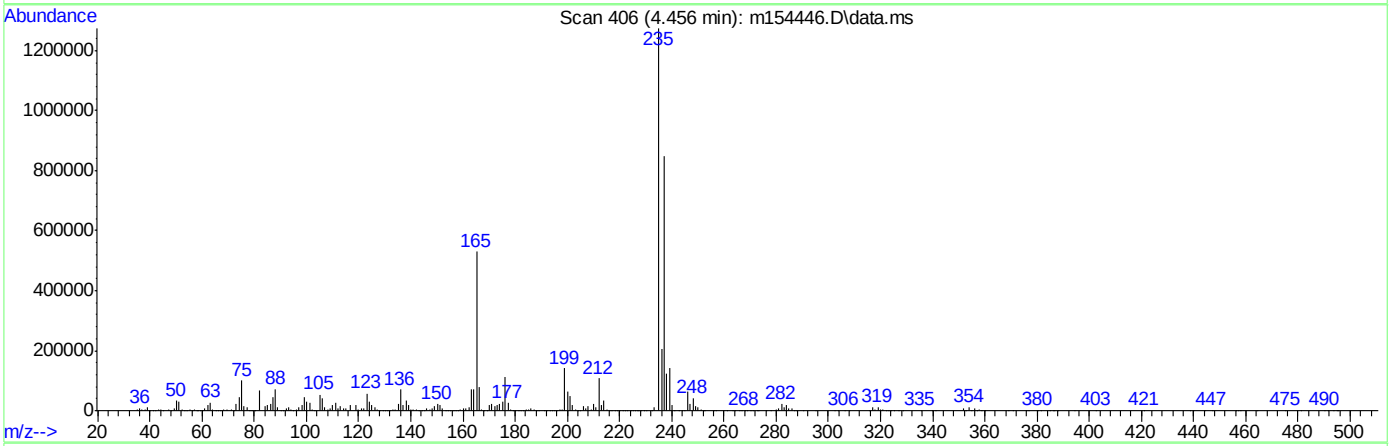
| Ion | Exp% | Act% |
|---|---|---|
| 184.05 | 100 | 100 |
| 92.05 | 8.10 | 11.15# |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154446.D
Acq On : 17 May 2019 11:41 am
Operator : christc2
Sample : DFTPP
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 17 11:47:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPM.M
Quant Title : Semi Volatile Extractables by GC/MS rxi-5silms 30mSat May 04 11:03:10 2019
QLast Update : Sat May 04 11:03:10 2019
Response via : Continuing Cal File:




TIC: m154446.D\data.ms

(3) PP-DDT (MC)

4.456min (-0.155) 0.00ppm

response 962837

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 34.90 | 41.60 |
| 237.00 | 66.20 | 66.68 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111868.D
Acq On : 14 May 2019 4:16 pm
Operator : christc2
Sample : ic4974-1
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 09:28:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 353995 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1356620 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 728645 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1153944 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 940497 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.441 | 264 | 1035426 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 353995 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 728645 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 940497 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1153944 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1356620 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 940497 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.802 | 112 | 12565 | 0.94 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.88% | |
| 8) Phenol-d5 | 4.508 | 99 | 15435 | 0.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.92% | |
| 25) Nitrobenzene-d5 | 5.246 | 82 | 11764 | 0.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.86% | |
| 51) 2-Fluorobiphenyl | 7.118 | 172 | 27462 | 1.07 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.14% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 12.718 | 244 | 20455 | 0.87 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.74% | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.379 | 88 | 6533 | 1.07 | ppm | 88 |
| 3) Pyridine | 2.705 | 79 | 15072 | 0.95 | ppm | 90 |
| 4) N-Nitrosodimethylamine | 2.657 | 74 | 9348 | 1.00 | ppm | 97 |
| 6) Indene | 5.005 | 116 | 23028 | 1.13 | ppm | 96 |
| 7) Cumene | 4.203 | 105 | 35343 | 1.12 | ppm | 97 |
| 9) Phenol | 4.518 | 94 | 15973 | 0.91 | ppm | 89 |
| 10) Aniline | 4.540 | 93 | 21919 | 1.32 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 14032 | 1.05 | ppm | 99 |
| 12) 2-Chlorophenol | 4.636 | 128 | 13064 | 0.95 | ppm | 98 |
| 13) Decane | 4.674 | 43 | 14595 | 1.26 | ppm | 87 |
| 14) 1,3-Dichlorobenzene | 4.754 | 146 | 15332 | 1.08 | ppm | 95 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 15842 | 1.12 | ppm | 98 |
| 16) Benzyl alcohol | 4.898 | 108 | 7610 | 0.91 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 14396 | 1.06 | ppm | 99 |
| 18) Acetophenone | 5.112 | 105 | 20261 | 1.33 | ppm | 93 |
| 19) 2-Methylphenol | 4.989 | 108 | 10718 | 0.92 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.011 | 45 | 15980 | 1.19 | ppm | 96 |
| 21) 3&4-Methylphenol | 5.107 | 108 | 10632 | 0.99 | ppm | 91 |
| 22) n-Nitroso-di-n-propyla... | 5.112 | 70 | 10486 | 1.32 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111868.D
Acq On : 14 May 2019 4:16 pm
Operator : christc2
Sample : ic4974-1
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 09:28:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.214 | 201 | 4180 | 1.01 | ppm | 86 |
| 26) Nitrobenzene | 5.262 | 77 | 12853 | 0.98 | ppm | 95 |
| 27) Quinoline | 6.267 | 129 | 24547 | 0.95 | ppm | 97 |
| 28) Isophorone | 5.465 | 82 | 24032 | 1.07 | ppm | 98 |
| 31) Benzoic acid | 5.599 | 105 | 2034 | 0.34 | ppm | 84 |
| 32) bis(2-Chloroethoxy)met... | 5.663 | 93 | 16203 | 1.09 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.765 | 162 | 8537 | 0.82 | ppm | 97 |
| 34) 2,6-Dichlorophenol | 5.989 | 162 | 9280 | 0.93 | ppm | 92 |
| 35) 1,3,5-Trichlorobenzene | 5.556 | 180 | 11417 | 1.09 | ppm | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.856 | 180 | 10717 | 1.06 | ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 6.080 | 180 | 10718 | 1.07 | ppm | 95 |
| 38) Naphthalene | 5.930 | 128 | 41585 | 1.13 | ppm | 99 |
| 39) 4-Chloroaniline | 5.979 | 127 | 16403 | 1.12 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 7.006 | 161 | 12423 | 1.01 | ppm | 96 |
| 41) Caprolactam | 6.294 | 55 | 4555 | 0.76 | ppm | 88 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 5066 | 1.00 | ppm | 94 |
| 43) 4-Chloro-3-methylphenol | 6.487 | 107 | 7979 | 0.74 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 19570 | 1.00 | ppm | 94 |
| 45) 1-Methylnaphthalene | 6.792 | 141 | 22630 | 1.05 | ppm | 96 |
| 46) Dimethylnaphthalene | 7.444 | 156 | 21799 | 0.96 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.872 | 237 | 6336 | 1.40 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 7.011 | 196 | 4808 | 0.80 | ppm | 96 |
| 50) 2,4,5-Trichlorophenol | 7.048 | 196 | 4517 | 0.67 | ppm | 92 |
| 52) 2-Chloronaphthalene | 7.262 | 162 | 23221 | 1.08 | ppm | 96 |
| 53) Biphenyl | 7.241 | 154 | 31240 | 1.07 | ppm | 98 |
| 55) Dimethylphthalate | 7.642 | 163 | 24104 | 0.99 | ppm | 97 |
| 56) Acenaphthylene | 7.803 | 152 | 33660 | 0.95 | ppm | 98 |
| 57) 2,6-Dinitrotoluene | 7.712 | 165 | 2218 | 0.46 | ppm | 90 |
| 59) Acenaphthene | 8.043 | 153 | 23712 | 1.07 | ppm | 95 |
| 62) Dibenzofuran | 8.284 | 168 | 33051 | 1.07 | ppm | 96 |
| 63) 2,4-Dinitrotoluene | 8.268 | 165 | 2596 | 0.39 | ppm | 99 |
| 65) Diethylphthalate | 8.642 | 149 | 22289 | 0.93 | ppm | 98 |
| 66) Fluorene | 8.771 | 166 | 24963 | 0.99 | ppm | 97 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 11663 | 1.06 | ppm | 95 |
| 71) n-Nitrosodiphenylamine | 8.963 | 169 | 17750 | 0.96 | ppm | 95 |
| 72) 1,2-Diphenylhydrazine | 9.022 | 77 | 25184 | 1.01 | ppm | 93 |
| 74) 4-Bromophenyl-phenylether | 9.514 | 248 | 5471 | 0.88 | ppm | 88 |
| 75) Hexachlorobenzene | 9.600 | 284 | 6627 | 1.03 | ppm | 93 |
| 76) Pentachlorophenol | 9.899 | 266 | 3005 | 0.74 | ppm | 83 |
| 77) Phenanthrene | 10.204 | 178 | 36194 | 1.10 | ppm | 96 |
| 78) Anthracene | 10.284 | 178 | 32460 | 0.97 | ppm | 98 |
| 79) Carbazole | 10.546 | 167 | 32034 | 0.93 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.178 | 149 | 27435 | 0.70 | ppm | 99 |
| 81) Fluoranthene | 12.060 | 202 | 29820 | 0.87 | ppm | 98 |
| 82) Octadecane | 10.124 | 57 | 13670 | 0.82 | ppm | 95 |
| 84) Pyrene | 12.408 | 202 | 31833 | 0.87 | ppm | 97 |
| 86) Butylbenzylphthalate | 13.542 | 149 | 8665 | 0.50 | ppm | 92 |
| 87) Benzo[a]anthracene | 14.323 | 228 | 31316 | 1.06 | ppm | 97 |
| 89) Chrysene | 14.376 | 228 | 32059 | 1.02 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 15.916 | 252 | 29307 | 0.94 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111868.D
Acq On : 14 May 2019 4:16 pm
Operator : christc2
Sample : ic4974-1
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 09:28:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

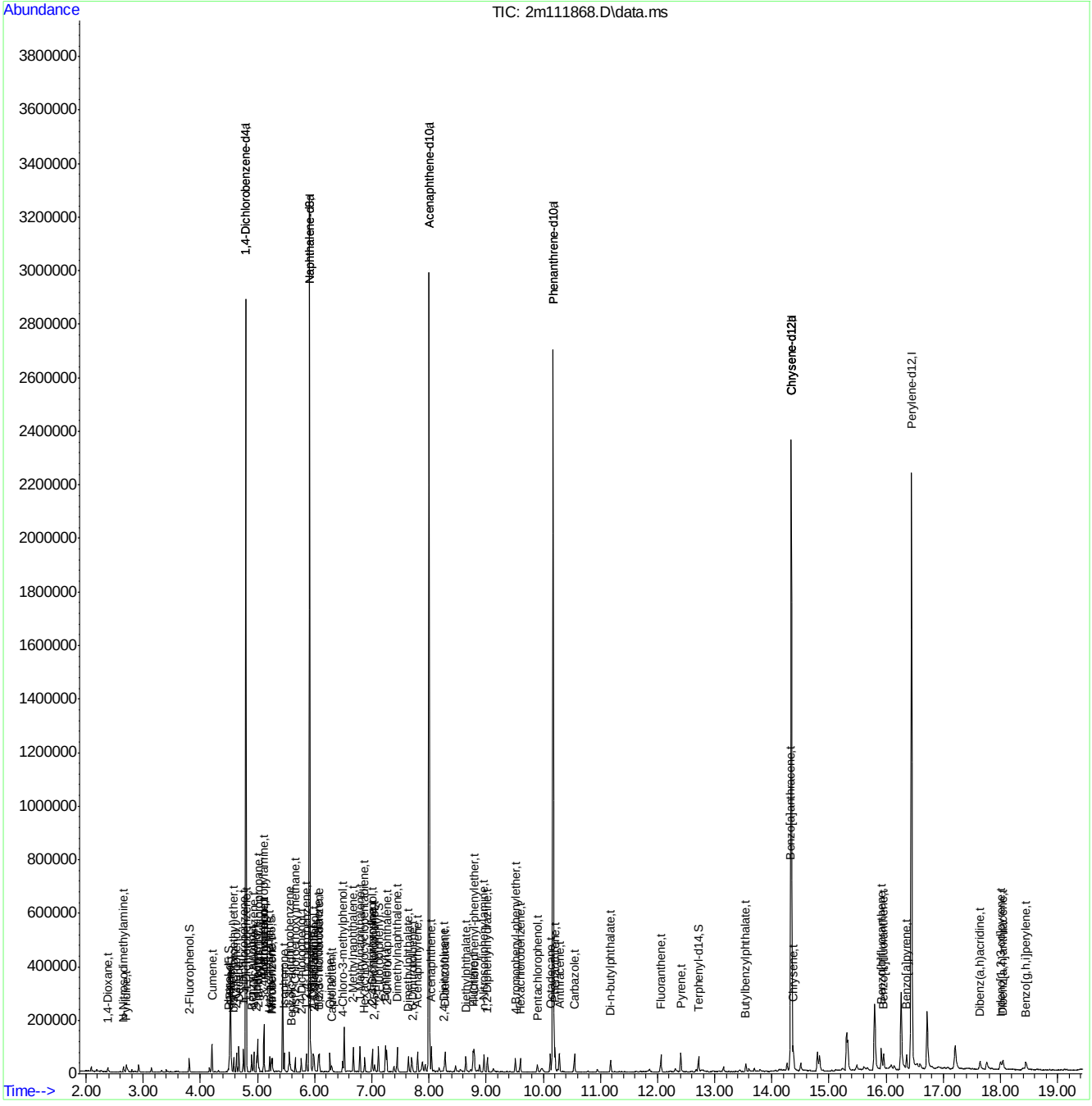
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 94) | Benzo[k]fluoranthene | 15.954 | 252 | 27265 | 0.86 | ppm | 97 |
| 95) | Benzo[a]pyrene | 16.355 | 252 | 25687 | 0.90 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 18.002 | 276 | 20469 | 0.73 | ppm | 92 |
| 97) | Dibenz(a,h)acridine | 17.644 | 279 | 19030 | 0.72 | ppm | 96 |
| 98) | Dibenz[a,h]anthracene | 18.045 | 278 | 22861 | 0.77 | ppm | 98 |
| 100) | Benzo[g,h,i]perylene | 18.446 | 276 | 21863 | 0.79 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111868.D
Acq On : 14 May 2019 4:16 pm
Operator : christc2
Sample : ic4974-1
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 09:28:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/17/19 10:01

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111869.D
Acq On : 14 May 2019 4:42 pm
Operator : christc2
Sample : ic4974-100
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:31:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 287086 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.914 | 136 | 1173908 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.006 | 164 | 679611 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.177 | 188 | 1115160 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.349 | 240 | 862633 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1036708 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 287086 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.006 | 164 | 679611 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.349 | 240 | 862633 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.177 | 188 | 1115160 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.914 | 136 | 1173908 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.349 | 240 | 862633 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.807 | 112 | 1021707 | 94.58 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 189.16% | | | |
| 8) Phenol-d5 | 4.518 | 99 | 1202040 | 91.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 183.94% | | | |
| 25) Nitrobenzene-d5 | 5.251 | 82 | 990791 | 90.53 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 181.06% | | | |
| 51) 2-Fluorobiphenyl | 7.123 | 172 | 2066860 | 85.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 171.98% | | | |
| 73) 2,4,6-Tribromophenol | 9.134 | 330 | 305314 | 93.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 187.94% | | | |
| 85) Terphenyl-d14 | 12.723 | 244 | 2002123 | 92.87 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 185.74% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.368 | 88 | 498991 | 100.54 | ppm | 98 |
| 3) Pyridine | 2.679 | 79 | 1278483 | 98.99 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.646 | 74 | 750845 | 98.67 | ppm | 99 |
| 6) Indene | 5.005 | 116 | 1302132 | 79.04 | ppm | 99 |
| 7) Cumene | 4.203 | 105 | 2218248 | 86.90 | ppm | 100 |
| 9) Phenol | 4.529 | 94 | 1267921 | 88.76 | ppm | 96 |
| 10) Aniline | 4.545 | 93 | 1229241 | 91.35 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.593 | 93 | 989313 | 91.67 | ppm | 99 |
| 12) 2-Chlorophenol | 4.641 | 128 | 1026663 | 92.15 | ppm | 97 |
| 13) Decane | 4.679 | 43 | 787034 | 83.81 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.759 | 146 | 1015649 | 88.05 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 1005892 | 87.37 | ppm | 99 |
| 16) Benzyl alcohol | 4.909 | 108 | 636744 | 93.95 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 981578 | 89.48 | ppm | 99 |
| 18) Acetophenone | 5.123 | 105 | 959391 | 77.64 | ppm | 91 |
| 19) 2-Methylphenol | 4.995 | 108 | 825765 | 87.11 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.016 | 45 | 957570 | 88.03 | ppm | 98 |
| 21) 3&4-Methylphenol | 5.118 | 108 | 659775 | 76.05 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 5.128 | 70 | 548416 | 85.29 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111869.D
Acq On : 14 May 2019 4:42 pm
Operator : christc2
Sample : ic4974-100
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:31:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.219 | 201 | 301313 | 89.87 | ppm | 89 |
| 26) Nitrobenzene | 5.267 | 77 | 1018627 | 90.15 | ppm | 99 |
| 27) Quinoline | 6.300 | 129 | 2124635 | 94.59 | ppm | 99 |
| 28) Isophorone | 5.481 | 82 | 1627364 | 83.72 | ppm | 99 |
| 29) 2-Nitrophenol | 5.551 | 139 | 423284 | 84.84 | ppm | 94 |
| 30) 2,4-Dimethylphenol | 5.583 | 107 | 937678 | 92.82 | ppm | 100 |
| 31) Benzoic acid | 5.717 | 105 | 459868 | 89.21 | ppm | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.668 | 93 | 1154252 | 89.37 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.775 | 162 | 804672 | 89.53 | ppm | 99 |
| 34) 2,6-Dichlorophenol | 6.000 | 162 | 738899 | 85.96 | ppm | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.561 | 180 | 766691 | 84.71 | ppm | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.861 | 180 | 771910 | 88.26 | ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 6.086 | 180 | 755999 | 87.29 | ppm | 99 |
| 38) Naphthalene | 5.936 | 128 | 2729435 | 85.80 | ppm | 100 |
| 39) 4-Chloroaniline | 5.989 | 127 | 1056175 | 83.51 | ppm | 97 |
| 40) 2,3-Dichloroaniline | 7.011 | 161 | 894892 | 84.23 | ppm | 98 |
| 41) Caprolactam | 6.369 | 55 | 498309m | 95.76 | ppm | |
| 42) Hexachlorobutadiene | 6.070 | 225 | 378937 | 86.55 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 6.508 | 107 | 853658 | 91.81 | ppm | 98 |
| 44) 2-Methylnaphthalene | 6.679 | 141 | 1476143 | 87.27 | ppm | 98 |
| 45) 1-Methylnaphthalene | 6.797 | 141 | 1608733 | 86.56 | ppm | 98 |
| 46) Dimethylnaphthalene | 7.455 | 156 | 1697156 | 86.00 | ppm | 98 |
| 48) Hexachlorocyclopentadiene | 6.877 | 237 | 699127 | 165.65 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 7.022 | 196 | 465779 | 83.46 | ppm | 97 |
| 50) 2,4,5-Trichlorophenol | 7.070 | 196 | 577303 | 91.91 | ppm | 99 |
| 52) 2-Chloronaphthalene | 7.273 | 162 | 1739482 | 86.73 | ppm | 99 |
| 53) Biphenyl | 7.252 | 154 | 2250673 | 83.01 | ppm | 99 |
| 54) 2-Nitroaniline | 7.407 | 65 | 544170 | 93.82 | ppm | 98 |
| 55) Dimethylphthalate | 7.658 | 163 | 2109577 | 92.76 | ppm | 100 |
| 56) Acenaphthylene | 7.813 | 152 | 2902691 | 88.20 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 7.728 | 165 | 440670 | 97.86 | ppm | 97 |
| 58) 3-Nitroaniline | 7.952 | 138 | 564943 | 95.89 | ppm | 96 |
| 59) Acenaphthene | 8.054 | 153 | 1802089 | 87.07 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 8.102 | 184 | 331086 | 213.18 | ppm | 97 |
| 61) 4-Nitrophenol | 8.204 | 109 | 298758 | 97.17 | ppm | 98 |
| 62) Dibenzofuran | 8.295 | 168 | 2413125 | 83.86 | ppm | 98 |
| 63) 2,4-Dinitrotoluene | 8.284 | 165 | 564499 | 90.94 | ppm | 93 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.476 | 232 | 471897 | 92.86 | ppm | 98 |
| 65) Diethylphthalate | 8.664 | 149 | 2040851 | 91.02 | ppm | 99 |
| 66) Fluorene | 8.781 | 166 | 1962055 | 83.51 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.797 | 204 | 875686 | 85.24 | ppm | 99 |
| 68) 4-Nitroaniline | 8.835 | 138 | 583869 | 97.22 | ppm | 98 |
| 70) 4,6-Dinitro-2-methylph... | 8.878 | 198 | 259657 | 105.31 | ppm | 96 |
| 71) n-Nitrosodiphenylamine | 8.979 | 169 | 1612567 | 89.86 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 9.033 | 77 | 2152614 | 89.28 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 9.525 | 248 | 547981 | 91.31 | ppm | 98 |
| 75) Hexachlorobenzene | 9.610 | 284 | 575946 | 92.81 | ppm | 100 |
| 76) Pentachlorophenol | 9.910 | 266 | 697059 | 177.91 | ppm | 99 |
| 77) Phenanthrene | 10.220 | 178 | 2815502 | 88.63 | ppm | 100 |
| 78) Anthracene | 10.295 | 178 | 2880217 | 89.19 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111869.D
Acq On : 14 May 2019 4:42 pm
Operator : christc2
Sample : ic4974-100
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:31:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

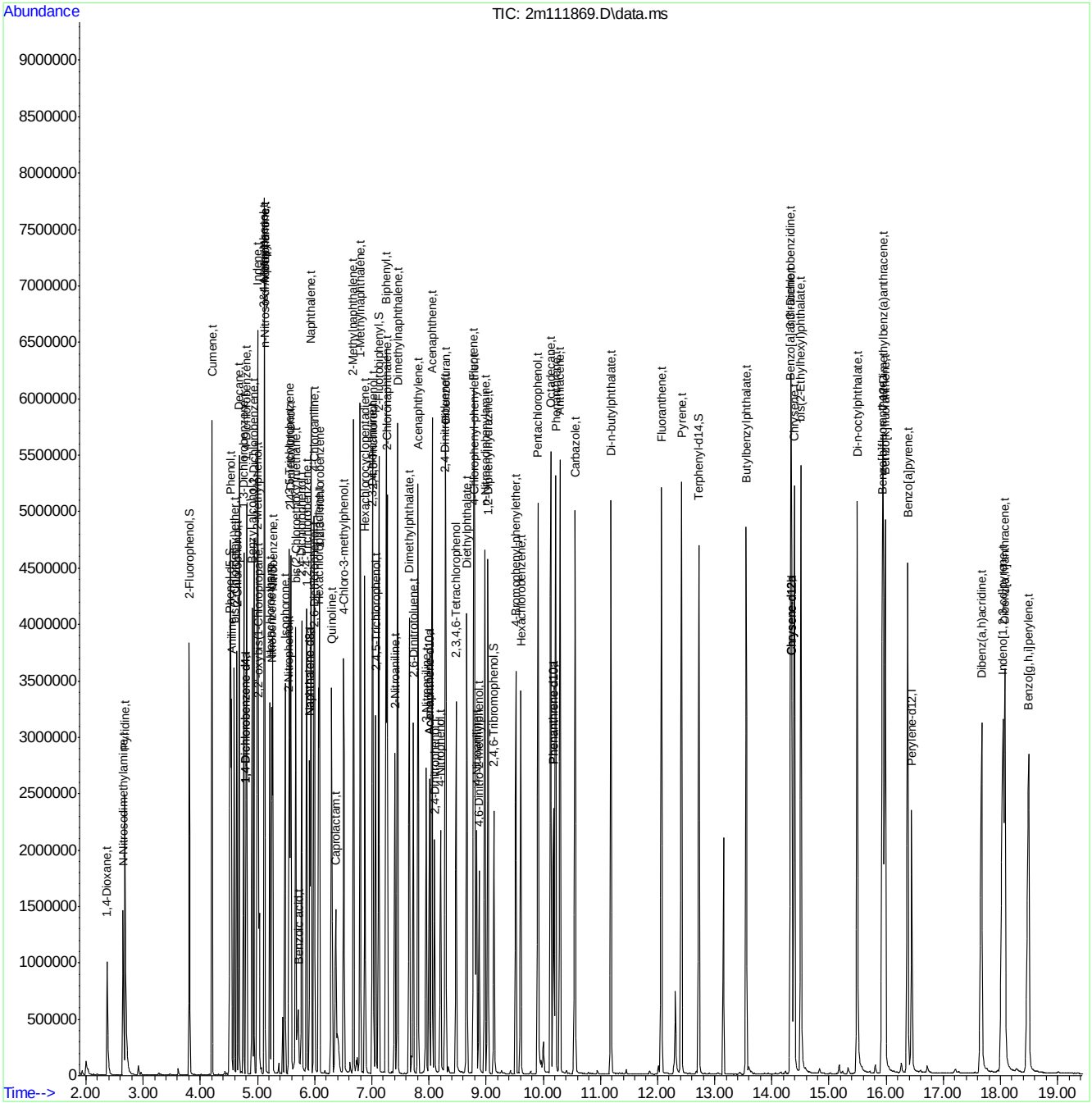
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 79) Carbazole | 10.562 | 167 | 2983068 | 89.98 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.183 | 149 | 3438155 | 90.37 | ppm | 100 |
| 81) Fluoranthene | 12.071 | 202 | 2998033 | 90.04 | ppm | 99 |
| 82) Octadecane | 10.129 | 57 | 1357113 | 83.75 | ppm | 99 |
| 84) Pyrene | 12.424 | 202 | 3171092 | 94.06 | ppm | 98 |
| 86) Butylbenzylphthalate | 13.552 | 149 | 1536023 | 96.97 | ppm | 99 |
| 87) Benzo[a]anthracene | 14.328 | 228 | 2375823 | 87.48 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.333 | 252 | 855313 | 85.87 | ppm | 99 |
| 89) Chrysene | 14.392 | 228 | 2731523 | 94.43 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.510 | 149 | 2086625 | 96.70 | ppm | 99 |
| 92) Di-n-octylphthalate | 15.494 | 149 | 3612932 | 90.86 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 15.932 | 252 | 2702469 | 87.00 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 15.986 | 252 | 2794068 | 88.37 | ppm | 98 |
| 95) Benzo[a]pyrene | 16.376 | 252 | 2634514 | 92.41 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 18.040 | 276 | 2796489 | 100.27 | ppm | 97 |
| 97) Dibenz(a,h)acridine | 17.671 | 279 | 2485134 | 94.25 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 18.077 | 278 | 2803401 | 94.70 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 15.949 | 256 | 1192974 | 88.95 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 18.494 | 276 | 2658858 | 96.46 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111869.D
Acq On : 14 May 2019 4:42 pm
Operator : christc2
Sample : ic4974-100
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:31:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



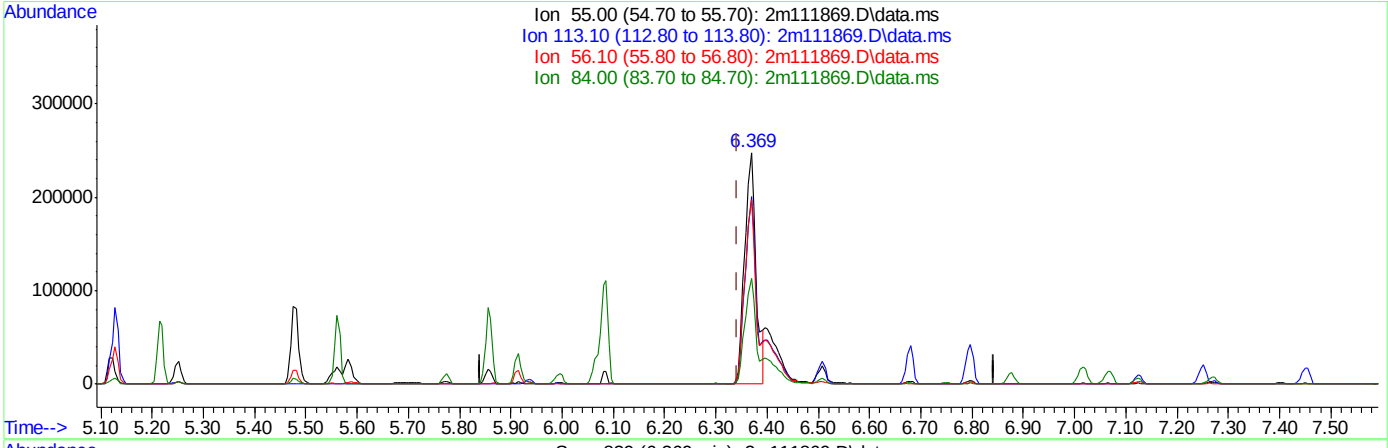
| | | | |
|---|---|---|---|
| **Sample Number:** | E2M4974-IC4974 | **Method:** | SW846 8270D |
| **Lab FileID:** | 2M111869.D | **Analyst approved:** | 05/15/19 09:55 Ying Li |
| **Injection Time:** | 05/14/19 16:42 | **Supervisor approved:** | 05/17/19 10:01 Kristi Schollenberger |

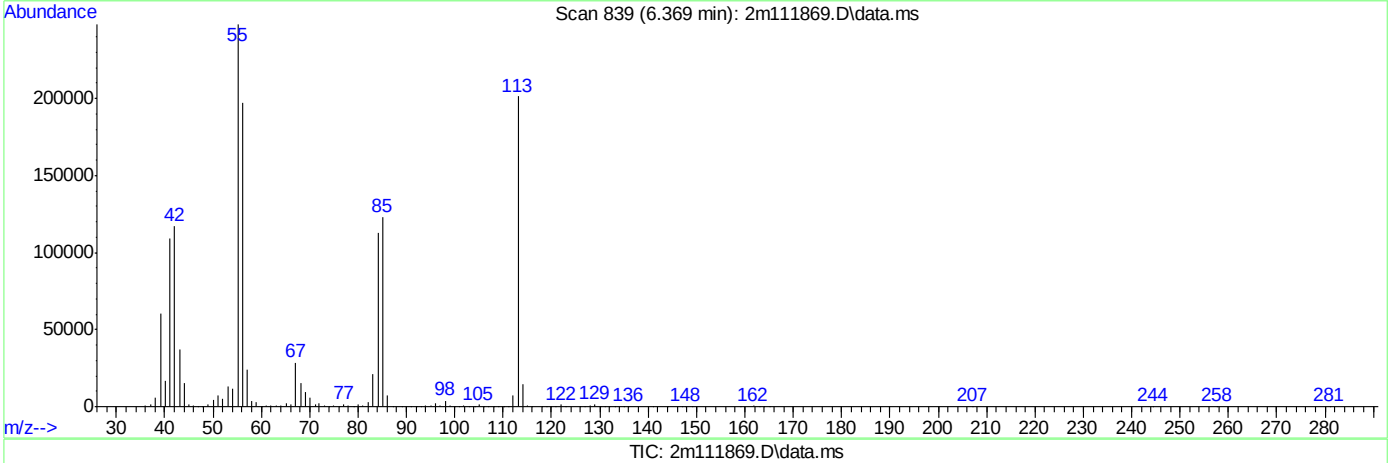
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 6.37 | Split peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111869.D
Acq On : 14 May 2019 4:42 pm
Operator : christc2
Sample : ic4974-100
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:28:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration




TIC: 2m111869.D\data.ms

(41) Caprolactam (t)

6.369min (+0.027) 72.24ppm

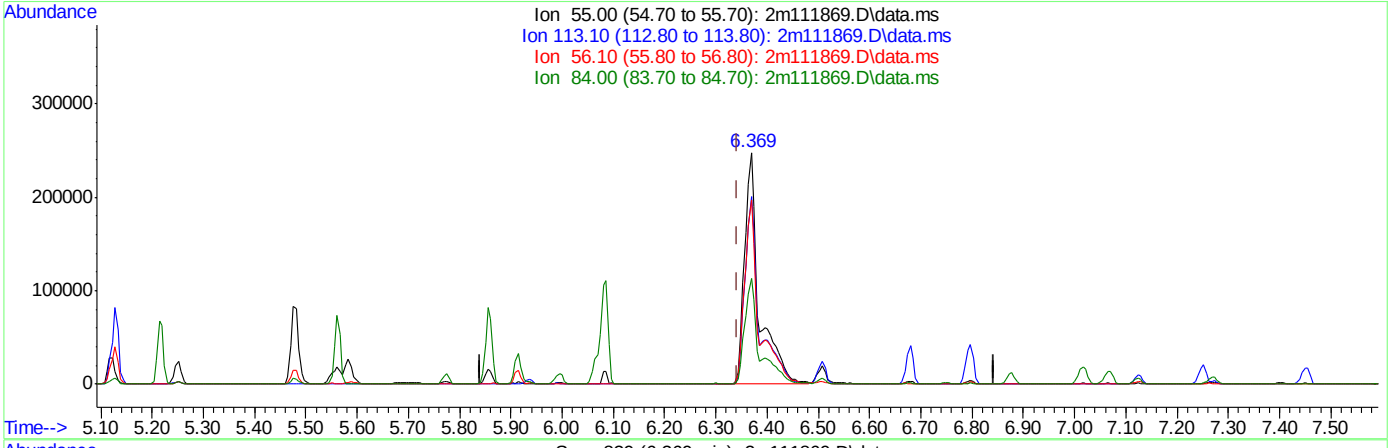
response 375947

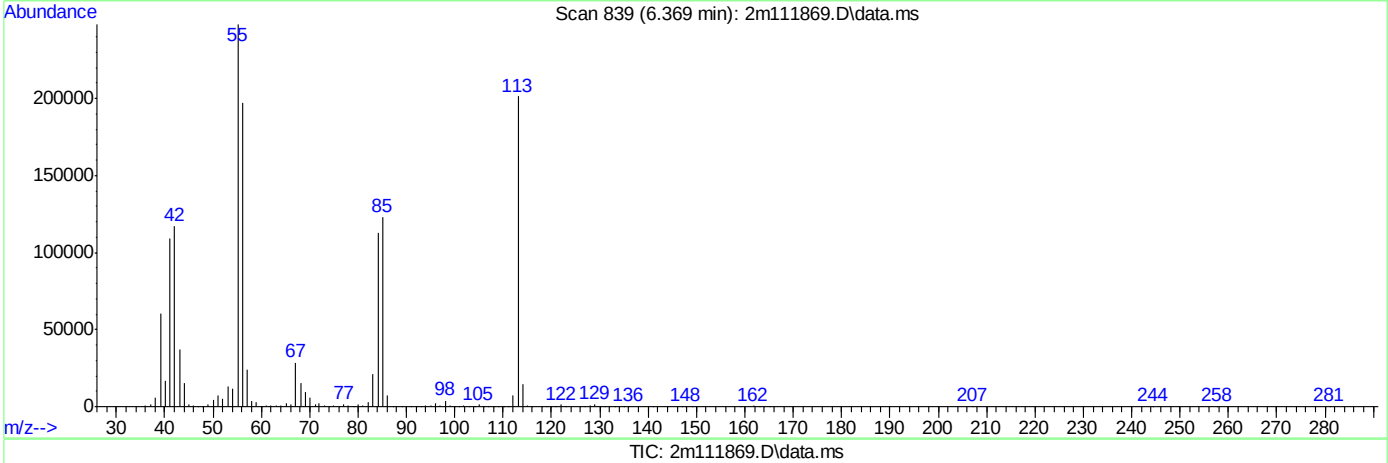
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.10 | 80.70 | 81.58 |
| 56.10 | 76.90 | 79.56 |
| 84.00 | 45.50 | 45.32 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111869.D
Acq On : 14 May 2019 4:42 pm
Operator : christc2
Sample : ic4974-100
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 08:31:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration




TIC: 2m111869.D\data.ms

(41) Caprolactam (t)

6.369min (+0.027) 95.76ppm m

response 498309

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.10 | 80.70 | 81.21 |
| 56.10 | 76.90 | 79.38 |
| 84.00 | 45.50 | 45.50 |

9.8.23

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111870.D
Acq On : 14 May 2019 5:08 pm
Operator : christc2
Sample : ic4974-80
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 15 08:33:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 320734 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.914 | 136 | 1284727 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.006 | 164 | 736624 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.177 | 188 | 1203947 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.349 | 240 | 932794 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1086651 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 320734 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.006 | 164 | 736624 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.349 | 240 | 932794 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.177 | 188 | 1203947 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.914 | 136 | 1284727 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.349 | 240 | 932794 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.807 | 112 | 925379 | 76.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 153.36% | | | |
| 8) Phenol-d5 | 4.518 | 99 | 1108880 | 75.94 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 151.88% | | | |
| 25) Nitrobenzene-d5 | 5.251 | 82 | 909330 | 75.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 151.84% | | | |
| 51) 2-Fluorobiphenyl | 7.123 | 172 | 1910242 | 73.33 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 146.66% | | | |
| 73) 2,4,6-Tribromophenol | 9.134 | 330 | 281038 | 80.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 160.24% | | | |
| 85) Terphenyl-d14 | 12.723 | 244 | 1802696 | 77.33 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 154.66% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.368 | 88 | 450994 | 81.34 | ppm | 97 |
| 3) Pyridine | 2.678 | 79 | 1161569 | 80.50 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.646 | 74 | 678819 | 79.84 | ppm | 100 |
| 6) Indene | 5.005 | 116 | 1263040 | 68.63 | ppm | 99 |
| 7) Cumene | 4.197 | 105 | 2089858 | 73.28 | ppm | 99 |
| 9) Phenol | 4.529 | 94 | 1184789 | 74.24 | ppm | 98 |
| 10) Aniline | 4.545 | 93 | 1156246 | 76.91 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.593 | 93 | 901632 | 74.78 | ppm | 98 |
| 12) 2-Chlorophenol | 4.641 | 128 | 958896 | 77.03 | ppm | 96 |
| 13) Decane | 4.679 | 43 | 746704 | 71.17 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.759 | 146 | 960314 | 74.52 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 944298 | 73.42 | ppm | 99 |
| 16) Benzyl alcohol | 4.903 | 108 | 574955 | 75.93 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 920277 | 75.09 | ppm | 100 |
| 18) Acetophenone | 5.123 | 105 | 907145 | 65.71 | ppm | 100 |
| 19) 2-Methylphenol | 4.994 | 108 | 769997 | 72.71 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.016 | 45 | 896654 | 73.78 | ppm | 98 |
| 21) 3&4-Methylphenol | 5.117 | 108 | 644118 | 66.45 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 5.128 | 70 | 503282 | 70.06 | ppm | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111870.D
Acq On : 14 May 2019 5:08 pm
Operator : christc2
Sample : ic4974-80
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 15 08:33:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.219 | 201 | 287266 | 76.69 | ppm | 86 |
| 26) Nitrobenzene | 5.267 | 77 | 931725 | 75.34 | ppm | 98 |
| 27) Quinoline | 6.294 | 129 | 1893186 | 77.02 | ppm | 100 |
| 28) Isophorone | 5.476 | 82 | 1524350 | 71.65 | ppm | 100 |
| 29) 2-Nitrophenol | 5.551 | 139 | 423517 | 77.56 | ppm | 92 |
| 30) 2,4-Dimethylphenol | 5.583 | 107 | 847548 | 76.66 | ppm | 99 |
| 31) Benzoic acid | 5.706 | 105 | 480093 | 85.10 | ppm | 97 |
| 32) bis(2-Chloroethoxy)met... | 5.668 | 93 | 1048256 | 74.16 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.775 | 162 | 747540 | 76.00 | ppm | 98 |
| 34) 2,6-Dichlorophenol | 5.995 | 162 | 696147 | 74.00 | ppm | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.561 | 180 | 723144 | 73.00 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.856 | 180 | 716921 | 74.90 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 6.085 | 180 | 704788 | 74.36 | ppm | 99 |
| 38) Naphthalene | 5.936 | 128 | 2523301 | 72.48 | ppm | 99 |
| 39) 4-Chloroaniline | 5.984 | 127 | 991120 | 71.61 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 7.011 | 161 | 835159 | 71.83 | ppm | 99 |
| 41) Caprolactam | 6.364 | 55 | 445533 | 78.23 | ppm | 99 |
| 42) Hexachlorobutadiene | 6.069 | 225 | 356472 | 74.40 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 6.503 | 107 | 775623 | 76.22 | ppm | 100 |
| 44) 2-Methylnaphthalene | 6.679 | 141 | 1364815 | 73.73 | ppm | 99 |
| 45) 1-Methylnaphthalene | 6.797 | 141 | 1482705 | 72.90 | ppm | 98 |
| 46) Dimethylnaphthalene | 7.449 | 156 | 1574848 | 72.92 | ppm | 98 |
| 48) Hexachlorocyclopentadiene | 6.877 | 237 | 675362 | 147.64 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 7.021 | 196 | 442568 | 73.17 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 7.064 | 196 | 518847 | 76.21 | ppm | 100 |
| 52) 2-Chloronaphthalene | 7.273 | 162 | 1587575 | 73.03 | ppm | 99 |
| 53) Biphenyl | 7.252 | 154 | 2093584 | 71.24 | ppm | 99 |
| 54) 2-Nitroaniline | 7.401 | 65 | 495371 | 78.80 | ppm | 99 |
| 55) Dimethylphthalate | 7.653 | 163 | 1890923 | 76.71 | ppm | 99 |
| 56) Acenaphthylene | 7.808 | 152 | 2628126 | 73.68 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 7.728 | 165 | 394557 | 80.84 | ppm | 93 |
| 58) 3-Nitroaniline | 7.952 | 138 | 506515 | 79.32 | ppm | 98 |
| 59) Acenaphthene | 8.048 | 153 | 1658381 | 73.92 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 8.097 | 184 | 312760 | 185.80 | ppm | 82 |
| 61) 4-Nitrophenol | 8.204 | 109 | 265995 | 79.82 | ppm | 99 |
| 62) Dibenzofuran | 8.294 | 168 | 2248867 | 72.10 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 8.284 | 165 | 517073 | 76.85 | ppm | 94 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.471 | 232 | 431626 | 78.36 | ppm | 97 |
| 65) Diethylphthalate | 8.658 | 149 | 1816794 | 74.76 | ppm | 99 |
| 66) Fluorene | 8.781 | 166 | 1814539 | 71.25 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.797 | 204 | 812504 | 72.97 | ppm | 98 |
| 68) 4-Nitroaniline | 8.829 | 138 | 518768 | 79.70 | ppm | 99 |
| 70) 4,6-Dinitro-2-methylph... | 8.872 | 198 | 239426 | 89.94 | ppm | 94 |
| 71) n-Nitrosodiphenylamine | 8.974 | 169 | 1455674 | 75.14 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 9.027 | 77 | 1932259 | 74.23 | ppm | 97 |
| 74) 4-Bromophenyl-phenylether | 9.525 | 248 | 499907 | 77.16 | ppm | 96 |
| 75) Hexachlorobenzene | 9.610 | 284 | 520961 | 77.76 | ppm | 97 |
| 76) Pentachlorophenol | 9.910 | 266 | 642880 | 151.98 | ppm | 99 |
| 77) Phenanthrene | 10.215 | 178 | 2526559 | 73.67 | ppm | 99 |
| 78) Anthracene | 10.295 | 178 | 2583697 | 74.10 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111870.D
Acq On : 14 May 2019 5:08 pm
Operator : christc2
Sample : ic4974-80
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 15 08:33:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

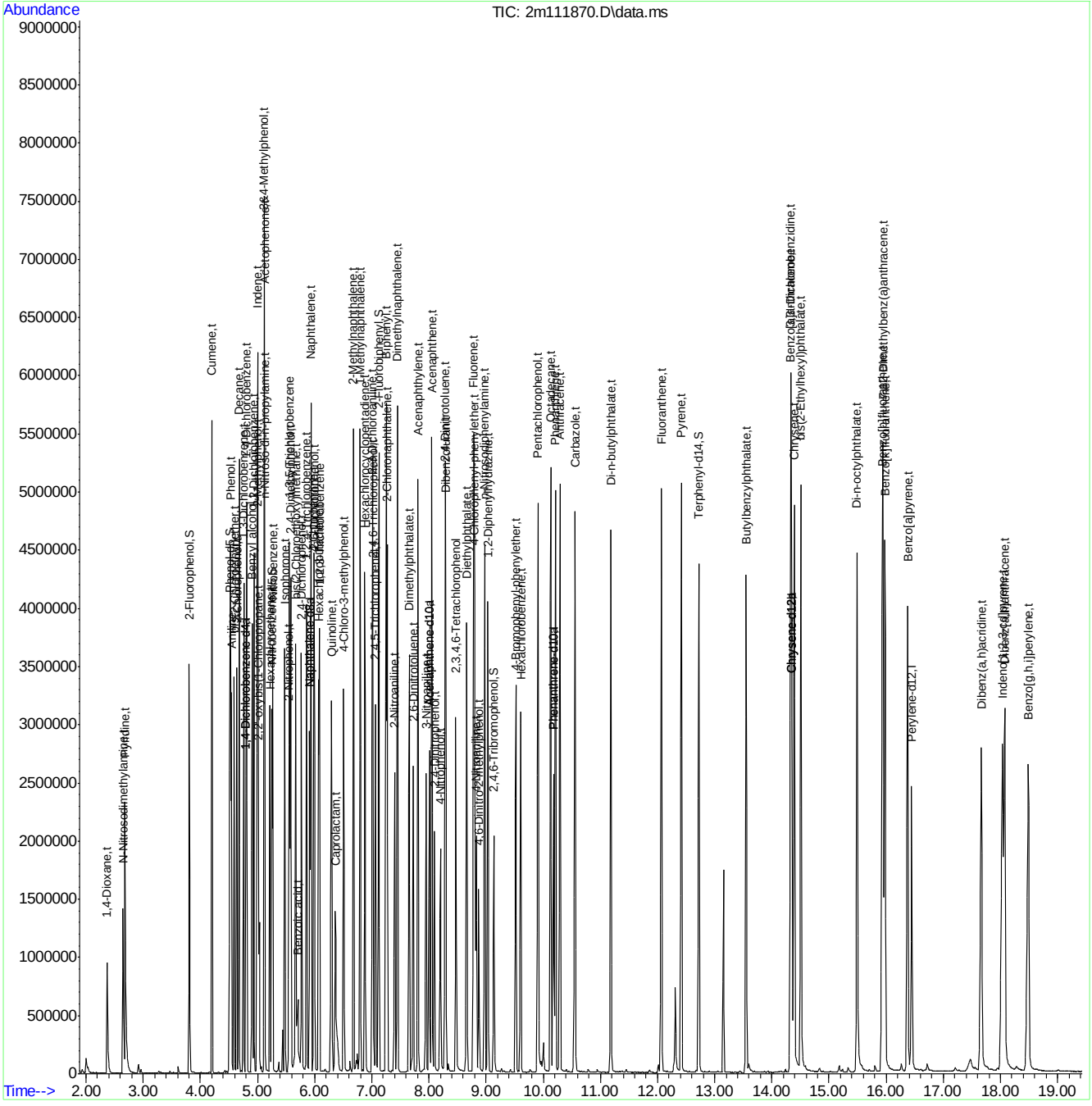
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 79) | Carbazole | 10.557 | 167 | 2661320 | 74.36 | ppm | 99 |
| 80) | Di-n-butylphthalate | 11.183 | 149 | 3071667 | 74.78 | ppm | 99 |
| 81) | Fluoranthene | 12.071 | 202 | 2691653 | 74.88 | ppm | 99 |
| 82) | Octadecane | 10.129 | 57 | 1233061 | 70.48 | ppm | 99 |
| 84) | Pyrene | 12.418 | 202 | 2809546 | 77.06 | ppm | 99 |
| 86) | Butylbenzylphthalate | 13.552 | 149 | 1354594 | 79.08 | ppm | 97 |
| 87) | Benzo[a]anthracene | 14.328 | 228 | 2170856 | 73.92 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 14.333 | 252 | 796555 | 73.96 | ppm | 99 |
| 89) | Chrysene | 14.392 | 228 | 2416181 | 77.25 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 14.510 | 149 | 1836083 | 78.69 | ppm | 100 |
| 92) | Di-n-octylphthalate | 15.488 | 149 | 3202559 | 76.84 | ppm | 100 |
| 93) | Benzo[b]fluoranthene | 15.932 | 252 | 2472552 | 75.94 | ppm | 99 |
| 94) | Benzo[k]fluoranthene | 15.980 | 252 | 2415560 | 72.89 | ppm | 98 |
| 95) | Benzo[a]pyrene | 16.376 | 252 | 2315565 | 77.49 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 18.034 | 276 | 2398195 | 82.04 | ppm | 96 |
| 97) | Dibenz(a,h)acridine | 17.671 | 279 | 2169878 | 78.51 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 18.077 | 278 | 2430945 | 78.34 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 15.943 | 256 | 1064765 | 75.75 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 18.489 | 276 | 2283405 | 79.03 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111870.D
Acq On : 14 May 2019 5:08 pm
Operator : christc2
Sample : ic4974-80
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 15 08:33:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111871.D
Acq On : 14 May 2019 5:34 pm
Operator : christc2
Sample : icc4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 15 08:25:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 299596 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.914 | 136 | 1175129 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 669012 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1088542 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.344 | 240 | 871776 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 965506 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 299596 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 669012 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.344 | 240 | 871776 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1088542 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.914 | 136 | 1175129 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.344 | 240 | 871776 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.807 | 112 | 563665 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 8) Phenol-d5 | 4.513 | 99 | 681967 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 25) Nitrobenzene-d5 | 5.246 | 82 | 547785 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 51) 2-Fluorobiphenyl | 7.123 | 172 | 1183017 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 73) 2,4,6-Tribromophenol | 9.129 | 330 | 158574 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 85) Terphenyl-d14 | 12.718 | 244 | 1089346 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.374 | 88 | 258962 | 50.00 | ppm | 100 |
| 3) Pyridine | 2.679 | 79 | 673892 | 50.00 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.646 | 74 | 397076 | 50.00 | ppm | 100 |
| 6) Indene | 5.005 | 116 | 859564 | 50.00 | ppm | 100 |
| 7) Cumene | 4.198 | 105 | 1331919 | 50.00 | ppm | 100 |
| 9) Phenol | 4.524 | 94 | 745326 | 50.00 | ppm | 100 |
| 10) Aniline | 4.545 | 93 | 702122 | 50.00 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 563119 | 50.00 | ppm | 100 |
| 12) 2-Chlorophenol | 4.636 | 128 | 581366 | 50.00 | ppm | 100 |
| 13) Decane | 4.679 | 43 | 490000 | 50.00 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.754 | 146 | 601853 | 50.00 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 600710 | 50.00 | ppm | 100 |
| 16) Benzyl alcohol | 4.904 | 108 | 353637 | 50.00 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 572377 | 50.00 | ppm | 100 |
| 18) Acetophenone | 5.118 | 105 | 644751 | 50.00 | ppm | 100 |
| 19) 2-Methylphenol | 4.994 | 108 | 494617 | 50.00 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.011 | 45 | 567610 | 50.00 | ppm | 100 |
| 21) 3&4-Methylphenol | 5.112 | 108 | 452699 | 50.00 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 5.118 | 70 | 335518 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111871.D
Acq On : 14 May 2019 5:34 pm
Operator : christc2
Sample : icc4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 15 08:25:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.214 | 201 | 174951 | 50.00 | ppm | 100 |
| 26) Nitrobenzene | 5.262 | 77 | 565581 | 50.00 | ppm | 100 |
| 27) Quinoline | 6.284 | 129 | 1124232 | 50.00 | ppm | 100 |
| 28) Isophorone | 5.471 | 82 | 972975 | 50.00 | ppm | 100 |
| 29) 2-Nitrophenol | 5.545 | 139 | 249734 | 50.00 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 5.577 | 107 | 505620 | 50.00 | ppm | 100 |
| 31) Benzoic acid | 5.684 | 105 | 258001 | 50.00 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 5.663 | 93 | 646469 | 50.00 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.770 | 162 | 449832 | 50.00 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.995 | 162 | 430224 | 50.00 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 5.561 | 180 | 453030 | 50.00 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.856 | 180 | 437752 | 50.00 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 6.080 | 180 | 433472 | 50.00 | ppm | 100 |
| 38) Naphthalene | 5.931 | 128 | 1592297 | 50.00 | ppm | 100 |
| 39) 4-Chloroaniline | 5.979 | 127 | 633011 | 50.00 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 7.011 | 161 | 531762 | 50.00 | ppm | 100 |
| 41) Caprolactam | 6.342 | 55 | 260467 | 50.00 | ppm | 100 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 219131 | 50.00 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 6.497 | 107 | 465410 | 50.00 | ppm | 100 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 846582 | 50.00 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.792 | 141 | 930213 | 50.00 | ppm | 100 |
| 46) Dimethylnaphthalene | 7.450 | 156 | 987777 | 50.00 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.877 | 237 | 415462 | 100.00 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 7.016 | 196 | 274681 | 50.00 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 7.059 | 196 | 309146 | 50.00 | ppm | 100 |
| 52) 2-Chloronaphthalene | 7.268 | 162 | 987219 | 50.00 | ppm | 100 |
| 53) Biphenyl | 7.246 | 154 | 1334550 | 50.00 | ppm | 100 |
| 54) 2-Nitroaniline | 7.396 | 65 | 285480 | 50.00 | ppm | 100 |
| 55) Dimethylphthalate | 7.653 | 163 | 1119410 | 50.00 | ppm | 100 |
| 56) Acenaphthylene | 7.808 | 152 | 1619773 | 50.00 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 7.717 | 165 | 221645 | 50.00 | ppm | 100 |
| 58) 3-Nitroaniline | 7.947 | 138 | 289998 | 50.00 | ppm | 100 |
| 59) Acenaphthene | 8.049 | 153 | 1018731 | 50.00 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 8.091 | 184 | 152883 | 100.00 | ppm | 100 |
| 61) 4-Nitrophenol | 8.193 | 109 | 151328 | 50.00 | ppm | 100 |
| 62) Dibenzofuran | 8.289 | 168 | 1416391 | 50.00 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 8.279 | 165 | 305531 | 50.00 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.471 | 232 | 250140 | 50.00 | ppm | 100 |
| 65) Diethylphthalate | 8.653 | 149 | 1103587 | 50.00 | ppm | 100 |
| 66) Fluorene | 8.776 | 166 | 1156473 | 50.00 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 505662 | 50.00 | ppm | 100 |
| 68) 4-Nitroaniline | 8.813 | 138 | 295591 | 50.00 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 8.867 | 198 | 120345 | 50.00 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 8.969 | 169 | 875842 | 50.00 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 9.027 | 77 | 1176723 | 50.00 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 9.519 | 248 | 292899 | 50.00 | ppm | 100 |
| 75) Hexachlorobenzene | 9.605 | 284 | 302865 | 50.00 | ppm | 100 |
| 76) Pentachlorophenol | 9.905 | 266 | 382461 | 100.00 | ppm | 100 |
| 77) Phenanthrene | 10.209 | 178 | 1550413 | 50.00 | ppm | 100 |
| 78) Anthracene | 10.290 | 178 | 1576179 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111871.D
Acq On : 14 May 2019 5:34 pm
Operator : christc2
Sample : icc4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 15 08:25:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

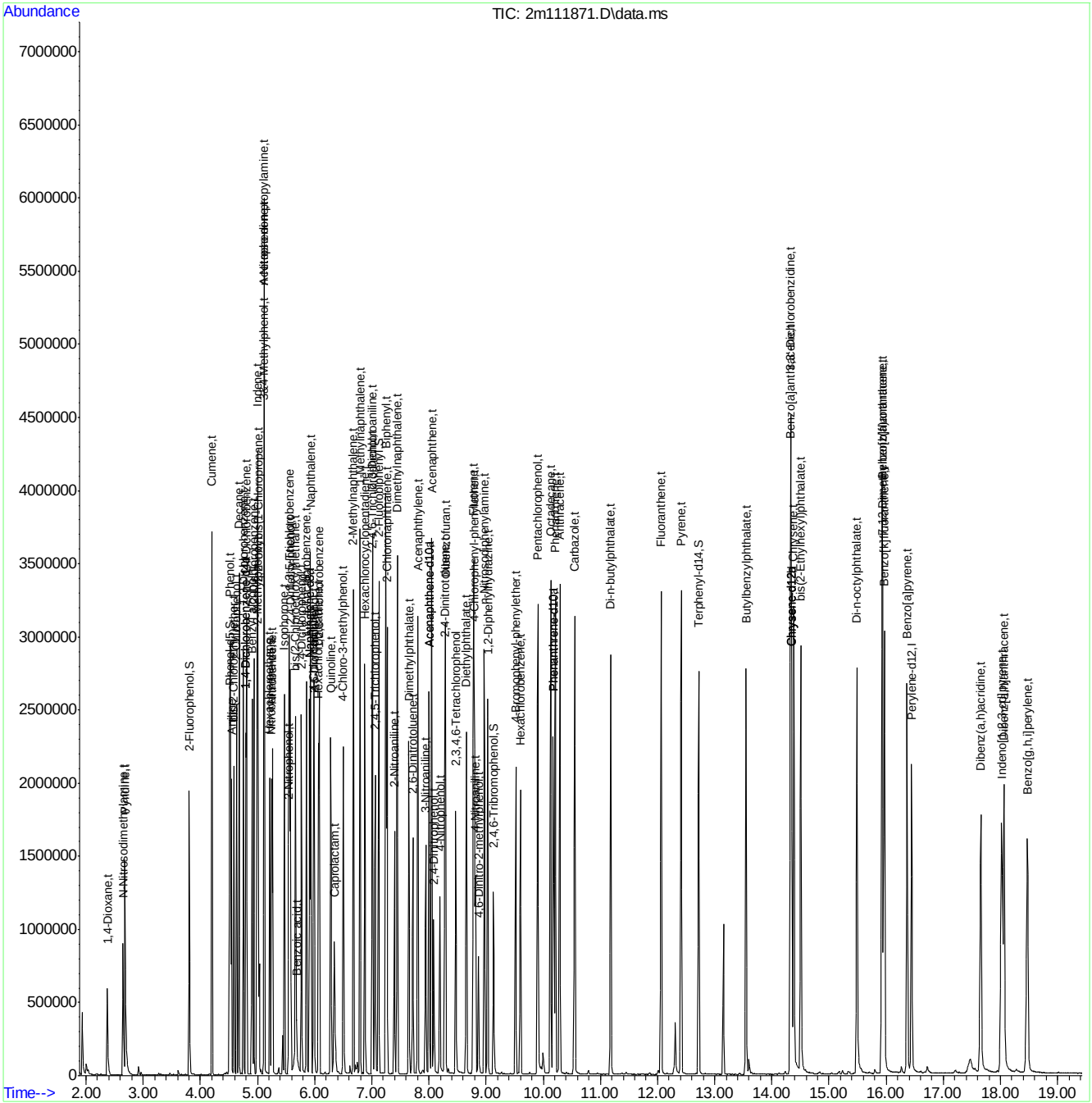
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 79) Carbazole | 10.552 | 167 | 1618021 | 50.00 | ppm | 100 |
| 80) Di-n-butylphthalate | 11.178 | 149 | 1856929 | 50.00 | ppm | 100 |
| 81) Fluoranthene | 12.065 | 202 | 1625035 | 50.00 | ppm | 100 |
| 82) Octadecane | 10.129 | 57 | 790921 | 50.00 | ppm | 100 |
| 84) Pyrene | 12.413 | 202 | 1703620 | 50.00 | ppm | 100 |
| 86) Butylbenzylphthalate | 13.547 | 149 | 800428 | 50.00 | ppm | 100 |
| 87) Benzo[a]anthracene | 14.323 | 228 | 1372344 | 50.00 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 14.328 | 252 | 503288 | 50.00 | ppm | 100 |
| 89) Chrysene | 14.381 | 228 | 1461578 | 50.00 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 14.510 | 149 | 1090406 | 50.00 | ppm | 100 |
| 92) Di-n-octylphthalate | 15.489 | 149 | 1851542 | 50.00 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 15.927 | 252 | 1446555 | 50.00 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 15.970 | 252 | 1472328 | 50.00 | ppm | 100 |
| 95) Benzo[a]pyrene | 16.366 | 252 | 1327532 | 50.00 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 18.018 | 276 | 1298678 | 50.00 | ppm | 100 |
| 97) Dibenz(a,h)acridine | 17.660 | 279 | 1227805 | 50.00 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 18.061 | 278 | 1378553 | 50.00 | ppm | 100 |
| 99) 7,12-Dimethylbenz(a)an... | 15.938 | 256 | 624499 | 50.00 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 18.473 | 276 | 1283625 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111871.D
Acq On : 14 May 2019 5:34 pm
Operator : christc2
Sample : icc4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 15 08:25:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111872.D
Acq On : 14 May 2019 6:00 pm
Operator : christc2
Sample : ic4974-25
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 15 08:35:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 280658 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1079079 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 603403 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 961142 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 790806 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.440 | 264 | 845014 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 280658 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 603403 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 790806 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 961142 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1079079 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 790806 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.802 | 112 | 258258 | 24.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 48.90% | | |
| 8) Phenol-d5 | 4.513 | 99 | 316970 | 24.81 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 49.62% | | |
| 25) Nitrobenzene-d5 | 5.246 | 82 | 243119 | 24.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 48.34% | | |
| 51) 2-Fluorobiphenyl | 7.118 | 172 | 554252 | 25.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 51.94% | | |
| 73) 2,4,6-Tribromophenol | 9.123 | 330 | 64220 | 22.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 45.86% | | |
| 85) Terphenyl-d14 | 12.718 | 244 | 488192 | 24.70 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 49.40% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.374 | 88 | 119328 | 24.59 | ppm | 100 |
| 3) Pyridine | 2.678 | 79 | 301603 | 23.89 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.646 | 74 | 180051 | 24.20 | ppm | 99 |
| 6) Indene | 5.005 | 116 | 423420 | 26.29 | ppm | 100 |
| 7) Cumene | 4.197 | 105 | 641861 | 25.72 | ppm | 99 |
| 9) Phenol | 4.518 | 94 | 356481 | 25.53 | ppm | 98 |
| 10) Aniline | 4.540 | 93 | 342272 | 26.02 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 267556 | 25.36 | ppm | 98 |
| 12) 2-Chlorophenol | 4.636 | 128 | 270036 | 24.79 | ppm | 98 |
| 13) Decane | 4.673 | 43 | 248105 | 27.03 | ppm | 94 |
| 14) 1,3-Dichlorobenzene | 4.754 | 146 | 291532 | 25.85 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 289003 | 25.68 | ppm | 99 |
| 16) Benzyl alcohol | 4.898 | 108 | 158956 | 23.99 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 271730 | 25.34 | ppm | 100 |
| 18) Acetophenone | 5.117 | 105 | 342832 | 28.38 | ppm | 87 |
| 19) 2-Methylphenol | 4.989 | 108 | 235424 | 25.40 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.010 | 45 | 275687 | 25.92 | ppm | 99 |
| 21) 3&4-Methylphenol | 5.112 | 108 | 230907 | 27.22 | ppm | 97 |
| 22) n-Nitroso-di-n-propyla... | 5.117 | 70 | 172666 | 27.47 | ppm | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111872.D
Acq On : 14 May 2019 6:00 pm
Operator : christc2
Sample : ic4974-25
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 15 08:35:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.214 | 201 | 79072 | 24.12 | ppm | | 97 |
| 26) Nitrobenzene | 5.262 | 77 | 260295 | 25.06 | ppm | | 96 |
| 27) Quinoline | 6.273 | 129 | 506450 | 24.53 | ppm | | 99 |
| 28) Isophorone | 5.465 | 82 | 462368 | 25.88 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.545 | 139 | 102778 | 22.41 | ppm | | 99 |
| 30) 2,4-Dimethylphenol | 5.577 | 107 | 219467 | 23.63 | ppm | | 96 |
| 31) Benzoic acid | 5.658 | 105 | 86173 | 18.19 | ppm | | 93 |
| 32) bis(2-Chloroethoxy)met... | 5.663 | 93 | 303053 | 25.53 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.765 | 162 | 205411 | 24.86 | ppm | | 96 |
| 34) 2,6-Dichlorophenol | 5.989 | 162 | 202011 | 25.57 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.561 | 180 | 213921 | 25.71 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.855 | 180 | 204267 | 25.41 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 6.080 | 180 | 201345 | 25.29 | ppm | | 98 |
| 38) Naphthalene | 5.930 | 128 | 756498 | 25.87 | ppm | | 100 |
| 39) 4-Chloroaniline | 5.979 | 127 | 305786 | 26.30 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 7.005 | 161 | 250290 | 25.63 | ppm | | 97 |
| 41) Caprolactam | 6.321 | 55 | 112303 | 23.48 | ppm | | 98 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 102544 | 25.48 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.492 | 107 | 210339 | 24.61 | ppm | | 99 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 395139 | 25.41 | ppm | | 100 |
| 45) 1-Methylnaphthalene | 6.791 | 141 | 438326 | 25.66 | ppm | | 99 |
| 46) Dimethylnaphthalene | 7.444 | 156 | 460440 | 25.38 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.877 | 237 | 173922 | 46.41 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 7.011 | 196 | 125044 | 25.24 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 7.054 | 196 | 136161 | 24.42 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 7.262 | 162 | 457571 | 25.69 | ppm | | 98 |
| 53) Biphenyl | 7.241 | 154 | 633763 | 26.33 | ppm | | 99 |
| 54) 2-Nitroaniline | 7.391 | 65 | 117190 | 22.76 | ppm | | 94 |
| 55) Dimethylphthalate | 7.647 | 163 | 507580 | 25.14 | ppm | | 99 |
| 56) Acenaphthylene | 7.802 | 152 | 736639 | 25.21 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.717 | 165 | 85661 | 21.43 | ppm | | 95 |
| 58) 3-Nitroaniline | 7.936 | 138 | 119827 | 22.91 | ppm | | 91 |
| 59) Acenaphthene | 8.043 | 153 | 473144 | 25.75 | ppm | | 100 |
| 60) 2,4-Dinitrophenol | 8.081 | 184 | 44837 | 32.52 | ppm | # | 47 |
| 61) 4-Nitrophenol | 8.182 | 109 | 61066 | 22.37 | ppm | | 96 |
| 62) Dibenzofuran | 8.284 | 168 | 653449 | 25.58 | ppm | | 98 |
| 63) 2,4-Dinitrotoluene | 8.273 | 165 | 119865 | 21.75 | ppm | | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.466 | 232 | 104468 | 23.15 | ppm | | 95 |
| 65) Diethylphthalate | 8.647 | 149 | 493790 | 24.80 | ppm | | 100 |
| 66) Fluorene | 8.776 | 166 | 534794 | 25.64 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 233842 | 25.64 | ppm | | 99 |
| 68) 4-Nitroaniline | 8.803 | 138 | 128502 | 24.10 | ppm | | 96 |
| 70) 4,6-Dinitro-2-methylph... | 8.856 | 198 | 36969 | 17.40 | ppm | | 92 |
| 71) n-Nitrosodiphenylamine | 8.963 | 169 | 392272 | 25.36 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 9.022 | 77 | 535030 | 25.75 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 9.514 | 248 | 129012 | 24.94 | ppm | | 96 |
| 75) Hexachlorobenzene | 9.600 | 284 | 134405 | 25.13 | ppm | | 95 |
| 76) Pentachlorophenol | 9.899 | 266 | 156794 | 46.43 | ppm | | 98 |
| 77) Phenanthrene | 10.209 | 178 | 708273 | 25.87 | ppm | | 99 |
| 78) Anthracene | 10.284 | 178 | 715127 | 25.69 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111872.D
Acq On : 14 May 2019 6:00 pm
Operator : christc2
Sample : ic4974-25
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 15 08:35:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

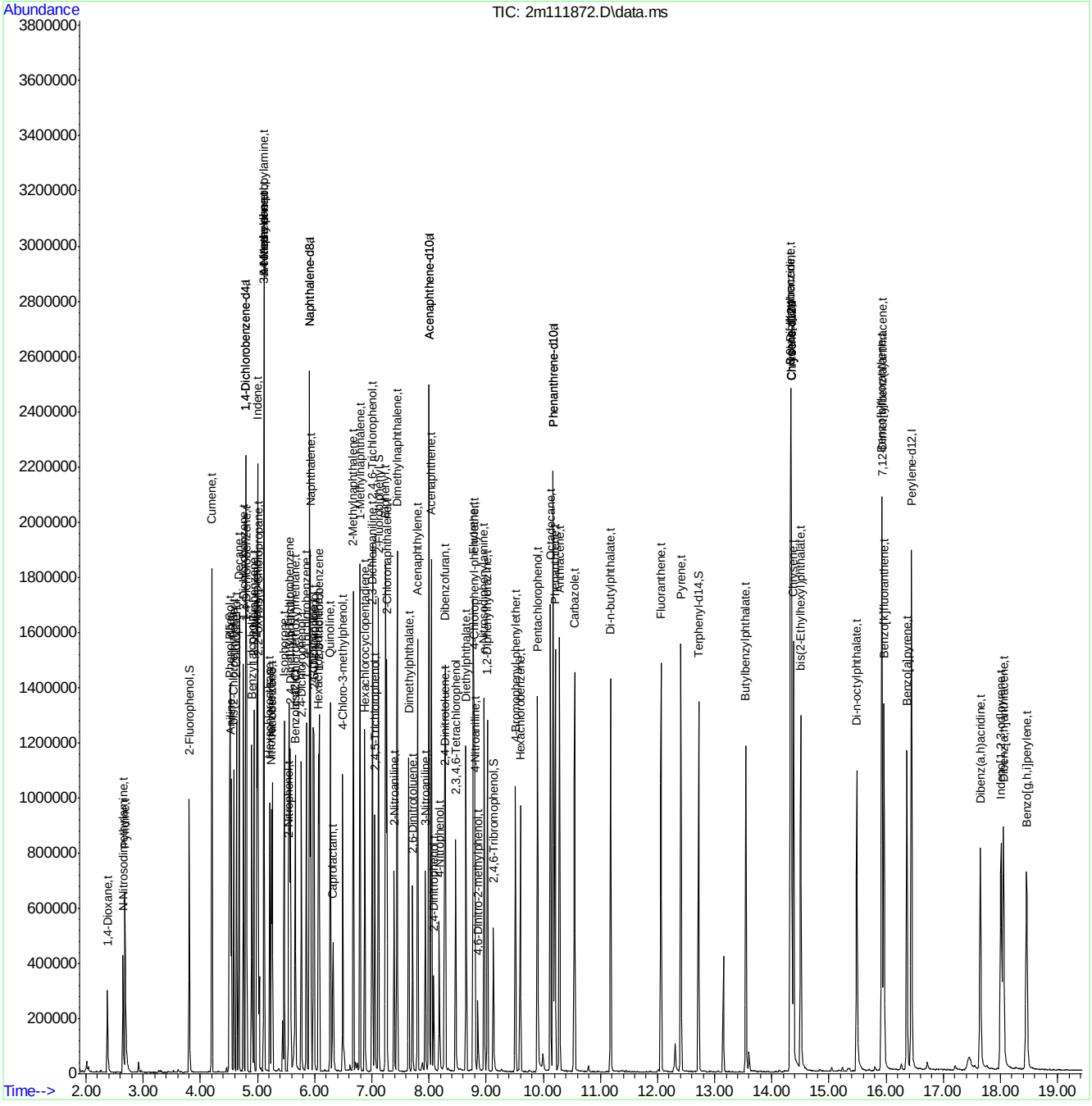
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 79) Carbazole | 10.546 | 167 | 709802 | 24.84 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.177 | 149 | 811539 | 24.75 | ppm | 99 |
| 81) Fluoranthene | 12.060 | 202 | 716554 | 24.97 | ppm | 99 |
| 82) Octadecane | 10.124 | 57 | 364587 | 26.10 | ppm | 98 |
| 84) Pyrene | 12.408 | 202 | 758129 | 24.53 | ppm | 100 |
| 86) Butylbenzylphthalate | 13.541 | 149 | 335518 | 23.10 | ppm | 96 |
| 87) Benzo[a]anthracene | 14.322 | 228 | 626868 | 25.18 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 14.322 | 252 | 219957 | 24.09 | ppm | 97 |
| 89) Chrysene | 14.376 | 228 | 653489 | 24.64 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.504 | 149 | 462771 | 23.39 | ppm | 98 |
| 92) Di-n-octylphthalate | 15.483 | 149 | 749095 | 23.11 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 15.922 | 252 | 654674 | 25.86 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 15.959 | 252 | 648094 | 25.15 | ppm | 98 |
| 95) Benzo[a]pyrene | 16.360 | 252 | 563290 | 24.24 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 18.008 | 276 | 535717 | 23.57 | ppm | 99 |
| 97) Dibenz(a,h)acridine | 17.649 | 279 | 517244 | 24.07 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 18.050 | 278 | 587834 | 24.36 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 15.927 | 256 | 258848 | 23.68 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 18.457 | 276 | 537199 | 23.91 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111872.D
Acq On : 14 May 2019 6:00 pm
Operator : christc2
Sample : ic4974-25
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 15 08:35:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111873.D
Acq On : 14 May 2019 6:26 pm
Operator : christc2
Sample : ic4974-10
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 15 08:36:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 379304 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1444329 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 805741 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1301060 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 1066665 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1156981 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 379304 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 805741 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 1066665 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1301060 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1444329 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 1066665 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.802 | 112 | 143392 | 10.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.10% | | |
| 8) Phenol-d5 | 4.508 | 99 | 178686 | 10.35 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.70% | | |
| 25) Nitrobenzene-d5 | 5.246 | 82 | 132184 | 9.82 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 19.64% | | |
| 51) 2-Fluorobiphenyl | 7.118 | 172 | 314303 | 11.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 22.06% | | |
| 73) 2,4,6-Tribromophenol | 9.124 | 330 | 32583 | 8.60 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 17.20% | | |
| 85) Terphenyl-d14 | 12.718 | 244 | 263639 | 9.89 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 19.78% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.374 | 88 | 67462 | 10.29 | ppm | 96 |
| 3) Pyridine | 2.684 | 79 | 168432 | 9.87 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.646 | 74 | 102823 | 10.23 | ppm | 99 |
| 6) Indene | 5.005 | 116 | 243162 | 11.17 | ppm | 99 |
| 7) Cumene | 4.198 | 105 | 374397 | 11.10 | ppm | 99 |
| 9) Phenol | 4.518 | 94 | 200048 | 10.60 | ppm | 100 |
| 10) Aniline | 4.540 | 93 | 215238 | 12.11 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 153020 | 10.73 | ppm | 98 |
| 12) 2-Chlorophenol | 4.636 | 128 | 151343 | 10.28 | ppm | 98 |
| 13) Decane | 4.674 | 43 | 143604 | 11.57 | ppm | 94 |
| 14) 1,3-Dichlorobenzene | 4.754 | 146 | 167002 | 10.96 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 165024 | 10.85 | ppm | 98 |
| 16) Benzyl alcohol | 4.898 | 108 | 91364 | 10.20 | ppm | 98 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 155473 | 10.73 | ppm | 99 |
| 18) Acetophenone | 5.112 | 105 | 200273 | 12.27 | ppm | 98 |
| 19) 2-Methylphenol | 4.989 | 108 | 131037 | 10.46 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.011 | 45 | 157706 | 10.97 | ppm | 98 |
| 21) 3&4-Methylphenol | 5.107 | 108 | 133314 | 11.63 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 5.112 | 70 | 102152 | 12.02 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111873.D
Acq On : 14 May 2019 6:26 pm
Operator : christc2
Sample : ic4974-10
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 15 08:36:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.214 | 201 | 45175 | 10.20 | ppm | 98 |
| 26) Nitrobenzene | 5.262 | 77 | 142365 | 10.24 | ppm | 96 |
| 27) Quinoline | 6.267 | 129 | 286543 | 10.37 | ppm | 99 |
| 28) Isophorone | 5.465 | 82 | 264787 | 11.07 | ppm | 99 |
| 29) 2-Nitrophenol | 5.545 | 139 | 51035 | 8.31 | ppm | 94 |
| 30) 2,4-Dimethylphenol | 5.572 | 107 | 98817 | 7.95 | ppm | 99 |
| 31) Benzoic acid | 5.636 | 105 | 37624 | 5.93 | ppm | 95 |
| 32) bis(2-Chloroethoxy)met... | 5.663 | 93 | 173385 | 10.91 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.765 | 162 | 114178 | 10.33 | ppm | 97 |
| 34) 2,6-Dichlorophenol | 5.989 | 162 | 111693 | 10.56 | ppm | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.556 | 180 | 121848 | 10.94 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.856 | 180 | 114482 | 10.64 | ppm | 99 |
| 37) 1,2,3-Trichlorobenzene | 6.080 | 180 | 112786 | 10.58 | ppm | 98 |
| 38) Naphthalene | 5.930 | 128 | 433231 | 11.07 | ppm | 99 |
| 39) 4-Chloroaniline | 5.979 | 127 | 177566 | 11.41 | ppm | 97 |
| 40) 2,3-Dichloroaniline | 7.006 | 161 | 141607 | 10.83 | ppm | 97 |
| 41) Caprolactam | 6.310 | 55 | 61209 | 9.56 | ppm | 98 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 57887 | 10.75 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 6.492 | 107 | 113540 | 9.92 | ppm | 97 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 223543 | 10.74 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.792 | 141 | 248328 | 10.86 | ppm | 100 |
| 46) Dimethylnaphthalene | 7.444 | 156 | 260389 | 10.72 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.872 | 237 | 90440 | 18.07 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 7.011 | 196 | 67969 | 10.27 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 7.054 | 196 | 70606 | 9.48 | ppm | 98 |
| 52) 2-Chloronaphthalene | 7.262 | 162 | 257820 | 10.84 | ppm | 99 |
| 53) Biphenyl | 7.241 | 154 | 355428 | 11.06 | ppm | 100 |
| 54) 2-Nitroaniline | 7.391 | 65 | 57780 | 8.40 | ppm | 100 |
| 55) Dimethylphthalate | 7.642 | 163 | 284979 | 10.57 | ppm | 99 |
| 56) Acenaphthylene | 7.803 | 152 | 413474 | 10.60 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 7.712 | 165 | 40297 | 7.55 | ppm | 94 |
| 58) 3-Nitroaniline | 7.936 | 138 | 60724 | 8.69 | ppm | 91 |
| 59) Acenaphthene | 8.043 | 153 | 265543 | 10.82 | ppm | 97 |
| 60) 2,4-Dinitrophenol | 8.081 | 184 | 17515 | 9.51 | ppm | 91 |
| 61) 4-Nitrophenol | 8.182 | 109 | 30763 | 8.44 | ppm | 94 |
| 62) Dibenzofuran | 8.284 | 168 | 370634 | 10.86 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 8.268 | 165 | 54479 | 7.40 | ppm | 99 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.466 | 232 | 55682 | 9.24 | ppm | 97 |
| 65) Diethylphthalate | 8.648 | 149 | 272217 | 10.24 | ppm | 99 |
| 66) Fluorene | 8.771 | 166 | 297528 | 10.68 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 130601 | 10.72 | ppm | 99 |
| 68) 4-Nitroaniline | 8.797 | 138 | 65275 | 9.17 | ppm | 95 |
| 70) 4,6-Dinitro-2-methylph... | 8.856 | 198 | 14578 | 5.07 | ppm | 92 |
| 71) n-Nitrosodiphenylamine | 8.963 | 169 | 218915 | 10.46 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 9.022 | 77 | 297277 | 10.57 | ppm | 99 |
| 74) 4-Bromophenyl-phenylether | 9.514 | 248 | 70357 | 10.05 | ppm | 96 |
| 75) Hexachlorobenzene | 9.600 | 284 | 75798 | 10.47 | ppm | 96 |
| 76) Pentachlorophenol | 9.899 | 266 | 74639 | 16.33 | ppm | 97 |
| 77) Phenanthrene | 10.204 | 178 | 394739 | 10.65 | ppm | 99 |
| 78) Anthracene | 10.284 | 178 | 399316 | 10.60 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111873.D
Acq On : 14 May 2019 6:26 pm
Operator : christc2
Sample : ic4974-10
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 15 08:36:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

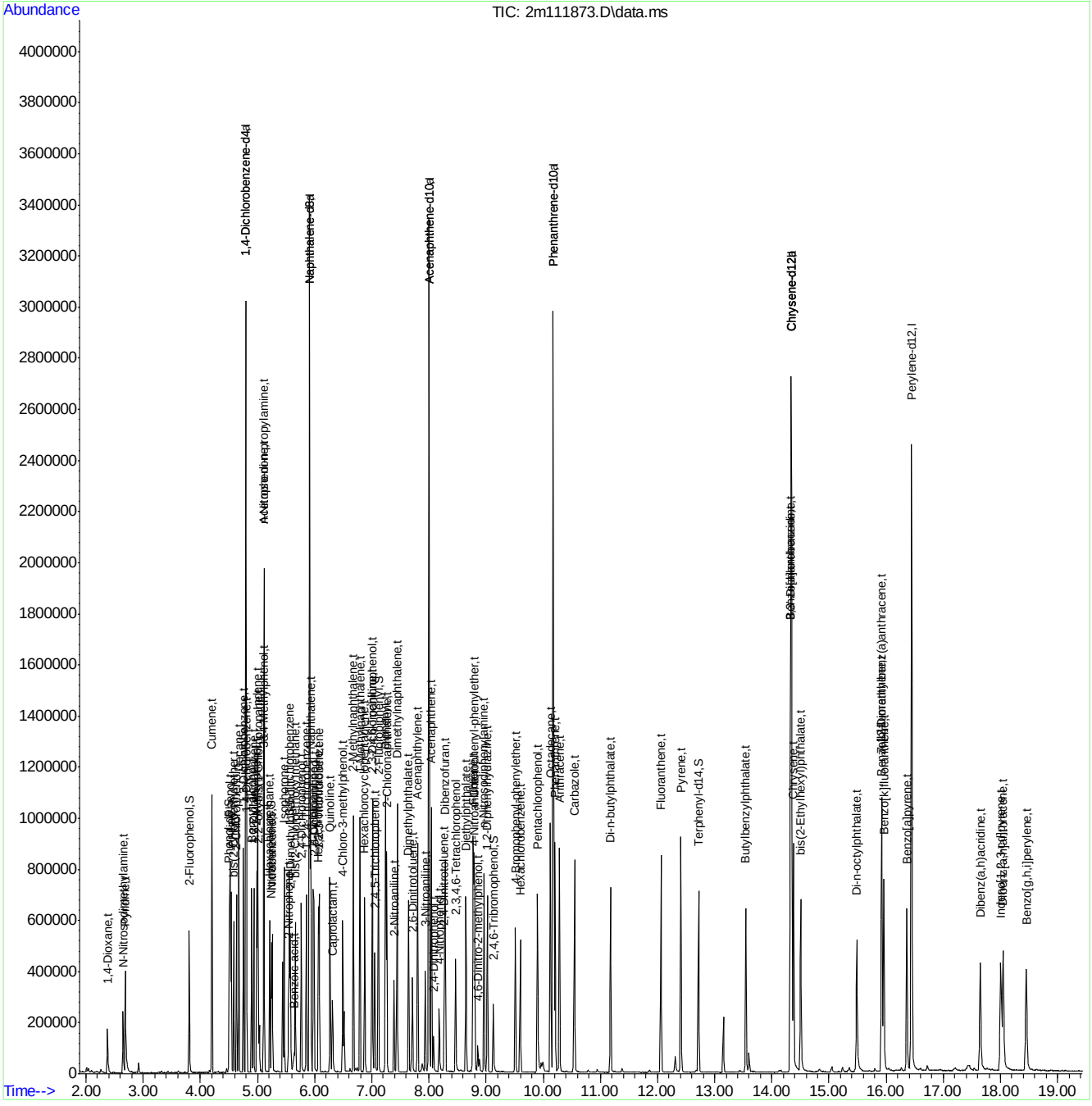
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 79) | Carbazole | 10.546 | 167 | 401994 | 10.39 | ppm | 100 |
| 80) | Di-n-butylphthalate | 11.177 | 149 | 434277 | 9.78 | ppm | 99 |
| 81) | Fluoranthene | 12.060 | 202 | 391548 | 10.08 | ppm | 99 |
| 82) | Octadecane | 10.124 | 57 | 198804 | 10.52 | ppm | 99 |
| 84) | Pyrene | 12.408 | 202 | 422265 | 10.13 | ppm | 99 |
| 86) | Butylbenzylphthalate | 13.542 | 149 | 173331 | 8.85 | ppm | 97 |
| 87) | Benzo[a]anthracene | 14.322 | 228 | 340494 | 10.14 | ppm | 98 |
| 88) | 3,3'-Dichlorobenzidine | 14.322 | 252 | 115780 | 9.40 | ppm | 98 |
| 89) | Chrysene | 14.376 | 228 | 359374 | 10.05 | ppm | 100 |
| 90) | bis(2-Ethylhexyl)phtha... | 14.504 | 149 | 237591 | 8.90 | ppm | 96 |
| 92) | Di-n-octylphthalate | 15.483 | 149 | 364037 | 8.20 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 15.916 | 252 | 348671 | 10.06 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 15.959 | 252 | 359832 | 10.20 | ppm | 100 |
| 95) | Benzo[a]pyrene | 16.360 | 252 | 305693 | 9.61 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 18.002 | 276 | 272368 | 8.75 | ppm | 98 |
| 97) | Dibenz(a,h)acridine | 17.649 | 279 | 263463 | 8.95 | ppm | 100 |
| 98) | Dibenz[a,h]anthracene | 18.045 | 278 | 310242 | 9.39 | ppm | 99 |
| 99) | 7,12-Dimethylbenz(a)an... | 15.922 | 256 | 108711 | 7.26 | ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 18.452 | 276 | 290598 | 9.45 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111873.D
Acq On : 14 May 2019 6:26 pm
Operator : christc2
Sample : ic4974-10
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 15 08:36:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111874.D
Acq On : 14 May 2019 6:52 pm
Operator : christc2
Sample : ic4974-5
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 15 08:39:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 450756 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1717119 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 959604 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1556514 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 1267176 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1385809 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 450756 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 959604 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 1267176 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1556514 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1717119 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 1267176 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.802 | 112 | 84376 | 4.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.94% | |
| 8) Phenol-d5 | 4.508 | 99 | 106850 | 5.21 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.42% | |
| 25) Nitrobenzene-d5 | 5.241 | 82 | 76353 | 4.77 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.54% | |
| 51) 2-Fluorobiphenyl | 7.118 | 172 | 192531 | 5.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 11.34% | |
| 73) 2,4,6-Tribromophenol | 9.124 | 330 | 17134 | 3.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 7.56% | |
| 85) Terphenyl-d14 | 12.718 | 244 | 157087 | 4.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.92% | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.374 | 88 | 39550 | 5.08 | ppm | 92 |
| 3) Pyridine | 2.684 | 79 | 101260 | 4.99 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.646 | 74 | 61478 | 5.15 | ppm | 97 |
| 6) Indene | 5.005 | 116 | 149838 | 5.79 | ppm | 99 |
| 7) Cumene | 4.198 | 105 | 226441 | 5.65 | ppm | 100 |
| 9) Phenol | 4.518 | 94 | 121507 | 5.42 | ppm | 99 |
| 10) Aniline | 4.540 | 93 | 138468 | 6.55 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 94460 | 5.57 | ppm | 97 |
| 12) 2-Chlorophenol | 4.636 | 128 | 91553 | 5.23 | ppm | 97 |
| 13) Decane | 4.674 | 43 | 87459 | 5.93 | ppm | 94 |
| 14) 1,3-Dichlorobenzene | 4.754 | 146 | 100581 | 5.55 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 101501 | 5.62 | ppm | 99 |
| 16) Benzyl alcohol | 4.898 | 108 | 53506 | 5.03 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 96823 | 5.62 | ppm | 99 |
| 18) Acetophenone | 5.112 | 105 | 125362 | 6.46 | ppm | 98 |
| 19) 2-Methylphenol | 4.989 | 108 | 74385 | 5.00 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.011 | 45 | 97231 | 5.69 | ppm | 99 |
| 21) 3&4-Methylphenol | 5.107 | 108 | 75854 | 5.57 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 5.112 | 70 | 62767 | 6.22 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111874.D
Acq On : 14 May 2019 6:52 pm
Operator : christc2
Sample : ic4974-5
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 15 08:39:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.214 | 201 | 26577 | 5.05 | ppm | 94 |
| 26) Nitrobenzene | 5.262 | 77 | 84050 | 5.09 | ppm | 97 |
| 27) Quinoline | 6.267 | 129 | 171283 | 5.21 | ppm | 99 |
| 28) Isophorone | 5.465 | 82 | 162225 | 5.71 | ppm | 99 |
| 29) 2-Nitrophenol | 5.545 | 139 | 27467 | 3.76 | ppm | 93 |
| 30) 2,4-Dimethylphenol | 5.572 | 107 | 39915 | 2.70 | ppm | 96 |
| 31) Benzoic acid | 5.626 | 105 | 18435 | 2.44 | ppm | 89 |
| 32) bis(2-Chloroethoxy)met... | 5.663 | 93 | 106005 | 5.61 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.765 | 162 | 65555 | 4.99 | ppm | 97 |
| 34) 2,6-Dichlorophenol | 5.989 | 162 | 65784 | 5.23 | ppm | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.556 | 180 | 75945 | 5.74 | ppm | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.856 | 180 | 70745 | 5.53 | ppm | 99 |
| 37) 1,2,3-Trichlorobenzene | 6.080 | 180 | 70438 | 5.56 | ppm | 100 |
| 38) Naphthalene | 5.931 | 128 | 265824 | 5.71 | ppm | 99 |
| 39) 4-Chloroaniline | 5.973 | 127 | 108216 | 5.85 | ppm | 97 |
| 40) 2,3-Dichloroaniline | 7.006 | 161 | 85905 | 5.53 | ppm | 97 |
| 41) Caprolactam | 6.305 | 55 | 36513 | 4.80 | ppm | 99 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 35032 | 5.47 | ppm | 97 |
| 43) 4-Chloro-3-methylphenol | 6.492 | 107 | 65332 | 4.80 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 136102 | 5.50 | ppm | 98 |
| 45) 1-Methylnaphthalene | 6.792 | 141 | 151896 | 5.59 | ppm | 99 |
| 46) Dimethylnaphthalene | 7.444 | 156 | 156841 | 5.43 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.872 | 237 | 48041 | 8.06 | ppm | 94 |
| 49) 2,4,6-Trichlorophenol | 7.011 | 196 | 39232 | 4.98 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 7.048 | 196 | 41649 | 4.70 | ppm | 100 |
| 52) 2-Chloronaphthalene | 7.262 | 162 | 157864 | 5.57 | ppm | 98 |
| 53) Biphenyl | 7.241 | 154 | 216967 | 5.67 | ppm | 99 |
| 54) 2-Nitroaniline | 7.391 | 65 | 30153 | 3.68 | ppm | 98 |
| 55) Dimethylphthalate | 7.642 | 163 | 170352 | 5.30 | ppm | 100 |
| 56) Acenaphthylene | 7.803 | 152 | 247946 | 5.34 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 7.712 | 165 | 19728 | 3.10 | ppm | 87 |
| 58) 3-Nitroaniline | 7.936 | 138 | 32281 | 3.88 | ppm | 94 |
| 59) Acenaphthene | 8.043 | 153 | 160021 | 5.48 | ppm | 97 |
| 60) 2,4-Dinitrophenol | 8.081 | 184 | 8235 | 3.76 | ppm | 60 |
| 61) 4-Nitrophenol | 8.177 | 109 | 16532 | 3.81 | ppm | 93 |
| 62) Dibenzofuran | 8.284 | 168 | 224113 | 5.52 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 8.268 | 165 | 25696 | 2.93 | ppm | 95 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.466 | 232 | 30569 | 4.26 | ppm | 98 |
| 65) Diethylphthalate | 8.648 | 149 | 162859 | 5.14 | ppm | 100 |
| 66) Fluorene | 8.771 | 166 | 177967 | 5.36 | ppm | 98 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 78564 | 5.42 | ppm | 100 |
| 68) 4-Nitroaniline | 8.797 | 138 | 35824 | 4.22 | ppm | 97 |
| 70) 4,6-Dinitro-2-methylph... | 8.851 | 198 | 6918 | 2.01 | ppm | 89 |
| 71) n-Nitrosodiphenylamine | 8.963 | 169 | 131598 | 5.25 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 9.017 | 77 | 181630 | 5.40 | ppm | 94 |
| 74) 4-Bromophenyl-phenylether | 9.514 | 248 | 42933 | 5.13 | ppm | 98 |
| 75) Hexachlorobenzene | 9.600 | 284 | 45422 | 5.24 | ppm | 96 |
| 76) Pentachlorophenol | 9.899 | 266 | 38908 | 7.11 | ppm | 97 |
| 77) Phenanthrene | 10.204 | 178 | 243857 | 5.50 | ppm | 99 |
| 78) Anthracene | 10.284 | 178 | 238817 | 5.30 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111874.D
Acq On : 14 May 2019 6:52 pm
Operator : christc2
Sample : ic4974-5
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 15 08:39:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

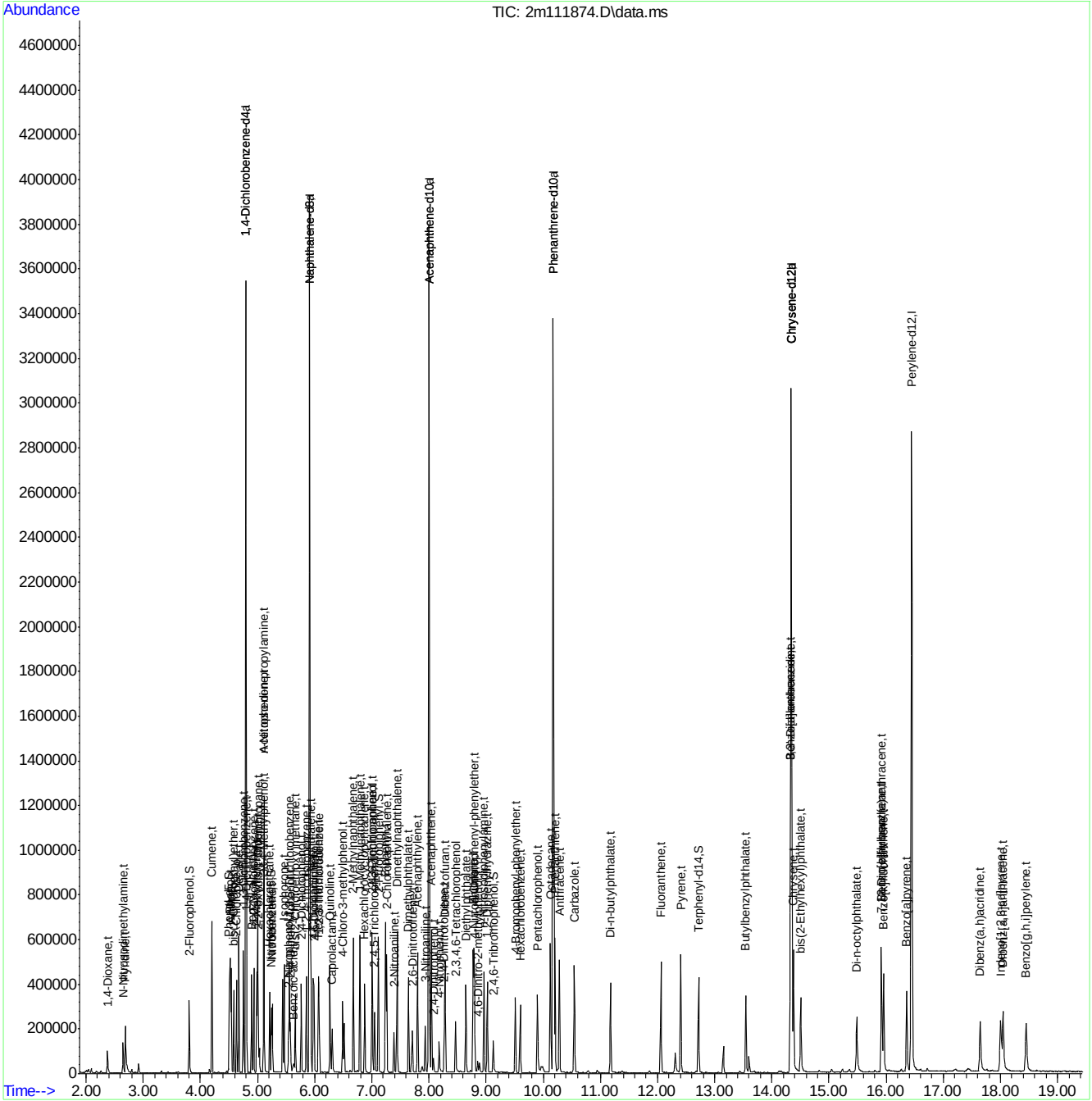
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 79) Carbazole | 10.546 | 167 | 239115 | 5.17 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.178 | 149 | 247443 | 4.66 | ppm | 99 |
| 81) Fluoranthene | 12.060 | 202 | 230046 | 4.95 | ppm | 98 |
| 82) Octadecane | 10.124 | 57 | 115938 | 5.13 | ppm | 98 |
| 84) Pyrene | 12.408 | 202 | 251049 | 5.07 | ppm | 99 |
| 86) Butylbenzylphthalate | 13.542 | 149 | 92520 | 3.98 | ppm | 96 |
| 87) Benzo[a]anthracene | 14.323 | 228 | 198493 | 4.98 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.323 | 252 | 62881 | 4.30 | ppm | 98 |
| 89) Chrysene | 14.376 | 228 | 215555 | 5.07 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.504 | 149 | 125381 | 3.96 | ppm | 98 |
| 92) Di-n-octylphthalate | 15.483 | 149 | 186545 | 3.51 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 15.916 | 252 | 202302 | 4.87 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 15.954 | 252 | 206843 | 4.89 | ppm | 99 |
| 95) Benzo[a]pyrene | 16.355 | 252 | 173303 | 4.55 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 18.002 | 276 | 151515 | 4.06 | ppm | 99 |
| 97) Dibenz(a,h)acridine | 17.644 | 279 | 144906 | 4.11 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 18.045 | 278 | 174621 | 4.41 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 15.922 | 256 | 44252 | 2.47 | ppm | 97 |
| 100) Benzo[g,h,i]perylene | 18.446 | 276 | 159899 | 4.34 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111874.D
Acq On : 14 May 2019 6:52 pm
Operator : christc2
Sample : ic4974-5
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 15 08:39:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111875.D
Acq On : 14 May 2019 7:18 pm
Operator : christc2
Sample : ic4974-2
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 17 09:16:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 334930 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1272119 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 688412 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1107081 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 887229 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.440 | 264 | 953502 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 334930 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 688412 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 887229 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1107081 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1272119 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 887229 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.801 | 112 | 22392 | 1.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.56% | |
| 8) Phenol-d5 | 4.508 | 99 | 29348 | 1.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.84% | |
| 25) Nitrobenzene-d5 | 5.246 | 82 | 18505 | 1.56 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.12% | |
| 51) 2-Fluorobiphenyl | 7.118 | 172 | 53399 | 2.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 4.38% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 12.712 | 244 | 37974 | 1.71 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.42% | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.379 | 88 | 11098 | 1.92 | ppm | 95 |
| 3) Pyridine | 2.694 | 79 | 27781 | 1.84 | ppm | 96 |
| 4) N-Nitrosodimethylamine | 2.652 | 74 | 17563 | 1.98 | ppm | 94 |
| 6) Indene | 5.005 | 116 | 40905 | 2.13 | ppm | 100 |
| 7) Cumene | 4.197 | 105 | 64106 | 2.15 | ppm | 99 |
| 9) Phenol | 4.518 | 94 | 31588 | 1.90 | ppm | 86 |
| 10) Aniline | 4.540 | 93 | 40590 | 2.59 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 25976 | 2.06 | ppm | 96 |
| 12) 2-Chlorophenol | 4.636 | 128 | 24258 | 1.87 | ppm | 98 |
| 13) Decane | 4.673 | 43 | 24738 | 2.26 | ppm | 94 |
| 14) 1,3-Dichlorobenzene | 4.754 | 146 | 29071 | 2.16 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.812 | 146 | 28624 | 2.13 | ppm | 99 |
| 16) Benzyl alcohol | 4.898 | 108 | 14459 | 1.83 | ppm | 95 |
| 17) 1,2-Dichlorobenzene | 4.935 | 146 | 27128 | 2.12 | ppm | 99 |
| 18) Acetophenone | 5.112 | 105 | 36030 | 2.50 | ppm | 94 |
| 19) 2-Methylphenol | 4.989 | 108 | 20290 | 1.83 | ppm | 92 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.010 | 45 | 27274 | 2.15 | ppm | 95 |
| 21) 3&4-Methylphenol | 5.107 | 108 | 20235 | 2.00 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 5.112 | 70 | 17409 | 2.32 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111875.D
Acq On : 14 May 2019 7:18 pm
Operator : christc2
Sample : ic4974-2
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 17 09:16:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.214 | 201 | 7320 | 1.87 | ppm | | 97 |
| 26) Nitrobenzene | 5.262 | 77 | 20167 | 1.65 | ppm | | 98 |
| 27) Quinoline | 6.267 | 129 | 47127 | 1.94 | ppm | | 99 |
| 28) Isophorone | 5.465 | 82 | 42607 | 2.02 | ppm | | 99 |
| 31) Benzoic acid | 5.609 | 105 | 3186 | 0.57 | ppm | # | 64 |
| 32) bis(2-Chloroethoxy)met... | 5.657 | 93 | 29059 | 2.08 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 5.764 | 162 | 16563 | 1.70 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.989 | 162 | 17425 | 1.87 | ppm | | 96 |
| 35) 1,3,5-Trichlorobenzene | 5.556 | 180 | 21646 | 2.21 | ppm | | 94 |
| 36) 1,2,4-Trichlorobenzene | 5.855 | 180 | 19758 | 2.08 | ppm | | 93 |
| 37) 1,2,3-Trichlorobenzene | 6.080 | 180 | 20053 | 2.14 | ppm | | 98 |
| 38) Naphthalene | 5.930 | 128 | 75377 | 2.19 | ppm | | 98 |
| 39) 4-Chloroaniline | 5.978 | 127 | 29387 | 2.14 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 7.005 | 161 | 23880 | 2.07 | ppm | | 96 |
| 41) Caprolactam | 6.299 | 55 | 8522 | 1.51 | ppm | | 92 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 10138 | 2.14 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.487 | 107 | 14782 | 1.47 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 37054 | 2.02 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.791 | 141 | 42076 | 2.09 | ppm | | 98 |
| 46) Dimethylnaphthalene | 7.444 | 156 | 40274 | 1.88 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 6.872 | 237 | 11412 | 2.67 | ppm | | 92 |
| 49) 2,4,6-Trichlorophenol | 7.011 | 196 | 9545 | 1.69 | ppm | | 93 |
| 50) 2,4,5-Trichlorophenol | 7.048 | 196 | 9635 | 1.51 | ppm | | 97 |
| 52) 2-Chloronaphthalene | 7.262 | 162 | 44536 | 2.19 | ppm | | 99 |
| 53) Biphenyl | 7.241 | 154 | 60440 | 2.20 | ppm | | 99 |
| 55) Dimethylphthalate | 7.642 | 163 | 45581 | 1.98 | ppm | | 99 |
| 56) Acenaphthylene | 7.802 | 152 | 62677 | 1.88 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.711 | 165 | 3348 | 0.73 | ppm | | 88 |
| 59) Acenaphthene | 8.043 | 153 | 44249 | 2.11 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 8.075 | 184 | 1328 | 0.84 | ppm | # | 46 |
| 62) Dibenzofuran | 8.284 | 168 | 62295 | 2.14 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 8.268 | 165 | 3691 | 0.59 | ppm | | 71 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.466 | 232 | 6384 | 1.24 | ppm | | 92 |
| 65) Diethylphthalate | 8.642 | 149 | 41576 | 1.83 | ppm | | 99 |
| 66) Fluorene | 8.770 | 166 | 47429 | 1.99 | ppm | | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 22233 | 2.14 | ppm | | 97 |
| 71) n-Nitrosodiphenylamine | 8.963 | 169 | 33521 | 1.88 | ppm | | 97 |
| 72) 1,2-Diphenylhydrazine | 9.016 | 77 | 45473 | 1.90 | ppm | | 94 |
| 74) 4-Bromophenyl-phenylether | 9.514 | 248 | 11038 | 1.85 | ppm | | 99 |
| 75) Hexachlorobenzene | 9.594 | 284 | 12370 | 2.01 | ppm | | 93 |
| 76) Pentachlorophenol | 9.899 | 266 | 6839m | 1.76 | ppm | | |
| 77) Phenanthrene | 10.204 | 178 | 67120 | 2.13 | ppm | | 99 |
| 78) Anthracene | 10.284 | 178 | 62201 | 1.94 | ppm | | 99 |
| 79) Carbazole | 10.541 | 167 | 61430 | 1.87 | ppm | | 98 |
| 80) Di-n-butylphthalate | 11.177 | 149 | 49628 | 1.31 | ppm | | 99 |
| 81) Fluoranthene | 12.060 | 202 | 52658 | 1.59 | ppm | | 96 |
| 82) Octadecane | 10.124 | 57 | 23481 | 1.46 | ppm | | 97 |
| 84) Pyrene | 12.407 | 202 | 61392 | 1.77 | ppm | | 97 |
| 86) Butylbenzylphthalate | 13.541 | 149 | 15422 | 0.95 | ppm | | 92 |
| 87) Benzo[a]anthracene | 14.322 | 228 | 48125 | 1.72 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111875.D
Acq On : 14 May 2019 7:18 pm
Operator : christc2
Sample : ic4974-2
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 17 09:16:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

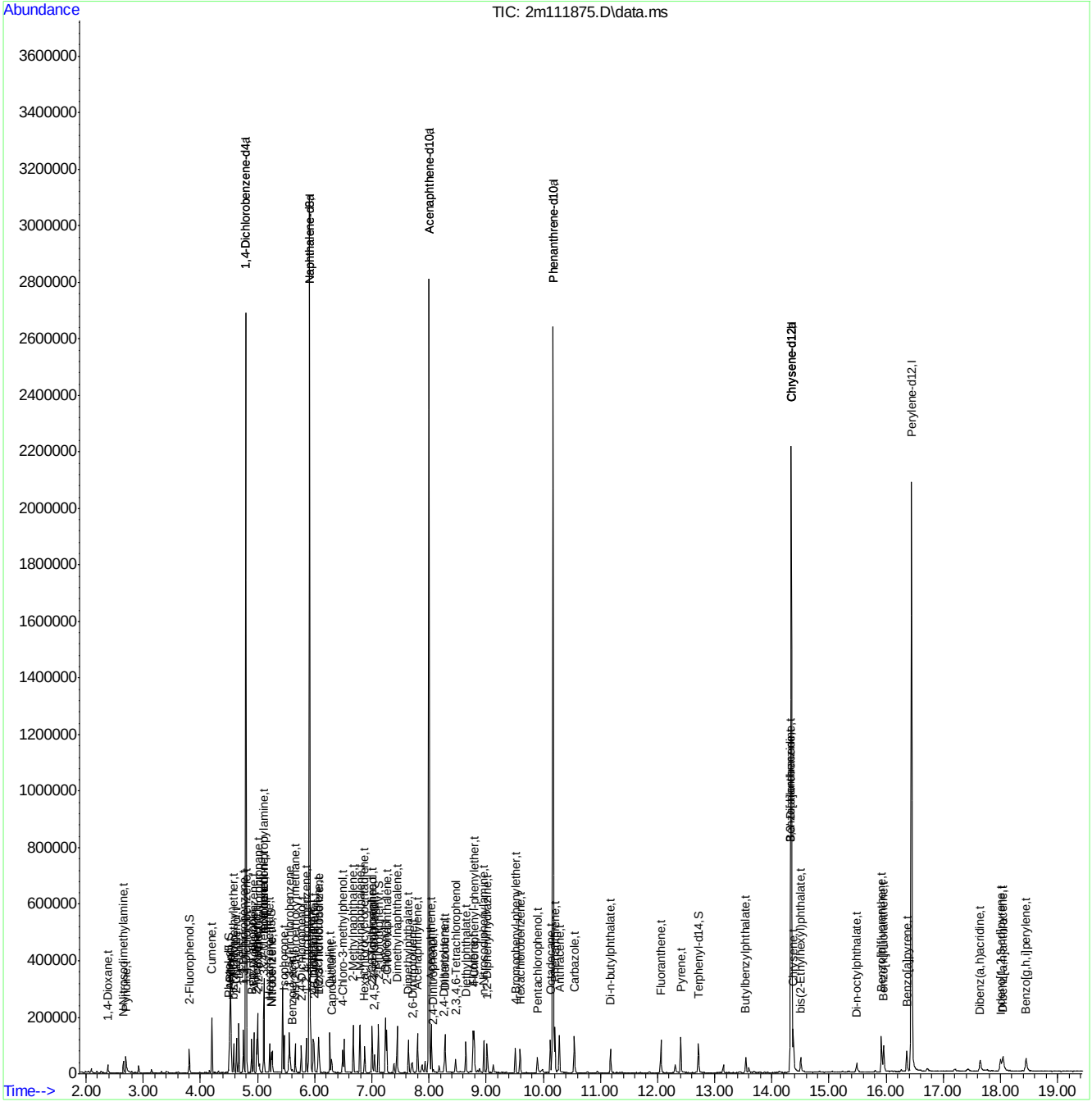
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 88) 3,3'-Dichlorobenzidine | 14.322 | 252 | 11381 | 1.11 | ppm | 94 |
| 89) Chrysene | 14.376 | 228 | 57481 | 1.93 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.509 | 149 | 19703 | 0.89 | ppm | 97 |
| 92) Di-n-octylphthalate | 15.483 | 149 | 24921 | 0.68 | ppm | 96 |
| 93) Benzo[b]fluoranthene | 15.916 | 252 | 44915 | 1.57 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 15.954 | 252 | 47891 | 1.65 | ppm | 97 |
| 95) Benzo[a]pyrene | 16.360 | 252 | 37616 | 1.43 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 18.002 | 276 | 29317 | 1.14 | ppm | 96 |
| 97) Dibenz(a,h)acridine | 17.644 | 279 | 28022 | 1.16 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 18.045 | 278 | 36255 | 1.33 | ppm | 96 |
| 100) Benzo[g,h,i]perylene | 18.446 | 276 | 34754 | 1.37 | ppm | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111875.D
Acq On : 14 May 2019 7:18 pm
Operator : christc2
Sample : ic4974-2
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

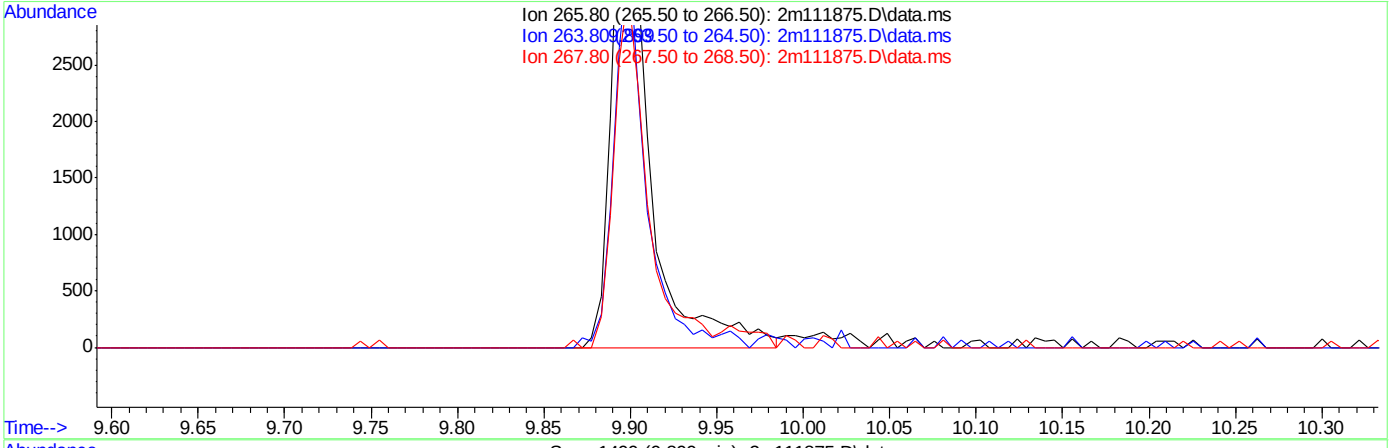
Quant Time: May 17 09:16:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration

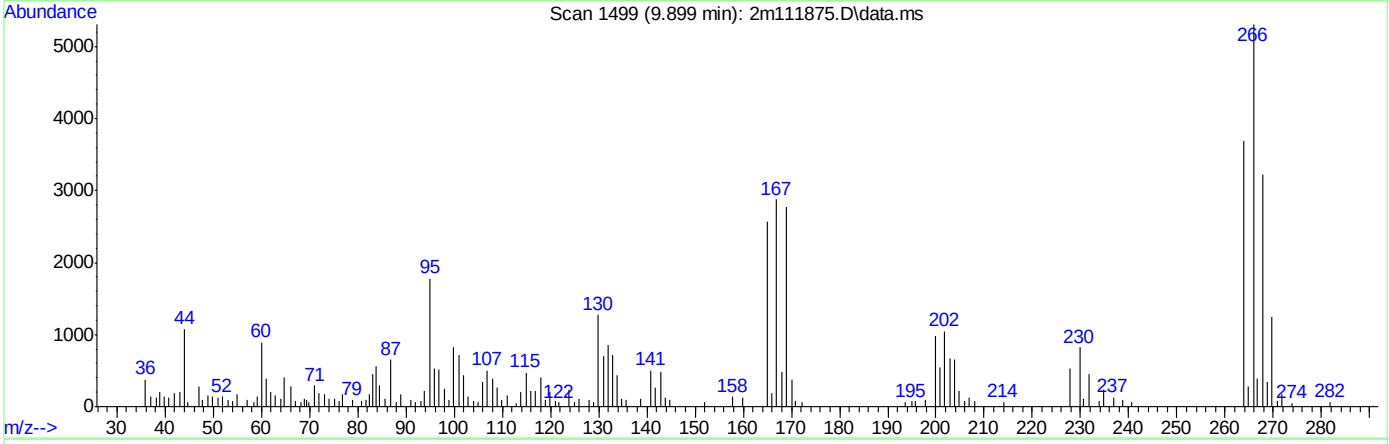


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111875.D
Acq On : 14 May 2019 7:18 pm
Operator : christc2
Sample : ic4974-2
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 15 09:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 08:24:15 2019
Response via : Initial Calibration




TIC: 2m111875.D\data.ms

(76) Pentachlorophenol (t)

9.899min (-0.006) 1.76ppm m

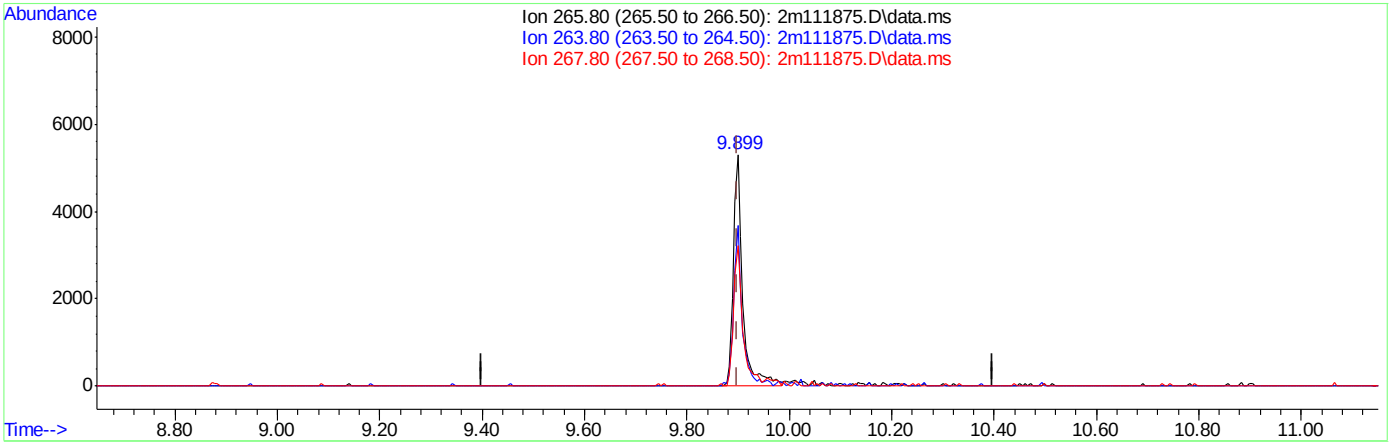
response 6839

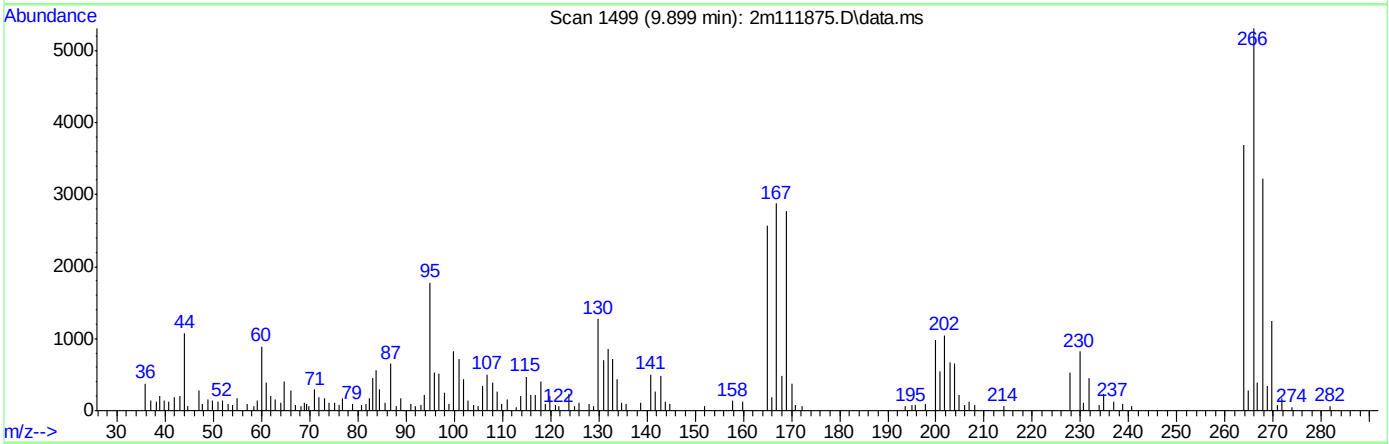
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 61.90 | 69.38 |
| 267.80 | 63.60 | 60.66 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E2M4979\
Data File : 2m111875.D
Acq On : 14 May 2019 7:18 pm
Operator : christc2
Sample : ic4974-2
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 17 09:43:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 09:17:27 2019
Response via : Initial Calibration




TIC: 2m111875.D\data.ms

(76) Pentachlorophenol (t)

9.899min (-0.000) 5.81ppm

response 6839

| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 61.90 | 69.17 |
| 267.80 | 63.60 | 60.57 |
| 0.00 | 0.00 | 0.00 |

9.8.8.2

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111876.D
Acq On : 14 May 2019 7:44 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 15 12:47:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 379167 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.914 | 136 | 1467202 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 816737 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1284777 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.344 | 240 | 908317 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1017014 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 379167 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 816737 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.344 | 240 | 908317 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1284777 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.914 | 136 | 1467202 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.344 | 240 | 908317 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 4) N-Nitrosodimethylamine | 2.662 | 74 | 452164 | 45.05 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.588 | 93 | 691119 | 47.65 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.759 | 146 | 687739 | 43.98 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.813 | 146 | 700635 | 44.91 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.936 | 146 | 655544 | 44.32 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 5.010 | 45 | 836603 | 55.85 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 5.117 | 70 | 476204 | 51.23 | ppm | 90 |
| 23) Hexachloroethane | 5.214 | 201 | 196192 | 45.45 | ppm | 99 |
| 26) Nitrobenzene | 5.262 | 77 | 603162 | 44.40 | ppm | 98 |
| 28) Isophorone | 5.465 | 82 | 1204376 | 48.98 | ppm | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.663 | 93 | 793647 | 48.09 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.856 | 180 | 502738 | 45.38 | ppm | 100 |
| 38) Naphthalene | 5.936 | 128 | 1893905 | 46.06 | ppm | 99 |
| 42) Hexachlorobutadiene | 6.064 | 225 | 255304 | 46.35 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.877 | 237 | 191392 | 44.68 | ppm | 99 |
| 52) 2-Chloronaphthalene | 7.262 | 162 | 1094004 | 44.37 | ppm | 98 |
| 55) Dimethylphthalate | 7.653 | 163 | 1254979 | 45.99 | ppm | 100 |
| 56) Acenaphthylene | 7.808 | 152 | 1830226 | 47.27 | ppm | 100 |
| 59) Acenaphthene | 8.049 | 153 | 1111241 | 43.98 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111876.D
Acq On : 14 May 2019 7:44 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 15 12:47:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration

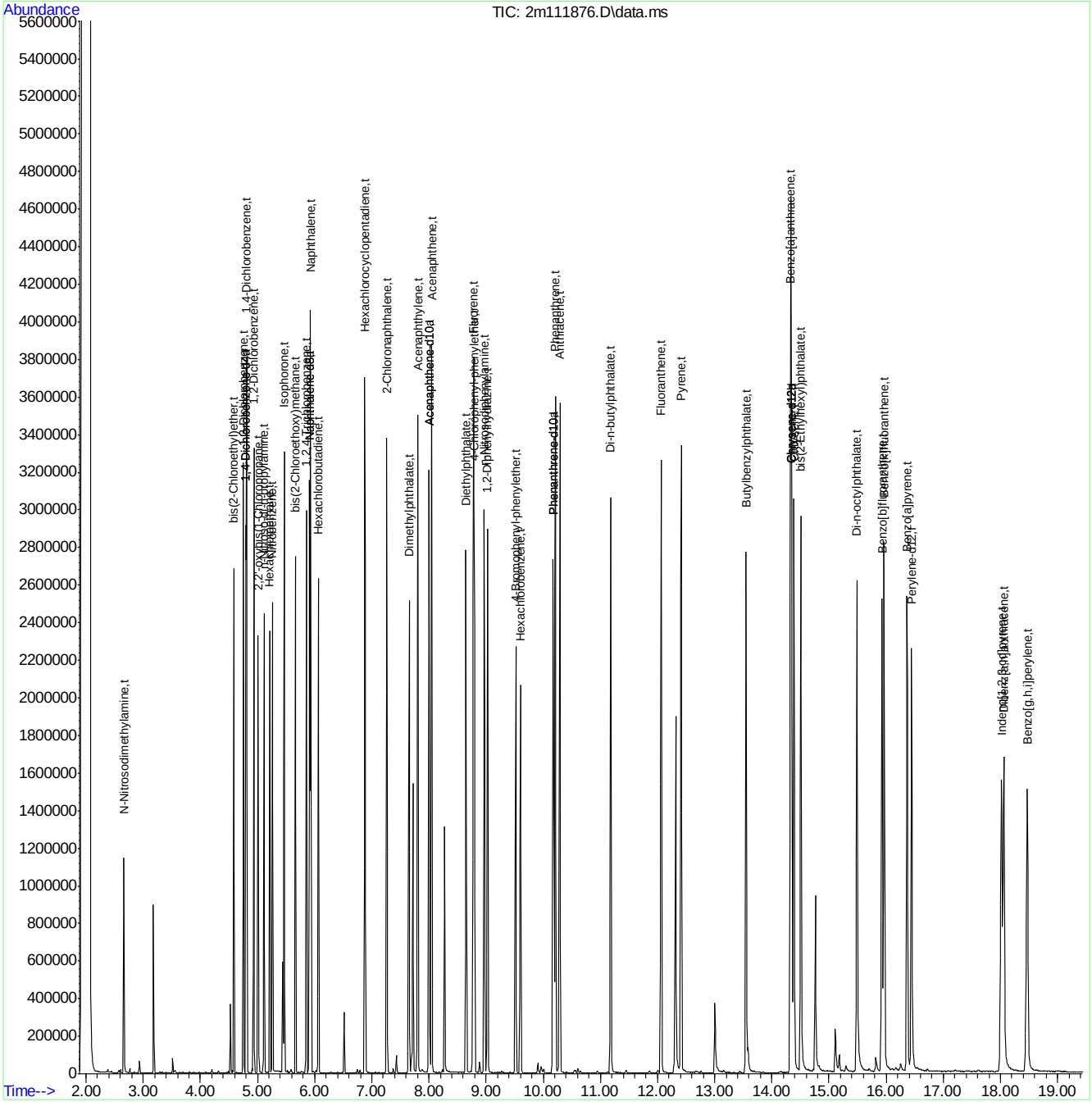
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 65) Diethylphthalate | 8.648 | 149 | 1190912 | 45.73 | ppm | 99 |
| 66) Fluorene | 8.776 | 166 | 1269673 | 45.65 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.792 | 204 | 554848 | 44.54 | ppm | 98 |
| 71) n-Nitrosodiphenylamine | 8.968 | 169 | 942690 | 46.50 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 9.022 | 77 | 1350273 | 48.94 | ppm | 95 |
| 74) 4-Bromophenyl-phenylether | 9.519 | 248 | 320220 | 48.04 | ppm | 100 |
| 75) Hexachlorobenzene | 9.605 | 284 | 318886 | 44.40 | ppm | 99 |
| 77) Phenanthrene | 10.209 | 178 | 1672832 | 44.74 | ppm | 99 |
| 78) Anthracene | 10.290 | 178 | 1714484 | 46.62 | ppm | 100 |
| 80) Di-n-butylphthalate | 11.177 | 149 | 1934268 | 49.77 | ppm | 99 |
| 81) Fluoranthene | 12.065 | 202 | 1695424 | 47.17 | ppm | 99 |
| 84) Pyrene | 12.413 | 202 | 1751164 | 51.50 | ppm | 99 |
| 86) Butylbenzylphthalate | 13.547 | 149 | 797803 | 48.46 | ppm | 98 |
| 87) Benzo[a]anthracene | 14.328 | 228 | 1285093 | 46.48 | ppm | 100 |
| 89) Chrysene | 14.387 | 228 | 1429880 | 47.56 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.510 | 149 | 1080867 | 48.54 | ppm | 99 |
| 92) Di-n-octylphthalate | 15.488 | 149 | 1778313 | 45.98 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 15.927 | 252 | 1330579 | 46.18 | ppm | 96 |
| 94) Benzo[k]fluoranthene | 15.964 | 252 | 1417727 | 48.85 | ppm | 99 |
| 95) Benzo[a]pyrene | 16.366 | 252 | 1274593 | 49.59 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 18.018 | 276 | 1156100 | 48.53 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 18.061 | 278 | 1185990 | 45.62 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 18.468 | 276 | 1192754 | 49.00 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111876.D
Acq On : 14 May 2019 7:44 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 15 12:47:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration










SGS JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111877.D
Acq On : 14 May 2019 8:10 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 15 09:13:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 311926 | 40.00 ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1216208 | 40.00 ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 653413 | 40.00 ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1044150 | 40.00 ppm | 0.00 |
| 83) Chrysene-d12 | 14.333 | 240 | 767107 | 40.00 ppm | -0.01 |
| 91) Perylene-d12 | 16.440 | 264 | 753907 | 40.00 ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 311926 | 40.00 ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 653413 | 40.00 ppm | 0.00 |
| 105) Chrysene-d12a | 14.333 | 240 | 767107 | 40.00 ppm | -0.01 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1044150 | 40.00 ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1216208 | 40.00 ppm | 0.00 |
| 114) Chrysene-d12b | 14.333 | 240 | 767107 | 40.00 ppm | -0.01 |
| System Monitoring Compounds | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 ppm | |
| Target Compounds | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.389 | 88 | 300040 | 55.12 ppm | 99 |
| 6) Indene | 5.005 | 116 | 1153678 | 63.09 ppm | 100 |
| 7) Cumene | 4.203 | 105 | 1515231 | 52.96 ppm | 100 |
| 13) Decane | 4.679 | 43 | 556791 | 51.11 ppm | 100 |
| 18) Acetophenone | 5.117 | 105 | 904334 | 61.02 ppm | 81 |
| 27) Quinoline | 6.267 | 129 | 1305114 | 56.92 ppm | 98 |
| 40) 2,3-Dichloroaniline | 7.011 | 161 | 589403 | 53.53 ppm | 99 |
| 41) Caprolactam | 6.321 | 55 | 281257 | 57.15 ppm | 97 |
| 45) 1-Methylnaphthalene | 6.791 | 141 | 1046074 | 53.63 ppm | 99 |
| 46) Dimethylnaphthalene | 7.444 | 156 | 1129309 | 56.34 ppm | 98 |
| 53) Biphenyl | 7.246 | 154 | 1502291 | 56.31 ppm | 100 |
| 82) Octadecane | 10.129 | 57 | 878844 | 62.75 ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 15.927 | 256 | 516626 | 53.50 ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

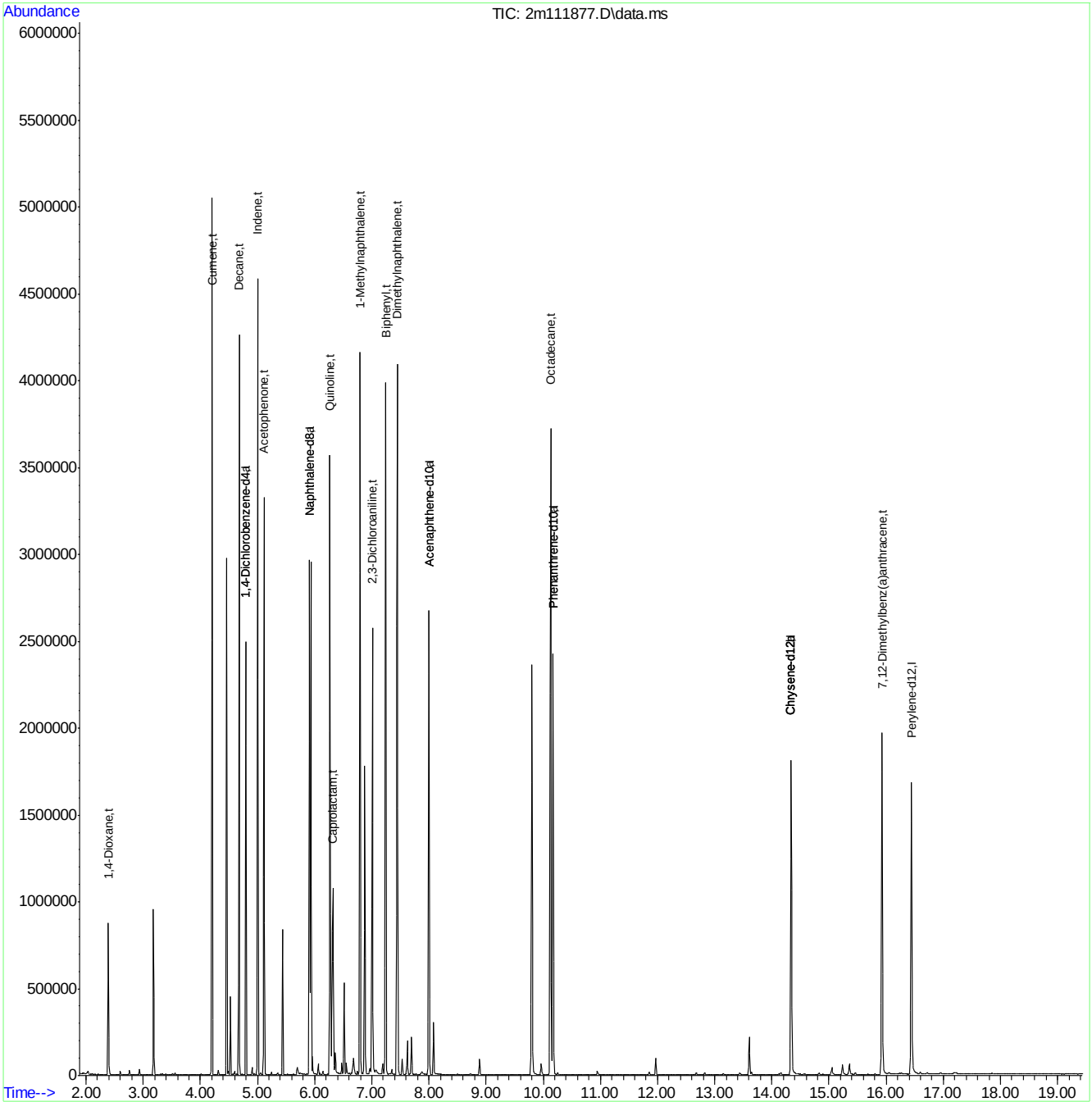
9.8.10

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111877.D
Acq On : 14 May 2019 8:10 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 15 09:13:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111878.D
Acq On : 14 May 2019 8:37 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 15 09:15:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration

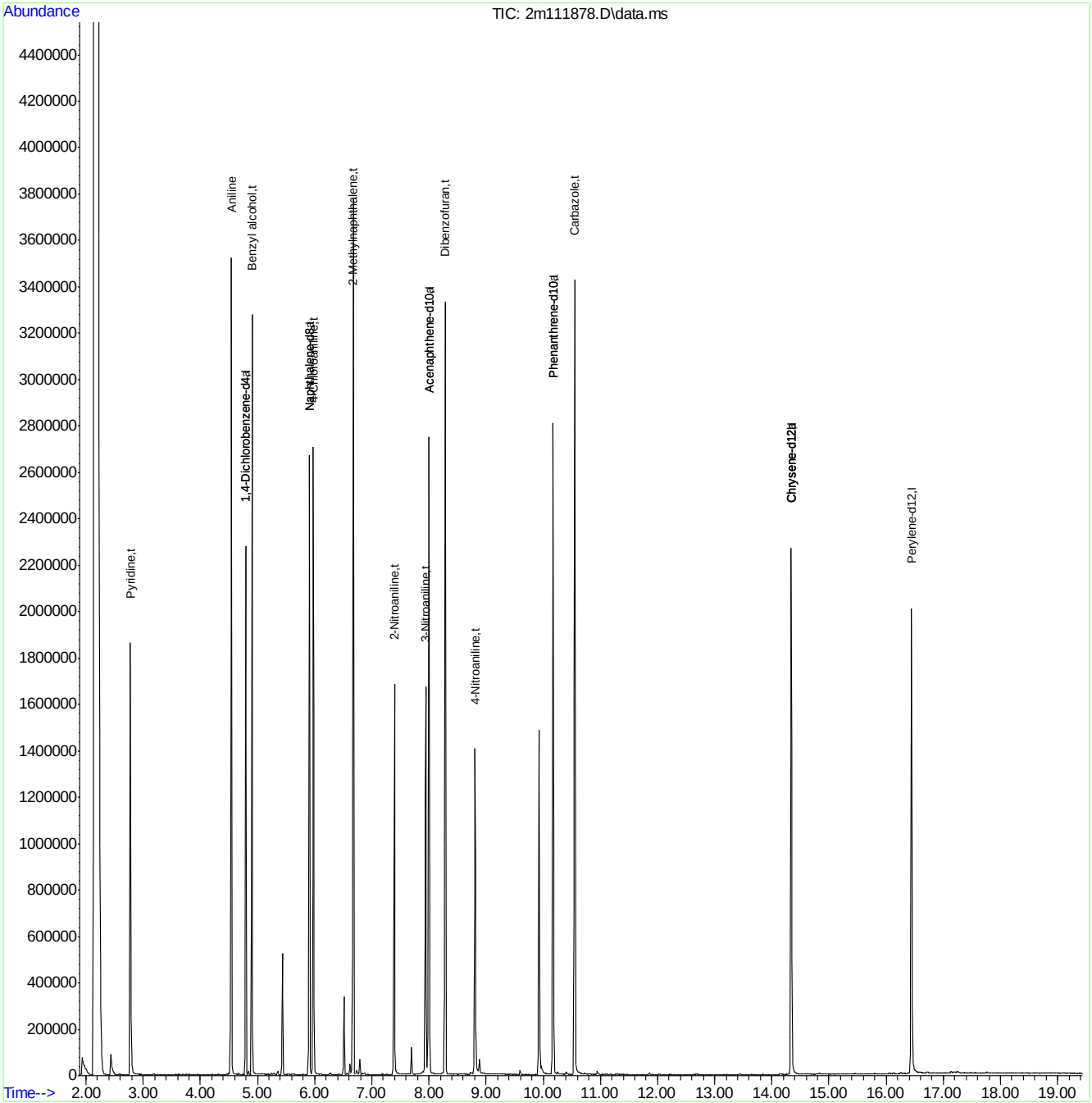
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 331192 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1289862 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 702005 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1214202 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 985678 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.441 | 264 | 902521 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 331192 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 702005 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 985678 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1214202 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1289862 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 985678 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 3) Pyridine | 2.775 | 79 | 759802 | 52.26 | ppm | 98 |
| 10) Aniline | 4.545 | 93 | 1093776 | 62.28 | ppm | 97 |
| 16) Benzyl alcohol | 4.904 | 108 | 467406 | 62.12 | ppm | 99 |
| 39) 4-Chloroaniline | 5.979 | 127 | 818868 | 56.88 | ppm | 98 |
| 44) 2-Methylnaphthalene | 6.674 | 141 | 1049751 | 56.50 | ppm | 98 |
| 54) 2-Nitroaniline | 7.396 | 65 | 292080 | 54.07 | ppm | 97 |
| 58) 3-Nitroaniline | 7.942 | 138 | 295591 | 52.87 | ppm | 95 |
| 62) Dibenzofuran | 8.284 | 168 | 1671715 | 55.60 | ppm | 98 |
| 68) 4-Nitroaniline | 8.808 | 138 | 294040 | 49.95 | ppm | 96 |
| 79) Carbazole | 10.552 | 167 | 1825424 | 52.12 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111878.D
Acq On : 14 May 2019 8:37 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 15 09:15:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111879.D
Acq On : 14 May 2019 9:03 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 17 09:21:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 09:17:27 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 399269 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1494604 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 821221 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1277650 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 953336 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.441 | 264 | 935497 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 399269 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 821221 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 953336 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1277650 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1494604 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 953336 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.524 | 94 | 921985 | 47.39 | ppm | 99 |
| 12) 2-Chlorophenol | 4.636 | 128 | 778015 | 51.27 | ppm | 100 |
| 19) 2-Methylphenol | 4.989 | 108 | 680563 | 53.80 | ppm | 99 |
| 21) 3&4-Methylphenol | 5.112 | 108 | 720742 | 60.11 | ppm | 97 |
| 29) 2-Nitrophenol | 5.545 | 139 | 308859 | 55.06 | ppm | 99 |
| 30) 2,4-Dimethylphenol | 5.578 | 107 | 645242 | 58.25 | ppm | 98 |
| 31) Benzoic acid | 5.690 | 105 | 379758 | 58.31 | ppm | 98 |
| 33) 2,4-Dichlorophenol | 5.770 | 162 | 580001 | 53.77 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.989 | 162 | 581743 | 54.66 | ppm | 96 |
| 43) 4-Chloro-3-methylphenol | 6.492 | 107 | 604686 | 56.10 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 7.011 | 196 | 371888 | 59.38 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 7.054 | 196 | 391928 | 57.67 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 8.086 | 184 | 65448 | 41.47 | ppm # | 57 |
| 61) 4-Nitrophenol | 8.188 | 109 | 183746 | 54.25 | ppm | 95 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.466 | 232 | 293991 | 53.79 | ppm | 96 |
| 70) 4,6-Dinitro-2-methylph... | 8.862 | 198 | 126125 | 45.00 | ppm | 97 |
| 76) Pentachlorophenol | 9.899 | 266 | 241642 | 53.95 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111879.D
Acq On : 14 May 2019 9:03 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 17 09:21:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 09:17:27 2019
Response via : Initial Calibration

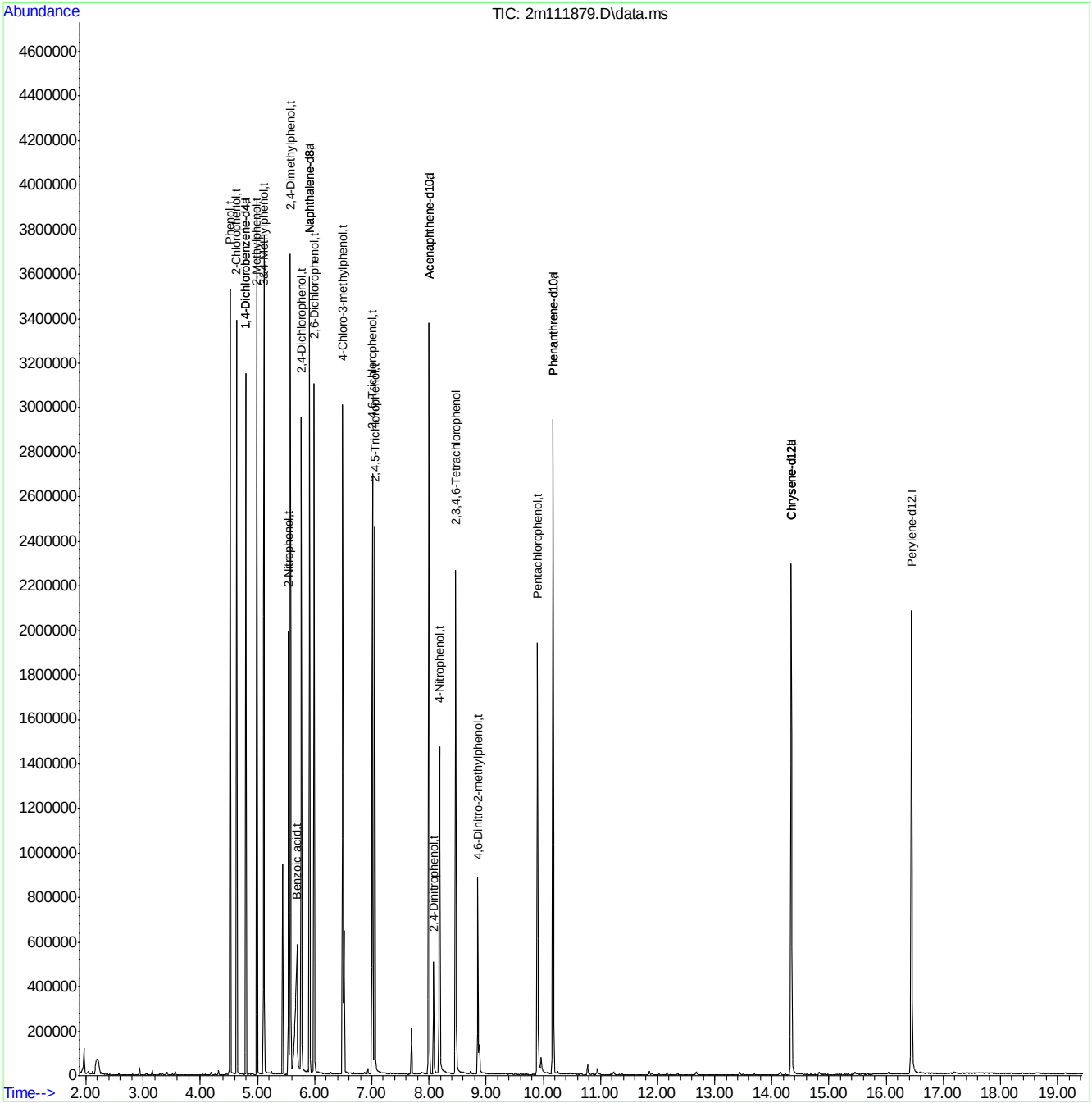
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111879.D
Acq On : 14 May 2019 9:03 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 17 09:21:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 09:17:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111880.D
Acq On : 14 May 2019 9:29 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 15 09:18:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration

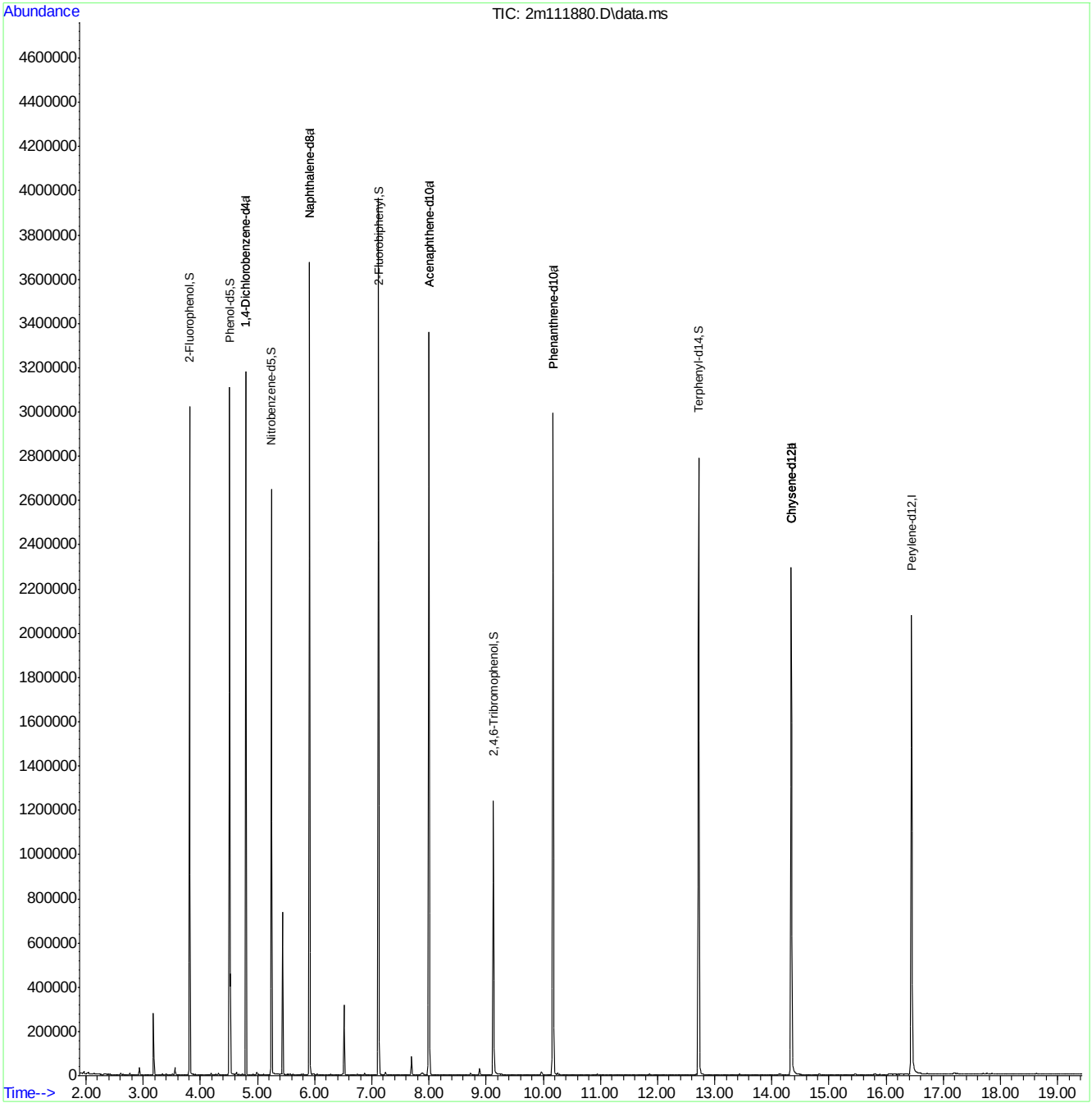
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 399642 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1535411 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 825178 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1283678 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 945422 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.440 | 264 | 946290 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 399642 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 825178 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 945422 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1283678 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1535411 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 945422 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.812 | 112 | 703254 | 48.50 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 97.00% | | | |
| 8) Phenol-d5 | 4.513 | 99 | 867695 | 48.56 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 97.12% | | | |
| 25) Nitrobenzene-d5 | 5.246 | 82 | 668649 | 50.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 100.10% | | | |
| 51) 2-Fluorobiphenyl | 7.118 | 172 | 1368064 | 45.65 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 91.30% | | | |
| 73) 2,4,6-Tribromophenol | 9.123 | 330 | 155741 | 45.65 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 91.30% | | | |
| 85) Terphenyl-d14 | 12.718 | 244 | 1198295 | 53.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 106.90% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111880.D
Acq On : 14 May 2019 9:29 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 15 09:18:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111881.D
Acq On : 14 May 2019 9:55 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 15 09:19:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration

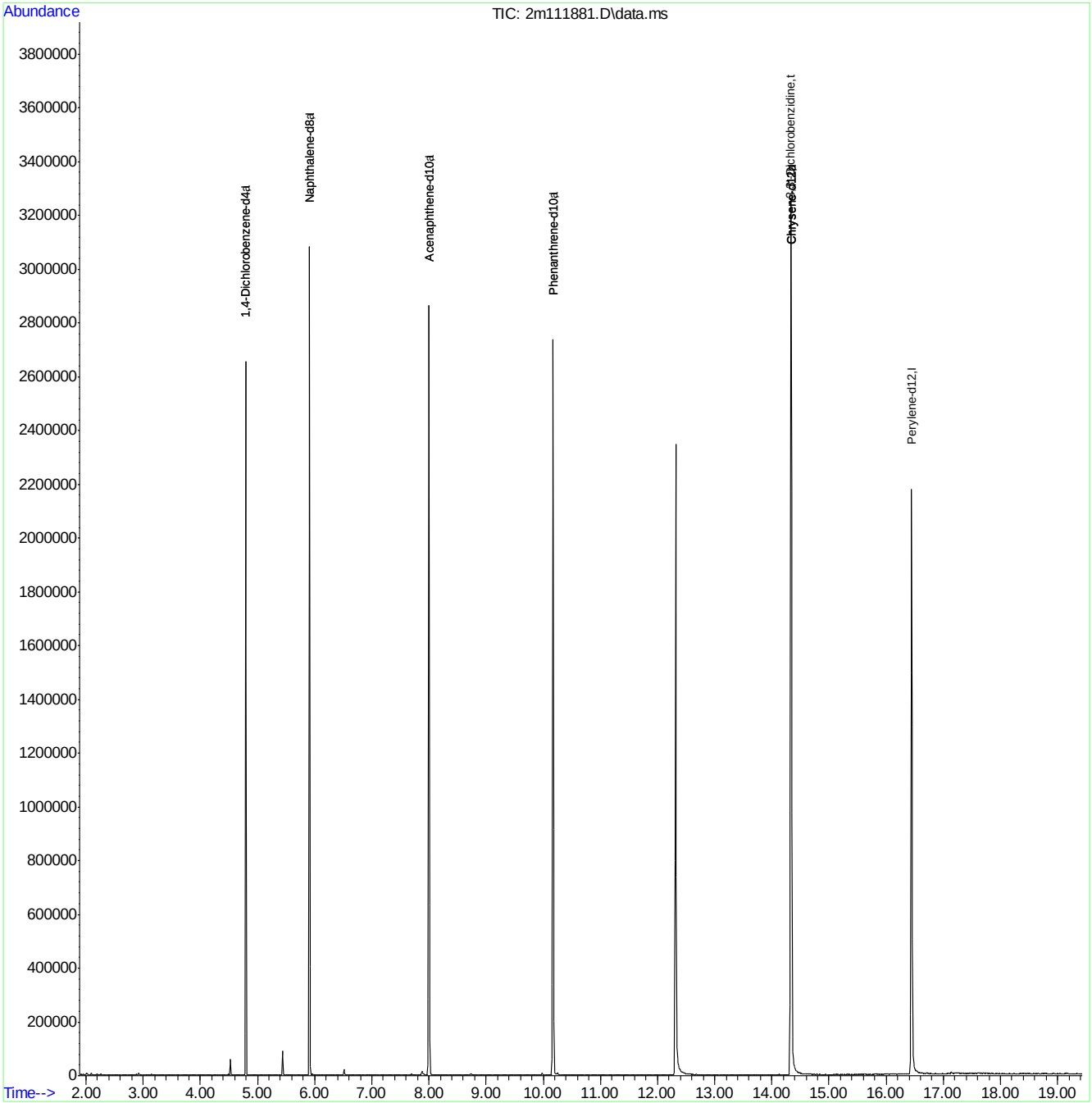
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 325485 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1209570 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 675598 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1184664 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 1041661 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1023135 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 325485 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 675598 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 1041661 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1184664 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1209570 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 1041661 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 88) 3,3'-Dichlorobenzidine | 14.328 | 252 | 499236 | 47.62 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4974\
Data File : 2m111881.D
Acq On : 14 May 2019 9:55 pm
Operator : christc2
Sample : icv4974-50
Misc : op13721,e2m4974,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 15 09:19:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 09:06:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111883.D
Acq On : 14 May 2019 10:48 pm
Operator : christc2
Sample : ic4975-100
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 15 10:06:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

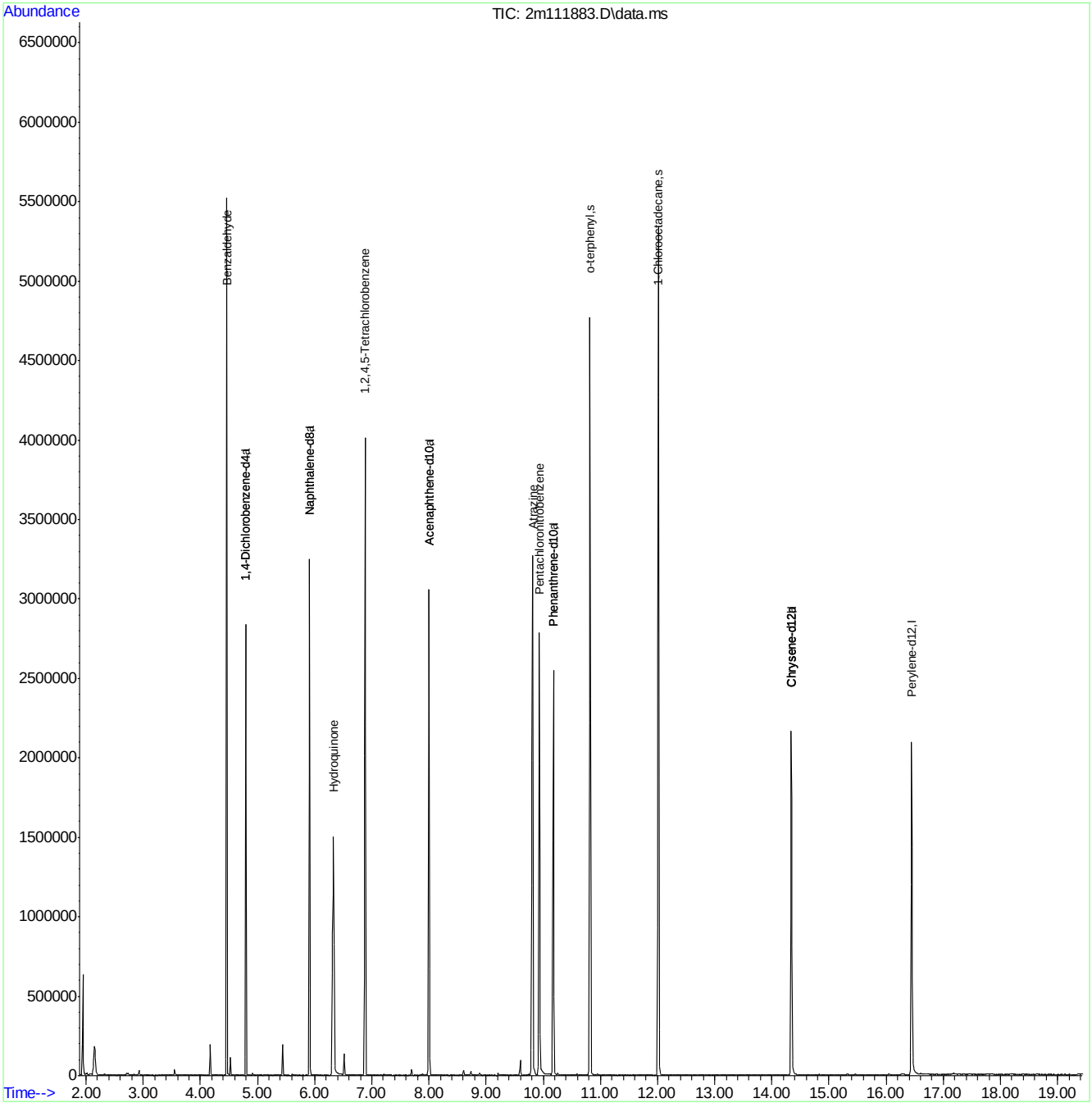
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 351830 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1341789 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 725889 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.177 | 188 | 1118735 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 884823 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 936950 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 351830 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 725889 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 884823 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.177 | 188 | 1118735 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1341789 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 884823 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 12.017 | 57 | 906483 | 87.50 | ppm | 0.00 |
| 110) o-terphenyl | 10.819 | 230 | 1290787 | 85.40 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.465 | 105 | 930626 | 86.83 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.882 | 216 | 752659 | 85.04 | ppm | 98 |
| 108) Atrazine | 9.819 | 215 | 308710 | 94.83 | ppm | 99 |
| 111) Pentachloronitrobenzene | 9.936 | 295 | 104932 | 109.07 | ppm | 97 |
| 113) Hydroquinone | 6.331 | 110 | 1185779 | 99.10 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111883.D
Acq On : 14 May 2019 10:48 pm
Operator : christc2
Sample : ic4975-100
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 15 10:06:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111884.D
Acq On : 14 May 2019 11:14 pm
Operator : christc2
Sample : ic4975-80
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 15 10:07:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

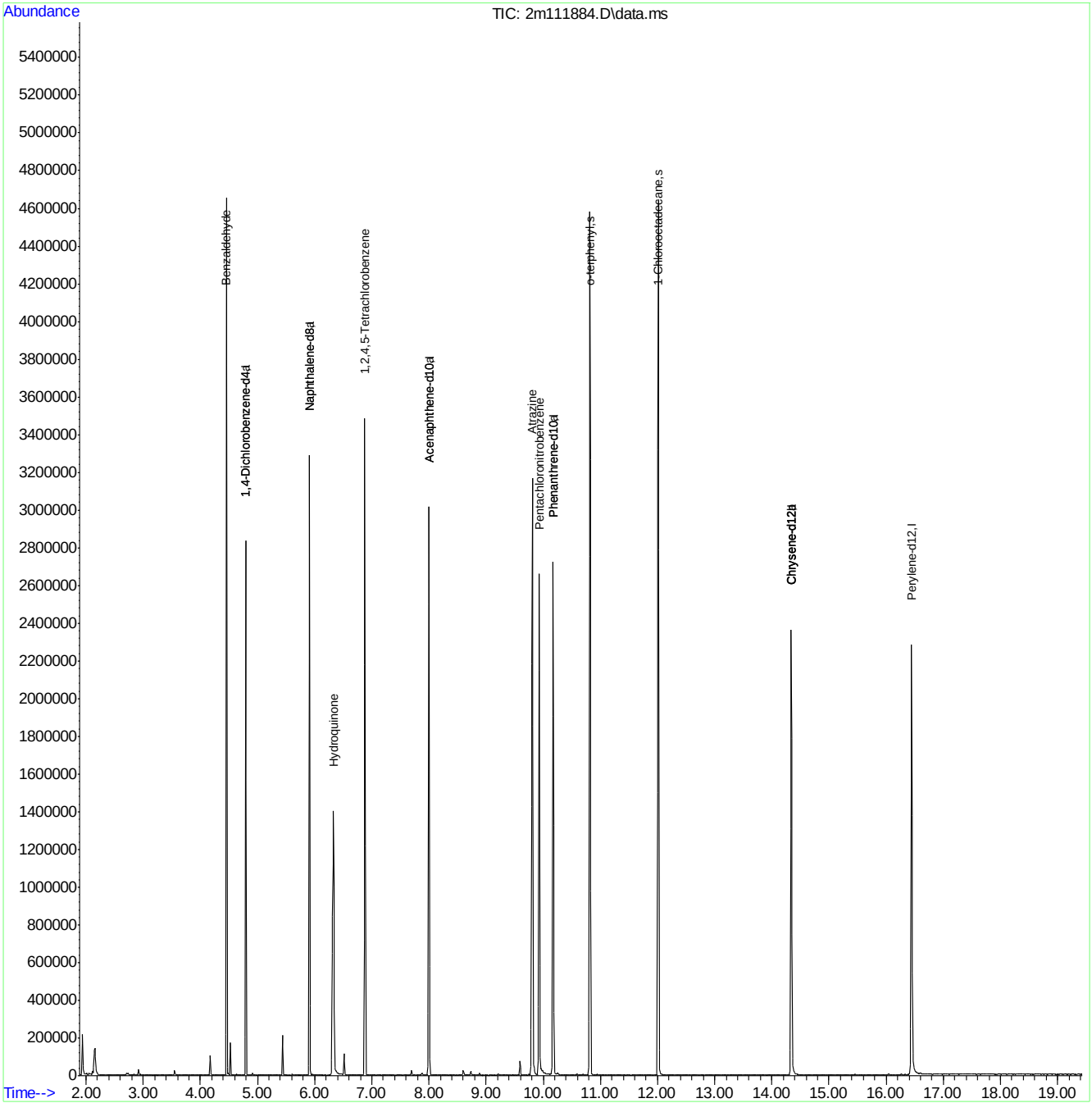
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 345007 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1337979 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 743439 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1213019 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 993078 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1075062 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 345007 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 743439 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 993078 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1213019 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1337979 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 993078 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 12.012 | 57 | 830508 | 73.94 | ppm | 0.00 |
| 110) o-terphenyl | 10.819 | 230 | 1168009 | 71.27 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.460 | 105 | 785496 | 74.74 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 639661 | 70.57 | ppm | 99 |
| 108) Atrazine | 9.814 | 215 | 274924 | 77.89 | ppm | 96 |
| 111) Pentachloronitrobenzene | 9.931 | 295 | 90619 | 86.87 | ppm | 97 |
| 113) Hydroquinone | 6.332 | 110 | 1021059 | 85.58 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111884.D
Acq On : 14 May 2019 11:14 pm
Operator : christc2
Sample : ic4975-80
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 15 10:07:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111885.D
Acq On : 14 May 2019 11:40 pm
Operator : christc2
Sample : icc4975-50
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 15 10:03:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

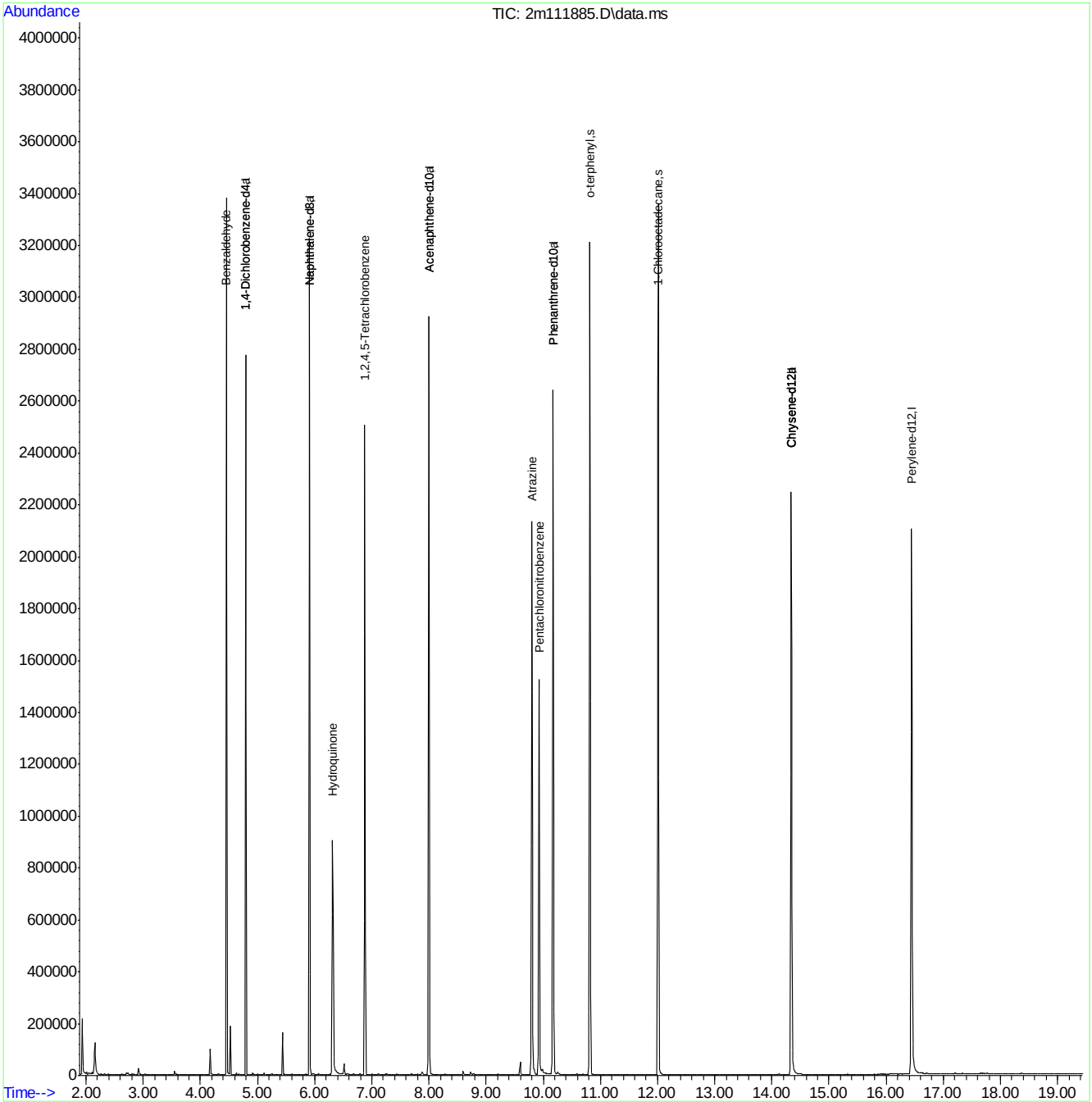
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 339164 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1303597 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 716675 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1145298 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 906574 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 985591 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 339164 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 716675 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 906574 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1145298 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1303597 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 906574 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 12.012 | 57 | 530276 | 50.00 | ppm | 0.00 |
| 110) o-terphenyl | 10.814 | 230 | 773661 | 50.00 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 516600 | 50.00 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 436909 | 50.00 | ppm | 100 |
| 108) Atrazine | 9.808 | 215 | 166633 | 50.00 | ppm | 100 |
| 111) Pentachloronitrobenzene | 9.931 | 295 | 49245 | 50.00 | ppm | 100 |
| 113) Hydroquinone | 6.315 | 110 | 581242 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111885.D
Acq On : 14 May 2019 11:40 pm
Operator : christc2
Sample : icc4975-50
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 15 10:03:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111886.D
Acq On : 15 May 2019 12:05 am
Operator : christc2
Sample : ic4975-25
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 15 10:08:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

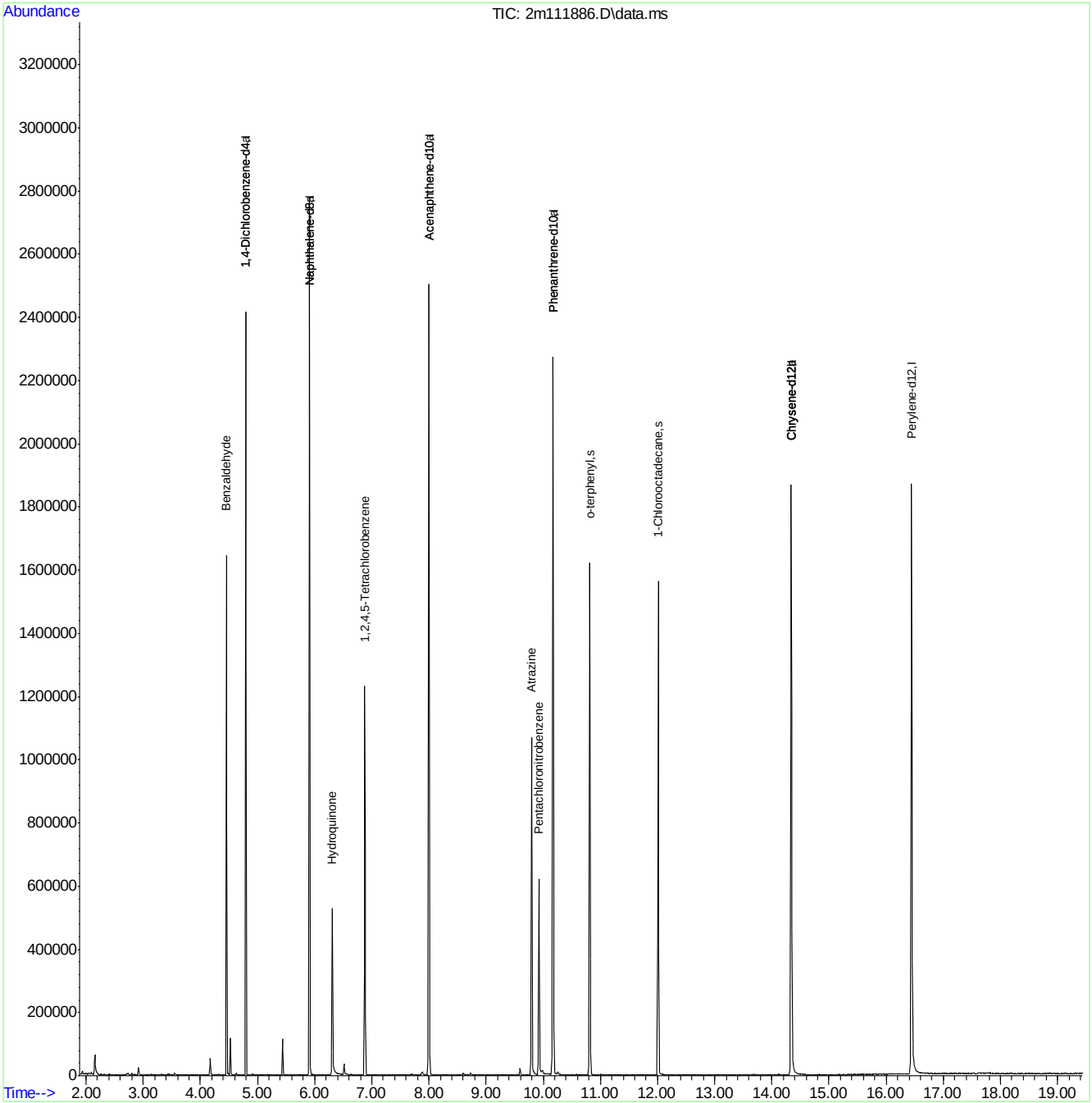
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 294570 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1132592 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 615807 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1000977 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 776729 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.440 | 264 | 825377 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 294570 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 615807 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 776729 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1000977 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1132592 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 776729 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 12.012 | 57 | 227808 | 24.58 | ppm | 0.00 |
| 110) o-terphenyl | 10.814 | 230 | 359020 | 26.55 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 241435 | 26.91 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 202496 | 26.97 | ppm | 99 |
| 108) Atrazine | 9.797 | 215 | 70154 | 24.09 | ppm | 88 |
| 111) Pentachloronitrobenzene | 9.926 | 295 | 17143 | 19.92 | ppm | 100 |
| 113) Hydroquinone | 6.305 | 110 | 226765 | 22.45 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111886.D
Acq On : 15 May 2019 12:05 am
Operator : christc2
Sample : ic4975-25
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 15 10:08:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111887.D
Acq On : 15 May 2019 12:31 am
Operator : christc2
Sample : ic4975-10
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 15 10:09:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

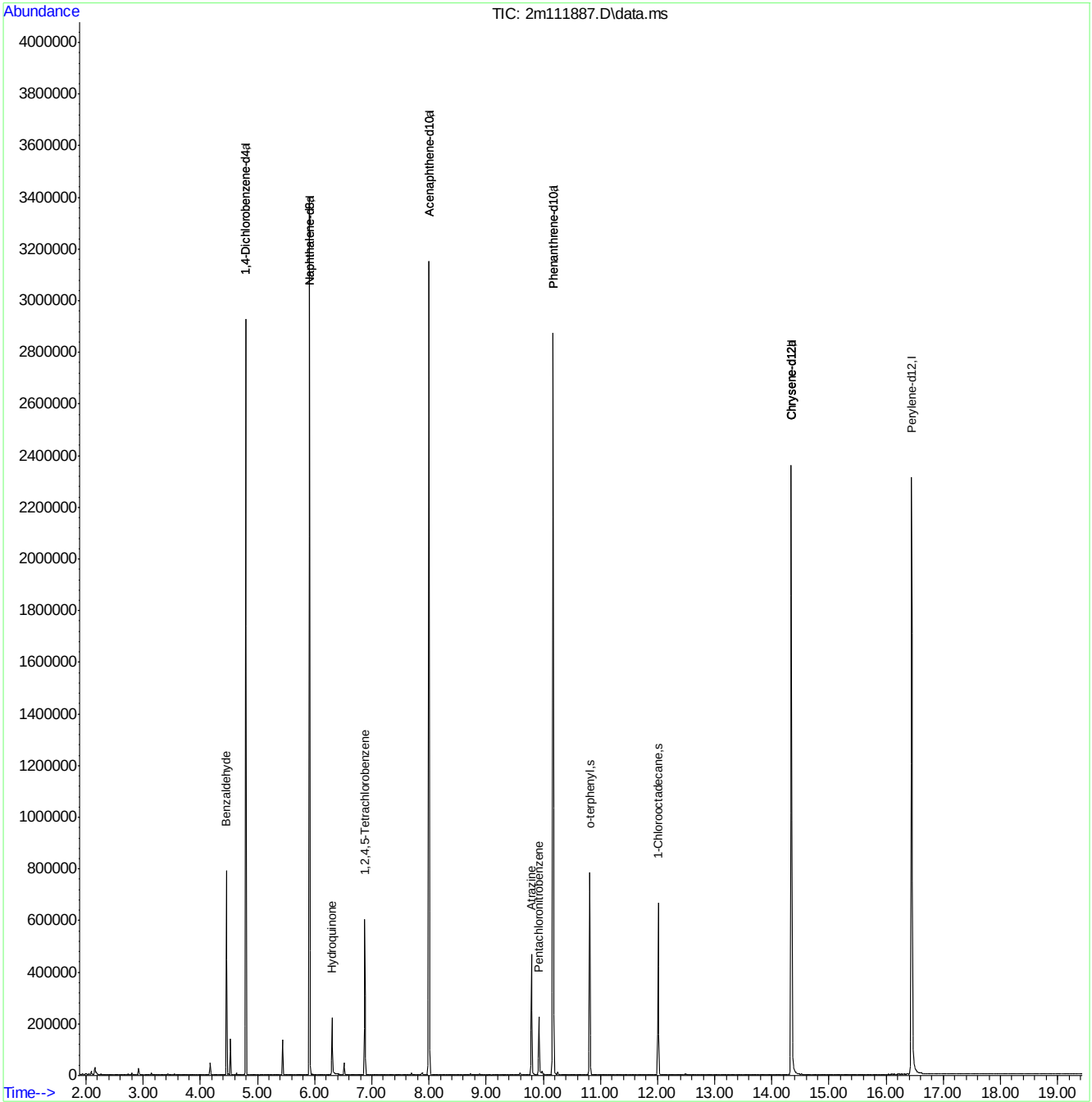
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 359008 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1389120 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 756543 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1228345 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 970317 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1043085 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 359008 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 756543 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 970317 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1228345 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1389120 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 970317 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 12.012 | 57 | 93754 | 8.24 | ppm | 0.00 |
| 110) o-terphenyl | 10.814 | 230 | 172084 | 10.37 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 116677 | 10.67 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 98678 | 10.70 | ppm | 99 |
| 108) Atrazine | 9.797 | 215 | 30307 | 8.48 | ppm | 96 |
| 111) Pentachloronitrobenzene | 9.926 | 295 | 6004 | 5.68 | ppm | 99 |
| 113) Hydroquinone | 6.305 | 110 | 81545 | 6.58 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111887.D
Acq On : 15 May 2019 12:31 am
Operator : christc2
Sample : ic4975-10
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 15 10:09:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111888.D
Acq On : 15 May 2019 12:57 am
Operator : christc2
Sample : ic4975-5
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 15 10:28:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

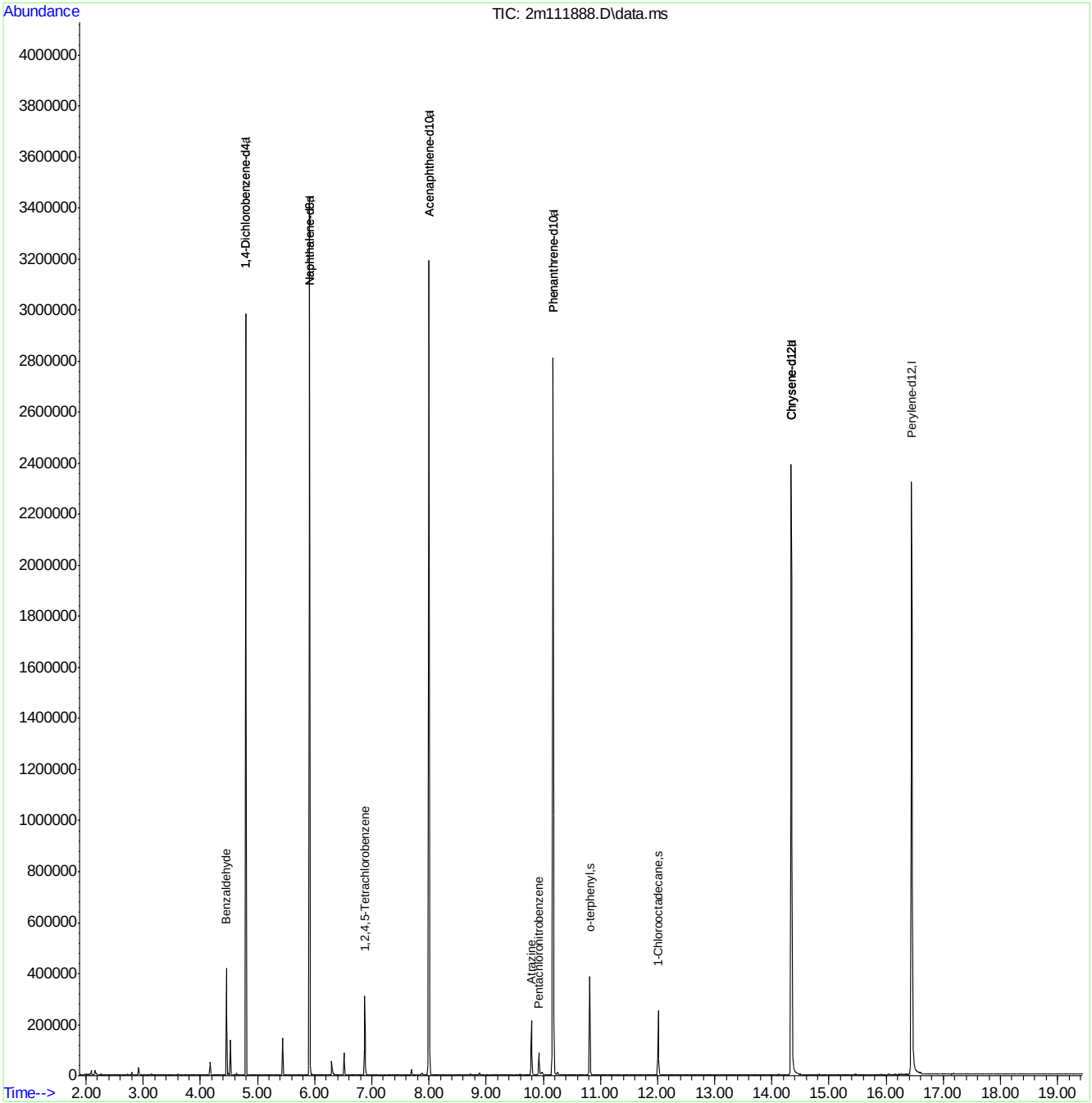
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 365149 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1413167 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 785156 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1247979 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 994897 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1060609 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 365149 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 785156 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 994897 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1247979 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1413167 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 994897 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 12.012 | 57 | 36572 | 3.16 | ppm | 0.00 |
| 110) o-terphenyl | 10.814 | 230 | 86324 | 5.12 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 60454 | 5.43 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 52075 | 5.44 | ppm | 97 |
| 108) Atrazine | 9.797 | 215 | 13332 | 3.67 | ppm | 93 |
| 111) Pentachloronitrobenzene | 9.926 | 295 | 2487 | 2.32 | ppm | 87 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111888.D
Acq On : 15 May 2019 12:57 am
Operator : christc2
Sample : ic4975-5
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 15 10:28:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration




M2M4974.M Wed May 15 10:29:46 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111889.D
Acq On : 15 May 2019 1:23 am
Operator : christc2
Sample : ic4975-2
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 15 10:28:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

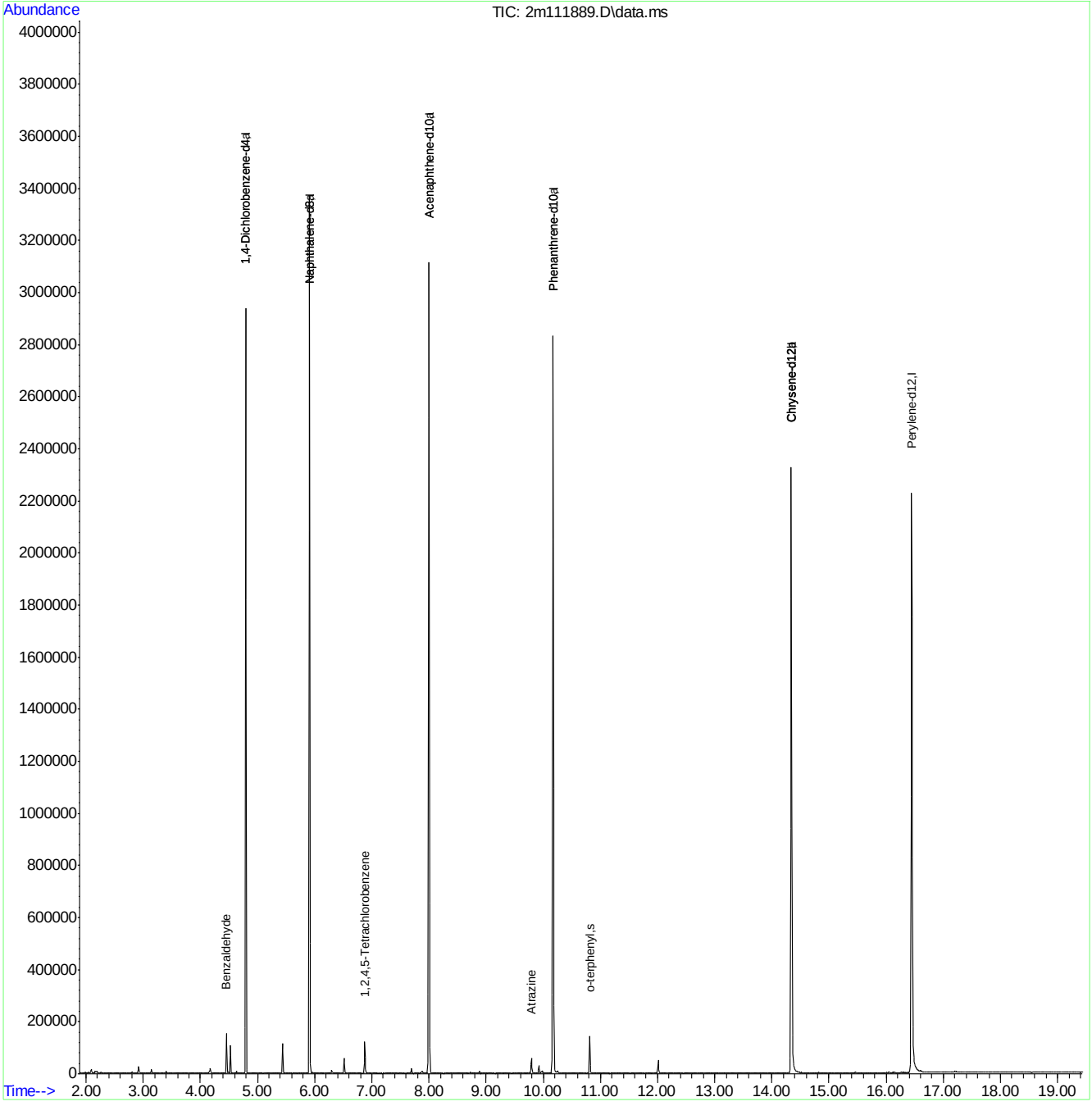
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 363587 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1394584 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 765360 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1218466 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 954926 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1025965 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 363587 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 765360 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 954926 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1218466 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1394584 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 954926 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 10.814 | 230 | 31289 | 1.90 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 24018 | 2.17 | ppm | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 19565 | 2.10 | ppm | 99 |
| 108) Atrazine | 9.792 | 215 | 3794 | 1.07 | ppm | 85 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111889.D
Acq On : 15 May 2019 1:23 am
Operator : christc2
Sample : ic4975-2
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 15 10:28:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111890.D
Acq On : 15 May 2019 1:49 am
Operator : christc2
Sample : ic4975-1
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 15 10:13:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration

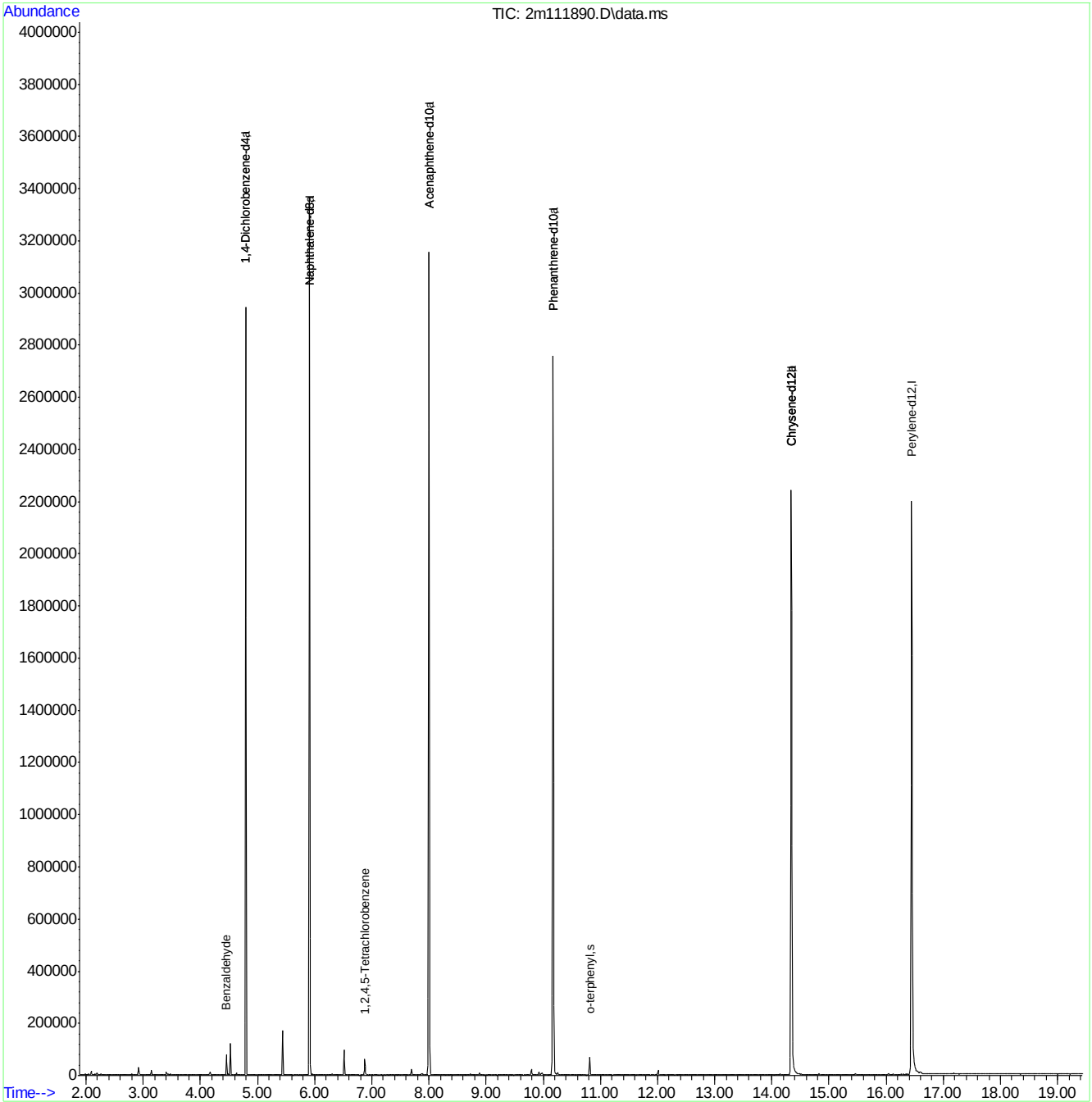
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 361510 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1390218 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 756549 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1205498 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 934771 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 993541 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 361510 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 756549 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 934771 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1205498 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1390218 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 934771 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 110) o-terphenyl | 10.814 | 230 | 13621 | 0.84 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 11603 | 1.05 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 10135 | 1.10 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111890.D
Acq On : 15 May 2019 1:49 am
Operator : christc2
Sample : ic4975-1
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 15 10:13:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:01:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111891.D
Acq On : 15 May 2019 2:15 am
Operator : christc2
Sample : icv4975-50
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 15 10:27:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:23:07 2019
Response via : Initial Calibration

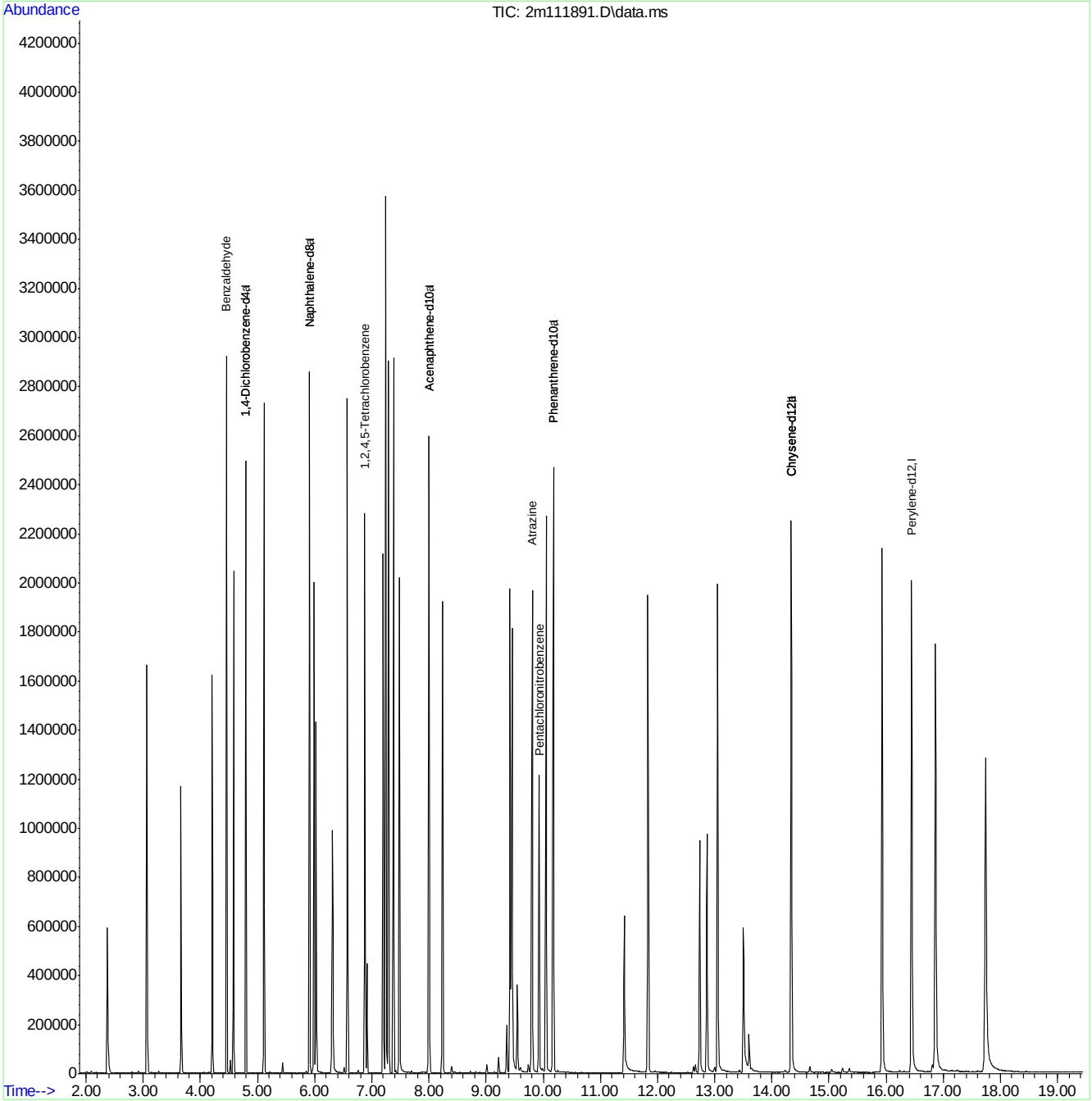
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 306694 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1123795 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 614438 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.177 | 188 | 1104800 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 970942 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 953694 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 306694 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 614438 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 970942 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.177 | 188 | 1104800 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1123795 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 970942 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.459 | 105 | 457255 | 47.92 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.877 | 216 | 380403 | 50.05 | ppm | 99 |
| 108) Atrazine | 9.808 | 215 | 156339 | 56.71 | ppm | 98 |
| 111) Pentachloronitrobenzene | 9.931 | 295 | 38420 | 41.81 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111891.D
Acq On : 15 May 2019 2:15 am
Operator : christc2
Sample : icv4975-50
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 15 10:27:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:23:07 2019
Response via : Initial Calibration




M2M4974.M Wed May 15 10:27:56 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111892.D
Acq On : 15 May 2019 2:40 am
Operator : christc2
Sample : icv4975-50
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 15 11:36:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 11:35:49 2019
Response via : Initial Calibration

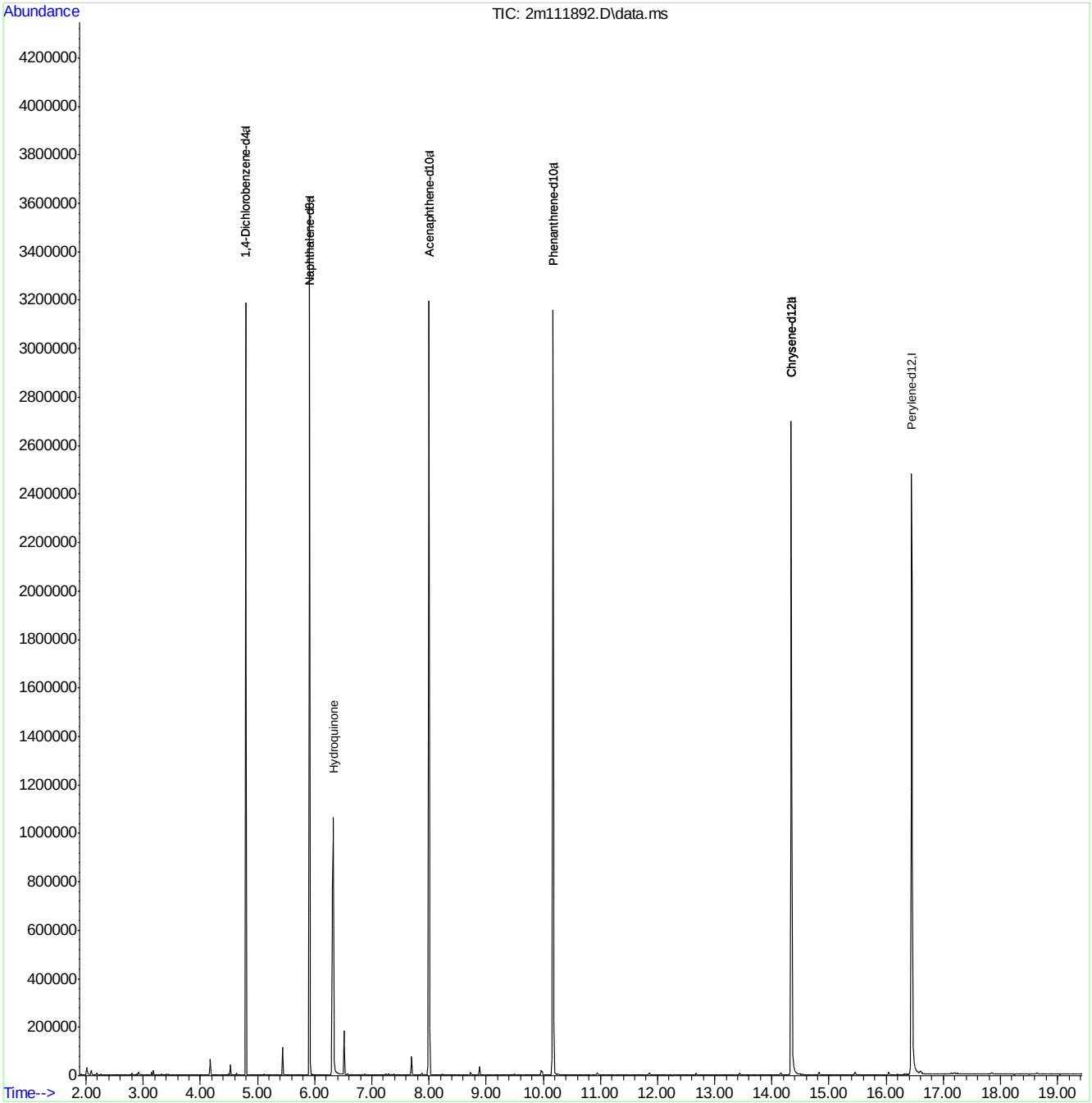
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 395346 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1526215 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 788106 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1379338 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 1153838 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1137220 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 395346 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 788106 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 1153838 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1379338 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1526215 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 1153838 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 113) Hydroquinone | 6.326 | 110 | 704881 | 56.09 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111892.D
Acq On : 15 May 2019 2:40 am
Operator : christc2
Sample : icv4975-50
Misc : op13721,e2m4975,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 15 11:36:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 11:35:49 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111894.D
Acq On : 15 May 2019 3:15 am
Operator : christc2
Sample : ic4976-100
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 15 10:41:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

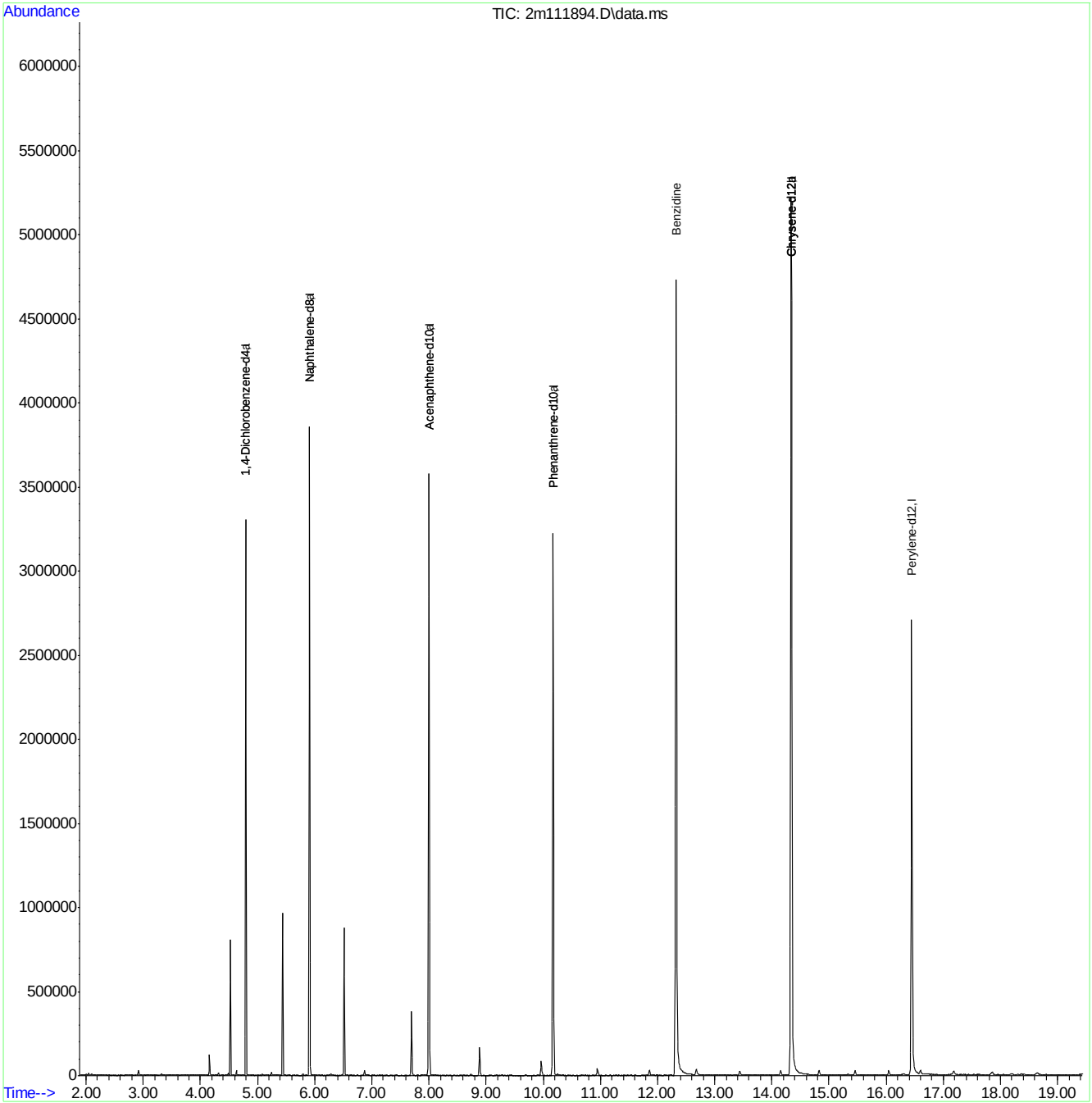
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 416568 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1614081 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 895479 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1440097 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.344 | 240 | 963438 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1288748 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 416568 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 895479 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.344 | 240 | 963438 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1440097 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1614081 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.344 | 240 | 963438 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.327 | 184 | 2811065 | 117.25 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111894.D
Acq On : 15 May 2019 3:15 am
Operator : christc2
Sample : ic4976-100
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 15 10:41:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111895.D
Acq On : 15 May 2019 3:41 am
Operator : christc2
Sample : ic4976-80
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 15 10:42:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

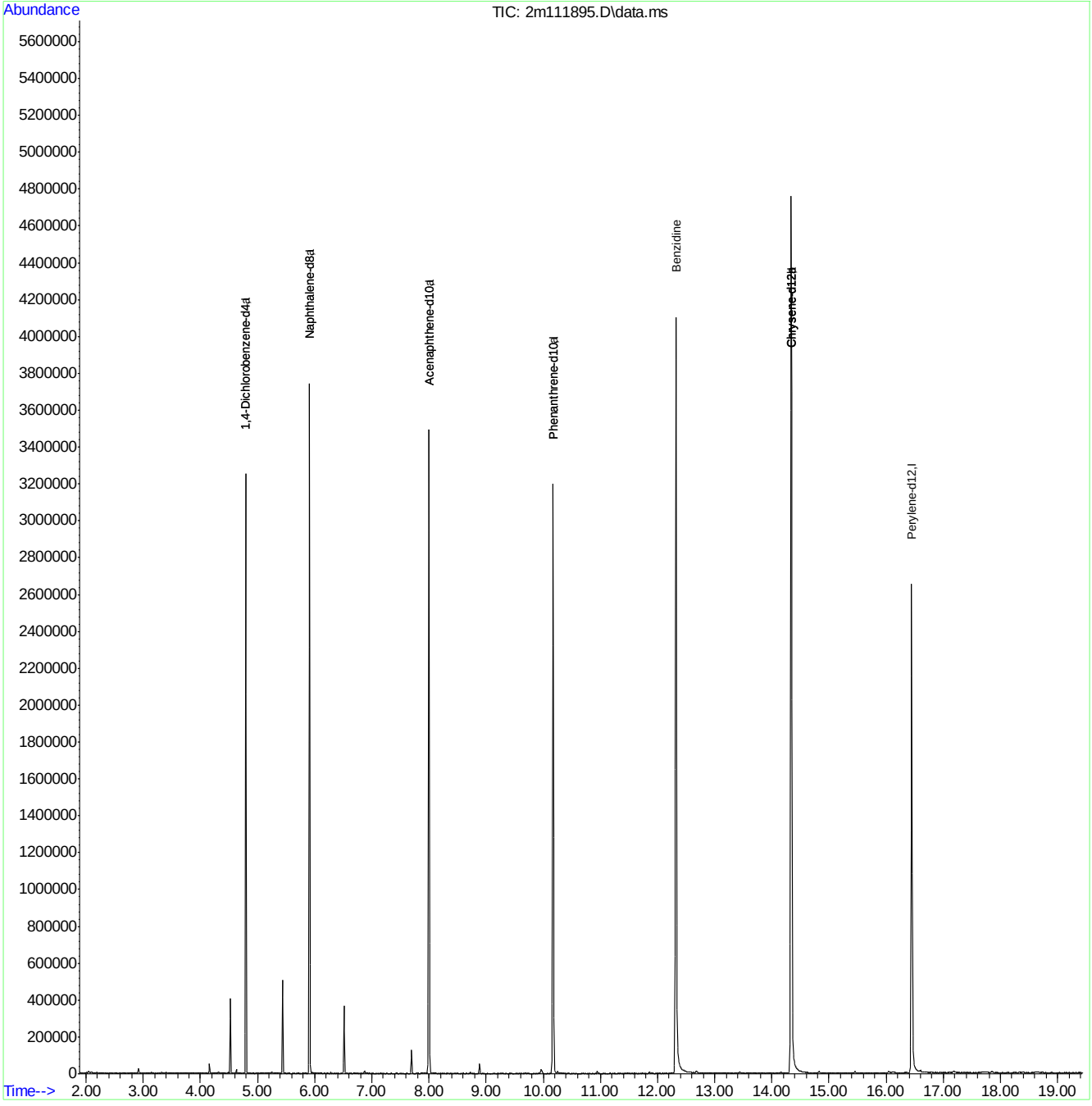
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 407876 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1567021 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 868078 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1402468 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.344 | 240 | 1007179 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1249217 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 407876 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 868078 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.344 | 240 | 1007179 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1402468 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1567021 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.344 | 240 | 1007179 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.327 | 184 | 2263039 | 90.29 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111895.D
Acq On : 15 May 2019 3:41 am
Operator : christc2
Sample : ic4976-80
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 15 10:42:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111896.D
Acq On : 15 May 2019 4:07 am
Operator : christc2
Sample : icc4976-50
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 15 10:40:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

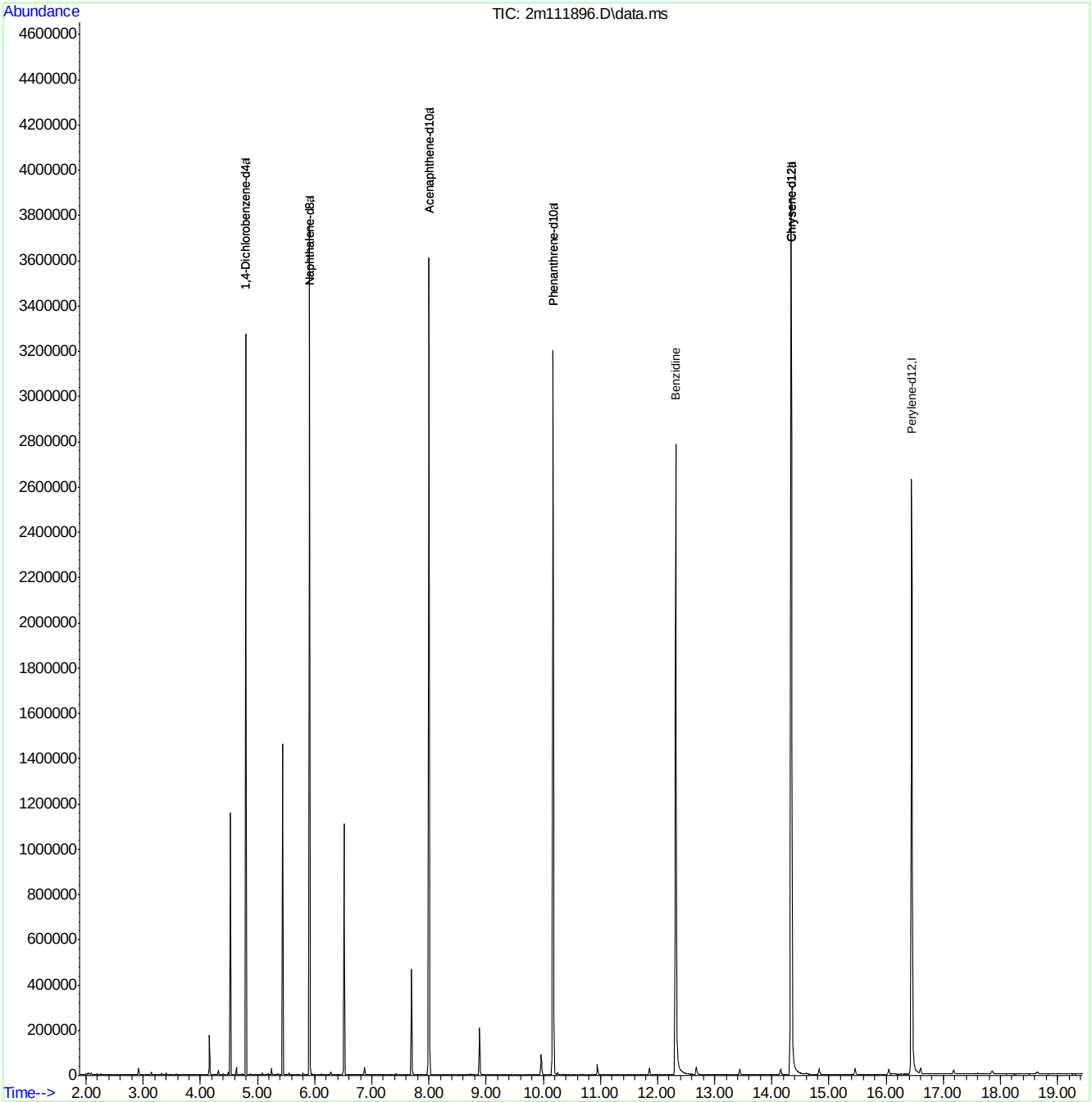
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 401780 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1575734 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 882035 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1419560 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 1112967 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1246062 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 401780 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 882035 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 1112967 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1419560 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1575734 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 1112967 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.322 | 184 | 1386859 | 50.08 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111896.D
Acq On : 15 May 2019 4:07 am
Operator : christc2
Sample : icc4976-50
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 15 10:40:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111897.D
Acq On : 15 May 2019 4:33 am
Operator : christc2
Sample : ic4976-25
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 15 10:44:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

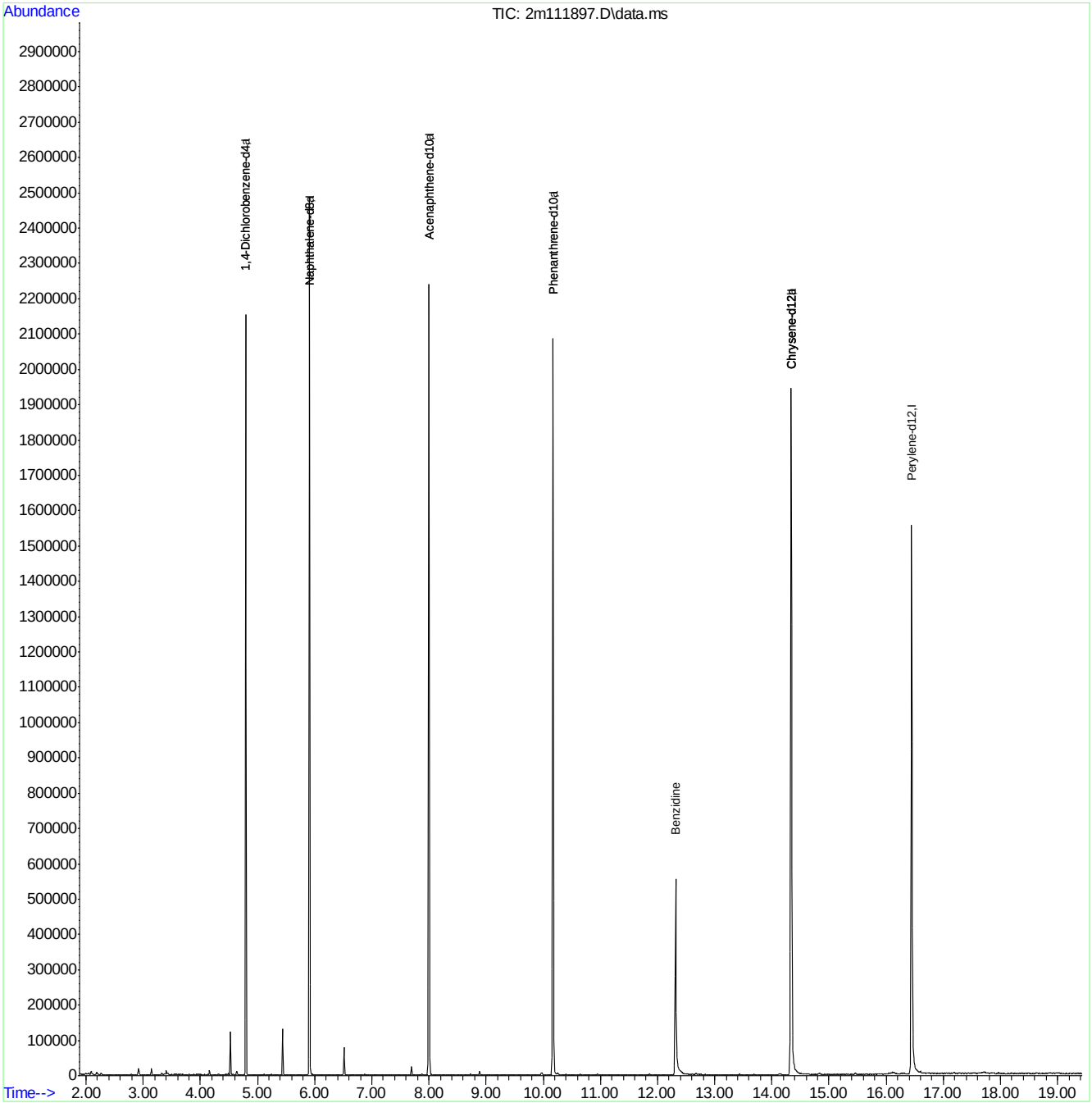
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 262502 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1006114 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 546559 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 878605 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 725775 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 715314 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 262502 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 546559 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 725775 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 878605 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1006114 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 725775 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.317 | 184 | 301396 | 16.69 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111897.D
Acq On : 15 May 2019 4:33 am
Operator : christc2
Sample : ic4976-25
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 15 10:44:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111898.D
Acq On : 15 May 2019 4:58 am
Operator : christc2
Sample : ic4976-10
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 15 10:45:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

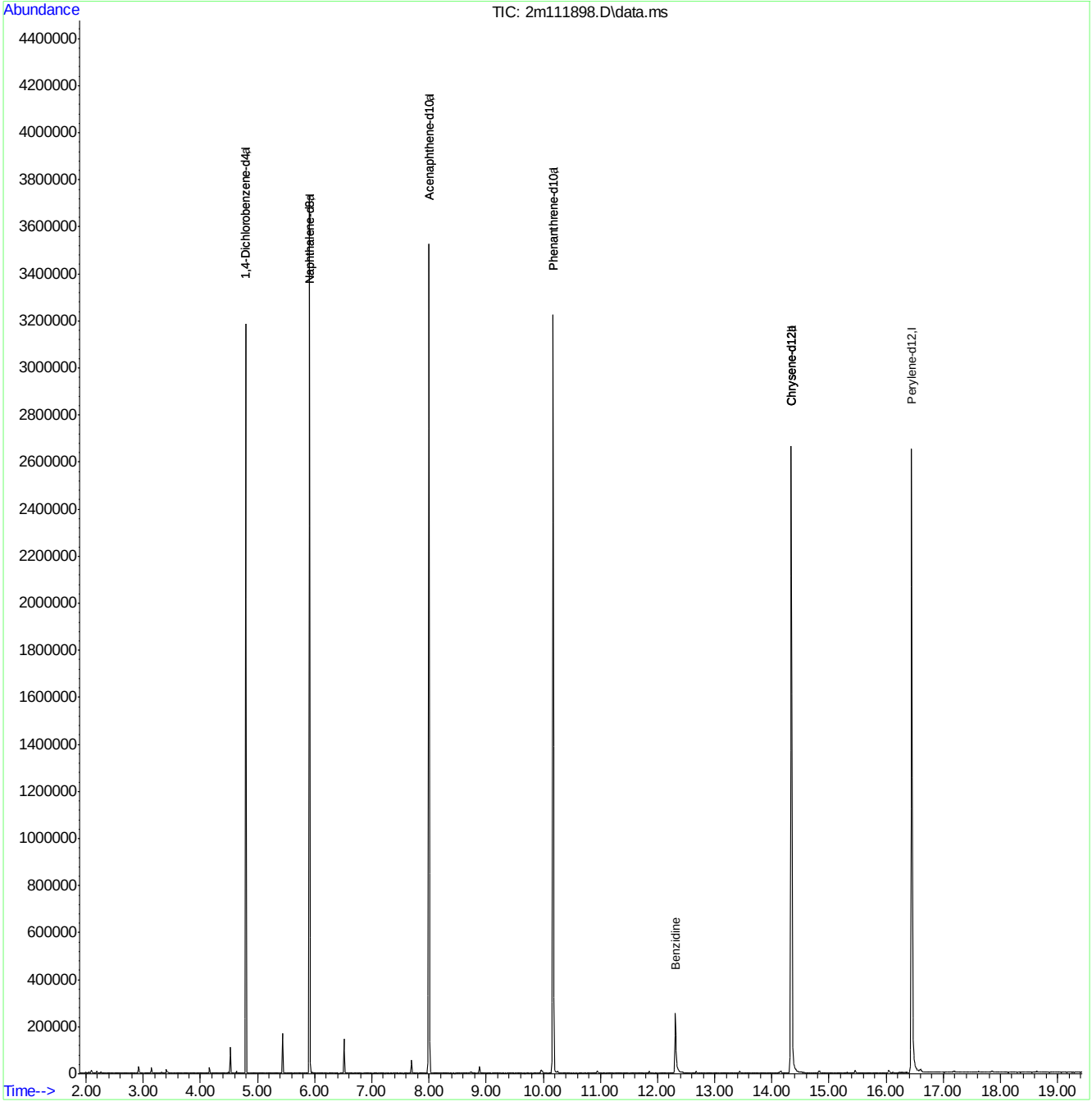
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 404115 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1555862 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 873788 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1421900 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.344 | 240 | 1184586 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1253057 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 404115 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 873788 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.344 | 240 | 1184586 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1421900 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1555862 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.344 | 240 | 1184586 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.317 | 184 | 151553 | 5.14 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111898.D
Acq On : 15 May 2019 4:58 am
Operator : christc2
Sample : ic4976-10
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 15 10:45:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111899.D
Acq On : 15 May 2019 5:24 am
Operator : christc2
Sample : ic4976-5
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 15 10:46:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

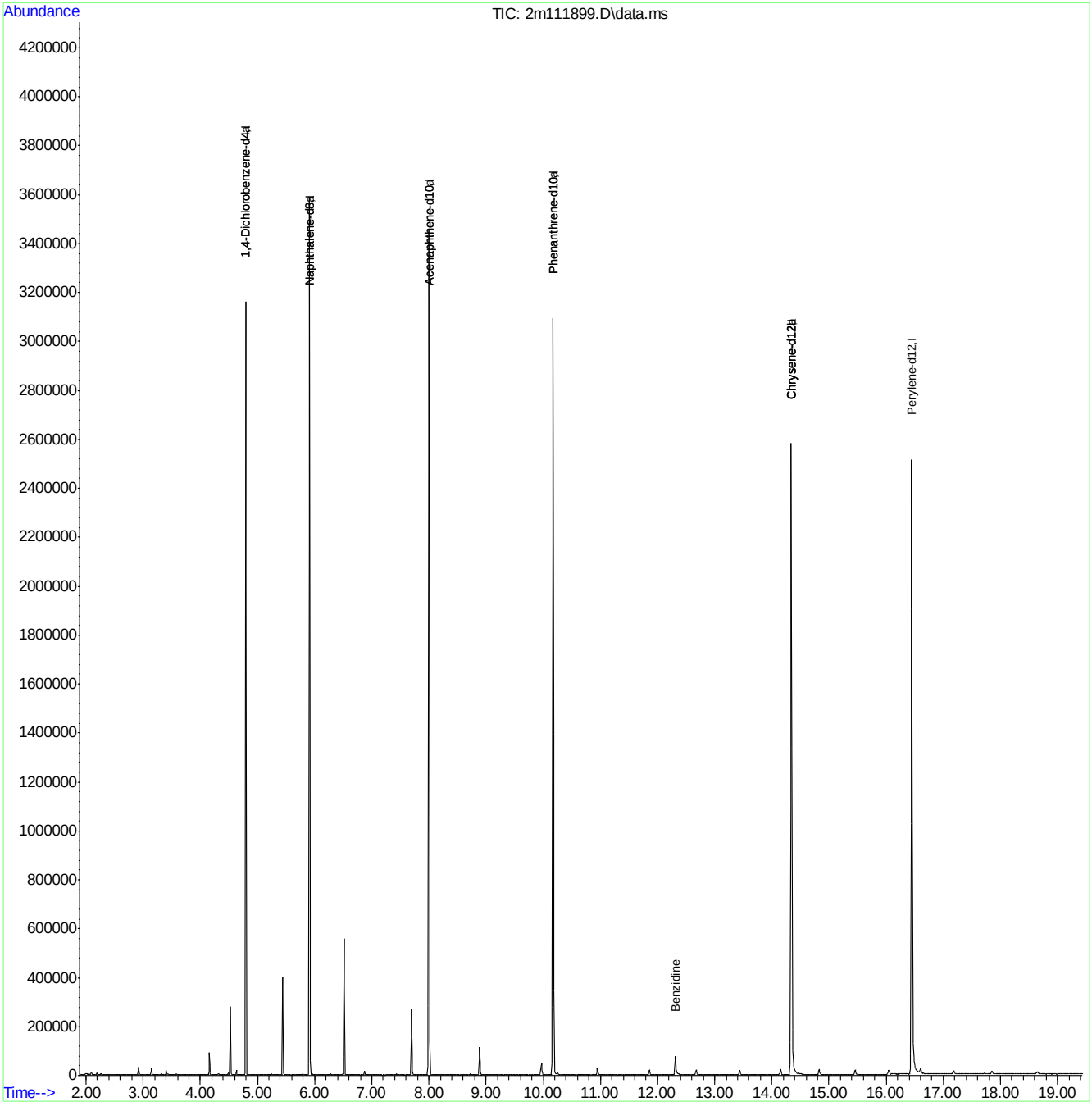
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 400687 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1526724 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 847010 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1365302 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 1096277 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1142947 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 400687 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 847010 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 1096277 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1365302 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1526724 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 1096277 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.311 | 184 | 43908 | 1.61 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111899.D
Acq On : 15 May 2019 5:24 am
Operator : christc2
Sample : ic4976-5
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 15 10:46:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111900.D
Acq On : 15 May 2019 5:50 am
Operator : christc2
Sample : ic4976-2
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 15 10:47:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

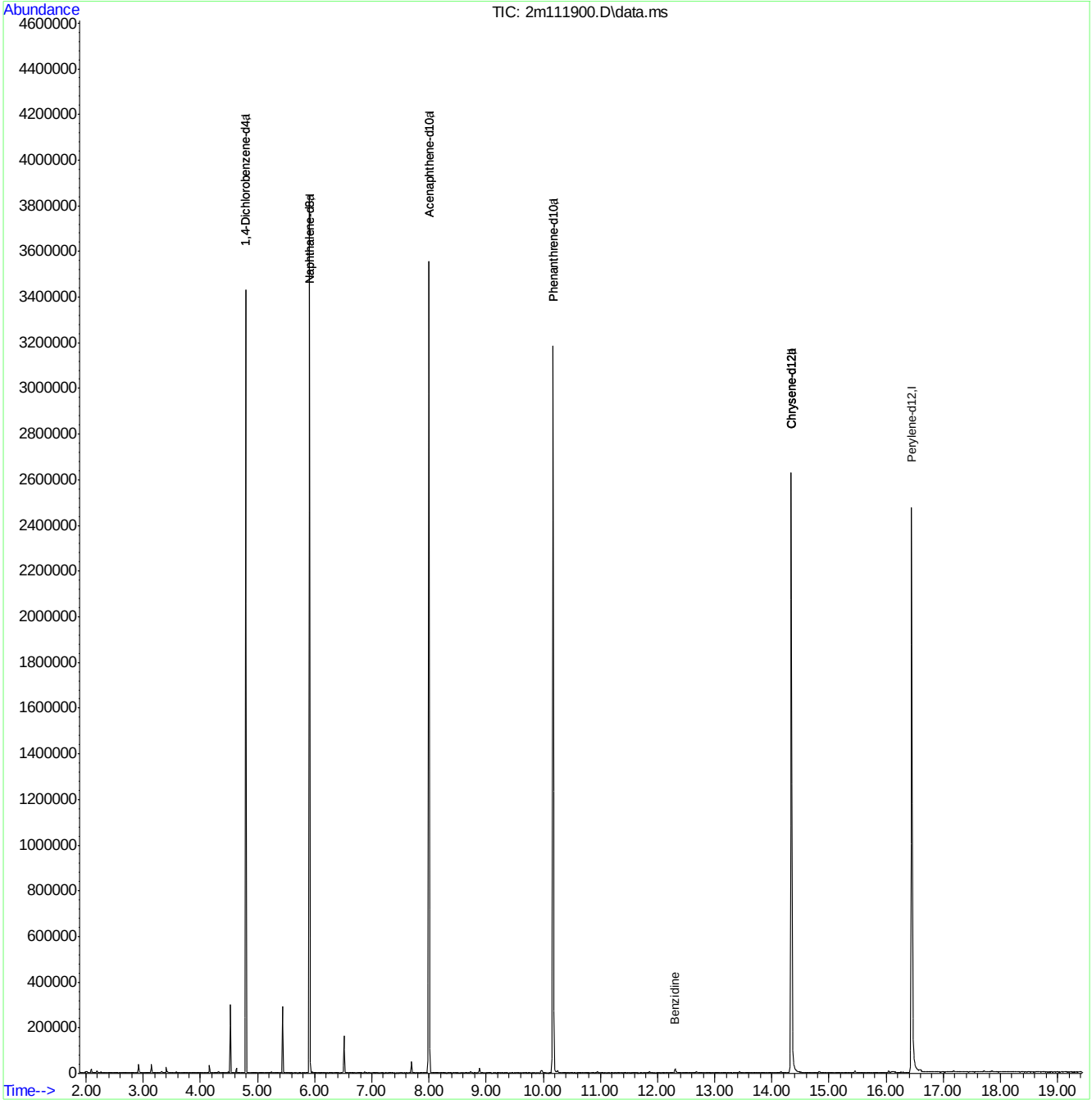
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 425608 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1610357 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 888370 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1408729 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 1120381 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1174304 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 425608 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 888370 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 1120381 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1408729 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1610357 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 1120381 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.306 | 184 | 9753 | 0.35 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111900.D
Acq On : 15 May 2019 5:50 am
Operator : christc2
Sample : ic4976-2
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 15 10:47:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration




M2M4974.M Wed May 15 11:49:17 2019 Page: 2

9.8.31 9

1526 of 2974

2M111900.D: E2M4976-IC4976 Initial Calibration (2) page 2 of 2

JC87535

# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111901.D
Acq On : 15 May 2019 6:16 am
Operator : christc2
Sample : ic4976-1
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 15 10:48:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration

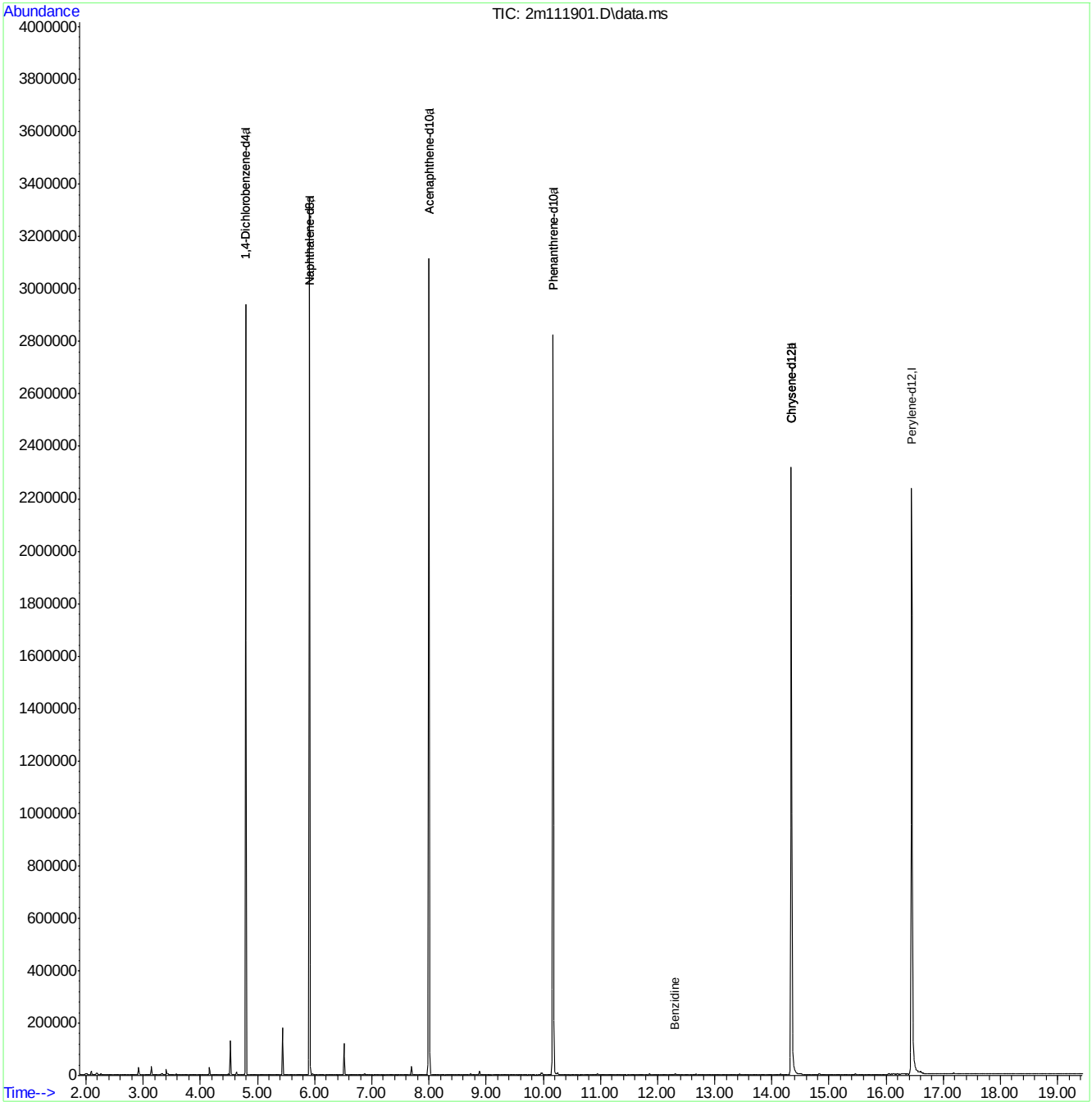
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.797 | 152 | 363522 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1388087 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 763752 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1224272 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.339 | 240 | 966480 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 1008665 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.797 | 152 | 363522 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 763752 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.339 | 240 | 966480 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1224272 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1388087 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.339 | 240 | 966480 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.306 | 184 | 3039 | 0.13 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111901.D
Acq On : 15 May 2019 6:16 am
Operator : christc2
Sample : ic4976-1
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 15 10:48:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 10:39:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111902.D
Acq On : 15 May 2019 6:41 am
Operator : christc2
Sample : icv4976-50
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 15 11:45:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 11:43:42 2019
Response via : Initial Calibration

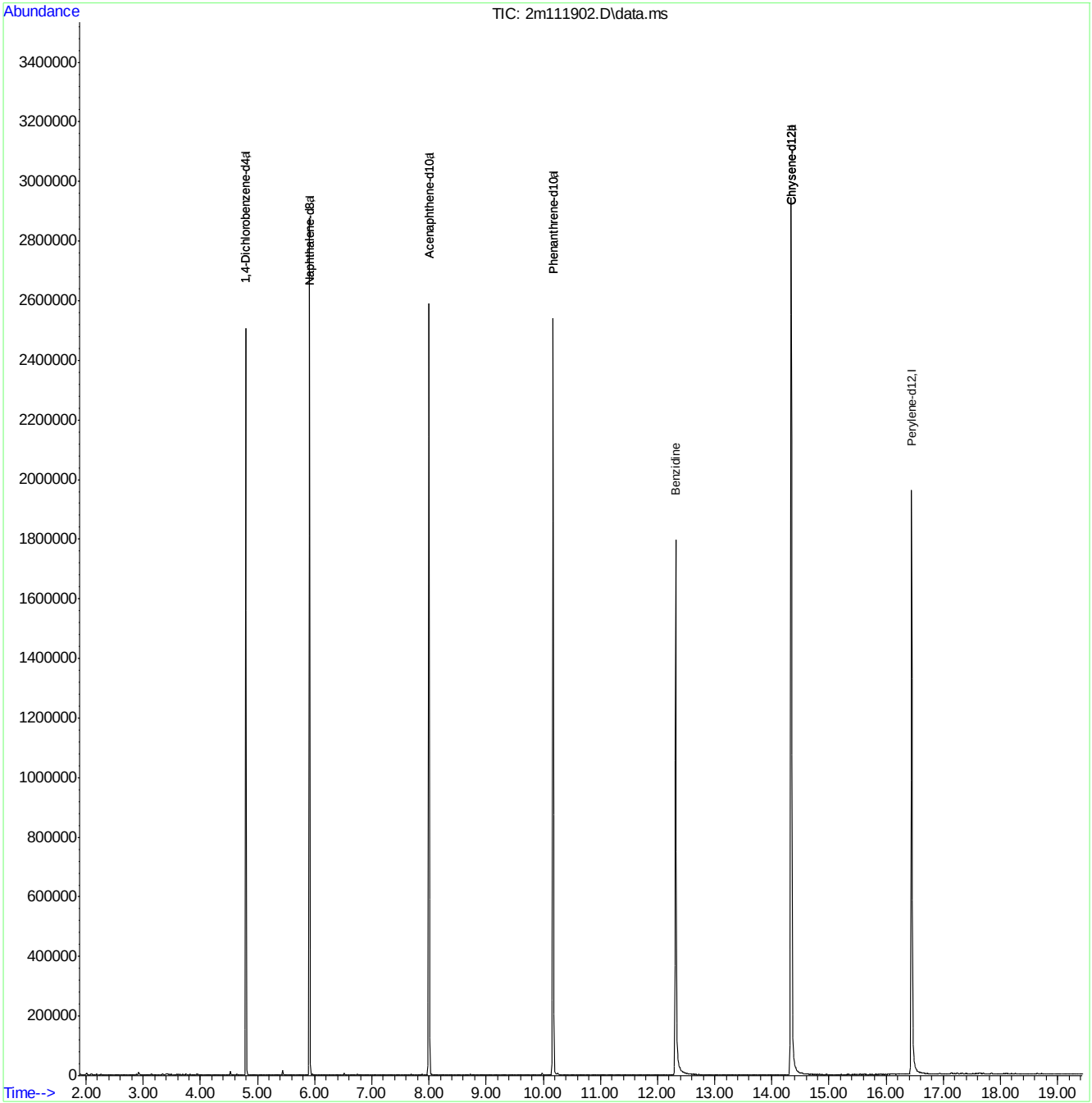
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 310242 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.909 | 136 | 1139931 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.000 | 164 | 603919 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1068631 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.338 | 240 | 950974 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.446 | 264 | 879178 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 310242 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.000 | 164 | 603919 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.338 | 240 | 950974 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.172 | 188 | 1068631 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.909 | 136 | 1139931 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.338 | 240 | 950974 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.317 | 184 | 830838 | 38.43 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4975\
Data File : 2m111902.D
Acq On : 15 May 2019 6:41 am
Operator : christc2
Sample : icv4976-50
Misc : op13721,e2m4976,1000,,,1,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 15 11:45:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 11:43:42 2019
Response via : Initial Calibration










JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4977\
Data File : 2m111905.D
Acq On : 15 May 2019 12:16 pm
Operator : angelar
Sample : icv4974-50
Misc : op13721,e2m4977,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 12:43:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 11:43:42 2019
Response via : Initial Calibration

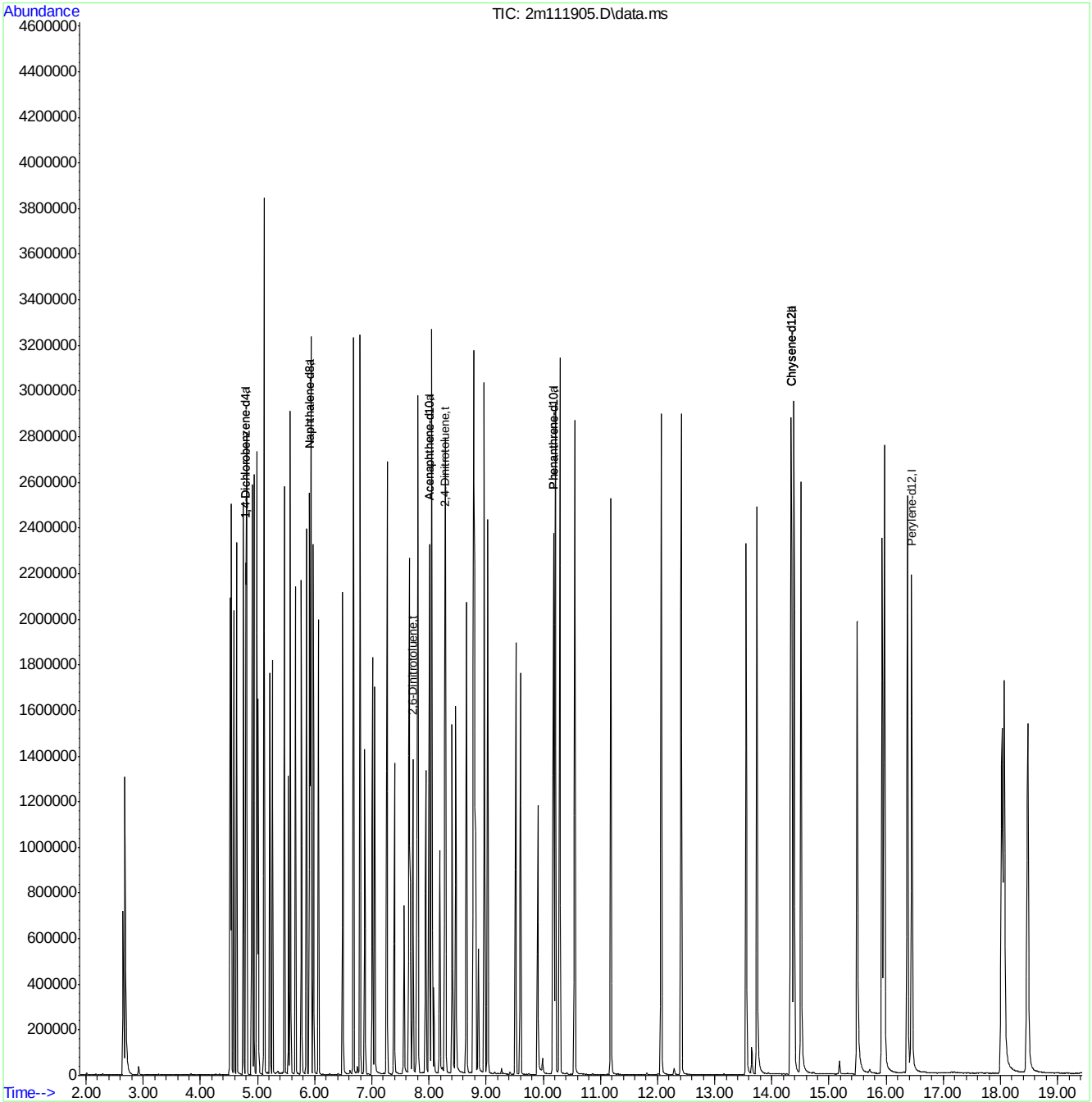
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.796 | 152 | 295491 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.914 | 136 | 1087077 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 8.006 | 164 | 594202 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.177 | 188 | 1064302 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.344 | 240 | 984999 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.451 | 264 | 1008239 | 40.00 | ppm | 0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.796 | 152 | 295491 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 8.006 | 164 | 594202 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.344 | 240 | 984999 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.177 | 188 | 1064302 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.914 | 136 | 1087077 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.344 | 240 | 984999 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 57) 2,6-Dinitrotoluene | 7.722 | 165 | 207632 | 53.61 | ppm | 93 |
| 63) 2,4-Dinitrotoluene | 8.278 | 165 | 241639 | 45.63 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4977\
Data File : 2m111905.D
Acq On : 15 May 2019 12:16 pm
Operator : angelar
Sample : icv4974-50
Misc : op13721,e2m4977,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 12:43:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Wed May 15 11:43:42 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111983.d
Acq On : 18 May 2019 2:35 am
Operator : chriss2
Sample : cc4974-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:38:46 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 469515 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.872 | 136 | 1702380 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.952 | 164 | 936530 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.118 | 188 | 1701098 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.290 | 240 | 1511737 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.392 | 264 | 1616211 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 469515 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.952 | 164 | 936530 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.290 | 240 | 1511737 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.118 | 188 | 1701098 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.872 | 136 | 1702380 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.290 | 240 | 1511737 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.893 | 112 | 444315 | 26.08 | ppm | 0.12 |
| Spiked Amount 50.000 | | | Recovery = 52.16% | | | |
| 8) Phenol-d5 | 4.609 | 99 | 572642 | 27.28 | ppm | 0.13 |
| Spiked Amount 50.000 | | | Recovery = 54.56% | | | |
| 25) Nitrobenzene-d5 | 5.208 | 82 | 454059 | 30.65 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 61.30% | | | |
| 51) 2-Fluorobiphenyl | 7.075 | 172 | 932976 | 27.43 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 54.86% | | | |
| 73) 2,4,6-Tribromophenol | 9.091 | 330 | 122533 | 27.10 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = 54.20% | | | |
| 85) Terphenyl-d14 | 12.664 | 244 | 876381 | 24.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.90% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.331 | 88 | 213539 | 26.06 | ppm | 97 |
| 3) Pyridine | 2.646 | 79 | 534335 | 25.93 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.609 | 74 | 309184 | 24.87 | ppm | 90 |
| 6) Indene | 4.968 | 116 | 710781 | 25.82 | ppm | 99 |
| 7) Cumene | 4.165 | 105 | 1097917 | 25.49 | ppm | 99 |
| 9) Phenol | 4.625 | 94 | 558519 | 24.41 | ppm | 98 |
| 10) Aniline | 4.518 | 93 | 665470 | 26.73 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.556 | 93 | 460582 | 25.65 | ppm | 99 |
| 12) 2-Chlorophenol | 4.663 | 128 | 451670 | 25.31 | ppm | 99 |
| 13) Decane | 4.641 | 43 | 474433 | 28.93 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.722 | 146 | 483419 | 24.97 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.775 | 146 | 483183 | 25.01 | ppm | 99 |
| 16) Benzyl alcohol | 4.887 | 108 | 258126 | 24.20 | ppm | 93 |
| 17) 1,2-Dichlorobenzene | 4.898 | 146 | 454097 | 24.79 | ppm | 99 |
| 18) Acetophenone | 5.080 | 105 | 583813 | 26.17 | ppm | 81 |
| 19) 2-Methylphenol | 5.048 | 108 | 409548 | 27.53 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.978 | 45 | 484755 | 26.13 | ppm | 97 |
| 21) 3&4-Methylphenol | 5.171 | 108 | 407290 | 28.88 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 5.080 | 70 | 296509 | 25.76 | ppm | 99 |
| 23) Hexachloroethane | 5.176 | 201 | 136942 | 25.62 | ppm | 91 |
| 26) Nitrobenzene | 5.224 | 77 | 464590 | 29.48 | ppm | 99 |
| 27) Quinoline | 6.230 | 129 | 856539 | 26.69 | ppm | 99 |
| 28) Isophorone | 5.433 | 82 | 787814 | 27.61 | ppm | 99 |
| 29) 2-Nitrophenol | 5.508 | 139 | 225700 | 35.32 | ppm | 97 |
| 30) 2,4-Dimethylphenol | 5.599 | 107 | 413226 | 32.75 | ppm | 98 |
| 31) Benzoic acid | 5.738 | 105 | 236635 | 31.90 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111983.d
Acq On : 18 May 2019 2:35 am
Operator : chriss2
Sample : cc4974-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:38:46 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 32) bis(2-Chloroethoxy)met... | 5.626 | 93 | 528116 | 27.58 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.818 | 162 | 344934 | 28.07 | ppm | 98 |
| 34) 2,6-Dichlorophenol | 5.979 | 162 | 344945 | 28.46 | ppm | 97 |
| 35) 1,3,5-Trichlorobenzene | 5.519 | 180 | 363112 | 26.91 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.813 | 180 | 341329 | 26.55 | ppm | 99 |
| 37) 1,2,3-Trichlorobenzene | 6.037 | 180 | 340457 | 26.69 | ppm | 99 |
| 38) Naphthalene | 5.893 | 128 | 1271533 | 26.65 | ppm | 98 |
| 39) 4-Chloroaniline | 5.952 | 127 | 519411 | 27.34 | ppm | 98 |
| 40) 2,3-Dichloroaniline | 6.973 | 161 | 431386 | 27.99 | ppm | 99 |
| 41) Caprolactam | 6.305 | 55 | 202106 | 29.34 | ppm | 97 |
| 42) Hexachlorobutadiene | 6.021 | 225 | 176336 | 27.59 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 6.567 | 107 | 364908 | 29.72 | ppm | 98 |
| 44) 2-Methylnaphthalene | 6.631 | 141 | 667710 | 27.23 | ppm | 99 |
| 45) 1-Methylnaphthalene | 6.743 | 141 | 742634 | 27.20 | ppm | 98 |
| 46) Dimethylnaphthalene | 7.396 | 156 | 796144 | 28.37 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.829 | 237 | 367524 | 74.82 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 7.006 | 196 | 224947 | 31.50 | ppm | 97 |
| 50) 2,4,5-Trichlorophenol | 7.139 | 196 | 230146 | 29.69 | ppm | 98 |
| 52) 2-Chloronaphthalene | 7.219 | 162 | 773276 | 27.35 | ppm | 100 |
| 53) Biphenyl | 7.198 | 154 | 1058372 | 27.68 | ppm | 99 |
| 54) 2-Nitroaniline | 7.364 | 65 | 242898 | 33.70 | ppm | 95 |
| 55) Dimethylphthalate | 7.605 | 163 | 865870 | 27.67 | ppm | 100 |
| 56) Acenaphthylene | 7.754 | 152 | 1284135 | 28.92 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 7.674 | 165 | 193246 | 32.27 | ppm | 95 |
| 58) 3-Nitroaniline | 7.915 | 138 | 227174 | 30.46 | ppm | 98 |
| 59) Acenaphthene | 7.995 | 153 | 812424 | 28.04 | ppm | 98 |
| 60) 2,4-Dinitrophenol | 8.054 | 184 | 141794 | 69.92 | ppm | 55 |
| 61) 4-Nitrophenol | 8.450 | 109 | 110464 | 28.60 | ppm | 94 |
| 62) Dibenzofuran | 8.236 | 168 | 1116349 | 27.83 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 8.230 | 165 | 259981 | 31.17 | ppm | 90 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.460 | 232 | 188617 | 30.26 | ppm | 97 |
| 65) Diethylphthalate | 8.599 | 149 | 846237 | 28.34 | ppm | 99 |
| 66) Fluorene | 8.722 | 166 | 921994 | 28.91 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.739 | 204 | 404722 | 28.33 | ppm | 99 |
| 68) 4-Nitroaniline | 8.787 | 138 | 233663 | 29.75 | ppm | 98 |
| 70) 4,6-Dinitro-2-methylph... | 8.819 | 198 | 125819 | 35.17 | ppm | 99 |
| 71) n-Nitrosodiphenylamine | 8.920 | 169 | 676087 | 25.18 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 8.968 | 77 | 909658 | 24.90 | ppm | 95 |
| 74) 4-Bromophenyl-phenylether | 9.466 | 248 | 230119 | 26.07 | ppm | 98 |
| 75) Hexachlorobenzene | 9.546 | 284 | 238950 | 25.13 | ppm | 97 |
| 76) Pentachlorophenol | 9.899 | 266 | 245221 | 41.65 | ppm | 99 |
| 77) Phenanthrene | 10.156 | 178 | 1240744 | 25.07 | ppm | 100 |
| 78) Anthracene | 10.231 | 178 | 1269086 | 26.07 | ppm | 100 |
| 79) Carbazole | 10.520 | 167 | 1285524 | 26.20 | ppm | 100 |
| 80) Di-n-butylphthalate | 11.124 | 149 | 1426425 | 27.72 | ppm | 99 |
| 81) Fluoranthene | 12.012 | 202 | 1293446 | 27.18 | ppm | 98 |
| 82) Octadecane | 10.070 | 57 | 628238 | 27.53 | ppm | 98 |
| 84) Pyrene | 12.354 | 202 | 1363837 | 24.10 | ppm | 100 |
| 86) Butylbenzylphthalate | 13.493 | 149 | 615761 | 22.82 | ppm | 98 |
| 87) Benzo[a]anthracene | 14.269 | 228 | 1132356 | 24.61 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.280 | 252 | 384242 | 25.25 | ppm | 98 |
| 89) Chrysene | 14.328 | 228 | 1192740 | 23.83 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.451 | 149 | 838286 | 23.04 | ppm | 99 |
| 92) Di-n-octylphthalate | 15.435 | 149 | 1411789 | 23.16 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 15.868 | 252 | 1186891 | 25.92 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 15.911 | 252 | 1229249 | 26.65 | ppm | 98 |
| 95) Benzo[a]pyrene | 16.312 | 252 | 1098809 | 26.90 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111983.d
Acq On : 18 May 2019 2:35 am
Operator : chriss2
Sample : cc4974-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:38:46 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 96) Indeno[1,2,3-cd]pyrene | 17.938 | 276 | 974716 | 25.75 | ppm | 98 |
| 97) Dibenz(a,h)acridine | 17.585 | 279 | 943097 | 26.58 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 17.981 | 278 | 1076379 | 26.05 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 15.874 | 256 | 567328 | 27.45 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 18.382 | 276 | 991479 | 25.63 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

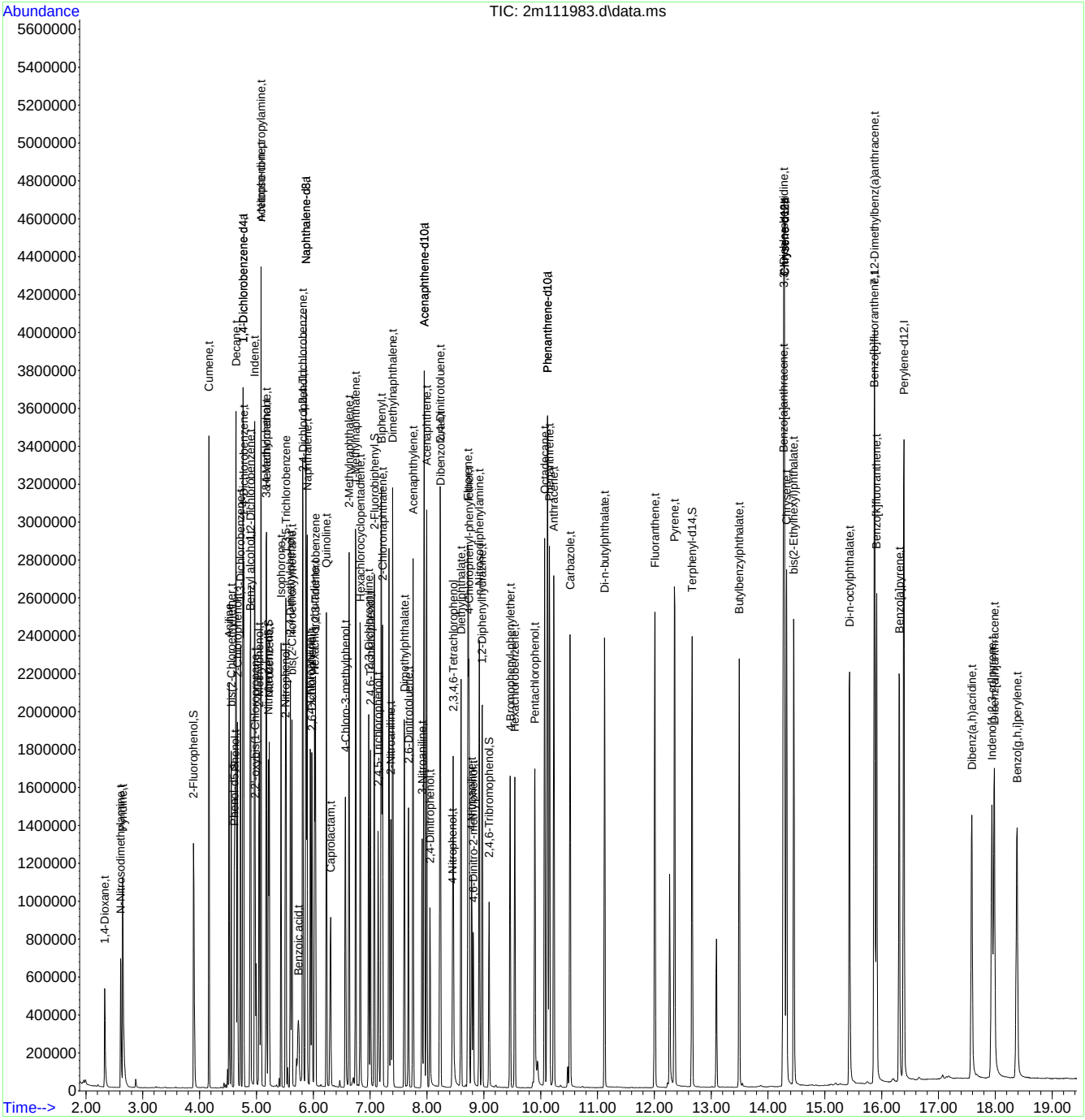
9.8.35

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111983.d
Acq On : 18 May 2019 2:35 am
Operator : chriss2
Sample : cc4974-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:38:46 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration










JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111984.d
Acq On : 18 May 2019 3:01 am
Operator : chriss2
Sample : cc4975-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:41:41 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration

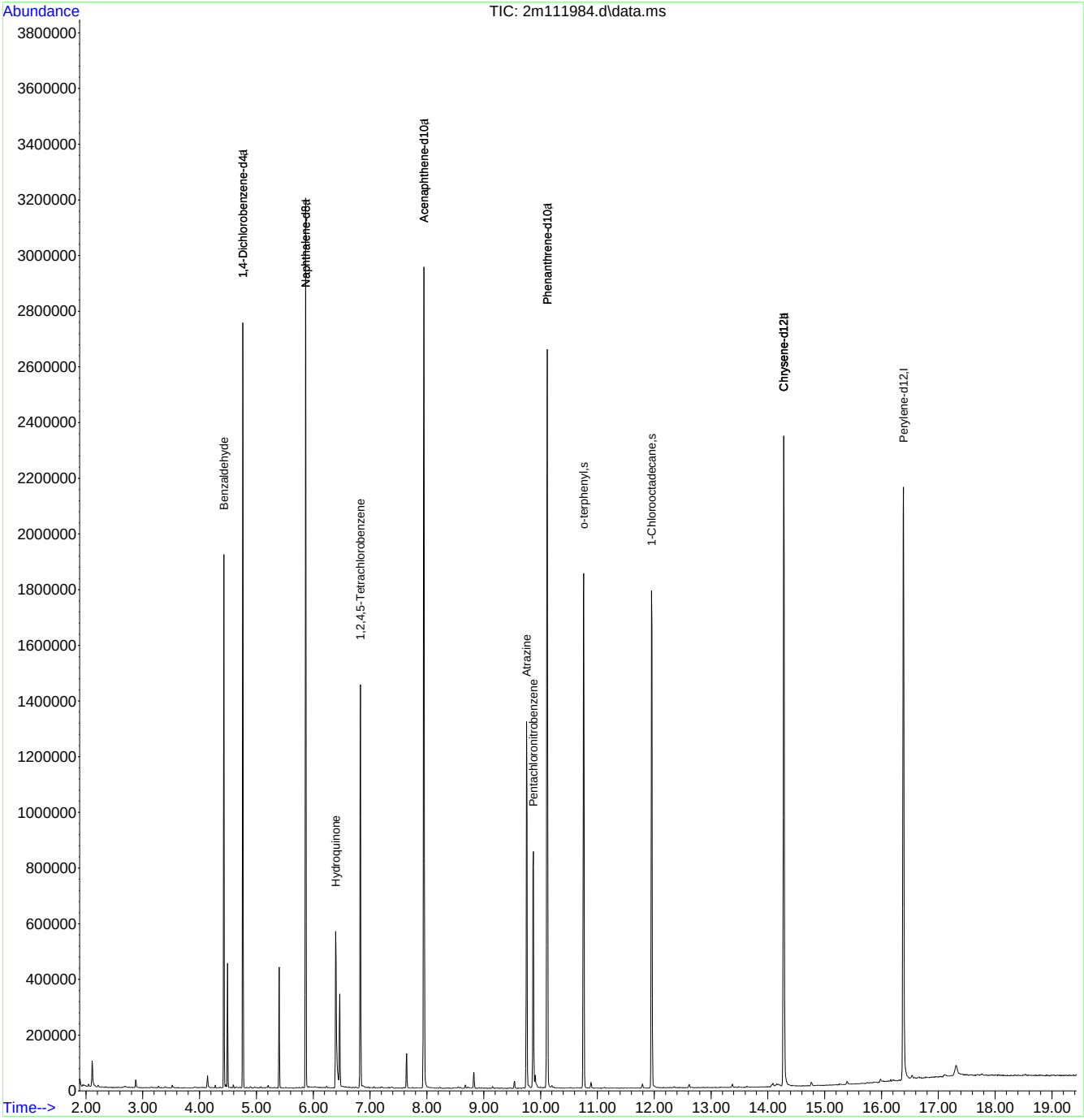
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.759 | 152 | 352970 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.866 | 136 | 1298859 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.947 | 164 | 722246 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.118 | 188 | 1173690 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.280 | 240 | 959117 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 16.387 | 264 | 1019077 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.759 | 152 | 352970 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.947 | 164 | 722246 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.280 | 240 | 959117 | 40.00 | ppm | -0.01 |
| 107) Phenanthrene-d10a | 10.118 | 188 | 1173690 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.866 | 136 | 1298859 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.280 | 240 | 959117 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 11.953 | 57 | 276211 | 29.10 | ppm | 0.00 |
| 110) o-terphenyl | 10.760 | 230 | 436924 | 28.80 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.427 | 105 | 270833 | 24.66 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.829 | 216 | 231067 | 25.86 | ppm | 98 |
| 108) Atrazine | 9.755 | 215 | 87928 | 30.02 | ppm | 95 |
| 111) Pentachloronitrobenzene | 9.872 | 295 | 27520 | 29.91 | ppm | 97 |
| 113) Hydroquinone | 6.396 | 110 | 281651 | 26.33 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111984.d
Acq On : 18 May 2019 3:01 am
Operator : chriss2
Sample : cc4975-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:41:41 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111985.d
Acq On : 18 May 2019 3:27 am
Operator : chriss2
Sample : cc4976-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:42:50 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration

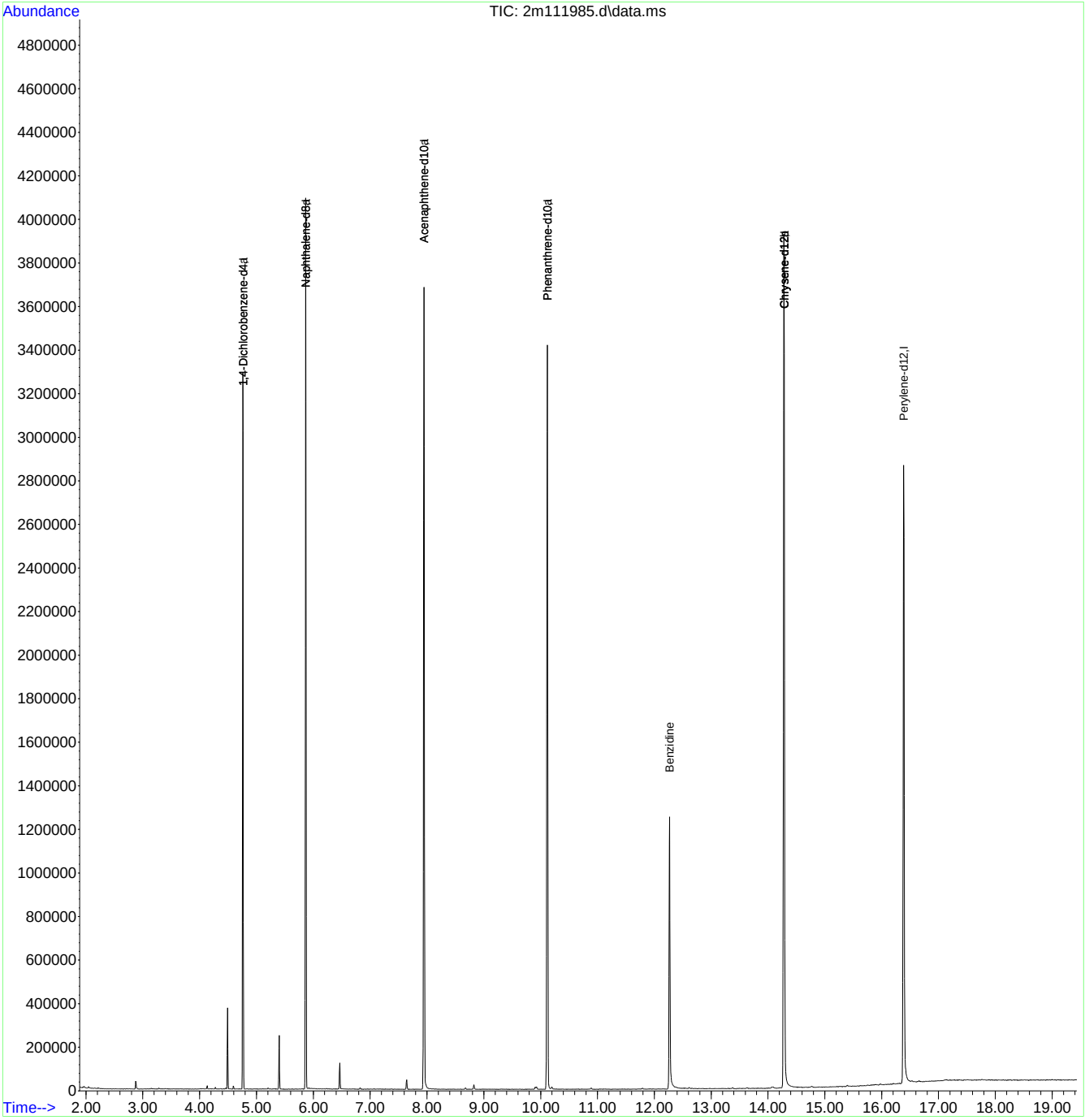
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.764 | 152 | 444584 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.866 | 136 | 1656730 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.947 | 164 | 917127 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.118 | 188 | 1487872 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.285 | 240 | 1198438 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.387 | 264 | 1336475 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.764 | 152 | 444584 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.947 | 164 | 917127 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.285 | 240 | 1198438 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.118 | 188 | 1487872 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.866 | 136 | 1656730 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.285 | 240 | 1198438 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.268 | 184 | 592167 | 24.70 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e2m4980\
Data File : 2m111985.d
Acq On : 18 May 2019 3:27 am
Operator : chriss2
Sample : cc4976-25 Inst : MS2M
Misc : op13721,e2m4980,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 05:42:50 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 05:37:29 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112009.d
Acq On : 18 May 2019 7:04 pm
Operator : chriss2
Sample : cc4974-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:49:50 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Sun May 19 23:42:39 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.754 | 152 | 395101 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.861 | 136 | 1424797 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.941 | 164 | 842367 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.113 | 188 | 1499037 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 14.285 | 240 | 1221300 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 16.387 | 264 | 1436695 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.754 | 152 | 395101 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.941 | 164 | 842367 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 14.285 | 240 | 1221300 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 10.113 | 188 | 1499037 | 40.00 | ppm | 0.00 |
| 112) Naphthalene-d8a | 5.861 | 136 | 1424797 | 40.00 | ppm | 0.00 |
| 114) Chrysene-d12b | 14.285 | 240 | 1221300 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.871 | 112 | 730983 | 50.99 | ppm | 0.10 |
| Spiked Amount 50.000 | | | Recovery = | 101.98% | | |
| 8) Phenol-d5 | 4.583 | 99 | 889013 | 50.32 | ppm | 0.12 |
| Spiked Amount 50.000 | | | Recovery = | 100.64% | | |
| 25) Nitrobenzene-d5 | 5.203 | 82 | 711264 | 57.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 114.74% | | |
| 51) 2-Fluorobiphenyl | 7.064 | 172 | 1439657 | 47.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.12% | | |
| 73) 2,4,6-Tribromophenol | 9.086 | 330 | 220588 | 55.36 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 110.72% | | |
| 85) Terphenyl-d14 | 12.659 | 244 | 1481821 | 51.16 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 102.32% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.320 | 88 | 341942 | 49.59 | ppm | 99 |
| 3) Pyridine | 2.636 | 79 | 876598 | 50.55 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 2.604 | 74 | 507512 | 48.52 | ppm | 99 |
| 6) Indene | 4.962 | 116 | 1112679 | 48.04 | ppm | 100 |
| 7) Cumene | 4.155 | 105 | 1726715 | 47.64 | ppm | 99 |
| 9) Phenol | 4.599 | 94 | 939441 | 48.79 | ppm | 98 |
| 10) Aniline | 4.513 | 93 | 946249 | 45.16 | ppm | 83 |
| 11) bis(2-Chloroethyl)ether | 4.550 | 93 | 719405 | 47.60 | ppm | 97 |
| 12) 2-Chlorophenol | 4.647 | 128 | 743250 | 49.49 | ppm | 99 |
| 13) Decane | 4.631 | 43 | 623290 | 45.17 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 4.711 | 146 | 770401 | 47.28 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.770 | 146 | 766777 | 47.17 | ppm | 99 |
| 16) Benzyl alcohol | 4.882 | 108 | 426802 | 47.55 | ppm | 91 |
| 17) 1,2-Dichlorobenzene | 4.893 | 146 | 716388 | 46.48 | ppm | 100 |
| 18) Acetophenone | 5.075 | 105 | 875828 | 46.65 | ppm | 83 |
| 19) 2-Methylphenol | 5.026 | 108 | 663113 | 52.97 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.968 | 45 | 729040 | 46.70 | ppm | 98 |
| 21) 3&4-Methylphenol | 5.155 | 108 | 678911 | 57.22 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 5.075 | 70 | 451155 | 46.58 | ppm | 98 |
| 23) Hexachloroethane | 5.171 | 201 | 224612 | 49.93 | ppm | 85 |
| 26) Nitrobenzene | 5.219 | 77 | 721377 | 54.69 | ppm | 99 |
| 27) Quinoline | 6.230 | 129 | 1343803 | 50.02 | ppm | 99 |
| 28) Isophorone | 5.428 | 82 | 1202043 | 50.34 | ppm | 99 |
| 29) 2-Nitrophenol | 5.502 | 139 | 353691 | 66.14 | ppm | 94 |
| 30) 2,4-Dimethylphenol | 5.583 | 107 | 617695 | 58.50 | ppm | 99 |
| 31) Benzoic acid | 5.722 | 105 | 495216 | 82.07 | ppm | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112009.d
Acq On : 18 May 2019 7:04 pm
Operator : chriss2
Sample : cc4974-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:49:50 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Sun May 19 23:42:39 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 32) bis(2-Chloroethoxy)met... | 5.620 | 93 | 753321 | 47.01 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.791 | 162 | 547350 | 53.22 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.968 | 162 | 535461 | 52.78 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.513 | 180 | 549765 | 48.68 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.807 | 180 | 525334 | 48.83 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 6.032 | 180 | 539022 | 50.50 | ppm | | 99 |
| 38) Naphthalene | 5.882 | 128 | 1891682 | 47.38 | ppm | | 100 |
| 39) 4-Chloroaniline | 5.941 | 127 | 754242 | 47.43 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.963 | 161 | 682344 | 52.90 | ppm | | 98 |
| 41) Caprolactam | 6.299 | 55 | 313685 | 54.41 | ppm | | 98 |
| 42) Hexachlorobutadiene | 6.016 | 225 | 278168 | 52.00 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 6.540 | 107 | 582390 | 56.67 | ppm | | 99 |
| 44) 2-Methylnaphthalene | 6.626 | 141 | 1011979 | 49.31 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 6.738 | 141 | 1116381 | 48.85 | ppm | | 97 |
| 46) Dimethylnaphthalene | 7.391 | 156 | 1179074 | 50.21 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 6.818 | 237 | 578390 | 130.91 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.995 | 196 | 374841 | 58.35 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 7.112 | 196 | 398908 | 57.22 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 7.209 | 162 | 1195064 | 47.00 | ppm | | 99 |
| 53) Biphenyl | 7.187 | 154 | 1580740 | 45.96 | ppm | | 100 |
| 54) 2-Nitroaniline | 7.358 | 65 | 380667 | 58.72 | ppm | | 98 |
| 55) Dimethylphthalate | 7.594 | 163 | 1379441 | 49.01 | ppm | | 99 |
| 56) Acenaphthylene | 7.749 | 152 | 1967743 | 49.27 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.669 | 165 | 321006 | 58.36 | ppm | | 90 |
| 58) 3-Nitroaniline | 7.909 | 138 | 383942 | 57.23 | ppm | | 97 |
| 59) Acenaphthene | 7.984 | 153 | 1232175 | 47.29 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 8.048 | 184 | 309123 | 150.90 | ppm | # | 51 |
| 61) 4-Nitrophenol | 8.396 | 109 | 211673 | 60.93 | ppm | | 94 |
| 62) Dibenzofuran | 8.230 | 168 | 1651970 | 45.79 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 8.225 | 165 | 413190 | 55.39 | ppm | | 90 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.450 | 232 | 319977 | 57.07 | ppm | | 98 |
| 65) Diethylphthalate | 8.594 | 149 | 1334817 | 49.69 | ppm | | 98 |
| 66) Fluorene | 8.717 | 166 | 1394473 | 48.62 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.733 | 204 | 626169 | 48.73 | ppm | | 98 |
| 68) 4-Nitroaniline | 8.787 | 138 | 376207 | 53.26 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 8.819 | 198 | 240971 | 69.45 | ppm | | 97 |
| 71) n-Nitrosodiphenylamine | 8.915 | 169 | 1109034 | 46.88 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 8.963 | 77 | 1455613 | 45.22 | ppm | | 97 |
| 74) 4-Bromophenyl-phenylether | 9.455 | 248 | 386858 | 49.74 | ppm | | 99 |
| 75) Hexachlorobenzene | 9.541 | 284 | 418578 | 49.95 | ppm | | 99 |
| 76) Pentachlorophenol | 9.888 | 266 | 494530 | 94.84 | ppm | | 99 |
| 77) Phenanthrene | 10.150 | 178 | 2025504 | 46.43 | ppm | | 99 |
| 78) Anthracene | 10.225 | 178 | 2085684 | 48.61 | ppm | | 100 |
| 79) Carbazole | 10.509 | 167 | 2158101 | 49.91 | ppm | | 99 |
| 80) Di-n-butylphthalate | 11.119 | 149 | 2409862 | 53.15 | ppm | | 99 |
| 81) Fluoranthene | 12.006 | 202 | 2176547 | 51.91 | ppm | | 98 |
| 82) Octadecane | 10.060 | 57 | 979504 | 48.71 | ppm | | 98 |
| 84) Pyrene | 12.354 | 202 | 2271503 | 49.68 | ppm | | 99 |
| 86) Butylbenzylphthalate | 13.488 | 149 | 1087868 | 49.14 | ppm | | 99 |
| 87) Benzo[a]anthracene | 14.269 | 228 | 1933889 | 52.03 | ppm | | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.274 | 252 | 721830 | 58.72 | ppm | | 100 |
| 89) Chrysene | 14.322 | 228 | 1996308 | 49.38 | ppm | | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.445 | 149 | 1515080 | 50.60 | ppm | | 98 |
| 92) Di-n-octylphthalate | 15.430 | 149 | 2576109 | 47.20 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 15.868 | 252 | 2047406 | 50.30 | ppm | | 99 |
| 94) Benzo[k]fluoranthene | 15.916 | 252 | 1939019 | 47.29 | ppm | | 98 |
| 95) Benzo[a]pyrene | 16.312 | 252 | 1888137 | 52.00 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112009.d
Acq On : 18 May 2019 7:04 pm
Operator : chriss2
Sample : cc4974-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:49:50 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Sun May 19 23:42:39 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 96) Indeno[1,2,3-cd]pyrene | 17.943 | 276 | 1939069 | 57.63 | ppm | 96 |
| 97) Dibenz(a,h)acridine | 17.585 | 279 | 1784375 | 56.58 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 17.981 | 278 | 2028366 | 55.23 | ppm | 97 |
| 99) 7,12-Dimethylbenz(a)an... | 15.879 | 256 | 906389 | 48.98 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 18.387 | 276 | 1829251 | 53.20 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

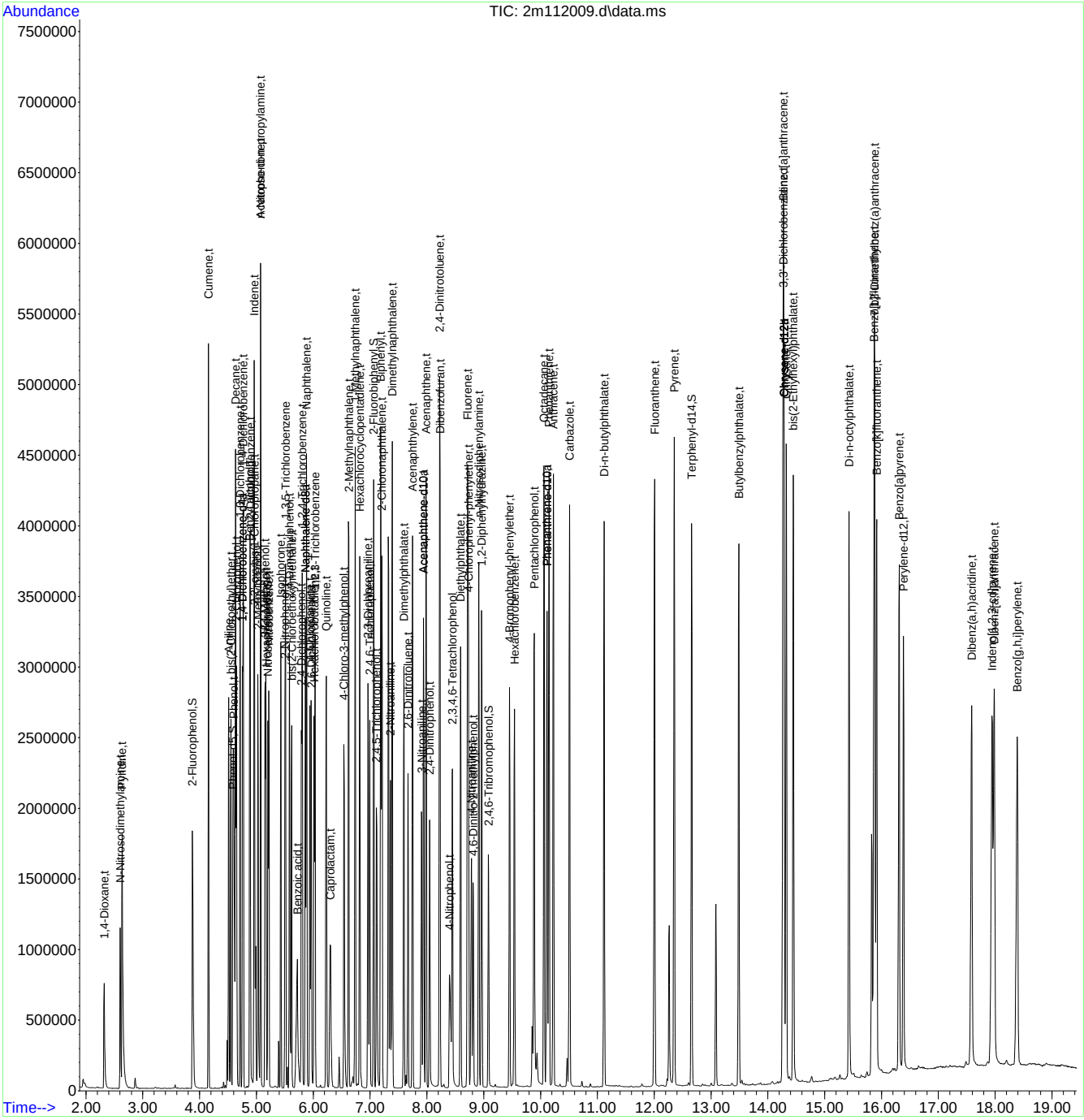
9.8.38

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112009.d
Acq On : 18 May 2019 7:04 pm
Operator : chriss2
Sample : cc4974-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:49:50 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Sun May 19 23:42:39 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112010.d
Acq On : 18 May 2019 7:30 pm
Operator : chriss2
Sample : cc4975-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:53:18 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

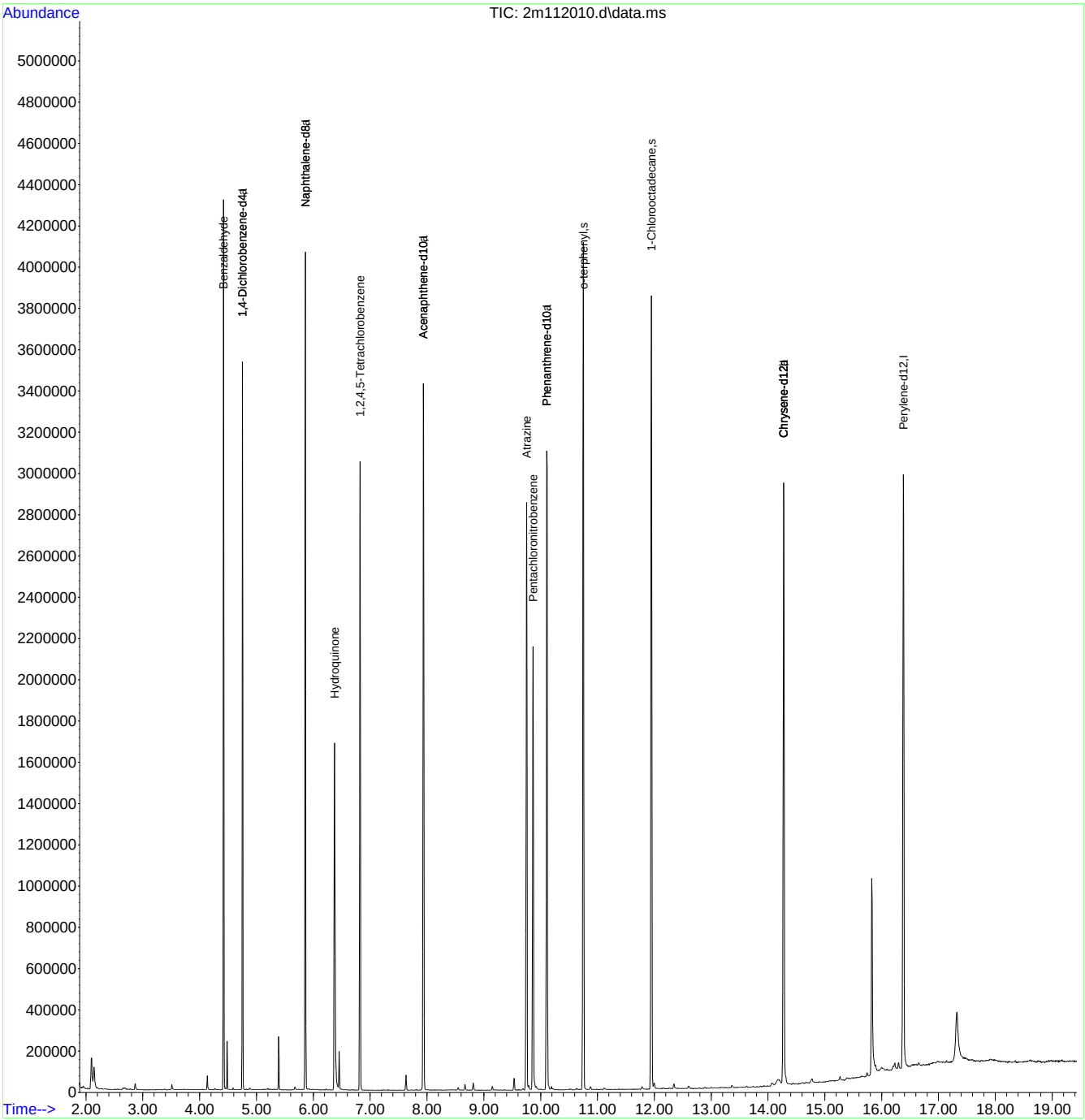
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.754 | 152 | 429939 | 40.00 | ppm | -0.04 |
| 24) Naphthalene-d8 | 5.861 | 136 | 1627537 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 7.936 | 164 | 878095 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 10.108 | 188 | 1453132 | 40.00 | ppm | -0.06 |
| 83) Chrysene-d12 | 14.274 | 240 | 1246978 | 40.00 | ppm | -0.06 |
| 91) Perylene-d12 | 16.382 | 264 | 1425412 | 40.00 | ppm | -0.06 |
| 101) 1,4-Dichlorobenzene-d4a | 4.754 | 152 | 429939 | 40.00 | ppm | -0.04 |
| 103) Acenaphthene-d10a | 7.936 | 164 | 878095 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 14.274 | 240 | 1246978 | 40.00 | ppm | -0.06 |
| 107) Phenanthrene-d10a | 10.108 | 188 | 1453132 | 40.00 | ppm | -0.06 |
| 112) Naphthalene-d8a | 5.861 | 136 | 1627537 | 40.00 | ppm | -0.05 |
| 114) Chrysene-d12b | 14.274 | 240 | 1246978 | 40.00 | ppm | -0.06 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 11.948 | 57 | 638602 | 54.35 | ppm | -0.06 |
| 110) o-terphenyl | 10.750 | 230 | 1011558 | 53.85 | ppm | -0.06 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.422 | 105 | 645320 | 48.24 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.824 | 216 | 549354 | 50.58 | ppm | 99 |
| 108) Atrazine | 9.755 | 215 | 219750 | 60.61 | ppm | 99 |
| 111) Pentachloronitrobenzene | 9.867 | 295 | 77004 | 60.30 | ppm | 97 |
| 113) Hydroquinone | 6.374 | 110 | 800067 | 59.70 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112010.d
Acq On : 18 May 2019 7:30 pm
Operator : chriss2
Sample : cc4975-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:53:18 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112011.d
Acq On : 18 May 2019 9:19 pm
Operator : chriss2
Sample : cc4976-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:54:33 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

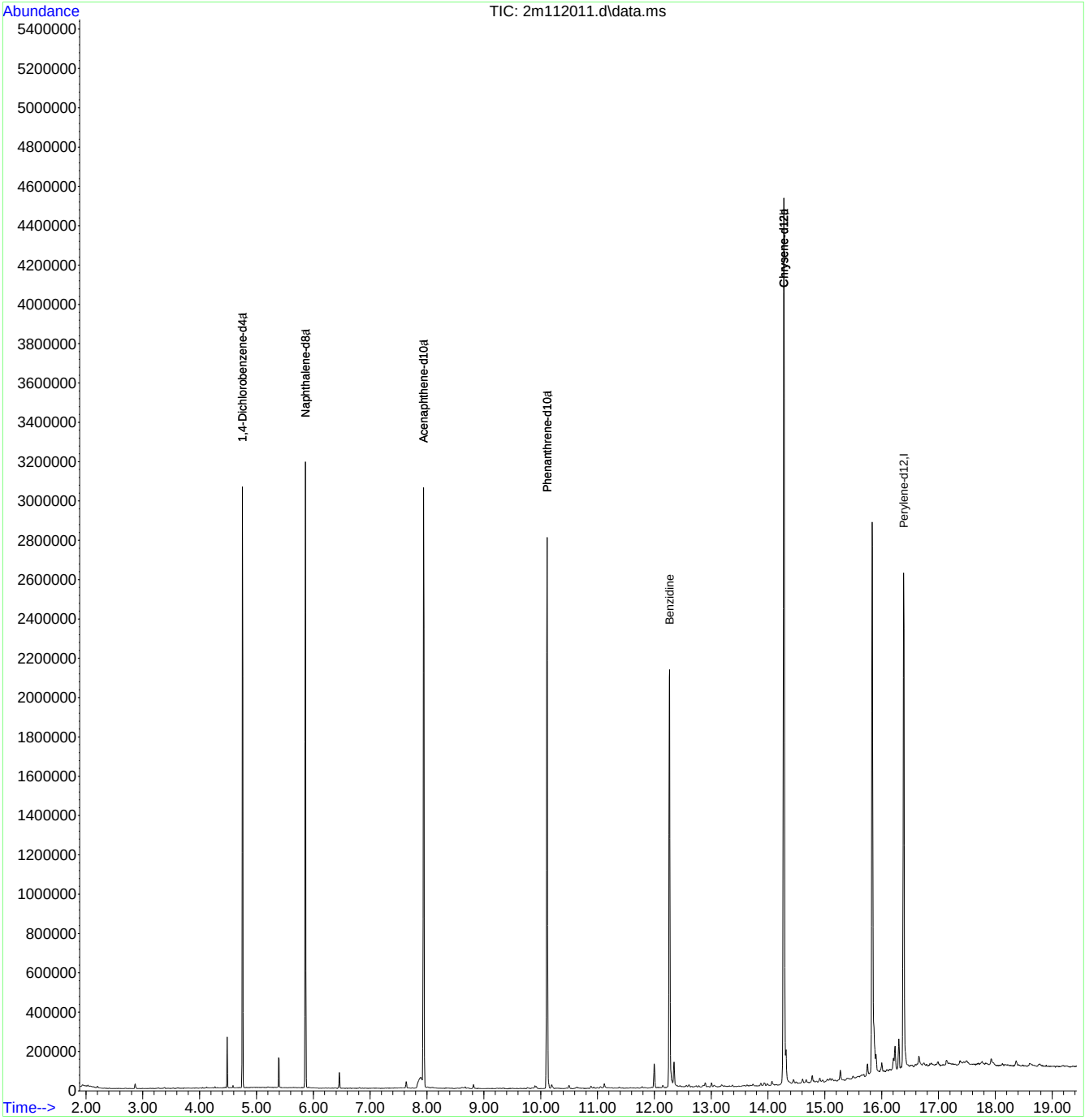
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.754 | 152 | 372032 | 40.00 | ppm | -0.04 |
| 24) Naphthalene-d8 | 5.861 | 136 | 1333071 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 7.941 | 164 | 734185 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 10.113 | 188 | 1189847 | 40.00 | ppm | -0.06 |
| 83) Chrysene-d12 | 14.280 | 240 | 1001316 | 40.00 | ppm | -0.06 |
| 91) Perylene-d12 | 16.387 | 264 | 1182677 | 40.00 | ppm | -0.05 |
| 101) 1,4-Dichlorobenzene-d4a | 4.754 | 152 | 372032 | 40.00 | ppm | -0.04 |
| 103) Acenaphthene-d10a | 7.941 | 164 | 734185 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 14.280 | 240 | 1001316 | 40.00 | ppm | -0.06 |
| 107) Phenanthrene-d10a | 10.113 | 188 | 1189847 | 40.00 | ppm | -0.06 |
| 112) Naphthalene-d8a | 5.861 | 136 | 1333071 | 40.00 | ppm | -0.05 |
| 114) Chrysene-d12b | 14.280 | 240 | 1001316 | 40.00 | ppm | -0.06 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 106) Benzidine | 12.268 | 184 | 1084353 | 45.57 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e2m4981\
Data File : 2m112011.d
Acq On : 18 May 2019 9:19 pm
Operator : chriss2
Sample : cc4976-50 Inst : MS2M
Misc : op13721,e2m4981,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Results File: M2M4974.RES
Quant Time: May 20 03:54:33 2019
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112035.D
Acq On : 19 May 2019 11:29 am
Operator : carolb
Sample : cc4974-25
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 20 10:33:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:31:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.748 | 152 | 371623 | 40.00 | ppm | -0.05 |
| 24) Naphthalene-d8 | 5.856 | 136 | 1437278 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 7.931 | 164 | 822543 | 40.00 | ppm | -0.07 |
| 69) Phenanthrene-d10 | 10.102 | 188 | 1373124 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 14.269 | 240 | 1183323 | 40.00 | ppm | -0.07 |
| 91) Perylene-d12 | 16.376 | 264 | 1316155 | 40.00 | ppm | -0.06 |
| 101) 1,4-Dichlorobenzene-d4a | 4.748 | 152 | 371623 | 40.00 | ppm | -0.05 |
| 103) Acenaphthene-d10a | 7.931 | 164 | 822543 | 40.00 | ppm | -0.07 |
| 105) Chrysene-d12a | 14.269 | 240 | 1183323 | 40.00 | ppm | -0.07 |
| 107) Phenanthrene-d10a | 10.102 | 188 | 1373124 | 40.00 | ppm | -0.07 |
| 112) Naphthalene-d8a | 5.856 | 136 | 1437278 | 40.00 | ppm | -0.05 |
| 114) Chrysene-d12b | 14.269 | 240 | 1183323 | 40.00 | ppm | -0.07 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.866 | 112 | 352212 | 26.12 | ppm | 0.06 |
| Spiked Amount 50.000 | | | Recovery = 52.24% | | | |
| 8) Phenol-d5 | 4.577 | 99 | 436692 | 26.28 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 52.56% | | | |
| 25) Nitrobenzene-d5 | 5.192 | 82 | 365558 | 29.23 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 58.46% | | | |
| 51) 2-Fluorobiphenyl | 7.054 | 172 | 776087 | 25.98 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 51.96% | | | |
| 73) 2,4,6-Tribromophenol | 9.070 | 330 | 99939 | 27.38 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 54.76% | | | |
| 85) Terphenyl-d14 | 12.648 | 244 | 727134 | 25.91 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 51.82% | | | |
| 109) 1-Chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 110) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.315 | 88 | 167874 | 25.89 | ppm | 97 |
| 3) Pyridine | 2.625 | 79 | 425969 | 26.11 | ppm | 92 |
| 4) N-Nitrosodimethylamine | 2.593 | 74 | 248844 | 25.29 | ppm | 88 |
| 6) Indene | 4.952 | 116 | 582670 | 26.74 | ppm | 99 |
| 7) Cumene | 4.149 | 105 | 901650 | 26.45 | ppm | 100 |
| 9) Phenol | 4.593 | 94 | 466083 | 25.74 | ppm | 97 |
| 10) Aniline | 4.502 | 93 | 478754 | 24.29 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 4.540 | 93 | 363004 | 25.54 | ppm | 95 |
| 12) 2-Chlorophenol | 4.641 | 128 | 367847 | 26.04 | ppm | 98 |
| 13) Decane | 4.625 | 43 | 359103 | 27.67 | ppm | 94 |
| 14) 1,3-Dichlorobenzene | 4.706 | 146 | 394291 | 25.73 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.759 | 146 | 394744 | 25.82 | ppm | 99 |
| 16) Benzyl alcohol | 4.871 | 108 | 217365 | 25.74 | ppm | 93 |
| 17) 1,2-Dichlorobenzene | 4.882 | 146 | 371213 | 25.60 | ppm | 98 |
| 18) Acetophenone | 5.064 | 105 | 479415 | 27.15 | ppm | 86 |
| 19) 2-Methylphenol | 5.016 | 108 | 322576 | 27.40 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.962 | 45 | 405907 | 27.65 | ppm | 94 |
| 21) 3&4-Methylphenol | 5.139 | 108 | 341251 | 30.58 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 5.064 | 70 | 247496 | 27.17 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112035.D
Acq On : 19 May 2019 11:29 am
Operator : carolb
Sample : cc4974-25
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 20 10:33:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:31:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 23) Hexachloroethane | 5.160 | 201 | 113863 | 26.91 | ppm | | 94 |
| 26) Nitrobenzene | 5.208 | 77 | 379415 | 28.51 | ppm | | 97 |
| 27) Quinoline | 6.214 | 129 | 700129 | 25.84 | ppm | | 98 |
| 28) Isophorone | 5.417 | 82 | 649262 | 26.95 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.492 | 139 | 180629 | 33.48 | ppm | | 95 |
| 30) 2,4-Dimethylphenol | 5.572 | 107 | 308265 | 28.94 | ppm | | 99 |
| 31) Benzoic acid | 5.684 | 105 | 213425 | 33.98 | ppm | | 96 |
| 32) bis(2-Chloroethoxy)met... | 5.610 | 93 | 417670 | 25.84 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.781 | 162 | 284106 | 27.39 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.957 | 162 | 280916 | 27.45 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.503 | 180 | 296787 | 26.05 | ppm | | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.797 | 180 | 284429 | 26.21 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 6.021 | 180 | 280404 | 26.04 | ppm | | 99 |
| 38) Naphthalene | 5.872 | 128 | 1033268 | 25.65 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.930 | 127 | 414425 | 25.83 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.957 | 161 | 354158 | 27.22 | ppm | | 98 |
| 41) Caprolactam | 6.278 | 55 | 171356 | 29.46 | ppm | | 96 |
| 42) Hexachlorobutadiene | 6.005 | 225 | 149522 | 27.71 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 6.529 | 107 | 302760 | 29.21 | ppm | | 99 |
| 44) 2-Methylnaphthalene | 6.615 | 141 | 541057 | 26.14 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.727 | 141 | 603267 | 26.17 | ppm | | 98 |
| 46) Dimethylnaphthalene | 7.380 | 156 | 640579 | 27.04 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.808 | 237 | 285359 | 66.14 | ppm | | 100 |
| 49) 2,4,6-Trichlorophenol | 6.984 | 196 | 187696 | 29.92 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 7.102 | 196 | 193426 | 28.41 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 7.198 | 162 | 631778 | 25.44 | ppm | | 98 |
| 53) Biphenyl | 7.177 | 154 | 869312 | 25.88 | ppm | | 100 |
| 54) 2-Nitroaniline | 7.342 | 65 | 198475 | 31.36 | ppm | | 94 |
| 55) Dimethylphthalate | 7.583 | 163 | 713338 | 25.96 | ppm | | 100 |
| 56) Acenaphthylene | 7.738 | 152 | 1030319 | 26.42 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.658 | 165 | 155425 | 29.69 | ppm | | 92 |
| 58) 3-Nitroaniline | 7.893 | 138 | 187297 | 28.59 | ppm | | 95 |
| 59) Acenaphthene | 7.974 | 153 | 656472 | 25.80 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 8.032 | 184 | 107752 | 61.91 | ppm | # | 36 |
| 61) 4-Nitrophenol | 8.391 | 109 | 89648 | 26.43 | ppm | | 94 |
| 62) Dibenzofuran | 8.214 | 168 | 912467 | 25.90 | ppm | | 98 |
| 63) 2,4-Dinitrotoluene | 8.209 | 165 | 214706 | 29.36 | ppm | | 86 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.434 | 232 | 155496 | 28.40 | ppm | | 95 |
| 65) Diethylphthalate | 8.583 | 149 | 702295 | 26.78 | ppm | | 99 |
| 66) Fluorene | 8.706 | 166 | 750025 | 26.78 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.722 | 204 | 330896 | 26.37 | ppm | | 99 |
| 68) 4-Nitroaniline | 8.765 | 138 | 185889 | 26.95 | ppm | | 95 |
| 70) 4,6-Dinitro-2-methylph... | 8.803 | 198 | 95214 | 33.33 | ppm | | 99 |
| 71) n-Nitrosodiphenylamine | 8.904 | 169 | 549633 | 25.36 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 8.952 | 77 | 753049 | 25.54 | ppm | | 96 |
| 74) 4-Bromophenyl-phenylether | 9.444 | 248 | 187102 | 26.26 | ppm | | 97 |
| 75) Hexachlorobenzene | 9.530 | 284 | 198084 | 25.80 | ppm | | 98 |
| 76) Pentachlorophenol | 9.872 | 266 | 210877 | 44.20 | ppm | | 99 |
| 77) Phenanthrene | 10.134 | 178 | 1018152 | 25.48 | ppm | | 99 |
| 78) Anthracene | 10.215 | 178 | 1018756 | 25.92 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112035.D
Acq On : 19 May 2019 11:29 am
Operator : carolb
Sample : cc4974-25
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 20 10:33:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:31:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 79) Carbazole | 10.498 | 167 | 1058063 | 26.71 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.108 | 149 | 1205624 | 29.03 | ppm | 99 |
| 81) Fluoranthene | 11.990 | 202 | 1070723 | 27.88 | ppm | 99 |
| 82) Octadecane | 10.054 | 57 | 533002 | 28.94 | ppm | 96 |
| 84) Pyrene | 12.338 | 202 | 1128567 | 25.48 | ppm | 100 |
| 86) Butylbenzylphthalate | 13.477 | 149 | 522921 | 24.68 | ppm | 99 |
| 87) Benzo[a]anthracene | 14.253 | 228 | 963825 | 26.76 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 14.264 | 252 | 348238 | 29.24 | ppm | 98 |
| 89) Chrysene | 14.306 | 228 | 976431 | 24.93 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 14.440 | 149 | 711054 | 24.88 | ppm | 99 |
| 92) Di-n-octylphthalate | 15.419 | 149 | 1218854 | 24.47 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 15.852 | 252 | 1008241 | 27.04 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 15.895 | 252 | 1009448 | 26.87 | ppm | 99 |
| 95) Benzo[a]pyrene | 16.291 | 252 | 896046 | 26.94 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 17.917 | 276 | 856052 | 27.77 | ppm | 96 |
| 97) Dibenz(a,h)acridine | 17.564 | 279 | 815506 | 28.23 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 17.960 | 278 | 924757 | 27.49 | ppm | 96 |
| 99) 7,12-Dimethylbenz(a)an... | 15.858 | 256 | 449542 | 26.76 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 18.355 | 276 | 854031 | 27.11 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

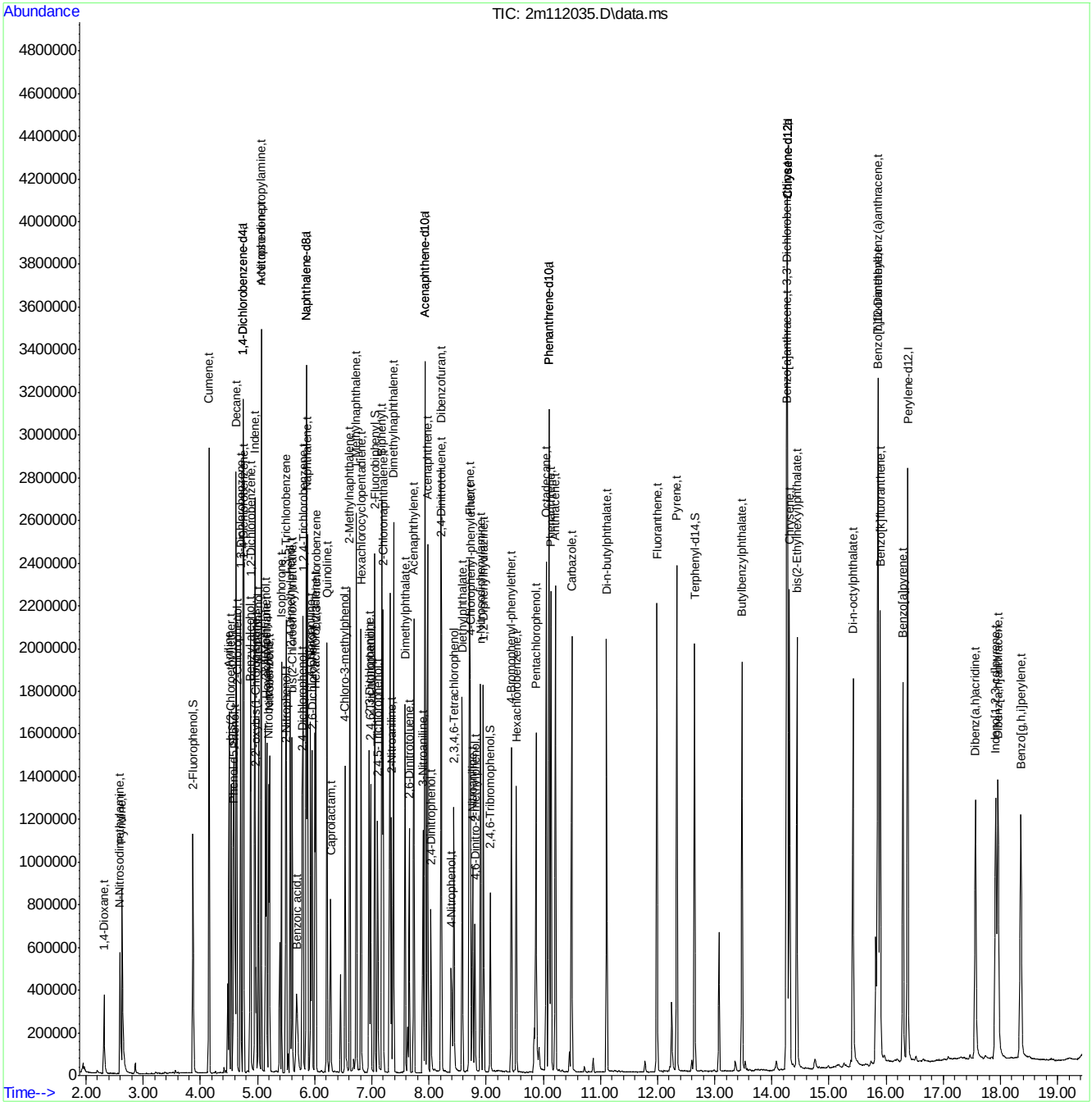
9.8.41

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112035.D
Acq On : 19 May 2019 11:29 am
Operator : carolb
Sample : cc4974-25
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 20 10:33:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Mon May 20 10:31:43 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112036.D
Acq On : 19 May 2019 12:02 pm
Operator : carolb
Sample : cc4975-25
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 21 18:17:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration

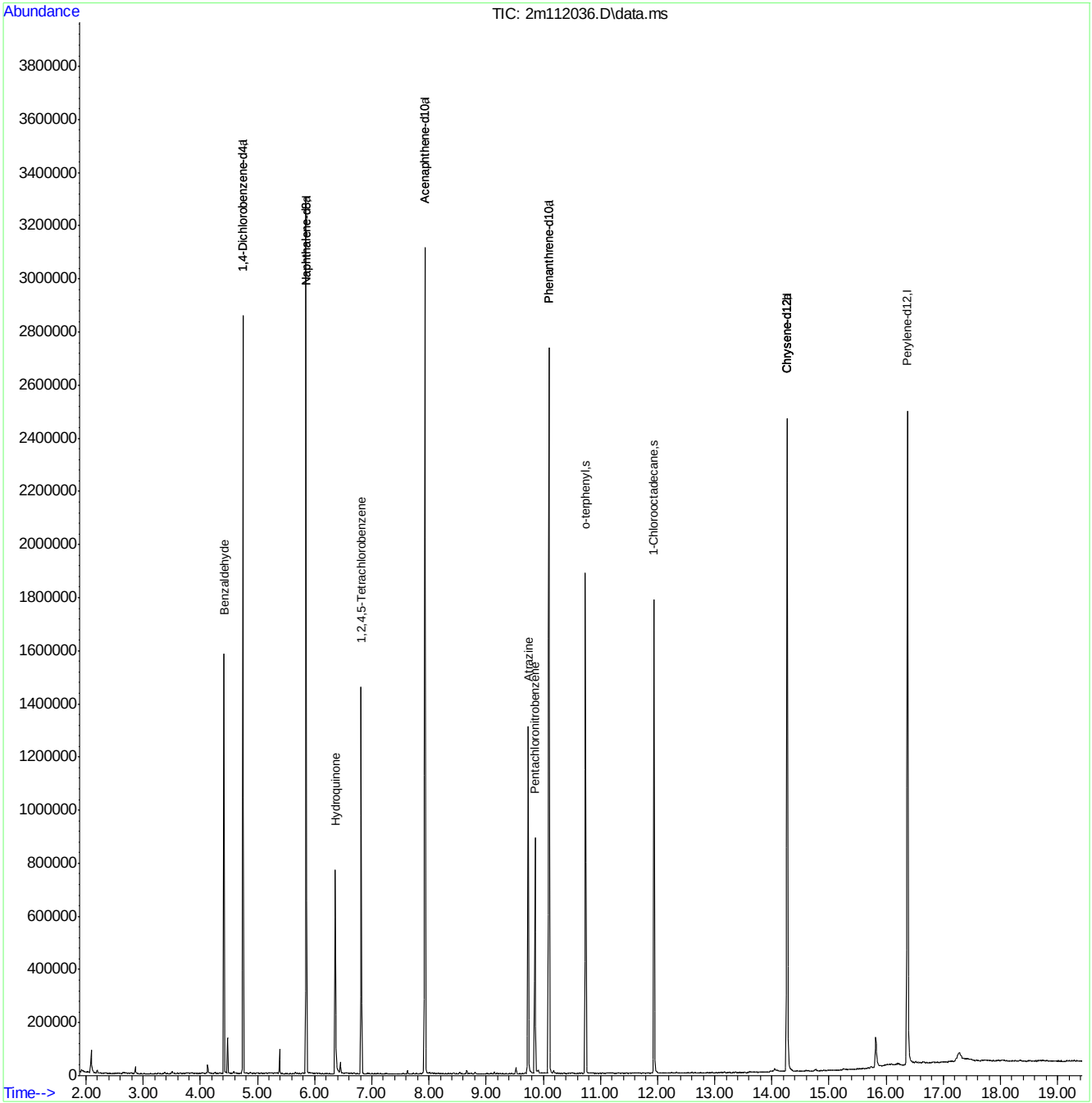
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.748 | 152 | 350814 | 40.00 | ppm | -0.05 |
| 24) Naphthalene-d8 | 5.850 | 136 | 1339585 | 40.00 | ppm | -0.06 |
| 47) Acenaphthene-d10 | 7.931 | 164 | 732974 | 40.00 | ppm | -0.07 |
| 69) Phenanthrene-d10 | 10.102 | 188 | 1207816 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 14.264 | 240 | 999916 | 40.00 | ppm | -0.07 |
| 91) Perylene-d12 | 16.371 | 264 | 1117768 | 40.00 | ppm | -0.07 |
| 101) 1,4-Dichlorobenzene-d4a | 4.748 | 152 | 350814 | 40.00 | ppm | -0.05 |
| 103) Acenaphthene-d10a | 7.931 | 164 | 732974 | 40.00 | ppm | -0.07 |
| 105) Chrysene-d12a | 14.264 | 240 | 999916 | 40.00 | ppm | -0.07 |
| 107) Phenanthrene-d10a | 10.102 | 188 | 1207816 | 40.00 | ppm | -0.07 |
| 112) Naphthalene-d8a | 5.850 | 136 | 1339585 | 40.00 | ppm | -0.06 |
| 114) Chrysene-d12b | 14.264 | 240 | 999916 | 40.00 | ppm | -0.07 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-Chlorooctadecane | 11.937 | 57 | 279751 | 28.64 | ppm | -0.07 |
| 110) o-terphenyl | 10.739 | 230 | 415899 | 26.64 | ppm | -0.07 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.417 | 105 | 261413 | 23.95 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.813 | 216 | 236724 | 26.11 | ppm | 99 |
| 108) Atrazine | 9.739 | 215 | 85530 | 28.38 | ppm | 94 |
| 111) Pentachloronitrobenzene | 9.856 | 295 | 27517 | 29.20 | ppm | 98 |
| 113) Hydroquinone | 6.358 | 110 | 295829 | 26.82 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E2M4982\
Data File : 2m112036.D
Acq On : 19 May 2019 12:02 pm
Operator : carolb
Sample : cc4975-25
Misc : op13721,e2m4982,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 21 18:17:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M2M4974.M
Quant Title : Semi Volatile GC/MS,rxi 5sil ms 30m .25mm .25um
QLast Update : Fri May 17 13:12:32 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58249a.D
Acq On : 9 Apr 2019 12:29 am
Operator : chriss2
Sample : ic2761-100
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 143494 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.291 | 136 | 550417 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.979 | 164 | 332584 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.422 | 188 | 567841 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.734 | 240 | 486830 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.716 | 264 | 608162 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 143494 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.979 | 164 | 332584 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.734 | 240 | 486830 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.422 | 188 | 567841 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.291 | 136 | 550417 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.734 | 240 | 487695 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 143494 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.734 | 240 | 486830 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.734 | 240 | 487695 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.988 | 112 | 584737 | 95.57 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 191.14% | | |
| 8) Phenol-d5 | 3.859 | 99 | 688546 | 93.37 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = | 186.74% | | |
| 25) Nitrobenzene-d5 | 4.623 | 82 | 613253 | 93.55 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 187.10% | | |
| 51) 2-Fluorobiphenyl | 6.349 | 172 | 1005193 | 89.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 178.76% | | |
| 73) 2,4,6-Tribromophenol | 7.754 | 330 | 179952 | 98.54 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 197.08% | | |
| 85) Terphenyl-d14 | 10.318 | 244 | 1265825 | 99.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 198.74% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.519 | 88 | 316046 | 99.54 | ppm | 100 |
| 3) Pyridine | 1.792 | 79 | 744621 | 95.63 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 1.765 | 74 | 436896 | 99.99 | ppm | 98 |
| 6) Indene | 4.335 | 116 | 831579 | 93.08 | ppm | 98 |
| 7) Cumene | 3.378 | 105 | 1304924 | 90.78 | ppm | 99 |
| 9) Phenol | 3.870 | 94 | 709700 | 89.69 | ppm | 98 |
| 10) Aniline | 3.811 | 93 | 697507 | 90.33 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 3.881 | 93 | 487946 | 91.67 | ppm | 97 |
| 12) 2-Chlorophenol | 3.929 | 128 | 493588 | 93.19 | ppm | 98 |
| 13) Decane | 3.982 | 43 | 378919 | 85.65 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 543390 | 93.55 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.116 | 146 | 523310 | 93.16 | ppm | 99 |
| 16) Benzyl alcohol | 4.265 | 108 | 323290 | 92.84 | ppm | 92 |
| 17) 1,2-Dichlorobenzene | 4.255 | 146 | 535271 | 93.49 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58249a.D
Acq On : 9 Apr 2019 12:29 am
Operator : chriss2
Sample : ic2761-100
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.490 | 105 | 744031 | 94.18 | ppm | 99 |
| 19) 2-Methylphenol | 4.399 | 108 | 463747 | 93.10 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.377 | 45 | 485715 | 89.27 | ppm | 96 |
| 21) 3&4-Methylphenol | 4.548 | 108 | 506070 | 91.25 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.506 | 70 | 377509 | 91.98 | ppm | 96 |
| 23) Hexachloroethane | 4.564 | 201 | 185527 | 92.47 | ppm | 87 |
| 26) Nitrobenzene | 4.645 | 77 | 572972 | 91.82 | ppm | 99 |
| 27) Quinoline | 5.649 | 129 | 1044404 | 96.03 | ppm | 99 |
| 28) Isophorone | 4.880 | 82 | 1065273 | 91.42 | ppm | 98 |
| 29) 2-Nitrophenol | 4.944 | 139 | 282899 | 94.35 | ppm | 92 |
| 30) 2,4-Dimethylphenol | 5.035 | 107 | 535201 | 95.98 | ppm | 97 |
| 31) Benzoic acid | 5.232 | 105 | 430775 | 97.09 | ppm | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.099 | 93 | 645649 | 93.14 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.195 | 162 | 439156 | 96.23 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.398 | 162 | 411647 | 95.78 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 4.954 | 180 | 442690 | 90.63 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.248 | 180 | 426185 | 91.71 | ppm | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.457 | 180 | 402164 | 90.89 | ppm | 98 |
| 38) Naphthalene | 5.312 | 128 | 1292564 | 92.35 | ppm | 100 |
| 39) 4-Chloroaniline | 5.392 | 127 | 526268 | 89.36 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.263 | 161 | 552895 | 96.64 | ppm | 98 |
| 41) Caprolactam | 5.777 | 55 | 265844m | 95.69 | ppm | |
| 42) Hexachlorobutadiene | 5.451 | 225 | 256904 | 93.78 | ppm | 97 |
| 43) 4-Chloro-3-methylphenol | 5.916 | 107 | 521750 | 95.43 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.980 | 141 | 763182 | 93.18 | ppm | 99 |
| 45) 1-Methylnaphthalene | 6.076 | 141 | 839332 | 92.85 | ppm | 99 |
| 46) Dimethylnaphthalene | 6.589 | 156 | 814255 | 92.58 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.146 | 237 | 487629 | 198.05 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 6.285 | 196 | 314503 | 93.76 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.333 | 196 | 349242 | 94.71 | ppm | 99 |
| 52) 2-Chloronaphthalene | 6.450 | 162 | 839078 | 89.64 | ppm | 99 |
| 53) Biphenyl | 6.440 | 154 | 1098030 | 87.54 | ppm | 100 |
| 54) 2-Nitroaniline | 6.573 | 65 | 351194 | 90.20 | ppm | 99 |
| 55) Dimethylphthalate | 6.765 | 163 | 1110576 | 90.78 | ppm | 99 |
| 56) Acenaphthylene | 6.840 | 152 | 1380832 | 91.20 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.814 | 165 | 257335 | 93.92 | ppm | 99 |
| 58) 3-Nitroaniline | 6.979 | 138 | 288136 | 95.79 | ppm | 91 |
| 59) Acenaphthene | 7.016 | 153 | 885107 | 91.57 | ppm | 96 |
| 60) 2,4-Dinitrophenol | 7.081 | 184 | 330080 | 204.13 | ppm | 96 |
| 61) 4-Nitrophenol | 7.214 | 109 | 154014 | 94.84 | ppm | 95 |
| 62) Dibenzofuran | 7.182 | 168 | 1344962 | 91.15 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.203 | 165 | 326431 | 92.64 | ppm | 99 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.326 | 232 | 328016 | 97.46 | ppm | 98 |
| 65) Diethylphthalate | 7.455 | 149 | 1066501 | 91.68 | ppm | 99 |
| 66) Fluorene | 7.513 | 166 | 1055814 | 90.18 | ppm | 95 |
| 67) 4-Chlorophenyl-phenyle... | 7.529 | 204 | 474062 | 91.92 | ppm | 97 |
| 68) 4-Nitroaniline | 7.583 | 138 | 276957 | 95.61 | ppm | 97 |
| 70) 4,6-Dinitro-2-methylph... | 7.604 | 198 | 231131 | 98.37 | ppm | 82 |
| 71) n-Nitrosodiphenylamine | 7.658 | 169 | 778416 | 92.94 | ppm | 96 |
| 72) 1,2-Diphenylhydrazine | 7.684 | 77 | 1125068 | 87.89 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58249a.D
Acq On : 9 Apr 2019 12:29 am
Operator : chriss2
Sample : ic2761-100
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

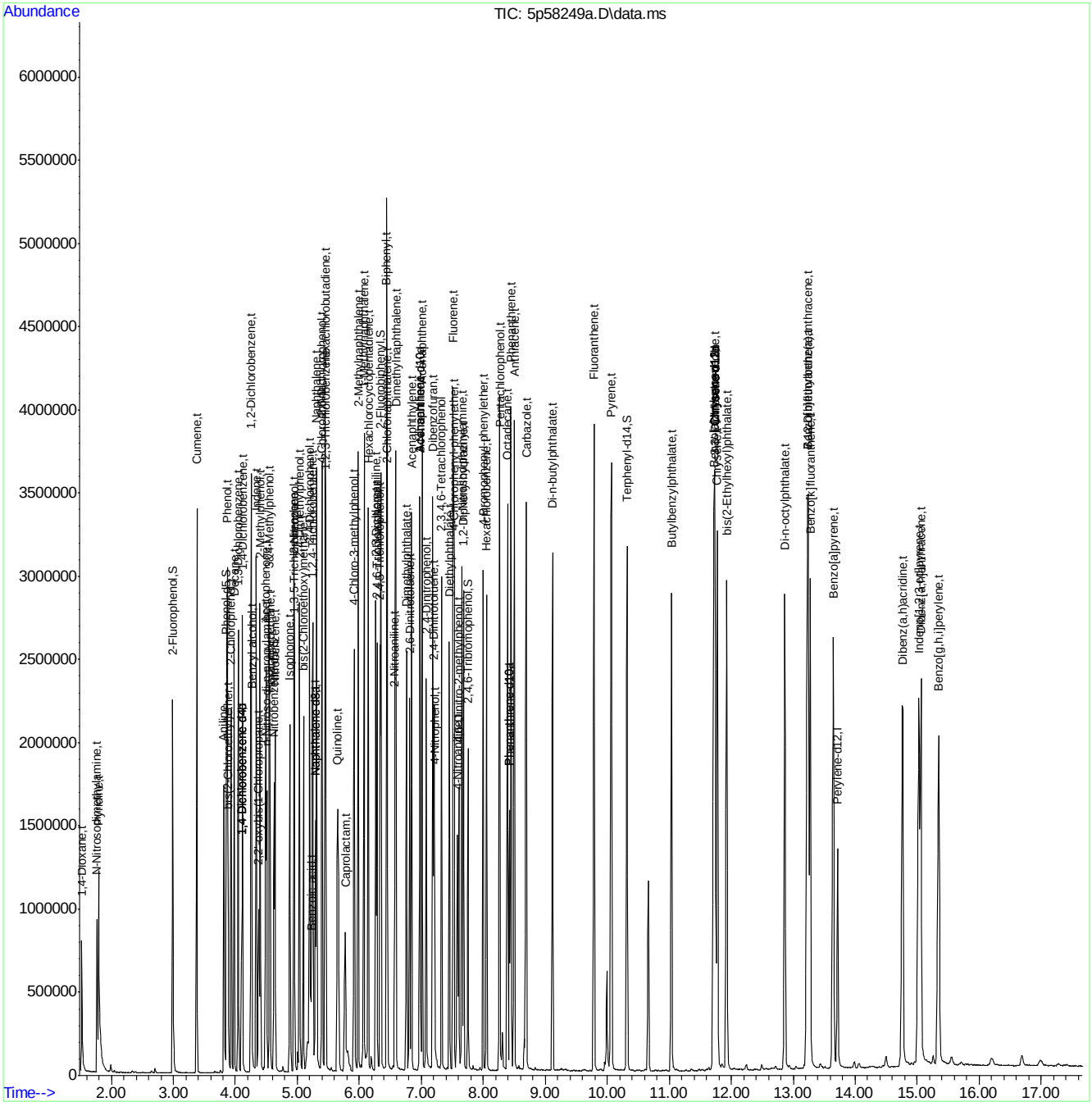
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 74) 4-Bromophenyl-phenylether | 7.999 | 248 | 355400 | 93.03 | ppm | 97 |
| 75) Hexachlorobenzene | 8.053 | 284 | 350385 | 95.68 | ppm | 97 |
| 76) Pentachlorophenol | 8.267 | 266 | 506463 | 195.22 | ppm | 98 |
| 77) Phenanthrene | 8.448 | 178 | 1433896 | 93.91 | ppm | 100 |
| 78) Anthracene | 8.502 | 178 | 1485977 | 92.46 | ppm | 99 |
| 79) Carbazole | 8.694 | 167 | 1546177 | 93.44 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.116 | 149 | 1948248 | 93.12 | ppm | 99 |
| 81) Fluoranthene | 9.789 | 202 | 1817095 | 90.79 | ppm | 99 |
| 82) Octadecane | 8.389 | 57 | 688043 | 87.03 | ppm | 98 |
| 84) Pyrene | 10.067 | 202 | 1818048 | 98.63 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.039 | 149 | 889041 | 97.76 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.723 | 228 | 1742089 | 98.35 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.739 | 252 | 584292 | 97.82 | ppm | 93 |
| 89) Chrysene | 11.776 | 228 | 1577316 | 99.84 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.926 | 149 | 1184818 | 100.07 | ppm | 96 |
| 92) Di-n-octylphthalate | 12.866 | 149 | 2112255 | 91.76 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 13.240 | 252 | 1725000 | 91.32 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 13.278 | 252 | 1512370 | 90.41 | ppm | 99 |
| 95) Benzo[a]pyrene | 13.652 | 252 | 1586400 | 92.99 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 15.030 | 276 | 1533389 | 96.79 | ppm | 94 |
| 97) Dibenz(a,h)acridine | 14.768 | 279 | 1408718 | 93.88 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 15.062 | 278 | 1459161 | 92.67 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 13.240 | 256 | 758625 | 93.08 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 15.350 | 276 | 1490017 | 91.81 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58249a.D
Acq On : 9 Apr 2019 12:29 am
Operator : chriss2
Sample : ic2761-100
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



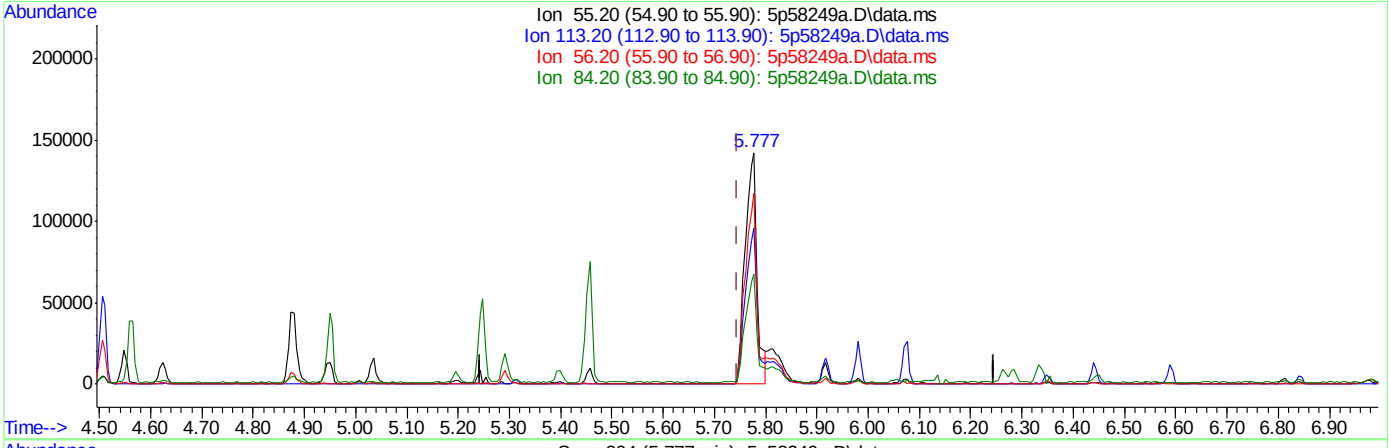
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2761-IC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P58249A.D | **Analyst approved:** | 04/09/19 14:54 Ying Li |
| **Injection Time:** | 04/09/19 00:29 | **Supervisor approved:** | 04/10/19 09:40 Nina Pandya |

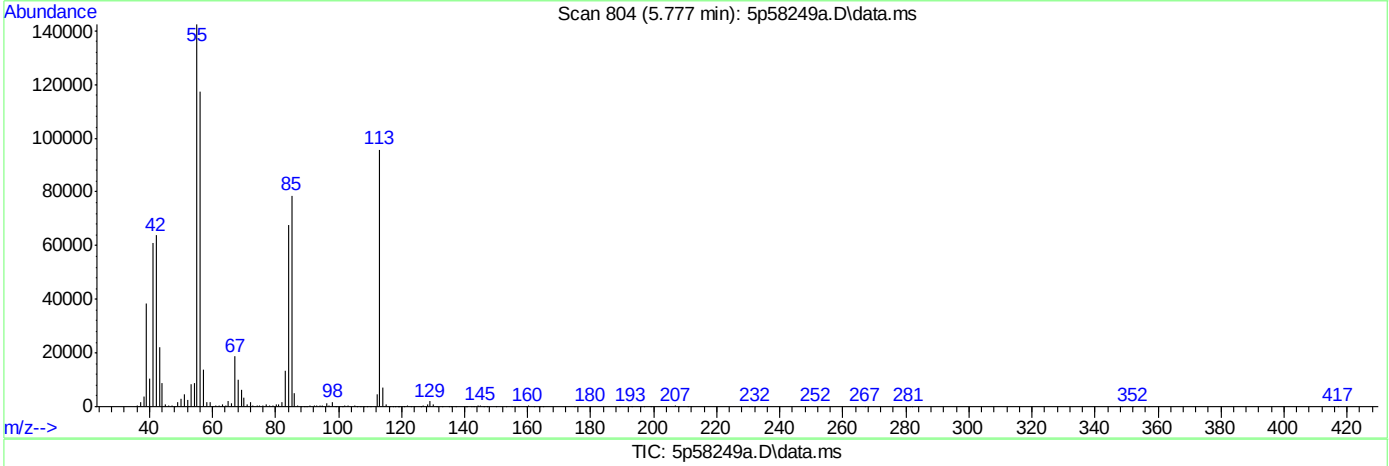
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.78 | Split peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58249a.D
Acq On : 9 Apr 2019 12:29 am
Operator : chriss2
Sample : ic2761-100
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:01:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58249a.D\data.ms

(41) Caprolactam (t)

5.777min (+0.032) 79.98ppm

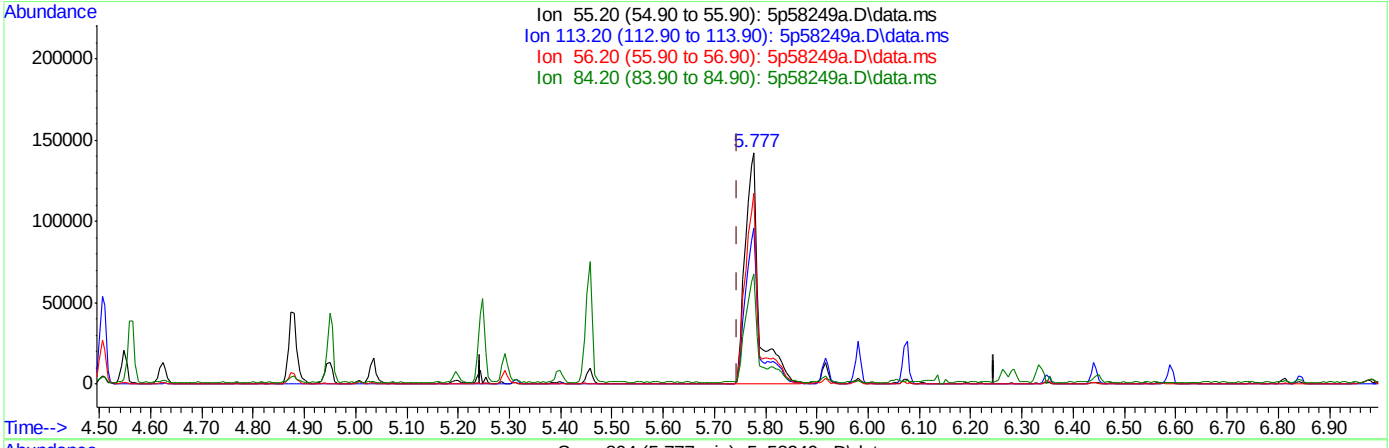
response 222208

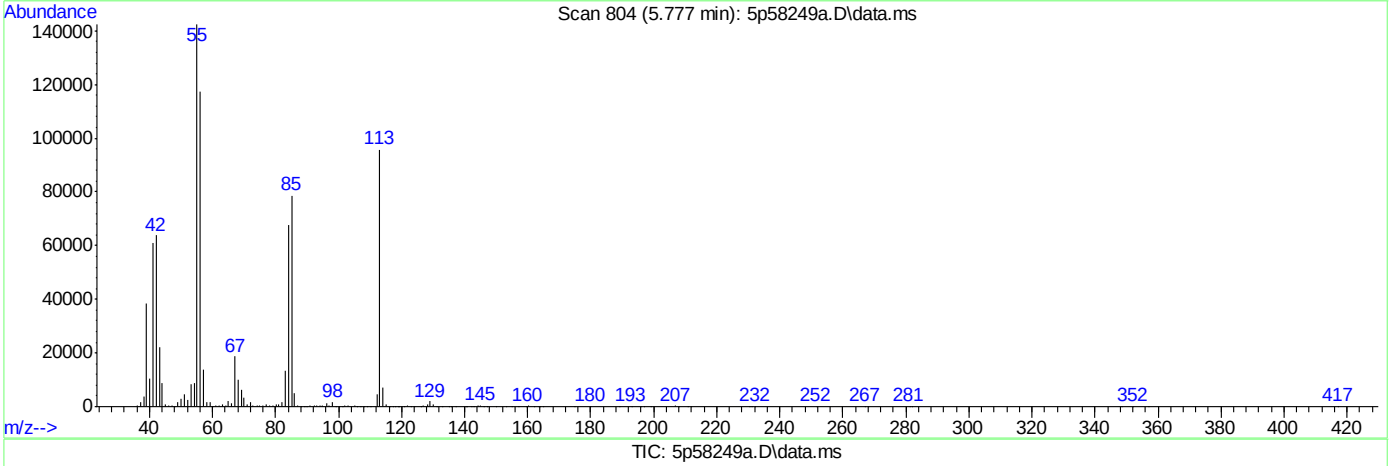
| Ion | Exp% | Act% |
|---|---|---|
| 55.20 | 100 | 100 |
| 113.20 | 61.40 | 67.53 |
| 56.20 | 78.50 | 82.62 |
| 84.20 | 43.90 | 46.72 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58249a.D
Acq On : 9 Apr 2019 12:29 am
Operator : chriss2
Sample : ic2761-100
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58249a.D\data.ms

(41) Caprolactam (t)

5.777min (+0.032) 95.69ppm m

response 265844

| Ion | Exp% | Act% |
|---|---|---|
| 55.20 | 100 | 100 |
| 113.20 | 61.40 | 67.24 |
| 56.20 | 78.50 | 82.47 |
| 84.20 | 43.90 | 47.44 |

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 142519 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.291 | 136 | 544487 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.979 | 164 | 325975 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.422 | 188 | 558051 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.734 | 240 | 486289 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.716 | 264 | 587496 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 142519 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.979 | 164 | 325975 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.734 | 240 | 486289 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.422 | 188 | 558051 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.291 | 136 | 544487 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.734 | 240 | 486289 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 142519 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.734 | 240 | 486289 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.734 | 240 | 486289 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.989 | 112 | 472510 | 77.76 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 155.52% | | | |
| 8) Phenol-d5 | 3.854 | 99 | 565434 | 77.20 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 154.40% | | | |
| 25) Nitrobenzene-d5 | 4.623 | 82 | 504665 | 77.82 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 155.64% | | | |
| 51) 2-Fluorobiphenyl | 6.349 | 172 | 816460 | 74.07 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 148.14% | | | |
| 73) 2,4,6-Tribromophenol | 7.754 | 330 | 143746 | 80.10 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 160.20% | | | |
| 85) Terphenyl-d14 | 10.318 | 244 | 1020518 | 80.20 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 160.40% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.519 | 88 | 249509 | 79.12 | ppm | 95 |
| 3) Pyridine | 1.787 | 79 | 614163 | 79.41 | ppm | 95 |
| 4) N-Nitrosodimethylamine | 1.765 | 74 | 352273 | 81.17 | ppm | 100 |
| 6) Indene | 4.335 | 116 | 679888 | 76.62 | ppm | 98 |
| 7) Cumene | 3.378 | 105 | 1065694 | 74.64 | ppm | 99 |
| 9) Phenol | 3.865 | 94 | 586836 | 74.67 | ppm | 99 |
| 10) Aniline | 3.811 | 93 | 588832 | 76.78 | ppm | 94 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 404412 | 76.49 | ppm | 99 |
| 12) 2-Chlorophenol | 3.929 | 128 | 397022 | 75.47 | ppm | 99 |
| 13) Decane | 3.982 | 43 | 318513 | 72.49 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 439168 | 76.12 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.116 | 146 | 429657 | 77.01 | ppm | 99 |
| 16) Benzyl alcohol | 4.260 | 108 | 258095 | 74.63 | ppm | 94 |
| 17) 1,2-Dichlorobenzene | 4.255 | 146 | 437041 | 76.86 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.490 | 105 | 597760 | 76.18 | ppm | | 99 |
| 19) 2-Methylphenol | 4.399 | 108 | 388441 | 78.51 | ppm | | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 410223 | 75.91 | ppm | | 98 |
| 21) 3&4-Methylphenol | 4.548 | 108 | 424189 | 77.01 | ppm | | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.506 | 70 | 309919 | 76.03 | ppm | | 97 |
| 23) Hexachloroethane | 4.559 | 201 | 149360 | 74.95 | ppm | | 98 |
| 26) Nitrobenzene | 4.639 | 77 | 474015 | 76.79 | ppm | | 96 |
| 27) Quinoline | 5.649 | 129 | 846429 | 78.67 | ppm | | 99 |
| 28) Isophorone | 4.874 | 82 | 893258 | 77.49 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.944 | 139 | 232845 | 78.50 | ppm | | 86 |
| 30) 2,4-Dimethylphenol | 5.029 | 107 | 433229 | 78.54 | ppm | | 99 |
| 31) Benzoic acid | 5.222 | 105 | 355862 | 81.08 | ppm | | 95 |
| 32) bis(2-Chloroethoxy)met... | 5.093 | 93 | 539112 | 78.62 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.195 | 162 | 355782 | 78.81 | ppm | | 94 |
| 34) 2,6-Dichlorophenol | 5.398 | 162 | 333477 | 78.44 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 4.949 | 180 | 363584 | 75.24 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.248 | 180 | 350650 | 76.28 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.457 | 180 | 327805 | 74.89 | ppm | | 98 |
| 38) Naphthalene | 5.312 | 128 | 1053133 | 76.06 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.393 | 127 | 444919 | 76.37 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.263 | 161 | 449928 | 79.50 | ppm | | 97 |
| 41) Caprolactam | 5.766 | 55 | 220093 | 80.08 | ppm | | 97 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 209199 | 77.20 | ppm | | 96 |
| 43) 4-Chloro-3-methylphenol | 5.916 | 107 | 414464 | 76.63 | ppm | # | 63 |
| 44) 2-Methylnaphthalene | 5.980 | 141 | 615553 | 75.97 | ppm | | 100 |
| 45) 1-Methylnaphthalene | 6.071 | 141 | 688945 | 77.05 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.589 | 156 | 657645 | 75.59 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 6.146 | 237 | 389050 | 161.22 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.279 | 196 | 252562 | 76.82 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.333 | 196 | 278379 | 77.02 | ppm | | 97 |
| 52) 2-Chloronaphthalene | 6.445 | 162 | 700096 | 76.31 | ppm | | 99 |
| 53) Biphenyl | 6.440 | 154 | 912874 | 74.25 | ppm | | 100 |
| 54) 2-Nitroaniline | 6.573 | 65 | 291132 | 76.29 | ppm | | 96 |
| 55) Dimethylphthalate | 6.760 | 163 | 921965 | 76.89 | ppm | | 100 |
| 56) Acenaphthylene | 6.840 | 152 | 1122345 | 75.63 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.814 | 165 | 205442 | 76.50 | ppm | | 92 |
| 58) 3-Nitroaniline | 6.974 | 138 | 232631 | 78.91 | ppm | | 96 |
| 59) Acenaphthene | 7.011 | 153 | 717861 | 75.77 | ppm | | 97 |
| 60) 2,4-Dinitrophenol | 7.081 | 184 | 264175 | 166.69 | ppm | | 89 |
| 61) 4-Nitrophenol | 7.209 | 109 | 123516 | 77.61 | ppm | | 87 |
| 62) Dibenzofuran | 7.182 | 168 | 1085672 | 75.07 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.204 | 165 | 265201 | 76.79 | ppm | | 97 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.326 | 232 | 257723 | 78.13 | ppm | | 95 |
| 65) Diethylphthalate | 7.449 | 149 | 879400 | 77.13 | ppm | | 100 |
| 66) Fluorene | 7.513 | 166 | 874874 | 76.24 | ppm | | 96 |
| 67) 4-Chlorophenyl-phenyle... | 7.529 | 204 | 387004 | 76.56 | ppm | | 94 |
| 68) 4-Nitroaniline | 7.577 | 138 | 221535 | 78.03 | ppm | | 97 |
| 70) 4,6-Dinitro-2-methylph... | 7.604 | 198 | 181044 | 78.40 | ppm | | 86 |
| 71) n-Nitrosodiphenylamine | 7.652 | 169 | 633922 | 77.02 | ppm | | 100 |
| 72) 1,2-Diphenylhydrazine | 7.679 | 77 | 944736 | 75.10 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

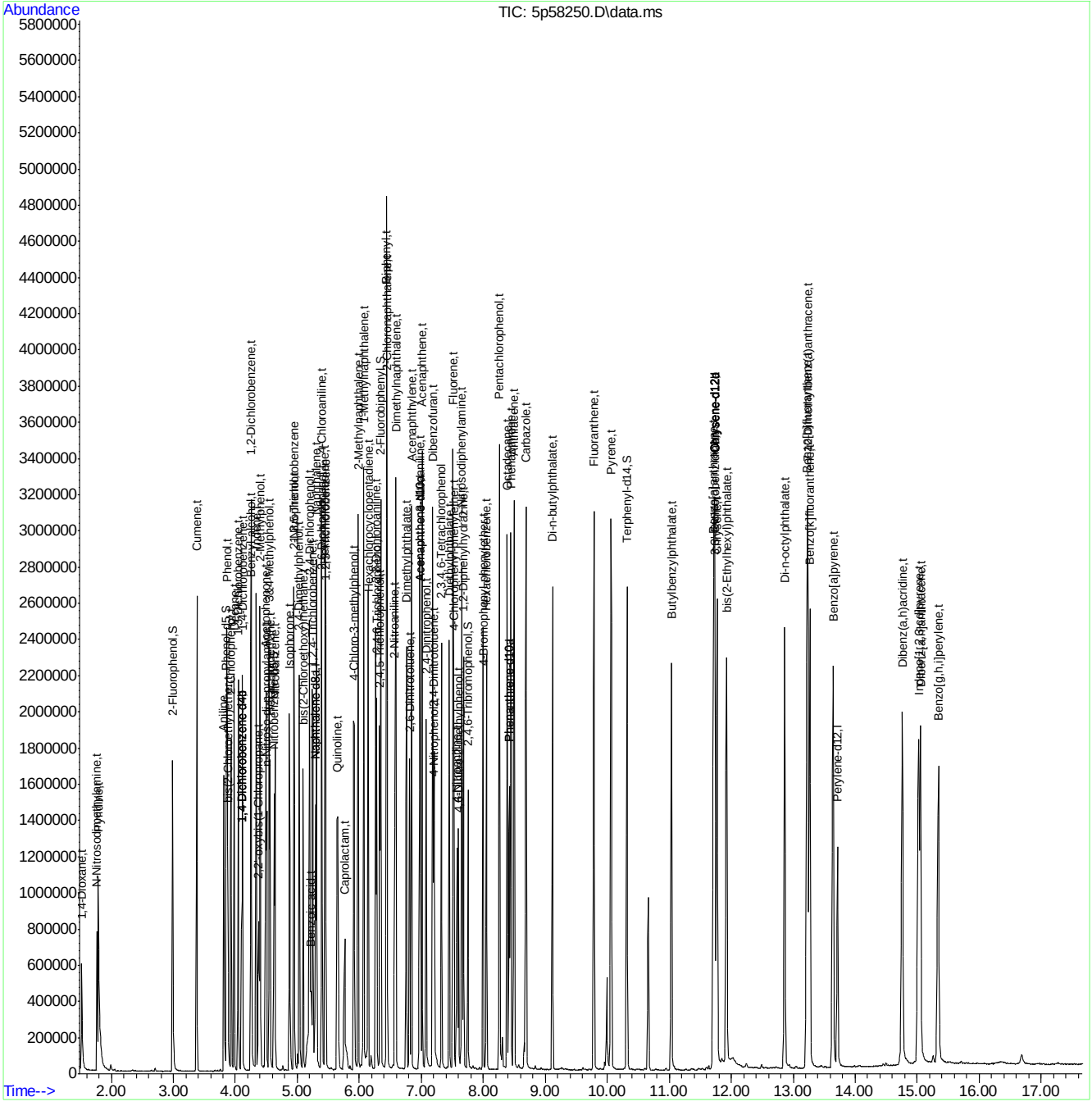
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 74) 4-Bromophenyl-phenylether | 8.000 | 248 | 284353 | 75.74 | ppm | 89 |
| 75) Hexachlorobenzene | 8.053 | 284 | 277340 | 77.06 | ppm | 95 |
| 76) Pentachlorophenol | 8.261 | 266 | 407157 | 159.70 | ppm | 99 |
| 77) Phenanthrene | 8.448 | 178 | 1172465 | 78.14 | ppm | 99 |
| 78) Anthracene | 8.496 | 178 | 1204983 | 76.29 | ppm | 99 |
| 79) Carbazole | 8.689 | 167 | 1254621 | 77.15 | ppm | 100 |
| 80) Di-n-butylphthalate | 9.116 | 149 | 1572389 | 76.48 | ppm | 99 |
| 81) Fluoranthene | 9.784 | 202 | 1482345 | 75.36 | ppm | 99 |
| 82) Octadecane | 8.384 | 57 | 573079 | 73.76 | ppm | 99 |
| 84) Pyrene | 10.062 | 202 | 1474167 | 80.06 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.039 | 149 | 726256 | 79.95 | ppm | 100 |
| 87) Benzo[a]anthracene | 11.718 | 228 | 1399274 | 79.08 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.739 | 252 | 480886 | 80.60 | ppm | 96 |
| 89) Chrysene | 11.771 | 228 | 1262080 | 79.97 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.926 | 149 | 953257 | 80.61 | ppm | 98 |
| 92) Di-n-octylphthalate | 12.861 | 149 | 1736794 | 78.10 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 13.230 | 252 | 1402945 | 76.88 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 13.272 | 252 | 1224144 | 75.76 | ppm | 99 |
| 95) Benzo[a]pyrene | 13.646 | 252 | 1299325 | 78.85 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 15.025 | 276 | 1175945m | 76.84 | ppm | |
| 97) Dibenz(a,h)acridine | 14.763 | 279 | 1124536 | 77.58 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 15.057 | 278 | 1179743 | 77.56 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 13.235 | 256 | 608377 | 77.27 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 15.345 | 276 | 1190488 | 75.93 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



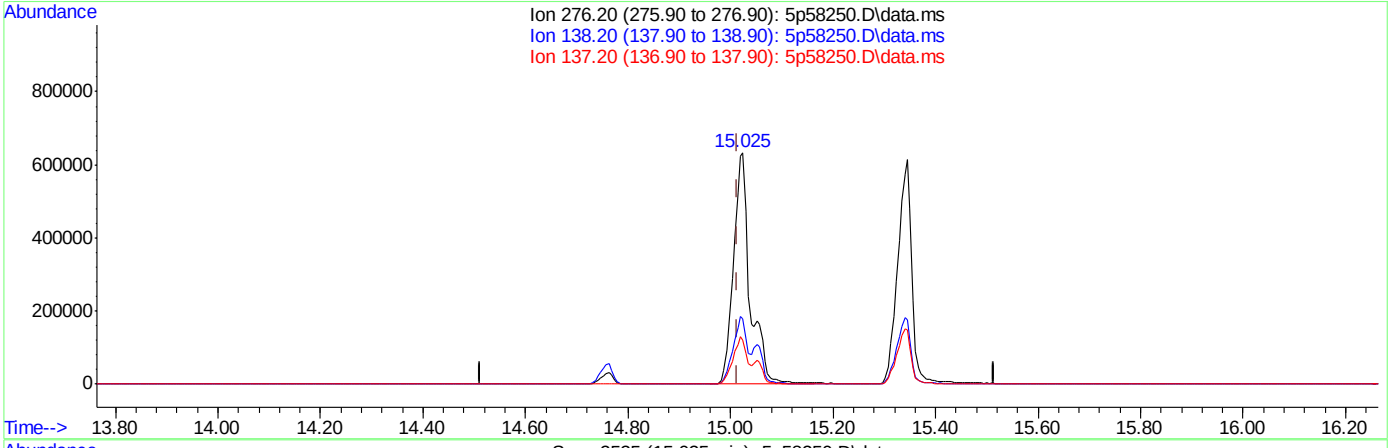
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2761-IC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P58250.D | **Analyst approved:** | 04/09/19 14:54 Ying Li |
| **Injection Time:** | 04/09/19 00:54 | **Supervisor approved:** | 04/10/19 09:40 Nina Pandya |

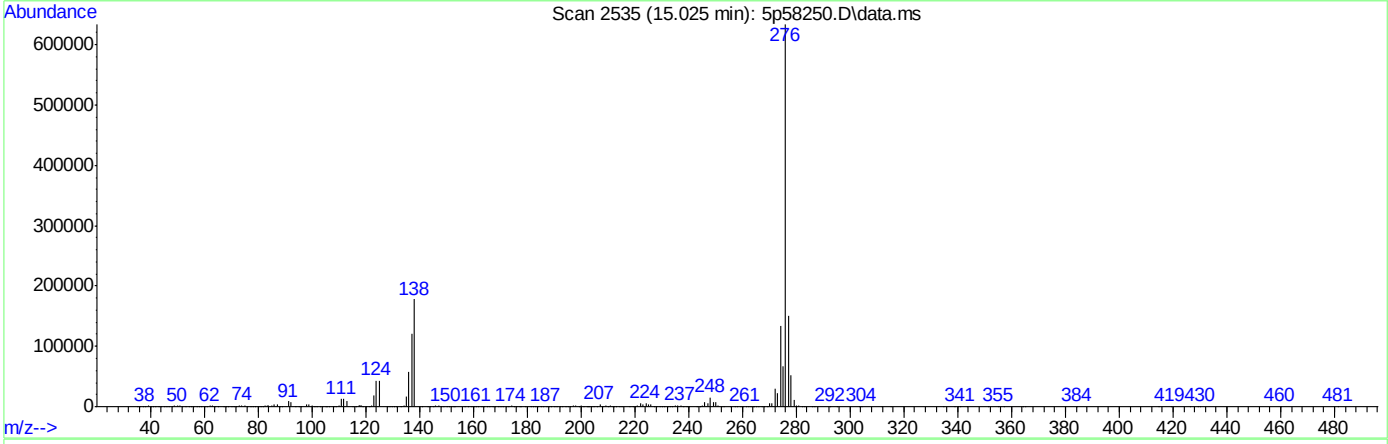
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 15.02 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:07:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58250.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.025min (+0.011) 94.02ppm

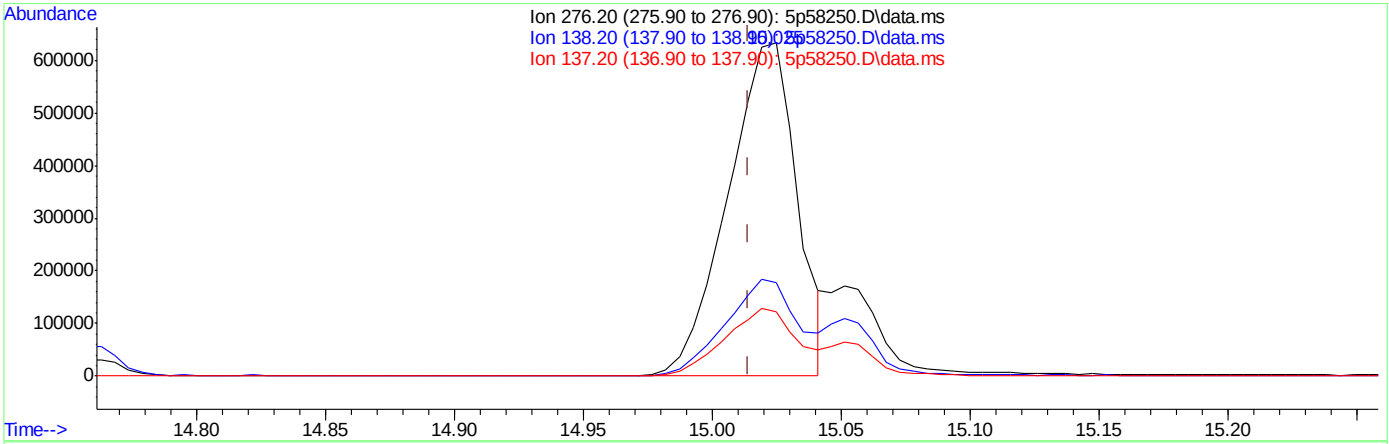
response 1438845

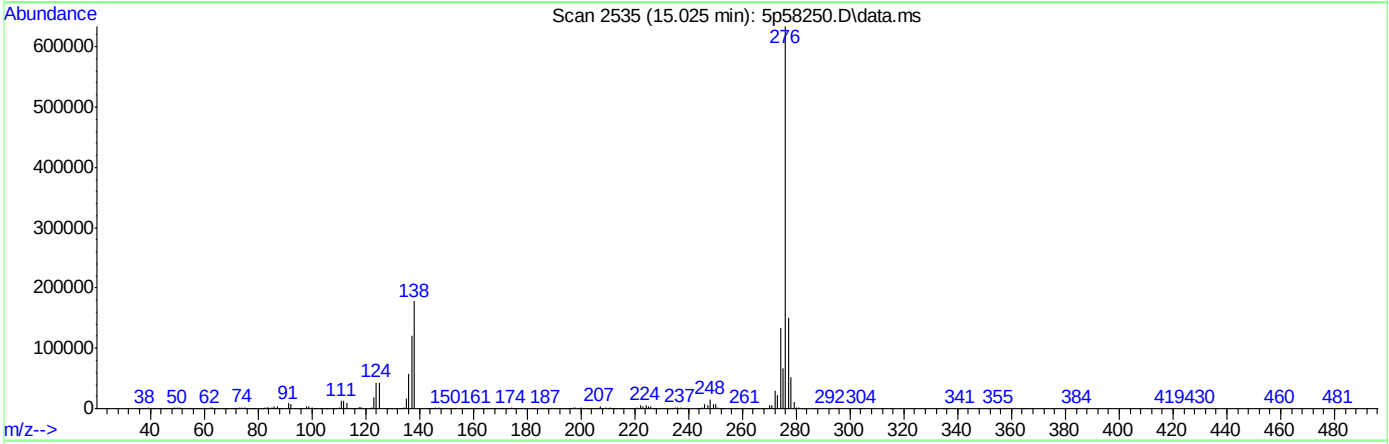
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 28.03 |
| 137.20 | 19.40 | 19.16 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58250.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.025min (+0.011) 76.84ppm m

response 1175945

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 28.13 |
| 137.20 | 19.40 | 19.21 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 150668 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.291 | 136 | 586035 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.979 | 164 | 345488 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 591468 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.728 | 240 | 540354 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.710 | 264 | 629464 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 150668 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.979 | 164 | 345488 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.728 | 240 | 540354 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 591468 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.291 | 136 | 586035 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.728 | 240 | 540526 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 150668 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.728 | 240 | 540354 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.728 | 240 | 540526 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.988 | 112 | 321216 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 8) Phenol-d5 | 3.849 | 99 | 387146 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 25) Nitrobenzene-d5 | 4.618 | 82 | 348985 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 51) 2-Fluorobiphenyl | 6.349 | 172 | 584134 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 73) 2,4,6-Tribromophenol | 7.748 | 330 | 95108 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 85) Terphenyl-d14 | 10.313 | 244 | 706948 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.525 | 88 | 166687 | 50.00 | ppm | 100 |
| 3) Pyridine | 1.792 | 79 | 408793 | 50.00 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 1.765 | 74 | 229402 | 50.00 | ppm | 100 |
| 6) Indene | 4.335 | 116 | 469026 | 50.00 | ppm | 100 |
| 7) Cumene | 3.378 | 105 | 754683 | 50.00 | ppm | 100 |
| 9) Phenol | 3.865 | 94 | 415412 | 50.00 | ppm | 100 |
| 10) Aniline | 3.811 | 93 | 409350 | 50.49 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 279454 | 50.00 | ppm | 100 |
| 12) 2-Chlorophenol | 3.929 | 128 | 278073 | 50.00 | ppm | 100 |
| 13) Decane | 3.982 | 43 | 232251 | 50.00 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 304946 | 50.00 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.116 | 146 | 294895 | 50.00 | ppm | 100 |
| 16) Benzyl alcohol | 4.255 | 108 | 182810 | 50.00 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 300574 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.484 | 105 | 414767 | 50.00 | ppm | 100 |
| 19) 2-Methylphenol | 4.394 | 108 | 261521 | 50.00 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 285662 | 50.00 | ppm | 100 |
| 21) 3&4-Methylphenol | 4.543 | 108 | 291150 | 50.00 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.500 | 70 | 215474 | 50.00 | ppm | 100 |
| 23) Hexachloroethane | 4.559 | 201 | 105330 | 50.00 | ppm | 100 |
| 26) Nitrobenzene | 4.639 | 77 | 332203 | 50.00 | ppm | 100 |
| 27) Quinoline | 5.638 | 129 | 578987 | 50.00 | ppm | 100 |
| 28) Isophorone | 4.869 | 82 | 620321 | 50.00 | ppm | 100 |
| 29) 2-Nitrophenol | 4.938 | 139 | 159616 | 50.00 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 5.029 | 107 | 296860 | 50.00 | ppm | 100 |
| 31) Benzoic acid | 5.200 | 105 | 271551m | 57.49 | ppm | |
| 32) bis(2-Chloroethoxy)met... | 5.093 | 93 | 369045 | 50.00 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.189 | 162 | 242957 | 50.00 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.393 | 162 | 228799 | 50.00 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 4.949 | 180 | 260046 | 50.00 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 247391 | 50.00 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 5.451 | 180 | 235559 | 50.00 | ppm | 100 |
| 38) Naphthalene | 5.307 | 128 | 745137 | 50.00 | ppm | 100 |
| 39) 4-Chloroaniline | 5.387 | 127 | 313505 | 50.00 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 6.263 | 161 | 304565 | 50.00 | ppm | 100 |
| 41) Caprolactam | 5.745 | 55 | 147898 | 50.00 | ppm | 100 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 145830 | 50.00 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 5.911 | 107 | 291057 | 50.00 | ppm | 100 |
| 44) 2-Methylnaphthalene | 5.980 | 141 | 436033 | 50.00 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.071 | 141 | 478033 | 49.67 | ppm | 100 |
| 46) Dimethylnaphthalene | 6.584 | 156 | 468203 | 50.00 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.140 | 237 | 255762 | 100.00 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 6.279 | 196 | 174223 | 50.00 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 6.327 | 196 | 191529 | 50.00 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.445 | 162 | 486194 | 50.00 | ppm | 100 |
| 53) Biphenyl | 6.434 | 154 | 651510 | 50.00 | ppm | 100 |
| 54) 2-Nitroaniline | 6.568 | 65 | 202221 | 50.00 | ppm | 100 |
| 55) Dimethylphthalate | 6.755 | 163 | 635443 | 50.00 | ppm | 100 |
| 56) Acenaphthylene | 6.840 | 152 | 786386 | 50.00 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 6.808 | 165 | 142307 | 50.00 | ppm | 100 |
| 58) 3-Nitroaniline | 6.968 | 138 | 156232 | 50.00 | ppm | 100 |
| 59) Acenaphthene | 7.011 | 153 | 502046 | 50.00 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 7.075 | 184 | 167973 | 100.00 | ppm | 100 |
| 61) 4-Nitrophenol | 7.209 | 109 | 84343 | 50.00 | ppm | 100 |
| 62) Dibenzofuran | 7.182 | 168 | 766376 | 50.00 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 7.198 | 165 | 183009 | 50.00 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.321 | 232 | 174806 | 50.00 | ppm | 100 |
| 65) Diethylphthalate | 7.444 | 149 | 604204 | 50.00 | ppm | 100 |
| 66) Fluorene | 7.508 | 166 | 608120 | 50.00 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.524 | 204 | 267882 | 50.00 | ppm | 100 |
| 68) 4-Nitroaniline | 7.567 | 138 | 150452 | 50.00 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 7.593 | 198 | 122370 | 50.00 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 7.647 | 169 | 436198 | 50.00 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 7.679 | 77 | 666687 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

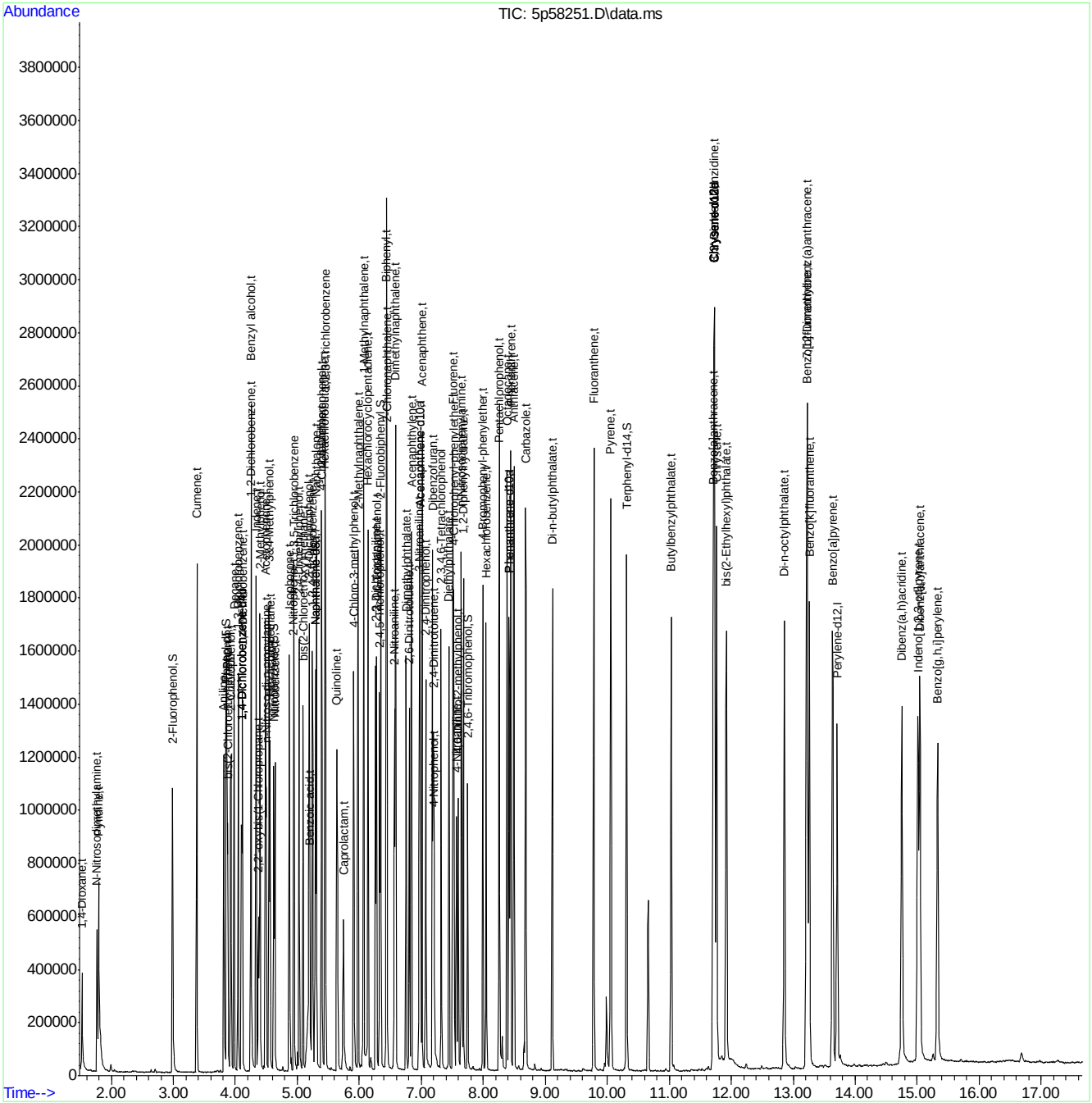
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 74) | 4-Bromophenyl-phenylether | 7.994 | 248 | 198958 | 50.00 | ppm | 100 |
| 75) | Hexachlorobenzene | 8.048 | 284 | 190727 | 50.00 | ppm | 100 |
| 76) | Pentachlorophenol | 8.261 | 266 | 270222 | 100.00 | ppm | 100 |
| 77) | Phenanthrene | 8.443 | 178 | 795179 | 50.00 | ppm | 100 |
| 78) | Anthracene | 8.496 | 178 | 837009 | 50.00 | ppm | 100 |
| 79) | Carbazole | 8.683 | 167 | 861794 | 50.00 | ppm | 100 |
| 80) | Di-n-butylphthalate | 9.116 | 149 | 1089592 | 50.00 | ppm | 100 |
| 81) | Fluoranthene | 9.784 | 202 | 1042344 | 50.00 | ppm | 100 |
| 82) | Octadecane | 8.384 | 57 | 411720 | 50.00 | ppm | 100 |
| 84) | Pyrene | 10.056 | 202 | 1023003 | 50.00 | ppm | 100 |
| 86) | Butylbenzylphthalate | 11.034 | 149 | 504676 | 50.00 | ppm | 100 |
| 87) | Benzo[a]anthracene | 11.712 | 228 | 983042 | 50.00 | ppm | 100 |
| 88) | 3,3'-Dichlorobenzidine | 11.728 | 252 | 331486 | 50.00 | ppm | 100 |
| 89) | Chrysene | 11.766 | 228 | 876782 | 50.00 | ppm | 100 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.921 | 149 | 657054 | 50.00 | ppm | 100 |
| 92) | Di-n-octylphthalate | 12.856 | 149 | 1191287 | 50.00 | ppm | 100 |
| 93) | Benzo[b]fluoranthene | 13.219 | 252 | 977576 | 50.00 | ppm | 100 |
| 94) | Benzo[k]fluoranthene | 13.262 | 252 | 865672 | 50.00 | ppm | 100 |
| 95) | Benzo[a]pyrene | 13.636 | 252 | 882830 | 50.00 | ppm | 100 |
| 96) | Indeno[1,2,3-cd]pyrene | 15.014 | 276 | 819841m | 50.00 | ppm | |
| 97) | Dibenz(a,h)acridine | 14.757 | 279 | 776543 | 50.00 | ppm | 100 |
| 98) | Dibenz[a,h]anthracene | 15.046 | 278 | 814832 | 50.00 | ppm | 100 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.224 | 256 | 421806 | 50.00 | ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 15.334 | 276 | 810930 | 48.27 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



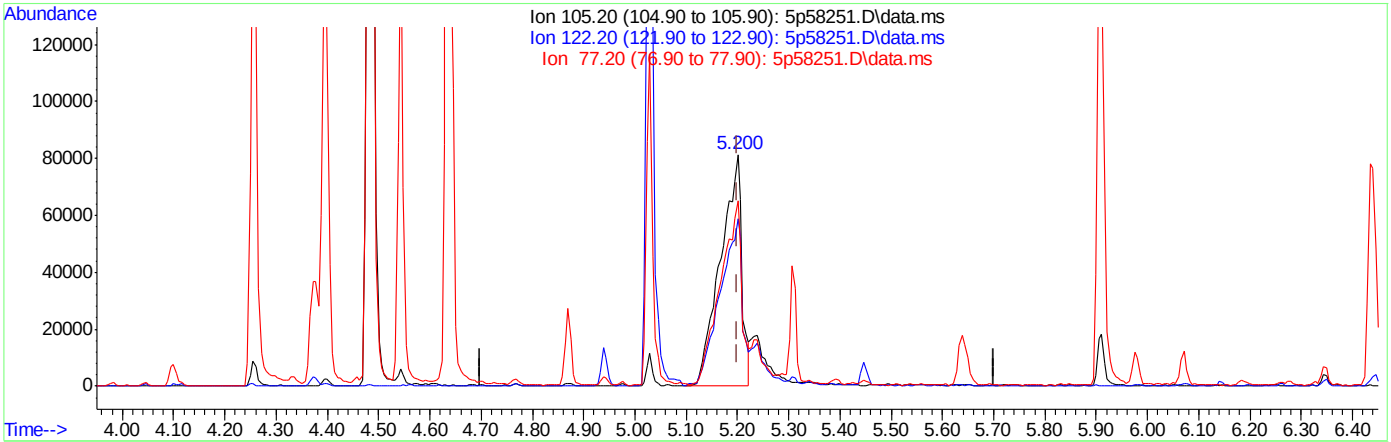
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2761-ICC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P58251.D | **Analyst approved:** | 04/09/19 14:54 Ying Li |
| **Injection Time:** | 04/09/19 01:20 | **Supervisor approved:** | 04/10/19 09:40 Nina Pandya |

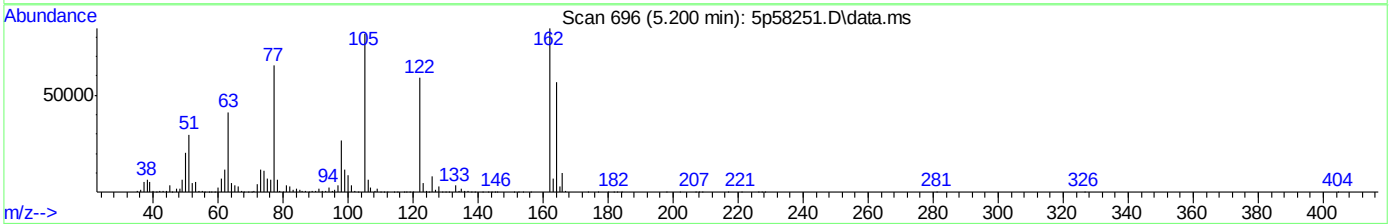
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 5.20 | Split peak |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 15.01 | Overlapping peak |

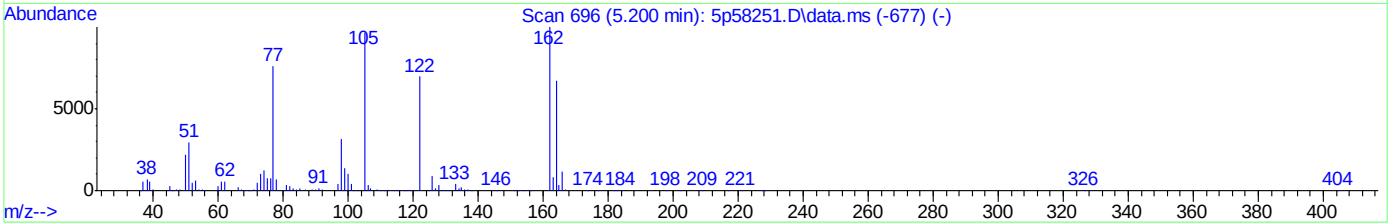
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 12:58:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58251.D\data.ms

(31) Benzoic acid (t)

5.200min (0.000) 50.00ppm

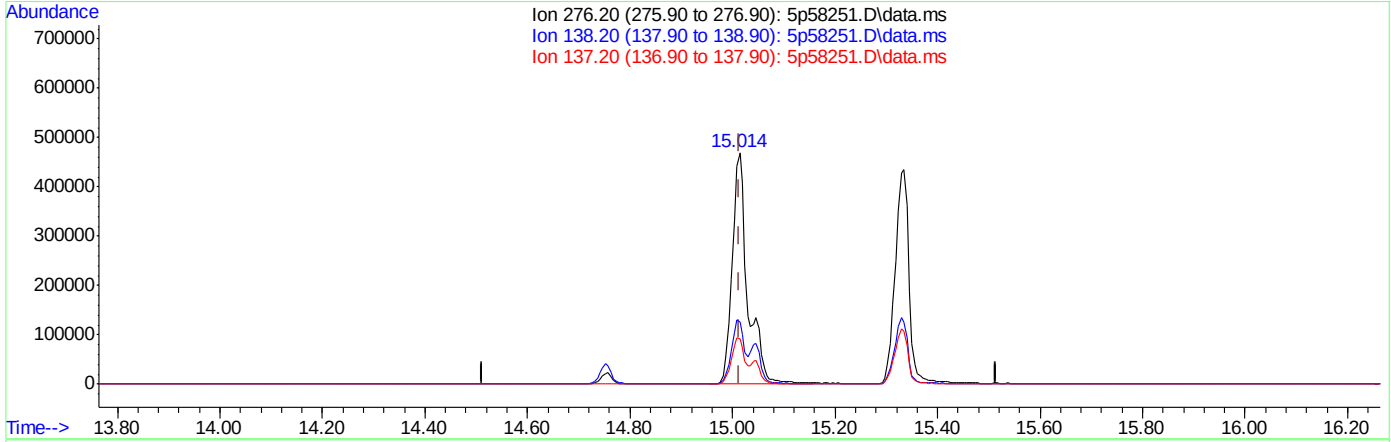
response 236188

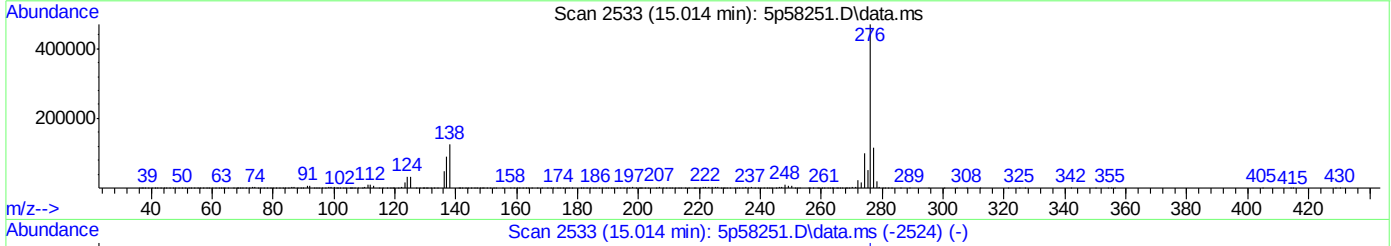
| Ion | Exp% | Act% |
|---|---|---|
| 105.20 | 100 | 100 |
| 122.20 | 72.10 | 72.06 |
| 77.20 | 79.20 | 79.16 |
| 0.00 | 0.00 | 0.00 |

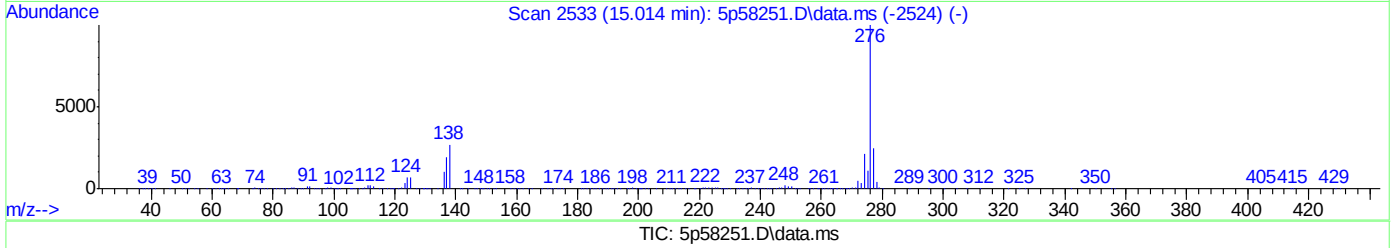
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 12:58:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58251.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.014min (0.000) 60.94ppm

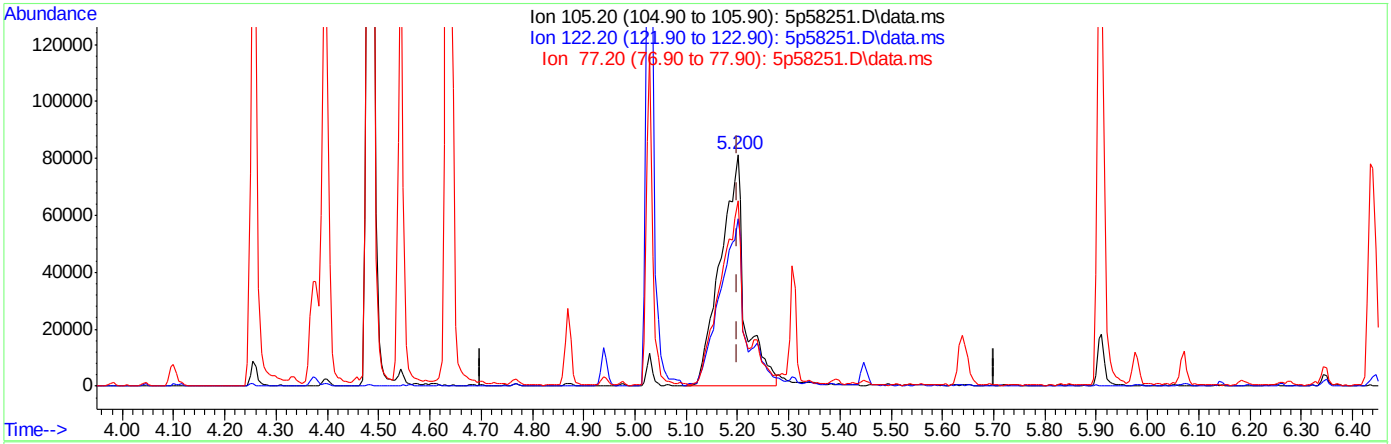
response 999242

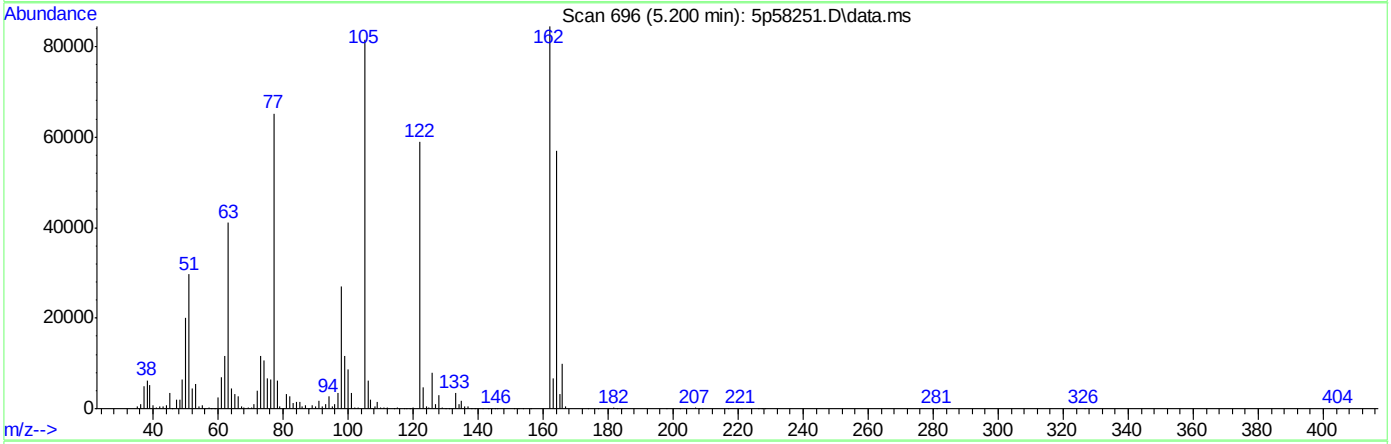
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 26.84 |
| 137.20 | 19.40 | 19.37 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58251.D\data.ms

(31) Benzoic acid (t)

5.200min (0.000) 57.49ppm m

response 271551

| Ion | Exp% | Act% |
|---|---|---|
| 105.20 | 100 | 100 |
| 122.20 | 72.10 | 72.38 |
| 77.20 | 79.20 | 80.19 |
| 0.00 | 0.00 | 0.00 |

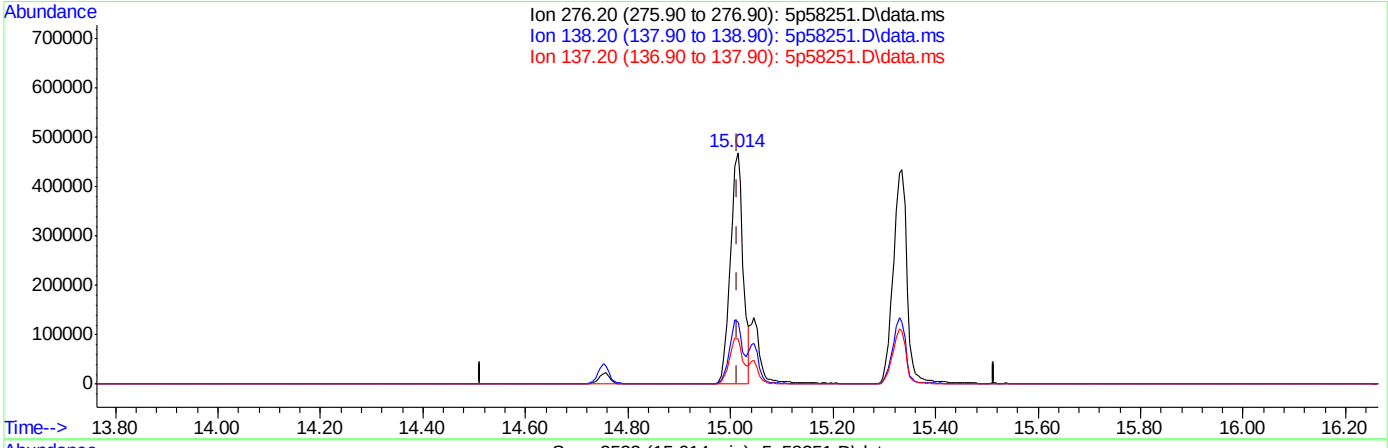
9.8.45.4

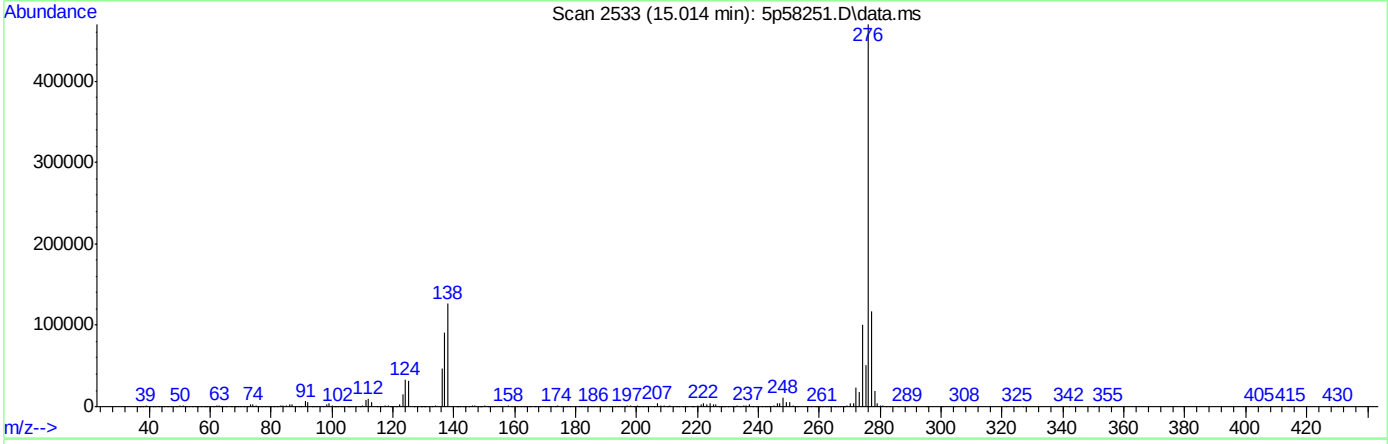
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58251.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.014min (0.000) 50.00ppm m

response 819841

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 26.93 |
| 137.20 | 19.40 | 19.42 |
| 0.00 | 0.00 | 0.00 |



5P58251.D edits: Indeno[1,2,3-cd]pyrene

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58252.D
Acq On : 9 Apr 2019 1:45 am
Operator : chriss2
Sample : ic2761-25
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 162762 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 614580 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 361742 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 618140 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.723 | 240 | 575360 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.711 | 264 | 645225 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 162762 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 361742 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.723 | 240 | 575360 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 618140 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 614580 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.723 | 240 | 575335 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 162762 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.723 | 240 | 575360 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.723 | 240 | 575335 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.983 | 112 | 167392 | 24.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.24% | | | |
| 8) Phenol-d5 | 3.849 | 99 | 203958 | 24.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.76% | | | |
| 25) Nitrobenzene-d5 | 4.618 | 82 | 186327 | 25.46 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.92% | | | |
| 51) 2-Fluorobiphenyl | 6.344 | 172 | 316600 | 25.88 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 51.76% | | | |
| 73) 2,4,6-Tribromophenol | 7.749 | 330 | 47692 | 23.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 47.98% | | | |
| 85) Terphenyl-d14 | 10.313 | 244 | 365047 | 24.25 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.50% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.525 | 88 | 86753 | 24.09 | ppm | 96 |
| 3) Pyridine | 1.792 | 79 | 218790 | 24.77 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 1.771 | 74 | 123927 | 25.00 | ppm | 97 |
| 6) Indene | 4.335 | 116 | 251536 | 24.82 | ppm | 95 |
| 7) Cumene | 3.379 | 105 | 407463 | 24.99 | ppm | 99 |
| 9) Phenol | 3.859 | 94 | 224717 | 25.04 | ppm | 97 |
| 10) Aniline | 3.811 | 93 | 232758 | 26.58 | ppm | 75 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 152411 | 25.24 | ppm | 94 |
| 12) 2-Chlorophenol | 3.924 | 128 | 150368 | 25.03 | ppm | 91 |
| 13) Decane | 3.982 | 43 | 129570 | 25.82 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 166041 | 25.20 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.111 | 146 | 161172 | 25.30 | ppm | 96 |
| 16) Benzyl alcohol | 4.255 | 108 | 95896 | 24.28 | ppm | 93 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 159588 | 24.57 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58252.D
Acq On : 9 Apr 2019 1:45 am
Operator : chriss2
Sample : ic2761-25
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.479 | 105 | 221248 | 24.69 | ppm | 94 |
| 19) 2-Methylphenol | 4.394 | 108 | 146539 | 25.93 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 155160 | 25.14 | ppm | 99 |
| 21) 3&4-Methylphenol | 4.538 | 108 | 153156 | 24.35 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.495 | 70 | 119149 | 25.59 | ppm | 99 |
| 23) Hexachloroethane | 4.559 | 201 | 58342 | 25.64 | ppm | 96 |
| 26) Nitrobenzene | 4.634 | 77 | 182409 | 26.18 | ppm | 95 |
| 27) Quinoline | 5.633 | 129 | 300066 | 24.71 | ppm | 99 |
| 28) Isophorone | 4.864 | 82 | 336361 | 25.85 | ppm | 99 |
| 29) 2-Nitrophenol | 4.939 | 139 | 84773 | 25.32 | ppm | 96 |
| 30) 2,4-Dimethylphenol | 5.024 | 107 | 149823 | 24.06 | ppm | 97 |
| 31) Benzoic acid | 5.174 | 105 | 140641 | 28.39 | ppm | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.088 | 93 | 194789 | 25.17 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.190 | 162 | 127275 | 24.98 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.393 | 162 | 121941 | 25.41 | ppm | 98 |
| 35) 1,3,5-Trichlorobenzene | 4.944 | 180 | 140677 | 25.79 | ppm | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 132572 | 25.55 | ppm | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.451 | 180 | 126183 | 25.54 | ppm | 99 |
| 38) Naphthalene | 5.307 | 128 | 394919 | 25.27 | ppm | 99 |
| 39) 4-Chloroaniline | 5.387 | 127 | 169373 | 25.76 | ppm | 98 |
| 40) 2,3-Dichloroaniline | 6.258 | 161 | 161477 | 25.28 | ppm | 98 |
| 41) Caprolactam | 5.724 | 55 | 75274 | 24.27 | ppm | 94 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 77469 | 25.33 | ppm | 97 |
| 43) 4-Chloro-3-methylphenol | 5.900 | 107 | 151629 | 24.84 | ppm | 91 |
| 44) 2-Methylnaphthalene | 5.975 | 141 | 235427 | 25.74 | ppm | 98 |
| 45) 1-Methylnaphthalene | 6.066 | 141 | 257631 | 25.53 | ppm | 98 |
| 46) Dimethylnaphthalene | 6.584 | 156 | 250961 | 25.56 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.141 | 237 | 119336 | 44.56 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.274 | 196 | 90873 | 24.91 | ppm | 97 |
| 50) 2,4,5-Trichlorophenol | 6.322 | 196 | 95782 | 23.88 | ppm | 99 |
| 52) 2-Chloronaphthalene | 6.440 | 162 | 264524 | 25.98 | ppm | 98 |
| 53) Biphenyl | 6.434 | 154 | 346845 | 25.42 | ppm | 99 |
| 54) 2-Nitroaniline | 6.563 | 65 | 106040 | 25.04 | ppm | 92 |
| 55) Dimethylphthalate | 6.755 | 163 | 322883 | 24.26 | ppm | 99 |
| 56) Acenaphthylene | 6.835 | 152 | 432603 | 26.27 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.803 | 165 | 72710 | 24.40 | ppm | 98 |
| 58) 3-Nitroaniline | 6.963 | 138 | 81805 | 25.00 | ppm | 95 |
| 59) Acenaphthene | 7.006 | 153 | 263479 | 25.06 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 7.070 | 184 | 78448 | 44.60 | ppm | 91 |
| 61) 4-Nitrophenol | 7.204 | 109 | 44960 | 25.46 | ppm | 92 |
| 62) Dibenzofuran | 7.177 | 168 | 398625 | 24.84 | ppm | 98 |
| 63) 2,4-Dinitrotoluene | 7.193 | 165 | 98382 | 25.67 | ppm | 99 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.321 | 232 | 88663 | 24.22 | ppm | 97 |
| 65) Diethylphthalate | 7.444 | 149 | 320851 | 25.36 | ppm | 99 |
| 66) Fluorene | 7.508 | 166 | 316270 | 24.84 | ppm | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.524 | 204 | 143741 | 25.62 | ppm | 96 |
| 68) 4-Nitroaniline | 7.556 | 138 | 76729 | 24.35 | ppm | 95 |
| 70) 4,6-Dinitro-2-methylph... | 7.588 | 198 | 59498 | 23.26 | ppm | 84 |
| 71) n-Nitrosodiphenylamine | 7.647 | 169 | 228851 | 25.10 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 7.674 | 77 | 369095 | 26.49 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58252.D
Acq On : 9 Apr 2019 1:45 am
Operator : chriss2
Sample : ic2761-25
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

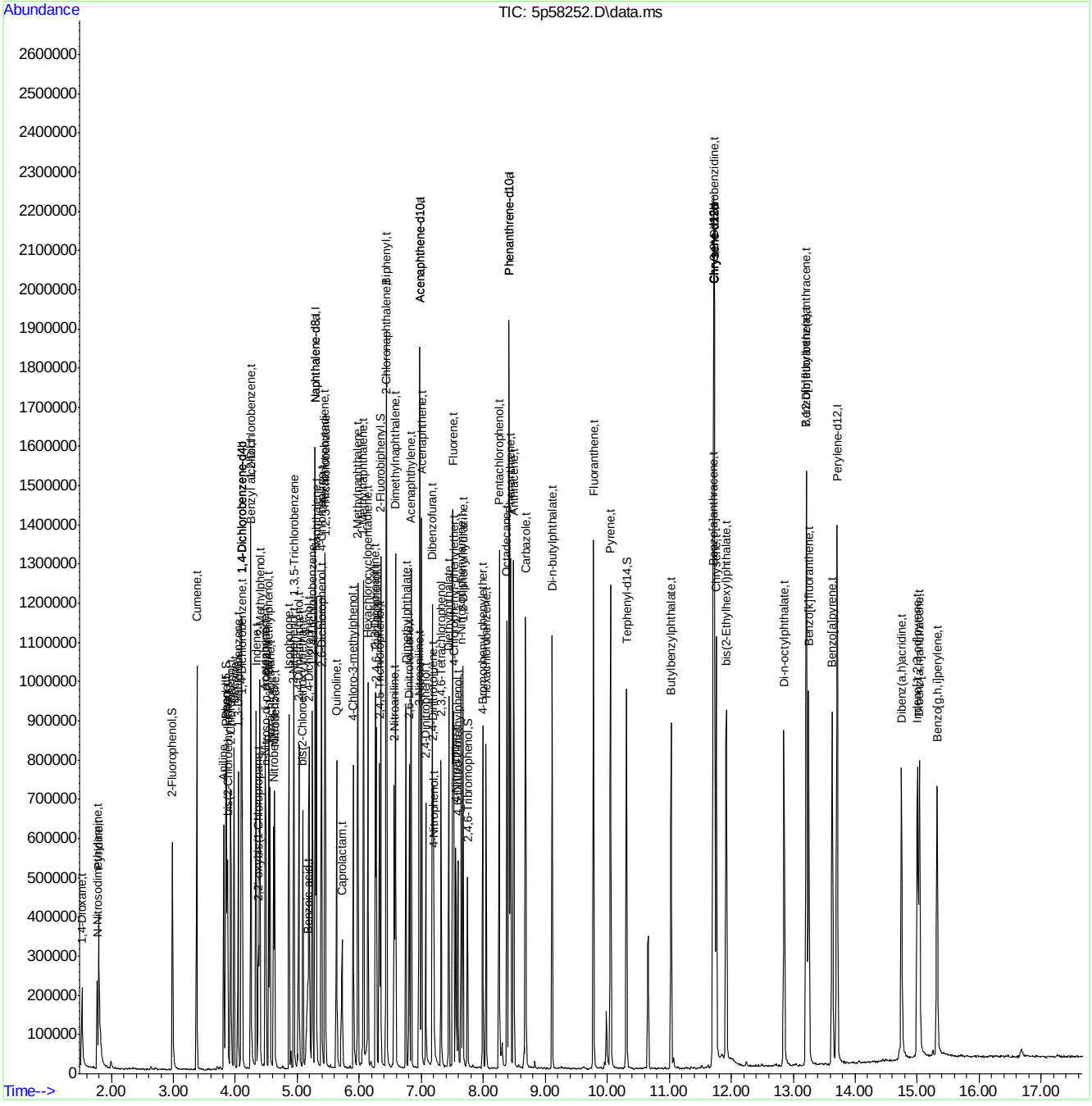
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 74) | 4-Bromophenyl-phenylether | 7.994 | 248 | 100511 | 24.17 | ppm | 98 |
| 75) | Hexachlorobenzene | 8.048 | 284 | 97643 | 24.49 | ppm | 96 |
| 76) | Pentachlorophenol | 8.256 | 266 | 133332 | 47.21 | ppm | 99 |
| 77) | Phenanthrene | 8.438 | 178 | 420079 | 25.27 | ppm | 99 |
| 78) | Anthracene | 8.491 | 178 | 442497 | 25.29 | ppm | 100 |
| 79) | Carbazole | 8.683 | 167 | 456602 | 25.35 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.111 | 149 | 577669 | 25.36 | ppm | 100 |
| 81) | Fluoranthene | 9.779 | 202 | 540800 | 24.82 | ppm | 99 |
| 82) | Octadecane | 8.379 | 57 | 225425 | 26.19 | ppm | 96 |
| 84) | Pyrene | 10.056 | 202 | 559492 | 25.68 | ppm | 98 |
| 86) | Butylbenzylphthalate | 11.034 | 149 | 261667 | 24.35 | ppm | 97 |
| 87) | Benzo[a]anthracene | 11.707 | 228 | 505558 | 24.15 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.729 | 252 | 176991 | 25.07 | ppm | 98 |
| 89) | Chrysene | 11.761 | 228 | 458990 | 24.58 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.921 | 149 | 345778 | 24.71 | ppm | 98 |
| 92) | Di-n-octylphthalate | 12.856 | 149 | 622042 | 25.47 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 13.214 | 252 | 504032 | 25.15 | ppm | 97 |
| 94) | Benzo[k]fluoranthene | 13.251 | 252 | 439254 | 24.75 | ppm | 98 |
| 95) | Benzo[a]pyrene | 13.630 | 252 | 450181 | 24.87 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 15.003 | 276 | 406114m | 24.16 | ppm | |
| 97) | Dibenz(a,h)acridine | 14.747 | 279 | 391619 | 24.60 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 15.035 | 278 | 422129 | 25.27 | ppm | 99 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.214 | 256 | 210597 | 24.35 | ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 15.324 | 276 | 411087 | 23.87 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58252.D
Acq On : 9 Apr 2019 1:45 am
Operator : chriss2
Sample : ic2761-25
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



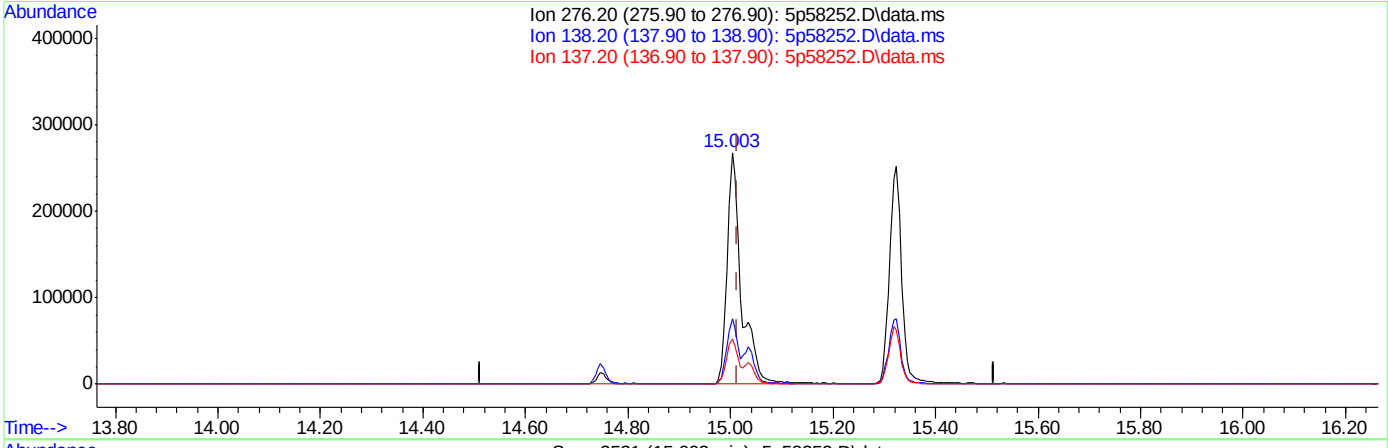
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2761-IC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P58252.D | **Analyst approved:** | 04/09/19 14:54 Ying Li |
| **Injection Time:** | 04/09/19 01:45 | **Supervisor approved:** | 04/10/19 09:40 Nina Pandya |

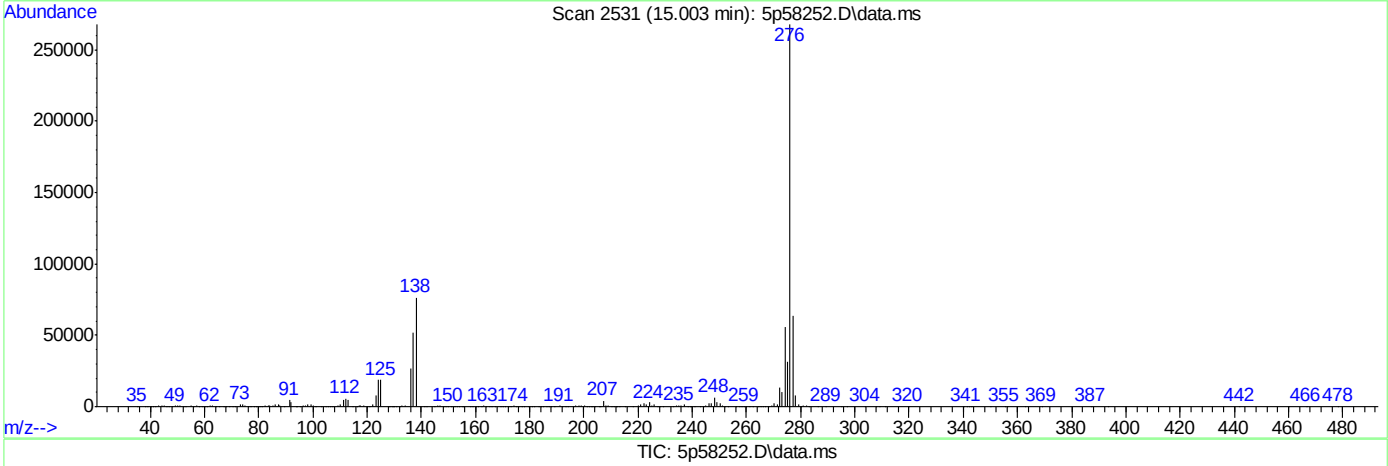
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 15.00 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58252.D
Acq On : 9 Apr 2019 1:45 am
Operator : chriss2
Sample : ic2761-25
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:10:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58252.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.003min (-0.011) 30.55ppm

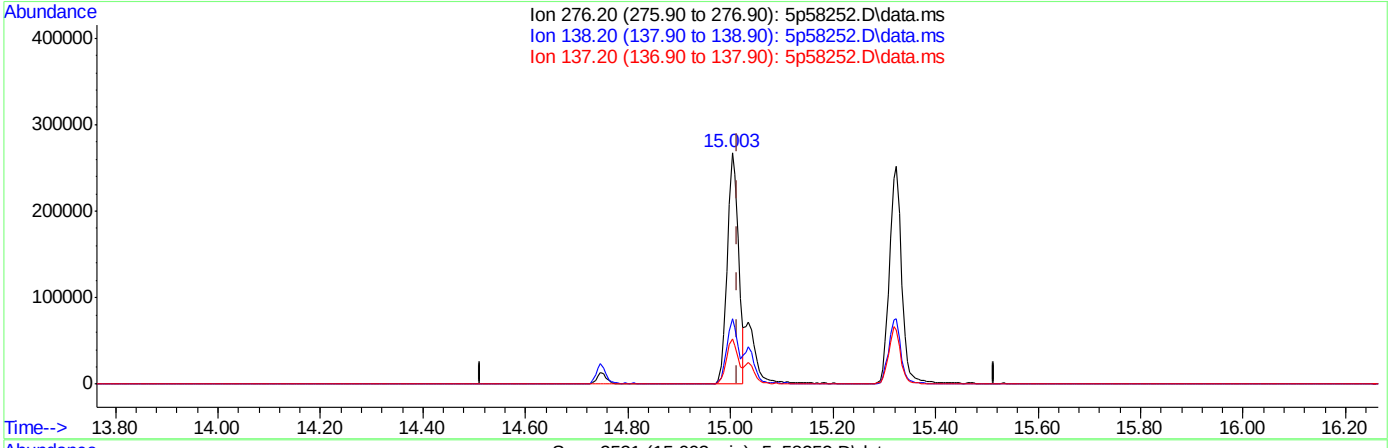
response 513405

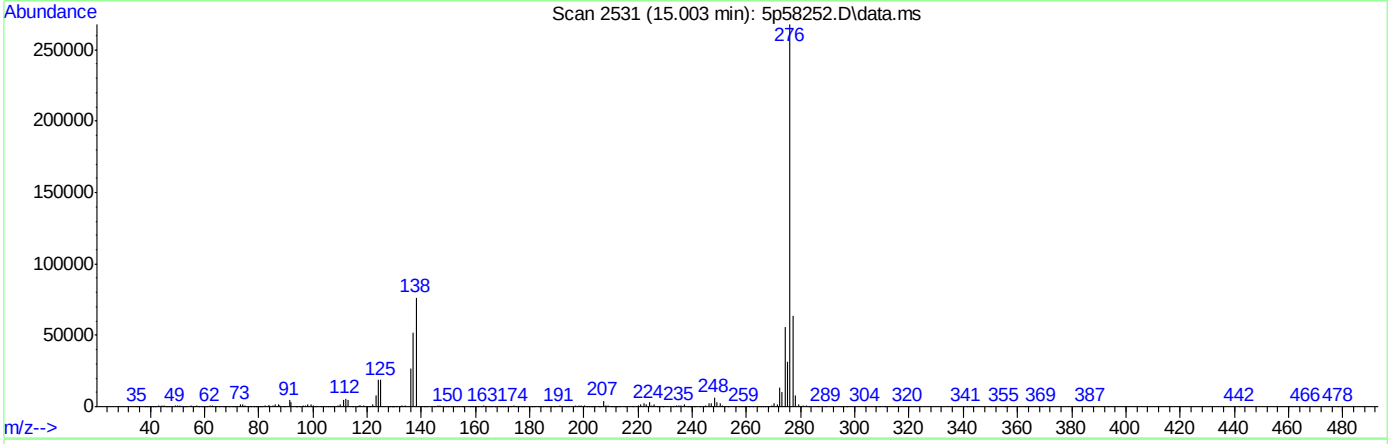
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 28.37 |
| 137.20 | 19.40 | 19.54 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58252.D
Acq On : 9 Apr 2019 1:45 am
Operator : chriss2
Sample : ic2761-25
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58252.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.003min (-0.011) 24.16ppm m

response 406114

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 28.46 |
| 137.20 | 19.40 | 19.51 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 178941 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 681647 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 395841 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 663427 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.723 | 240 | 617875 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.710 | 264 | 665959 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 178941 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 395841 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.723 | 240 | 617875 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 663427 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 681647 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.723 | 240 | 617795 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 178941 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.723 | 240 | 617875 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.723 | 240 | 617795 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.988 | 112 | 69748 | 9.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 18.28% | | | |
| 8) Phenol-d5 | 3.849 | 99 | 89902 | 9.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 19.56% | | | |
| 25) Nitrobenzene-d5 | 4.613 | 82 | 81438 | 10.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 20.06% | | | |
| 51) 2-Fluorobiphenyl | 6.343 | 172 | 144460 | 10.79 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 21.58% | | | |
| 73) 2,4,6-Tribromophenol | 7.743 | 330 | 19680 | 9.22 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 18.44% | | | |
| 85) Terphenyl-d14 | 10.307 | 244 | 158306 | 9.79 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 19.58% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.525 | 88 | 37750 | 9.53 | ppm | 98 |
| 3) Pyridine | 1.803 | 79 | 95200 | 9.80 | ppm | 90 |
| 4) N-Nitrosodimethylamine | 1.770 | 74 | 48907 | 8.98 | ppm | 98 |
| 6) Indene | 4.335 | 116 | 112344 | 10.08 | ppm | 96 |
| 7) Cumene | 3.378 | 105 | 179214 | 10.00 | ppm | 97 |
| 9) Phenol | 3.859 | 94 | 100567 | 10.19 | ppm | 96 |
| 10) Aniline | 3.806 | 93 | 108933 | 11.31 | ppm | 76 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 69403 | 10.46 | ppm | 91 |
| 12) 2-Chlorophenol | 3.923 | 128 | 67410 | 10.21 | ppm | 94 |
| 13) Decane | 3.977 | 43 | 61247 | 11.10 | ppm | 91 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 75639 | 10.44 | ppm | 93 |
| 15) 1,4-Dichlorobenzene | 4.110 | 146 | 70997 | 10.14 | ppm | 99 |
| 16) Benzyl alcohol | 4.249 | 108 | 42012 | 9.68 | ppm | 85 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 71202 | 9.97 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.479 | 105 | 98295 | 9.98 | ppm | | 97 |
| 19) 2-Methylphenol | 4.388 | 108 | 62974 | 10.14 | ppm | | 96 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 69835 | 10.29 | ppm | | 97 |
| 21) 3&4-Methylphenol | 4.538 | 108 | 67084 | 9.70 | ppm | | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.490 | 70 | 53706 | 10.49 | ppm | | 95 |
| 23) Hexachloroethane | 4.559 | 201 | 25605 | 10.23 | ppm | | 98 |
| 26) Nitrobenzene | 4.634 | 77 | 78967 | 10.22 | ppm | | 99 |
| 27) Quinoline | 5.628 | 129 | 129214 | 9.59 | ppm | | 99 |
| 28) Isophorone | 4.864 | 82 | 149819 | 10.38 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.938 | 139 | 36943 | 9.95 | ppm | | 88 |
| 30) 2,4-Dimethylphenol | 5.024 | 107 | 59653 | 8.64 | ppm | | 95 |
| 31) Benzoic acid | 5.147 | 105 | 53728 | 9.78 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.088 | 93 | 88174 | 10.27 | ppm | | 97 |
| 33) 2,4-Dichlorophenol | 5.189 | 162 | 55952 | 9.90 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.392 | 162 | 53315 | 10.02 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 4.944 | 180 | 61876 | 10.23 | ppm | | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 60314 | 10.48 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 5.451 | 180 | 58370 | 10.65 | ppm | | 98 |
| 38) Naphthalene | 5.307 | 128 | 177157 | 10.22 | ppm | | 98 |
| 39) 4-Chloroaniline | 5.382 | 127 | 75941 | 10.41 | ppm | | 96 |
| 40) 2,3-Dichloroaniline | 6.258 | 161 | 71065 | 10.03 | ppm | | 96 |
| 41) Caprolactam | 5.702 | 55 | 32719 | 9.51 | ppm | | 96 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 34790 | 10.26 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.900 | 107 | 66101 | 9.76 | ppm | # | 32 |
| 44) 2-Methylnaphthalene | 5.975 | 141 | 105036 | 10.36 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 6.066 | 141 | 117043 | 10.46 | ppm | | 97 |
| 46) Dimethylnaphthalene | 6.584 | 156 | 113609 | 10.43 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.140 | 237 | 43147 | 14.72 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.274 | 196 | 40286 | 10.09 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.317 | 196 | 41847 | 9.53 | ppm | | 96 |
| 52) 2-Chloronaphthalene | 6.440 | 162 | 122294 | 10.98 | ppm | | 99 |
| 53) Biphenyl | 6.434 | 154 | 152749 | 10.23 | ppm | | 98 |
| 54) 2-Nitroaniline | 6.562 | 65 | 45489 | 9.82 | ppm | | 98 |
| 55) Dimethylphthalate | 6.749 | 163 | 143992 | 9.89 | ppm | | 98 |
| 56) Acenaphthylene | 6.835 | 152 | 191682 | 10.64 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.803 | 165 | 32078 | 9.84 | ppm | | 95 |
| 58) 3-Nitroaniline | 6.963 | 138 | 35294 | 9.86 | ppm | | 90 |
| 59) Acenaphthene | 7.006 | 153 | 116343 | 10.11 | ppm | | 95 |
| 60) 2,4-Dinitrophenol | 7.070 | 184 | 21881 | 11.37 | ppm | | 93 |
| 61) 4-Nitrophenol | 7.198 | 109 | 17791 | 9.21 | ppm | # | 77 |
| 62) Dibenzofuran | 7.177 | 168 | 176450 | 10.05 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.193 | 165 | 42253 | 10.08 | ppm | | 98 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.321 | 232 | 37217 | 9.29 | ppm | | 95 |
| 65) Diethylphthalate | 7.439 | 149 | 139162 | 10.05 | ppm | | 98 |
| 66) Fluorene | 7.508 | 166 | 141606 | 10.16 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.524 | 204 | 66415 | 10.82 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.551 | 138 | 31974 | 9.27 | ppm | | 97 |
| 70) 4,6-Dinitro-2-methylph... | 7.588 | 198 | 22985 | 8.37 | ppm | | 88 |
| 71) n-Nitrosodiphenylamine | 7.642 | 169 | 100620 | 10.28 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 7.674 | 77 | 165750 | 11.08 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

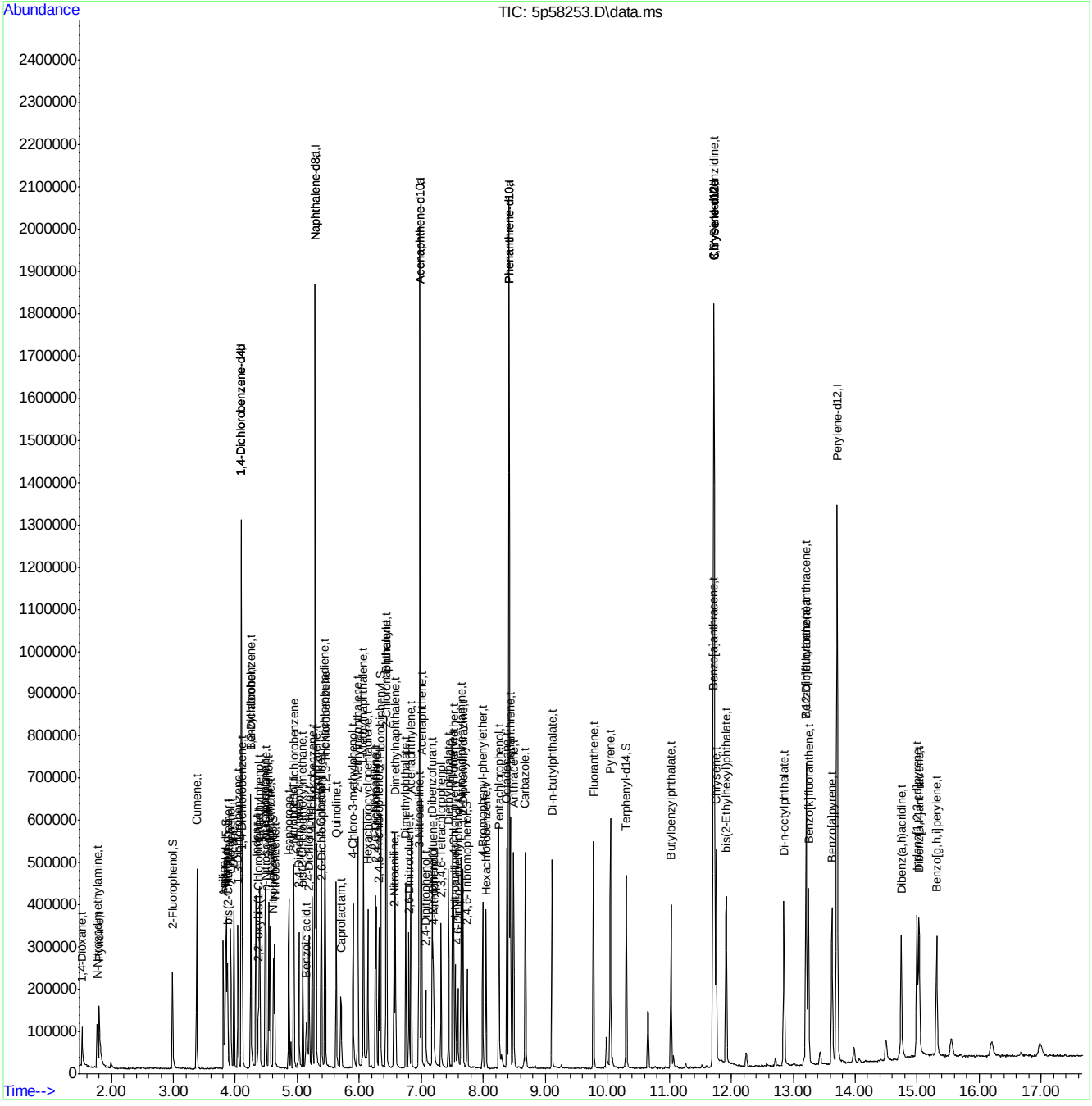
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 74) 4-Bromophenyl-phenylether | 7.989 | 248 | 43453 | 9.74 | ppm | 91 |
| 75) Hexachlorobenzene | 8.048 | 284 | 42387 | 9.91 | ppm | 91 |
| 76) Pentachlorophenol | 8.256 | 266 | 52300 | 17.26 | ppm | 99 |
| 77) Phenanthrene | 8.438 | 178 | 179185 | 10.04 | ppm | 100 |
| 78) Anthracene | 8.491 | 178 | 192494 | 10.25 | ppm | 99 |
| 79) Carbazole | 8.678 | 167 | 192931 | 9.98 | ppm | 98 |
| 80) Di-n-butylphthalate | 9.111 | 149 | 248142 | 10.15 | ppm | 100 |
| 81) Fluoranthene | 9.778 | 202 | 229937 | 9.83 | ppm | 99 |
| 82) Octadecane | 8.379 | 57 | 103040 | 11.16 | ppm | 95 |
| 84) Pyrene | 10.051 | 202 | 238333 | 10.19 | ppm | 98 |
| 86) Butylbenzylphthalate | 11.029 | 149 | 108895 | 9.44 | ppm | 95 |
| 87) Benzo[a]anthracene | 11.707 | 228 | 212748 | 9.46 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 11.723 | 252 | 73506 | 9.70 | ppm | 93 |
| 89) Chrysene | 11.755 | 228 | 195520 | 9.75 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.921 | 149 | 148270 | 9.87 | ppm | 100 |
| 92) Di-n-octylphthalate | 12.850 | 149 | 257783 | 10.23 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 13.208 | 252 | 208490 | 10.08 | ppm | 96 |
| 94) Benzo[k]fluoranthene | 13.246 | 252 | 206001 | 11.25 | ppm | 99 |
| 95) Benzo[a]pyrene | 13.625 | 252 | 188788 | 10.11 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.998 | 276 | 158303m | 9.13 | ppm | |
| 97) Dibenz(a,h)acridine | 14.747 | 279 | 158181 | 9.63 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 15.030 | 278 | 170503 | 9.89 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 13.208 | 256 | 81214 | 9.10 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 15.313 | 276 | 166561 | 9.37 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



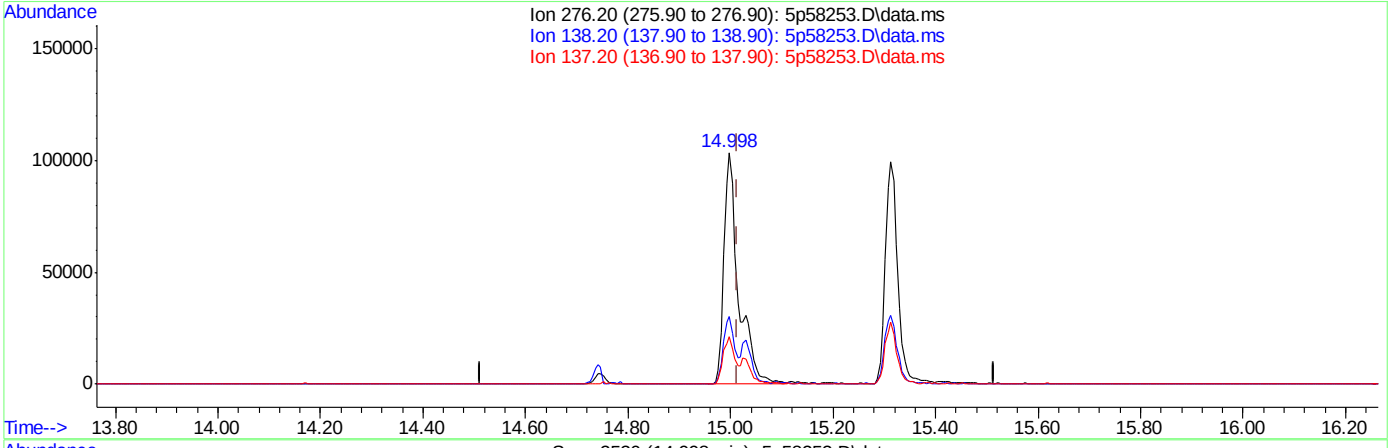
**Sample Number:** E5P2761-IC2761
**Lab FileID:** 5P58253.D
**Injection Time:** 04/09/19 02:10
**Method:** SW846 8270D
**Analyst approved:** 04/09/19 14:54 Ying Li
**Supervisor approved:** 04/10/19 09:40 Nina Pandya

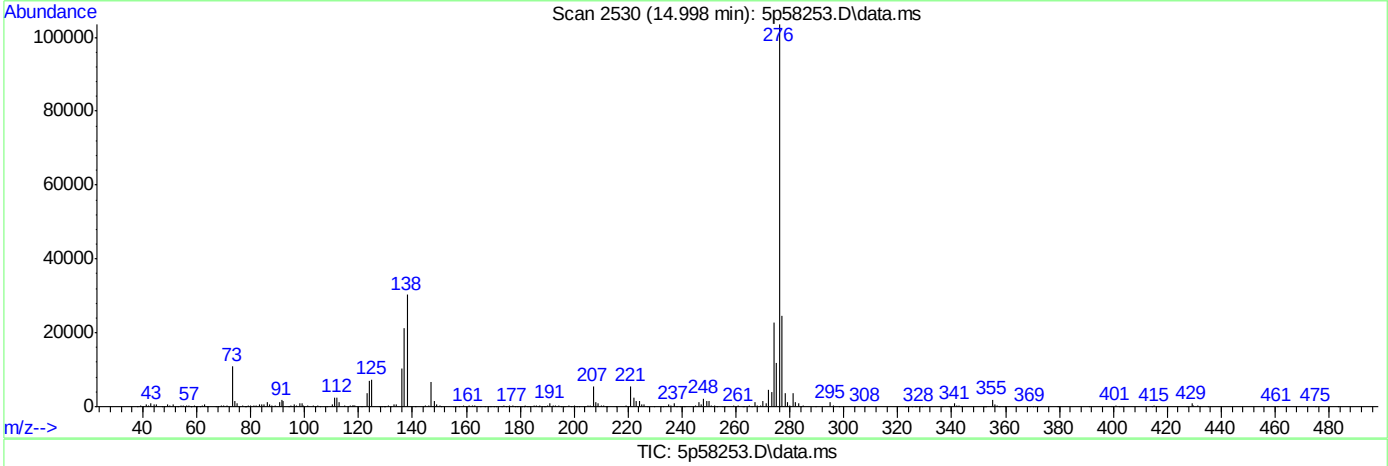
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 15.00 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:12:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58253.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 11.73ppm

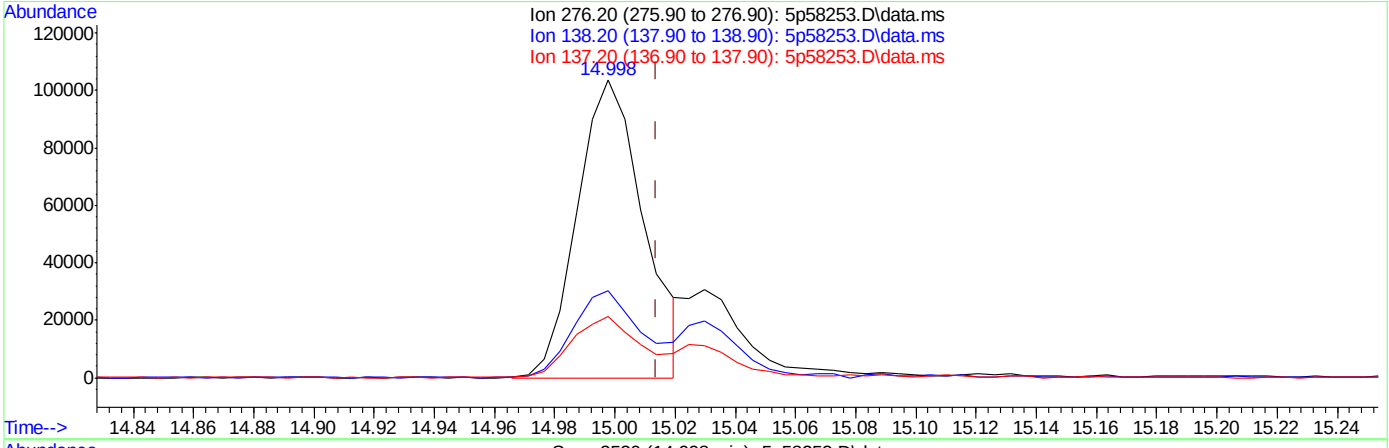
response 203444

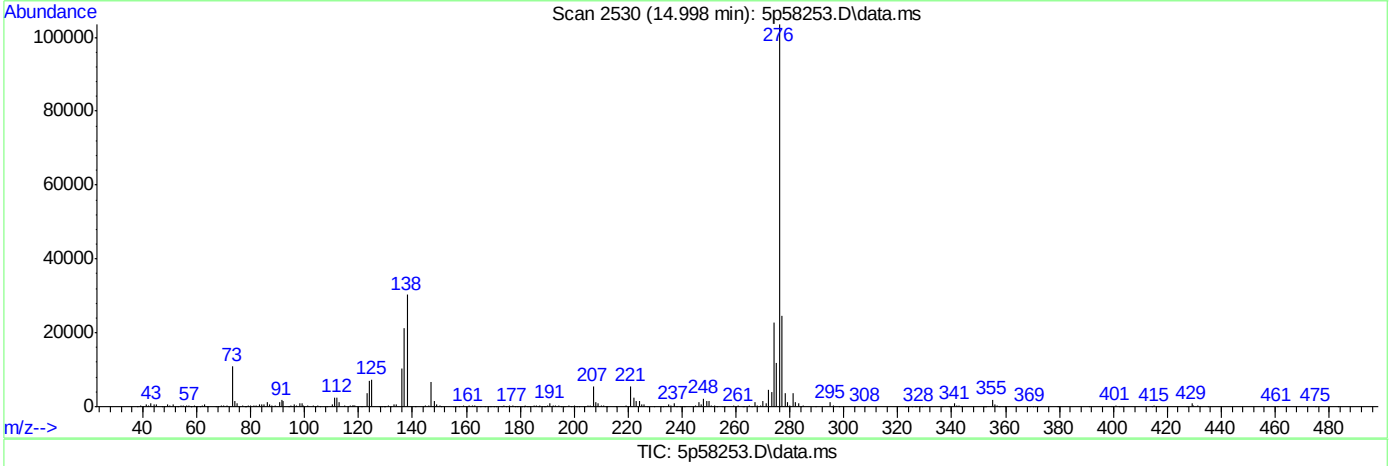
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 29.21 |
| 137.20 | 19.40 | 20.24 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:12:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58253.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 9.13ppm m

response 158303

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 29.31 |
| 137.20 | 19.40 | 20.55 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 186855 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 705474 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 398046 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 660857 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.723 | 240 | 619296 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 653691 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 186855 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 398046 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.723 | 240 | 619296 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 660857 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 705474 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.723 | 240 | 619237 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 186855 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.723 | 240 | 619296 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.723 | 240 | 619237 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.988 | 112 | 33417 | 4.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 8.38% | | |
| 8) Phenol-d5 | 3.849 | 99 | 45349 | 4.72 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 9.44% | | |
| 25) Nitrobenzene-d5 | 4.613 | 82 | 40232 | 4.79 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 9.58% | | |
| 51) 2-Fluorobiphenyl | 6.343 | 172 | 72403 | 5.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 10.76% | | |
| 73) 2,4,6-Tribromophenol | 7.743 | 330 | 9286 | 4.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 8.74% | | |
| 85) Terphenyl-d14 | 10.307 | 244 | 77172 | 4.76 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 9.52% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.530 | 88 | 19776 | 4.78 | ppm | 95 |
| 3) Pyridine | 1.808 | 79 | 43217 | 4.26 | ppm | 96 |
| 4) N-Nitrosodimethylamine | 1.776 | 74 | 25498 | 4.48 | ppm | 95 |
| 6) Indene | 4.329 | 116 | 56687 | 4.87 | ppm | 96 |
| 7) Cumene | 3.378 | 105 | 91838 | 4.91 | ppm | 99 |
| 9) Phenol | 3.859 | 94 | 51529 | 5.00 | ppm | 98 |
| 10) Aniline | 3.811 | 93 | 56028 | 5.57 | ppm | 90 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 37680 | 5.44 | ppm | 99 |
| 12) 2-Chlorophenol | 3.923 | 128 | 33321 | 4.83 | ppm | 86 |
| 13) Decane | 3.977 | 43 | 31086 | 5.40 | ppm | 95 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 38335 | 5.07 | ppm | 96 |
| 15) 1,4-Dichlorobenzene | 4.110 | 146 | 36192 | 4.95 | ppm | 97 |
| 16) Benzyl alcohol | 4.249 | 108 | 21368 | 4.71 | ppm | 84 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 35411 | 4.75 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.479 | 105 | 50795 | 4.94 | ppm | | 99 |
| 19) 2-Methylphenol | 4.388 | 108 | 30663 | 4.73 | ppm | | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 36587 | 5.16 | ppm | | 98 |
| 21) 3&4-Methylphenol | 4.538 | 108 | 31234 | 4.33 | ppm | | 97 |
| 22) n-Nitroso-di-n-propyla... | 4.490 | 70 | 28544 | 5.34 | ppm | | 98 |
| 23) Hexachloroethane | 4.559 | 201 | 13318 | 5.10 | ppm | | 94 |
| 26) Nitrobenzene | 4.634 | 77 | 41464 | 5.18 | ppm | | 96 |
| 27) Quinoline | 5.628 | 129 | 63752 | 4.57 | ppm | | 97 |
| 28) Isophorone | 4.864 | 82 | 76782 | 5.14 | ppm | | 99 |
| 29) 2-Nitrophenol | 4.938 | 139 | 17100 | 4.45 | ppm | | 89 |
| 30) 2,4-Dimethylphenol | 5.024 | 107 | 27589 | 3.86 | ppm | | 98 |
| 31) Benzoic acid | 5.131 | 105 | 23665 | 4.16 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.088 | 93 | 42310 | 4.76 | ppm | | 95 |
| 33) 2,4-Dichlorophenol | 5.189 | 162 | 28002 | 4.79 | ppm | | 96 |
| 34) 2,6-Dichlorophenol | 5.392 | 162 | 25944 | 4.71 | ppm | | 93 |
| 35) 1,3,5-Trichlorobenzene | 4.944 | 180 | 32088 | 5.13 | ppm | | 95 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 30325 | 5.09 | ppm | | 95 |
| 37) 1,2,3-Trichlorobenzene | 5.451 | 180 | 28828 | 5.08 | ppm | | 97 |
| 38) Naphthalene | 5.307 | 128 | 89674 | 5.00 | ppm | | 97 |
| 39) 4-Chloroaniline | 5.382 | 127 | 39202 | 5.19 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.258 | 161 | 35890 | 4.89 | ppm | | 97 |
| 41) Caprolactam | 5.697 | 55 | 16087 | 4.52 | ppm | | 97 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 16830 | 4.79 | ppm | | 96 |
| 43) 4-Chloro-3-methylphenol | 5.900 | 107 | 32118 | 4.58 | ppm | | 89 |
| 44) 2-Methylnaphthalene | 5.975 | 141 | 52320 | 4.98 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 6.066 | 141 | 58468 | 5.05 | ppm | | 98 |
| 46) Dimethylnaphthalene | 6.578 | 156 | 56709 | 5.03 | ppm | | 94 |
| 48) Hexachlorocyclopentadiene | 6.140 | 237 | 16926 | 5.74 | ppm | | 95 |
| 49) 2,4,6-Trichlorophenol | 6.274 | 196 | 20172 | 5.02 | ppm | | 94 |
| 50) 2,4,5-Trichlorophenol | 6.317 | 196 | 21514 | 4.87 | ppm | | 96 |
| 52) 2-Chloronaphthalene | 6.440 | 162 | 60590 | 5.41 | ppm | | 98 |
| 53) Biphenyl | 6.434 | 154 | 76675 | 5.11 | ppm | | 97 |
| 54) 2-Nitroaniline | 6.557 | 65 | 22193 | 4.76 | ppm | | 83 |
| 55) Dimethylphthalate | 6.749 | 163 | 69862 | 4.77 | ppm | | 98 |
| 56) Acenaphthylene | 6.835 | 152 | 97350 | 5.37 | ppm | | 97 |
| 57) 2,6-Dinitrotoluene | 6.798 | 165 | 14528 | 4.43 | ppm | | 85 |
| 58) 3-Nitroaniline | 6.963 | 138 | 15917 | 4.42 | ppm | | 98 |
| 59) Acenaphthene | 7.006 | 153 | 59430 | 5.14 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 7.070 | 184 | 8735 | 4.51 | ppm | | 92 |
| 61) 4-Nitrophenol | 7.204 | 109 | 7891 | 4.06 | ppm | # | 69 |
| 62) Dibenzofuran | 7.177 | 168 | 88773 | 5.03 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.187 | 165 | 20551 | 4.87 | ppm | | 81 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.316 | 232 | 17611 | 4.37 | ppm | | 93 |
| 65) Diethylphthalate | 7.439 | 149 | 69464 | 4.99 | ppm | | 98 |
| 66) Fluorene | 7.503 | 166 | 69286 | 4.94 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.524 | 204 | 32864 | 5.32 | ppm | | 95 |
| 68) 4-Nitroaniline | 7.551 | 138 | 16545 | 4.77 | ppm | | 89 |
| 70) 4,6-Dinitro-2-methylph... | 7.588 | 198 | 9248 | 3.38 | ppm | | 84 |
| 71) n-Nitrosodiphenylamine | 7.642 | 169 | 49984 | 5.13 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 7.674 | 77 | 84105 | 5.65 | ppm | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 74) 4-Bromophenyl-phenylether | 7.989 | 248 | 20344 | 4.58 | ppm | 93 |
| 75) Hexachlorobenzene | 8.042 | 284 | 21493 | 5.04 | ppm | 99 |
| 76) Pentachlorophenol | 8.256 | 266 | 22888 | 7.58 | ppm | 98 |
| 77) Phenanthrene | 8.438 | 178 | 91915 | 5.17 | ppm | 99 |
| 78) Anthracene | 8.491 | 178 | 97881 | 5.23 | ppm | 98 |
| 79) Carbazole | 8.678 | 167 | 98816 | 5.13 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.111 | 149 | 119525 | 4.91 | ppm | 100 |
| 81) Fluoranthene | 9.773 | 202 | 111911 | 4.80 | ppm | 96 |
| 82) Octadecane | 8.379 | 57 | 52343 | 5.69 | ppm | 94 |
| 84) Pyrene | 10.051 | 202 | 119347 | 5.09 | ppm | 97 |
| 86) Butylbenzylphthalate | 11.029 | 149 | 52410 | 4.53 | ppm | 93 |
| 87) Benzo[a]anthracene | 11.707 | 228 | 104585 | 4.64 | ppm | 95 |
| 88) 3,3'-Dichlorobenzidine | 11.723 | 252 | 34514 | 4.54 | ppm | 98 |
| 89) Chrysene | 11.755 | 228 | 97564 | 4.85 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 11.915 | 149 | 69755 | 4.63 | ppm | 91 |
| 92) Di-n-octylphthalate | 12.850 | 149 | 119179 | 4.82 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 13.208 | 252 | 103201 | 5.08 | ppm | 96 |
| 94) Benzo[k]fluoranthene | 13.240 | 252 | 101927 | 5.67 | ppm | 96 |
| 95) Benzo[a]pyrene | 13.625 | 252 | 89951 | 4.91 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 14.993 | 276 | 78383m | 4.60 | ppm | |
| 97) Dibenz(a,h)acridine | 14.741 | 279 | 76861 | 4.77 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 15.030 | 278 | 84608 | 5.00 | ppm | 96 |
| 99) 7,12-Dimethylbenz(a)an... | 13.208 | 256 | 33925 | 3.87 | ppm | 87 |
| 100) Benzo[g,h,i]perylene | 15.308 | 276 | 80514 | 4.62 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

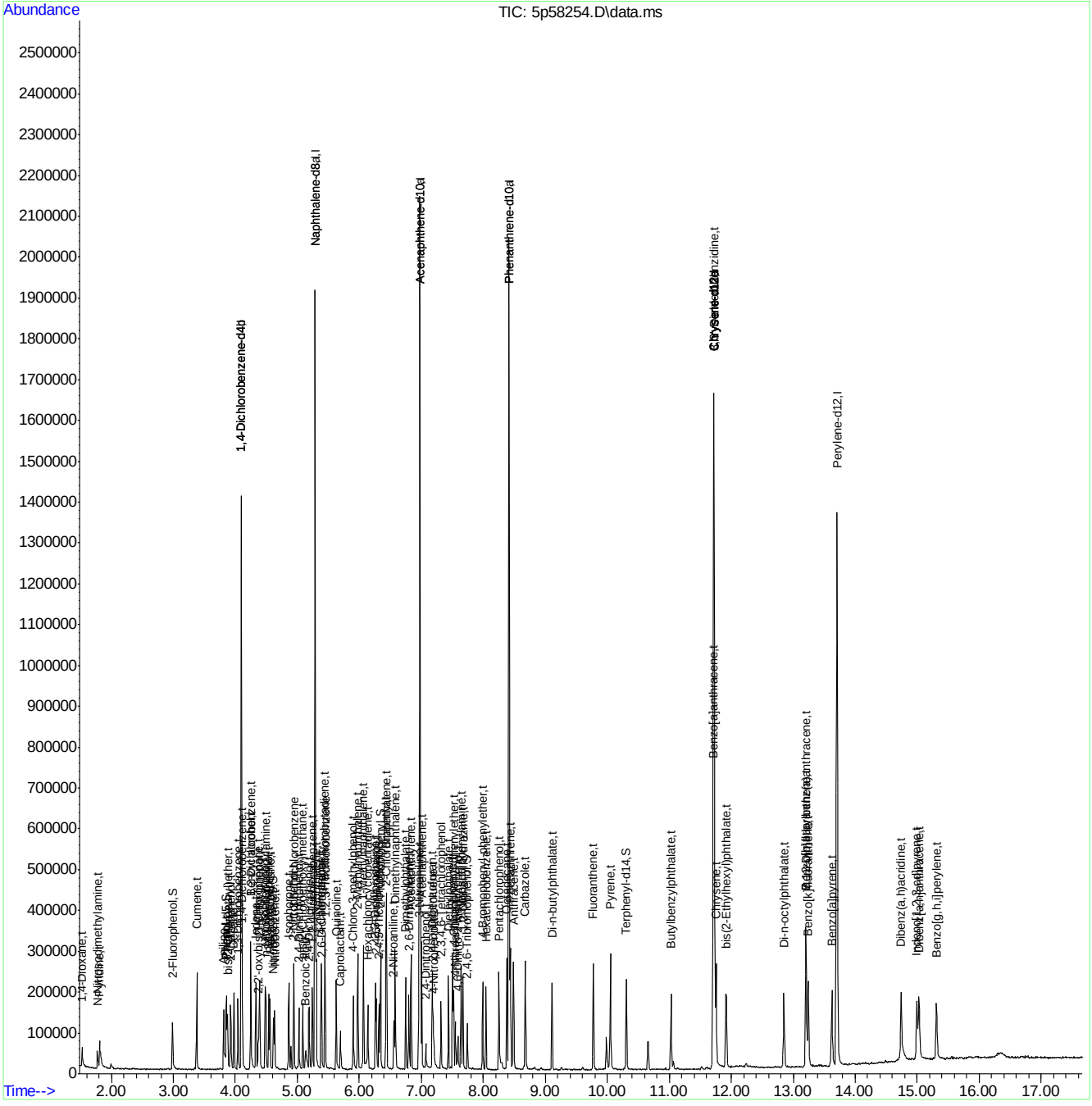
9.8.48

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



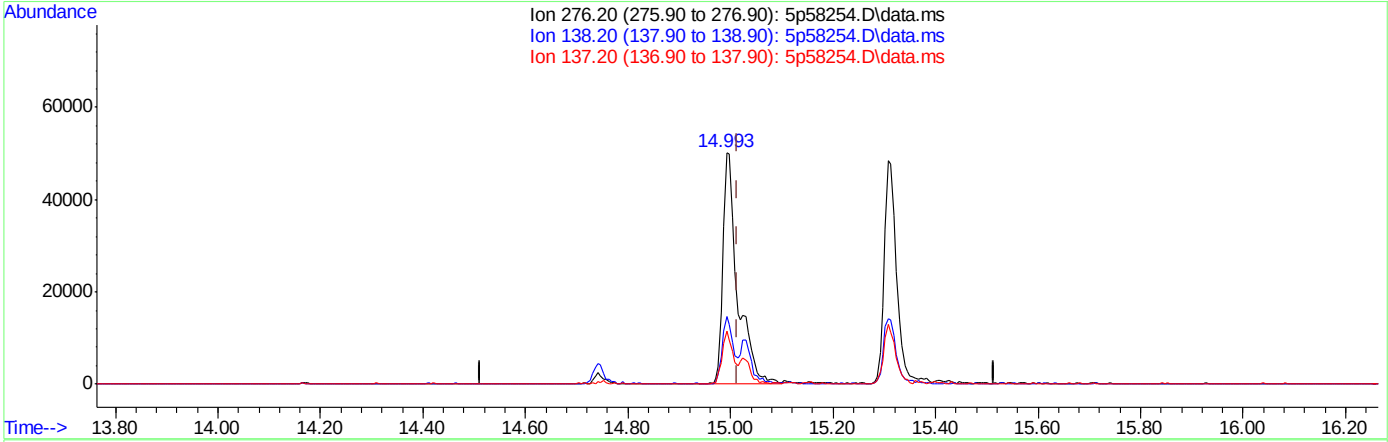
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2761-IC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P58254.D | **Analyst approved:** | 04/09/19 14:54 Ying Li |
| **Injection Time:** | 04/09/19 02:34 | **Supervisor approved:** | 04/10/19 09:40 Nina Pandya |

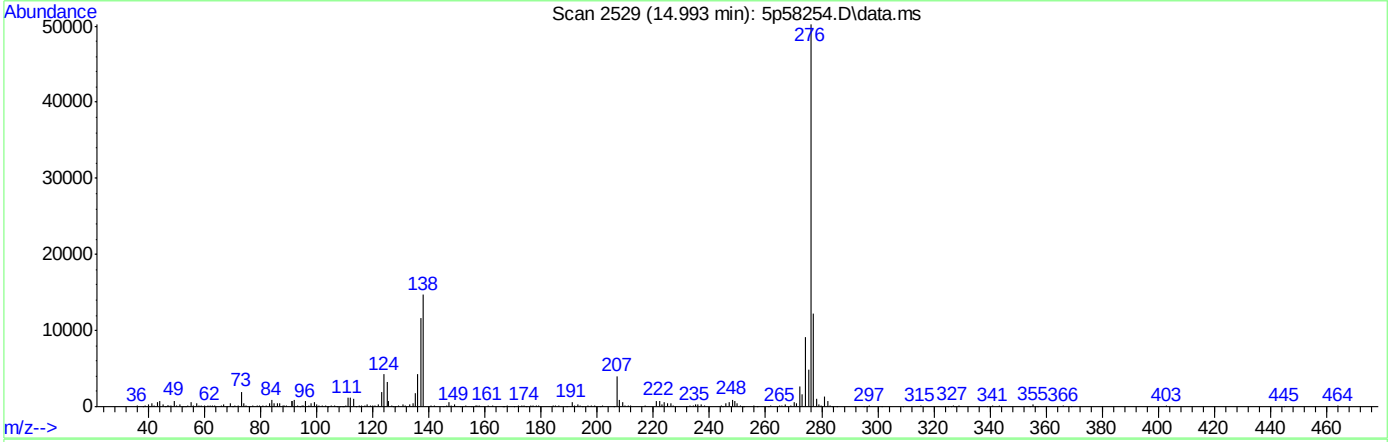
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 14.99 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:14:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58254.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.993min (-0.021) 5.85ppm

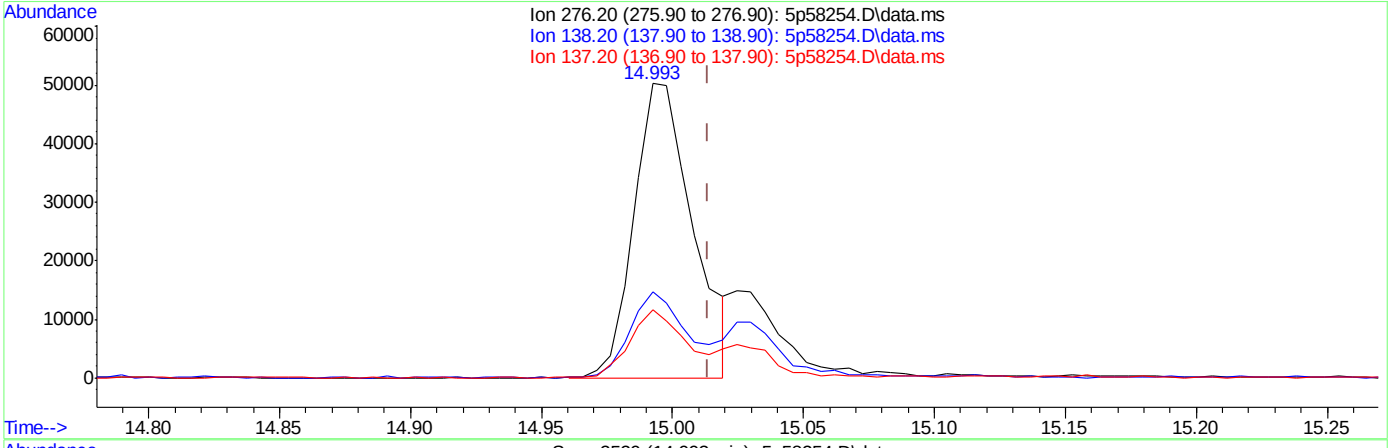
response 99567

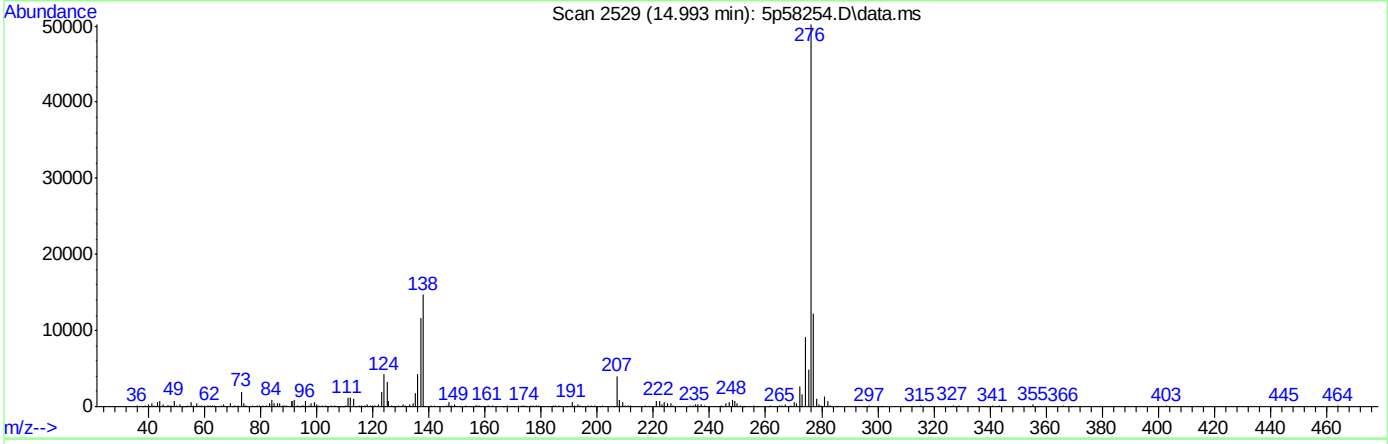
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 28.98 |
| 137.20 | 19.40 | 22.99 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:14:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58254.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.993min (-0.021) 4.60ppm m

response 78383

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 29.26 |
| 137.20 | 19.40 | 23.16 |
| 0.00 | 0.00 | 0.00 |

5P58255.D

Manual Integrations APPROVED (compounds with "m" flag)

Nina Pandya 04/10/19 09:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58255.D
Acq On : 9 Apr 2019 2:59 am
Operator : chriss2
Sample : ic2761-2
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 177732 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 692317 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 387319 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 651986 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 594657 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.705 | 264 | 630764 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 177732 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 387319 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 594657 | 40.00 | ppm | -0.01 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 651986 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 692317 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 594633 | 40.00 | ppm | -0.01 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 177732 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 594657 | 40.00 | ppm | -0.01 |
| 119) Chrysene-d12d | 11.718 | 240 | 594633 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.989 | 112 | 12566 | 1.66 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 3.32% | | | |
| 8) Phenol-d5 | 3.849 | 99 | 17256 | 1.89 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 3.78% | | | |
| 25) Nitrobenzene-d5 | 4.618 | 82 | 15519 | 1.88 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 3.76% | | | |
| 51) 2-Fluorobiphenyl | 6.343 | 172 | 29195 | 2.23 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 4.46% | | | |
| 73) 2,4,6-Tribromophenol | 7.743 | 330 | 2896 | 1.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 2.76% | | | |
| 85) Terphenyl-d14 | 10.307 | 244 | 29782 | 1.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 3.82% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.530 | 88 | 6341 | 1.61 | ppm | 87 |
| 3) Pyridine | 1.829 | 79 | 15132 | 1.57 | ppm | 94 |
| 4) N-Nitrosodimethylamine | 1.781 | 74 | 9308 | 1.72 | ppm | 80 |
| 6) Indene | 4.335 | 116 | 22475 | 2.03 | ppm | 98 |
| 7) Cumene | 3.378 | 105 | 34382 | 1.93 | ppm | 95 |
| 9) Phenol | 3.859 | 94 | 18216 | 1.86 | ppm | 86 |
| 10) Aniline | 3.811 | 93 | 21901 | 2.29 | ppm | 93 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 13471 | 2.04 | ppm | 97 |
| 12) 2-Chlorophenol | 3.923 | 128 | 12764 | 1.95 | ppm | 88 |
| 13) Decane | 3.982 | 43 | 12716 | 2.32 | ppm | 90 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 14699 | 2.04 | ppm | 97 |
| 15) 1,4-Dichlorobenzene | 4.116 | 146 | 14938 | 2.15 | ppm | 95 |
| 16) Benzyl alcohol | 4.255 | 108 | 7925 | 1.84 | ppm | 87 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 14487 | 2.04 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58255.D
Acq On : 9 Apr 2019 2:59 am
Operator : chriss2
Sample : ic2761-2
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.479 | 105 | 19605 | 2.00 | ppm | | 96 |
| 19) 2-Methylphenol | 4.388 | 108 | 11484 | 1.86 | ppm | | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 14981 | 2.22 | ppm | | 97 |
| 21) 3&4-Methylphenol | 4.538 | 108 | 12813 | 1.87 | ppm | | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.490 | 70 | 10787 | 2.12 | ppm | | 99 |
| 23) Hexachloroethane | 4.559 | 201 | 4991 | 2.01 | ppm | | 96 |
| 26) Nitrobenzene | 4.634 | 77 | 16055 | 2.05 | ppm | | 89 |
| 27) Quinoline | 5.628 | 129 | 23469 | 1.72 | ppm | | 92 |
| 28) Isophorone | 4.864 | 82 | 29153 | 1.99 | ppm | | 98 |
| 29) 2-Nitrophenol | 4.938 | 139 | 6459 | 1.71 | ppm | | 86 |
| 30) 2,4-Dimethylphenol | 5.024 | 107 | 9880 | 1.41 | ppm | | 92 |
| 32) bis(2-Chloroethoxy)met... | 5.088 | 93 | 16700 | 1.92 | ppm | | 95 |
| 33) 2,4-Dichlorophenol | 5.190 | 162 | 10572 | 1.84 | ppm | | 95 |
| 34) 2,6-Dichlorophenol | 5.393 | 162 | 10121 | 1.87 | ppm | | 100 |
| 35) 1,3,5-Trichlorobenzene | 4.944 | 180 | 12628 | 2.06 | ppm | | 92 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 11506 | 1.97 | ppm | | 89 |
| 37) 1,2,3-Trichlorobenzene | 5.451 | 180 | 11418 | 2.05 | ppm | | 95 |
| 38) Naphthalene | 5.307 | 128 | 35241 | 2.00 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.382 | 127 | 14268 | 1.93 | ppm | | 94 |
| 40) 2,3-Dichloroaniline | 6.258 | 161 | 14059 | 1.95 | ppm | | 91 |
| 41) Caprolactam | 5.692 | 55 | 6038 | 1.73 | ppm | | 98 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 7158 | 2.08 | ppm | | 90 |
| 43) 4-Chloro-3-methylphenol | 5.900 | 107 | 10611 | 1.54 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 5.975 | 141 | 19760 | 1.92 | ppm | | 94 |
| 45) 1-Methylnaphthalene | 6.066 | 141 | 23280 | 2.05 | ppm | | 96 |
| 46) Dimethylnaphthalene | 6.579 | 156 | 21691 | 1.96 | ppm | | 94 |
| 48) Hexachlorocyclopentadiene | 6.140 | 237 | 4253 | 1.48 | ppm | | 89 |
| 49) 2,4,6-Trichlorophenol | 6.274 | 196 | 7719 | 1.98 | ppm | | 91 |
| 50) 2,4,5-Trichlorophenol | 6.317 | 196 | 7420 | 1.73 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.440 | 162 | 23689 | 2.17 | ppm | | 98 |
| 53) Biphenyl | 6.434 | 154 | 30520 | 2.09 | ppm | | 97 |
| 54) 2-Nitroaniline | 6.562 | 65 | 8071 | 1.78 | ppm | | 92 |
| 55) Dimethylphthalate | 6.749 | 163 | 27358 | 1.92 | ppm | | 97 |
| 56) Acenaphthylene | 6.835 | 152 | 37435 | 2.12 | ppm | | 97 |
| 57) 2,6-Dinitrotoluene | 6.798 | 165 | 5094 | 1.60 | ppm | | 83 |
| 58) 3-Nitroaniline | 6.963 | 138 | 5387 | 1.54 | ppm | | 80 |
| 59) Acenaphthene | 7.006 | 153 | 22977 | 2.04 | ppm | | 93 |
| 60) 2,4-Dinitrophenol | 7.081 | 184 | 1337 | 0.71 | ppm | | 82 |
| 61) 4-Nitrophenol | 7.209 | 109 | 2895 | 1.53 | ppm | # | 73 |
| 62) Dibenzofuran | 7.177 | 168 | 34472 | 2.01 | ppm | | 97 |
| 63) 2,4-Dinitrotoluene | 7.193 | 165 | 6710 | 1.64 | ppm | | 84 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.321 | 232 | 6643 | 1.69 | ppm | | 92 |
| 65) Diethylphthalate | 7.439 | 149 | 26212 | 1.93 | ppm | | 94 |
| 66) Fluorene | 7.503 | 166 | 26231 | 1.92 | ppm | | 96 |
| 67) 4-Chlorophenyl-phenyle... | 7.519 | 204 | 13483 | 2.24 | ppm | | 95 |
| 68) 4-Nitroaniline | 7.551 | 138 | 5663 | 1.68 | ppm | | 98 |
| 71) n-Nitrosodiphenylamine | 7.642 | 169 | 19160 | 1.99 | ppm | | 96 |
| 72) 1,2-Diphenylhydrazine | 7.674 | 77 | 32228 | 2.19 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 7.989 | 248 | 8074 | 1.84 | ppm | | 92 |
| 75) Hexachlorobenzene | 8.042 | 284 | 8084 | 1.92 | ppm | | 79 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58255.D
Acq On : 9 Apr 2019 2:59 am
Operator : chriss2
Sample : ic2761-2
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 8.256 | 266 | 6870 | 2.31 | ppm | 93 |
| 77) Phenanthrene | 8.438 | 178 | 37075 | 2.11 | ppm | 98 |
| 78) Anthracene | 8.486 | 178 | 38580 | 2.09 | ppm | 99 |
| 79) Carbazole | 8.678 | 167 | 36728 | 1.93 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.111 | 149 | 45261 | 1.88 | ppm | 98 |
| 81) Fluoranthene | 9.773 | 202 | 42059 | 1.83 | ppm | 96 |
| 82) Octadecane | 8.379 | 57 | 20328 | 2.24 | ppm | 96 |
| 84) Pyrene | 10.051 | 202 | 44714 | 1.99 | ppm | 94 |
| 86) Butylbenzylphthalate | 11.029 | 149 | 19248 | 1.73 | ppm | 85 |
| 87) Benzo[a]anthracene | 11.707 | 228 | 40812 | 1.89 | ppm | 94 |
| 88) 3,3'-Dichlorobenzidine | 11.723 | 252 | 12416 | 1.70 | ppm | 94 |
| 89) Chrysene | 11.755 | 228 | 38926 | 2.02 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 11.915 | 149 | 24745 | 1.71 | ppm | 99 |
| 92) Di-n-octylphthalate | 12.850 | 149 | 40148 | 1.68 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 13.203 | 252 | 39055 | 1.99 | ppm | 93 |
| 94) Benzo[k]fluoranthene | 13.240 | 252 | 35343 | 2.04 | ppm | 94 |
| 95) Benzo[a]pyrene | 13.625 | 252 | 32297 | 1.83 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 14.998 | 276 | 29245m | 1.78 | ppm | |
| 97) Dibenz(a,h)acridine | 14.741 | 279 | 27401 | 1.76 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 15.030 | 278 | 29820 | 1.83 | ppm | 94 |
| 99) 7,12-Dimethylbenz(a)an... | 13.203 | 256 | 12544 | 1.48 | ppm | 96 |
| 100) Benzo[g,h,i]perylene | 15.308 | 276 | 28811 | 1.71 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

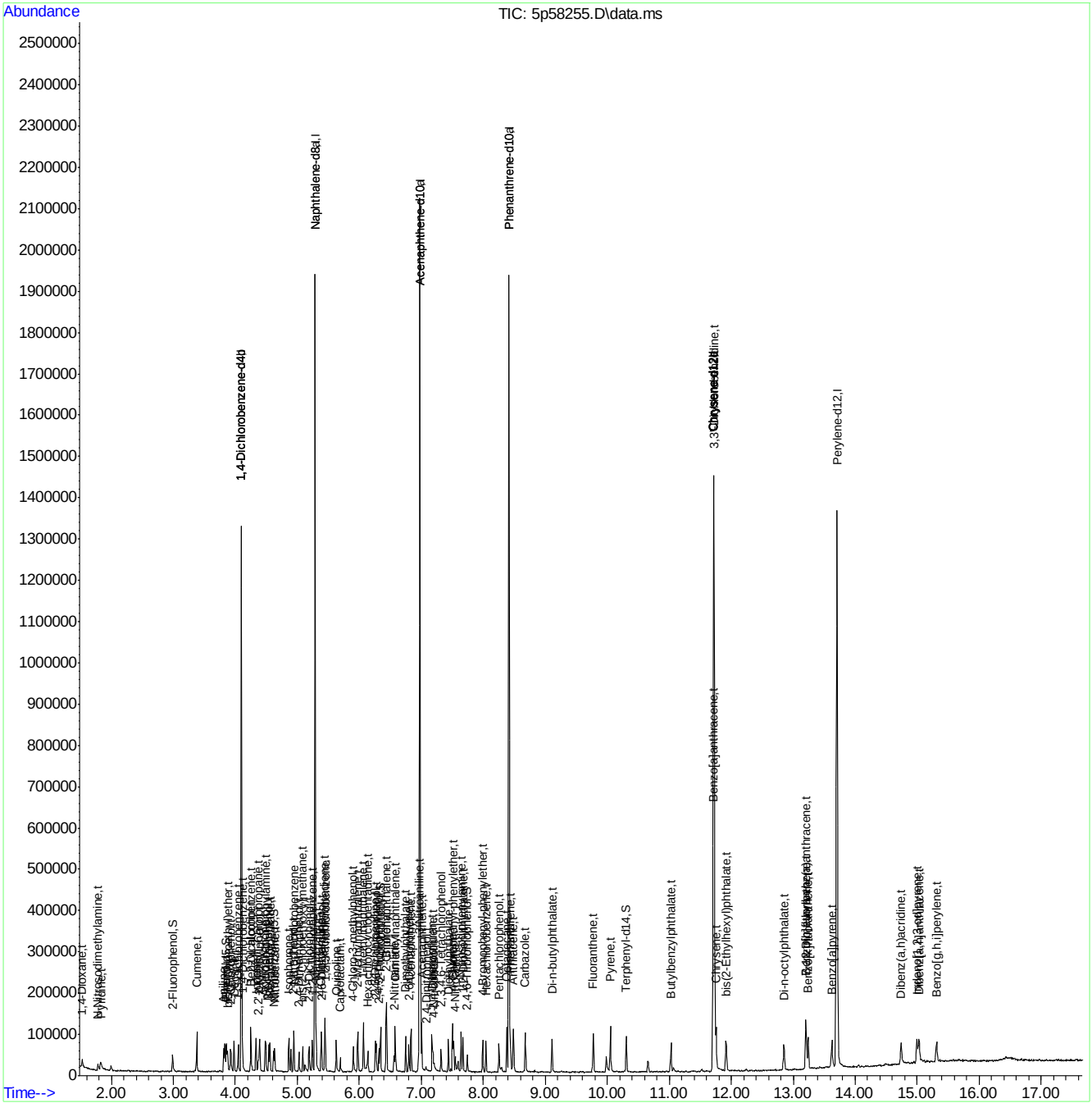
9.8.49

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58255.D
Acq On : 9 Apr 2019 2:59 am
Operator : chriss2
Sample : ic2761-2
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



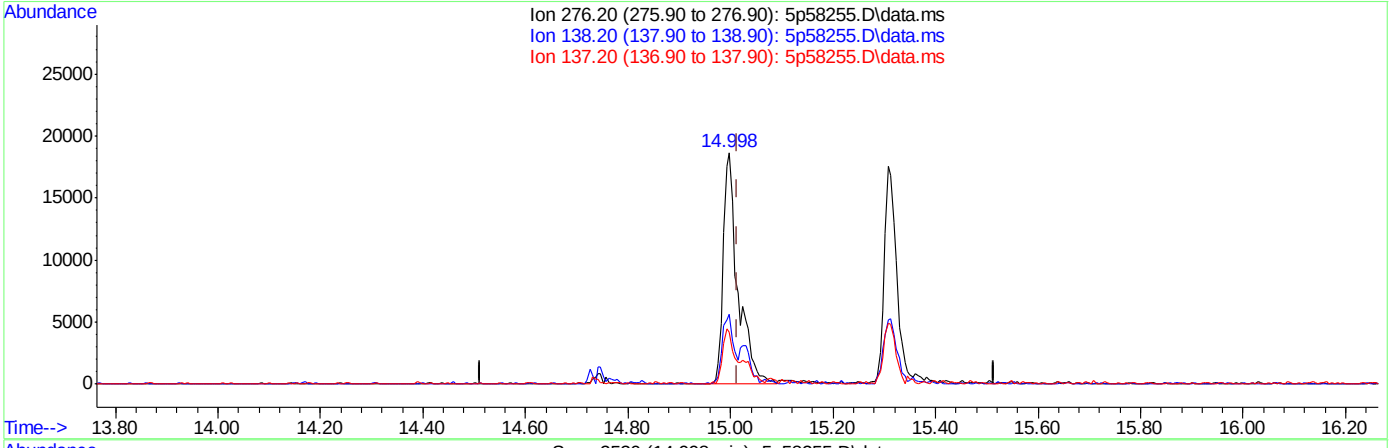
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2761-IC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P58255.D | **Analyst approved:** | 04/09/19 14:54 Ying Li |
| **Injection Time:** | 04/09/19 02:59 | **Supervisor approved:** | 04/10/19 09:40 Nina Pandya |

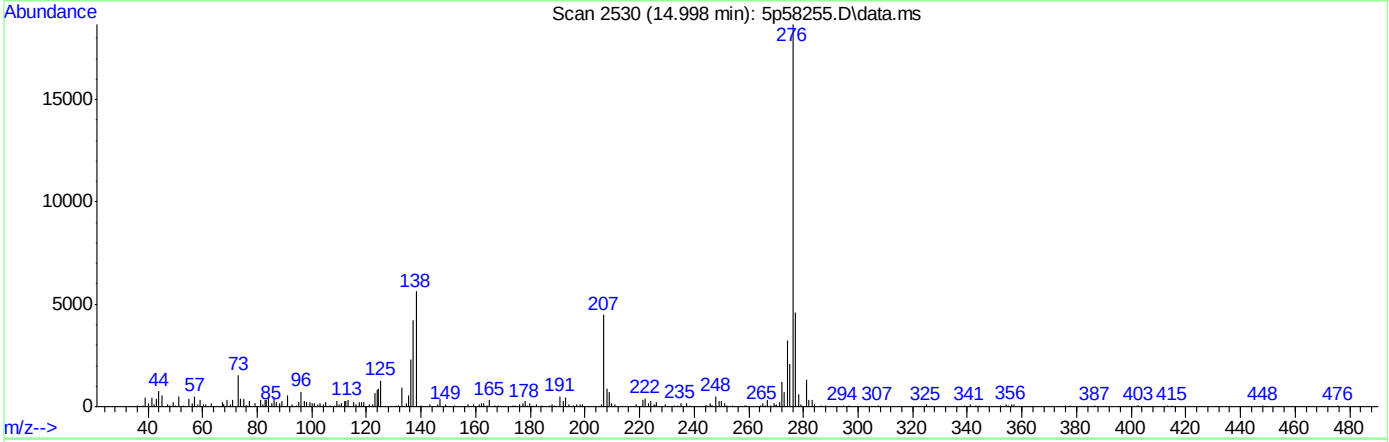
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 15.00 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58255.D
Acq On : 9 Apr 2019 2:59 am
Operator : chriss2
Sample : ic2761-2
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:16:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58255.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 2.24ppm

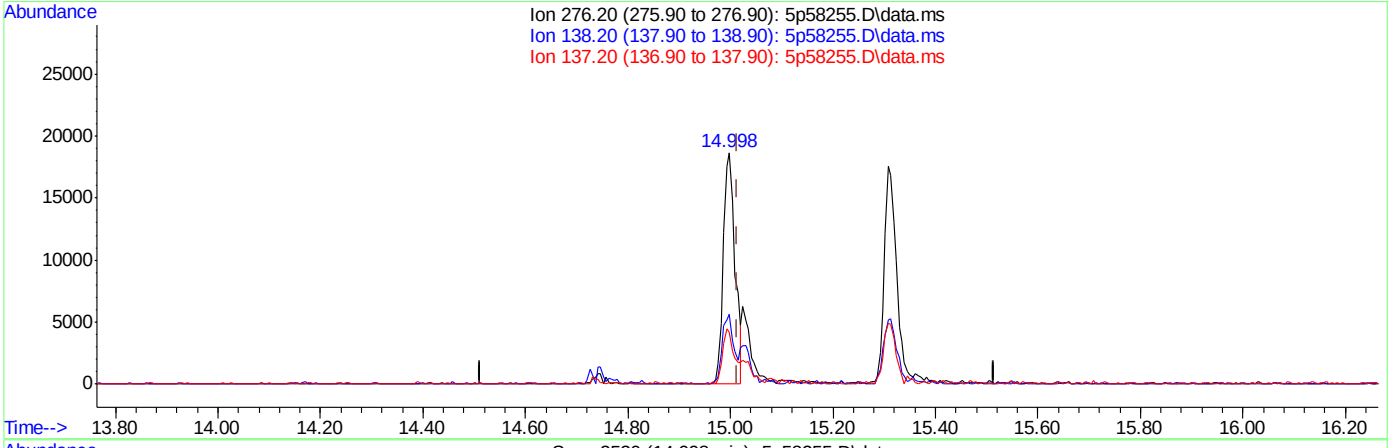
response 36811

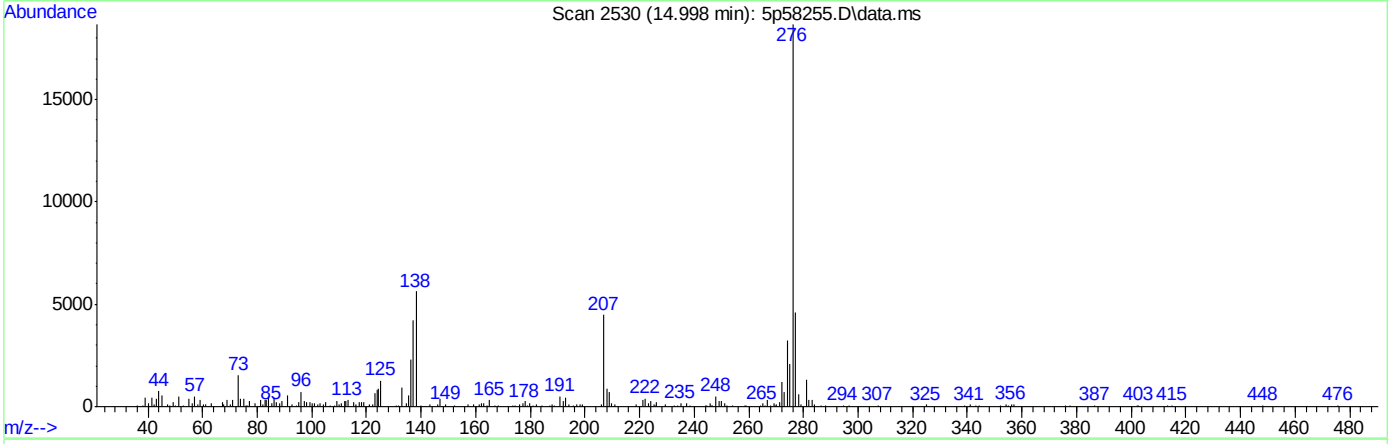
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 29.90 |
| 137.20 | 19.40 | 21.63 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58255.D
Acq On : 9 Apr 2019 2:59 am
Operator : chriss2
Sample : ic2761-2
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:16:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration




TIC: 5p58255.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 1.78ppm m

response 29245

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 30.13 |
| 137.20 | 19.40 | 22.50 |
| 0.00 | 0.00 | 0.00 |

9.8.49.3

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58256.D
Acq On : 9 Apr 2019 3:24 am
Operator : chriss2
Sample : ic2761-1
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 180492 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 701976 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 398229 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 656722 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 595948 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.705 | 264 | 634372 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 180492 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 398229 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 595948 | 40.00 | ppm | -0.01 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 656722 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 701976 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 595911 | 40.00 | ppm | -0.01 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 180492 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 595948 | 40.00 | ppm | -0.01 |
| 119) Chrysene-d12d | 11.718 | 240 | 595911 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.988 | 112 | 6403 | 0.83 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.66% | | |
| 8) Phenol-d5 | 3.849 | 99 | 8247 | 0.89 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.78% | | |
| 25) Nitrobenzene-d5 | 4.618 | 82 | 8015 | 0.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.92% | | |
| 51) 2-Fluorobiphenyl | 6.343 | 172 | 14786 | 1.10 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 2.20% | | |
| 73) 2,4,6-Tribromophenol | 7.743 | 330 | 1557 | 0.74 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.48% | | |
| 85) Terphenyl-d14 | 10.307 | 244 | 14413 | 0.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.84% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.535 | 88 | 3782 | 0.95 | ppm | 89 |
| 3) Pyridine | 1.835 | 79 | 5820 | 0.59 | ppm | 83 |
| 4) N-Nitrosodimethylamine | 1.786 | 74 | 4185 | 0.76 | ppm | 76 |
| 6) Indene | 4.329 | 116 | 10629 | 0.95 | ppm | 96 |
| 7) Cumene | 3.378 | 105 | 17611 | 0.97 | ppm | 95 |
| 9) Phenol | 3.859 | 94 | 9994 | 1.00 | ppm | 93 |
| 10) Aniline | 3.811 | 93 | 11156 | 1.15 | ppm | 84 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 7116 | 1.06 | ppm | 92 |
| 12) 2-Chlorophenol | 3.923 | 128 | 6701 | 1.01 | ppm | 96 |
| 13) Decane | 3.977 | 43 | 6781 | 1.22 | ppm | 88 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 6663 | 0.91 | ppm | 88 |
| 15) 1,4-Dichlorobenzene | 4.110 | 146 | 7341 | 1.04 | ppm | 86 |
| 16) Benzyl alcohol | 4.255 | 108 | 3926 | 0.90 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 7326 | 1.02 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58256.D
Acq On : 9 Apr 2019 3:24 am
Operator : chriss2
Sample : ic2761-1
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.479 | 105 | 10006 | 1.01 | ppm | | 97 |
| 19) 2-Methylphenol | 4.388 | 108 | 6019 | 0.96 | ppm | | 90 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 7583 | 1.11 | ppm | | 94 |
| 21) 3&4-Methylphenol | 4.538 | 108 | 6311 | 0.90 | ppm | | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.495 | 70 | 5396 | 1.05 | ppm | | 96 |
| 23) Hexachloroethane | 4.559 | 201 | 2661 | 1.05 | ppm | | 94 |
| 26) Nitrobenzene | 4.634 | 77 | 7978 | 1.00 | ppm | | 92 |
| 27) Quinoline | 5.628 | 129 | 11614 | 0.84 | ppm | | 95 |
| 28) Isophorone | 4.864 | 82 | 15002 | 1.01 | ppm | | 98 |
| 29) 2-Nitrophenol | 4.938 | 139 | 3145 | 0.82 | ppm | | 80 |
| 30) 2,4-Dimethylphenol | 5.024 | 107 | 4473 | 0.63 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.088 | 93 | 8764 | 0.99 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 5.189 | 162 | 4779 | 0.82 | ppm | | 83 |
| 34) 2,6-Dichlorophenol | 5.392 | 162 | 5251 | 0.96 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 4.944 | 180 | 6120 | 0.98 | ppm | | 94 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 6330 | 1.07 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.451 | 180 | 5815 | 1.03 | ppm | | 94 |
| 38) Naphthalene | 5.307 | 128 | 18227 | 1.02 | ppm | | 97 |
| 39) 4-Chloroaniline | 5.382 | 127 | 7758 | 1.03 | ppm | | 90 |
| 40) 2,3-Dichloroaniline | 6.258 | 161 | 7003 | 0.96 | ppm | | 91 |
| 41) Caprolactam | 5.692 | 55 | 2476 | 0.70 | ppm | | 89 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 3216 | 0.92 | ppm | | 96 |
| 43) 4-Chloro-3-methylphenol | 5.900 | 107 | 5442 | 0.78 | ppm | # | 79 |
| 44) 2-Methylnaphthalene | 5.975 | 141 | 10927 | 1.05 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 6.066 | 141 | 11761 | 1.02 | ppm | | 97 |
| 46) Dimethylnaphthalene | 6.578 | 156 | 11048 | 0.98 | ppm | | 95 |
| 49) 2,4,6-Trichlorophenol | 6.274 | 196 | 3401 | 0.85 | ppm | | 93 |
| 50) 2,4,5-Trichlorophenol | 6.317 | 196 | 3550 | 0.80 | ppm | | 82 |
| 52) 2-Chloronaphthalene | 6.440 | 162 | 12789 | 1.14 | ppm | | 98 |
| 53) Biphenyl | 6.434 | 154 | 15426 | 1.03 | ppm | | 97 |
| 54) 2-Nitroaniline | 6.562 | 65 | 3875 | 0.83 | ppm | | 70 |
| 55) Dimethylphthalate | 6.749 | 163 | 14534 | 0.99 | ppm | | 99 |
| 56) Acenaphthylene | 6.835 | 152 | 18963 | 1.05 | ppm | | 97 |
| 57) 2,6-Dinitrotoluene | 6.797 | 165 | 2631 | 0.80 | ppm | # | 66 |
| 58) 3-Nitroaniline | 6.963 | 138 | 2388 | 0.66 | ppm | # | 83 |
| 59) Acenaphthene | 7.006 | 153 | 11808 | 1.02 | ppm | | 96 |
| 62) Dibenzofuran | 7.171 | 168 | 17247 | 0.98 | ppm | | 94 |
| 63) 2,4-Dinitrotoluene | 7.193 | 165 | 3082 | 0.73 | ppm | | 83 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.316 | 232 | 3113 | 0.77 | ppm | | 94 |
| 65) Diethylphthalate | 7.433 | 149 | 13282 | 0.95 | ppm | | 97 |
| 66) Fluorene | 7.503 | 166 | 13784 | 0.98 | ppm | | 95 |
| 67) 4-Chlorophenyl-phenyle... | 7.524 | 204 | 6100 | 0.99 | ppm | | 91 |
| 68) 4-Nitroaniline | 7.551 | 138 | 2608 | 0.75 | ppm | | 88 |
| 71) n-Nitrosodiphenylamine | 7.642 | 169 | 10141 | 1.05 | ppm | | 96 |
| 72) 1,2-Diphenylhydrazine | 7.674 | 77 | 16169 | 1.09 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 7.989 | 248 | 3752 | 0.85 | ppm | | 81 |
| 75) Hexachlorobenzene | 8.042 | 284 | 4042 | 0.95 | ppm | | 81 |
| 77) Phenanthrene | 8.438 | 178 | 17996 | 1.02 | ppm | | 96 |
| 78) Anthracene | 8.486 | 178 | 18783 | 1.01 | ppm | | 98 |
| 79) Carbazole | 8.678 | 167 | 18956 | 0.99 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58256.D
Acq On : 9 Apr 2019 3:24 am
Operator : chriss2
Sample : ic2761-1
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 80) | Di-n-butylphthalate | 9.111 | 149 | 22311 | 0.92 | ppm | 98 |
| 81) | Fluoranthene | 9.773 | 202 | 21259 | 0.92 | ppm | 98 |
| 82) | Octadecane | 8.379 | 57 | 9820 | 1.07 | ppm | 98 |
| 84) | Pyrene | 10.051 | 202 | 22224 | 0.98 | ppm | 97 |
| 86) | Butylbenzylphthalate | 11.029 | 149 | 8654 | 0.78 | ppm | 84 |
| 87) | Benzo[a]anthracene | 11.707 | 228 | 20031 | 0.92 | ppm | 95 |
| 88) | 3,3'-Dichlorobenzidine | 11.723 | 252 | 5142 | 0.70 | ppm | 84 |
| 89) | Chrysene | 11.750 | 228 | 19591 | 1.01 | ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.915 | 149 | 11770 | 0.81 | ppm | 91 |
| 92) | Di-n-octylphthalate | 12.850 | 149 | 18957 | 0.79 | ppm | 96 |
| 93) | Benzo[b]fluoranthene | 13.203 | 252 | 18969 | 0.96 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.240 | 252 | 17642 | 1.01 | ppm | 90 |
| 95) | Benzo[a]pyrene | 13.625 | 252 | 16754 | 0.94 | ppm | 94 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.998 | 276 | 14103 | 0.85 | ppm | 63 |
| 97) | Dibenz(a,h)acridine | 14.747 | 279 | 12666 | 0.81 | ppm | 93 |
| 98) | Dibenz[a,h]anthracene | 15.030 | 278 | 15837 | 0.96 | ppm | 94 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.203 | 256 | 5258 | 0.62 | ppm | 88 |
| 100) | Benzo[g,h,i]perylene | 15.313 | 276 | 14528 | 0.86 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

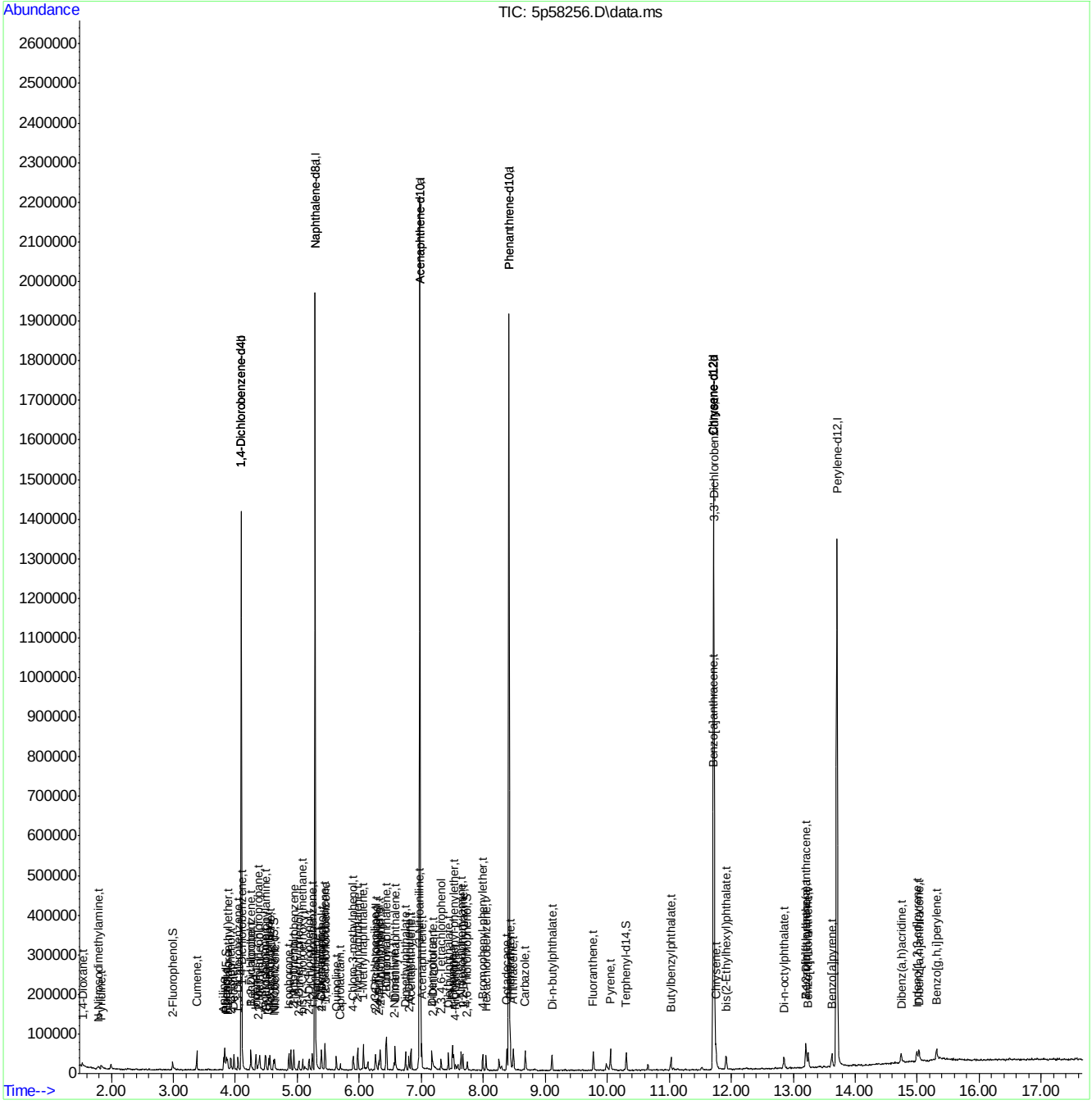
9.8.50

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58256.D
Acq On : 9 Apr 2019 3:24 am
Operator : chriss2
Sample : ic2761-1
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58257.D
Acq On : 9 Apr 2019 3:50 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 09 13:40:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 166555 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 611608 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 345969 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 605760 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.728 | 240 | 457677 | 40.00 | ppm | 0.01 |
| 91) Perylene-d12 | 13.705 | 264 | 507060 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 166555 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 345969 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.728 | 240 | 457677 | 40.00 | ppm | 0.01 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 605760 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 611608 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.728 | 240 | 457677 | 40.00 | ppm | 0.01 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 166555 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.728 | 240 | 457677 | 40.00 | ppm | 0.01 |
| 119) Chrysene-d12d | 11.728 | 240 | 457677 | 40.00 | ppm | 0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 4) N-Nitrosodimethylamine | 1.781 | 74 | 247605 | 52.57 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 3.875 | 93 | 331299 | 52.96 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 4.046 | 146 | 318492 | 47.92 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.116 | 146 | 307338 | 47.01 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.249 | 146 | 294738 | 45.12 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.372 | 45 | 367977 | 57.34 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.495 | 70 | 243022 | 50.27 | ppm | 97 |
| 23) Hexachloroethane | 4.559 | 201 | 110427 | 47.49 | ppm | 99 |
| 26) Nitrobenzene | 4.634 | 77 | 336693 | 48.50 | ppm | 95 |
| 28) Isophorone | 4.864 | 82 | 635861 | 49.19 | ppm | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.088 | 93 | 385968 | 51.07 | ppm | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.243 | 180 | 247747 | 47.91 | ppm | 99 |
| 38) Naphthalene | 5.307 | 128 | 750149 | 48.67 | ppm | 99 |
| 42) Hexachlorobutadiene | 5.446 | 225 | 148270 | 49.58 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58257.D
Acq On : 9 Apr 2019 3:50 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 09 13:40:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

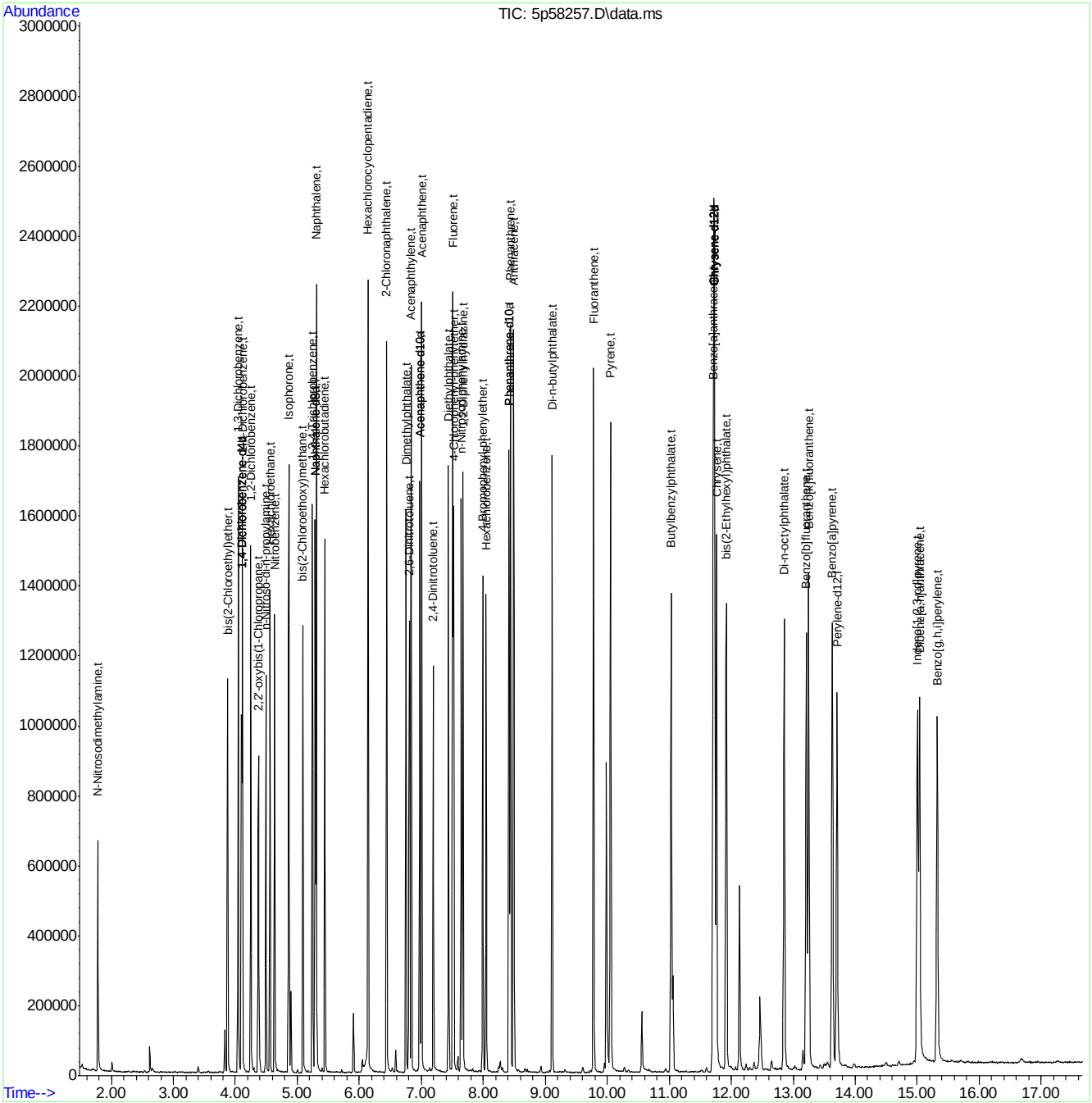
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 48) Hexachlorocyclopentadiene | 6.140 | 237 | 103733 | 43.43 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.440 | 162 | 508352 | 50.34 | ppm | 98 |
| 55) Dimethylphthalate | 6.755 | 163 | 574610 | 46.70 | ppm | 100 |
| 56) Acenaphthylene | 6.835 | 152 | 731141 | 45.55 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.803 | 165 | 121271 | 46.37 | ppm | 93 |
| 59) Acenaphthene | 7.006 | 153 | 439729 | 44.04 | ppm | 92 |
| 63) 2,4-Dinitrotoluene | 7.193 | 165 | 163623 | 47.98 | ppm | 98 |
| 65) Diethylphthalate | 7.439 | 149 | 554354 | 46.87 | ppm | 97 |
| 66) Fluorene | 7.508 | 166 | 545184 | 45.92 | ppm | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.524 | 204 | 243069 | 44.43 | ppm | 99 |
| 71) n-Nitrosodiphenylamine | 7.647 | 169 | 390815 | 43.78 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 7.674 | 77 | 634096 | 44.74 | ppm | 95 |
| 74) 4-Bromophenyl-phenylether | 7.994 | 248 | 167284 | 43.77 | ppm | 99 |
| 75) Hexachlorobenzene | 8.048 | 284 | 154373 | 40.45 | ppm | 99 |
| 77) Phenanthrene | 8.438 | 178 | 708549 | 43.27 | ppm | 100 |
| 78) Anthracene | 8.491 | 178 | 731543 | 42.57 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.111 | 149 | 951539 | 43.94 | ppm | 99 |
| 81) Fluoranthene | 9.778 | 202 | 870767 | 42.81 | ppm | 97 |
| 84) Pyrene | 10.056 | 202 | 845835 | 48.63 | ppm | 97 |
| 86) Butylbenzylphthalate | 11.034 | 149 | 407671 | 51.24 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.712 | 228 | 765749 | 47.90 | ppm | 99 |
| 89) Chrysene | 11.766 | 228 | 683491 | 46.31 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 11.921 | 149 | 536321 | 50.87 | ppm | 97 |
| 92) Di-n-octylphthalate | 12.856 | 149 | 942640 | 52.19 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 13.214 | 252 | 693738 | 44.81 | ppm | 94 |
| 94) Benzo[k]fluoranthene | 13.251 | 252 | 712370 | 50.27 | ppm | 100 |
| 95) Benzo[a]pyrene | 13.630 | 252 | 686014 | 49.75 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 15.003 | 276 | 618517 | 50.14 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 15.041 | 278 | 593868 | 46.56 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 15.329 | 276 | 624828 | 50.18 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58257.D
Acq On : 9 Apr 2019 3:50 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 09 13:40:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58259.D
Acq On : 9 Apr 2019 4:39 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 09 13:49:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

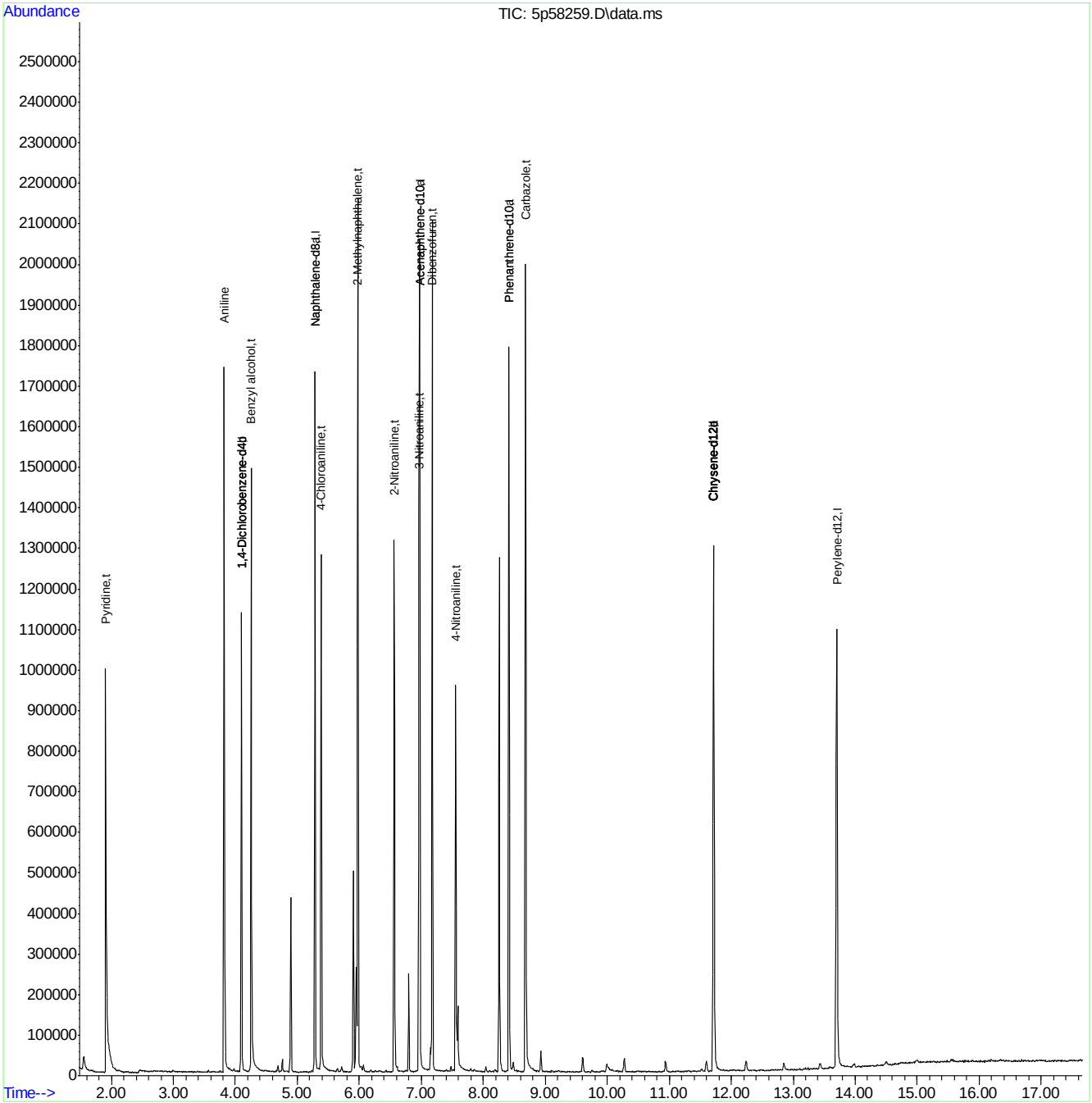
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 155377 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 661433 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 346219 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 604503 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 535522 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 526354 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 155377 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 346219 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 535522 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 604503 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 661433 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 533649 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 155377 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 535522 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 533649 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 3) Pyridine | 1.909 | 79 | 408303 | 54.17 | ppm | 99 |
| 10) Aniline | 3.817 | 93 | 521789 | 58.91 | ppm | 97 |
| 16) Benzyl alcohol | 4.260 | 108 | 213447 | 59.92 | ppm | 97 |
| 39) 4-Chloroaniline | 5.382 | 127 | 298412 | 42.41 | ppm | 96 |
| 44) 2-Methylnaphthalene | 5.975 | 141 | 441588 | 45.16 | ppm | 98 |
| 54) 2-Nitroaniline | 6.563 | 65 | 201667 | 52.98 | ppm | 94 |
| 58) 3-Nitroaniline | 6.963 | 138 | 146665 | 51.71 | ppm | 96 |
| 62) Dibenzofuran | 7.177 | 168 | 740936 | 49.27 | ppm | 99 |
| 68) 4-Nitroaniline | 7.556 | 138 | 143300 | 51.52 | ppm | 93 |
| 79) Carbazole | 8.683 | 167 | 797522 | 45.88 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58259.D
Acq On : 9 Apr 2019 4:39 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 09 13:49:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58260.D
Acq On : 9 Apr 2019 5:04 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 09 13:51:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.100 | 152 | 149472 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 550611 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 320038 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 514830 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 466968 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.700 | 264 | 449419 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.100 | 152 | 149472 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 320038 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 466968 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 514830 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 550611 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 466968 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.100 | 152 | 149472 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 466968 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 466968 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.859 | 94 | 436616 | 54.44 | ppm | 97 |
| 12) 2-Chlorophenol | 3.923 | 128 | 285228 | 52.74 | ppm | 95 |
| 19) 2-Methylphenol | 4.388 | 108 | 288106 | 56.95 | ppm | 96 |
| 21) 3&4-Methylphenol | 4.538 | 108 | 302398 | 55.68 | ppm | 99 |
| 29) 2-Nitrophenol | 4.938 | 139 | 153986 | 54.75 | ppm | 91 |
| 30) 2,4-Dimethylphenol | 5.024 | 107 | 302732 | 60.84 | ppm | 99 |
| 31) Benzoic acid | 5.189 | 105 | 231946 | 51.57 | ppm | 95 |
| 33) 2,4-Dichlorophenol | 5.184 | 162 | 214833 | 49.30 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.387 | 162 | 227551 | 54.34 | ppm | 96 |
| 43) 4-Chloro-3-methylphenol | 5.895 | 107 | 270467 | 53.82 | ppm | 96 |
| 49) 2,4,6-Trichlorophenol | 6.274 | 196 | 171182 | 54.79 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.311 | 196 | 171839 | 51.92 | ppm | 98 |
| 60) 2,4-Dinitrophenol | 7.065 | 184 | 60716 | 42.93 | ppm | 79 |
| 61) 4-Nitrophenol | 7.198 | 109 | 80457 | 56.01 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58260.D
Acq On : 9 Apr 2019 5:04 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 09 13:51:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 64) 2,3,4,6-Tetrachlorophenol | 7.316 | 232 | 139913 | 47.06 | ppm | 96 |
| 70) 4,6-Dinitro-2-methylph... | 7.583 | 198 | 100265 | 52.22 | ppm | 80 |
| 76) Pentachlorophenol | 8.251 | 266 | 122500 | 59.61 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

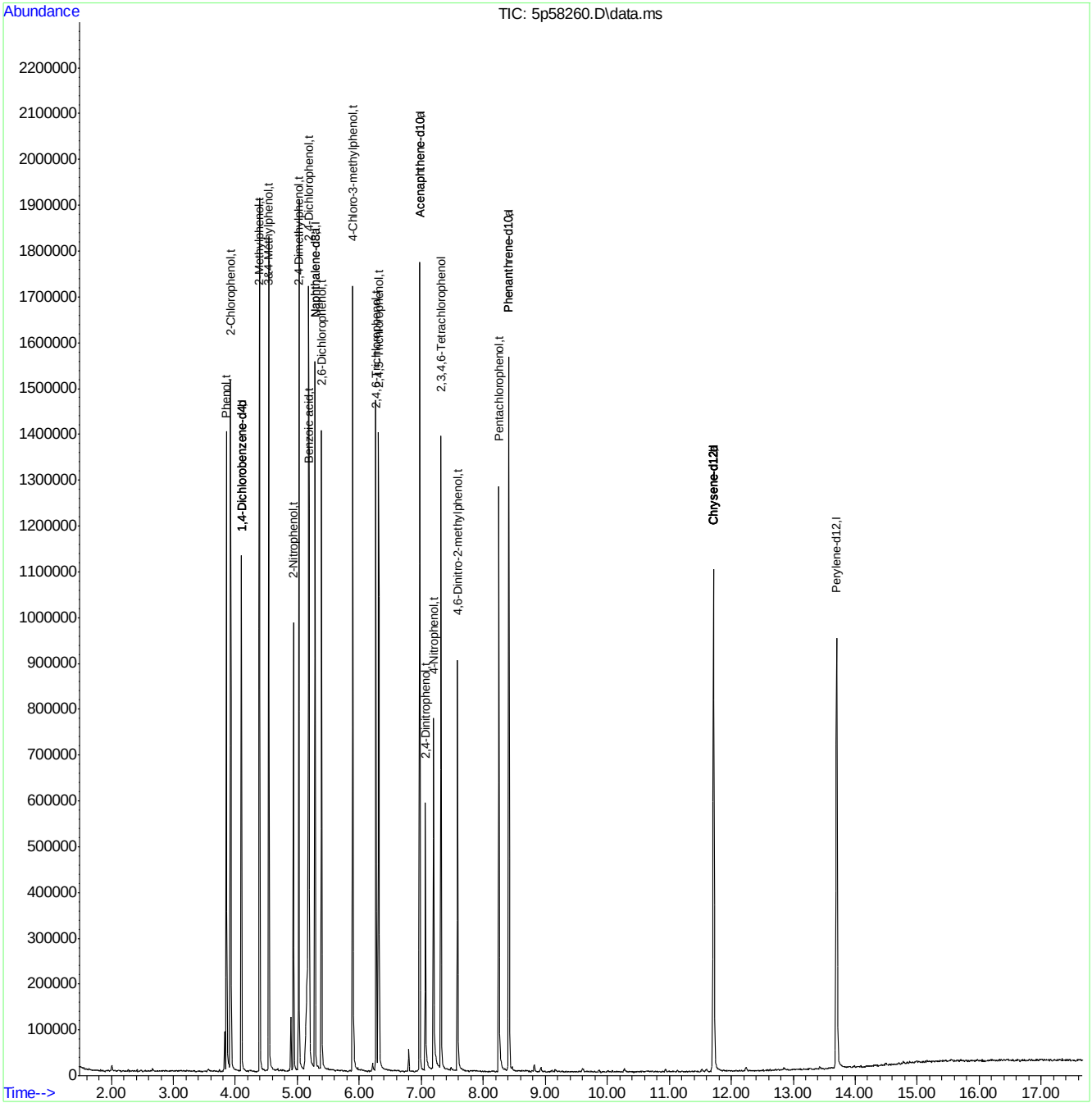
9.8.53

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58260.D
Acq On : 9 Apr 2019 5:04 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 09 13:51:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58261.D
Acq On : 9 Apr 2019 5:29 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 09 13:52:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

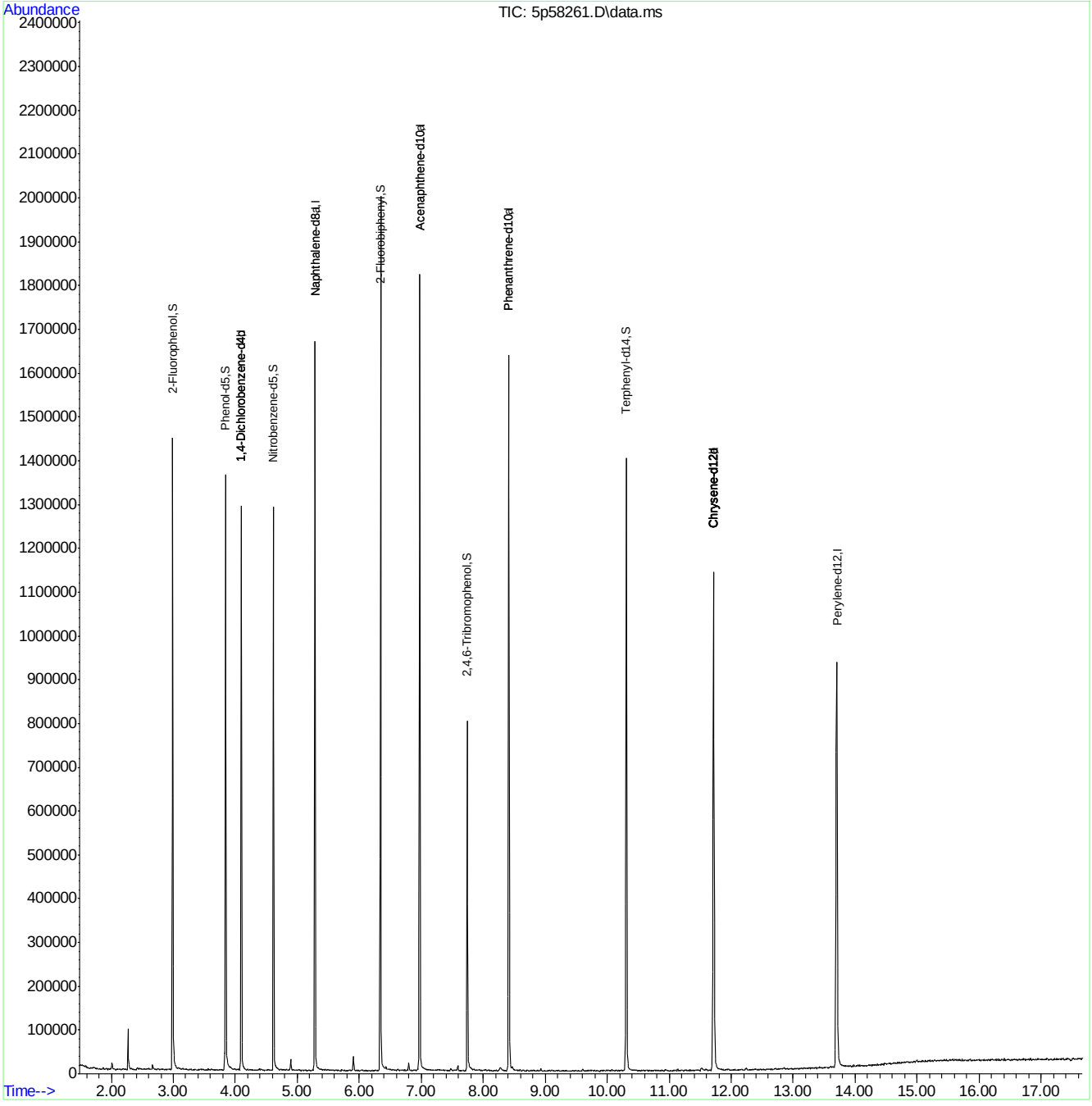
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.095 | 152 | 163815 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 616087 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 332984 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 528786 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 451063 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 453361 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.095 | 152 | 163815 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 332984 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 451063 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 528786 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 616087 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 451063 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.095 | 152 | 163815 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 451063 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 451063 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.989 | 112 | 304128 | 47.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 95.34% | | |
| 8) Phenol-d5 | 3.843 | 99 | 375407 | 46.76 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 93.52% | | |
| 25) Nitrobenzene-d5 | 4.613 | 82 | 355739 | 49.81 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 99.62% | | |
| 51) 2-Fluorobiphenyl | 6.344 | 172 | 547343 | 47.29 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.58% | | |
| 73) 2,4,6-Tribromophenol | 7.743 | 330 | 72279 | 47.42 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.84% | | |
| 85) Terphenyl-d14 | 10.308 | 244 | 548549 | 47.80 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 95.60% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58261.D
Acq On : 9 Apr 2019 5:29 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 09 13:52:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58262.D
Acq On : 9 Apr 2019 5:55 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 09 13:54:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration

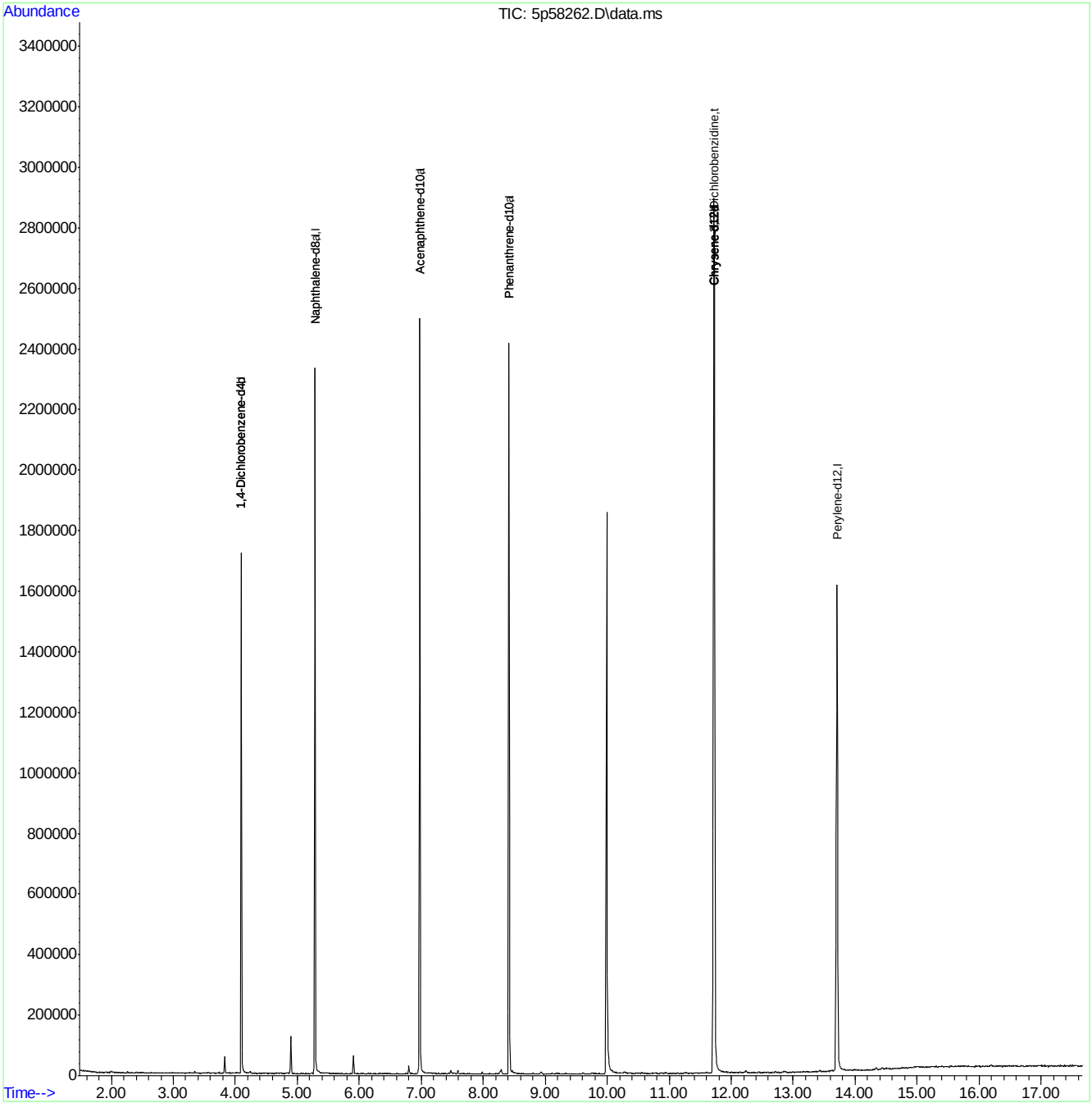
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.095 | 152 | 214509 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 841092 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 460427 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 828209 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.723 | 240 | 794847 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.711 | 264 | 813620 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.095 | 152 | 214509 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 460427 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.723 | 240 | 794847 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 828209 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 841092 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.723 | 240 | 794866 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.095 | 152 | 214509 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.723 | 240 | 794847 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.723 | 240 | 794866 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 88) 3,3'-Dichlorobenzidine | 11.729 | 252 | 441562 | 48.81 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58262.D
Acq On : 9 Apr 2019 5:55 am
Operator : chriss2
Sample : icv2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 09 13:54:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 13:37:16 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58264.D
Acq On : 9 Apr 2019 6:28 am
Operator : chriss2
Sample : ic2762-100
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 09 15:09:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

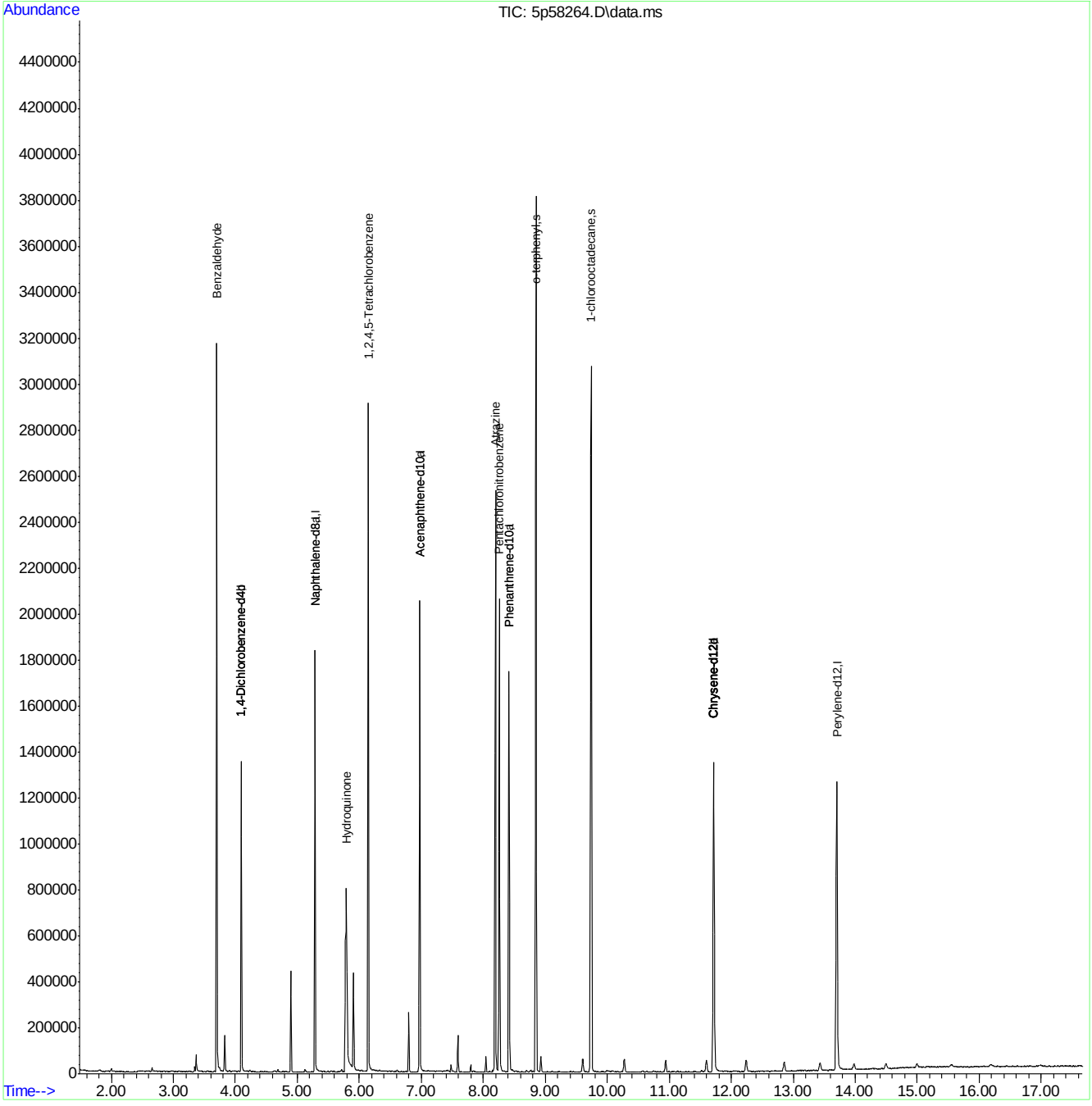
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 168775 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 654653 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 363607 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 600453 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 578439 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 615385 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 168775 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 363607 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 578439 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 600453 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 654653 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 578439 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 168775 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 578439 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 578439 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.741 | 57 | 497029 | 86.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 173.34% | | |
| 108) o-terphenyl | 8.849 | 230 | 795481 | 89.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 179.36% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 506718 | 93.16 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.146 | 216 | 460318 | 92.34 | ppm | 100 |
| 109) Atrazine | 8.197 | 215 | 157150 | 91.61 | ppm | 94 |
| 110) Pentachloronitrobenzene | 8.261 | 295 | 60860 | 93.99 | ppm | 94 |
| 112) Hydroquinone | 5.799 | 110 | 593250 | 103.36 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58264.D
Acq On : 9 Apr 2019 6:28 am
Operator : chriss2
Sample : ic2762-100
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 09 15:09:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58265.D
Acq On : 9 Apr 2019 6:53 am
Operator : chriss2
Sample : ic2762-80
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 09 15:11:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

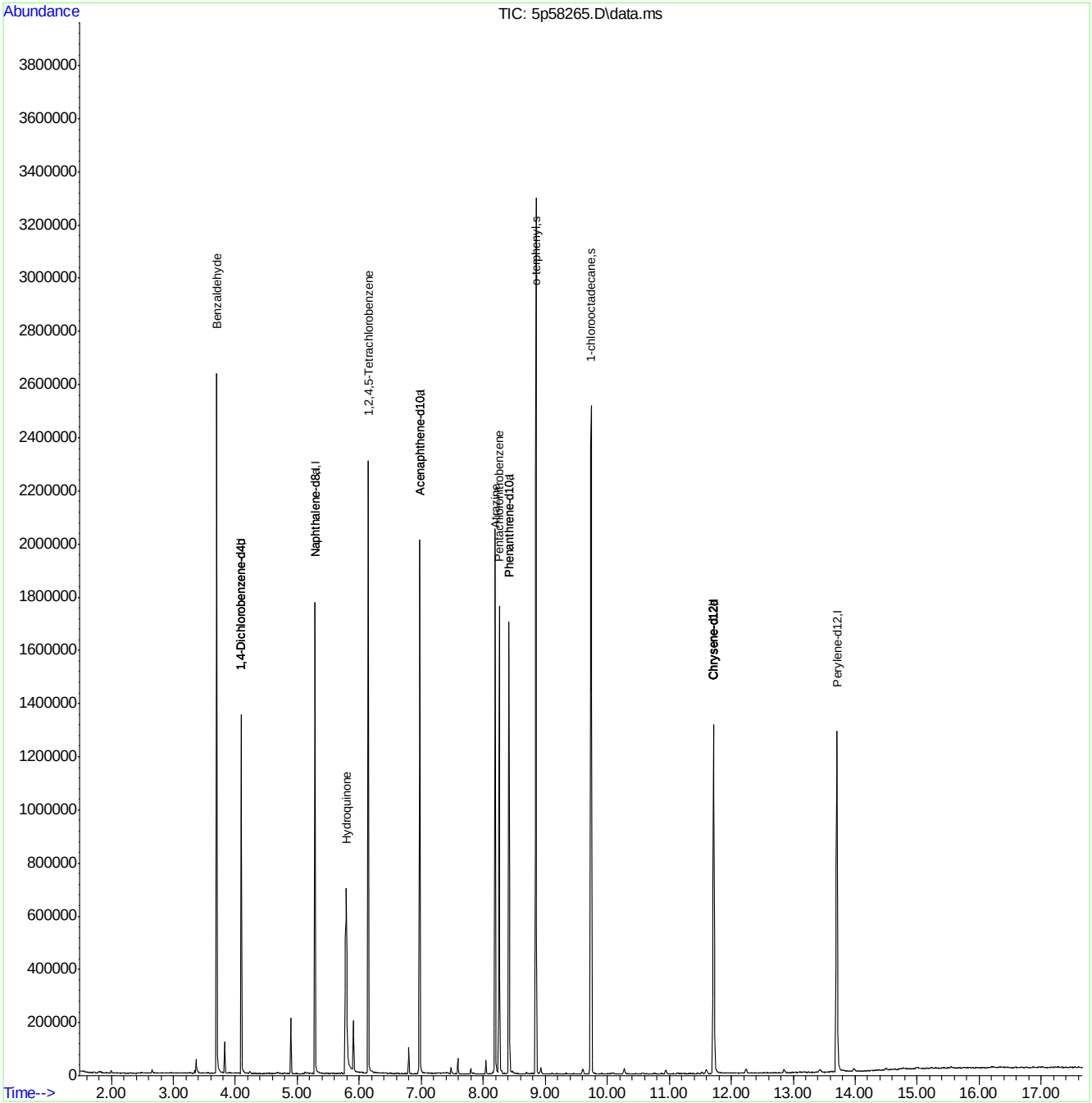
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 164099 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 640562 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 360326 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 581278 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 563479 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 593934 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 164099 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 360326 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 563479 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 581278 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 640562 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 563609 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 164099 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 563479 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 563609 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 9.741 | 57 | 413315 | 73.98 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 147.96% | | | |
| 108) o-terphenyl | 8.849 | 230 | 648602 | 75.53 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 151.06% | | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 418698 | 79.17 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.146 | 216 | 372672 | 75.44 | ppm | 97 |
| 109) Atrazine | 8.197 | 215 | 124500 | 74.97 | ppm | 90 |
| 110) Pentachloronitrobenzene | 8.256 | 295 | 48542 | 77.44 | ppm | 91 |
| 112) Hydroquinone | 5.793 | 110 | 470960 | 83.86 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58265.D
Acq On : 9 Apr 2019 6:53 am
Operator : chriss2
Sample : ic2762-80
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 09 15:11:14 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58266.D
Acq On : 9 Apr 2019 7:18 am
Operator : chriss2
Sample : icc2762-50
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 09 15:06:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

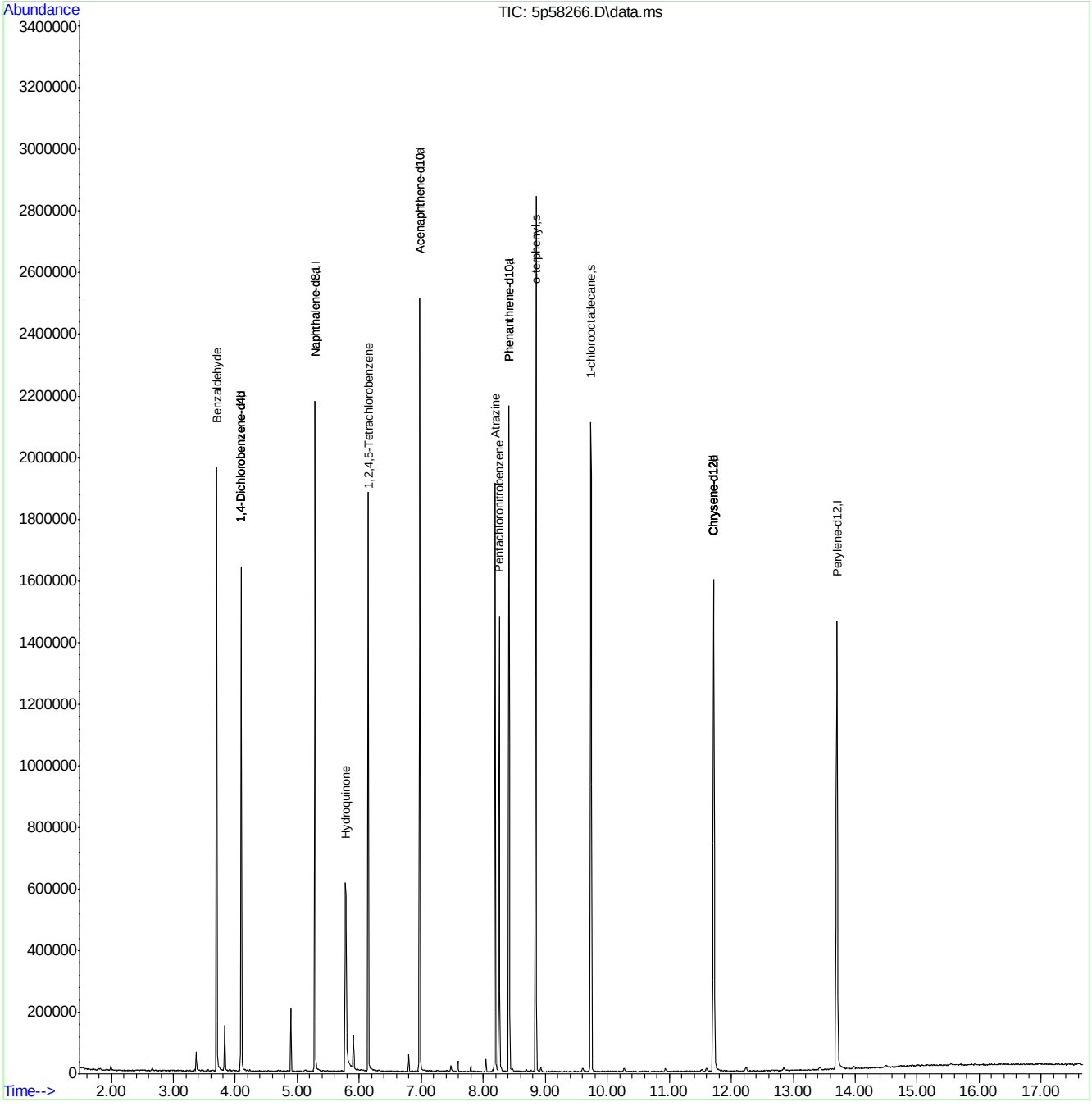
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 202843 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 783941 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 436839 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 707936 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 685138 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 728731 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 202843 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 436839 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 685138 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 707936 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 783941 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 685138 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 202843 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 685138 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 685138 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 9.736 | 57 | 339639 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 100.00% | | | |
| 108) o-terphenyl | 8.849 | 230 | 522894 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 100.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 326875 | 50.00 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 6.146 | 216 | 299451 | 50.00 | ppm | 100 |
| 109) Atrazine | 8.192 | 215 | 101121 | 50.00 | ppm | 100 |
| 110) Pentachloronitrobenzene | 8.256 | 295 | 38173 | 50.00 | ppm | 100 |
| 112) Hydroquinone | 5.777 | 110 | 343647 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58266.D
Acq On : 9 Apr 2019 7:18 am
Operator : chriss2
Sample : icc2762-50
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 09 15:06:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration




M5P2761.M Tue Apr 09 15:07:04 2019 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58267.D
Acq On : 9 Apr 2019 7:43 am
Operator : chriss2
Sample : ic2762-25
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 09 15:13:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

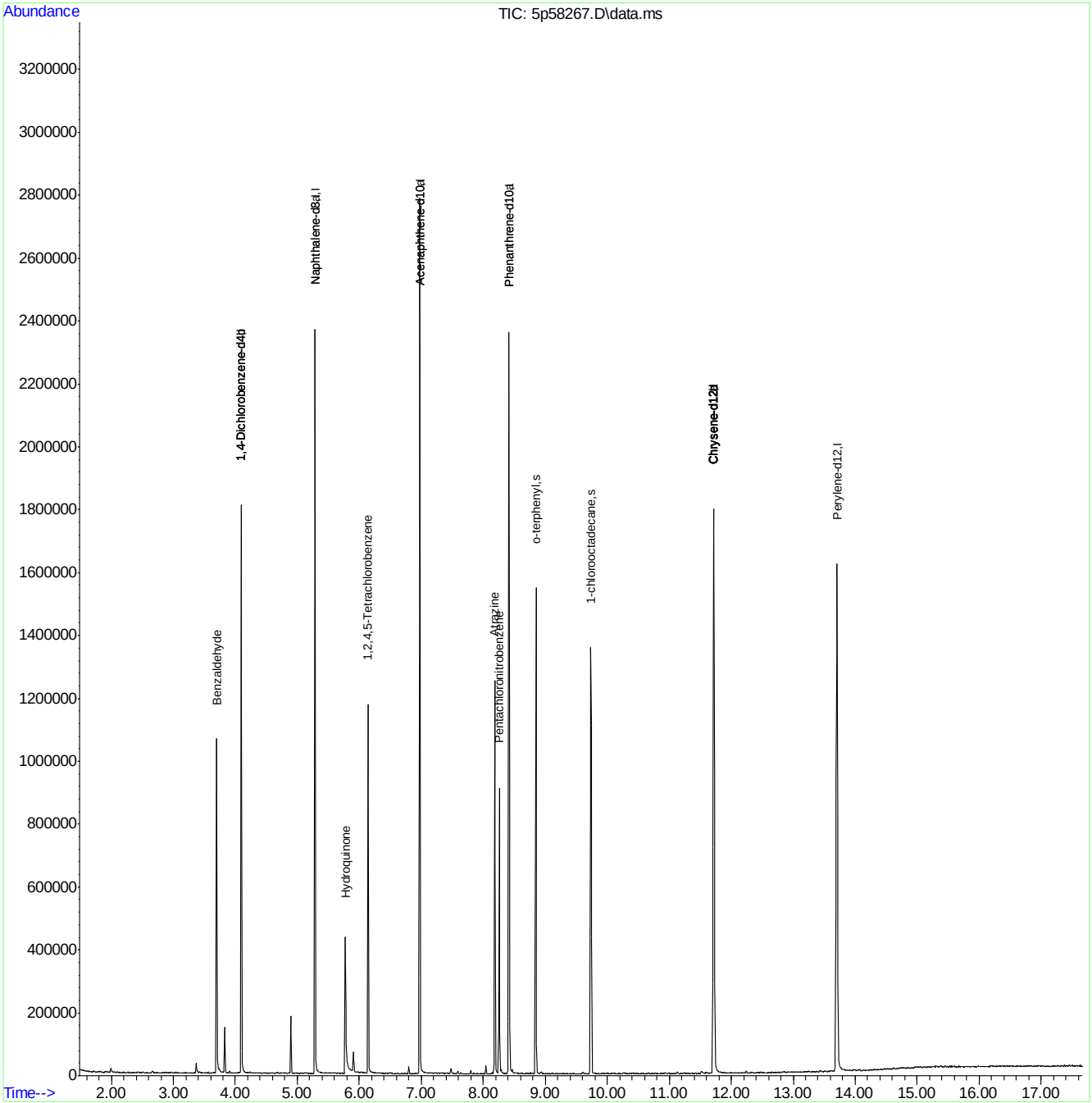
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 224582 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 867646 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 492809 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 805496 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 769503 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 829043 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 224582 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 492809 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 769503 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 805496 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 867646 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 769503 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 224582 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 769503 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 769503 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.736 | 57 | 203521 | 26.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 53.36% | | |
| 108) o-terphenyl | 8.849 | 230 | 313631 | 26.36 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 52.72% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 190179 | 26.27 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.141 | 216 | 175194 | 25.93 | ppm | 100 |
| 109) Atrazine | 8.187 | 215 | 58435 | 25.39 | ppm | 91 |
| 110) Pentachloronitrobenzene | 8.256 | 295 | 22696 | 26.13 | ppm | 93 |
| 112) Hydroquinone | 5.777 | 110 | 177386 | 23.32 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58267.D
Acq On : 9 Apr 2019 7:43 am
Operator : chriss2
Sample : ic2762-25
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 09 15:13:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58268.D
Acq On : 9 Apr 2019 8:08 am
Operator : chriss2
Sample : ic2762-10
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 09 15:13:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

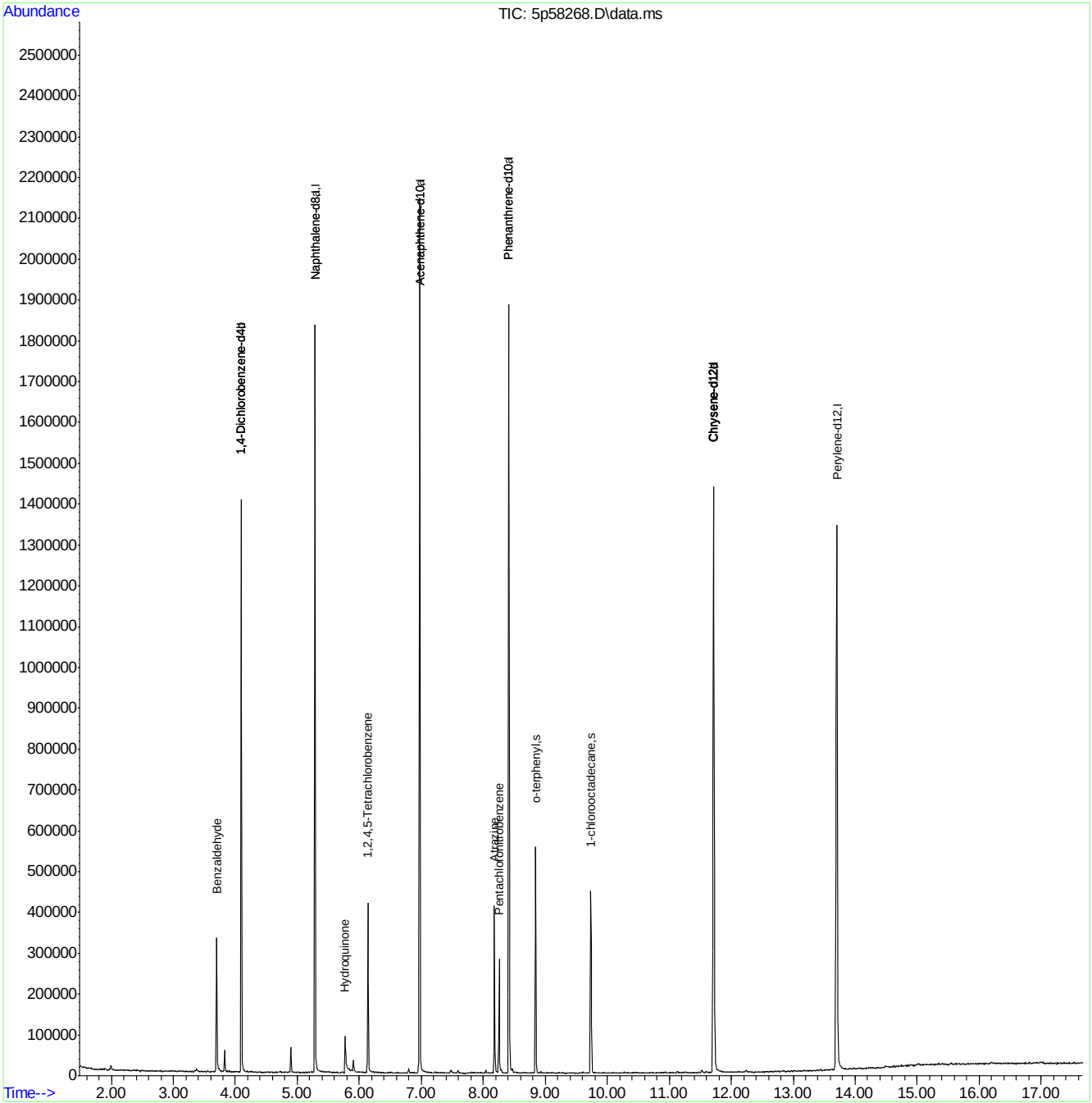
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 174213 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 680233 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 382879 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 627467 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 582803 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 628553 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 174213 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 382879 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 582803 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 627467 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 680233 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 582826 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 174213 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 582803 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 582826 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 9.736 | 57 | 67062 | 11.61 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 23.22% | | | |
| 108) o-terphenyl | 8.844 | 230 | 101286 | 10.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 21.86% | | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 59187 | 10.54 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.140 | 216 | 56596 | 10.78 | ppm | 96 |
| 109) Atrazine | 8.181 | 215 | 18023 | 10.05 | ppm | 90 |
| 110) Pentachloronitrobenzene | 8.256 | 295 | 6691 | 9.89 | ppm | 83 |
| 112) Hydroquinone | 5.772 | 110 | 44186 | 7.41 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58268.D
Acq On : 9 Apr 2019 8:08 am
Operator : chriss2
Sample : ic2762-10
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 09 15:13:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58269.D
Acq On : 9 Apr 2019 8:32 am
Operator : chriss2
Sample : ic2762-5
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 09 15:14:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

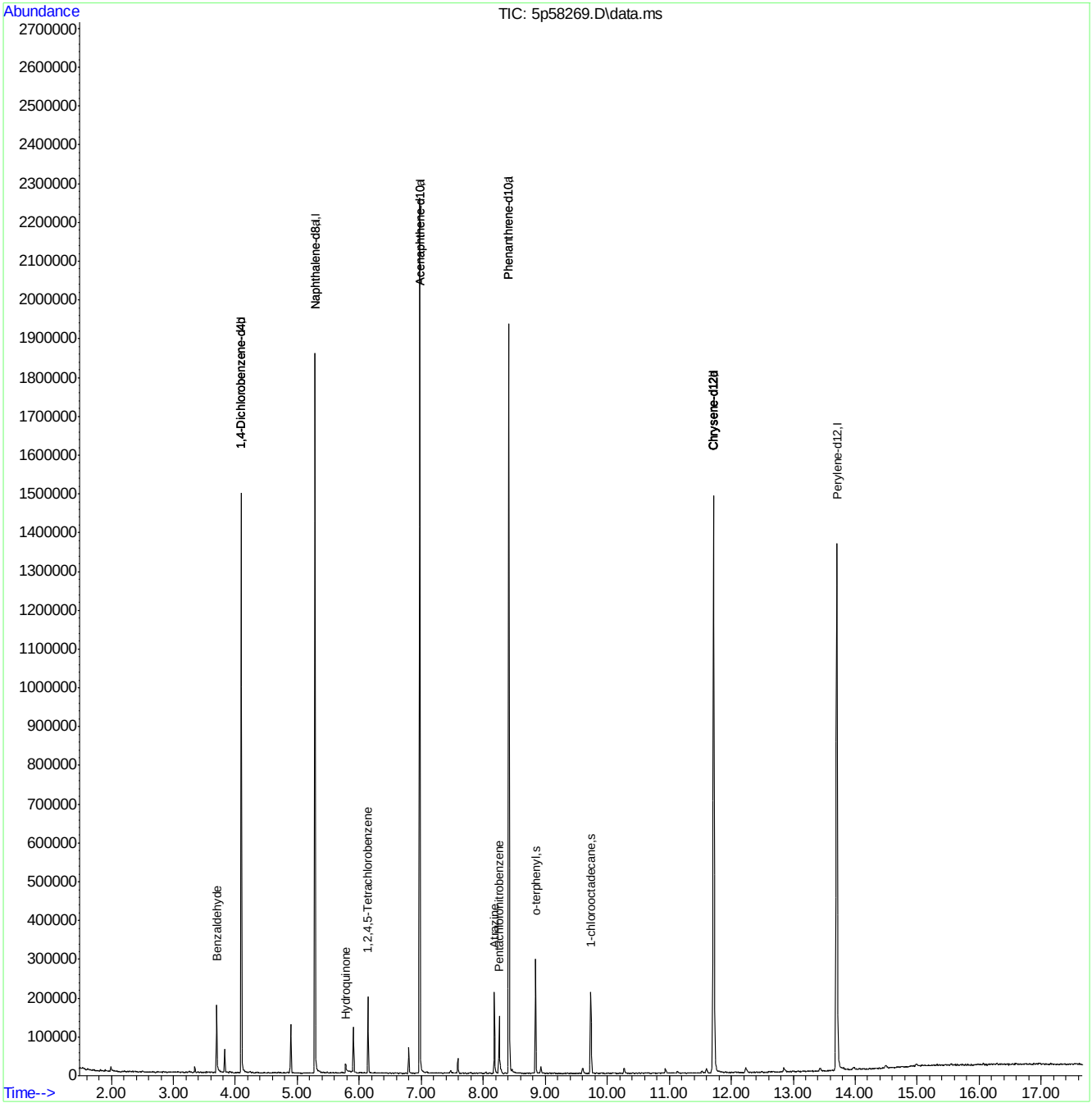
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 180643 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 698883 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 387834 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 653181 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 597605 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 635086 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 180643 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 387834 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 597605 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 653181 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 698883 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 597492 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 180643 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 597605 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 597492 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.736 | 57 | 33729 | 5.69 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 11.38% | | |
| 108) o-terphenyl | 8.844 | 230 | 51458 | 5.33 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 10.66% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 29892 | 5.13 | ppm | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 6.140 | 216 | 28960 | 5.45 | ppm | 97 |
| 109) Atrazine | 8.181 | 215 | 9349 | 5.01 | ppm | 93 |
| 110) Pentachloronitrobenzene | 8.256 | 295 | 3259 | 4.63 | ppm | 94 |
| 112) Hydroquinone | 5.777 | 110 | 18683 | 3.05 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58269.D
Acq On : 9 Apr 2019 8:32 am
Operator : chriss2
Sample : ic2762-5
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 09 15:14:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58270.D
Acq On : 9 Apr 2019 8:57 am
Operator : chriss2
Sample : ic2762-2
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 09 15:16:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

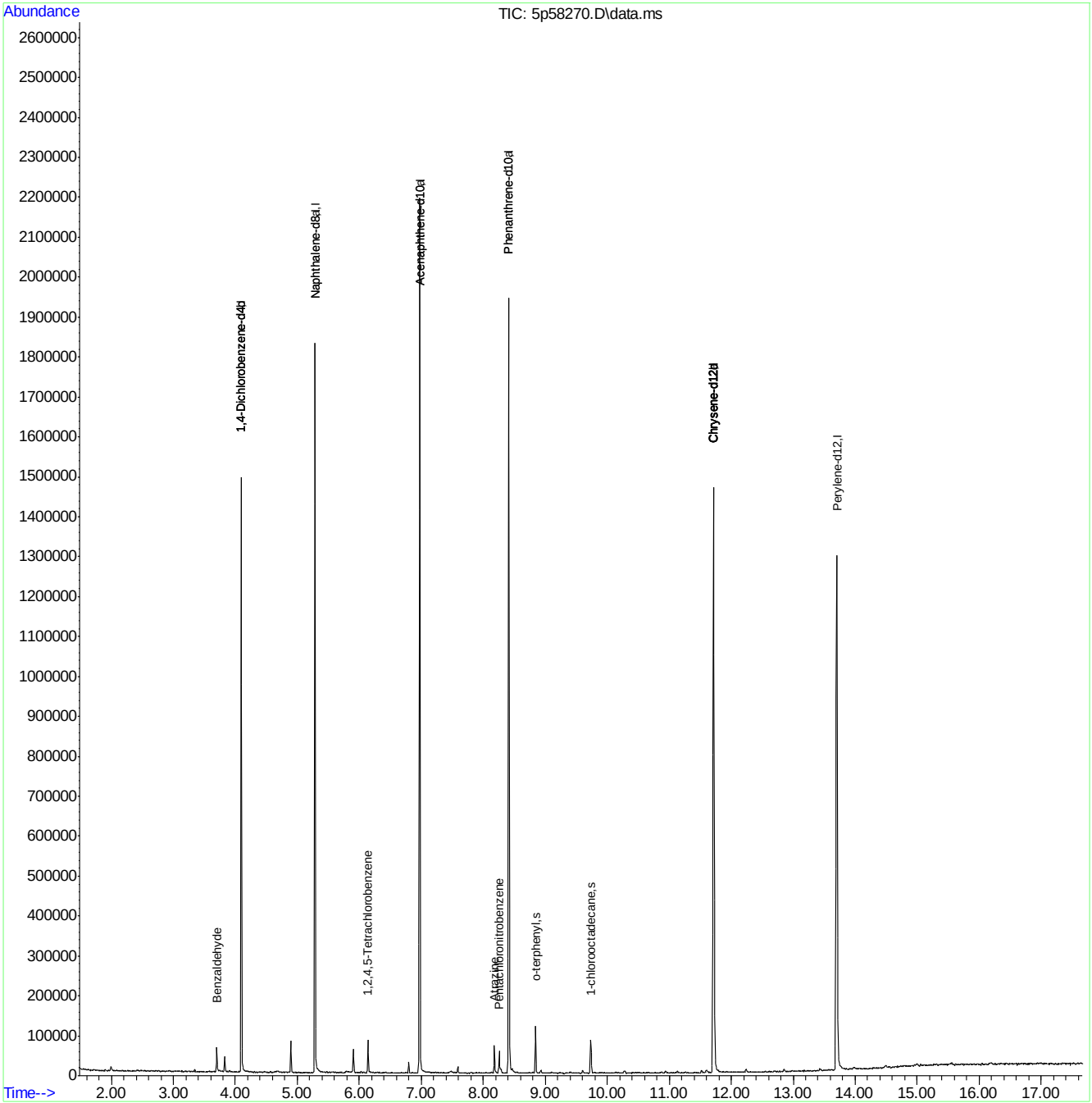
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 177189 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 681627 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 388324 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 649043 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 599372 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.705 | 264 | 631074 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 177189 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 388324 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 599372 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 649043 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 681627 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 599445 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 177189 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 599372 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 599445 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.736 | 57 | 13240 | 2.23 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 4.46% | | |
| 108) o-terphenyl | 8.844 | 230 | 20568 | 2.15 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 4.30% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 10912 | 1.91 | ppm | 83 |
| 104) 1,2,4,5-Tetrachloroben... | 6.141 | 216 | 11961 | 2.25 | ppm | 92 |
| 109) Atrazine | 8.181 | 215 | 3364 | 1.81 | ppm | 85 |
| 110) Pentachloronitrobenzene | 8.251 | 295 | 1340 | 1.91 | ppm | 86 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58270.D
Acq On : 9 Apr 2019 8:57 am
Operator : chriss2
Sample : ic2762-2
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 09 15:16:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58271.D
Acq On : 9 Apr 2019 9:37 am
Operator : chriss2
Sample : ic2762-1
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 09 15:17:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration

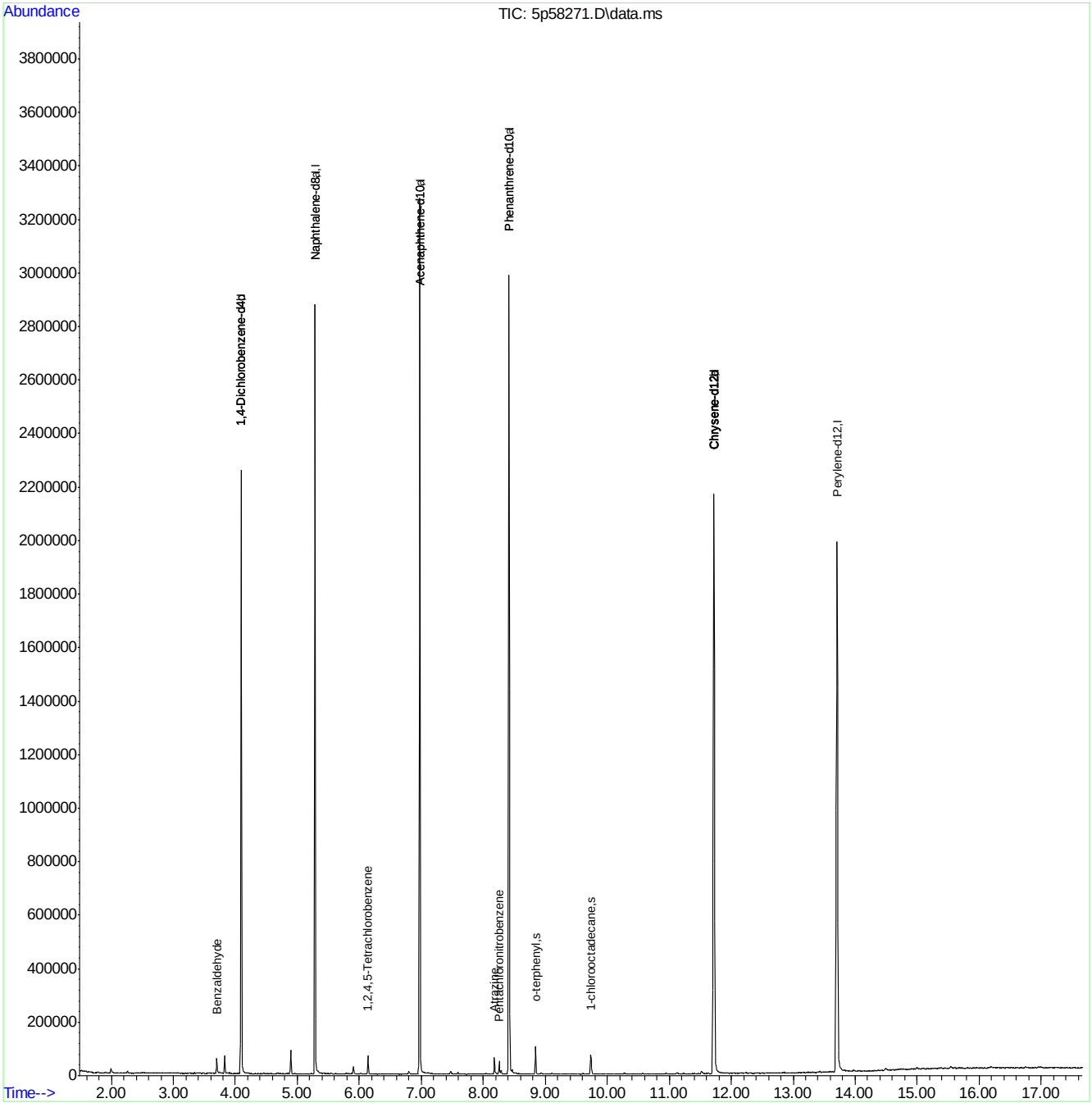
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 287898 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 1096881 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 615118 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.416 | 188 | 1028294 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.723 | 240 | 944331 | 40.00 | ppm | | 0.00 |
| 91) Perylene-d12 | 13.710 | 264 | 1036081 | 40.00 | ppm | | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 287898 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 615118 | 40.00 | ppm | | 0.00 |
| 105) Chrysene-d12a | 11.723 | 240 | 944331 | 40.00 | ppm | | 0.00 |
| 107) Phenanthrene-d10a | 8.416 | 188 | 1028294 | 40.00 | ppm | | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 1096881 | 40.00 | ppm | | 0.00 |
| 113) Chrysene-d12b | 11.723 | 240 | 948444 | 40.00 | ppm | | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 287898 | 40.00 | ppm | | 0.00 |
| 117) Chrysene-d12c | 11.723 | 240 | 944331 | 40.00 | ppm | | 0.00 |
| 119) Chrysene-d12d | 11.723 | 240 | 948444 | 40.00 | ppm | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.736 | 57 | 10582 | 1.13 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.26% | | |
| 108) o-terphenyl | 8.844 | 230 | 17584 | 1.16 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.32% | | |
| Target Compounds | | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 10641 | 1.15 | ppm | | 90 |
| 104) 1,2,4,5-Tetrachloroben... | 6.140 | 216 | 9961 | 1.18 | ppm | | 92 |
| 109) Atrazine | 8.181 | 215 | 2801 | 0.95 | ppm | | 82 |
| 110) Pentachloronitrobenzene | 8.261 | 295 | 1190 | 1.07 | ppm | # | 68 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58271.D
Acq On : 9 Apr 2019 9:37 am
Operator : chriss2
Sample : ic2762-1
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 09 15:17:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:05:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58272.D
Acq On : 9 Apr 2019 10:02 am
Operator : chriss2
Sample : icv2762-50
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 09 15:28:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:26:27 2019
Response via : Initial Calibration

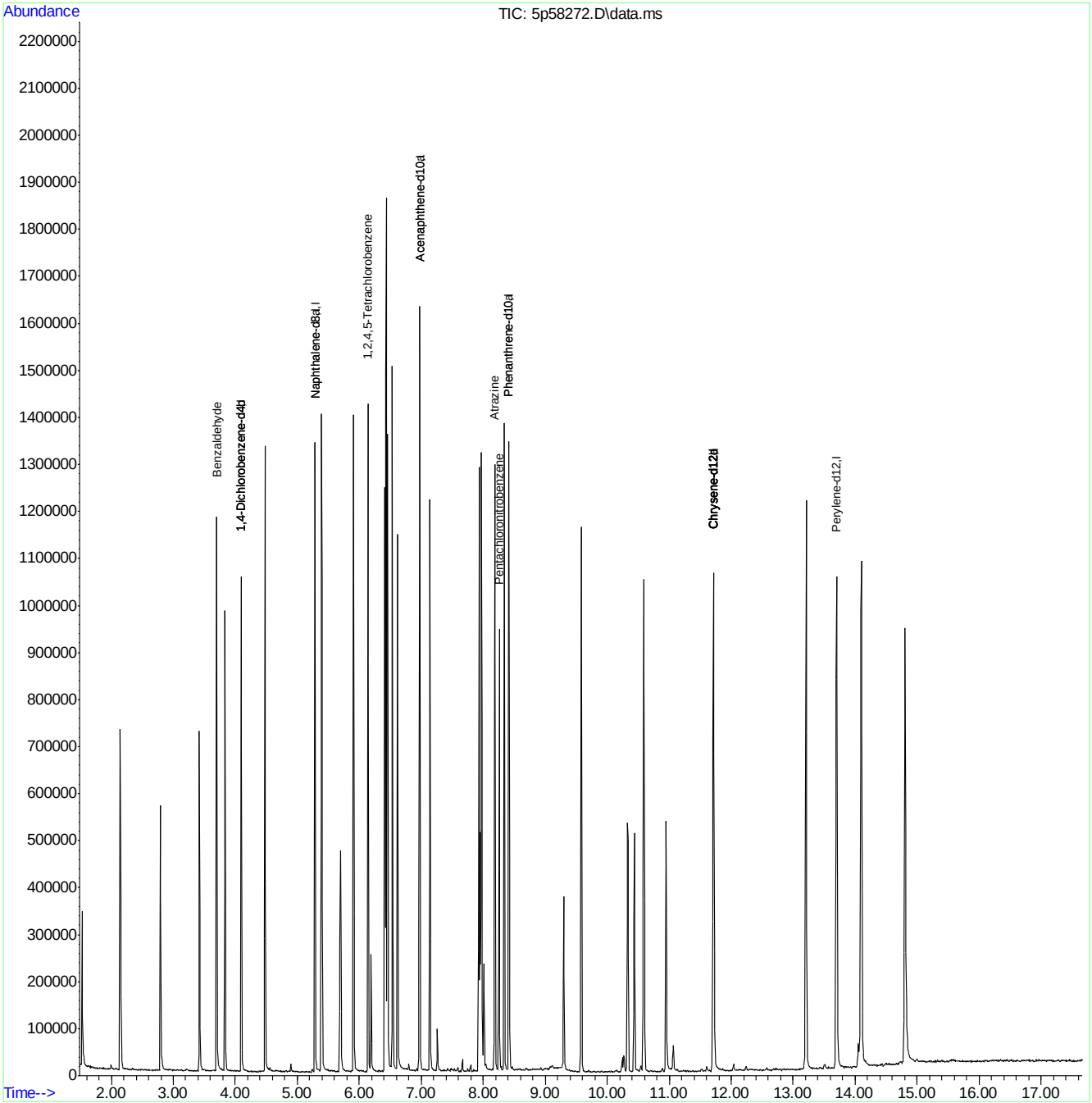
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.095 | 152 | 129214 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 519958 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 285162 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 456831 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 456343 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.700 | 264 | 470307 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.095 | 152 | 129214 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 285162 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 456343 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 456831 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 519958 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 456356 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.095 | 152 | 129214 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 456343 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 456356 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.699 | 105 | 216029 | 50.89 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.141 | 216 | 196251 | 47.95 | ppm | 99 |
| 109) Atrazine | 8.187 | 215 | 66843 | 52.96 | ppm | 98 |
| 110) Pentachloronitrobenzene | 8.256 | 295 | 24176 | 49.71 | ppm | 92 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58272.D
Acq On : 9 Apr 2019 10:02 am
Operator : chriss2
Sample : icv2762-50
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 09 15:28:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:26:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58273.D
Acq On : 9 Apr 2019 10:27 am
Operator : chriss2
Sample : icv2762-50
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 09 15:27:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:26:27 2019
Response via : Initial Calibration

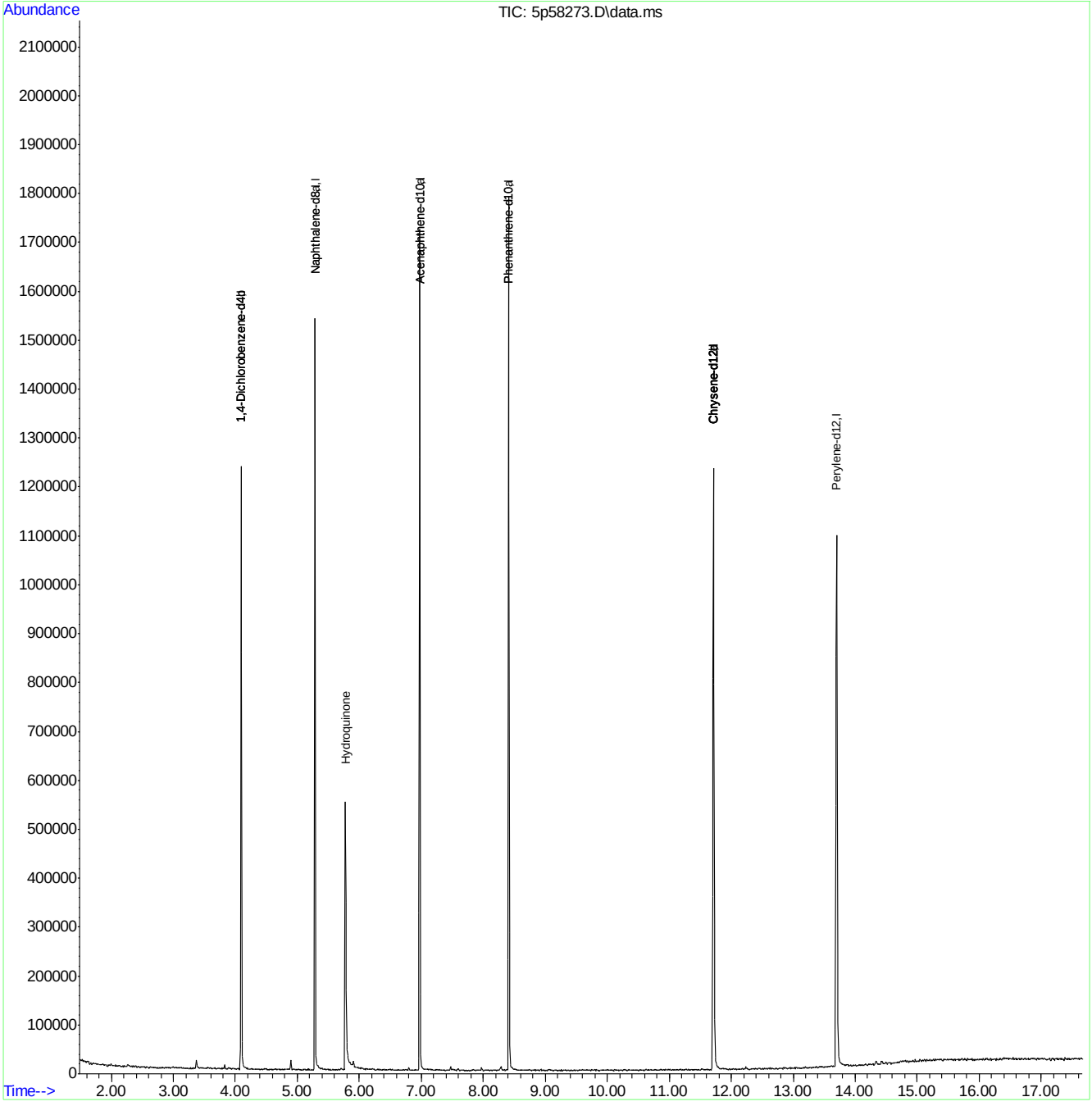
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 149381 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.286 | 136 | 587807 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 301923 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 562774 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.718 | 240 | 543445 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.700 | 264 | 528146 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 149381 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 301923 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.718 | 240 | 543445 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 562774 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.286 | 136 | 587807 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.718 | 240 | 543427 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 149381 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.718 | 240 | 543445 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.718 | 240 | 543427 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 112) Hydroquinone | 5.777 | 110 | 259392 | 52.92 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\
Data File : 5p58273.D
Acq On : 9 Apr 2019 10:27 am
Operator : chriss2
Sample : icv2762-50
Misc : op12947,e5p2762,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 09 15:27:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:26:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58284.D
Acq On : 9 Apr 2019 3:10 pm
Operator : yujiac
Sample : icv2761-50
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Apr 09 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:57:26 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.094 | 152 | 138714 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.280 | 136 | 559435 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.974 | 164 | 301015 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.411 | 188 | 453318 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.713 | 240 | 432051 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.700 | 264 | 417392 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 4.094 | 152 | 138714 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.974 | 164 | 301015 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12a | 11.713 | 240 | 432051 | 40.00 | ppm | 0.00 |
| 107) Phenanthrene-d10a | 8.411 | 188 | 453318 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.280 | 136 | 559435 | 40.00 | ppm | 0.00 |
| 113) Chrysene-d12b | 11.713 | 240 | 432009 | 40.00 | ppm | 0.00 |
| 115) 1,4-Dichlorobenzene-d4c | 4.094 | 152 | 138714 | 40.00 | ppm | 0.00 |
| 117) Chrysene-d12c | 11.713 | 240 | 432051 | 40.00 | ppm | 0.00 |
| 119) Chrysene-d12d | 11.713 | 240 | 432009 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.541 | 88 | 142809 | 48.91 | ppm | 98 |
| 6) Indene | 4.330 | 116 | 461091 | 54.58 | ppm | 97 |
| 7) Cumene | 3.379 | 105 | 669003 | 49.63 | ppm | 98 |
| 13) Decane | 3.977 | 43 | 216670 | 48.46 | ppm | 97 |
| 18) Acetophenone | 4.474 | 105 | 367625 | 48.90 | ppm | 93 |
| 27) Quinoline | 5.622 | 129 | 460509 | 44.43 | ppm | 98 |
| 40) 2,3-Dichloroaniline | 6.258 | 161 | 215498 | 37.58 | ppm | 98 |
| 41) Caprolactam | 5.702 | 55 | 104587 | 40.34 | ppm | 97 |
| 45) 1-Methylnaphthalene | 6.066 | 141 | 378821 | 41.21 | ppm | 97 |
| 46) Dimethylnaphthalene | 6.579 | 156 | 366583 | 41.49 | ppm | 96 |
| 53) Biphenyl | 6.429 | 154 | 522570 | 46.40 | ppm | 99 |
| 82) Octadecane | 8.379 | 57 | 335078 | 51.25 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 13.208 | 256 | 271242 | 56.09 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58284.D
Acq On : 9 Apr 2019 3:10 pm
Operator : yujiac
Sample : icv2761-50
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Apr 09 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:57:26 2019
Response via : Initial Calibration

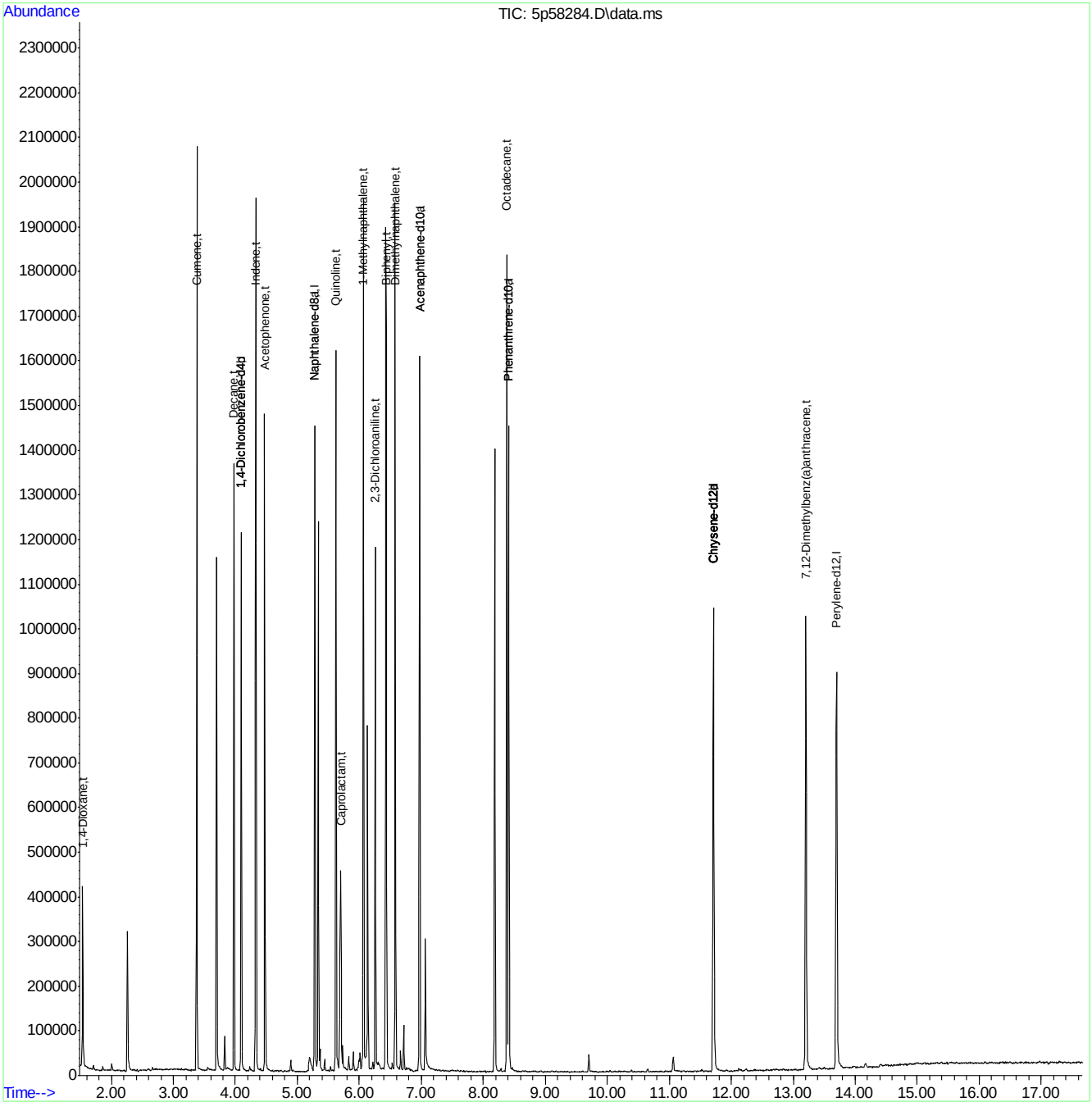
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\
Data File : 5p58284.D
Acq On : 9 Apr 2019 3:10 pm
Operator : yujiac
Sample : icv2761-50
Misc : op12947,e5p2763,1000,,,1,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Apr 09 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 15:57:26 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/21/19 08:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59678.D
Acq On : 16 May 2019 10:24 am
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:23:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 162723 | 40.00 | ppm | -0.06 |
| 24) Naphthalene-d8 | 5.082 | 136 | 615175 | 40.00 | ppm | -0.06 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 383844 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 667870 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 11.418 | 240 | 647106 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.389 | 264 | 671479 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 162723 | 40.00 | ppm | -0.06 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 383844 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 11.418 | 240 | 647106 | 40.00 | ppm | -0.11 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 667870 | 40.00 | ppm | -0.07 |
| 111) Naphthalene-d8a | 5.082 | 136 | 615175 | 40.00 | ppm | -0.06 |
| 113) Chrysene-d12b | 11.418 | 240 | 647021 | 40.00 | ppm | -0.11 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 162723 | 40.00 | ppm | -0.06 |
| 117) Chrysene-d12c | 11.418 | 240 | 647106 | 40.00 | ppm | -0.11 |
| 119) Chrysene-d12d | 11.418 | 240 | 647021 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.790 | 112 | 333722 | 52.66 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = 105.32% | | | |
| 8) Phenol-d5 | 3.656 | 99 | 411837 | 51.64 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 103.28% | | | |
| 25) Nitrobenzene-d5 | 4.425 | 82 | 432663 | 60.67 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 121.34% | | | |
| 51) 2-Fluorobiphenyl | 6.134 | 172 | 639338 | 47.92 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 95.84% | | | |
| 73) 2,4,6-Tribromophenol | 7.534 | 330 | 94401 | 49.04 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = 98.08% | | | |
| 85) Terphenyl-d14 | 10.023 | 244 | 766774 | 46.57 | ppm | -0.11 |
| Spiked Amount 50.000 | | | Recovery = 93.14% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.337 | 88 | 165204 | 48.23 | ppm | 82 |
| 3) Pyridine | 1.620 | 79 | 435998 | 55.24 | ppm | 81 |
| 4) N-Nitrosodimethylamine | 1.583 | 74 | 271185 | 58.93 | ppm | 80 |
| 6) Indene | 4.126 | 116 | 513247 | 51.79 | ppm | 97 |
| 7) Cumene | 3.169 | 105 | 885304 | 55.98 | ppm | 95 |
| 9) Phenol | 3.672 | 94 | 478051 | 54.75 | ppm | 81 |
| 10) Aniline | 3.618 | 93 | 492304 | 53.07 | ppm | 90 |
| 11) bis(2-Chloroethyl)ether | 3.682 | 93 | 379308 | 62.06 | ppm | 91 |
| 12) 2-Chlorophenol | 3.730 | 128 | 286974 | 48.74 | ppm | 85 |
| 13) Decane | 3.778 | 43 | 348176 | 66.38 | ppm | 94 |
| 14) 1,3-Dichlorobenzene | 3.842 | 146 | 314337 | 48.41 | ppm | 97 |
| 15) 1,4-Dichlorobenzene | 3.912 | 146 | 311301 | 48.74 | ppm | 98 |
| 16) Benzyl alcohol | 4.067 | 108 | 192627 | 51.64 | ppm | 89 |
| 17) 1,2-Dichlorobenzene | 4.051 | 146 | 315239 | 49.39 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59678.D
Acq On : 16 May 2019 10:24 am
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:23:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.286 | 105 | 483669 | 54.84 | ppm | | 90 |
| 19) 2-Methylphenol | 4.206 | 108 | 311978 | 56.64 | ppm | | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.174 | 45 | 430485 | 68.66 | ppm | | 91 |
| 21) 3&4-Methylphenol | 4.355 | 108 | 309321 | 52.31 | ppm | | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.307 | 70 | 283803 | 60.09 | ppm | | 93 |
| 23) Hexachloroethane | 4.350 | 201 | 110779 | 48.76 | ppm | | 97 |
| 26) Nitrobenzene | 4.441 | 77 | 426140 | 61.03 | ppm | | 89 |
| 27) Quinoline | 5.445 | 129 | 653269 | 57.32 | ppm | | 96 |
| 28) Isophorone | 4.671 | 82 | 811022 | 62.37 | ppm | | 96 |
| 29) 2-Nitrophenol | 4.740 | 139 | 168026 | 53.47 | ppm | # | 58 |
| 30) 2,4-Dimethylphenol | 4.836 | 107 | 376917 | 67.80 | ppm | | 95 |
| 31) Benzoic acid | 5.034 | 105 | 301285 | 59.96 | ppm | | 96 |
| 32) bis(2-Chloroethoxy)met... | 4.895 | 93 | 425988 | 56.04 | ppm | | 97 |
| 33) 2,4-Dichlorophenol | 4.996 | 162 | 259714 | 53.35 | ppm | | 93 |
| 34) 2,6-Dichlorophenol | 5.194 | 162 | 247269 | 52.85 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 4.740 | 180 | 270960 | 50.03 | ppm | | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.039 | 180 | 249513 | 47.97 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.247 | 180 | 240373 | 48.58 | ppm | | 98 |
| 38) Naphthalene | 5.098 | 128 | 814785 | 52.55 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.189 | 127 | 332457 | 50.80 | ppm | | 91 |
| 40) 2,3-Dichloroaniline | 6.054 | 161 | 328774 | 52.14 | ppm | | 95 |
| 41) Caprolactam | 5.563 | 55 | 212228 | 74.44 | ppm | | 95 |
| 42) Hexachlorobutadiene | 5.237 | 225 | 152605 | 50.74 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.718 | 107 | 344062 | 61.28 | ppm | | 86 |
| 44) 2-Methylnaphthalene | 5.766 | 141 | 479659 | 52.74 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 5.856 | 141 | 535851 | 53.01 | ppm | | 96 |
| 46) Dimethylnaphthalene | 6.375 | 156 | 507435 | 52.23 | ppm | | 95 |
| 48) Hexachlorocyclopentadiene | 5.926 | 237 | 237041 | 85.00 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.076 | 196 | 181293 | 48.38 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.129 | 196 | 200194 | 50.43 | ppm | | 93 |
| 52) 2-Chloronaphthalene | 6.230 | 162 | 532593 | 47.54 | ppm | | 94 |
| 53) Biphenyl | 6.225 | 154 | 714572 | 49.75 | ppm | | 100 |
| 54) 2-Nitroaniline | 6.364 | 65 | 251027 | 59.49 | ppm | | 81 |
| 55) Dimethylphthalate | 6.551 | 163 | 722206 | 52.90 | ppm | | 99 |
| 56) Acenaphthylene | 6.620 | 152 | 865712 | 48.61 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 6.604 | 165 | 159976 | 55.13 | ppm | | 81 |
| 58) 3-Nitroaniline | 6.770 | 138 | 164206 | 52.22 | ppm | | 87 |
| 59) Acenaphthene | 6.791 | 153 | 551237 | 49.76 | ppm | | 93 |
| 60) 2,4-Dinitrophenol | 6.888 | 184 | 189858 | 101.87 | ppm | | 79 |
| 61) 4-Nitrophenol | 7.032 | 109 | 103855 | 60.28 | ppm | | 80 |
| 62) Dibenzofuran | 6.962 | 168 | 820005 | 49.18 | ppm | | 95 |
| 63) 2,4-Dinitrotoluene | 7.005 | 165 | 219466 | 58.00 | ppm | | 89 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.112 | 232 | 174449 | 48.93 | ppm | | 91 |
| 65) Diethylphthalate | 7.235 | 149 | 708195 | 53.97 | ppm | | 100 |
| 66) Fluorene | 7.294 | 166 | 672274 | 51.04 | ppm | | 97 |
| 67) 4-Chlorophenyl-phenyle... | 7.304 | 204 | 297207 | 48.96 | ppm | | 89 |
| 68) 4-Nitroaniline | 7.368 | 138 | 172141 | 55.83 | ppm | | 84 |
| 70) 4,6-Dinitro-2-methylph... | 7.406 | 198 | 137283 | 55.12 | ppm | | 80 |
| 71) n-Nitrosodiphenylamine | 7.432 | 169 | 481528 | 48.92 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 7.459 | 77 | 874286 | 55.95 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59678.D
Acq On : 16 May 2019 10:24 am
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:23:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

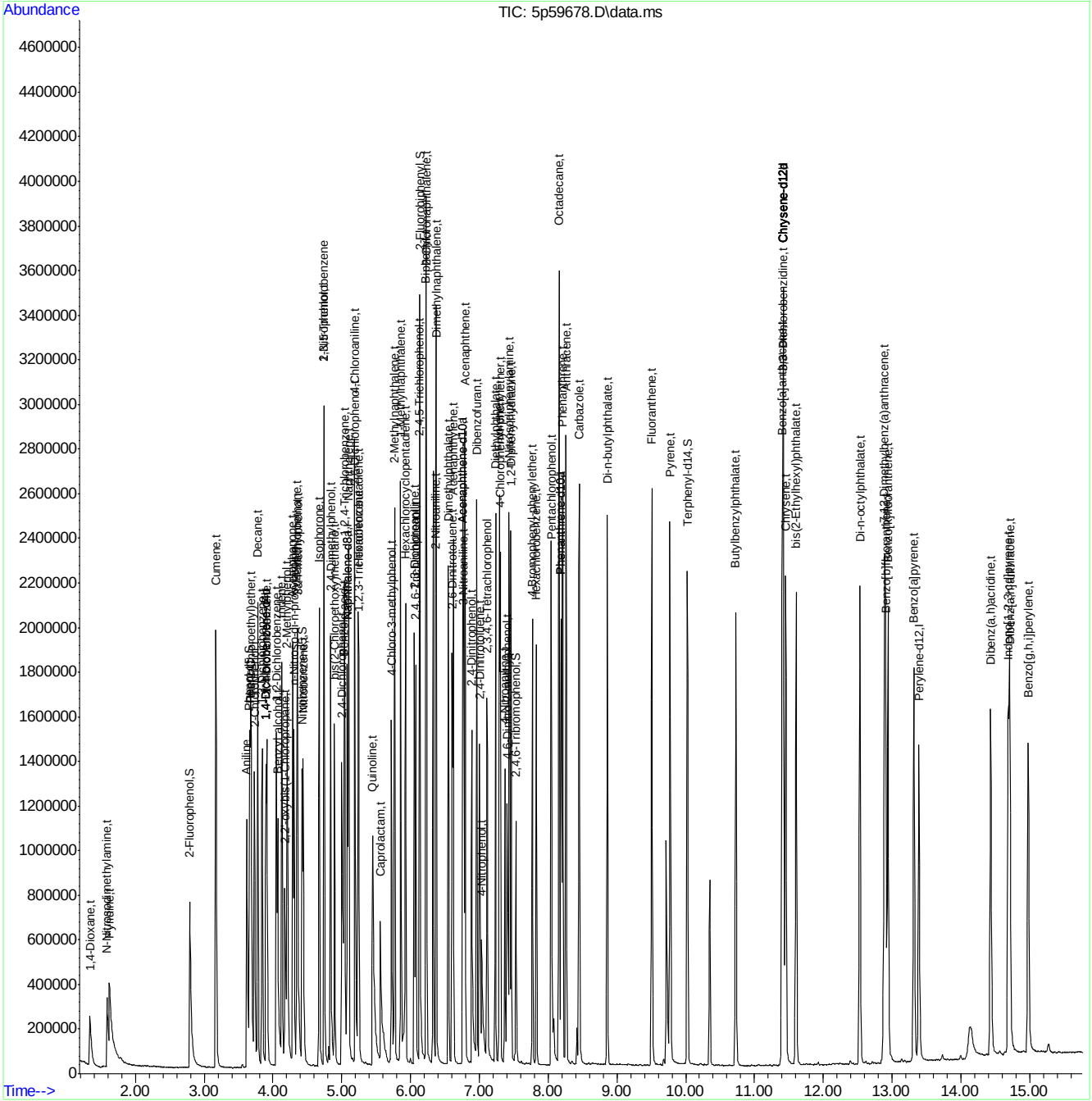
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 74) 4-Bromophenyl-phenylether | 7.774 | 248 | 203431 | 48.28 | ppm | 90 |
| 75) Hexachlorobenzene | 7.828 | 284 | 196141 | 46.62 | ppm | 92 |
| 76) Pentachlorophenol | 8.047 | 266 | 274564 | 102.99 | ppm | 100 |
| 77) Phenanthrene | 8.212 | 178 | 882015 | 48.86 | ppm | 100 |
| 78) Anthracene | 8.261 | 178 | 968166 | 51.11 | ppm | 99 |
| 79) Carbazole | 8.453 | 167 | 1000992 | 52.12 | ppm | 99 |
| 80) Di-n-butylphthalate | 8.864 | 149 | 1283915 | 53.77 | ppm | 98 |
| 81) Fluoranthene | 9.505 | 202 | 1127936 | 50.30 | ppm | 100 |
| 82) Octadecane | 8.159 | 57 | 590248 | 61.28 | ppm | 97 |
| 84) Pyrene | 9.772 | 202 | 1100806 | 44.77 | ppm | 99 |
| 86) Butylbenzylphthalate | 10.729 | 149 | 557115 | 49.53 | ppm | 92 |
| 87) Benzo[a]anthracene | 11.407 | 228 | 1016220 | 44.96 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.423 | 252 | 351288 | 47.70 | ppm | 96 |
| 89) Chrysene | 11.455 | 228 | 903553 | 43.30 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 11.610 | 149 | 728496 | 48.87 | ppm | 96 |
| 92) Di-n-octylphthalate | 12.534 | 149 | 1310830 | 54.80 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 12.908 | 252 | 936653 | 45.69 | ppm | 95 |
| 94) Benzo[k]fluoranthene | 12.940 | 252 | 933703 | 49.75 | ppm | 100 |
| 95) Benzo[a]pyrene | 13.320 | 252 | 933398 | 51.11 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.693 | 276 | 866234m | 53.03 | ppm | |
| 97) Dibenz(a,h)acridine | 14.436 | 279 | 804192 | 51.79 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.714 | 278 | 858694 | 50.84 | ppm | 96 |
| 99) 7,12-Dimethylbenz(a)an... | 12.892 | 256 | 481665 | 61.92 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 14.981 | 276 | 829380 | 50.30 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59678.D
Acq On : 16 May 2019 10:24 am
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:23:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



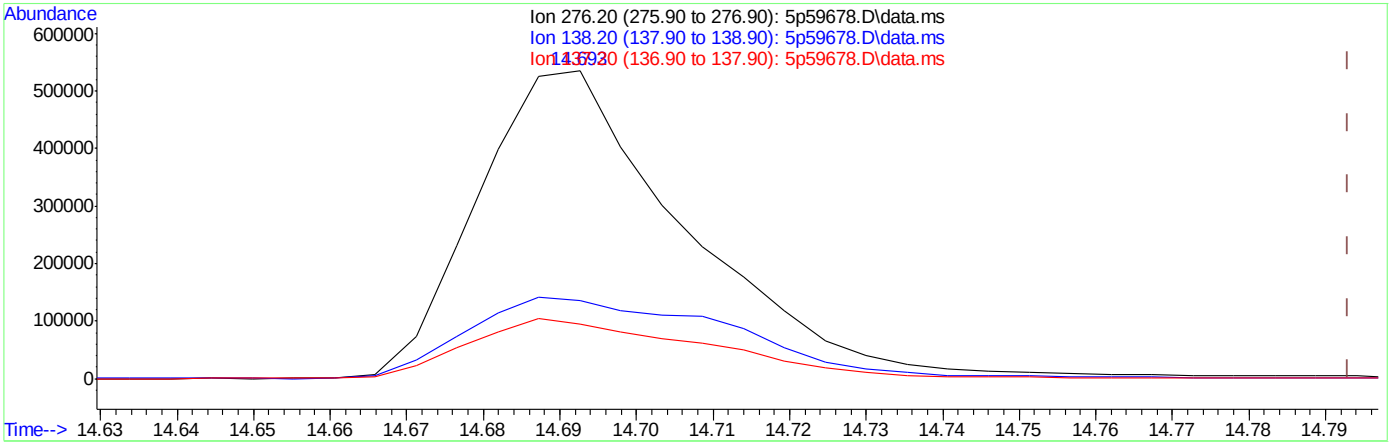
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2816-CC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P59678.D | **Analyst approved:** | 05/16/19 12:26 Ying Li |
| **Injection Time:** | 05/16/19 10:24 | **Supervisor approved:** | 05/21/19 08:15 Kristi Schollenberger |

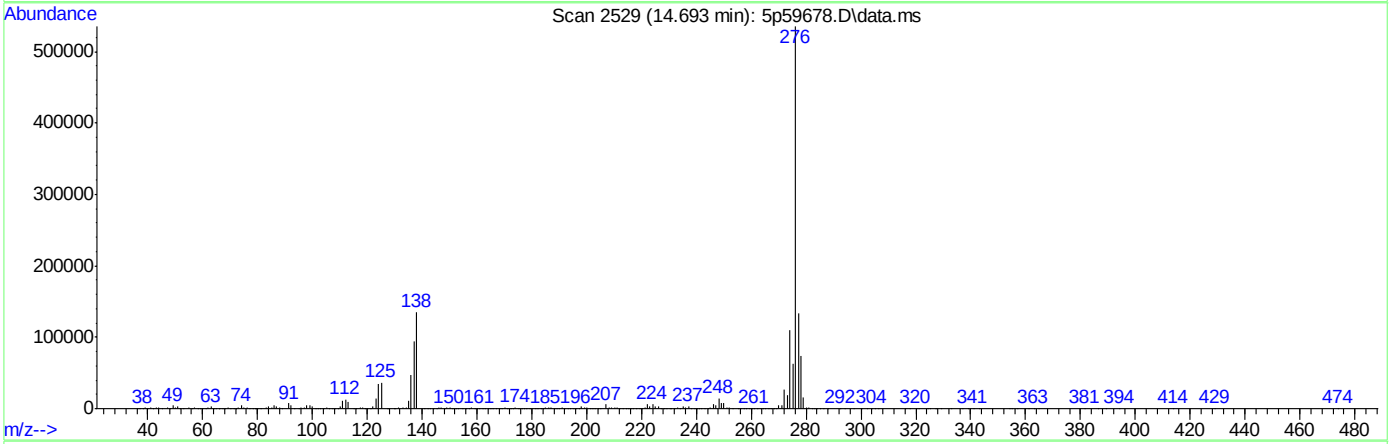
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 14.69 | Overlapping peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59678.D
Acq On : 16 May 2019 10:24 am
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 10:40:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration




TIC: 5p59678.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.693min (-0.100) 63.43ppm

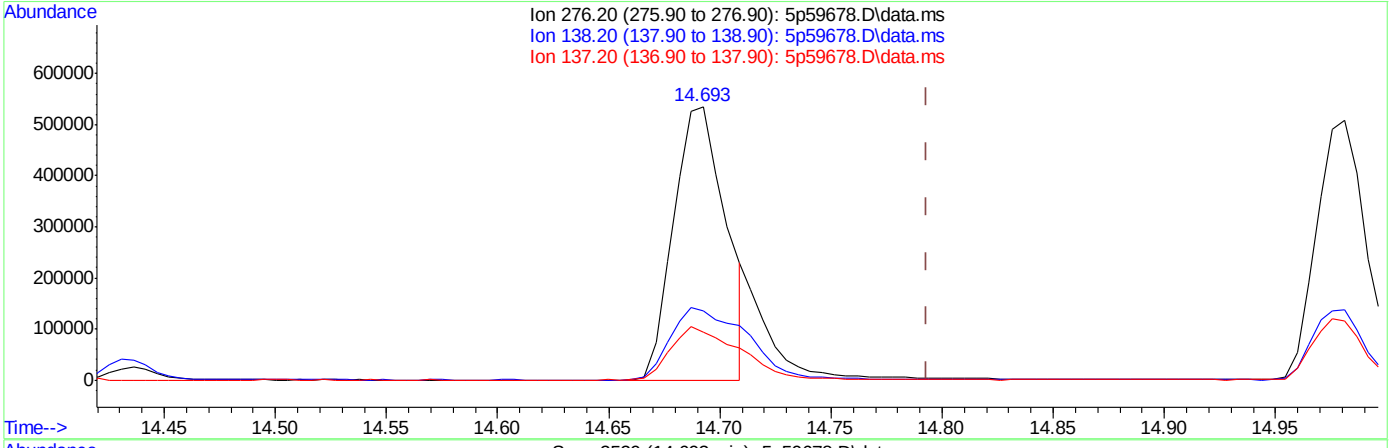
response 1036165

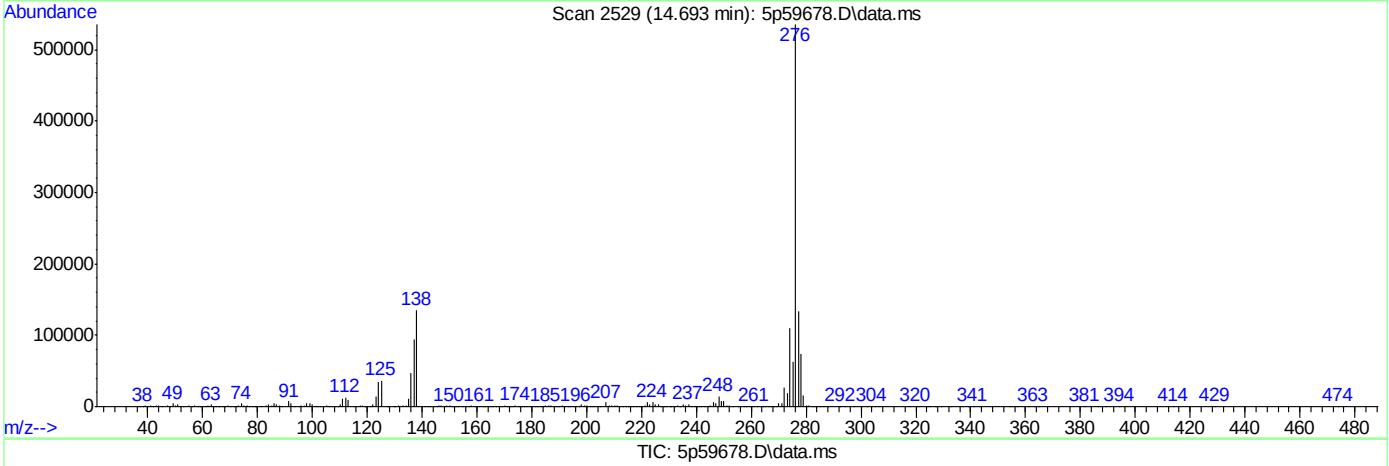
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 25.22 |
| 137.20 | 19.40 | 17.61 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59678.D
Acq On : 16 May 2019 10:24 am
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:23:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration




TIC: 5p59678.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.693min (-0.100) 53.03ppm m

response 866234

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 25.27 |
| 137.20 | 19.40 | 17.64 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59679.D
Acq On : 16 May 2019 10:49 am
Operator : christc2
Sample : cc2762-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 16 17:19:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration

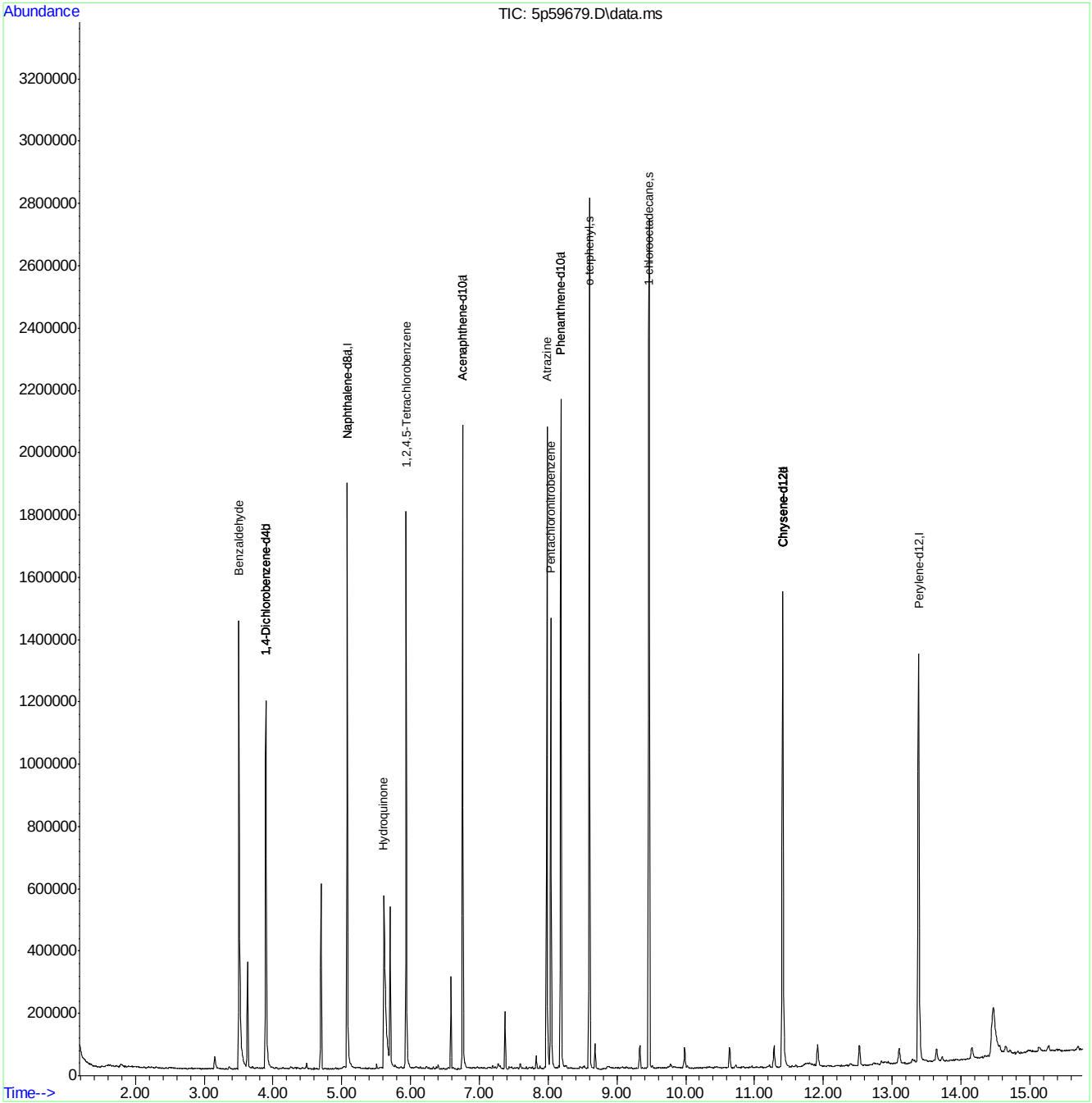
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.896 | 152 | 172344 | 40.00 | ppm | -0.06 |
| 24) Naphthalene-d8 | 5.077 | 136 | 691993 | 40.00 | ppm | -0.06 |
| 47) Acenaphthene-d10 | 6.759 | 164 | 378523 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 8.186 | 188 | 633410 | 40.00 | ppm | -0.07 |
| 83) Chrysene-d12 | 11.412 | 240 | 603033 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.389 | 264 | 632676 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4b | 3.896 | 152 | 172344 | 40.00 | ppm | -0.06 |
| 103) Acenaphthene-d10a | 6.759 | 164 | 378523 | 40.00 | ppm | -0.06 |
| 105) Chrysene-d12a | 11.412 | 240 | 603033 | 40.00 | ppm | -0.11 |
| 107) Phenanthrene-d10a | 8.186 | 188 | 633410 | 40.00 | ppm | -0.07 |
| 111) Naphthalene-d8a | 5.077 | 136 | 691993 | 40.00 | ppm | -0.06 |
| 113) Chrysene-d12b | 11.412 | 240 | 602979 | 40.00 | ppm | -0.11 |
| 115) 1,4-Dichlorobenzene-d4c | 3.896 | 152 | 172344 | 40.00 | ppm | -0.06 |
| 117) Chrysene-d12c | 11.412 | 240 | 603033 | 40.00 | ppm | -0.11 |
| 119) Chrysene-d12d | 11.412 | 240 | 602979 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.468 | 57 | 397367 | 63.28 | ppm | -0.15 |
| Spiked Amount 50.000 | | | Recovery = | 126.56% | | |
| 108) o-terphenyl | 8.602 | 230 | 515069 | 53.15 | ppm | -0.30 |
| Spiked Amount 50.000 | | | Recovery = | 106.30% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.501 | 105 | 299965 | 52.98 | ppm | 88 |
| 104) 1,2,4,5-Tetrachloroben... | 5.937 | 216 | 262286 | 48.28 | ppm | 99 |
| 109) Atrazine | 7.983 | 215 | 101119 | 57.78 | ppm | 91 |
| 110) Pentachloronitrobenzene | 8.041 | 295 | 36096 | 53.53 | ppm | 95 |
| 112) Hydroquinone | 5.611 | 110 | 371592 | 64.40 | ppm | 91 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2816\
Data File : 5p59679.D
Acq On : 16 May 2019 10:49 am
Operator : christc2
Sample : cc2762-50
Misc : op12947,e5p2816,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 16 17:19:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue May 14 15:34:14 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59742.D
Acq On : 17 May 2019 4:21 pm
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 17:26:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 12:57:01 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.869 | 152 | 146711 | 40.00 | ppm | -0.09 |
| 24) Naphthalene-d8 | 5.055 | 136 | 571004 | 40.00 | ppm | -0.09 |
| 47) Acenaphthene-d10 | 6.733 | 164 | 364730 | 40.00 | ppm | -0.09 |
| 69) Phenanthrene-d10 | 8.159 | 188 | 647633 | 40.00 | ppm | -0.10 |
| 83) Chrysene-d12 | 11.381 | 240 | 683640 | 40.00 | ppm | -0.14 |
| 91) Perylene-d12 | 13.352 | 264 | 724141 | 40.00 | ppm | -0.15 |
| 101) 1,4-Dichlorobenzene-d4b | 3.869 | 152 | 146711 | 40.00 | ppm | -0.08 |
| 103) Acenaphthene-d10a | 6.733 | 164 | 364730 | 40.00 | ppm | -0.09 |
| 105) Chrysene-d12a | 11.381 | 240 | 683640 | 40.00 | ppm | -0.14 |
| 107) Phenanthrene-d10a | 8.159 | 188 | 647633 | 40.00 | ppm | -0.10 |
| 111) Naphthalene-d8a | 5.055 | 136 | 571004 | 40.00 | ppm | -0.09 |
| 113) Chrysene-d12b | 11.381 | 240 | 683640 | 40.00 | ppm | -0.14 |
| 115) 1,4-Dichlorobenzene-d4c | 3.869 | 152 | 146711 | 40.00 | ppm | -0.08 |
| 117) Chrysene-d12c | 11.381 | 240 | 683640 | 40.00 | ppm | -0.14 |
| 119) Chrysene-d12d | 11.381 | 240 | 683640 | 40.00 | ppm | -0.14 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.753 | 112 | 311999 | 54.61 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 109.22% | | | |
| 8) Phenol-d5 | 3.624 | 99 | 381259 | 53.02 | ppm | -0.08 |
| Spiked Amount 50.000 | | | Recovery = 106.04% | | | |
| 25) Nitrobenzene-d5 | 4.393 | 82 | 406272 | 61.37 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 122.74% | | | |
| 51) 2-Fluorobiphenyl | 6.108 | 172 | 607398 | 47.92 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 95.84% | | | |
| 73) 2,4,6-Tribromophenol | 7.507 | 330 | 91736 | 49.14 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 98.28% | | | |
| 85) Terphenyl-d14 | 9.992 | 244 | 770228 | 44.28 | ppm | -0.14 |
| Spiked Amount 50.000 | | | Recovery = 88.56% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.305 | 88 | 166089 | 53.78 | ppm | 81 |
| 3) Pyridine | 1.593 | 79 | 399065 | 56.07 | ppm | 74 |
| 4) N-Nitrosodimethylamine | 1.545 | 74 | 269645 | 64.99 | ppm | 73 |
| 6) Indene | 4.099 | 116 | 471770 | 52.80 | ppm | 97 |
| 7) Cumene | 3.137 | 105 | 808568 | 56.71 | ppm | 94 |
| 9) Phenol | 3.640 | 94 | 435431 | 55.31 | ppm | 85 |
| 10) Aniline | 3.586 | 93 | 463597 | 55.43 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 3.650 | 93 | 330350 | 59.95 | ppm | 90 |
| 12) 2-Chlorophenol | 3.698 | 128 | 260285 | 49.03 | ppm | 84 |
| 13) Decane | 3.752 | 43 | 323479 | 68.41 | ppm | 92 |
| 14) 1,3-Dichlorobenzene | 3.811 | 146 | 283455 | 48.42 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 3.880 | 146 | 281664 | 48.91 | ppm | 96 |
| 16) Benzyl alcohol | 4.035 | 108 | 185214 | 55.07 | ppm | 78 |
| 17) 1,2-Dichlorobenzene | 4.019 | 146 | 284979 | 49.52 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59742.D
Acq On : 17 May 2019 4:21 pm
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 17:26:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 12:57:01 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 18) Acetophenone | 4.259 | 105 | 449919 | 56.58 | ppm | | 88 |
| 19) 2-Methylphenol | 4.174 | 108 | 283273 | 57.04 | ppm | | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.147 | 45 | 393954 | 69.70 | ppm | | 91 |
| 21) 3&4-Methylphenol | 4.323 | 108 | 289798 | 54.36 | ppm | | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.281 | 70 | 270385 | 63.50 | ppm | | 95 |
| 23) Hexachloroethane | 4.318 | 201 | 97365 | 47.53 | ppm | | 94 |
| 26) Nitrobenzene | 4.414 | 77 | 401844 | 62.00 | ppm | | 89 |
| 27) Quinoline | 5.429 | 129 | 626176 | 59.19 | ppm | | 96 |
| 28) Isophorone | 4.644 | 82 | 742713 | 61.54 | ppm | | 94 |
| 29) 2-Nitrophenol | 4.713 | 139 | 152982 | 52.45 | ppm | # | 60 |
| 30) 2,4-Dimethylphenol | 4.810 | 107 | 347070 | 67.26 | ppm | | 95 |
| 31) Benzoic acid | 5.018 | 105 | 278796 | 59.78 | ppm | | 94 |
| 32) bis(2-Chloroethoxy)met... | 4.868 | 93 | 384237 | 54.46 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 4.970 | 162 | 239535 | 53.01 | ppm | | 95 |
| 34) 2,6-Dichlorophenol | 5.162 | 162 | 229346 | 52.81 | ppm | | 96 |
| 35) 1,3,5-Trichlorobenzene | 4.713 | 180 | 240978 | 47.93 | ppm | | 95 |
| 36) 1,2,4-Trichlorobenzene | 5.013 | 180 | 227297 | 47.08 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.221 | 180 | 221253 | 48.17 | ppm | | 98 |
| 38) Naphthalene | 5.071 | 128 | 749446 | 52.08 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.162 | 127 | 302022 | 49.72 | ppm | | 90 |
| 40) 2,3-Dichloroaniline | 6.028 | 161 | 307968 | 52.61 | ppm | | 94 |
| 41) Caprolactam | 5.541 | 55 | 95905 | 36.24 | ppm | | 95 |
| 42) Hexachlorobutadiene | 5.210 | 225 | 138672 | 49.67 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.691 | 107 | 334232 | 64.13 | ppm | | 87 |
| 44) 2-Methylnaphthalene | 5.739 | 141 | 457087 | 54.14 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 5.830 | 141 | 514632 | 54.85 | ppm | | 95 |
| 46) Dimethylnaphthalene | 6.348 | 156 | 489256 | 54.25 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 5.899 | 237 | 224329 | 84.67 | ppm | | 100 |
| 49) 2,4,6-Trichlorophenol | 6.049 | 196 | 172081 | 48.33 | ppm | | 97 |
| 50) 2,4,5-Trichlorophenol | 6.102 | 196 | 189533 | 50.25 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.204 | 162 | 509432 | 47.85 | ppm | | 94 |
| 53) Biphenyl | 6.199 | 154 | 681362 | 49.93 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.337 | 65 | 245819 | 61.31 | ppm | | 81 |
| 55) Dimethylphthalate | 6.524 | 163 | 683988 | 52.73 | ppm | | 99 |
| 56) Acenaphthylene | 6.594 | 152 | 833622 | 49.26 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 6.583 | 165 | 154756 | 56.13 | ppm | | 98 |
| 58) 3-Nitroaniline | 6.743 | 138 | 153259 | 51.29 | ppm | | 83 |
| 59) Acenaphthene | 6.765 | 153 | 529523 | 50.30 | ppm | | 93 |
| 60) 2,4-Dinitrophenol | 6.861 | 184 | 170941 | 96.85 | ppm | # | 68 |
| 61) 4-Nitrophenol | 7.000 | 109 | 113696 | 69.45 | ppm | # | 81 |
| 62) Dibenzofuran | 6.936 | 168 | 788208 | 49.75 | ppm | | 94 |
| 63) 2,4-Dinitrotoluene | 6.978 | 165 | 214504 | 59.66 | ppm | | 84 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.085 | 232 | 168966 | 49.87 | ppm | | 92 |
| 65) Diethylphthalate | 7.208 | 149 | 689951 | 55.33 | ppm | | 99 |
| 66) Fluorene | 7.262 | 166 | 647391 | 51.72 | ppm | | 97 |
| 67) 4-Chlorophenyl-phenyle... | 7.278 | 204 | 283834 | 49.21 | ppm | | 88 |
| 68) 4-Nitroaniline | 7.342 | 138 | 162299 | 55.39 | ppm | | 78 |
| 70) 4,6-Dinitro-2-methylph... | 7.379 | 198 | 127880 | 52.94 | ppm | | 69 |
| 71) n-Nitrosodiphenylamine | 7.406 | 169 | 461010 | 48.30 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.433 | 77 | 866529 | 57.19 | ppm | | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59742.D
Acq On : 17 May 2019 4:21 pm
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 17:26:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 12:57:01 2019
Response via : Initial Calibration

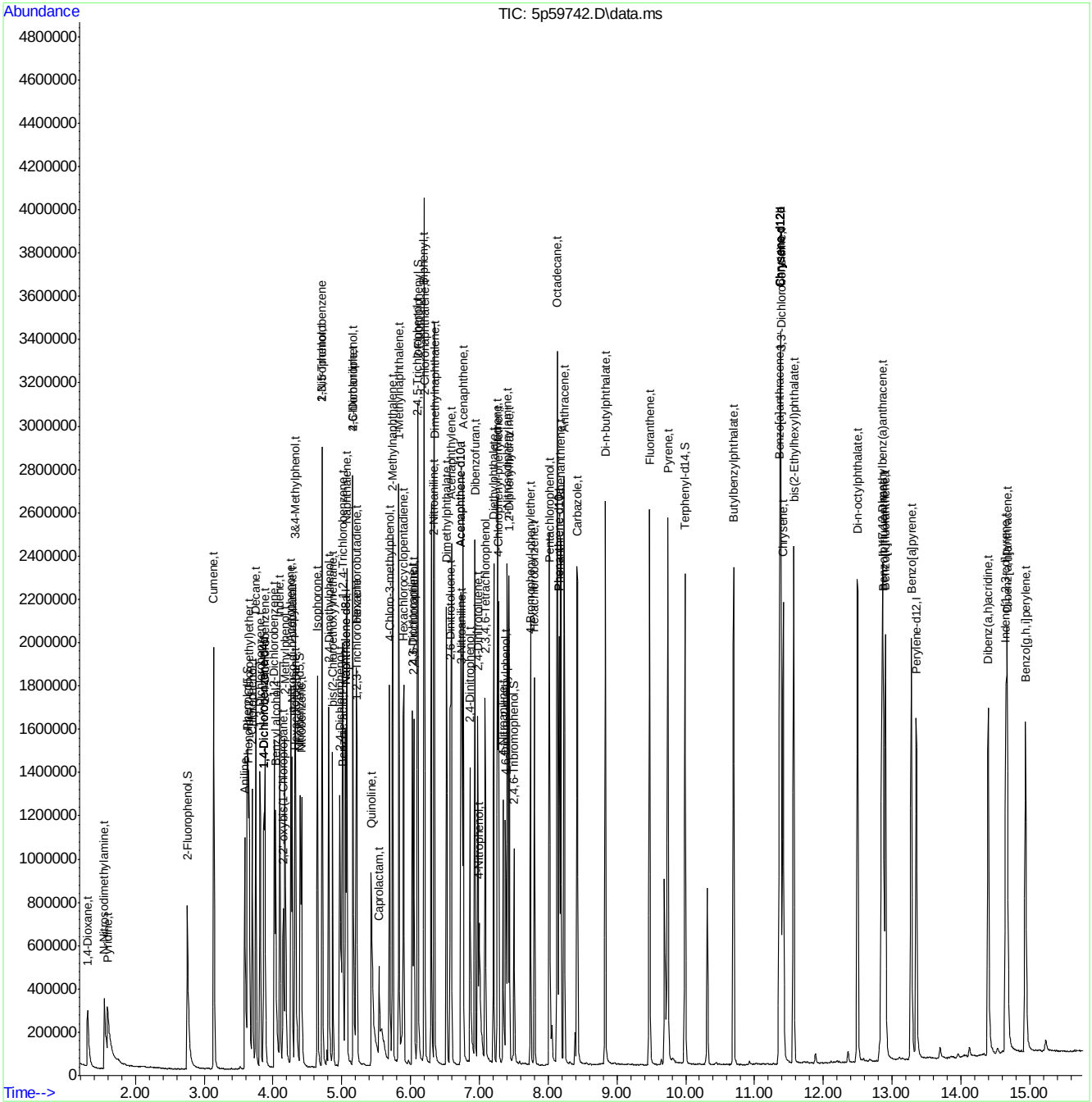
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 74) | 4-Bromophenyl-phenylether | 7.748 | 248 | 198179 | 48.50 | ppm | 94 |
| 75) | Hexachlorobenzene | 7.801 | 284 | 193180 | 47.35 | ppm | 92 |
| 76) | Pentachlorophenol | 8.020 | 266 | 272704 | 105.49 | ppm | 98 |
| 77) | Phenanthrene | 8.186 | 178 | 859108 | 49.07 | ppm | 99 |
| 78) | Anthracene | 8.234 | 178 | 950904 | 51.76 | ppm | 100 |
| 79) | Carbazole | 8.426 | 167 | 963452 | 51.74 | ppm | 99 |
| 80) | Di-n-butylphthalate | 8.832 | 149 | 1260126 | 54.42 | ppm | 98 |
| 81) | Fluoranthene | 9.473 | 202 | 1110874 | 51.09 | ppm | 99 |
| 82) | Octadecane | 8.132 | 57 | 575519 | 61.62 | ppm | 97 |
| 84) | Pyrene | 9.740 | 202 | 1076069 | 41.42 | ppm | 99 |
| 86) | Butylbenzylphthalate | 10.697 | 149 | 577613 | 48.61 | ppm | 92 |
| 87) | Benzo[a]anthracene | 11.370 | 228 | 1053888 | 44.14 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.386 | 252 | 360190 | 46.29 | ppm | 98 |
| 89) | Chrysene | 11.418 | 228 | 959669 | 43.53 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.573 | 149 | 772316 | 49.04 | ppm | 97 |
| 92) | Di-n-octylphthalate | 12.497 | 149 | 1384471 | 53.67 | ppm | 95 |
| 93) | Benzo[b]fluoranthene | 12.871 | 252 | 996433 | 45.07 | ppm | 96 |
| 94) | Benzo[k]fluoranthene | 12.903 | 252 | 974998 | 48.17 | ppm | 98 |
| 95) | Benzo[a]pyrene | 13.282 | 252 | 1003713 | 50.97 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.655 | 276 | 1119962 | 63.57 | ppm | 99 |
| 97) | Dibenz(a,h)acridine | 14.399 | 279 | 853933 | 51.00 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.677 | 278 | 912655 | 50.10 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.855 | 256 | 507770 | 60.53 | ppm | 95 |
| 100) | Benzo[g,h,i]perylene | 14.944 | 276 | 898911 | 50.55 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59742.D
Acq On : 17 May 2019 4:21 pm
Operator : christc2
Sample : cc2761-50
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 17:26:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 12:57:01 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59743.D
Acq On : 17 May 2019 4:43 pm
Operator : christc2
Sample : cc2762-50
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 17:27:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 12:57:01 2019
Response via : Initial Calibration

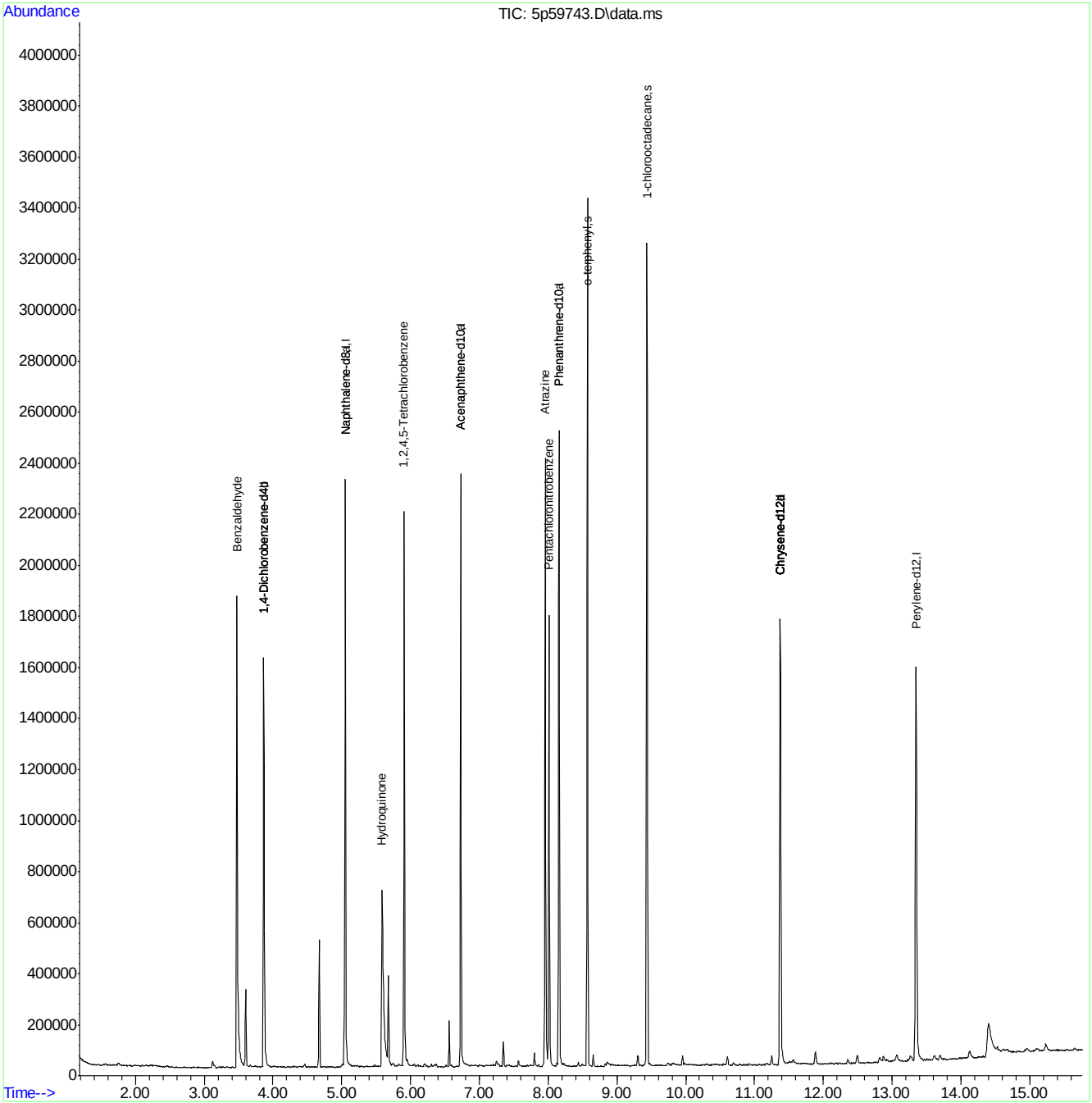
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.864 | 152 | 211697 | 40.00 | ppm | -0.09 |
| 24) Naphthalene-d8 | 5.050 | 136 | 827974 | 40.00 | ppm | -0.09 |
| 47) Acenaphthene-d10 | 6.733 | 164 | 453916 | 40.00 | ppm | -0.09 |
| 69) Phenanthrene-d10 | 8.159 | 188 | 754340 | 40.00 | ppm | -0.10 |
| 83) Chrysene-d12 | 11.375 | 240 | 710032 | 40.00 | ppm | -0.15 |
| 91) Perylene-d12 | 13.352 | 264 | 777349 | 40.00 | ppm | -0.15 |
| 101) 1,4-Dichlorobenzene-d4b | 3.864 | 152 | 211697 | 40.00 | ppm | -0.09 |
| 103) Acenaphthene-d10a | 6.733 | 164 | 453916 | 40.00 | ppm | -0.09 |
| 105) Chrysene-d12a | 11.375 | 240 | 710032 | 40.00 | ppm | -0.15 |
| 107) Phenanthrene-d10a | 8.159 | 188 | 754340 | 40.00 | ppm | -0.10 |
| 111) Naphthalene-d8a | 5.050 | 136 | 827974 | 40.00 | ppm | -0.09 |
| 113) Chrysene-d12b | 11.375 | 240 | 710032 | 40.00 | ppm | -0.15 |
| 115) 1,4-Dichlorobenzene-d4c | 3.864 | 152 | 211697 | 40.00 | ppm | -0.09 |
| 117) Chrysene-d12c | 11.375 | 240 | 710032 | 40.00 | ppm | -0.15 |
| 119) Chrysene-d12d | 11.375 | 240 | 710032 | 40.00 | ppm | -0.15 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.436 | 57 | 478785 | 64.76 | ppm | -0.18 |
| Spiked Amount 50.000 | | | Recovery = | 129.52% | | |
| 108) o-terphenyl | 8.570 | 230 | 609008 | 52.77 | ppm | -0.34 |
| Spiked Amount 50.000 | | | Recovery = | 105.54% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.474 | 105 | 375380 | 53.97 | ppm | 91 |
| 104) 1,2,4,5-Tetrachloroben... | 5.905 | 216 | 329323 | 50.55 | ppm | 98 |
| 109) Atrazine | 7.961 | 215 | 122101 | 58.58 | ppm | 92 |
| 110) Pentachloronitrobenzene | 8.015 | 295 | 42673 | 53.14 | ppm | 97 |
| 112) Hydroquinone | 5.584 | 110 | 454348 | 65.81 | ppm | 90 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2818\
Data File : 5p59743.D
Acq On : 17 May 2019 4:43 pm
Operator : christc2
Sample : cc2762-50
Misc : op12947,e5p2818,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 17:27:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Fri May 17 12:57:01 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/21/19 18:13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59860.D
Acq On : 21 May 2019 4:00 am
Operator : chriss2
Sample : cc2761-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 09:31:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.784 | 152 | 162222 | 40.00 | ppm | -0.17 |
| 24) Naphthalene-d8 | 4.970 | 136 | 614431 | 40.00 | ppm | -0.17 |
| 47) Acenaphthene-d10 | 6.647 | 164 | 352022 | 40.00 | ppm | -0.18 |
| 69) Phenanthrene-d10 | 8.068 | 188 | 628076 | 40.00 | ppm | -0.19 |
| 83) Chrysene-d12 | 11.252 | 240 | 688527 | 40.00 | ppm | -0.27 |
| 91) Perylene-d12 | 13.213 | 264 | 705691 | 40.00 | ppm | -0.29 |
| 101) 1,4-Dichlorobenzene-d4b | 3.784 | 152 | 162222 | 40.00 | ppm | -0.17 |
| 103) Acenaphthene-d10a | 6.647 | 164 | 352022 | 40.00 | ppm | -0.18 |
| 105) Chrysene-d12a | 11.252 | 240 | 688527 | 40.00 | ppm | -0.27 |
| 107) Phenanthrene-d10a | 8.068 | 188 | 628076 | 40.00 | ppm | -0.19 |
| 111) Naphthalene-d8a | 4.970 | 136 | 614431 | 40.00 | ppm | -0.17 |
| 113) Chrysene-d12b | 11.252 | 240 | 688448 | 40.00 | ppm | -0.27 |
| 115) 1,4-Dichlorobenzene-d4c | 3.784 | 152 | 162222 | 40.00 | ppm | -0.17 |
| 117) Chrysene-d12c | 11.252 | 240 | 688527 | 40.00 | ppm | -0.27 |
| 119) Chrysene-d12d | 11.252 | 240 | 688448 | 40.00 | ppm | -0.27 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.667 | 112 | 157331 | 24.90 | ppm | -0.15 |
| Spiked Amount 50.000 | | | Recovery = 49.80% | | | |
| 8) Phenol-d5 | 3.543 | 99 | 185325 | 23.31 | ppm | -0.16 |
| Spiked Amount 50.000 | | | Recovery = 46.62% | | | |
| 25) Nitrobenzene-d5 | 4.313 | 82 | 226488 | 31.80 | ppm | -0.15 |
| Spiked Amount 50.000 | | | Recovery = 63.60% | | | |
| 51) 2-Fluorobiphenyl | 6.022 | 172 | 362437 | 29.62 | ppm | -0.17 |
| Spiked Amount 50.000 | | | Recovery = 59.24% | | | |
| 73) 2,4,6-Tribromophenol | 7.416 | 330 | 45125 | 24.93 | ppm | -0.18 |
| Spiked Amount 50.000 | | | Recovery = 49.86% | | | |
| 85) Terphenyl-d14 | 9.874 | 244 | 437875 | 24.99 | ppm | -0.26 |
| Spiked Amount 50.000 | | | Recovery = 49.98% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.235 | 88 | 83151 | 24.35 | ppm | 76 |
| 3) Pyridine | 1.508 | 79 | 170743 | 21.70 | ppm | 83 |
| 4) N-Nitrosodimethylamine | 1.476 | 74 | 119300 | 26.00 | ppm | 85 |
| 9) Phenol | 3.554 | 94 | 206231 | 23.69 | ppm | 87 |
| 10) Aniline | 3.506 | 93 | 245964 | 26.60 | ppm | 91 |
| 11) bis(2-Chloroethyl)ether | 3.575 | 93 | 160793 | 26.39 | ppm | 99 |
| 12) 2-Chlorophenol | 3.613 | 128 | 133007 | 22.66 | ppm | 87 |
| 13) Decane | 3.672 | 43 | 144154 | 27.57 | ppm | 93 |
| 14) 1,3-Dichlorobenzene | 3.730 | 146 | 147027 | 22.71 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 3.800 | 146 | 143342 | 22.51 | ppm | 96 |
| 16) Benzyl alcohol | 3.955 | 108 | 98393 | 26.46 | ppm | 92 |
| 17) 1,2-Dichlorobenzene | 3.939 | 146 | 145444 | 22.86 | ppm | 99 |
| 18) Acetophenone | 4.179 | 105 | 214655 | 24.41 | ppm | 92 |
| 19) 2-Methylphenol | 4.094 | 108 | 145020 | 26.41 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59860.D
Acq On : 21 May 2019 4:00 am
Operator : chriss2
Sample : cc2761-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 09:31:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.072 | 45 | 199090 | 31.85 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.248 | 108 | 145653 | 24.71 | ppm | 97 |
| 22) n-Nitroso-di-n-propyla... | 4.195 | 70 | 127311 | 27.04 | ppm | 97 |
| 23) Hexachloroethane | 4.238 | 201 | 51811 | 22.87 | ppm | 95 |
| 26) Nitrobenzene | 4.334 | 77 | 182460 | 26.16 | ppm | 92 |
| 28) Isophorone | 4.558 | 82 | 359028 | 27.64 | ppm | 95 |
| 29) 2-Nitrophenol | 4.633 | 139 | 76612 | 24.41 | ppm | 92 |
| 30) 2,4-Dimethylphenol | 4.724 | 107 | 171431 | 30.87 | ppm | 94 |
| 32) bis(2-Chloroethoxy)met... | 4.788 | 93 | 190113 | 25.04 | ppm | 98 |
| 33) 2,4-Dichlorophenol | 4.884 | 162 | 117197 | 24.10 | ppm | 91 |
| 34) 2,6-Dichlorophenol | 5.082 | 162 | 99750 | 21.35 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 4.932 | 180 | 122373 | 23.56 | ppm | 98 |
| 38) Naphthalene | 4.991 | 128 | 381869 | 24.66 | ppm | 98 |
| 39) 4-Chloroaniline | 5.082 | 127 | 157612 | 24.11 | ppm | 95 |
| 41) Caprolactam | 5.424 | 55 | 72034 | 25.30 | ppm | 94 |
| 42) Hexachlorobutadiene | 5.125 | 225 | 68477 | 22.79 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.605 | 107 | 147197 | 26.25 | ppm | 90 |
| 44) 2-Methylnaphthalene | 5.653 | 141 | 237760 | 26.17 | ppm | 97 |
| 45) 1-Methylnaphthalene | 5.744 | 141 | 236725 | 23.45 | ppm | 94 |
| 48) Hexachlorocyclopentadiene | 5.814 | 237 | 32055 | 16.40 | ppm | 97 |
| 49) 2,4,6-Trichlorophenol | 5.963 | 196 | 80997 | 23.57 | ppm | 97 |
| 50) 2,4,5-Trichlorophenol | 6.017 | 196 | 91886 | 25.24 | ppm | 99 |
| 52) 2-Chloronaphthalene | 6.134 | 162 | 188923 | 18.39 | ppm | 96 |
| 53) Biphenyl | 6.113 | 154 | 308758 | 23.44 | ppm | 99 |
| 54) 2-Nitroaniline | 6.257 | 65 | 103976 | 26.87 | ppm | 93 |
| 55) Dimethylphthalate | 6.444 | 163 | 309649 | 24.73 | ppm | 99 |
| 56) Acenaphthylene | 6.508 | 152 | 384986 | 23.57 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.498 | 165 | 67895 | 25.51 | ppm | 91 |
| 58) 3-Nitroaniline | 6.658 | 138 | 69070 | 23.95 | ppm | 90 |
| 59) Acenaphthene | 6.674 | 153 | 247195 | 24.33 | ppm | 95 |
| 60) 2,4-Dinitrophenol | 6.797 | 184 | 26188 | 20.65 | ppm | 87 |
| 61) 4-Nitrophenol | 6.920 | 109 | 26409 | 16.71 | ppm | 91 |
| 62) Dibenzofuran | 6.850 | 168 | 366835 | 23.99 | ppm | 97 |
| 63) 2,4-Dinitrotoluene | 6.893 | 165 | 94504 | 27.23 | ppm | 85 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.000 | 232 | 79317 | 24.26 | ppm | 92 |
| 65) Diethylphthalate | 7.123 | 149 | 320962 | 26.67 | ppm | 99 |
| 66) Fluorene | 7.176 | 166 | 288241 | 23.86 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.192 | 204 | 134618 | 24.18 | ppm | 91 |
| 68) 4-Nitroaniline | 7.251 | 138 | 79499 | 28.11 | ppm | 89 |
| 70) 4,6-Dinitro-2-methylph... | 7.299 | 198 | 44945 | 19.19 | ppm | 83 |
| 71) n-Nitrosodiphenylamine | 7.320 | 169 | 263696 | 28.49 | ppm | 97 |
| 72) 1,2-Diphenylhydrazine | 7.347 | 77 | 380670 | 25.90 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 7.657 | 248 | 89344 | 22.55 | ppm | 88 |
| 75) Hexachlorobenzene | 7.716 | 284 | 89665 | 22.66 | ppm | 93 |
| 76) Pentachlorophenol | 7.935 | 266 | 53757 | 21.44 | ppm | 97 |
| 77) Phenanthrene | 8.090 | 178 | 402148 | 23.69 | ppm | 99 |
| 78) Anthracene | 8.143 | 178 | 439805 | 24.69 | ppm | 99 |
| 79) Carbazole | 8.330 | 167 | 448273 | 24.82 | ppm | 99 |
| 80) Di-n-butylphthalate | 8.736 | 149 | 574812 | 25.60 | ppm | 99 |
| 81) Fluoranthene | 9.361 | 202 | 515309 | 24.44 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59860.D
Acq On : 21 May 2019 4:00 am
Operator : chriss2
Sample : cc2761-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 09:31:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration

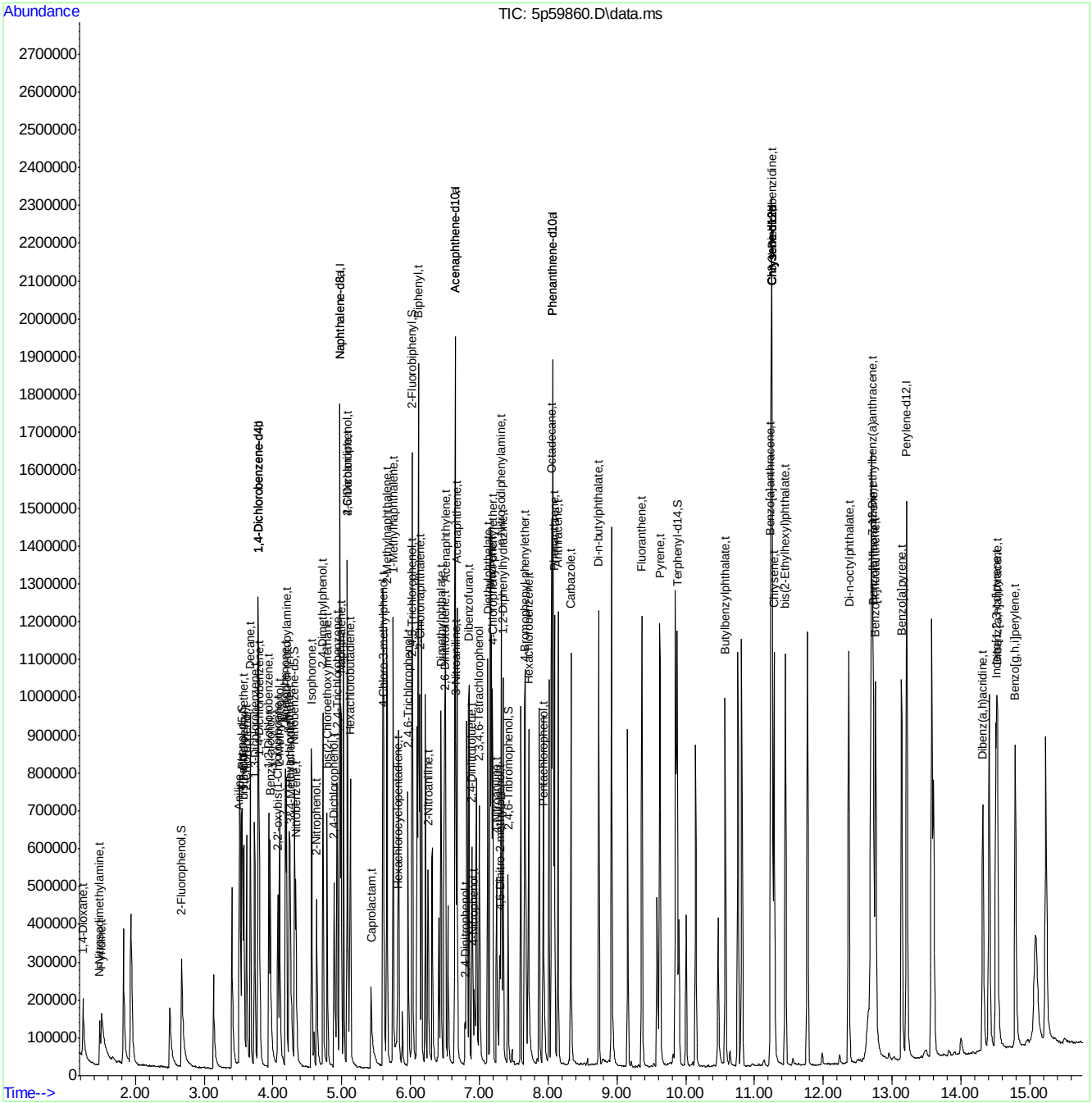
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 82) Octadecane | 8.052 | 57 | 234745 | 25.92 | ppm | 97 |
| 84) Pyrene | 9.623 | 202 | 508697 | 19.44 | ppm | 98 |
| 86) Butylbenzylphthalate | 10.579 | 149 | 262807 | 21.96 | ppm | 96 |
| 87) Benzo[a]anthracene | 11.236 | 228 | 474683 | 19.74 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.258 | 252 | 180003 | 22.97 | ppm | 97 |
| 89) Chrysene | 11.284 | 228 | 448348 | 20.19 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 11.450 | 149 | 364944 | 23.01 | ppm | 95 |
| 92) Di-n-octylphthalate | 12.374 | 149 | 660329 | 26.27 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 12.727 | 252 | 468018 | 21.72 | ppm | 94 |
| 94) Benzo[k]fluoranthene | 12.759 | 252 | 448920 | 22.76 | ppm | 98 |
| 95) Benzo[a]pyrene | 13.138 | 252 | 491517 | 25.61 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.511 | 276 | 455883m | 26.55 | ppm | |
| 97) Dibenz(a,h)acridine | 14.319 | 279 | 388020 | 23.78 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 14.532 | 278 | 439544 | 24.76 | ppm | 95 |
| 99) 7,12-Dimethylbenz(a)an... | 12.711 | 256 | 219664 | 26.87 | ppm | 93 |
| 100) Benzo[g,h,i]perylene | 14.789 | 276 | 463750 | 26.76 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59860.D
Acq On : 21 May 2019 4:00 am
Operator : chriss2
Sample : cc2761-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 09:31:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



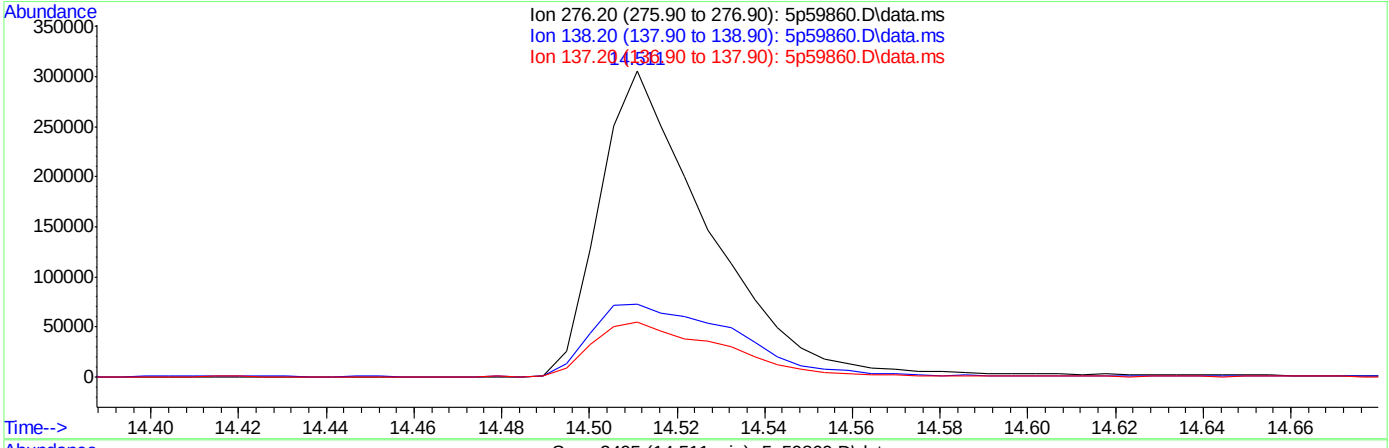
| | | | |
|---|---|---|---|
| **Sample Number:** | E5P2823-CC2761 | **Method:** | SW846 8270D |
| **Lab FileID:** | 5P59860.D | **Analyst approved:** | 05/21/19 09:40 Ying Li |
| **Injection Time:** | 05/21/19 04:00 | **Supervisor approved:** | 05/21/19 18:13 Kristi Schollenberger |

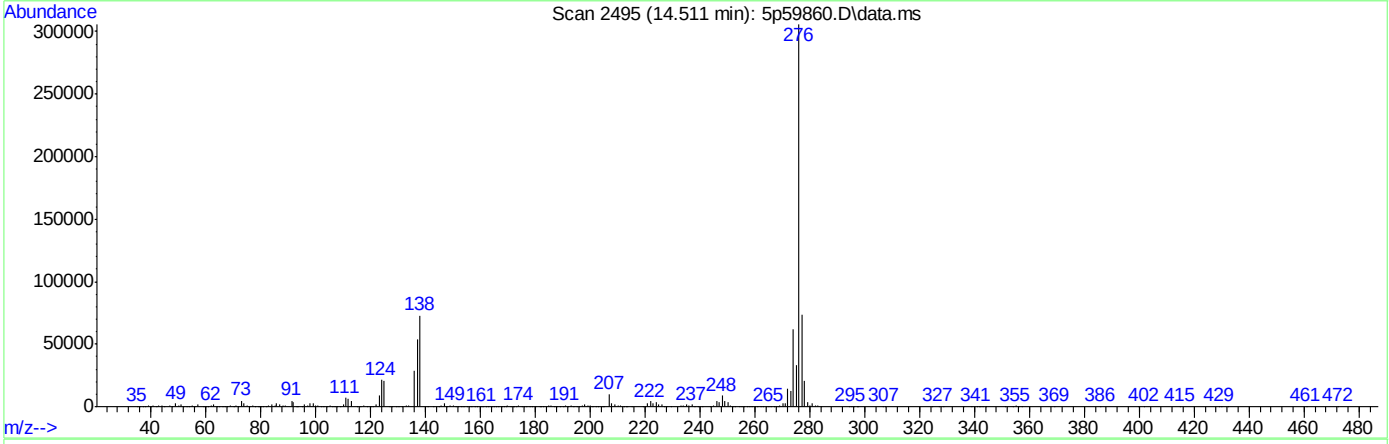
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 14.51 | Overlapping peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59860.D
Acq On : 21 May 2019 4:00 am
Operator : chriss2
Sample : cc2761-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 04:16:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration




TIC: 5p59860.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.511min (-0.282) 31.32ppm

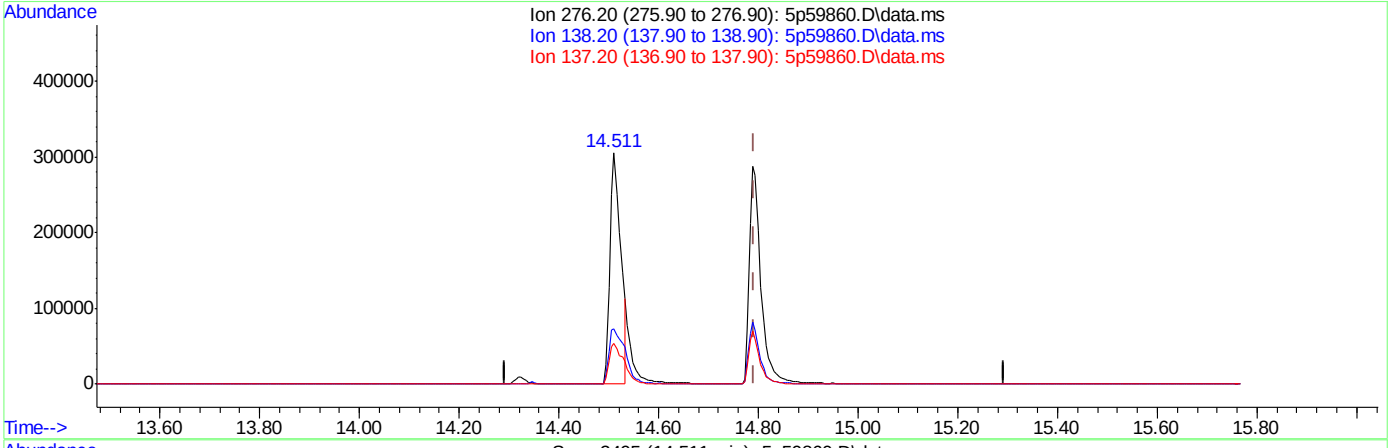
response 537707

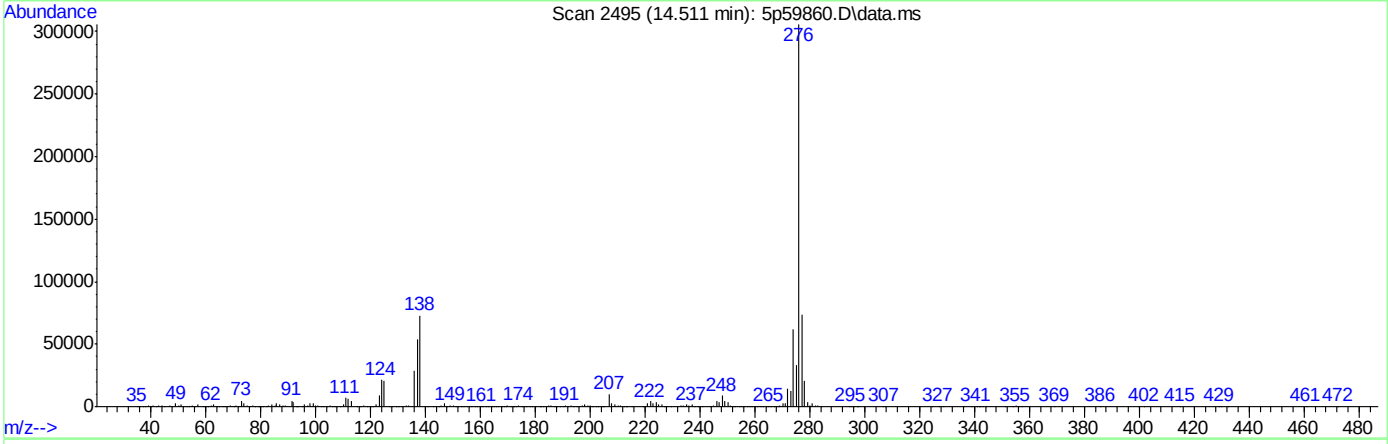
| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 23.76 |
| 137.20 | 19.40 | 17.71 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59860.D
Acq On : 21 May 2019 4:00 am
Operator : chriss2
Sample : cc2761-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 04:16:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration




TIC: 5p59860.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.511min (-0.282) 26.55ppm m

response 455883

| Ion | Exp% | Act% |
|---|---|---|
| 276.20 | 100 | 100 |
| 138.20 | 26.90 | 23.81 |
| 137.20 | 19.40 | 17.73 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59861.D
Acq On : 21 May 2019 4:23 am
Operator : chriss2
Sample : cc2762-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 21 09:28:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration

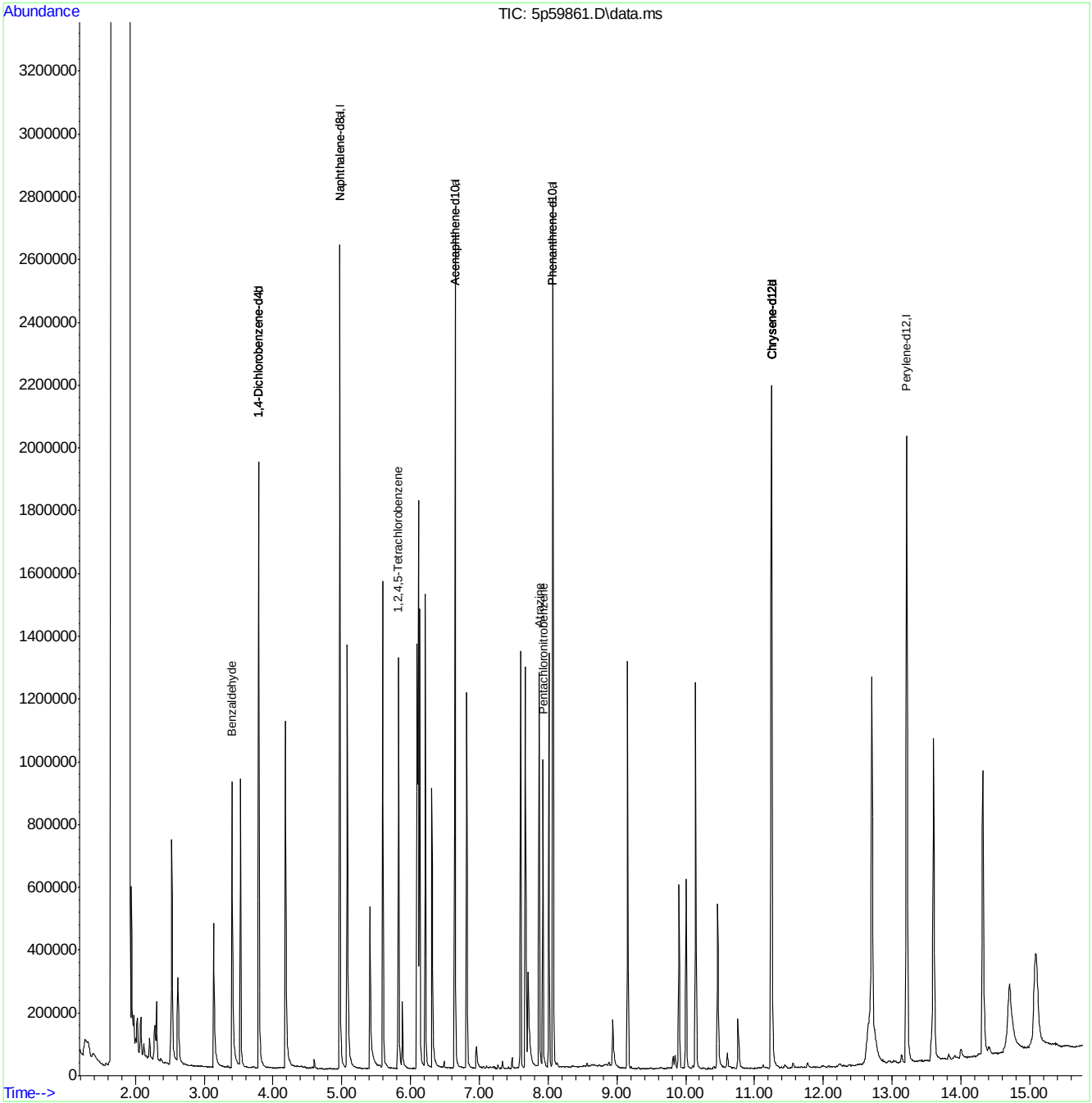
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.789 | 152 | 250313 | 40.00 | ppm | -0.17 |
| 24) Naphthalene-d8 | 4.970 | 136 | 932955 | 40.00 | ppm | -0.17 |
| 47) Acenaphthene-d10 | 6.647 | 164 | 502916 | 40.00 | ppm | -0.18 |
| 69) Phenanthrene-d10 | 8.068 | 188 | 902079 | 40.00 | ppm | -0.19 |
| 83) Chrysene-d12 | 11.252 | 240 | 969157 | 40.00 | ppm | -0.27 |
| 91) Perylene-d12 | 13.213 | 264 | 985724 | 40.00 | ppm | -0.29 |
| 101) 1,4-Dichlorobenzene-d4b | 3.789 | 152 | 250313 | 40.00 | ppm | -0.16 |
| 103) Acenaphthene-d10a | 6.647 | 164 | 502916 | 40.00 | ppm | -0.18 |
| 105) Chrysene-d12a | 11.252 | 240 | 969157 | 40.00 | ppm | -0.27 |
| 107) Phenanthrene-d10a | 8.068 | 188 | 902079 | 40.00 | ppm | -0.19 |
| 111) Naphthalene-d8a | 4.970 | 136 | 932955 | 40.00 | ppm | -0.17 |
| 113) Chrysene-d12b | 11.252 | 240 | 969126 | 40.00 | ppm | -0.27 |
| 115) 1,4-Dichlorobenzene-d4c | 3.789 | 152 | 250313 | 40.00 | ppm | -0.16 |
| 117) Chrysene-d12c | 11.252 | 240 | 969157 | 40.00 | ppm | -0.27 |
| 119) Chrysene-d12d | 11.252 | 240 | 969126 | 40.00 | ppm | -0.27 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 108) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.404 | 105 | 200088 | 24.33 | ppm | 91 |
| 104) 1,2,4,5-Tetrachloroben... | 5.824 | 216 | 192266 | 26.63 | ppm | 99 |
| 109) Atrazine | 7.871 | 215 | 64912 | 26.04 | ppm | 97 |
| 110) Pentachloronitrobenzene | 7.924 | 295 | 21251 | 22.13 | ppm | 87 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2823\
Data File : 5p59861.D
Acq On : 21 May 2019 4:23 am
Operator : chriss2
Sample : cc2762-25
Misc : op12947,e5p2823,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 21 09:28:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Mon May 20 13:06:01 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 613533 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.313 | 136 | 2607399 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1582803 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.672 | 188 | 2976109 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.833 | 240 | 2774341 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3216467 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 613533 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1582803 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.672 | 188 | 2976109 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.833 | 240 | 2774341 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.313 | 136 | 2607399 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.672 | 188 | 2976109 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.833 | 240 | 2774341 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.350 | 112 | 1943687 | 95.56 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 191.12% | | |
| 8) Phenol-d5 | 4.099 | 99 | 2114417 | 92.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 185.86% | | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 2039707 | 91.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 183.18% | | |
| 51) 2-Fluorobiphenyl | 6.313 | 172 | 5142966 | 92.86 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 185.72% | | |
| 73) 2,4,6-Tribromophenol | 7.886 | 330 | 1081368 | 107.65 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 215.30% | | |
| 85) Terphenyl-d14 | 10.598 | 244 | 6569782 | 98.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 196.24% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.762 | 88 | 791273 | 94.65 | ppm | 99 |
| 3) Pyridine | 2.104 | 79 | 1900721 | 96.20 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.077 | 74 | 1109627 | 96.69 | ppm | 99 |
| 6) Indene | 4.511 | 116 | 3063422 | 91.23 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 4267241 | 89.90 | ppm | 98 |
| 9) Phenol | 4.110 | 94 | 2502528 | 90.85 | ppm | 99 |
| 10) Aniline | 4.088 | 93 | 2005208 | 87.67 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 4.136 | 93 | 1801018 | 96.15 | ppm | 99 |
| 12) 2-Chlorophenol | 4.185 | 128 | 2075615 | 93.08 | ppm | 96 |
| 13) Decane | 4.217 | 43 | 1384001 | 87.77 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 2262217 | 92.87 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 2290148 | 92.06 | ppm | 99 |
| 16) Benzyl alcohol | 4.452 | 108 | 1155496 | 93.37 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 2096906 | 91.66 | ppm | 99 |
| 18) Acetophenone | 4.639 | 105 | 2753249 | 94.24 | ppm | 96 |
| 19) 2-Methylphenol | 4.548 | 108 | 1761942 | 93.81 | ppm | 96 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 654340 | 96.62 | ppm | 92 |
| 21) 3&4-Methylphenol | 4.661 | 108 | 1904974 | 94.10 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.645 | 70 | 1212844 | 93.82 | ppm | | 96 |
| 23) Hexachloroethane | 4.693 | 201 | 891774 | 99.02 | ppm | | 96 |
| 26) Nitrobenzene | 4.762 | 77 | 2028961 | 90.29 | ppm | | 97 |
| 27) Quinoline | 5.666 | 129 | 4746936 | 94.96 | ppm | | 99 |
| 28) Isophorone | 4.955 | 82 | 3412387 | 90.11 | ppm | | 92 |
| 29) 2-Nitrophenol | 5.008 | 139 | 1234941 | 88.03 | ppm | | 89 |
| 30) 2,4-Dimethylphenol | 5.062 | 107 | 2067797 | 95.95 | ppm | | 99 |
| 31) Benzoic acid | 5.254 | 105 | 2055995 | 96.84 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 2161958 | 89.78 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.217 | 162 | 1912789 | 92.11 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.399 | 162 | 1871485 | 92.80 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 2076474 | 89.80 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.270 | 180 | 2111251 | 93.24 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 2130900 | 94.55 | ppm | | 98 |
| 38) Naphthalene | 5.329 | 128 | 5808075 | 87.17 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.393 | 127 | 2436913 | 90.96 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 2375642 | 93.26 | ppm | | 97 |
| 41) Caprolactam | 5.757 | 55 | 902513m | 99.57 | ppm | | |
| 42) Hexachlorobutadiene | 5.441 | 225 | 1246298 | 95.71 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.859 | 107 | 2043053 | 95.57 | ppm | | 96 |
| 44) 2-Methylnaphthalene | 5.950 | 141 | 3486347 | 90.59 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.046 | 141 | 3826040 | 90.40 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.570 | 156 | 4246053 | 92.03 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.105 | 237 | 2359800 | 213.29 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.244 | 196 | 1582473 | 100.46 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.297 | 196 | 1696422 | 99.52 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.431 | 162 | 4331834 | 92.42 | ppm | | 99 |
| 53) Biphenyl | 6.415 | 154 | 5477034 | 91.22 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.554 | 65 | 1230070 | 92.91 | ppm | | 97 |
| 55) Dimethylphthalate | 6.747 | 163 | 5221627 | 94.90 | ppm | | 99 |
| 56) Acenaphthylene | 6.854 | 152 | 6676702 | 91.61 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.811 | 165 | 1320260 | 97.66 | ppm | | 95 |
| 58) 3-Nitroaniline | 6.993 | 138 | 1412808 | 95.67 | ppm | | 95 |
| 59) Acenaphthene | 7.041 | 153 | 4391123 | 91.43 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 7.116 | 184 | 1783438 | 204.65 | ppm | | 99 |
| 61) 4-Nitrophenol | 7.233 | 109 | 691793 | 94.95 | ppm | # | 36 |
| 62) Dibenzofuran | 7.228 | 168 | 6111348 | 92.77 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.255 | 165 | 1822937 | 98.18 | ppm | | 98 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.383 | 232 | 1452847 | 102.53 | ppm | | 96 |
| 65) Diethylphthalate | 7.522 | 149 | 5117909 | 94.46 | ppm | | 99 |
| 66) Fluorene | 7.608 | 166 | 4983343 | 91.76 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.613 | 204 | 2681450 | 96.32 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.688 | 138 | 1445768 | 98.14 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 7.720 | 198 | 1258836 | 100.13 | ppm | | 95 |
| 71) n-Nitrosodiphenylamine | 7.763 | 169 | 3954072 | 94.54 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.800 | 77 | 4185320 | 88.49 | ppm | | 88 |
| 74) 4-Bromophenyl-phenylether | 8.169 | 248 | 1666933 | 98.76 | ppm | | 97 |
| 75) Hexachlorobenzene | 8.244 | 284 | 1993101 | 101.82 | ppm | | 90 |
| 76) Pentachlorophenol | 8.490 | 266 | 2648354 | 211.16 | ppm | | 100 |
| 77) Phenanthrene | 8.704 | 178 | 7323566 | 92.72 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

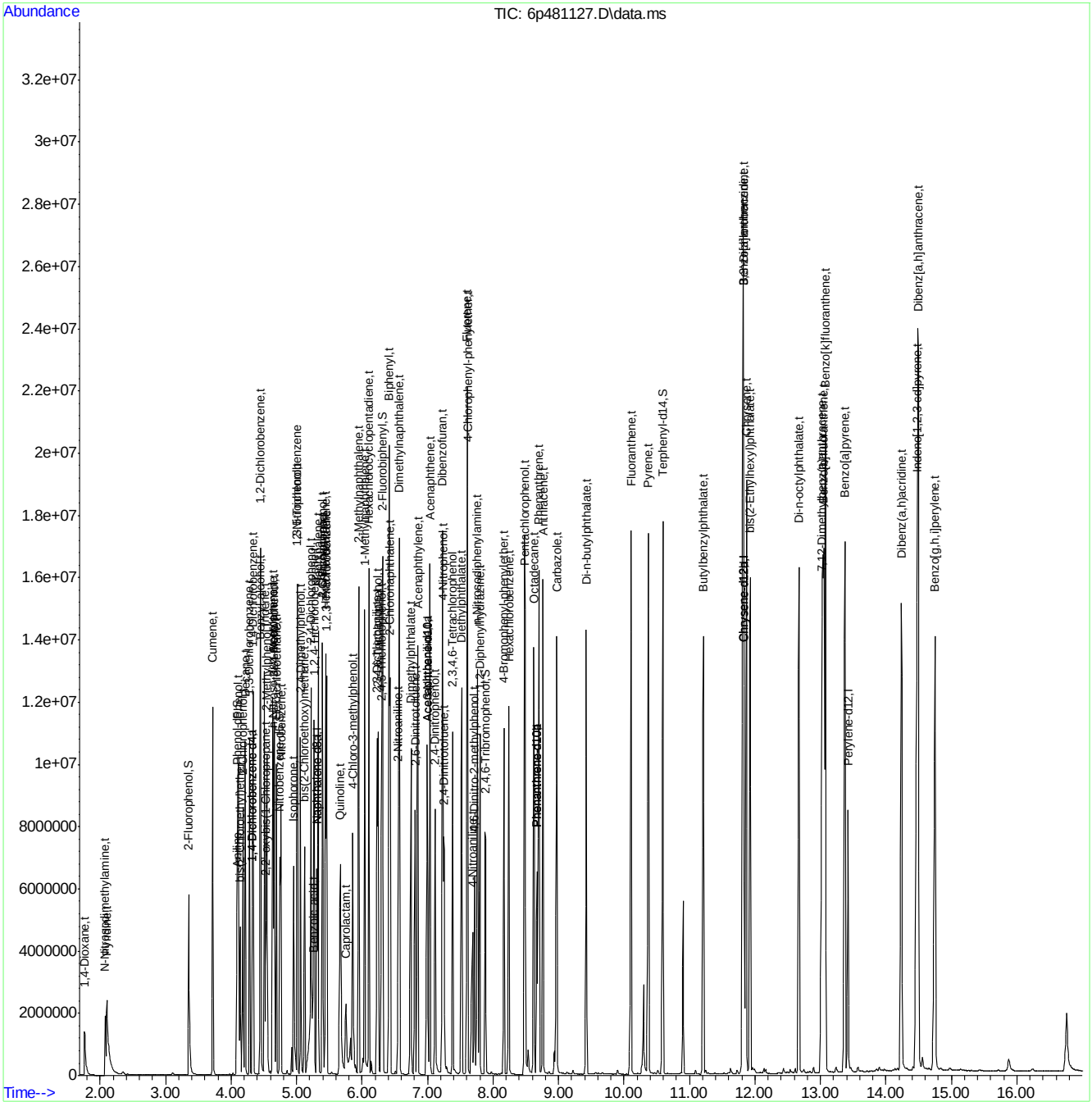
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) Anthracene | 8.763 | 178 | 7514799 | 92.87 | ppm | 99 |
| 79) Carbazole | 8.977 | 167 | 7070145 | 90.54 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.426 | 149 | 8425861 | 89.61 | ppm | 99 |
| 81) Fluoranthene | 10.111 | 202 | 8344438 | 92.33 | ppm | 97 |
| 82) Octadecane | 8.624 | 57 | 2321579 | 86.70 | ppm | 98 |
| 84) Pyrene | 10.373 | 202 | 8774501 | 93.49 | ppm | 97 |
| 86) Butylbenzylphthalate | 11.213 | 149 | 4086063 | 93.50 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.822 | 228 | 8530208 | 93.08 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 11.822 | 252 | 3543359 | 94.44 | ppm | 99 |
| 89) Chrysene | 11.871 | 228 | 8519442 | 95.61 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 11.929 | 149 | 5668359 | 93.31 | ppm | 96 |
| 92) Di-n-octylphthalate | 12.673 | 149 | 9348421 | 88.98 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 13.053 | 252 | 11469513 | 108.86 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 13.079 | 252 | 7799944 | 81.70 | ppm | 94 |
| 95) Benzo[a]pyrene | 13.374 | 252 | 8681115 | 98.21 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.481 | 276 | 11790407 | 97.79 | ppm | 97 |
| 97) Dibenz(a,h)acridine | 14.240 | 279 | 8832591 | 98.98 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 14.497 | 278 | 10410151 | 96.41 | ppm | 96 |
| 99) 7,12-Dimethylbenz(a)an... | 13.026 | 256 | 4715958 | 100.54 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 14.753 | 276 | 9115784 | 99.01 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



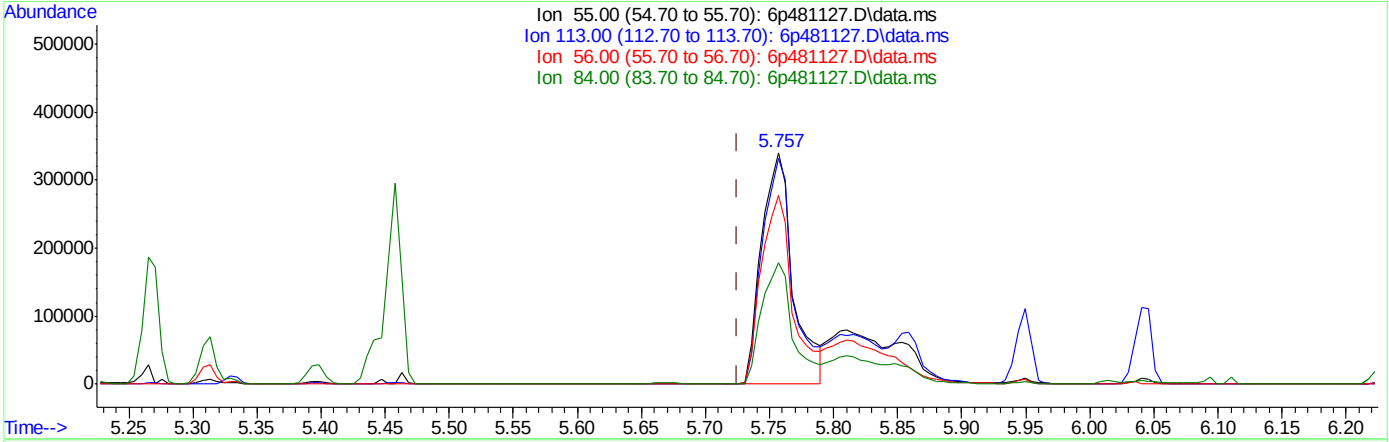
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2562-IC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481127.D | **Analyst approved:** | 04/16/19 16:37 Ying Li |
| **Injection Time:** | 04/16/19 09:55 | **Supervisor approved:** | 04/17/19 13:32 Kristi Schollenberger |

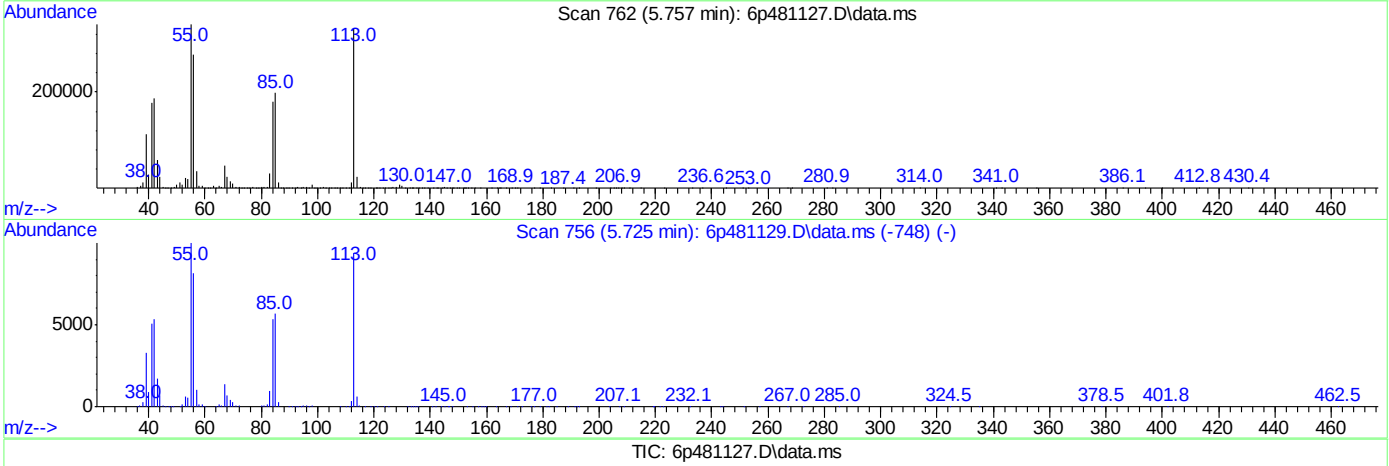
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.76 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:48:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration







TIC: 6p481127.D\data.ms

(41) Caprolactam (t)

5.757min (+0.032) 64.91ppm

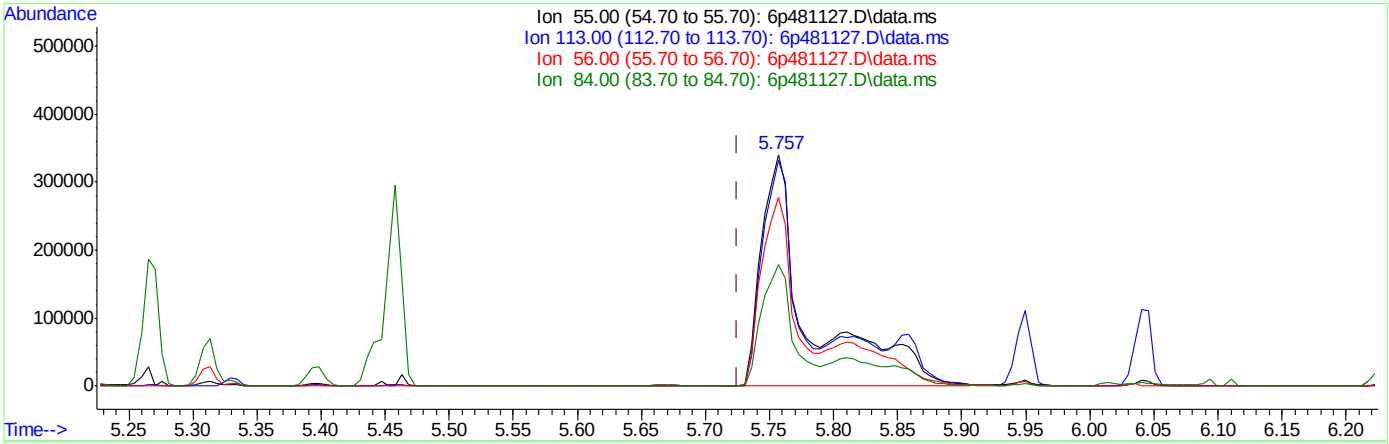
response 588350

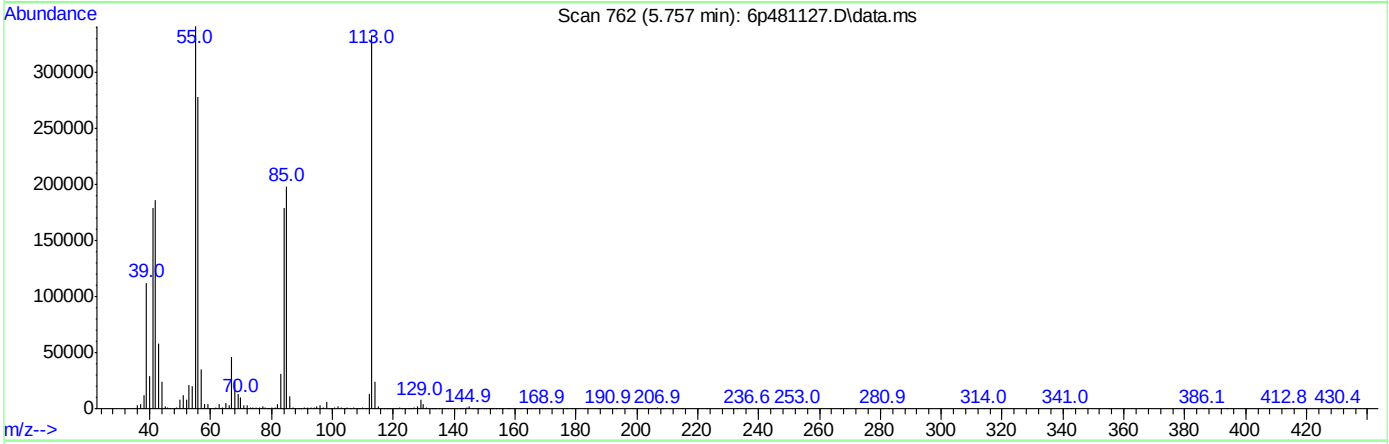
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.58 |
| 56.00 | 81.20 | 81.22 |
| 84.00 | 53.30 | 52.74 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:54:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration




TIC: 6p481127.D\data.ms

(41) Caprolactam (t)

5.757min (+0.032) 99.57ppm m

response 902513

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.54 |
| 56.00 | 81.20 | 81.63 |
| 84.00 | 53.30 | 52.53 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 649694 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.313 | 136 | 2664099 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1620626 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.672 | 188 | 2987029 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.833 | 240 | 2767078 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3177934 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 649694 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1620626 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.672 | 188 | 2987029 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.833 | 240 | 2767078 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.313 | 136 | 2664099 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.672 | 188 | 2987029 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.833 | 240 | 2767078 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 1681251 | 78.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 156.12% | | |
| 8) Phenol-d5 | 4.099 | 99 | 1842301 | 76.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 152.94% | | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 1727238 | 75.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 151.82% | | |
| 51) 2-Fluorobiphenyl | 6.313 | 172 | 4315206 | 76.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 152.18% | | |
| 73) 2,4,6-Tribromophenol | 7.881 | 330 | 832877 | 82.61 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 165.22% | | |
| 85) Terphenyl-d14 | 10.592 | 244 | 5379179 | 80.55 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 161.10% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.767 | 88 | 695290 | 78.54 | ppm | 100 |
| 3) Pyridine | 2.104 | 79 | 1669180 | 79.78 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.083 | 74 | 963775 | 79.30 | ppm | 98 |
| 6) Indene | 4.511 | 116 | 2681986 | 75.43 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 3769942 | 75.00 | ppm | 98 |
| 9) Phenol | 4.110 | 94 | 2183887 | 74.87 | ppm | 98 |
| 10) Aniline | 4.088 | 93 | 1844726 | 76.17 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.142 | 93 | 1540158 | 77.65 | ppm | 98 |
| 12) 2-Chlorophenol | 4.185 | 128 | 1806011 | 76.49 | ppm | 97 |
| 13) Decane | 4.217 | 43 | 1237810 | 74.13 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 1992010 | 77.22 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 1996044 | 75.77 | ppm | 100 |
| 16) Benzyl alcohol | 4.447 | 108 | 985326 | 75.19 | ppm | 93 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 1817690 | 75.03 | ppm | 100 |
| 18) Acetophenone | 4.634 | 105 | 2346403 | 75.84 | ppm | 98 |
| 19) 2-Methylphenol | 4.543 | 108 | 1519907 | 76.42 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 564849 | 78.77 | ppm | 96 |
| 21) 3&4-Methylphenol | 4.661 | 108 | 1640319 | 76.52 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.645 | 70 | 1038272 | 75.84 | ppm | | 99 |
| 23) Hexachloroethane | 4.693 | 201 | 761132 | 79.81 | ppm | | 99 |
| 26) Nitrobenzene | 4.762 | 77 | 1729266 | 75.31 | ppm | | 97 |
| 27) Quinoline | 5.661 | 129 | 3965632 | 77.64 | ppm | | 99 |
| 28) Isophorone | 4.949 | 82 | 2905100 | 75.08 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.008 | 139 | 1064291 | 74.25 | ppm | | 89 |
| 30) 2,4-Dimethylphenol | 5.062 | 107 | 1715415 | 77.90 | ppm | | 98 |
| 31) Benzoic acid | 5.228 | 105 | 1733862 | 79.93 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 1849285 | 75.16 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.217 | 162 | 1624934 | 76.58 | ppm | | 98 |
| 34) 2,6-Dichlorophenol | 5.399 | 162 | 1564939 | 75.95 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 1800816 | 76.22 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.270 | 180 | 1783552 | 77.09 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 1788473 | 77.66 | ppm | | 99 |
| 38) Naphthalene | 5.329 | 128 | 5040459 | 74.04 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.393 | 127 | 2046596 | 74.77 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 2022327 | 77.70 | ppm | | 99 |
| 41) Caprolactam | 5.746 | 55 | 712268m | 76.91 | ppm | | |
| 42) Hexachlorobutadiene | 5.442 | 225 | 1051704 | 79.05 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.859 | 107 | 1680136 | 76.92 | ppm | | 99 |
| 44) 2-Methylnaphthalene | 5.950 | 141 | 2953886 | 75.12 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.041 | 141 | 3256629 | 75.31 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.570 | 156 | 3570219 | 75.74 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.105 | 237 | 1936914 | 170.99 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.244 | 196 | 1289246 | 79.93 | ppm | | 100 |
| 50) 2,4,5-Trichlorophenol | 6.292 | 196 | 1397960 | 80.10 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.426 | 162 | 3672791 | 76.53 | ppm | | 98 |
| 53) Biphenyl | 6.410 | 154 | 4671438 | 75.99 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.554 | 65 | 1037214 | 76.51 | ppm | | 98 |
| 55) Dimethylphthalate | 6.741 | 163 | 4314009 | 76.58 | ppm | | 99 |
| 56) Acenaphthylene | 6.848 | 152 | 5643859 | 75.63 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.805 | 165 | 1097469 | 79.29 | ppm | | 99 |
| 58) 3-Nitroaniline | 6.993 | 138 | 1183555 | 78.27 | ppm | | 92 |
| 59) Acenaphthene | 7.035 | 153 | 3713723 | 75.52 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 7.116 | 184 | 1435732 | 160.91 | ppm | | 94 |
| 61) 4-Nitrophenol | 7.228 | 109 | 573591 | 76.89 | ppm | # | 76 |
| 62) Dibenzofuran | 7.228 | 168 | 5102675 | 75.65 | ppm | | 98 |
| 63) 2,4-Dinitrotoluene | 7.249 | 165 | 1492438 | 78.51 | ppm | | 92 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.383 | 232 | 1173841 | 80.90 | ppm | | 96 |
| 65) Diethylphthalate | 7.517 | 149 | 4283636 | 77.22 | ppm | | 100 |
| 66) Fluorene | 7.602 | 166 | 4223990 | 75.96 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.613 | 204 | 2241791 | 78.65 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.683 | 138 | 1192377 | 79.05 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 7.715 | 198 | 1008464 | 79.92 | ppm | | 90 |
| 71) n-Nitrosodiphenylamine | 7.763 | 169 | 3257337 | 77.60 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.795 | 77 | 3527845 | 74.31 | ppm | | 94 |
| 74) 4-Bromophenyl-phenylether | 8.169 | 248 | 1347918 | 79.57 | ppm | | 96 |
| 75) Hexachlorobenzene | 8.239 | 284 | 1610437 | 81.97 | ppm | | 96 |
| 76) Pentachlorophenol | 8.485 | 266 | 2117518 | 168.22 | ppm | | 99 |
| 77) Phenanthrene | 8.704 | 178 | 6128160 | 77.30 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

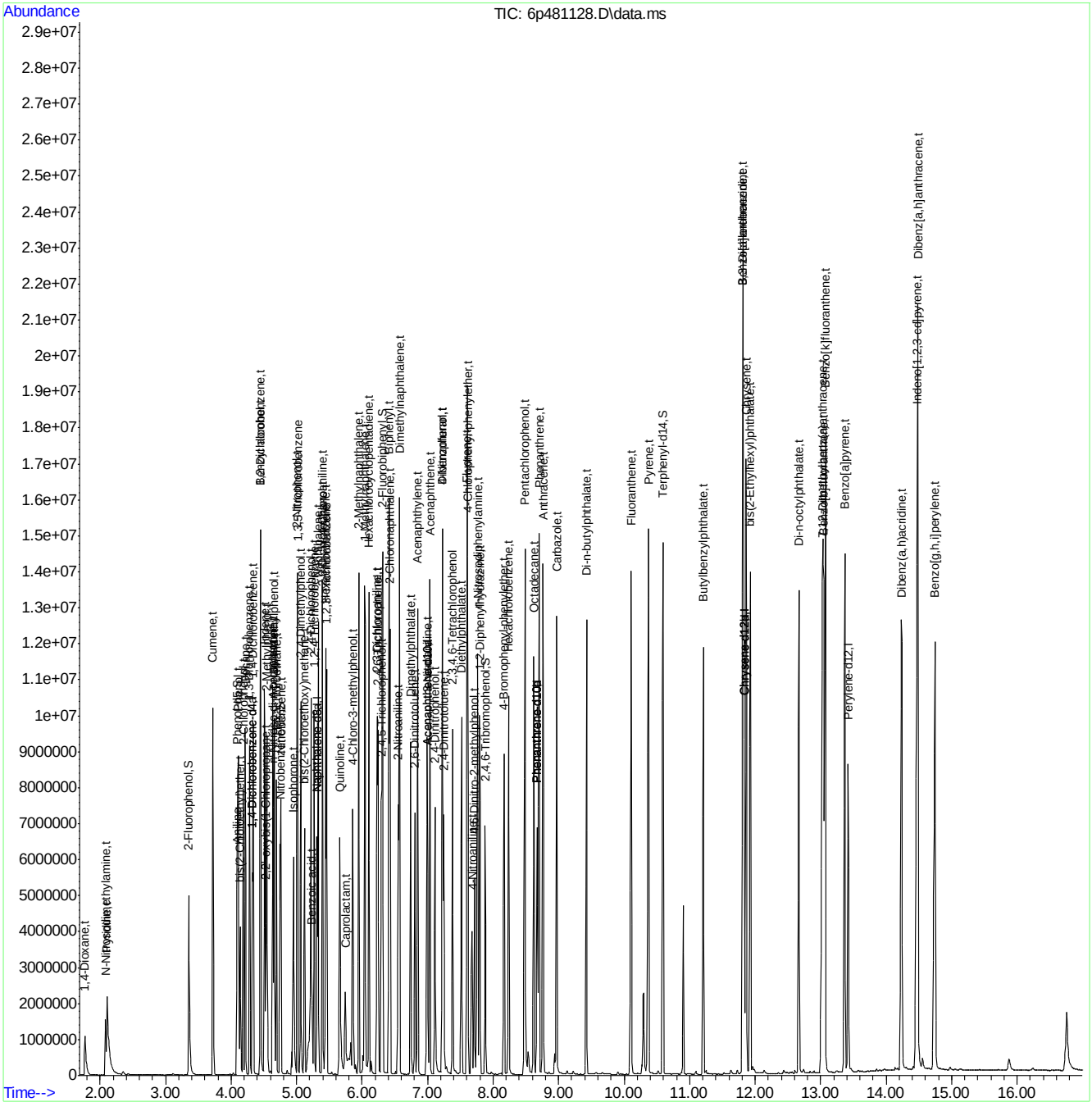
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) Anthracene | 8.763 | 178 | 6251958 | 76.98 | ppm | 100 |
| 79) Carbazole | 8.972 | 167 | 5965556 | 76.12 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.426 | 149 | 7039425 | 74.59 | ppm | 100 |
| 81) Fluoranthene | 10.111 | 202 | 6844826 | 75.46 | ppm | 99 |
| 82) Octadecane | 8.624 | 57 | 1975430 | 73.51 | ppm | 98 |
| 84) Pyrene | 10.373 | 202 | 7220767 | 77.14 | ppm | 99 |
| 86) Butylbenzylphthalate | 11.213 | 149 | 3387283 | 77.71 | ppm | 96 |
| 87) Benzo[a]anthracene | 11.817 | 228 | 7061489 | 77.26 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 11.817 | 252 | 2954647 | 78.95 | ppm | 98 |
| 89) Chrysene | 11.865 | 228 | 6927394 | 77.95 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 11.924 | 149 | 4653089 | 76.80 | ppm | 98 |
| 92) Di-n-octylphthalate | 12.668 | 149 | 7807035 | 75.21 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 13.047 | 252 | 8964744 | 86.12 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 13.074 | 252 | 6707171 | 71.10 | ppm | 97 |
| 95) Benzo[a]pyrene | 13.368 | 252 | 6907883 | 79.10 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.475 | 276 | 9464237 | 79.45 | ppm | 98 |
| 97) Dibenz(a,h)acridine | 14.240 | 279 | 7056092 | 80.03 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 14.486 | 278 | 8500526 | 79.68 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 13.026 | 256 | 3737090 | 80.64 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 14.748 | 276 | 7251009 | 79.71 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



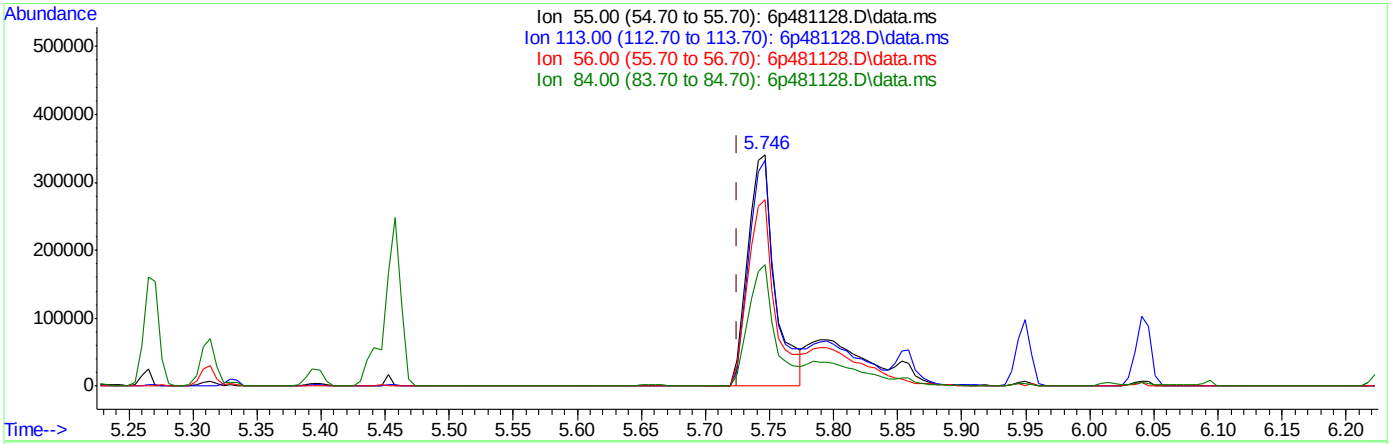
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2562-IC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481128.D | **Analyst approved:** | 04/16/19 16:37 Ying Li |
| **Injection Time:** | 04/16/19 10:18 | **Supervisor approved:** | 04/17/19 13:32 Kristi Schollenberger |

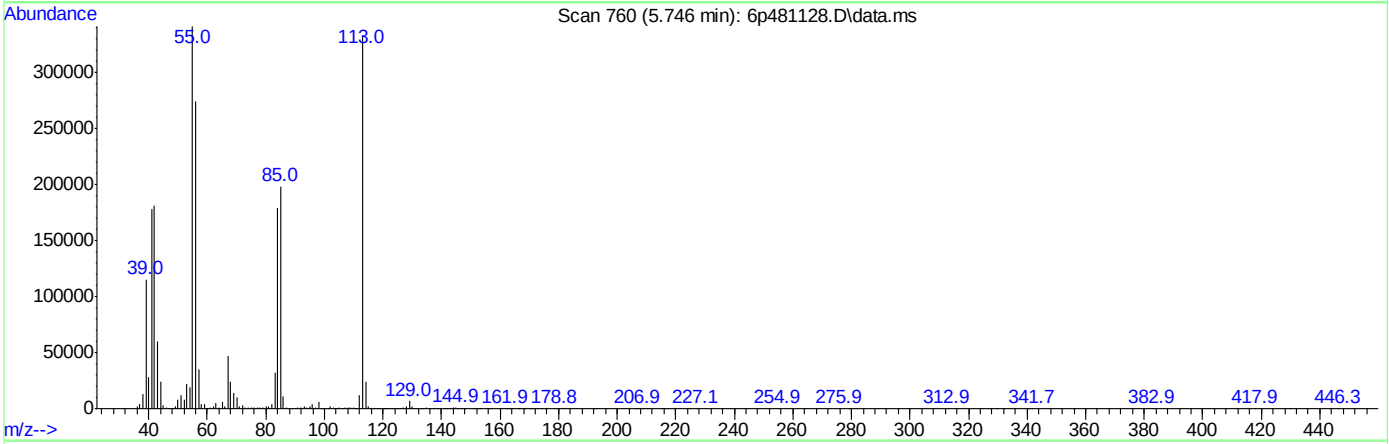
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.75 | Split peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:55:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration




TIC: 6p481128.D\data.ms

(41) Caprolactam (t)

5.746min (+0.021) 54.30ppm

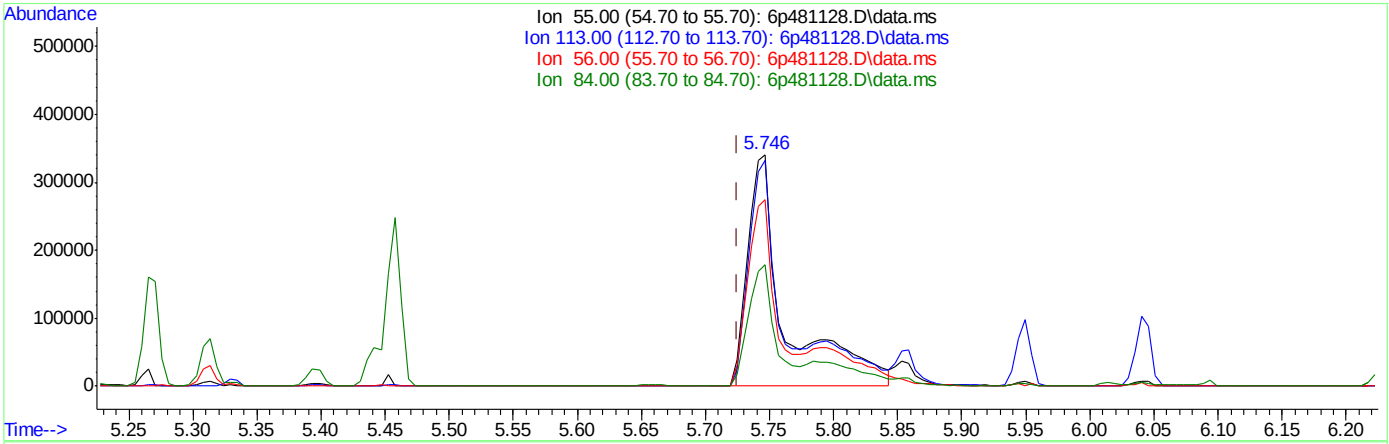
response 502856

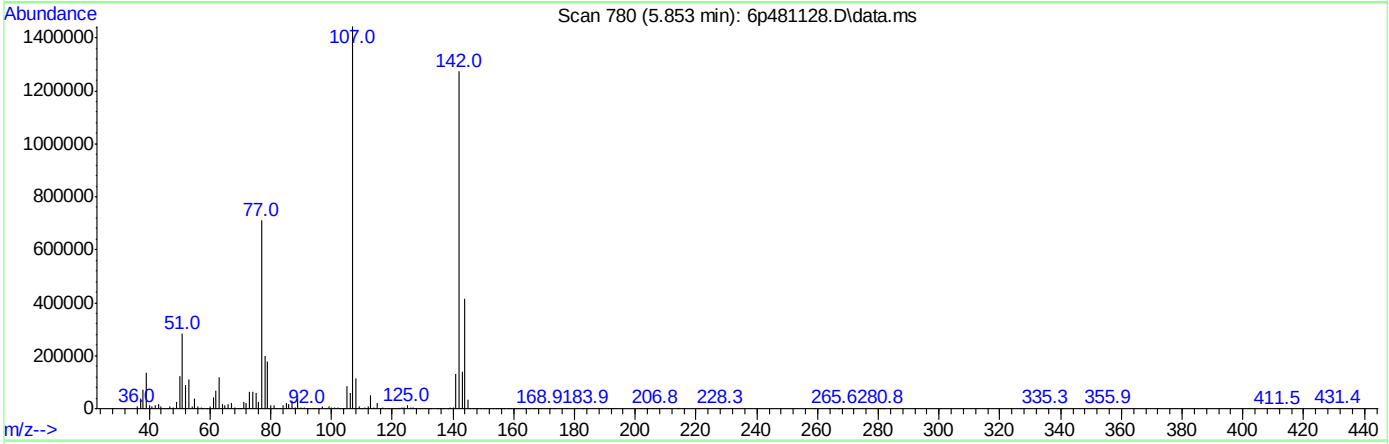
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.26 |
| 56.00 | 81.20 | 80.01 |
| 84.00 | 53.30 | 52.62 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration




TIC: 6p481128.D\data.ms

(41) Caprolactam (t)

5.746min (+0.021) 76.91ppm m

response 712268

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.52 |
| 56.00 | 81.20 | 80.44 |
| 84.00 | 53.30 | 52.56 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 659412 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.313 | 136 | 2666768 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1636147 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3019329 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.828 | 240 | 2863260 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3289772 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 659412 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1636147 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3019329 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.828 | 240 | 2863260 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.313 | 136 | 2666768 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3019329 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.828 | 240 | 2863260 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 1092991 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 8) Phenol-d5 | 4.099 | 99 | 1222662 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 1138873 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 51) 2-Fluorobiphenyl | 6.308 | 172 | 2862685 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 73) 2,4,6-Tribromophenol | 7.881 | 330 | 509553 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 85) Terphenyl-d14 | 10.592 | 244 | 3455137 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.772 | 88 | 449256 | 50.00 | ppm | 100 |
| 3) Pyridine | 2.109 | 79 | 1061727 | 50.00 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.083 | 74 | 616743 | 50.00 | ppm | 100 |
| 6) Indene | 4.511 | 116 | 1804411 | 50.00 | ppm | 100 |
| 7) Cumene | 3.719 | 105 | 2550731 | 50.00 | ppm | 100 |
| 9) Phenol | 4.104 | 94 | 1480283 | 50.00 | ppm | 100 |
| 10) Aniline | 4.088 | 93 | 1229102 | 50.00 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 1006559 | 50.00 | ppm | 100 |
| 12) 2-Chlorophenol | 4.179 | 128 | 1198277 | 50.00 | ppm | 100 |
| 13) Decane | 4.217 | 43 | 847384 | 50.00 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 1309046 | 50.00 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 1336820 | 50.00 | ppm | 100 |
| 16) Benzyl alcohol | 4.447 | 108 | 665010 | 50.00 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 1229428 | 50.00 | ppm | 100 |
| 18) Acetophenone | 4.629 | 105 | 1570008 | 50.00 | ppm | 100 |
| 19) 2-Methylphenol | 4.543 | 108 | 1009298 | 50.00 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 363921 | 50.00 | ppm | 100 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 1087852 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.639 | 70 | 694729 | 50.00 | ppm | 100 |
| 23) Hexachloroethane | 4.693 | 201 | 483977 | 50.00 | ppm | 100 |
| 26) Nitrobenzene | 4.757 | 77 | 1143974 | 49.77 | ppm | 100 |
| 27) Quinoline | 5.650 | 129 | 2556324 | 50.00 | ppm | 100 |
| 28) Isophorone | 4.944 | 82 | 1936539 | 50.00 | ppm | 100 |
| 29) 2-Nitrophenol | 5.008 | 139 | 717415 | 50.00 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 5.056 | 107 | 1102121 | 50.00 | ppm | 100 |
| 31) Benzoic acid | 5.217 | 105 | 1085662 | 50.00 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 1231490 | 50.00 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.212 | 162 | 1061947 | 50.00 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.393 | 162 | 1031299 | 50.00 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 1182478 | 50.00 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 1157924 | 50.00 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 1152560 | 50.00 | ppm | 100 |
| 38) Naphthalene | 5.329 | 128 | 3407493 | 50.00 | ppm | 100 |
| 39) 4-Chloroaniline | 5.388 | 127 | 1370046 | 50.00 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 1302668 | 50.00 | ppm | 100 |
| 41) Caprolactam | 5.725 | 55 | 464639m | 50.12 | ppm | |
| 42) Hexachlorobutadiene | 5.442 | 225 | 665888 | 50.00 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 5.853 | 107 | 1093173 | 50.00 | ppm | 100 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 1968006 | 50.00 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.041 | 141 | 2164246 | 50.00 | ppm | 100 |
| 46) Dimethylnaphthalene | 6.565 | 156 | 2359373 | 50.00 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.105 | 237 | 1143643 | 100.00 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 6.239 | 196 | 814165 | 50.00 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 6.287 | 196 | 881006 | 50.00 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.426 | 162 | 2422576 | 50.00 | ppm | 100 |
| 53) Biphenyl | 6.404 | 154 | 3103232 | 50.00 | ppm | 100 |
| 54) 2-Nitroaniline | 6.549 | 65 | 684306 | 50.00 | ppm | 100 |
| 55) Dimethylphthalate | 6.736 | 163 | 2843742 | 50.00 | ppm | 100 |
| 56) Acenaphthylene | 6.848 | 152 | 3767075 | 50.00 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 6.800 | 165 | 698712 | 50.00 | ppm | 100 |
| 58) 3-Nitroaniline | 6.982 | 138 | 763278 | 50.00 | ppm | 100 |
| 59) Acenaphthene | 7.035 | 153 | 2482179 | 50.00 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 7.105 | 184 | 900820 | 100.00 | ppm | 100 |
| 61) 4-Nitrophenol | 7.223 | 109 | 376571 | 50.00 | ppm | 100 |
| 62) Dibenzofuran | 7.223 | 168 | 3404717 | 50.00 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 7.244 | 165 | 959614 | 50.00 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 732399 | 50.00 | ppm | 100 |
| 65) Diethylphthalate | 7.511 | 149 | 2800198 | 50.00 | ppm | 100 |
| 66) Fluorene | 7.602 | 166 | 2806942 | 50.00 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 1438879 | 50.00 | ppm | 100 |
| 68) 4-Nitroaniline | 7.667 | 138 | 761390 | 50.00 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 7.704 | 198 | 637735 | 50.00 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 7.758 | 169 | 2121489 | 50.00 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 7.790 | 77 | 2399262 | 50.00 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 8.164 | 248 | 856172 | 50.00 | ppm | 100 |
| 75) Hexachlorobenzene | 8.234 | 284 | 992993 | 50.00 | ppm | 100 |
| 76) Pentachlorophenol | 8.480 | 266 | 1272380 | 100.00 | ppm | 100 |
| 77) Phenanthrene | 8.699 | 178 | 4006509 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration

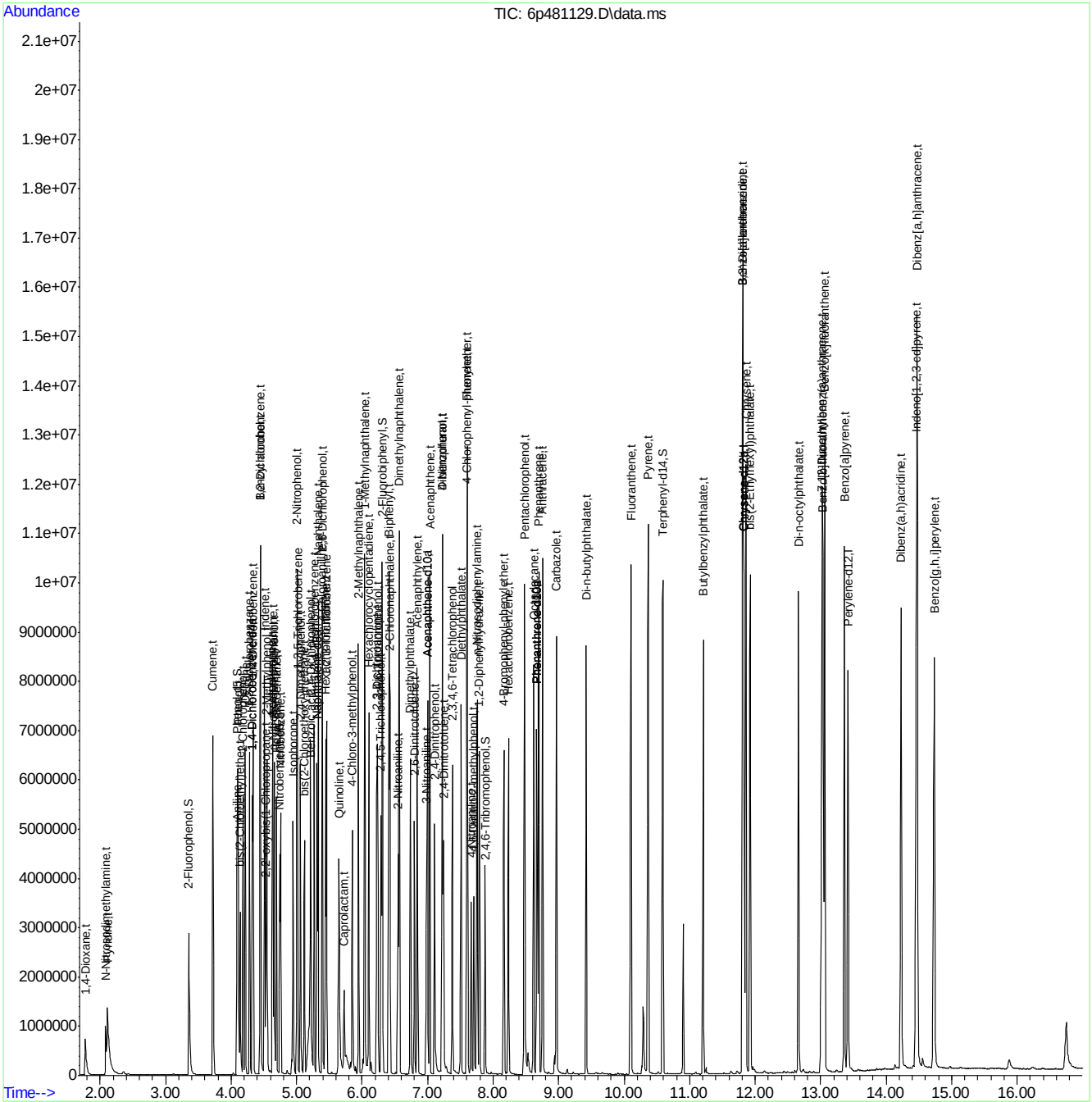
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) Anthracene | 8.758 | 178 | 4104749 | 50.00 | ppm | 100 |
| 79) Carbazole | 8.966 | 167 | 3961027 | 50.00 | ppm | 100 |
| 80) Di-n-butylphthalate | 9.421 | 149 | 4769895 | 50.00 | ppm | 100 |
| 81) Fluoranthene | 10.106 | 202 | 4584283 | 50.00 | ppm | 100 |
| 82) Octadecane | 8.619 | 57 | 1358263 | 50.00 | ppm | 100 |
| 84) Pyrene | 10.368 | 202 | 4843268 | 50.00 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.207 | 149 | 2255116 | 50.00 | ppm | 100 |
| 87) Benzo[a]anthracene | 11.812 | 228 | 4728991 | 50.00 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 11.812 | 252 | 1936211 | 50.00 | ppm | 100 |
| 89) Chrysene | 11.860 | 228 | 4598229 | 50.00 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.924 | 149 | 3134815 | 50.00 | ppm | 100 |
| 92) Di-n-octylphthalate | 12.662 | 149 | 5372786 | 50.00 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 13.037 | 252 | 5388154 | 50.00 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 13.063 | 252 | 4882548 | 50.00 | ppm | 100 |
| 95) Benzo[a]pyrene | 13.363 | 252 | 4520458 | 50.00 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 14.465 | 276 | 6166033 | 50.00 | ppm | 100 |
| 97) Dibenz(a,h)acridine | 14.229 | 279 | 4563556 | 50.00 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 14.475 | 278 | 5521959 | 50.00 | ppm | 100 |
| 99) 7,12-Dimethylbenz(a)an... | 13.021 | 256 | 2398681 | 50.00 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 14.738 | 276 | 4708568 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



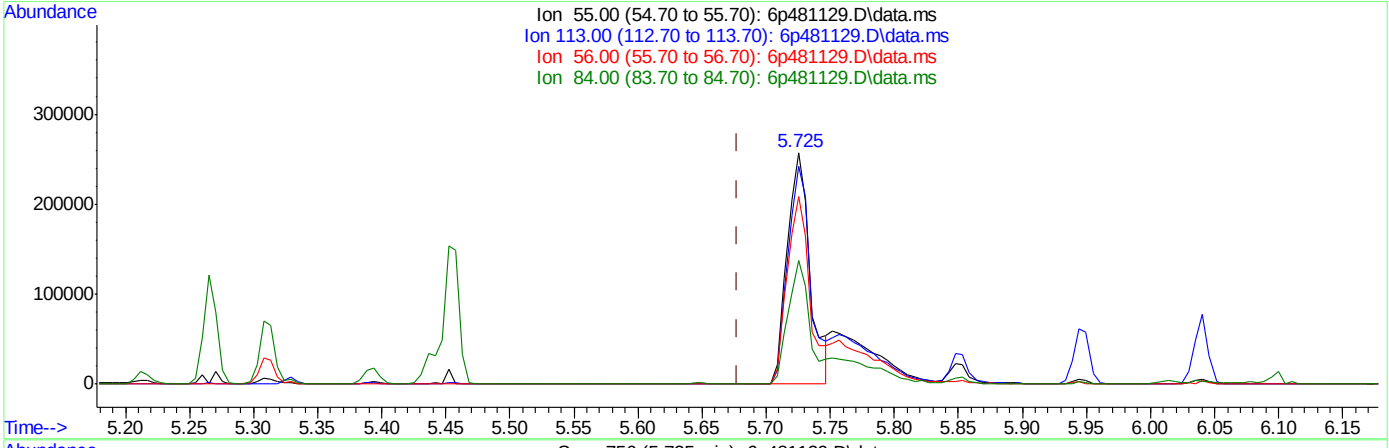
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2562-ICC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481129.D | **Analyst approved:** | 04/16/19 16:37 Ying Li |
| **Injection Time:** | 04/16/19 10:42 | **Supervisor approved:** | 04/17/19 13:32 Kristi Schollenberger |

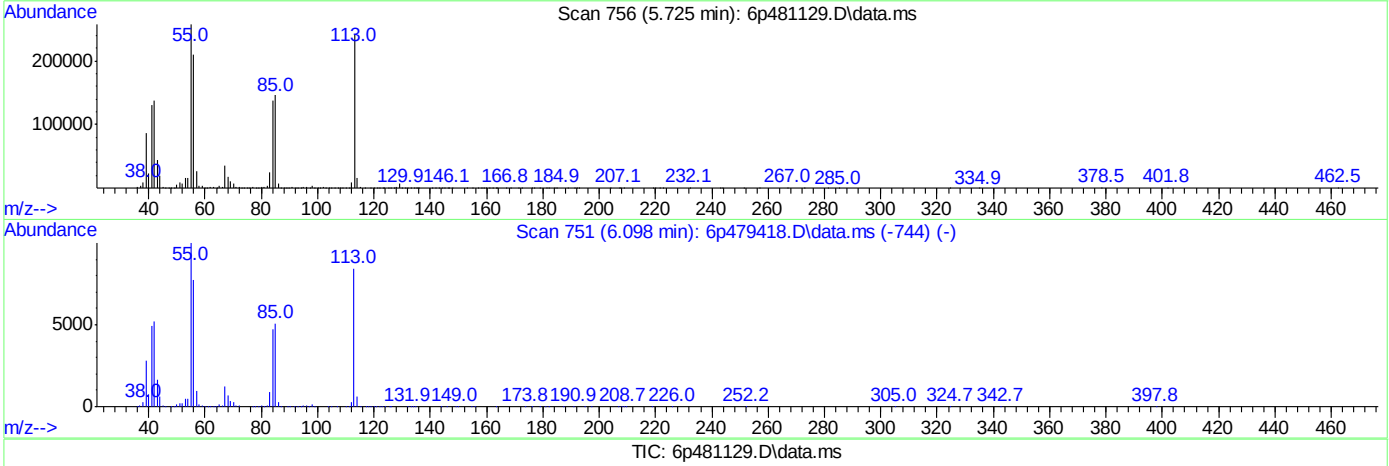
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.73 | Split peak |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 10:59:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 15 15:48:41 2019
QLast Update : Mon Apr 15 15:48:41 2019
Response via : Initial Calibration







TIC: 6p481129.D\data.ms

(41) Caprolactam (t)

5.725min (+0.047) 36.82ppm

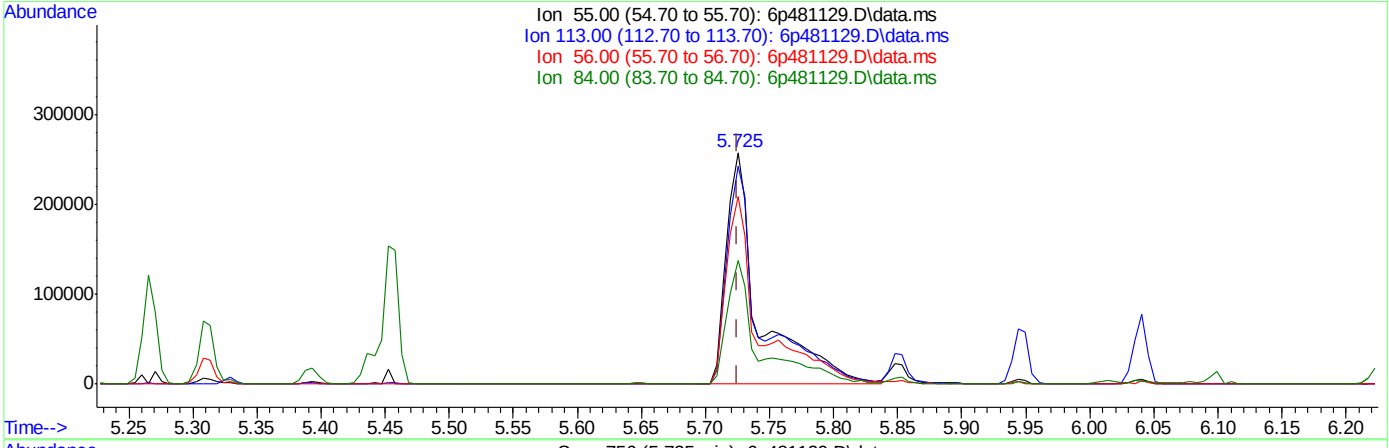
response 315558

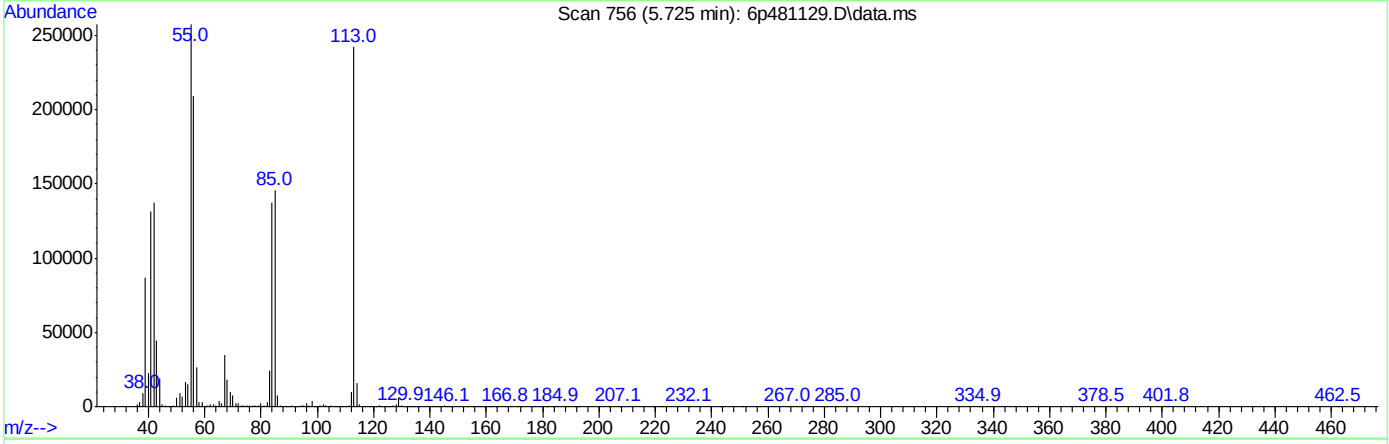
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 84.50 | 94.56 |
| 56.00 | 77.10 | 81.25 |
| 84.00 | 47.50 | 53.60 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:46:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration




TIC: 6p481129.D\data.ms

(41) Caprolactam (t)

5.725min (0.000) 50.12ppm m

response 464639

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 94.08 |
| 56.00 | 81.20 | 81.21 |
| 84.00 | 53.30 | 53.34 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 744927 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2963509 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1813941 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3317167 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3059037 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3498921 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 744927 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1813941 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3317167 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3059037 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2963509 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3317167 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3059037 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 596105 | 24.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.28% | | | |
| 8) Phenol-d5 | 4.094 | 99 | 703096 | 25.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.90% | | | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 636641 | 25.15 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.30% | | | |
| 51) 2-Fluorobiphenyl | 6.308 | 172 | 1616889 | 25.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.94% | | | |
| 73) 2,4,6-Tribromophenol | 7.875 | 330 | 260162 | 23.24 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 46.48% | | | |
| 85) Terphenyl-d14 | 10.587 | 244 | 1809565 | 24.51 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 49.02% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.773 | 88 | 247076 | 24.34 | ppm | 98 |
| 3) Pyridine | 2.109 | 79 | 595707 | 24.83 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.088 | 74 | 356419 | 25.58 | ppm | 98 |
| 6) Indene | 4.511 | 116 | 1034229 | 25.37 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 1470858 | 25.52 | ppm | 100 |
| 9) Phenol | 4.105 | 94 | 848643 | 25.37 | ppm | 96 |
| 10) Aniline | 4.088 | 93 | 725263 | 26.12 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 577858 | 25.41 | ppm | 98 |
| 12) 2-Chlorophenol | 4.179 | 128 | 666130 | 24.60 | ppm | 99 |
| 13) Decane | 4.217 | 43 | 501490 | 26.19 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 742043 | 25.09 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.335 | 146 | 754813 | 24.99 | ppm | 99 |
| 16) Benzyl alcohol | 4.441 | 108 | 370749 | 24.68 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 710303 | 25.57 | ppm | 100 |
| 18) Acetophenone | 4.629 | 105 | 892734 | 25.17 | ppm | 97 |
| 19) 2-Methylphenol | 4.538 | 108 | 576629 | 25.29 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 203911 | 24.80 | ppm | 91 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 623892 | 25.38 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.634 | 70 | 402046 | 25.61 | ppm | | 98 |
| 23) Hexachloroethane | 4.693 | 201 | 265651 | 24.29 | ppm | | 99 |
| 26) Nitrobenzene | 4.757 | 77 | 656171 | 25.69 | ppm | | 97 |
| 27) Quinoline | 5.634 | 129 | 1396723 | 24.58 | ppm | | 100 |
| 28) Isophorone | 4.939 | 82 | 1110644 | 25.80 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.003 | 139 | 396778 | 24.88 | ppm | | 80 |
| 30) 2,4-Dimethylphenol | 5.057 | 107 | 584803 | 23.87 | ppm | | 97 |
| 31) Benzoic acid | 5.196 | 105 | 562783 | 23.32 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 689828 | 25.20 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 5.212 | 162 | 585942 | 24.83 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.394 | 162 | 569920 | 24.86 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.008 | 180 | 673315 | 25.62 | ppm | | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 638143 | 24.80 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 5.452 | 180 | 644773 | 25.17 | ppm | | 99 |
| 38) Naphthalene | 5.329 | 128 | 1956362 | 25.83 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.388 | 127 | 789728 | 25.94 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.223 | 161 | 725548 | 25.06 | ppm | | 98 |
| 41) Caprolactam | 5.704 | 55 | 254994 | 24.75 | ppm | | 99 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 365295 | 24.68 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.843 | 107 | 599841 | 24.69 | ppm | | 92 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 1115940 | 25.51 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 6.041 | 141 | 1242943 | 25.84 | ppm | | 98 |
| 46) Dimethylnaphthalene | 6.565 | 156 | 1331720 | 25.40 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.100 | 237 | 528789 | 41.71 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 442233 | 24.50 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.281 | 196 | 474704 | 24.30 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.420 | 162 | 1353741 | 25.20 | ppm | | 99 |
| 53) Biphenyl | 6.404 | 154 | 1776189 | 25.81 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.543 | 65 | 380589 | 25.08 | ppm | | 100 |
| 55) Dimethylphthalate | 6.736 | 163 | 1572573 | 24.94 | ppm | | 99 |
| 56) Acenaphthylene | 6.843 | 152 | 2133000 | 25.54 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 372735 | 24.06 | ppm | | 99 |
| 58) 3-Nitroaniline | 6.977 | 138 | 405482 | 23.96 | ppm | | 100 |
| 59) Acenaphthene | 7.030 | 153 | 1399548 | 25.43 | ppm | | 95 |
| 60) 2,4-Dinitrophenol | 7.100 | 184 | 446556 | 44.71 | ppm | | 95 |
| 61) 4-Nitrophenol | 7.217 | 109 | 199879 | 23.94 | ppm | # | 78 |
| 62) Dibenzofuran | 7.217 | 168 | 1937520 | 25.66 | ppm | | 97 |
| 63) 2,4-Dinitrotoluene | 7.239 | 165 | 523357 | 24.60 | ppm | | 91 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 386627 | 23.81 | ppm | | 95 |
| 65) Diethylphthalate | 7.506 | 149 | 1573379 | 25.34 | ppm | | 99 |
| 66) Fluorene | 7.597 | 166 | 1579515 | 25.38 | ppm | | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 787891 | 24.70 | ppm | | 99 |
| 68) 4-Nitroaniline | 7.656 | 138 | 406219 | 24.06 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 7.699 | 198 | 327501 | 23.37 | ppm | | 99 |
| 71) n-Nitrosodiphenylamine | 7.752 | 169 | 1182388 | 25.36 | ppm | | 100 |
| 72) 1,2-Diphenylhydrazine | 7.790 | 77 | 1365317 | 25.90 | ppm | | 96 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 462445 | 24.58 | ppm | | 94 |
| 75) Hexachlorobenzene | 8.234 | 284 | 532293 | 24.40 | ppm | | 97 |
| 76) Pentachlorophenol | 8.480 | 266 | 641334 | 45.88 | ppm | | 99 |
| 77) Phenanthrene | 8.694 | 178 | 2220856 | 25.23 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

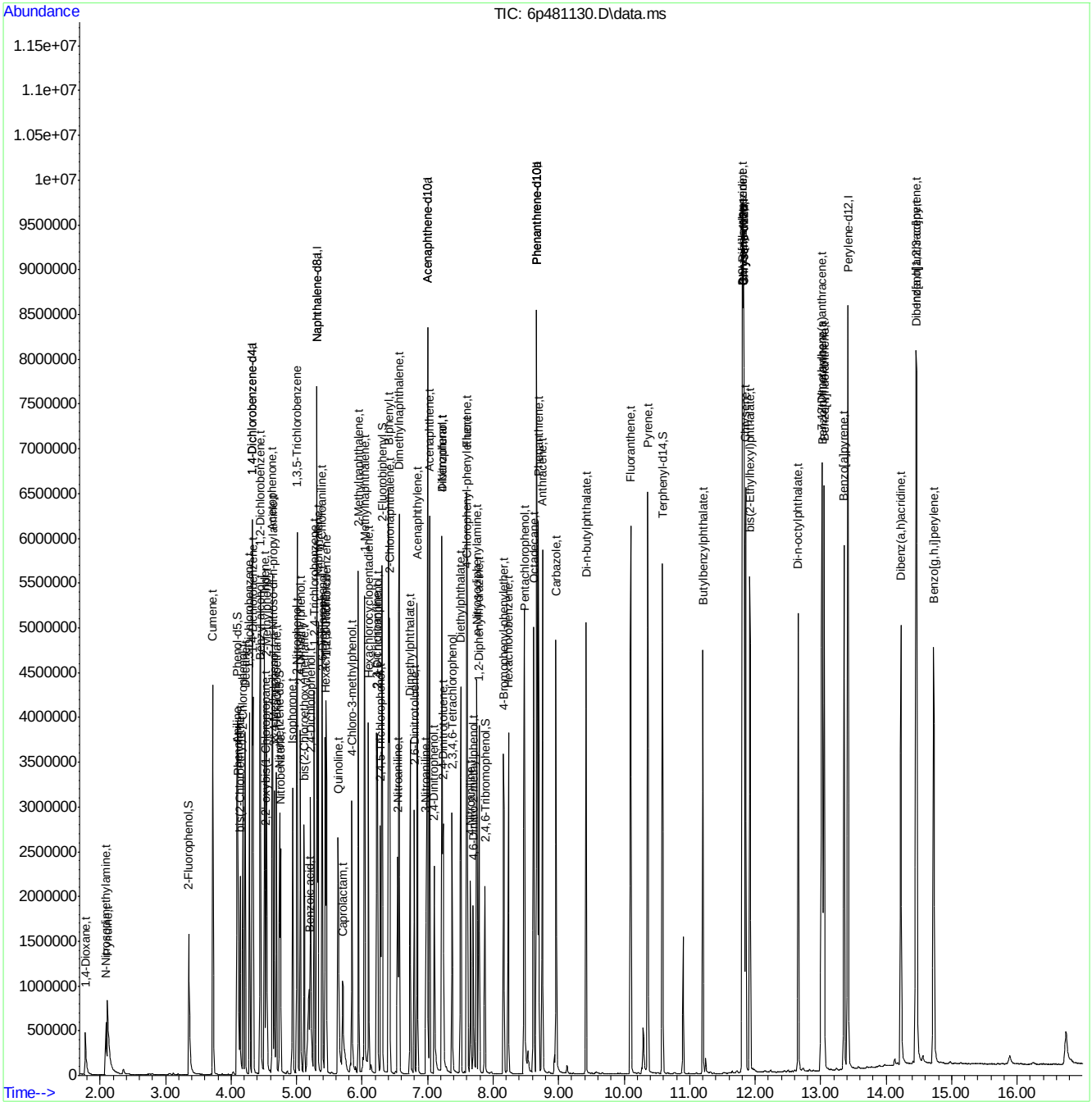
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) Anthracene | 8.752 | 178 | 2323190 | 25.76 | ppm | 99 |
| 79) Carbazole | 8.961 | 167 | 2195685 | 25.23 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.421 | 149 | 2650667 | 25.29 | ppm | 98 |
| 81) Fluoranthene | 10.100 | 202 | 2505664 | 24.88 | ppm | 99 |
| 82) Octadecane | 8.619 | 57 | 790137 | 26.47 | ppm | 99 |
| 84) Pyrene | 10.362 | 202 | 2636645 | 25.48 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.202 | 149 | 1213382 | 25.18 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.807 | 228 | 2492142 | 24.66 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.807 | 252 | 991548 | 23.97 | ppm | 99 |
| 89) Chrysene | 11.855 | 228 | 2399150 | 24.42 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 1687844 | 25.20 | ppm | 98 |
| 92) Di-n-octylphthalate | 12.657 | 149 | 2905886 | 25.43 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 13.026 | 252 | 2799509 | 24.43 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 13.053 | 252 | 2408099 | 23.19 | ppm | 97 |
| 95) Benzo[a]pyrene | 13.358 | 252 | 2310903 | 24.03 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.459 | 276 | 3058270 | 23.32 | ppm | 97 |
| 97) Dibenz(a,h)acridine | 14.224 | 279 | 2272446 | 23.41 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.465 | 278 | 2676075 | 22.78 | ppm | 97 |
| 99) 7,12-Dimethylbenz(a)an... | 13.015 | 256 | 1123514 | 22.02 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 14.727 | 276 | 2355120 | 23.51 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 780578 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 3059709 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1878971 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3459841 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3265635 | 40.00 | ppm | | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3801424 | 40.00 | ppm | | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 780578 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1878971 | 40.00 | ppm | | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3459841 | 40.00 | ppm | | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3265635 | 40.00 | ppm | | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 3059709 | 40.00 | ppm | | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3459841 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3265635 | 40.00 | ppm | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 3.361 | 112 | 239181 | 9.24 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 18.48% | | | |
| 8) Phenol-d5 | 4.094 | 99 | 294995 | 10.19 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.38% | | | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 269566 | 10.31 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.62% | | | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 689296 | 10.48 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.96% | | | |
| 73) 2,4,6-Tribromophenol | 7.870 | 330 | 103031 | 8.82 | ppm | | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 17.64% | | | |
| 85) Terphenyl-d14 | 10.587 | 244 | 759312 | 9.63 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 19.26% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Target Compounds | | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.778 | 88 | 105339 | 9.90 | ppm | | 98 |
| 3) Pyridine | 2.120 | 79 | 248250 | 9.88 | ppm | | 95 |
| 4) N-Nitrosodimethylamine | 2.093 | 74 | 146608 | 10.04 | ppm | | 97 |
| 6) Indene | 4.511 | 116 | 440430 | 10.31 | ppm | | 99 |
| 7) Cumene | 3.719 | 105 | 637669 | 10.56 | ppm | | 99 |
| 9) Phenol | 4.104 | 94 | 358014 | 10.22 | ppm | | 98 |
| 10) Aniline | 4.088 | 93 | 339977 | 11.68 | ppm | | 99 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 242186 | 10.16 | ppm | | 99 |
| 12) 2-Chlorophenol | 4.179 | 128 | 283123 | 9.98 | ppm | | 99 |
| 13) Decane | 4.217 | 43 | 219845 | 10.96 | ppm | | 99 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 318249 | 10.27 | ppm | | 98 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 321952 | 10.17 | ppm | | 99 |
| 16) Benzyl alcohol | 4.441 | 108 | 147134 | 9.35 | ppm | | 92 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 305718 | 10.50 | ppm | | 98 |
| 18) Acetophenone | 4.629 | 105 | 380095 | 10.23 | ppm | | 95 |
| 19) 2-Methylphenol | 4.538 | 108 | 243622 | 10.20 | ppm | | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 85748 | 9.95 | ppm | # | 85 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 256759 | 9.97 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 172402 | 10.48 | ppm | | 92 |
| 23) Hexachloroethane | 4.693 | 201 | 111930 | 9.77 | ppm | | 98 |
| 26) Nitrobenzene | 4.752 | 77 | 277176 | 10.51 | ppm | | 95 |
| 27) Quinoline | 5.623 | 129 | 583782 | 9.95 | ppm | | 99 |
| 28) Isophorone | 4.939 | 82 | 475836 | 10.71 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.003 | 139 | 165085 | 10.03 | ppm | | 85 |
| 30) 2,4-Dimethylphenol | 5.056 | 107 | 214958 | 8.50 | ppm | | 97 |
| 31) Benzoic acid | 5.169 | 105 | 196482 | 7.89 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 296076 | 10.48 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.212 | 162 | 243725 | 10.00 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.388 | 162 | 237195 | 10.02 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.008 | 180 | 280983 | 10.36 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 266004 | 10.01 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.452 | 180 | 264454 | 10.00 | ppm | | 97 |
| 38) Naphthalene | 5.324 | 128 | 845810 | 10.82 | ppm | | 98 |
| 39) 4-Chloroaniline | 5.383 | 127 | 349564 | 11.12 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.223 | 161 | 297497 | 9.95 | ppm | | 98 |
| 41) Caprolactam | 5.688 | 55 | 104436 | 9.82 | ppm | | 98 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 151594 | 9.92 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.843 | 107 | 248457 | 9.90 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 476948 | 10.56 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 530439 | 10.68 | ppm | | 100 |
| 46) Dimethylnaphthalene | 6.559 | 156 | 553449 | 10.22 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.099 | 237 | 167913 | 12.78 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 183033 | 9.79 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.281 | 196 | 192356 | 9.51 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.415 | 162 | 574180 | 10.32 | ppm | | 96 |
| 53) Biphenyl | 6.399 | 154 | 750315 | 10.53 | ppm | | 98 |
| 54) 2-Nitroaniline | 6.538 | 65 | 155821 | 9.91 | ppm | | 91 |
| 55) Dimethylphthalate | 6.731 | 163 | 663995 | 10.17 | ppm | | 100 |
| 56) Acenaphthylene | 6.843 | 152 | 901144 | 10.42 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 154194 | 9.61 | ppm | | 96 |
| 58) 3-Nitroaniline | 6.971 | 138 | 170509 | 9.73 | ppm | | 96 |
| 59) Acenaphthene | 7.030 | 153 | 592481 | 10.39 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 7.100 | 184 | 155181 | 15.00 | ppm | | 98 |
| 61) 4-Nitrophenol | 7.217 | 109 | 79457 | 9.19 | ppm | # | 23 |
| 62) Dibenzofuran | 7.217 | 168 | 826497 | 10.57 | ppm | | 92 |
| 63) 2,4-Dinitrotoluene | 7.233 | 165 | 218898 | 9.93 | ppm | | 80 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.372 | 232 | 154214 | 9.17 | ppm | | 96 |
| 65) Diethylphthalate | 7.501 | 149 | 665101 | 10.34 | ppm | | 98 |
| 66) Fluorene | 7.597 | 166 | 683062 | 10.59 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 334148 | 10.11 | ppm | | 97 |
| 68) 4-Nitroaniline | 7.651 | 138 | 165917 | 9.49 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 7.699 | 198 | 128303 | 8.78 | ppm | | 98 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 499130 | 10.27 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.784 | 77 | 584710 | 10.63 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 187571 | 9.56 | ppm | | 96 |
| 75) Hexachlorobenzene | 8.228 | 284 | 217631 | 9.56 | ppm | | 95 |
| 76) Pentachlorophenol | 8.474 | 266 | 241526 | 16.57 | ppm | | 99 |
| 77) Phenanthrene | 8.694 | 178 | 969860 | 10.56 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

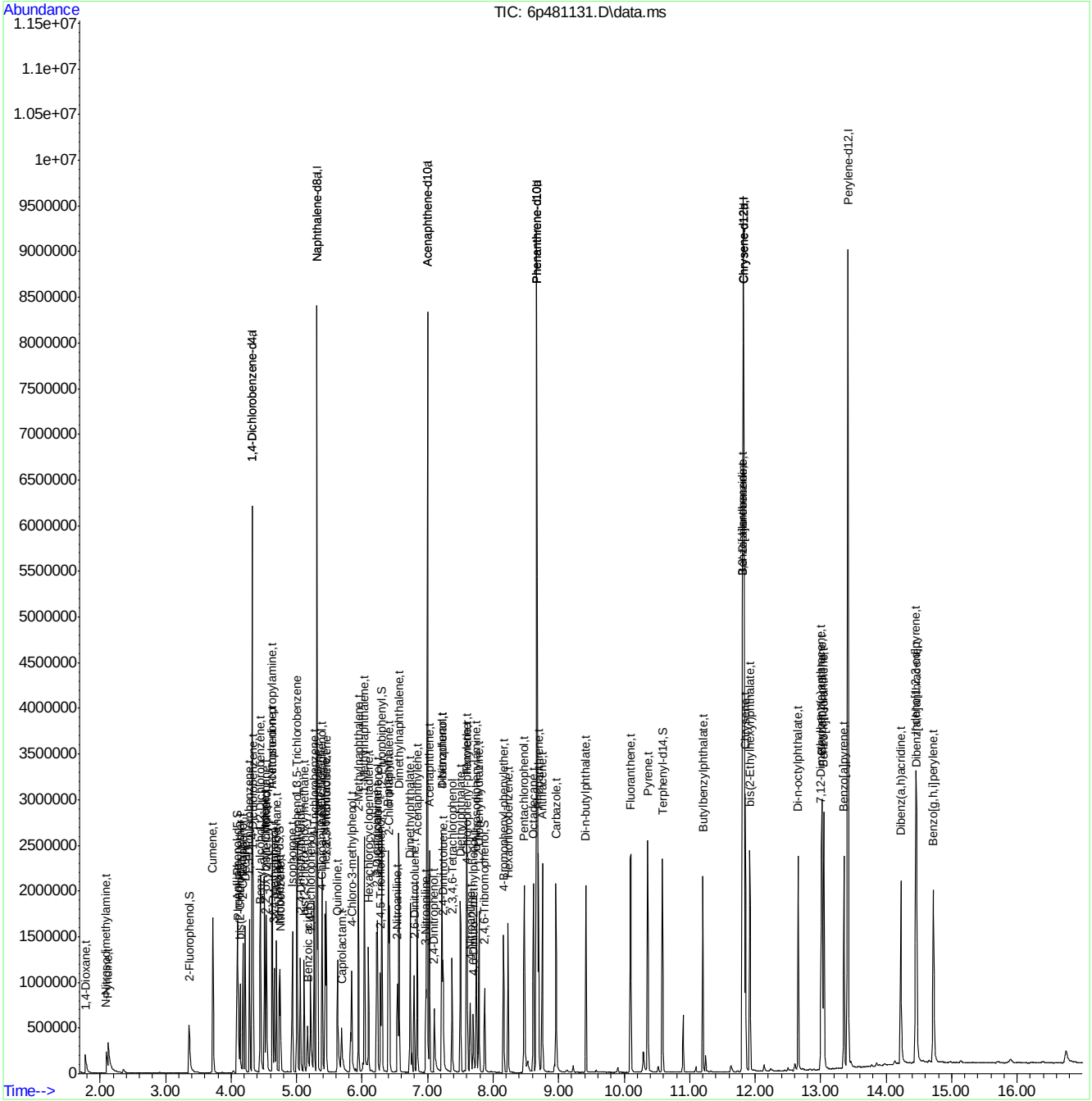
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.752 | 178 | 988020 | 10.50 | ppm | 98 |
| 79) | Carbazole | 8.961 | 167 | 939392 | 10.35 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.416 | 149 | 1134753 | 10.38 | ppm | 98 |
| 81) | Fluoranthene | 10.100 | 202 | 1072732 | 10.21 | ppm | 99 |
| 82) | Octadecane | 8.613 | 57 | 339764 | 10.91 | ppm | 98 |
| 84) | Pyrene | 10.362 | 202 | 1123066 | 10.17 | ppm | 99 |
| 86) | Butylbenzylphthalate | 11.202 | 149 | 503391 | 9.79 | ppm | 97 |
| 87) | Benzo[a]anthracene | 11.806 | 228 | 1059461 | 9.82 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.806 | 252 | 405106 | 9.17 | ppm | 98 |
| 89) | Chrysene | 11.849 | 228 | 1016466 | 9.69 | ppm | 100 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 704268 | 9.85 | ppm | 97 |
| 92) | Di-n-octylphthalate | 12.657 | 149 | 1207200 | 9.72 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 13.021 | 252 | 1145377 | 9.20 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.047 | 252 | 1057620 | 9.37 | ppm | 96 |
| 95) | Benzo[a]pyrene | 13.358 | 252 | 968866 | 9.27 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.454 | 276 | 1270627 | 8.92 | ppm | 97 |
| 97) | Dibenz(a,h)acridine | 14.224 | 279 | 947084 | 8.98 | ppm | 97 |
| 98) | Dibenz[a,h]anthracene | 14.465 | 278 | 1103314 | 8.65 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.010 | 256 | 395168 | 7.13 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.722 | 276 | 983172 | 9.04 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 745232 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2877119 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1779867 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3273697 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3018550 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.417 | 264 | 3544251 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 745232 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1779867 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3273697 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3018550 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2877119 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3273697 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3018550 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.366 | 112 | 105888 | 4.29 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 8.58% | |
| 8) Phenol-d5 | 4.099 | 99 | 136733 | 4.95 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.90% | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 123698 | 5.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.06% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 323414 | 5.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.38% | |
| 73) 2,4,6-Tribromophenol | 7.870 | 330 | 44161 | 4.00 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 8.00% | |
| 85) Terphenyl-d14 | 10.582 | 244 | 344681 | 4.73 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 9.46% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.783 | 88 | 48192 | 4.75 | ppm | 98 |
| 3) Pyridine | 2.136 | 79 | 99215 | 4.13 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 2.104 | 74 | 64329 | 4.61 | ppm | 96 |
| 6) Indene | 4.511 | 116 | 209894 | 5.15 | ppm | 98 |
| 7) Cumene | 3.719 | 105 | 297495 | 5.16 | ppm | 98 |
| 9) Phenol | 4.105 | 94 | 165582 | 4.95 | ppm | 92 |
| 10) Aniline | 4.088 | 93 | 164464 | 5.92 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 113472 | 4.99 | ppm | 99 |
| 12) 2-Chlorophenol | 4.185 | 128 | 131686 | 4.86 | ppm | 95 |
| 13) Decane | 4.217 | 43 | 103815 | 5.42 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 147901 | 5.00 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.335 | 146 | 150268 | 4.97 | ppm | 96 |
| 16) Benzyl alcohol | 4.447 | 108 | 66391 | 4.42 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 139476 | 5.02 | ppm | 100 |
| 18) Acetophenone | 4.629 | 105 | 177326 | 5.00 | ppm | 97 |
| 19) 2-Methylphenol | 4.538 | 108 | 110936 | 4.86 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 40208 | 4.89 | ppm | 90 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 113351 | 4.61 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 78812 | 5.02 | ppm | | 93 |
| 23) Hexachloroethane | 4.693 | 201 | 51503 | 4.71 | ppm | | 98 |
| 26) Nitrobenzene | 4.757 | 77 | 129378 | 5.22 | ppm | | 100 |
| 27) Quinoline | 5.624 | 129 | 266641 | 4.83 | ppm | | 98 |
| 28) Isophorone | 4.939 | 82 | 220274 | 5.27 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.008 | 139 | 73791 | 4.77 | ppm | | 63 |
| 30) 2,4-Dimethylphenol | 5.057 | 107 | 88914 | 3.74 | ppm | | 96 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 139409 | 5.25 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.217 | 162 | 110781 | 4.83 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.394 | 162 | 108921 | 4.89 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.008 | 180 | 131718 | 5.16 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 124630 | 4.99 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.452 | 180 | 124756 | 5.02 | ppm | | 97 |
| 38) Naphthalene | 5.324 | 128 | 399504 | 5.43 | ppm | | 97 |
| 39) 4-Chloroaniline | 5.388 | 127 | 162571 | 5.50 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.223 | 161 | 137083 | 4.88 | ppm | | 97 |
| 41) Caprolactam | 5.682 | 55 | 46280 | 4.63 | ppm | | 96 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 70114 | 4.88 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.843 | 107 | 109627 | 4.65 | ppm | # | 27 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 220912 | 5.20 | ppm | | 96 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 252508 | 5.41 | ppm | | 98 |
| 46) Dimethylnaphthalene | 6.560 | 156 | 261601 | 5.14 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.100 | 237 | 56881 | 4.57 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 80763 | 4.56 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.281 | 196 | 83830 | 4.37 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.415 | 162 | 268801 | 5.10 | ppm | | 97 |
| 53) Biphenyl | 6.399 | 154 | 350483 | 5.19 | ppm | | 98 |
| 54) 2-Nitroaniline | 6.538 | 65 | 69354 | 4.66 | ppm | | 93 |
| 55) Dimethylphthalate | 6.731 | 163 | 310678 | 5.02 | ppm | | 98 |
| 56) Acenaphthylene | 6.843 | 152 | 416636 | 5.08 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 6.790 | 165 | 67343 | 4.43 | ppm | | 95 |
| 58) 3-Nitroaniline | 6.977 | 138 | 75116 | 4.52 | ppm | | 100 |
| 59) Acenaphthene | 7.025 | 153 | 278293 | 5.15 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 7.105 | 184 | 52782 | 5.39 | ppm | | 96 |
| 61) 4-Nitrophenol | 7.233 | 109 | 34380 | 4.20 | ppm | # | 1 |
| 62) Dibenzofuran | 7.217 | 168 | 387930 | 5.24 | ppm | | 84 |
| 63) 2,4-Dinitrotoluene | 7.233 | 165 | 96526 | 4.62 | ppm | | 71 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 68407 | 4.29 | ppm | | 97 |
| 65) Diethylphthalate | 7.501 | 149 | 307454 | 5.05 | ppm | | 98 |
| 66) Fluorene | 7.592 | 166 | 311493 | 5.10 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 156260 | 4.99 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.651 | 138 | 71921 | 4.34 | ppm | | 95 |
| 70) 4,6-Dinitro-2-methylph... | 7.699 | 198 | 46481 | 3.36 | ppm | | 93 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 228403 | 4.96 | ppm | | 100 |
| 72) 1,2-Diphenylhydrazine | 7.784 | 77 | 269999 | 5.19 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 85601 | 4.61 | ppm | | 96 |
| 75) Hexachlorobenzene | 8.228 | 284 | 99602 | 4.63 | ppm | | 99 |
| 76) Pentachlorophenol | 8.480 | 266 | 93981 | 6.81 | ppm | | 99 |
| 77) Phenanthrene | 8.688 | 178 | 445733 | 5.13 | ppm | | 99 |
| 78) Anthracene | 8.752 | 178 | 456742 | 5.13 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

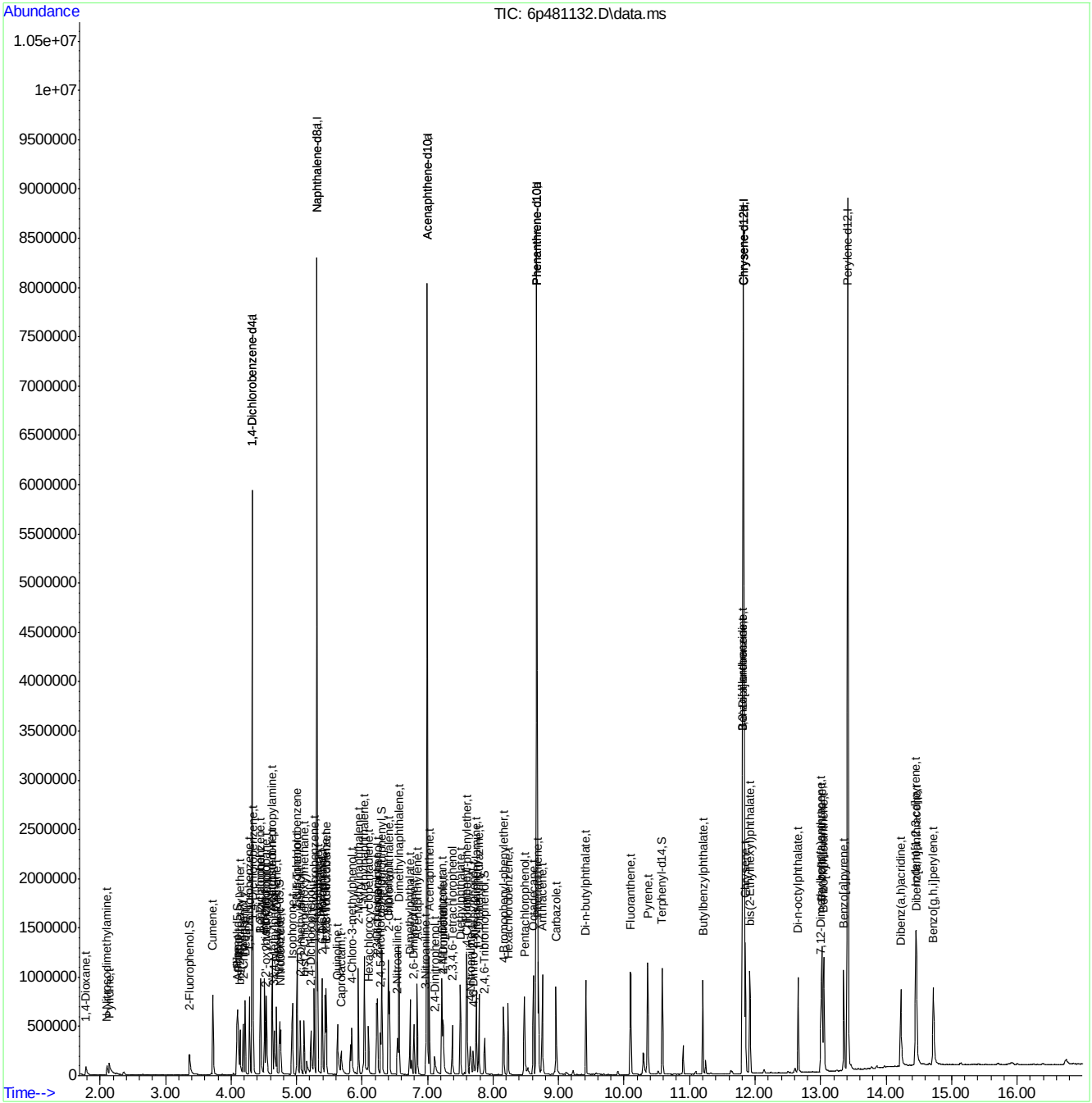
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 79) | Carbazole | 8.961 | 167 | 428668 | 4.99 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.416 | 149 | 500617 | 4.84 | ppm | 98 |
| 81) | Fluoranthene | 10.100 | 202 | 486038 | 4.89 | ppm | 99 |
| 82) | Octadecane | 8.613 | 57 | 157053 | 5.33 | ppm | 98 |
| 84) | Pyrene | 10.362 | 202 | 507717 | 4.97 | ppm | 98 |
| 86) | Butylbenzylphthalate | 11.202 | 149 | 218765 | 4.60 | ppm | 98 |
| 87) | Benzo[a]anthracene | 11.807 | 228 | 471496 | 4.73 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.807 | 252 | 170184 | 4.17 | ppm | 96 |
| 89) | Chrysene | 11.849 | 228 | 479348 | 4.94 | ppm | 97 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 304604 | 4.61 | ppm | 98 |
| 92) | Di-n-octylphthalate | 12.657 | 149 | 504385 | 4.36 | ppm | 98 |
| 93) | Benzo[b]fluoranthene | 13.021 | 252 | 486576 | 4.19 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.047 | 252 | 497243 | 4.73 | ppm | 96 |
| 95) | Benzo[a]pyrene | 13.358 | 252 | 426109 | 4.37 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.454 | 276 | 549789 | 4.14 | ppm | 94 |
| 97) | Dibenz(a,h)acridine | 14.224 | 279 | 405491 | 4.12 | ppm | 98 |
| 98) | Dibenz[a,h]anthracene | 14.465 | 278 | 488550 | 4.11 | ppm | 96 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.005 | 256 | 141217 | 2.73 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.722 | 276 | 433449 | 4.27 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 686002 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2689608 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1609873 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2957358 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2711262 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.416 | 264 | 3200801 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 686002 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1609873 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2957358 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2711262 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2689608 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2957358 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2711262 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.372 | 112 | 33457 | 1.47 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 2.94% | |
| 8) Phenol-d5 | 4.104 | 99 | 46694 | 1.84 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.68% | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 45324 | 1.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.94% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 117865 | 2.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 4.18% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 10.587 | 244 | 120805 | 1.85 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.70% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.783 | 88 | 17389 | 1.86 | ppm | 87 |
| 3) Pyridine | 2.174 | 79 | 32780 | 1.48 | ppm | 88 |
| 4) N-Nitrosodimethylamine | 2.120 | 74 | 22800 | 1.78 | ppm | 94 |
| 6) Indene | 4.511 | 116 | 76360 | 2.03 | ppm | 99 |
| 7) Cumene | 3.725 | 105 | 111146 | 2.09 | ppm | 97 |
| 9) Phenol | 4.115 | 94 | 58771 | 1.91 | ppm | 95 |
| 10) Aniline | 4.094 | 93 | 55211 | 2.16 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.142 | 93 | 43154 | 2.06 | ppm | 97 |
| 12) 2-Chlorophenol | 4.185 | 128 | 44870 | 1.80 | ppm | 96 |
| 13) Decane | 4.211 | 43 | 39621 | 2.25 | ppm | 91 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 54335 | 1.99 | ppm | 94 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 55564 | 2.00 | ppm | 95 |
| 16) Benzyl alcohol | 4.452 | 108 | 23203 | 1.68 | ppm | 90 |
| 17) 1,2-Dichlorobenzene | 4.452 | 146 | 50954 | 1.99 | ppm | 98 |
| 18) Acetophenone | 4.629 | 105 | 63584 | 1.95 | ppm | 98 |
| 19) 2-Methylphenol | 4.543 | 108 | 39223 | 1.87 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 14288 | 1.89 | ppm | 87 |
| 21) 3&4-Methylphenol | 4.666 | 108 | 40009 | 1.77 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 28105 | 1.94 | ppm | | 87 |
| 23) Hexachloroethane | 4.693 | 201 | 17788 | 1.77 | ppm | | 96 |
| 26) Nitrobenzene | 4.757 | 77 | 46061 | 1.99 | ppm | | 92 |
| 27) Quinoline | 5.629 | 129 | 90842 | 1.76 | ppm | | 98 |
| 28) Isophorone | 4.939 | 82 | 78913 | 2.02 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.014 | 139 | 23819 | 1.65 | ppm | | 83 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 50298 | 2.02 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 5.228 | 162 | 36101 | 1.69 | ppm | | 94 |
| 34) 2,6-Dichlorophenol | 5.394 | 162 | 38123 | 1.83 | ppm | | 95 |
| 35) 1,3,5-Trichlorobenzene | 5.008 | 180 | 48303 | 2.03 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 46756 | 2.00 | ppm | | 95 |
| 37) 1,2,3-Trichlorobenzene | 5.452 | 180 | 45077 | 1.94 | ppm | | 94 |
| 38) Naphthalene | 5.324 | 128 | 146092 | 2.13 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.394 | 127 | 58298 | 2.11 | ppm | | 96 |
| 40) 2,3-Dichloroaniline | 6.223 | 161 | 50005 | 1.90 | ppm | | 95 |
| 41) Caprolactam | 5.682 | 55 | 14706 | 1.57 | ppm | | 86 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 24786 | 1.85 | ppm | | 96 |
| 43) 4-Chloro-3-methylphenol | 5.848 | 107 | 37474 | 1.70 | ppm | # | 26 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 79319 | 2.00 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 93707 | 2.15 | ppm | | 94 |
| 46) Dimethylnaphthalene | 6.559 | 156 | 91169 | 1.92 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.100 | 237 | 9979 | 0.89 | ppm | | 94 |
| 49) 2,4,6-Trichlorophenol | 6.239 | 196 | 27218 | 1.70 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.292 | 196 | 28078 | 1.62 | ppm | | 98 |
| 52) 2-Chloronaphthalene | 6.420 | 162 | 96470 | 2.02 | ppm | | 99 |
| 53) Biphenyl | 6.404 | 154 | 127936 | 2.09 | ppm | | 97 |
| 54) 2-Nitroaniline | 6.543 | 65 | 21945 | 1.63 | ppm | # | 84 |
| 55) Dimethylphthalate | 6.731 | 163 | 109760 | 1.96 | ppm | | 99 |
| 56) Acenaphthylene | 6.843 | 152 | 146912 | 1.98 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 21664 | 1.58 | ppm | | 98 |
| 58) 3-Nitroaniline | 6.982 | 138 | 23906 | 1.59 | ppm | # | 86 |
| 59) Acenaphthene | 7.025 | 153 | 99483 | 2.04 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 7.126 | 184 | 10596 | 1.20 | ppm | # | 68 |
| 61) 4-Nitrophenol | 7.255 | 109 | 8043 | 1.09 | ppm | # | 1 |
| 62) Dibenzofuran | 7.217 | 168 | 139935 | 2.09 | ppm | | 84 |
| 63) 2,4-Dinitrotoluene | 7.244 | 165 | 29813 | 1.58 | ppm | | 90 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 23236 | 1.61 | ppm | | 95 |
| 65) Diethylphthalate | 7.501 | 149 | 106984 | 1.94 | ppm | | 95 |
| 66) Fluorene | 7.597 | 166 | 111343 | 2.02 | ppm | | 96 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 55373 | 1.96 | ppm | | 96 |
| 70) 4,6-Dinitro-2-methylph... | 7.709 | 198 | 11351 | 0.91 | ppm | | 92 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 80758 | 1.94 | ppm | | 96 |
| 72) 1,2-Diphenylhydrazine | 7.784 | 77 | 92206 | 1.96 | ppm | | 99 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 29512 | 1.76 | ppm | | 88 |
| 75) Hexachlorobenzene | 8.228 | 284 | 34420 | 1.77 | ppm | | 88 |
| 76) Pentachlorophenol | 8.480 | 266 | 27580 | 2.21 | ppm | | 98 |
| 77) Phenanthrene | 8.688 | 178 | 164257 | 2.09 | ppm | | 98 |
| 78) Anthracene | 8.752 | 178 | 155924 | 1.94 | ppm | | 99 |
| 79) Carbazole | 8.966 | 167 | 149401 | 1.93 | ppm | | 98 |
| 80) Di-n-butylphthalate | 9.416 | 149 | 165896 | 1.78 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 81) Fluoranthene | 10.100 | 202 | 165236 | 1.84 | ppm | 98 |
| 82) Octadecane | 8.613 | 57 | 54062 | 2.03 | ppm | 97 |
| 84) Pyrene | 10.362 | 202 | 180114 | 1.96 | ppm | 99 |
| 86) Butylbenzylphthalate | 11.202 | 149 | 68859 | 1.61 | ppm | 96 |
| 87) Benzo[a]anthracene | 11.807 | 228 | 167454 | 1.87 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.807 | 252 | 55110 | 1.50 | ppm | 95 |
| 89) Chrysene | 11.849 | 228 | 169572 | 1.95 | ppm | 97 |
| 90) bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 91972 | 1.55 | ppm | 97 |
| 92) Di-n-octylphthalate | 12.657 | 149 | 144948 | 1.39 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 13.021 | 252 | 172303 | 1.64 | ppm | 96 |
| 94) Benzo[k]fluoranthene | 13.047 | 252 | 164189 | 1.73 | ppm | 94 |
| 95) Benzo[a]pyrene | 13.358 | 252 | 142092 | 1.62 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.454 | 276 | 186793 | 1.56 | ppm | 82 |
| 97) Dibenz(a,h)acridine | 14.224 | 279 | 133092 | 1.50 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.465 | 278 | 166269 | 1.55 | ppm | 95 |
| 100) Benzo[g,h,i]perylene | 14.727 | 276 | 152019 | 1.66 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

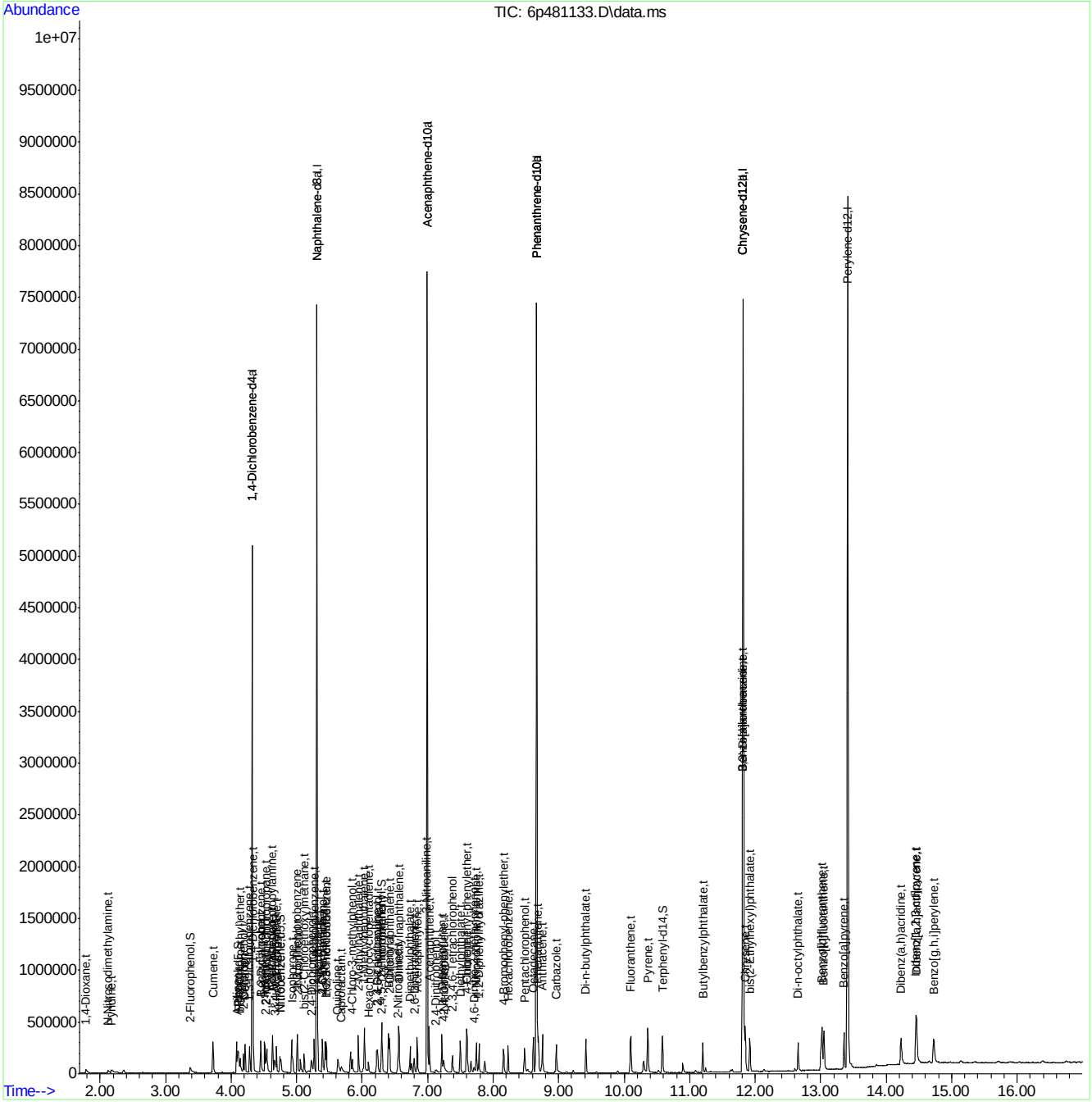
9.8.79

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 661210 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2591434 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1554441 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2861397 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2611176 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.416 | 264 | 3054739 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 661210 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1554441 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2861397 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2611176 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2591434 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2861397 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2611176 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.382 | 112 | 14147 | 0.65 | ppm | 0.03 |
| Spiked Amount 50.000 | | | Recovery | = | 1.30% | |
| 8) Phenol-d5 | 4.110 | 99 | 21475 | 0.88 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 1.76% | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 19907 | 0.90 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.80% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 56848 | 1.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.10% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 10.587 | 244 | 58052 | 0.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.84% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.783 | 88 | 8628 | 0.96 | ppm | 97 |
| 3) Pyridine | 2.211 | 79 | 11070 | 0.52 | ppm | 84 |
| 4) N-Nitrosodimethylamine | 2.125 | 74 | 8256 | 0.67 | ppm | 88 |
| 6) Indene | 4.516 | 116 | 35425 | 0.98 | ppm | 99 |
| 7) Cumene | 3.725 | 105 | 53198 | 1.04 | ppm | 98 |
| 9) Phenol | 4.120 | 94 | 27996 | 0.94 | ppm | 92 |
| 11) bis(2-Chloroethyl)ether | 4.142 | 93 | 18627 | 0.92 | ppm | 98 |
| 12) 2-Chlorophenol | 4.195 | 128 | 20872 | 0.87 | ppm | 96 |
| 13) Decane | 4.217 | 43 | 18774 | 1.10 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.286 | 146 | 26779 | 1.02 | ppm | 91 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 29014 | 1.08 | ppm | 88 |
| 17) 1,2-Dichlorobenzene | 4.452 | 146 | 25223 | 1.02 | ppm | 96 |
| 18) Acetophenone | 4.634 | 105 | 28821 | 0.92 | ppm | 95 |
| 19) 2-Methylphenol | 4.548 | 108 | 16958 | 0.84 | ppm | 87 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 6913 | 0.95 | ppm | 90 |
| 21) 3&4-Methylphenol | 4.671 | 108 | 16706 | 0.77 | ppm | 82 |
| 22) n-Nitroso-di-n-propyla... | 4.634 | 70 | 13354 | 0.96 | ppm | 92 |
| 23) Hexachloroethane | 4.693 | 201 | 8848 | 0.91 | ppm | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 26) Nitrobenzene | 4.762 | 77 | 20210 | 0.90 | ppm | | 92 |
| 27) Quinoline | 5.645 | 129 | 40957 | 0.82 | ppm | | 99 |
| 28) Isophorone | 4.939 | 82 | 36266 | 0.96 | ppm | | 95 |
| 29) 2-Nitrophenol | 5.019 | 139 | 10855 | 0.78 | ppm | | 93 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 22031 | 0.92 | ppm | | 94 |
| 33) 2,4-Dichlorophenol | 5.233 | 162 | 16988 | 0.82 | ppm | | 96 |
| 34) 2,6-Dichlorophenol | 5.399 | 162 | 17714 | 0.88 | ppm | | 100 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 23653 | 1.03 | ppm | | 94 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 22308 | 0.99 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 22002 | 0.98 | ppm | | 93 |
| 38) Naphthalene | 5.324 | 128 | 72273 | 1.09 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.399 | 127 | 27141 | 1.02 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 23641 | 0.93 | ppm | | 98 |
| 41) Caprolactam | 5.693 | 55 | 6433 | 0.71 | ppm | | 84 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 12598 | 0.97 | ppm | | 95 |
| 43) 4-Chloro-3-methylphenol | 5.853 | 107 | 17162 | 0.81 | ppm | # | 26 |
| 44) 2-Methylnaphthalene | 5.950 | 141 | 39141 | 1.02 | ppm | | 92 |
| 45) 1-Methylnaphthalene | 6.041 | 141 | 42484 | 1.01 | ppm | | 97 |
| 46) Dimethylnaphthalene | 6.565 | 156 | 47031 | 1.03 | ppm | | 95 |
| 49) 2,4,6-Trichlorophenol | 6.238 | 196 | 11982 | 0.77 | ppm | | 93 |
| 50) 2,4,5-Trichlorophenol | 6.297 | 196 | 12852 | 0.77 | ppm | | 95 |
| 52) 2-Chloronaphthalene | 6.420 | 162 | 46708 | 1.01 | ppm | | 98 |
| 53) Biphenyl | 6.404 | 154 | 60991 | 1.03 | ppm | | 97 |
| 54) 2-Nitroaniline | 6.549 | 65 | 9160 | 0.70 | ppm | | 84 |
| 55) Dimethylphthalate | 6.731 | 163 | 52845 | 0.98 | ppm | | 98 |
| 56) Acenaphthylene | 6.843 | 152 | 69770 | 0.97 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 9160 | 0.69 | ppm | | 93 |
| 58) 3-Nitroaniline | 6.993 | 138 | 9499 | 0.65 | ppm | # | 1 |
| 59) Acenaphthene | 7.025 | 153 | 47265 | 1.00 | ppm | | 97 |
| 62) Dibenzofuran | 7.217 | 168 | 67168 | 1.04 | ppm | | 86 |
| 63) 2,4-Dinitrotoluene | 7.249 | 165 | 12438 | 0.68 | ppm | | 97 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.383 | 232 | 9544 | 0.69 | ppm | | 91 |
| 65) Diethylphthalate | 7.501 | 149 | 50833 | 0.96 | ppm | | 100 |
| 66) Fluorene | 7.597 | 166 | 52984 | 0.99 | ppm | | 97 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 26061 | 0.95 | ppm | | 95 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 37950 | 0.94 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 7.784 | 77 | 42838 | 0.94 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 13902 | 0.86 | ppm | | 92 |
| 75) Hexachlorobenzene | 8.233 | 284 | 16799 | 0.89 | ppm | | 96 |
| 77) Phenanthrene | 8.688 | 178 | 80649 | 1.06 | ppm | | 98 |
| 78) Anthracene | 8.752 | 178 | 74342 | 0.96 | ppm | | 99 |
| 79) Carbazole | 8.966 | 167 | 68334 | 0.91 | ppm | | 99 |
| 80) Di-n-butylphthalate | 9.416 | 149 | 72746 | 0.80 | ppm | | 98 |
| 81) Fluoranthene | 10.100 | 202 | 78585 | 0.90 | ppm | | 97 |
| 82) Octadecane | 8.613 | 57 | 25275 | 0.98 | ppm | | 97 |
| 84) Pyrene | 10.362 | 202 | 85418 | 0.97 | ppm | | 99 |
| 86) Butylbenzylphthalate | 11.202 | 149 | 27713 | 0.67 | ppm | | 83 |
| 87) Benzo[a]anthracene | 11.806 | 228 | 83521 | 0.97 | ppm | | 94 |
| 88) 3,3'-Dichlorobenzidine | 11.812 | 252 | 24221 | 0.69 | ppm | | 83 |
| 89) Chrysene | 11.849 | 228 | 78945 | 0.94 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 90) bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 38307 | 0.67 | ppm | 92 |
| 93) Benzo[b]fluoranthene | 13.021 | 252 | 73810 | 0.74 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 13.053 | 252 | 82287 | 0.91 | ppm | 97 |
| 95) Benzo[a]pyrene | 13.357 | 252 | 64023 | 0.76 | ppm | 94 |
| 96) Indeno[1,2,3-cd]pyrene | 14.459 | 276 | 85814 | 0.75 | ppm | 98 |
| 97) Dibenz(a,h)acridine | 14.229 | 279 | 59092 | 0.70 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 14.465 | 278 | 76409 | 0.75 | ppm | 93 |
| 100) Benzo[g,h,i]perylene | 14.732 | 276 | 68890 | 0.79 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

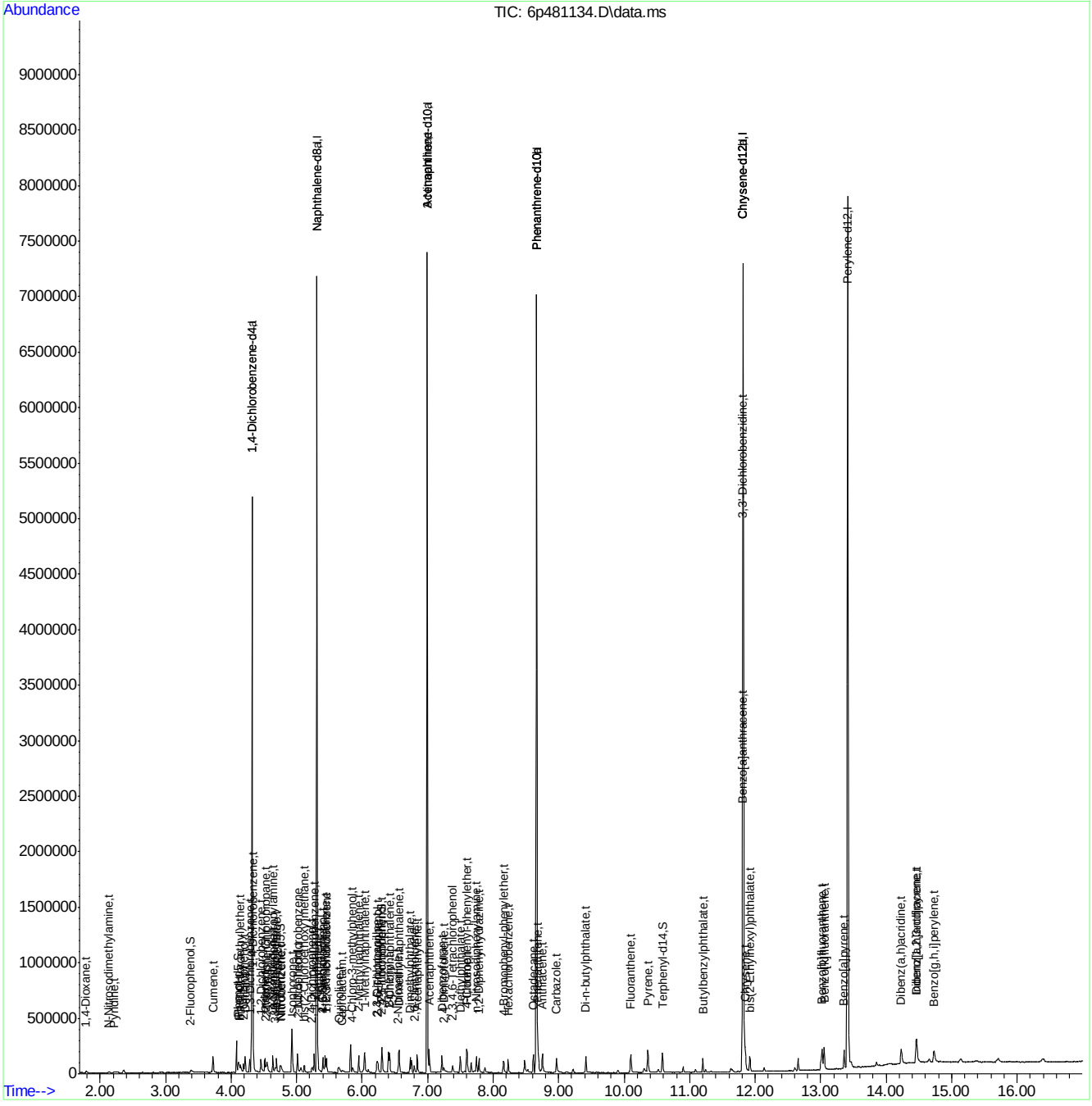
9.8.80

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481135.D
Acq On : 16 Apr 2019 1:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 16 15:42:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 531418 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2113367 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1272076 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2255478 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 1942871 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.416 | 264 | 2204772 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 531418 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1272076 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2255478 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 1942871 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2113367 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2255478 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 1942871 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 4) N-Nitrosodimethylamine | 2.099 | 74 | 481129 | 51.87 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 796542 | 49.62 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 998503 | 47.67 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 1051327 | 49.04 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 975325 | 49.53 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 333063 | 58.19 | ppm | 94 |
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 562913 | 50.95 | ppm | 95 |
| 23) Hexachloroethane | 4.693 | 201 | 366729 | 49.02 | ppm | 99 |
| 26) Nitrobenzene | 4.752 | 77 | 858600 | 47.98 | ppm | 95 |
| 28) Isophorone | 4.934 | 82 | 1530298 | 50.04 | ppm | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 944612 | 49.16 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 872412 | 48.27 | ppm | 99 |
| 38) Naphthalene | 5.329 | 128 | 2673743 | 48.58 | ppm | 99 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 503478 | 48.95 | ppm | 98 |
| 52) 2-Chloronaphthalene | 6.420 | 162 | 1753056 | 46.73 | ppm | 98 |
| 55) Dimethylphthalate | 6.736 | 163 | 2015588 | 46.26 | ppm | 99 |
| 56) Acenaphthylene | 6.843 | 152 | 2787475 | 48.15 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 463934 | 47.09 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481135.D
Acq On : 16 Apr 2019 1:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 16 15:42:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

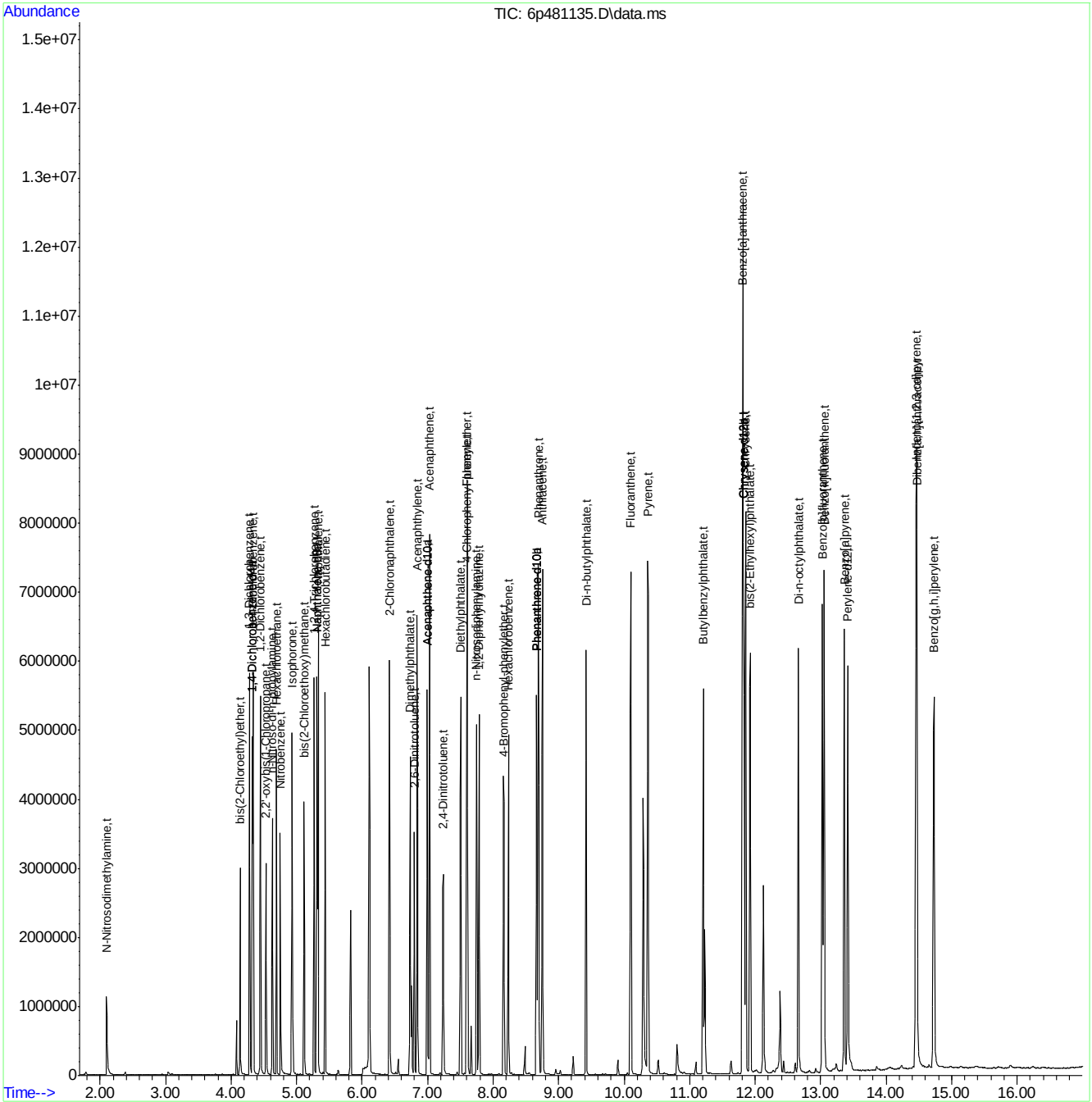
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 59) Acenaphthene | 7.030 | 153 | 1766949 | 45.98 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 7.239 | 165 | 626568 | 45.79 | ppm | 98 |
| 65) Diethylphthalate | 7.506 | 149 | 1973162 | 45.93 | ppm | 99 |
| 66) Fluorene | 7.597 | 166 | 2045365 | 47.08 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 1037651 | 47.12 | ppm | 99 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 1415004 | 45.41 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 7.790 | 77 | 1745959 | 49.49 | ppm | 94 |
| 74) 4-Bromophenyl-phenylether | 8.164 | 248 | 606033 | 50.00 | ppm | 98 |
| 75) Hexachlorobenzene | 8.234 | 284 | 675564 | 47.45 | ppm | 98 |
| 77) Phenanthrene | 8.694 | 178 | 2841831 | 46.93 | ppm | 99 |
| 78) Anthracene | 8.752 | 178 | 2966883 | 48.85 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.421 | 149 | 3243429 | 48.30 | ppm | 99 |
| 81) Fluoranthene | 10.100 | 202 | 3151566 | 47.90 | ppm | 98 |
| 84) Pyrene | 10.362 | 202 | 3276986 | 50.63 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.207 | 149 | 1441645 | 51.68 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.812 | 228 | 2955986 | 47.77 | ppm | 99 |
| 89) Chrysene | 11.855 | 228 | 2940569 | 48.46 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 11.924 | 149 | 2022050 | 52.43 | ppm | 99 |
| 92) Di-n-octylphthalate | 12.662 | 149 | 3374163 | 51.38 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 13.026 | 252 | 2925494 | 43.44 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 13.053 | 252 | 3089671 | 51.83 | ppm | 98 |
| 95) Benzo[a]pyrene | 13.363 | 252 | 2790875 | 50.44 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.459 | 276 | 3521423 | 47.67 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 14.470 | 278 | 3024026 | 46.19 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 14.732 | 276 | 2857667 | 49.60 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481135.D
Acq On : 16 Apr 2019 1:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 16 15:42:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481136.D
Acq On : 16 Apr 2019 1:29 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 16 15:41:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

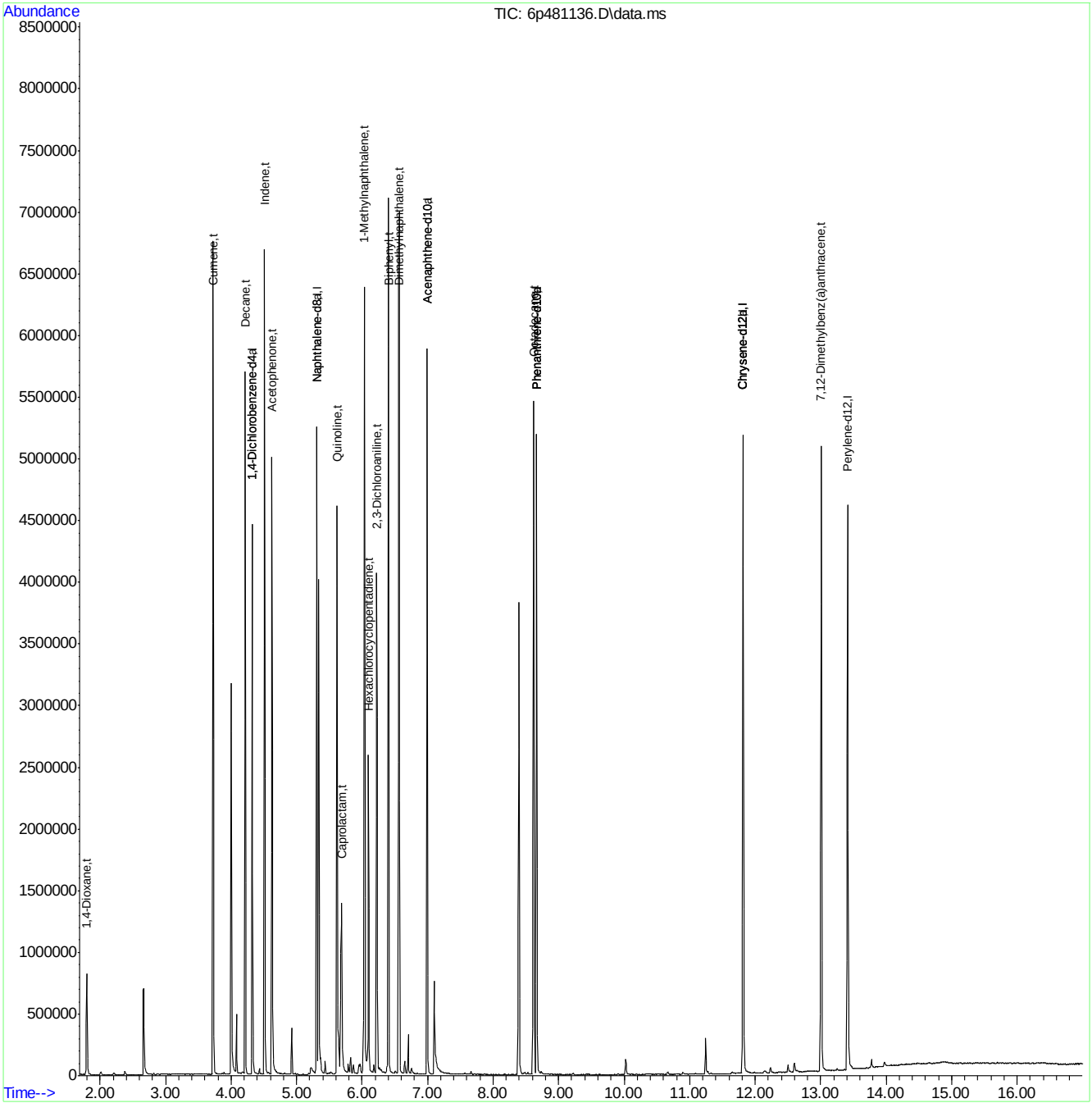
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 520182 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2005705 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.992 | 164 | 1185681 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.661 | 188 | 2067155 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1766202 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1848264 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 520182 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.992 | 164 | 1185681 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.661 | 188 | 2067155 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1766202 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2005705 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.661 | 188 | 2067155 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1766202 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.794 | 88 | 320512 | 46.80 | ppm | 99 |
| 6) Indene | 4.511 | 116 | 1450104 | 51.41 | ppm | 99 |
| 7) Cumene | 3.724 | 105 | 1876058 | 46.43 | ppm | 99 |
| 13) Decane | 4.217 | 43 | 619449 | 44.87 | ppm | 100 |
| 18) Acetophenone | 4.623 | 105 | 1129436 | 46.72 | ppm | 98 |
| 27) Quinoline | 5.618 | 129 | 1703770 | 46.82 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.222 | 161 | 816796 | 42.96 | ppm | 98 |
| 41) Caprolactam | 5.687 | 55 | 283754 | 44.25 | ppm | 97 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 1474123 | 44.66 | ppm | 99 |
| 46) Dimethylnaphthalene | 6.565 | 156 | 1637534 | 46.63 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.099 | 237 | 323971 | 44.53 | ppm | 99 |
| 53) Biphenyl | 6.404 | 154 | 2169137 | 47.83 | ppm | 100 |
| 82) Octadecane | 8.618 | 57 | 900000 | 48.39 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 13.010 | 256 | 1127698 | 42.79 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481136.D
Acq On : 16 Apr 2019 1:29 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 16 15:41:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481137.D
Acq On : 16 Apr 2019 1:53 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 16 15:44:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 510073 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1930613 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1099720 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.661 | 188 | 1950054 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1585691 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1692162 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 510073 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1099720 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.661 | 188 | 1950054 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1585691 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1930613 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.661 | 188 | 1950054 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1585691 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 743971 | 49.86 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 99.72% | | | |
| 8) Phenol-d5 | 4.094 | 99 | 893684 | 49.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 98.10% | | | |
| 25) Nitrobenzene-d5 | 4.735 | 82 | 705826 | 43.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 87.86% | | | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 1865954 | 48.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 96.06% | | | |
| 73) 2,4,6-Tribromophenol | 7.870 | 330 | 281290 | 44.83 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 89.66% | | | |
| 85) Terphenyl-d14 | 10.587 | 244 | 2024695 | 54.81 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 109.62% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |

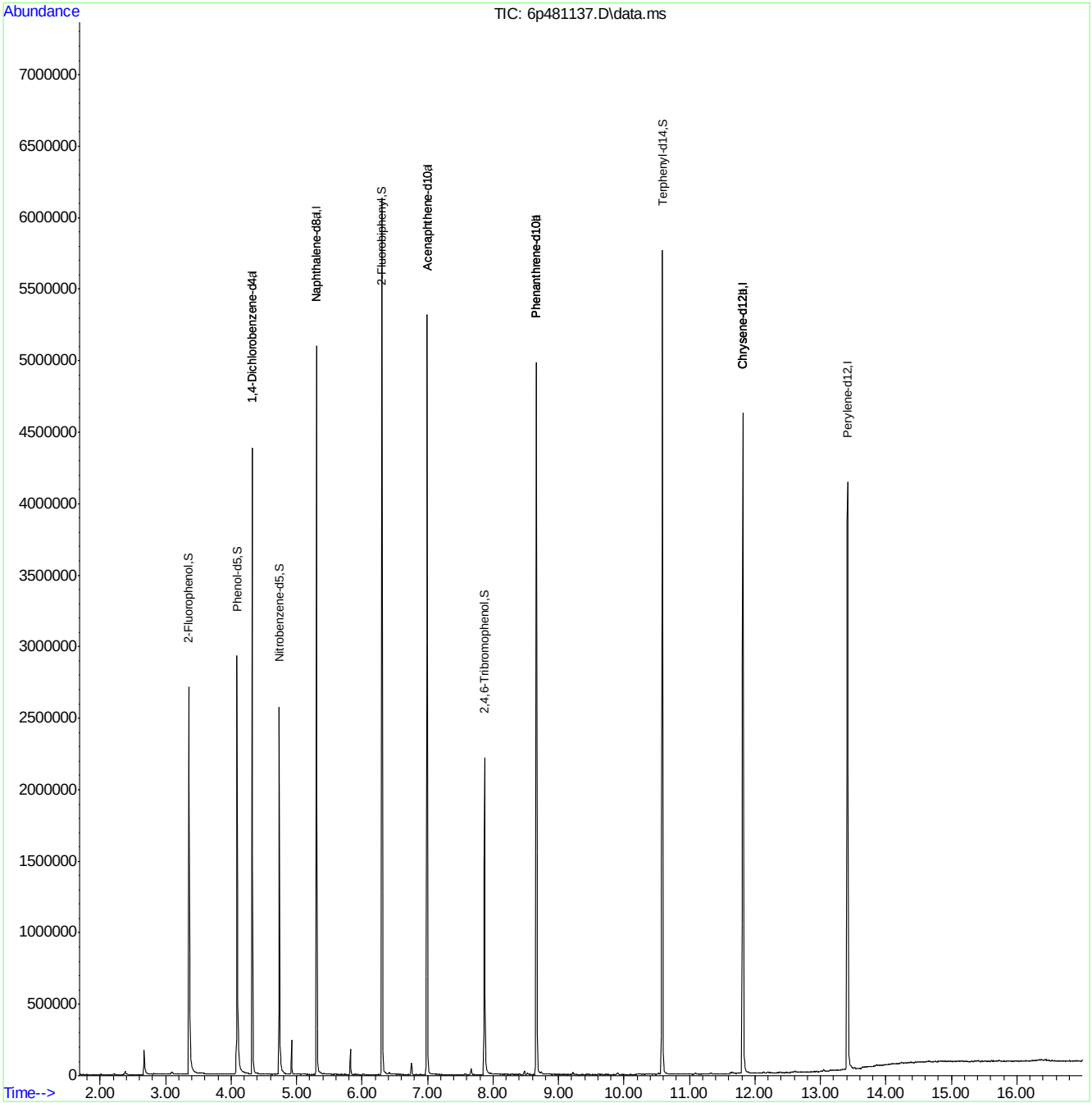
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481137.D
Acq On : 16 Apr 2019 1:53 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 16 15:44:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481138.D
Acq On : 16 Apr 2019 2:18 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 16 16:07:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:03:24 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

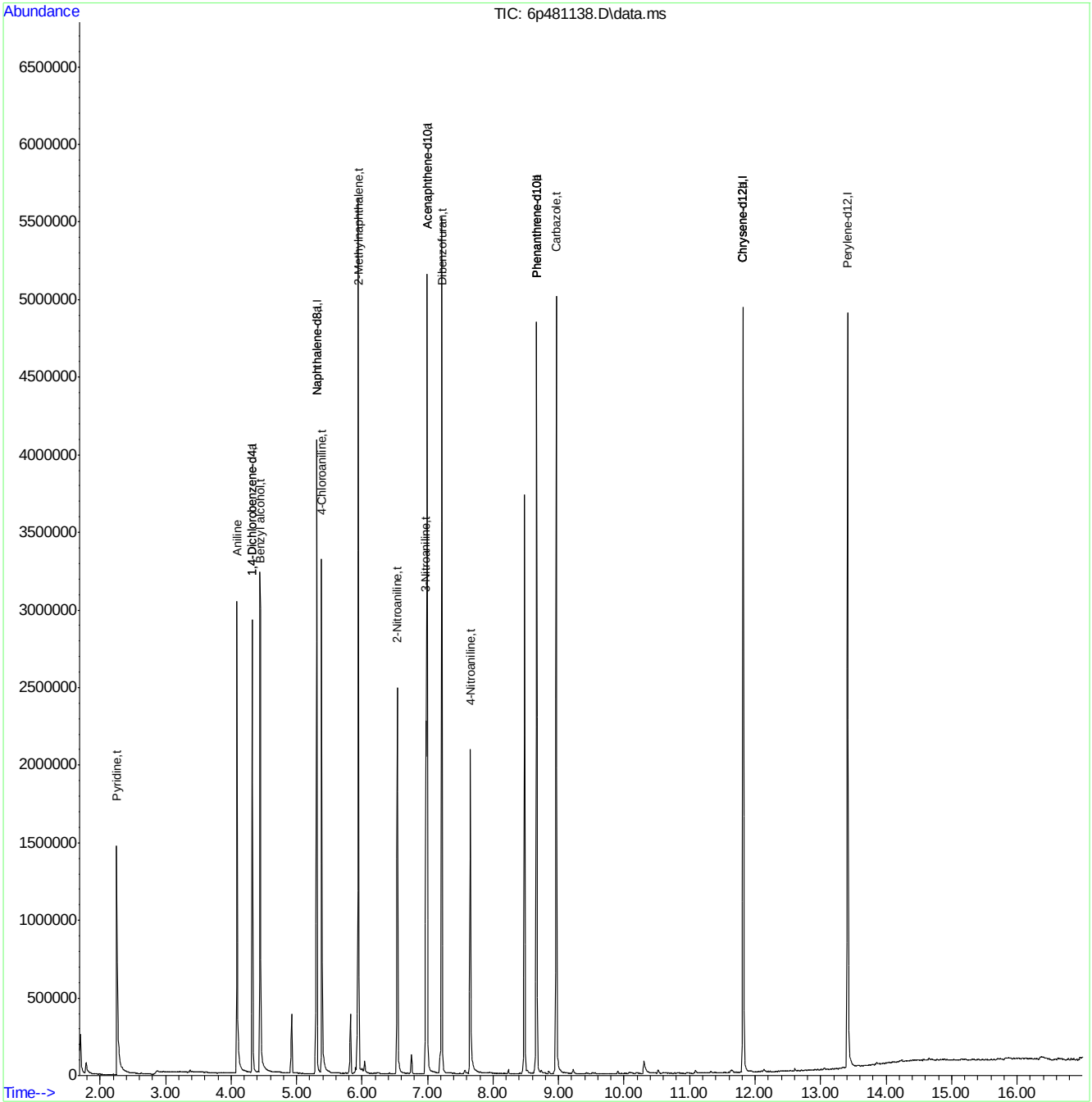
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 448130 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1829213 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1141242 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2027182 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1783494 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.417 | 264 | 1954586 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 448130 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1141242 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2027182 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1783494 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1829213 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2027182 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1783494 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 3) Pyridine | 2.254 | 79 | 664372 | 49.51 | ppm | 99 |
| 10) Aniline | 4.088 | 93 | 1079189 | 61.90 | ppm | 96 |
| 16) Benzyl alcohol | 4.447 | 108 | 492793 | 58.56 | ppm | 99 |
| 39) 4-Chloroaniline | 5.383 | 127 | 950239 | 49.52 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 1327785 | 49.28 | ppm | 97 |
| 54) 2-Nitroaniline | 6.538 | 65 | 375990 | 42.98 | ppm | 95 |
| 58) 3-Nitroaniline | 6.977 | 138 | 458455 | 47.70 | ppm | 98 |
| 62) Dibenzofuran | 7.217 | 168 | 2323757 | 48.40 | ppm | 86 |
| 68) 4-Nitroaniline | 7.651 | 138 | 450250 | 44.24 | ppm | 97 |
| 79) Carbazole | 8.966 | 167 | 2370531 | 45.88 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481138.D
Acq On : 16 Apr 2019 2:18 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 16 16:07:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:03:24 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481139.D
Acq On : 16 Apr 2019 2:42 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 16 16:11:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 476048 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1859811 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1055252 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 1916616 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1609600 | 40.00 | ppm | | -0.01 |
| 91) Perylene-d12 | 13.411 | 264 | 1634981 | 40.00 | ppm | | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 476048 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1055252 | 40.00 | ppm | | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 1916616 | 40.00 | ppm | | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1609600 | 40.00 | ppm | | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1859811 | 40.00 | ppm | | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 1916616 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1609600 | 40.00 | ppm | | -0.01 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Target Compounds | | | | | | | Qvalue |
| 9) Phenol | 4.104 | 94 | 972542 | 46.86 | ppm | | 89 |
| 12) 2-Chlorophenol | 4.179 | 128 | 866798 | 52.67 | ppm | | 99 |
| 19) 2-Methylphenol | 4.532 | 108 | 726813 | 52.03 | ppm | | 98 |
| 21) 3&4-Methylphenol | 4.650 | 108 | 768771 | 52.34 | ppm | | 99 |
| 29) 2-Nitrophenol | 5.003 | 139 | 501730 | 54.49 | ppm | # | 70 |
| 30) 2,4-Dimethylphenol | 5.051 | 107 | 809889 | 57.62 | ppm | | 98 |
| 31) Benzoic acid | 5.201 | 105 | 546548 | 38.48 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.206 | 162 | 738938 | 53.18 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.388 | 162 | 750510 | 54.54 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.832 | 107 | 724761 | 50.82 | ppm | | 96 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 560725 | 56.96 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.271 | 196 | 590326 | 56.38 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 7.100 | 184 | 238987 | 44.88 | ppm | | 93 |
| 61) 4-Nitrophenol | 7.207 | 109 | 214925 | 47.19 | ppm | # | 1 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.373 | 232 | 451819 | 52.73 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 7.693 | 198 | 361914 | 48.90 | ppm | | 97 |
| 76) Pentachlorophenol | 8.474 | 266 | 401504 | 52.25 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481139.D
Acq On : 16 Apr 2019 2:42 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 16 16:11:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

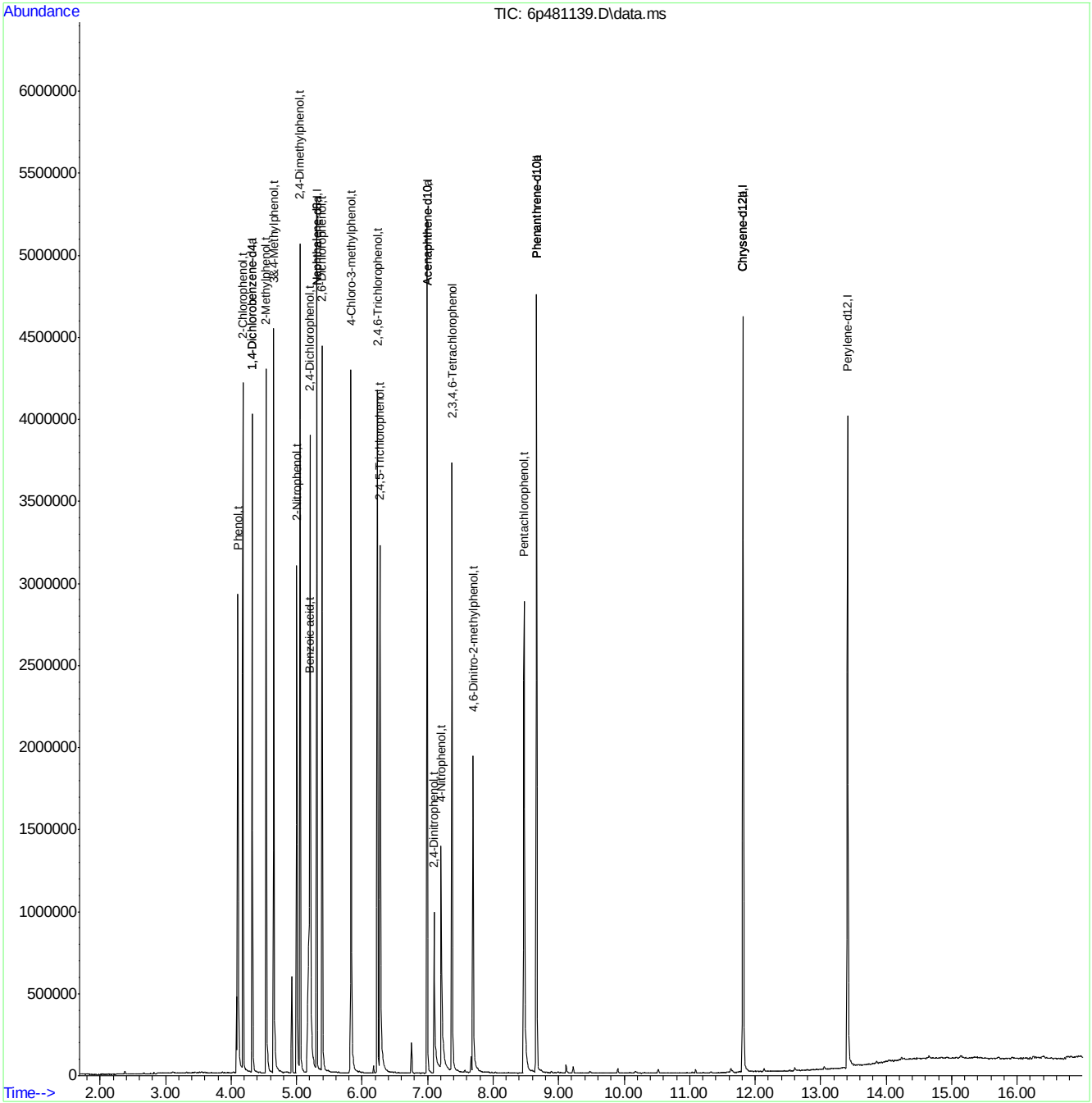
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481139.D
Acq On : 16 Apr 2019 2:42 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 16 16:11:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481140.D
Acq On : 16 Apr 2019 3:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 16 16:13:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

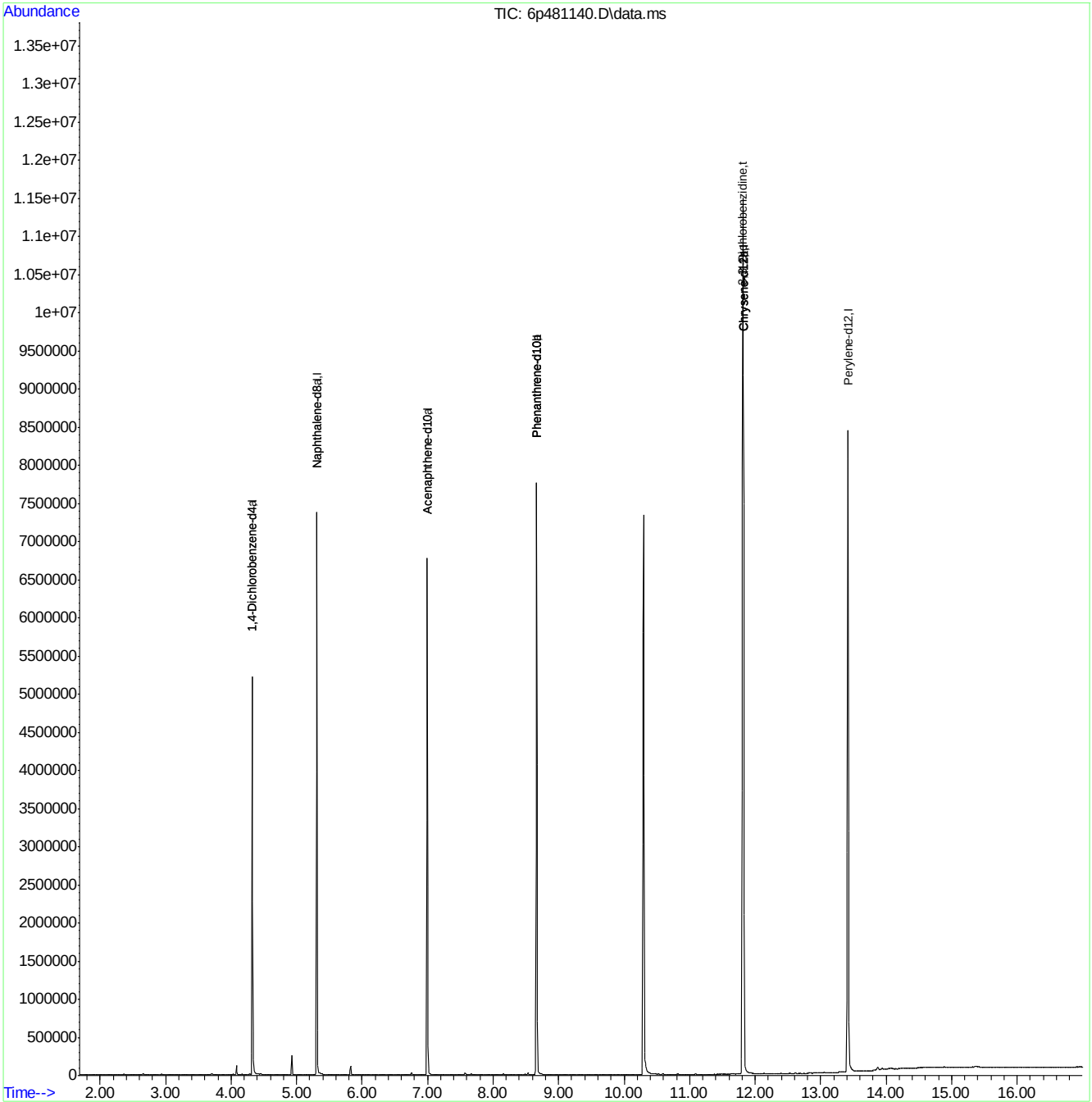
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 682838 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2709058 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1558710 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3047126 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3314872 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3599888 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 682838 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1558710 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3047126 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3314872 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2709058 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3047126 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3314872 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 88) 3,3'-Dichlorobenzidine | 11.812 | 252 | 2018236 | 50.88 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481140.D
Acq On : 16 Apr 2019 3:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 16 16:13:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481142.D
Acq On : 16 Apr 2019 3:39 pm
Operator : angelar
Sample : ic2563-100
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 16 16:49:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration

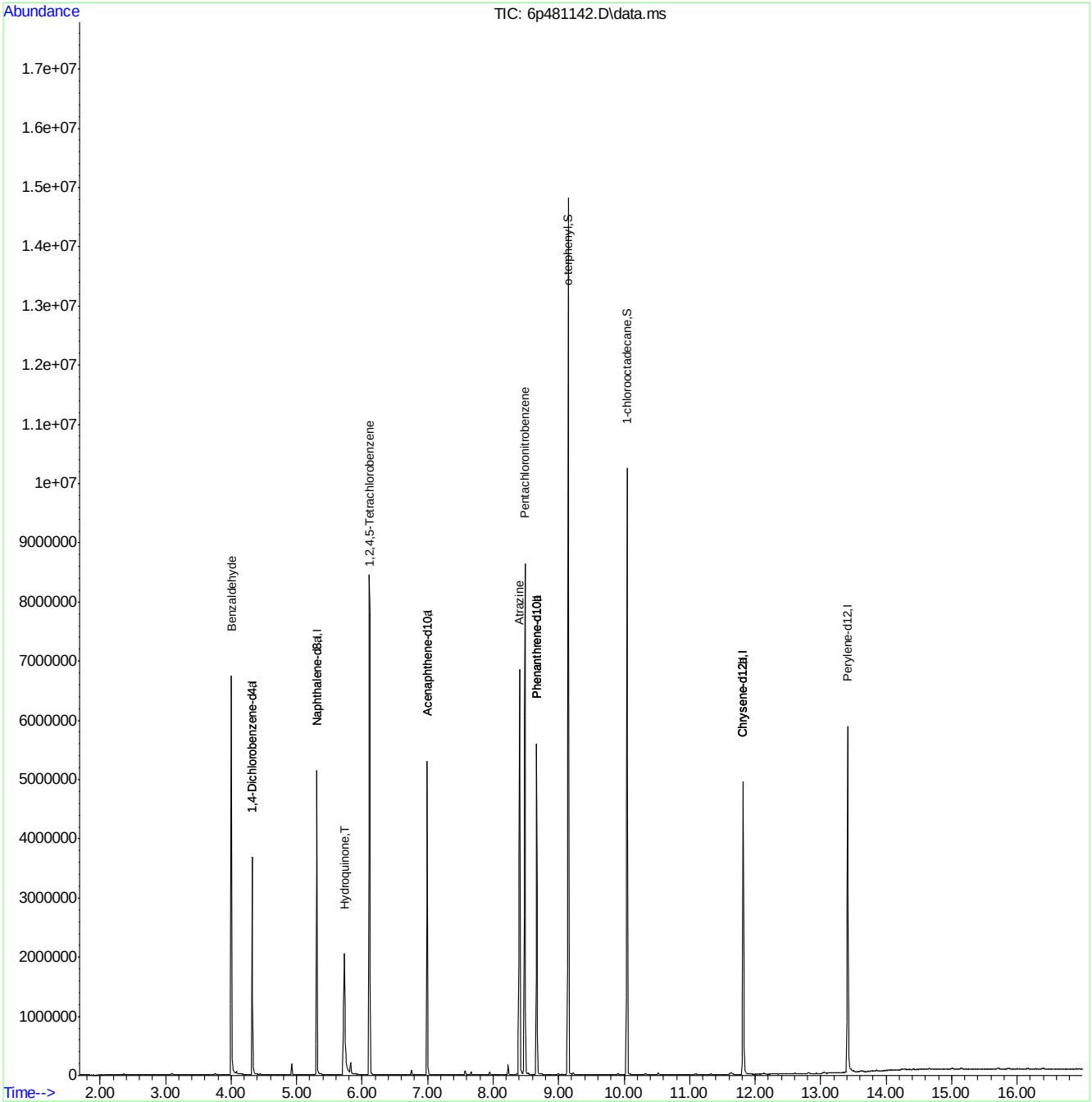
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 469055 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1909884 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1103992 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2094446 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1849692 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2245607 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 469055 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1103992 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2094446 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1849692 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1909884 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2094446 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1849692 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.047 | 57 | 1224154 | 88.21 | ppm | 0.00 |
| 107) o-terphenyl | 9.148 | 230 | 3108702 | 97.03 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 1192562 | 94.73 | ppm | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 6.116 | 216 | 1502353 | 99.08 | ppm | 99 |
| 108) Atrazine | 8.405 | 215 | 613453 | 100.27 | ppm | 98 |
| 112) Hydroquinone | 5.730 | 110 | 1567553 | 97.83 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 281723 | 103.49 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481142.D
Acq On : 16 Apr 2019 3:39 pm
Operator : angelar
Sample : ic2563-100
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 16 16:49:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481143.D
Acq On : 16 Apr 2019 4:03 pm
Operator : angelar
Sample : ic2563-80
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 16 16:51:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration

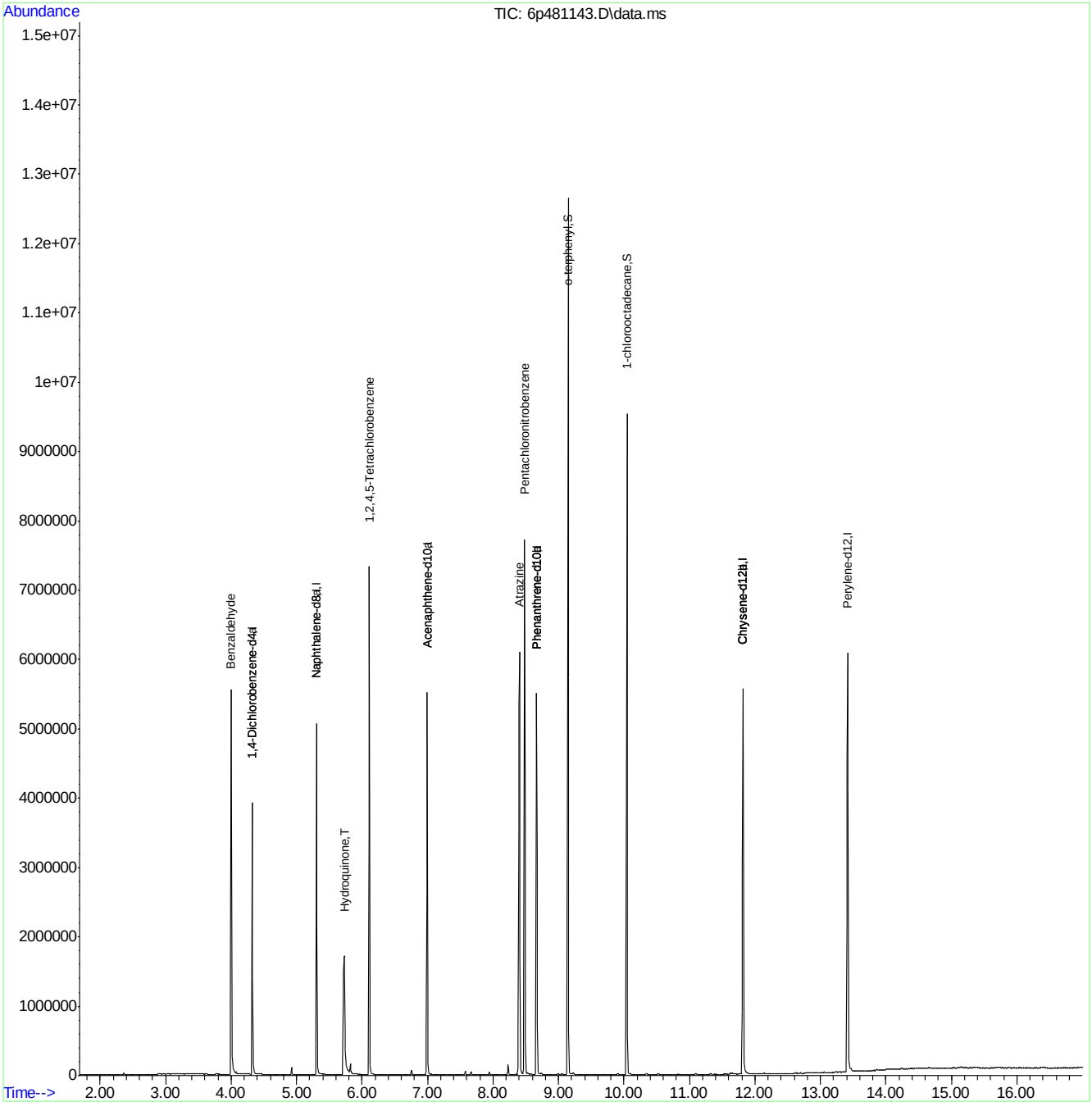
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 494986 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1933033 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1159503 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2079029 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1959697 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2274908 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 494986 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1159503 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2079029 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1959697 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1933033 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2079029 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1959697 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.047 | 57 | 1111049 | 80.66 | ppm | 0.00 |
| 107) o-terphenyl | 9.148 | 230 | 2649988 | 83.32 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 1009924 | 76.02 | ppm | 93 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 1251665 | 78.59 | ppm | 100 |
| 108) Atrazine | 8.405 | 215 | 494417 | 81.41 | ppm | 94 |
| 112) Hydroquinone | 5.730 | 110 | 1278687 | 78.85 | ppm | 96 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 229889 | 85.07 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481143.D
Acq On : 16 Apr 2019 4:03 pm
Operator : angelar
Sample : ic2563-80
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 16 16:51:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration










SGS JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481144.D
Acq On : 16 Apr 2019 4:27 pm
Operator : angelar
Sample : icc2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 16 17:35:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

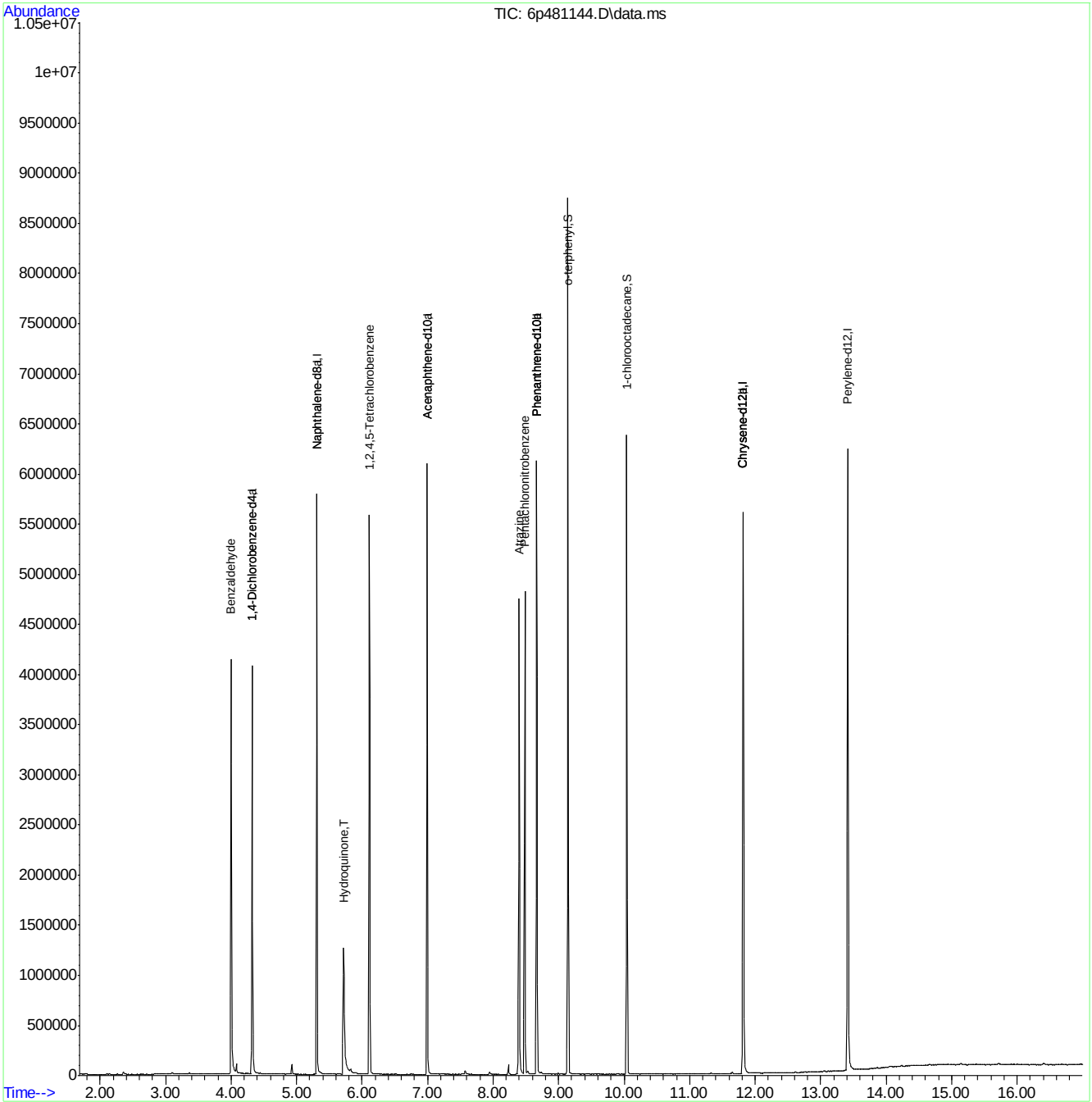
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 533044 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2085894 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1245669 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2303521 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2064916 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2392626 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 533044 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1245669 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2303521 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2064916 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2085894 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2303521 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2064916 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 763119 | 50.00 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 1761914 | 50.00 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.998 | 105 | 715355 | 50.00 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 855470 | 50.00 | ppm | 100 |
| 108) Atrazine | 8.399 | 215 | 336431 | 50.00 | ppm | 100 |
| 112) Hydroquinone | 5.714 | 110 | 874983 | 50.00 | ppm | 100 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 149701 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481144.D
Acq On : 16 Apr 2019 4:27 pm
Operator : angelar
Sample : icc2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 16 17:35:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481145.D
Acq On : 16 Apr 2019 4:51 pm
Operator : angelar
Sample : ic2563-25
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 16 17:36:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

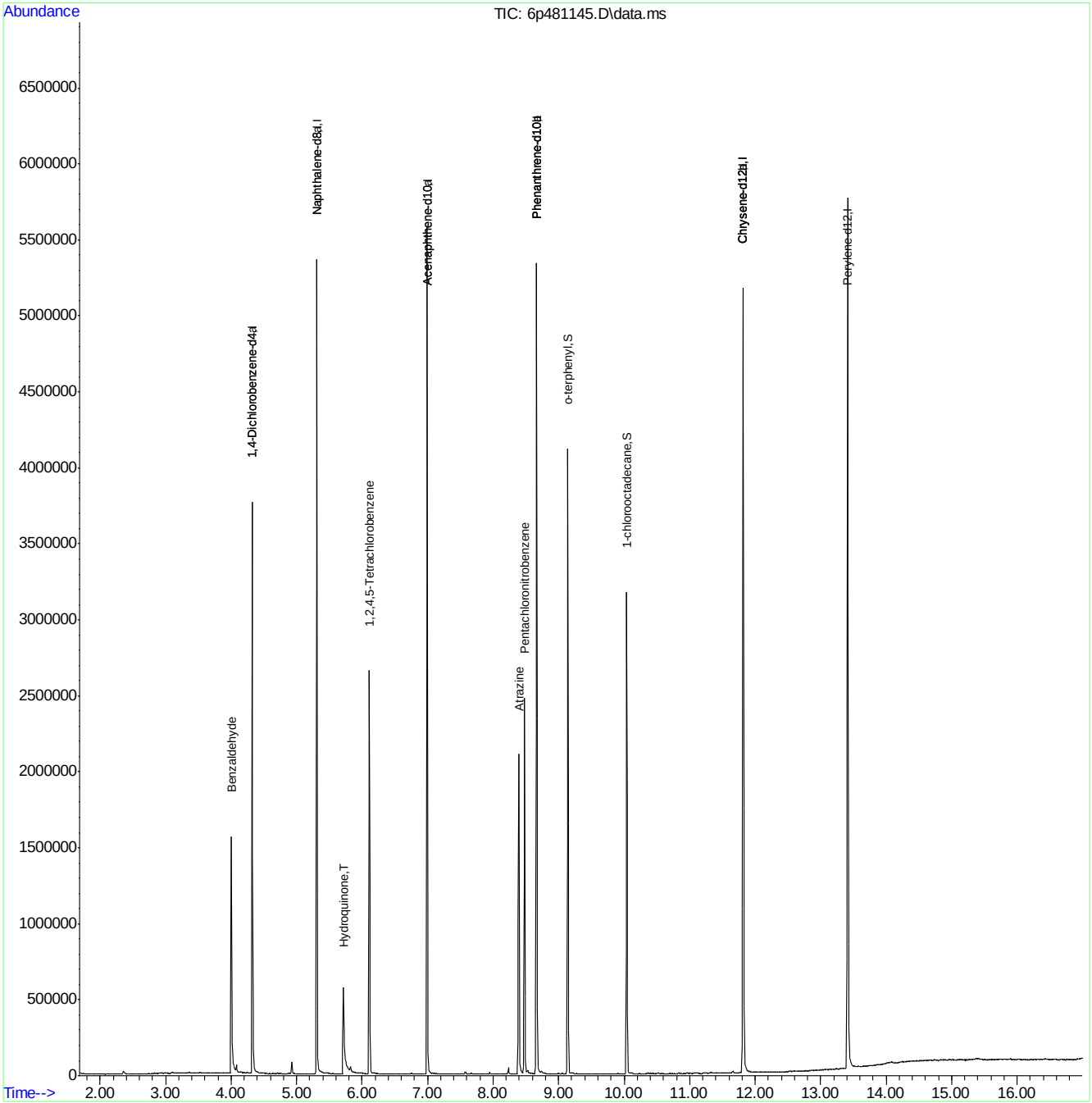
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 495898 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1968505 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1133606 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2062681 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1815575 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2128773 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 495898 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1133606 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2062681 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1815575 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1968505 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2062681 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1815575 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 365207 | 26.72 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 801894 | 25.41 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 345677 | 25.97 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 402776 | 25.87 | ppm | 99 |
| 108) Atrazine | 8.394 | 215 | 148311 | 24.62 | ppm | 98 |
| 112) Hydroquinone | 5.714 | 110 | 381902 | 23.12 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.480 | 295 | 66768 | 24.90 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481145.D
Acq On : 16 Apr 2019 4:51 pm
Operator : angelar
Sample : ic2563-25
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 16 17:36:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481146.D
Acq On : 16 Apr 2019 5:15 pm
Operator : angelar
Sample : ic2563-10
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 16 17:37:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

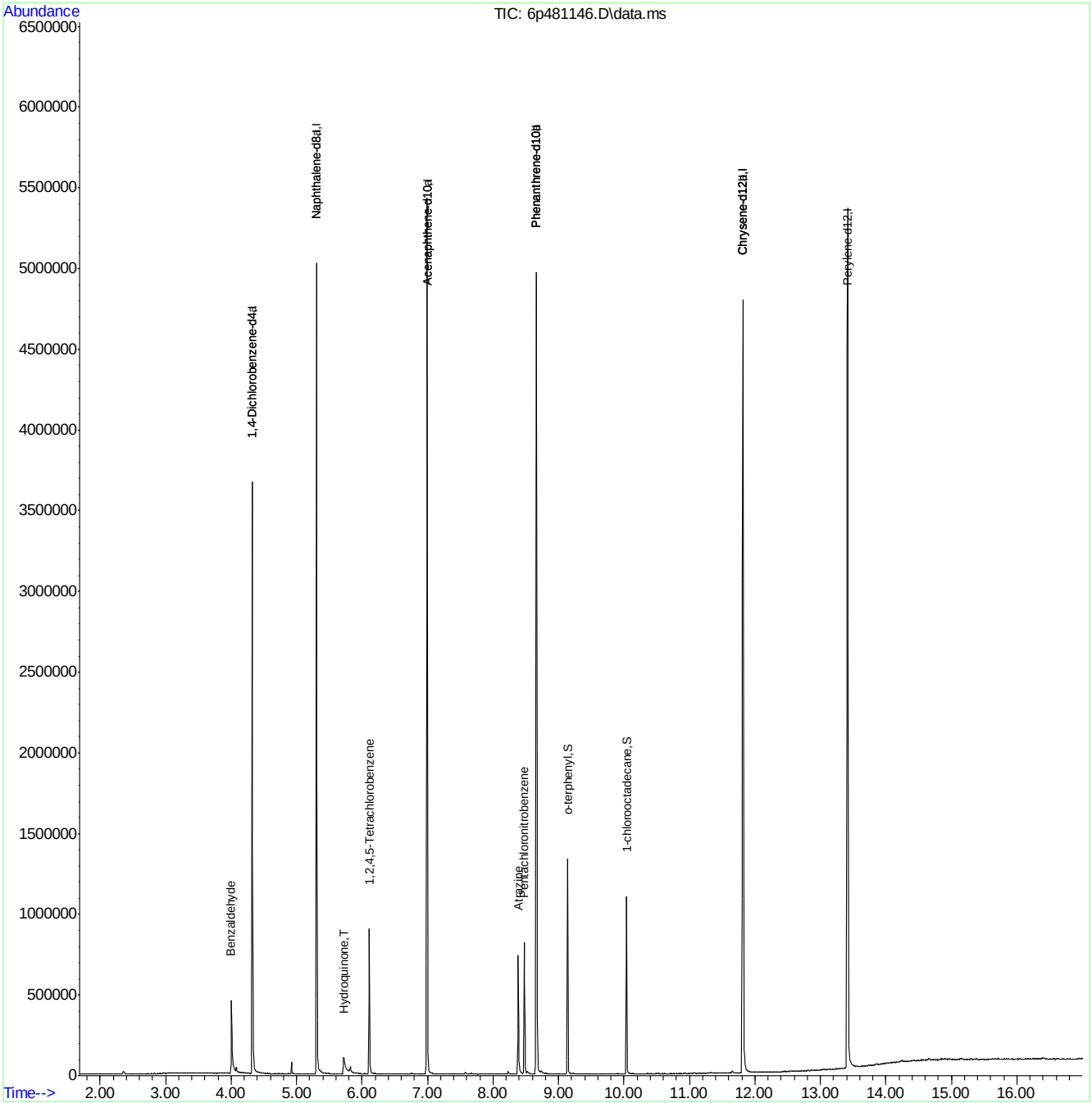
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 469498 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1866839 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1069558 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.661 | 188 | 1942833 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1687959 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1971401 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 469498 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1069558 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.661 | 188 | 1942833 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1687959 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1866839 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.661 | 188 | 1942833 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1687959 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 120464 | 9.36 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 271160 | 9.12 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 115379 | 9.16 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 141657 | 9.64 | ppm | 98 |
| 108) Atrazine | 8.389 | 215 | 47887 | 8.44 | ppm | 97 |
| 112) Hydroquinone | 5.720 | 110 | 107625 | 6.87 | ppm | 97 |
| 114) Pentachloronitrobenzene | 8.480 | 295 | 20276 | 8.03 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481146.D
Acq On : 16 Apr 2019 5:15 pm
Operator : angelar
Sample : ic2563-10
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 16 17:37:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481147.D
Acq On : 16 Apr 2019 5:39 pm
Operator : angelar
Sample : ic2563-5
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 17 08:43:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

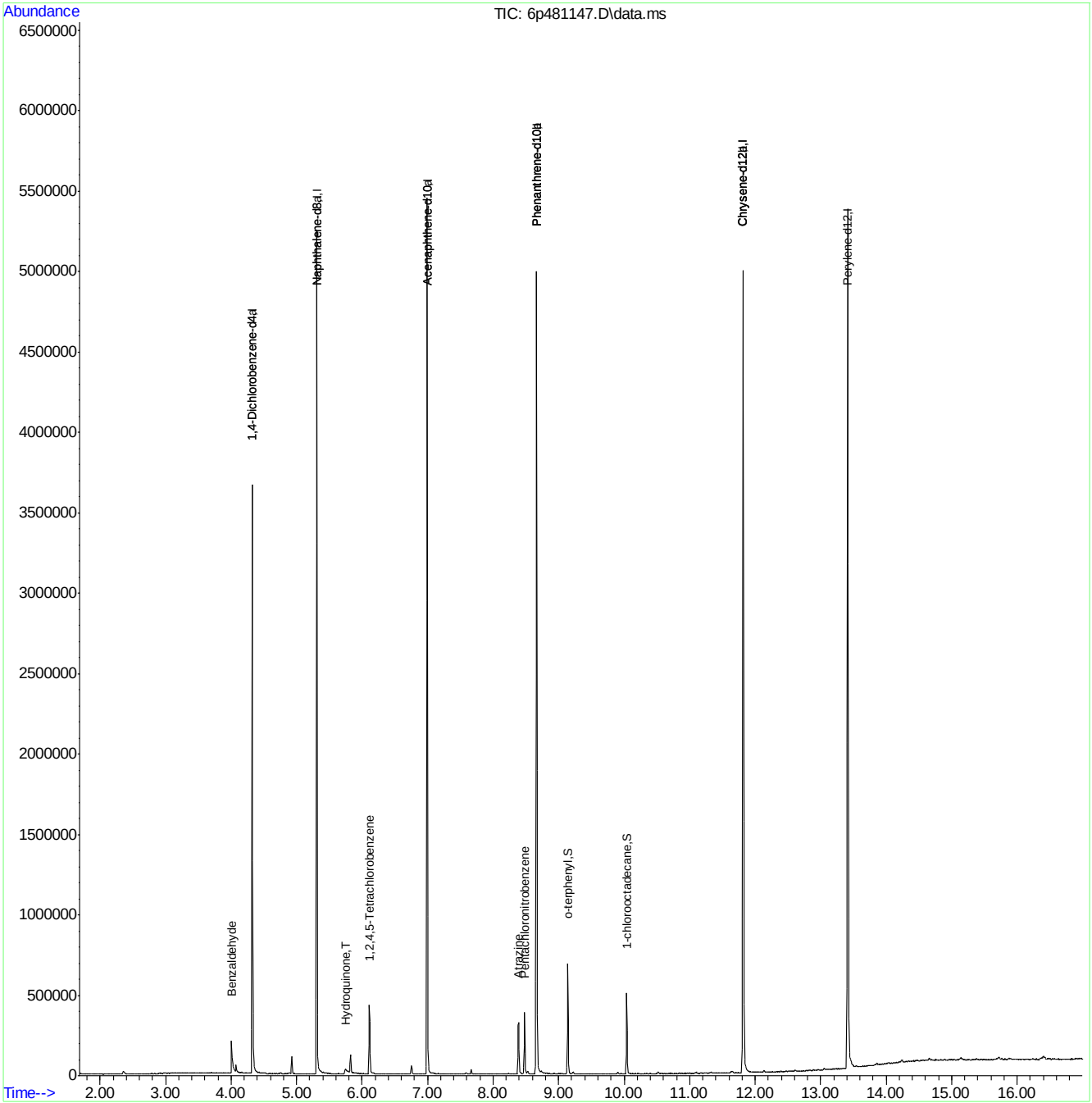
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 490109 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1929031 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1098959 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 1990100 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1701947 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1984162 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 490109 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1098959 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 1990100 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1701947 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1929031 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 1990100 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1701947 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 57661 | 4.37 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 139225 | 4.57 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.008 | 105 | 55790 | 4.24 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 72248 | 4.79 | ppm | 99 |
| 108) Atrazine | 8.389 | 215 | 22720 | 3.91 | ppm | 93 |
| 112) Hydroquinone | 5.752 | 110 | 36357 | 2.25 | ppm | 97 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 9732 | 3.76 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481147.D
Acq On : 16 Apr 2019 5:39 pm
Operator : angelar
Sample : ic2563-5
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 17 08:43:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration










SGS JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481148.D
Acq On : 16 Apr 2019 6:03 pm
Operator : angelar
Sample : ic2563-2
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 17 08:45:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

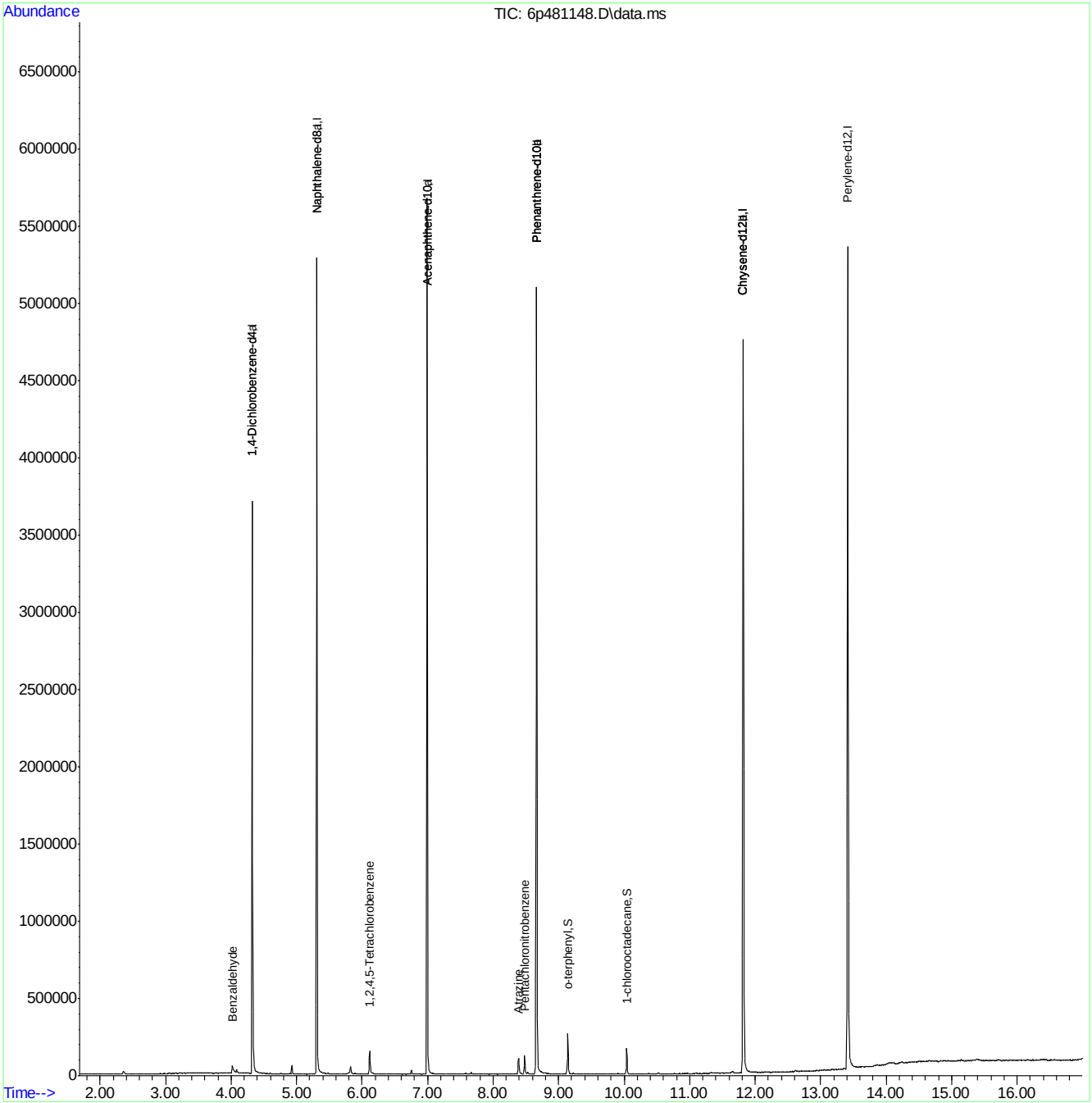
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 492889 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1937587 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1111339 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.662 | 188 | 1982759 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1690897 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1919779 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 492889 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1111339 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.662 | 188 | 1982759 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1690897 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1937587 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.662 | 188 | 1982759 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1690897 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 19824 | 1.51 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 53453 | 1.76 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.019 | 105 | 23152 | 1.75 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.116 | 216 | 28348 | 1.86 | ppm | 96 |
| 108) Atrazine | 8.389 | 215 | 7134 | 1.23 | ppm | 90 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 3297 | 1.28 | ppm | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481148.D
Acq On : 16 Apr 2019 6:03 pm
Operator : angelar
Sample : ic2563-2
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 17 08:45:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 17 08:47:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

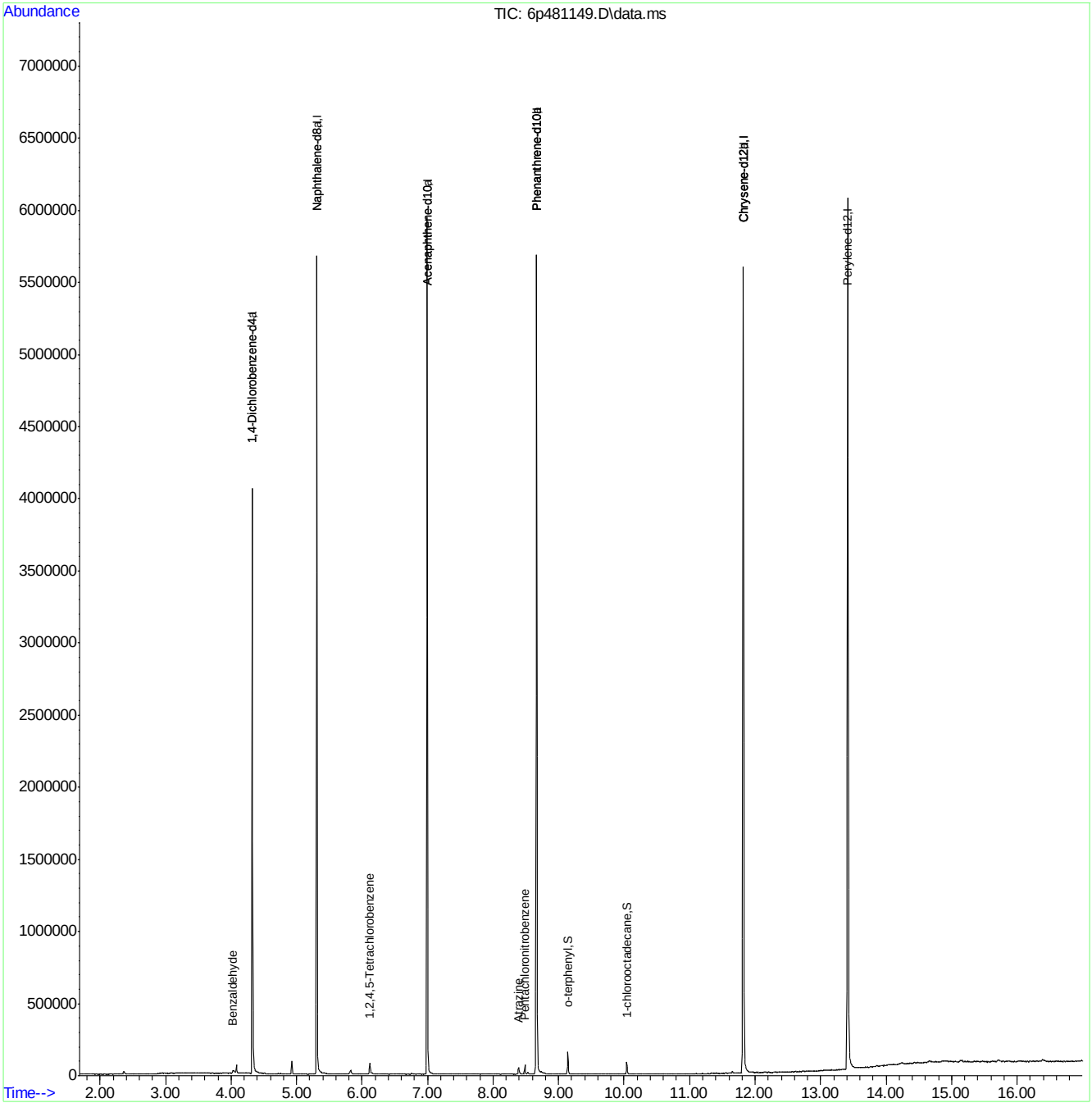
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 524942 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2083688 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1216670 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2218794 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 1988582 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.417 | 264 | 2280538 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 524942 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1216670 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2218794 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 1988582 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2083688 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2218794 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 1988582 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 10.042 | 57 | 10149 | 0.69 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 30286 | 0.89 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.030 | 105 | 11587m | 0.82 | ppm | |
| 104) 1,2,4,5-Tetrachloroben... | 6.116 | 216 | 15312 | 0.92 | ppm | 96 |
| 108) Atrazine | 8.389 | 215 | 3970 | 0.61 | ppm | # 68 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 1659 | 0.58 | ppm | # 70 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 17 08:47:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration










JC87535

# Manual Integration Approval Summary



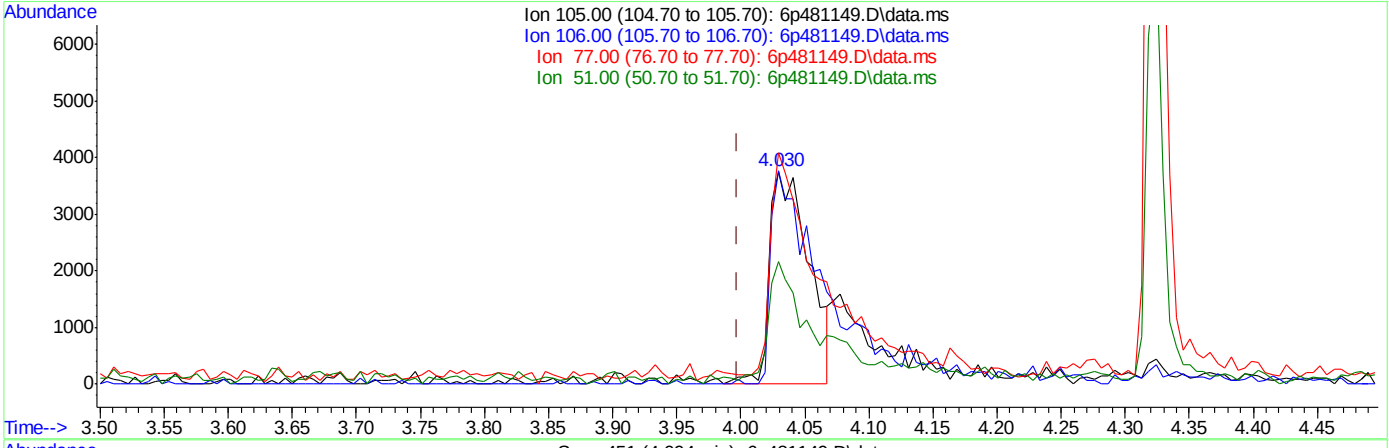
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2563-IC2563 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481149.D | **Analyst approved:** | 04/17/19 09:11 Ying Li |
| **Injection Time:** | 04/16/19 18:28 | **Supervisor approved:** | 04/17/19 13:47 Kristi Schollenberger |

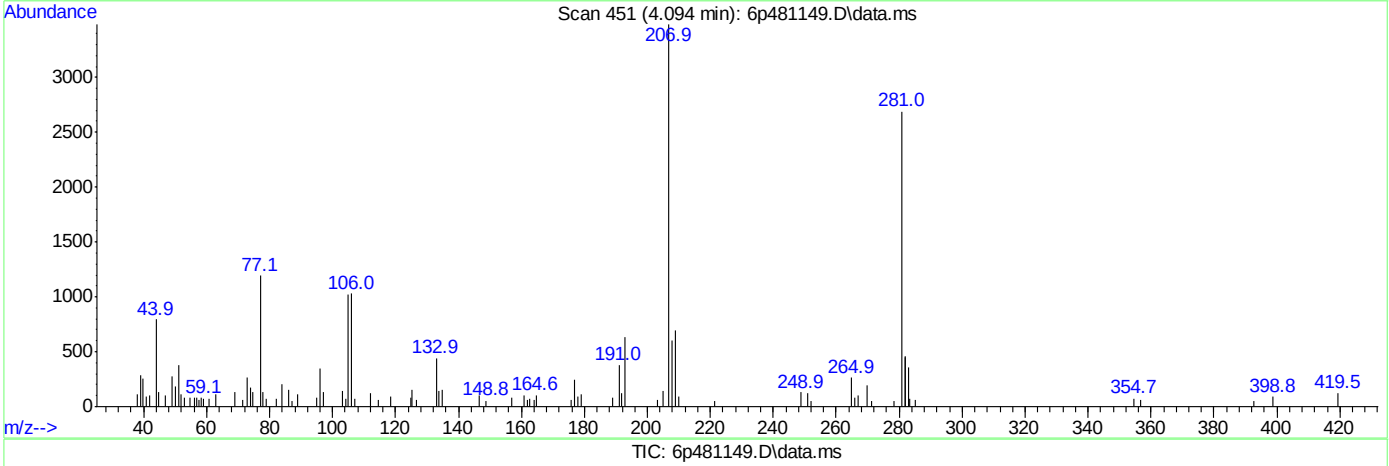
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzaldehyde | 100-52-7 | | 4.03 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 16 18:45:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration




TIC: 6p481149.D\data.ms

(102) Benzaldehyde

4.030min (+0.032) 0.57ppm

response 7980

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 106.00 | 102.50 | 96.85 |
| 77.00 | 100.50 | 100.75 |
| 51.00 | 48.00 | 54.56 |

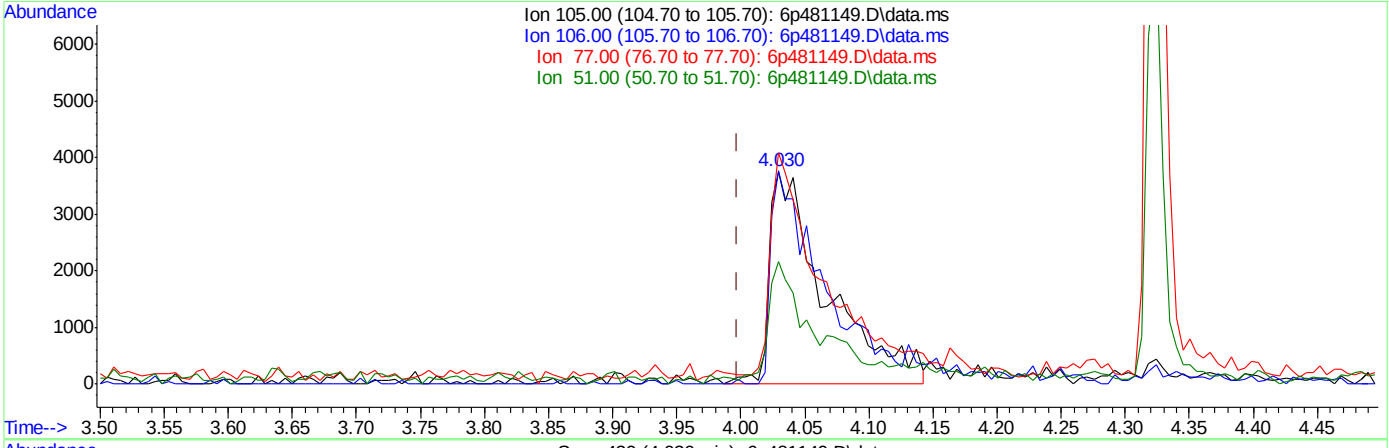
9.8.94.2

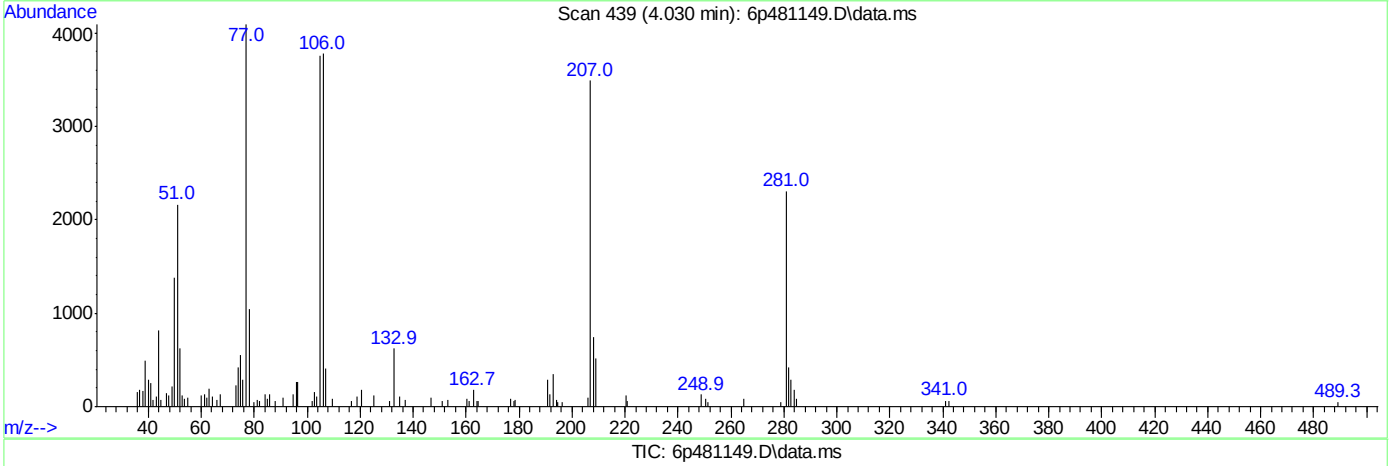
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 16 18:45:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration




TIC: 6p481149.D\data.ms

(102) Benzaldehyde

4.030min (+0.032) 0.82ppm m

response 11587

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 106.00 | 102.50 | 100.72 |
| 77.00 | 100.50 | 109.06 |
| 51.00 | 48.00 | 57.73 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481150.D
Acq On : 16 Apr 2019 6:52 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 17 09:03:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 08:57:32 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration

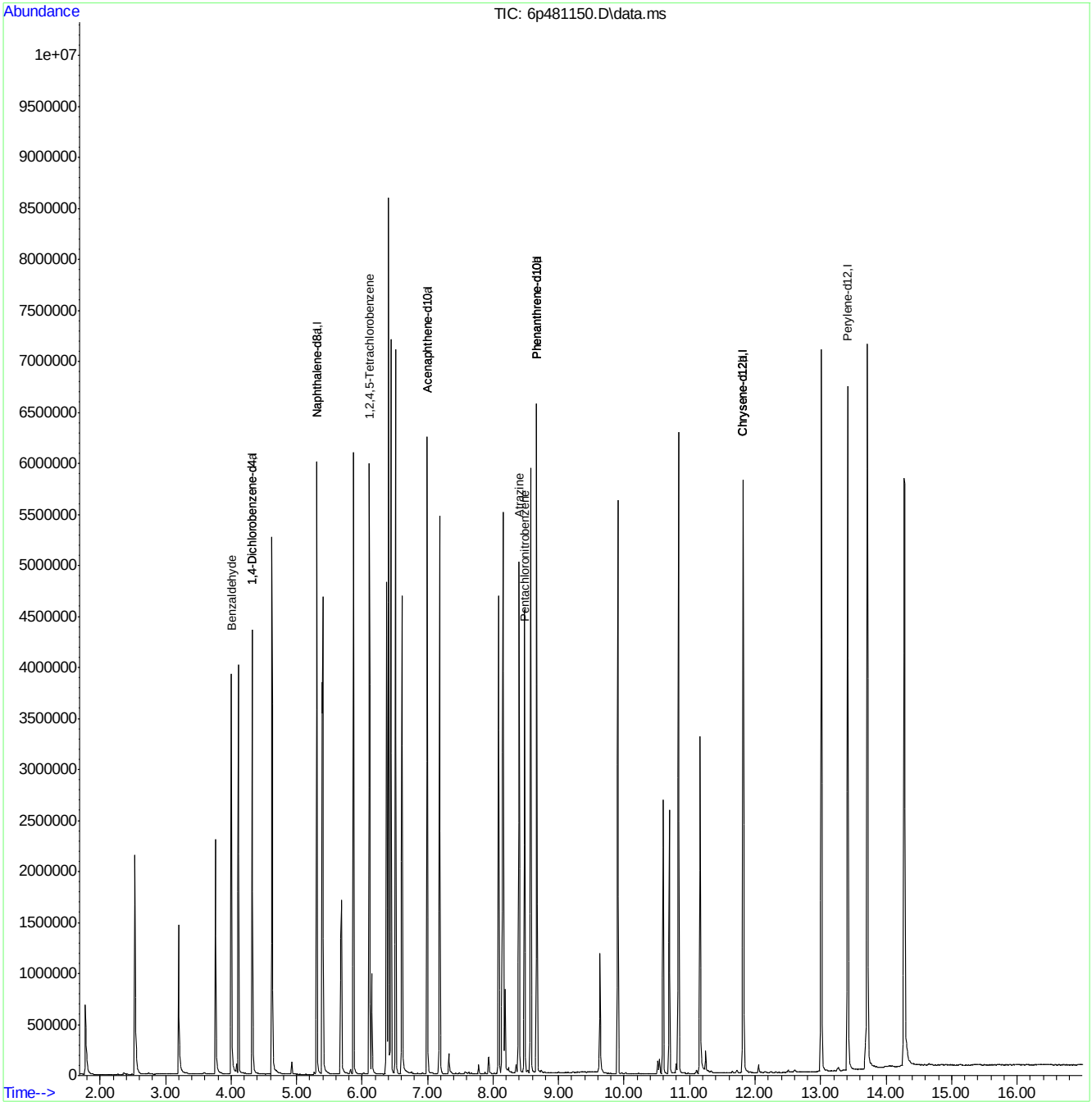
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 547737 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2162604 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1317782 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2463908 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2141196 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.417 | 264 | 2485766 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 547737 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1317782 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2463908 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2141196 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2162604 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2463908 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2141196 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 736053 | 54.14 | ppm | 96 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 863576 | 49.10 | ppm | 99 |
| 108) Atrazine | 8.400 | 215 | 360337 | 49.87 | ppm | 99 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 128354 | 42.56 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481150.D
Acq On : 16 Apr 2019 6:52 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 17 09:03:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 08:57:32 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481151.D
Acq On : 16 Apr 2019 7:16 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 17 09:04:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration

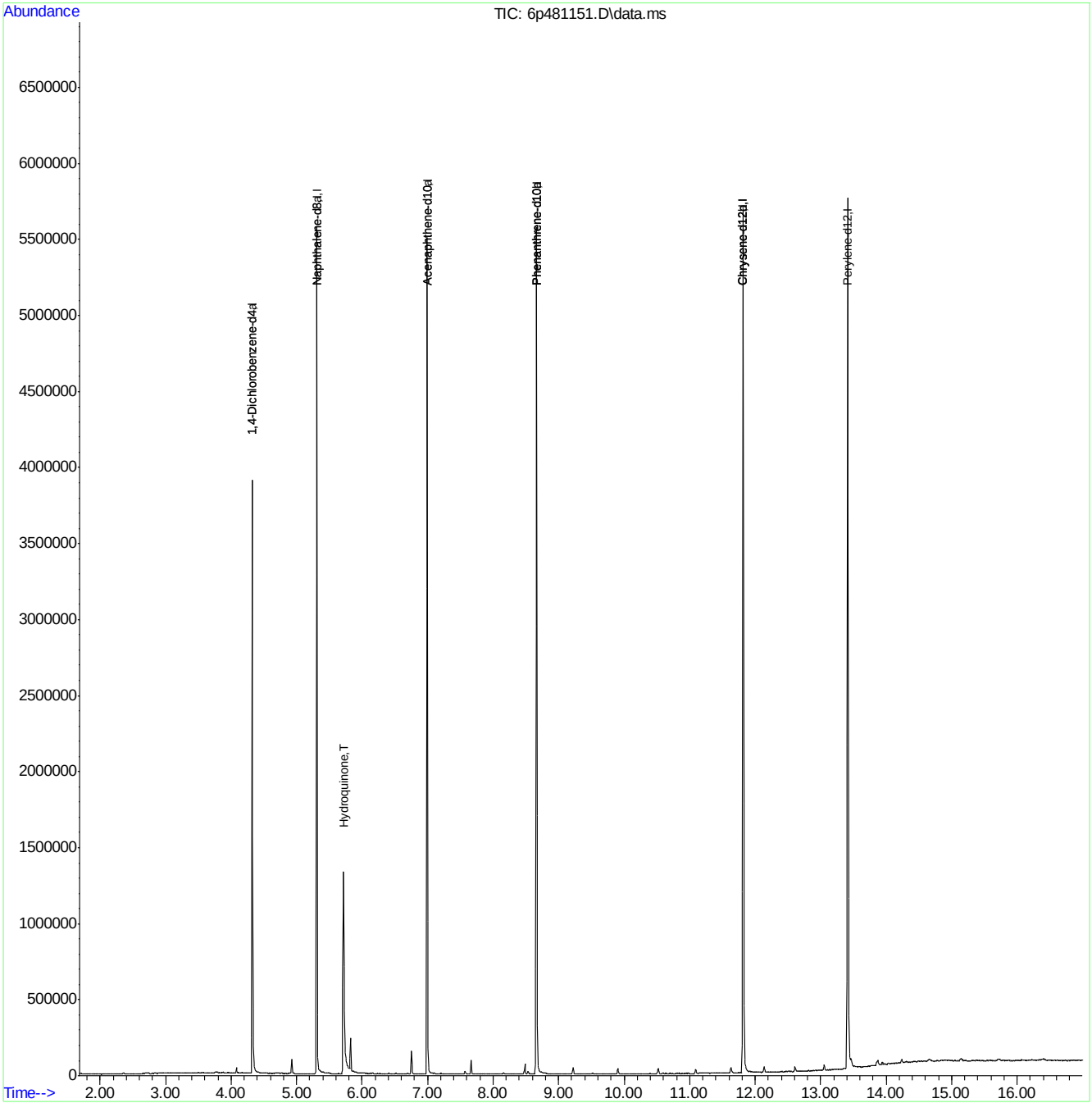
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 503646 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2001178 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1073633 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.662 | 188 | 2140755 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2056041 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2150790 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 503646 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1073633 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.662 | 188 | 2140755 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2056041 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2001178 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.662 | 188 | 2140755 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2056041 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 112) Hydroquinone | 5.714 | 110 | 806354 | 52.48 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481151.D
Acq On : 16 Apr 2019 7:16 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 17 09:04:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/15/19 10:38

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481844.d
Acq On : 14 May 2019 4:00 pm
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:42:54 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 520639 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 2178595 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.835 | 164 | 1288242 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.499 | 188 | 2212130 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.660 | 240 | 1943934 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.259 | 264 | 2070132 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 520639 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.835 | 164 | 1288242 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.499 | 188 | 2212130 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.660 | 240 | 1943934 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.167 | 136 | 2178595 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.499 | 188 | 2212130 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.660 | 240 | 1943934 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.214 | 112 | 847461 | 55.64 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = | 111.28% | | |
| 8) Phenol-d5 | 3.979 | 99 | 1098097 | 59.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 118.10% | | |
| 25) Nitrobenzene-d5 | 4.616 | 82 | 1072740 | 59.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 118.34% | | |
| 51) 2-Fluorobiphenyl | 6.156 | 172 | 2352292 | 51.69 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 103.38% | | |
| 73) 2,4,6-Tribromophenol | 7.713 | 330 | 336423 | 47.26 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 94.52% | | |
| 85) Terphenyl-d14 | 10.424 | 244 | 2366864 | 52.26 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = | 104.52% | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.599 | 88 | 354927 | 51.78 | ppm | 100 |
| 3) Pyridine | 1.915 | 79 | 928882 | 59.58 | ppm | 95 |
| 4) N-Nitrosodimethylamine | 1.893 | 74 | 522623 | 57.52 | ppm | 94 |
| 6) Indene | 4.380 | 116 | 1592159 | 56.40 | ppm | 97 |
| 7) Cumene | 3.578 | 105 | 2352846 | 58.18 | ppm | 97 |
| 9) Phenol | 3.985 | 94 | 1225984 | 54.02 | ppm | 98 |
| 10) Aniline | 3.958 | 93 | 1179177 | 58.22 | ppm | 92 |
| 11) bis(2-Chloroethyl)ether | 4.011 | 93 | 869070 | 55.26 | ppm | 99 |
| 12) 2-Chlorophenol | 4.054 | 128 | 968123 | 53.79 | ppm | 97 |
| 13) Decane | 4.086 | 43 | 829229 | 60.02 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.150 | 146 | 1047350 | 51.04 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.204 | 146 | 1079342 | 51.38 | ppm | 99 |
| 16) Benzyl alcohol | 4.322 | 108 | 605427 | 61.93 | ppm | 89 |
| 17) 1,2-Dichlorobenzene | 4.316 | 146 | 1023361 | 53.04 | ppm | 100 |
| 18) Acetophenone | 4.503 | 105 | 1420371 | 58.70 | ppm | 97 |
| 19) 2-Methylphenol | 4.423 | 108 | 894882 | 58.57 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.407 | 121 | 307876 | 54.90 | ppm # | 83 |
| 21) 3&4-Methylphenol | 4.536 | 108 | 946659 | 58.93 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.514 | 70 | 679170 | 62.75 | ppm | 93 |
| 23) Hexachloroethane | 4.557 | 201 | 353586 | 48.24 | ppm | 85 |
| 26) Nitrobenzene | 4.627 | 77 | 1098330 | 59.53 | ppm | 88 |
| 27) Quinoline | 5.493 | 129 | 2081835 | 52.67 | ppm | 97 |
| 28) Isophorone | 4.814 | 82 | 1859704 | 58.99 | ppm | 96 |
| 29) 2-Nitrophenol | 4.873 | 139 | 596920 | 55.34 | ppm | 81 |
| 30) 2,4-Dimethylphenol | 4.931 | 107 | 1010521 | 61.38 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481844.d
Acq On : 14 May 2019 4:00 pm
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:42:54 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.103 | 105 | 930456 | 55.93 | ppm | | 91 |
| 32) bis(2-Chloroethoxy)met... | 4.985 | 93 | 1103878 | 55.73 | ppm | | 97 |
| 33) 2,4-Dichlorophenol | 5.081 | 162 | 819560 | 50.35 | ppm | | 95 |
| 34) 2,6-Dichlorophenol | 5.258 | 162 | 830988 | 51.55 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 4.873 | 180 | 914436 | 47.42 | ppm | | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.129 | 180 | 852680 | 45.76 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.311 | 180 | 861095 | 46.43 | ppm | | 96 |
| 38) Naphthalene | 5.183 | 128 | 3006364 | 52.99 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.252 | 127 | 1207681 | 52.84 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.076 | 161 | 1014169 | 49.11 | ppm | | 94 |
| 41) Caprolactam | 5.595 | 55 | 417202m | 59.90 | ppm | | |
| 42) Hexachlorobutadiene | 5.295 | 225 | 491440 | 46.35 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.718 | 107 | 972662 | 58.22 | ppm | | 82 |
| 44) 2-Methylnaphthalene | 5.798 | 141 | 1703247 | 53.07 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 5.889 | 141 | 1905018 | 53.13 | ppm | | 97 |
| 46) Dimethylnaphthalene | 6.413 | 156 | 1968516 | 51.60 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 5.948 | 237 | 675813 | 77.67 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.092 | 196 | 590589 | 49.15 | ppm | | 97 |
| 50) 2,4,5-Trichlorophenol | 6.146 | 196 | 633427 | 49.55 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.269 | 162 | 1916285 | 50.44 | ppm | | 94 |
| 53) Biphenyl | 6.253 | 154 | 2661897 | 54.02 | ppm | | 98 |
| 54) 2-Nitroaniline | 6.397 | 65 | 653080 | 66.14 | ppm | # | 81 |
| 55) Dimethylphthalate | 6.584 | 163 | 2254950 | 51.10 | ppm | | 100 |
| 56) Acenaphthylene | 6.686 | 152 | 3146073 | 53.66 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.654 | 165 | 533710 | 53.49 | ppm | | 89 |
| 58) 3-Nitroaniline | 6.835 | 138 | 622549 | 57.38 | ppm | | 92 |
| 59) Acenaphthene | 6.868 | 153 | 2108159 | 54.17 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 6.969 | 184 | 600512 | 87.10 | ppm | | 79 |
| 61) 4-Nitrophenol | 7.092 | 109 | 334296 | 60.12 | ppm | | 99 |
| 62) Dibenzofuran | 7.060 | 168 | 2812236 | 51.89 | ppm | | 90 |
| 63) 2,4-Dinitrotoluene | 7.098 | 165 | 735387 | 53.07 | ppm | | 68 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.226 | 232 | 492106 | 47.04 | ppm | | 94 |
| 65) Diethylphthalate | 7.354 | 149 | 2371058 | 54.50 | ppm | | 98 |
| 66) Fluorene | 7.435 | 166 | 2357396 | 53.58 | ppm | | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.445 | 204 | 1070095 | 47.98 | ppm | | 87 |
| 68) 4-Nitroaniline | 7.515 | 138 | 593261 | 51.64 | ppm | | 80 |
| 70) 4,6-Dinitro-2-methylph... | 7.563 | 198 | 427476 | 50.04 | ppm | | 76 |
| 71) n-Nitrosodiphenylamine | 7.595 | 169 | 1702359 | 55.70 | ppm | | 100 |
| 72) 1,2-Diphenylhydrazine | 7.627 | 77 | 2311413 | 66.80 | ppm | | 94 |
| 74) 4-Bromophenyl-phenylether | 7.996 | 248 | 588231 | 49.49 | ppm | | 82 |
| 75) Hexachlorobenzene | 8.071 | 284 | 688306 | 49.29 | ppm | | 91 |
| 76) Pentachlorophenol | 8.322 | 266 | 819673 | 88.68 | ppm | | 99 |
| 77) Phenanthrene | 8.526 | 178 | 3182591 | 53.59 | ppm | | 99 |
| 78) Anthracene | 8.590 | 178 | 3220895 | 54.07 | ppm | | 99 |
| 79) Carbazole | 8.804 | 167 | 3073741 | 54.51 | ppm | | 99 |
| 80) Di-n-butylphthalate | 9.258 | 149 | 4029263 | 61.18 | ppm | | 99 |
| 81) Fluoranthene | 9.932 | 202 | 3394218 | 52.60 | ppm | | 96 |
| 82) Octadecane | 8.456 | 57 | 1361857 | 68.42 | ppm | | 98 |
| 84) Pyrene | 10.200 | 202 | 3558433 | 54.95 | ppm | | 99 |
| 86) Butylbenzylphthalate | 11.045 | 149 | 1855823 | 66.49 | ppm | | 90 |
| 87) Benzo[a]anthracene | 11.649 | 228 | 3352202 | 54.14 | ppm | | 98 |
| 88) 3,3'-Dichlorobenzidine | 11.644 | 252 | 1318840 | 56.70 | ppm | | 94 |
| 89) Chrysene | 11.692 | 228 | 3009475 | 49.56 | ppm | | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 11.762 | 149 | 2596060 | 67.28 | ppm | | 95 |
| 92) Di-n-octylphthalate | 12.500 | 149 | 4291478 | 69.59 | ppm | | 98 |
| 93) Benzo[b]fluoranthene | 12.874 | 252 | 3430079 | 54.25 | ppm | | 97 |
| 94) Benzo[k]fluoranthene | 12.901 | 252 | 3086668 | 55.14 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481844.d
Acq On : 14 May 2019 4:00 pm
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:42:54 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 95) Benzo[a]pyrene | 13.200 | 252 | 2891819 | 55.67 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.291 | 276 | 3952337 | 56.98 | ppm | 89 |
| 97) Dibenz(a,h)acridine | 14.067 | 279 | 2865994 | 56.26 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 14.297 | 278 | 3600559 | 58.58 | ppm | 97 |
| 99) 7,12-Dimethylbenz(a)an... | 12.847 | 256 | 1502439 | 50.39 | ppm | 96 |
| 100) Benzo[g,h,i]perylene | 14.543 | 276 | 2923001 | 54.04 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

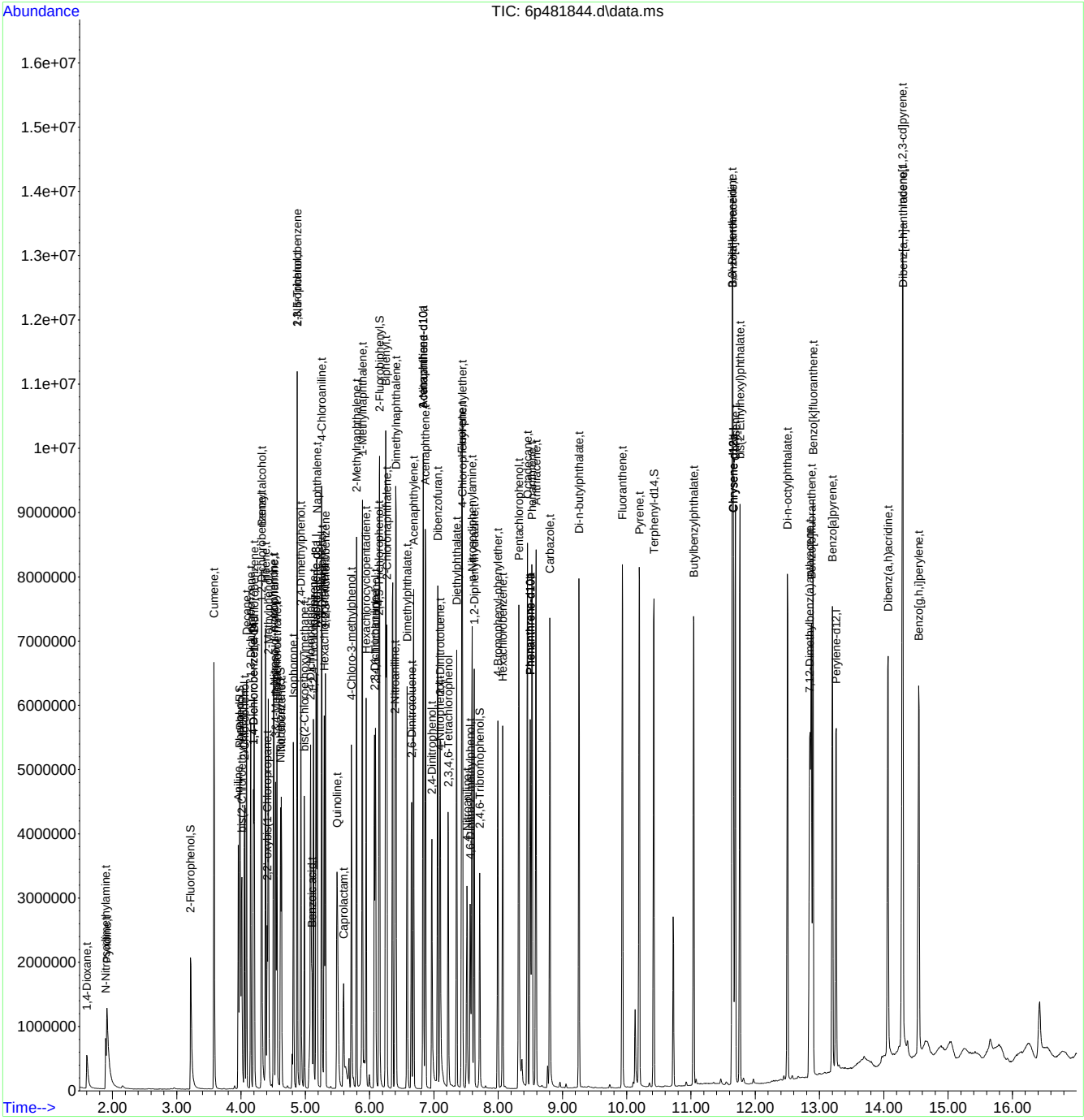
9.8.97

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481844.d
Acq On : 14 May 2019 4:00 pm
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:42:54 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



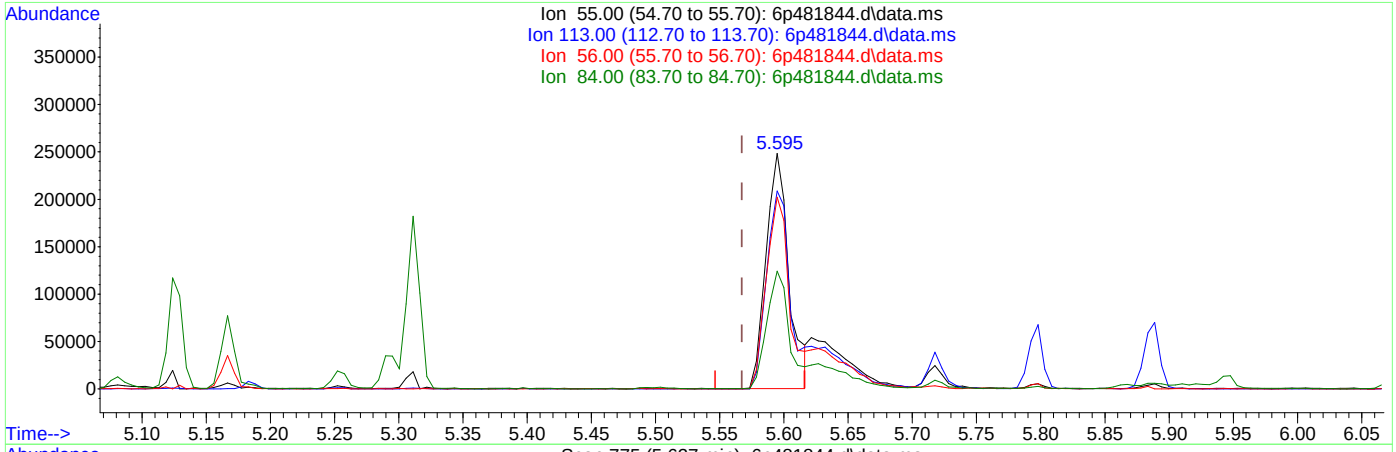
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2590-CC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481844.D | **Analyst approved:** | 05/15/19 05:51 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/14/19 16:00 | **Supervisor approved:** | 05/15/19 10:38 Kristi Schollenberger |

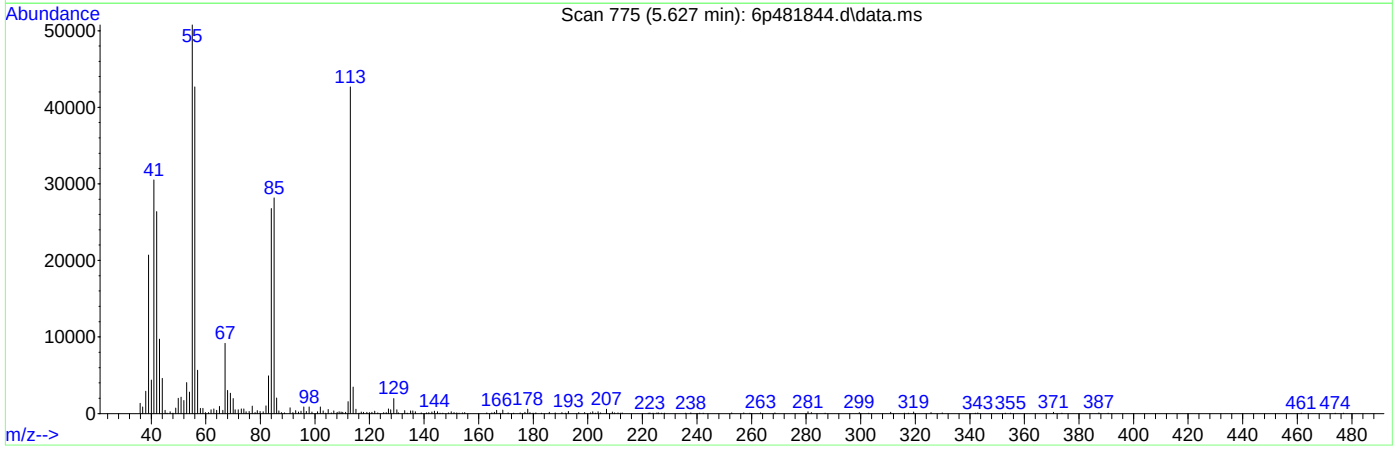
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.59 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481844.d
Acq On : 14 May 2019 4:00 pm
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:40:42 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration




TIC: 6p481844.d\data.ms

(41) Caprolactam (t)

5.595min (+0.027) 43.91ppm

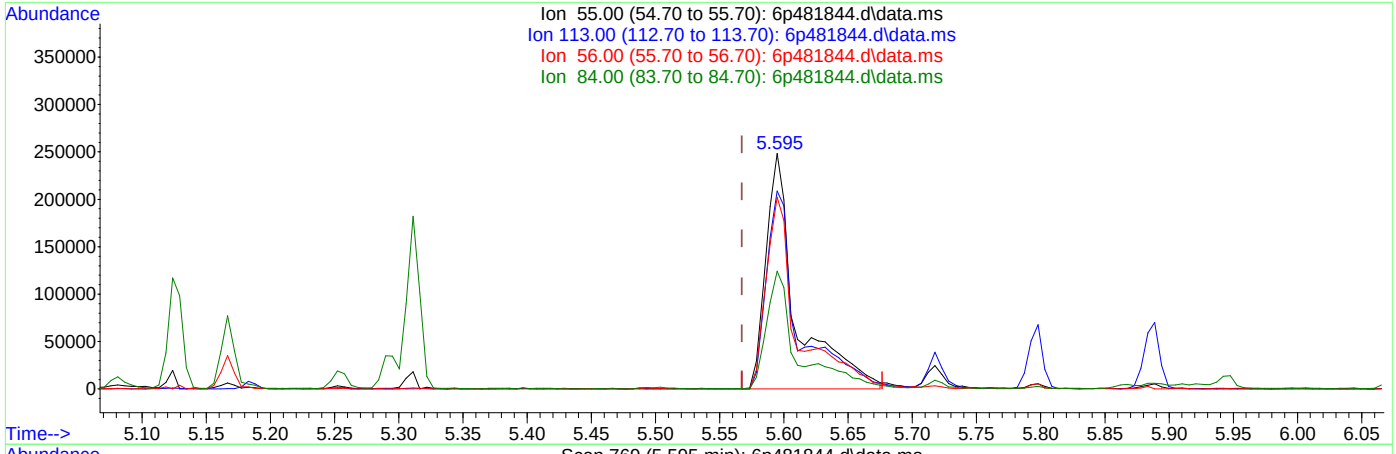
response 305832

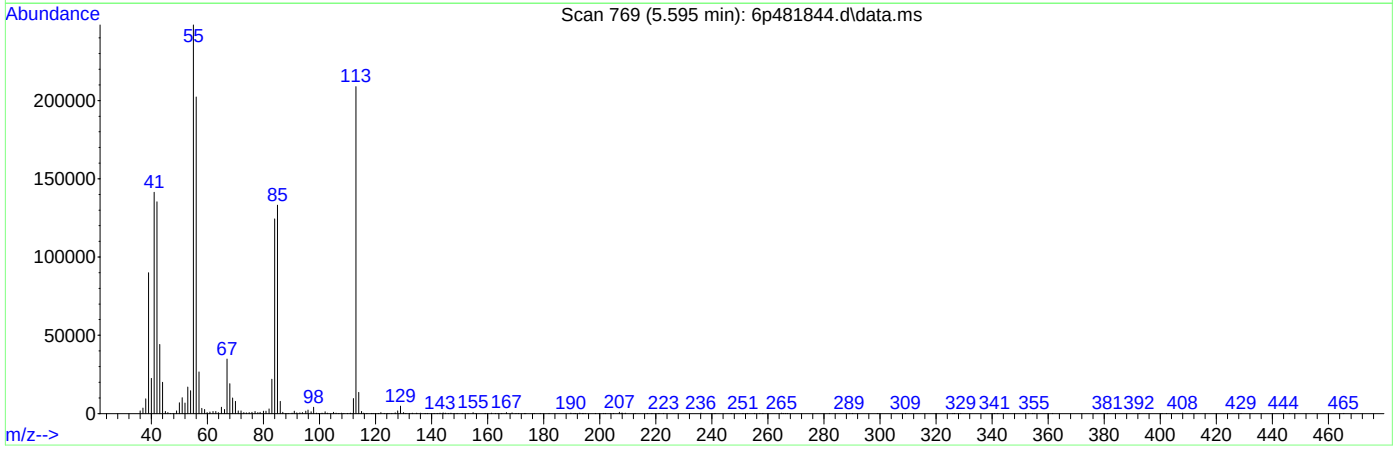
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 83.04 |
| 56.00 | 81.20 | 80.97 |
| 84.00 | 53.30 | 49.88 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481844.d
Acq On : 14 May 2019 4:00 pm
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:40:42 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration




TIC: 6p481844.d\data.ms

(41) Caprolactam (t)

5.595min (+0.027) 59.90ppm m

response 417202

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 84.10 |
| 56.00 | 81.20 | 81.42 |
| 84.00 | 53.30 | 50.05 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481845.d
Acq On : 14 May 2019 4:24 pm
Operator : angelar
Sample : cc2563-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:47:10 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration

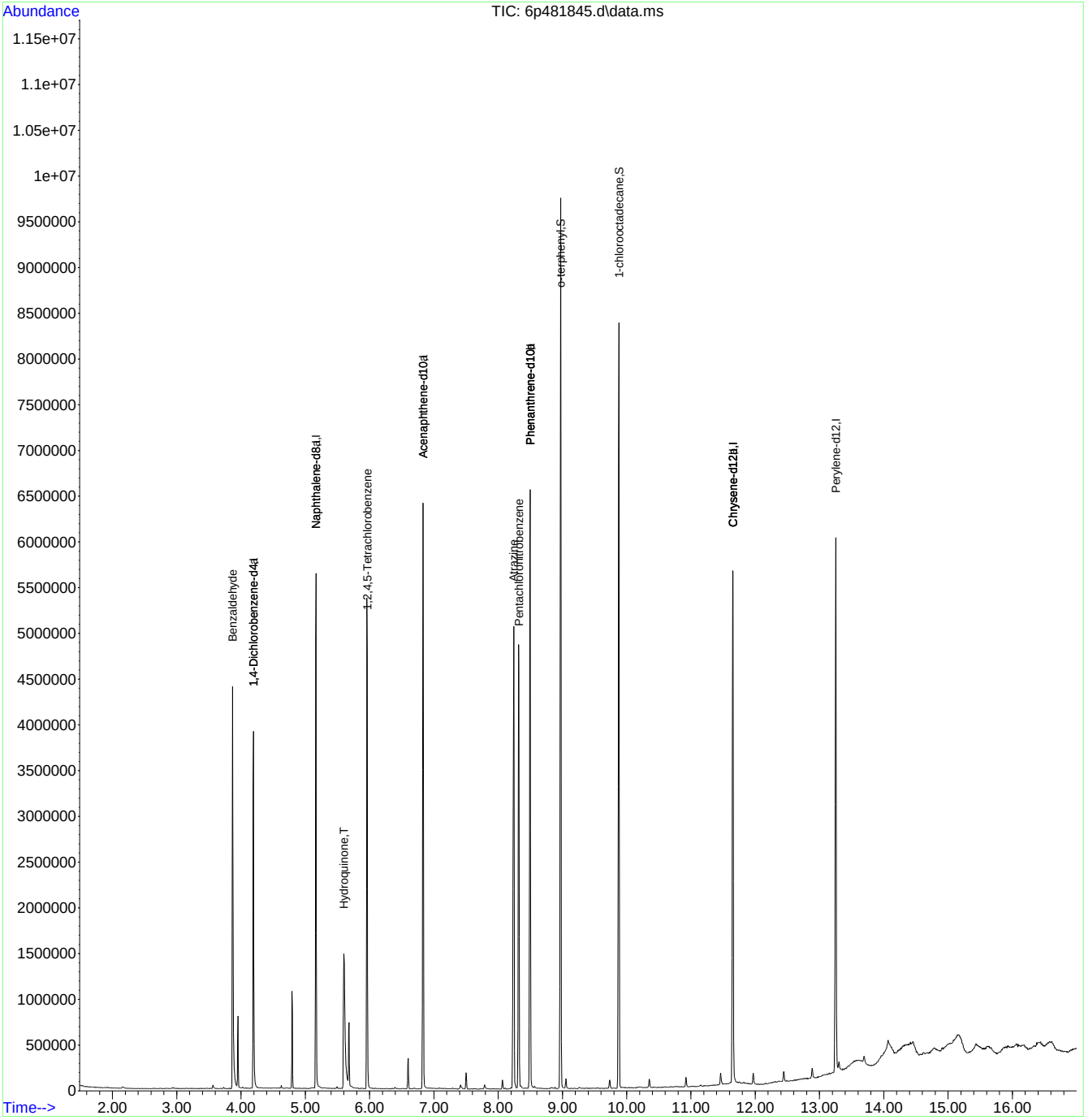
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.193 | 152 | 555066 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.167 | 136 | 2221618 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.830 | 164 | 1312425 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.499 | 188 | 2379676 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.655 | 240 | 1997328 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.254 | 264 | 2061663 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.193 | 152 | 555066 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.830 | 164 | 1312425 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.499 | 188 | 2379676 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.655 | 240 | 1997328 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.167 | 136 | 2221618 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.499 | 188 | 2379676 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.655 | 240 | 1997328 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.879 | 57 | 975338 | 68.59 | ppm | 0.03 |
| 107) o-terphenyl | 8.975 | 230 | 1823235 | 52.52 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.867 | 105 | 813556 | 59.06 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 5.964 | 216 | 833841 | 47.60 | ppm | 98 |
| 108) Atrazine | 8.242 | 215 | 348327 | 49.91 | ppm | 88 |
| 112) Hydroquinone | 5.600 | 110 | 1034193 | 60.63 | ppm | 95 |
| 114) Pentachloronitrobenzene | 8.322 | 295 | 141071 | 48.44 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2590\
Data File : 6p481845.d
Acq On : 14 May 2019 4:24 pm
Operator : angelar
Sample : cc2563-50 Inst : MS6P
Misc : op17006,e6p2590,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 15 05:47:10 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Wed May 15 05:39:18 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481874.D
Acq On : 15 May 2019 9:17 am
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 15:12:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.182 | 152 | 562770 | 40.00 | ppm | -0.07 |
| 24) Naphthalene-d8 | 5.151 | 136 | 2305093 | 40.00 | ppm | -0.08 |
| 47) Acenaphthene-d10 | 6.814 | 164 | 1357988 | 40.00 | ppm | -0.10 |
| 69) Phenanthrene-d10 | 8.472 | 188 | 2400184 | 40.00 | ppm | -0.11 |
| 83) Chrysene-d12 | 11.628 | 240 | 2110409 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.222 | 264 | 2328489 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4a | 4.182 | 152 | 562770 | 40.00 | ppm | -0.07 |
| 103) Acenaphthene-d10a | 6.814 | 164 | 1357988 | 40.00 | ppm | -0.10 |
| 105) Phenanthrene-d10a | 8.472 | 188 | 2400184 | 40.00 | ppm | -0.11 |
| 109) Chrysene-d12a | 11.628 | 240 | 2110409 | 40.00 | ppm | -0.11 |
| 111) Naphthalene-d8a | 5.151 | 136 | 2305093 | 40.00 | ppm | -0.08 |
| 113) Phenanthrene-d10b | 8.472 | 188 | 2400184 | 40.00 | ppm | -0.11 |
| 115) Chrysene-d12b | 11.628 | 240 | 2110409 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.204 | 112 | 448785 | 27.26 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 54.52% | | | |
| 8) Phenol-d5 | 3.963 | 99 | 590924 | 29.40 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 58.80% | | | |
| 25) Nitrobenzene-d5 | 4.600 | 82 | 550429 | 28.69 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 57.38% | | | |
| 51) 2-Fluorobiphenyl | 6.135 | 172 | 1229009 | 25.62 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 51.24% | | | |
| 73) 2,4,6-Tribromophenol | 7.686 | 330 | 182949 | 23.69 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 47.38% | | | |
| 85) Terphenyl-d14 | 10.392 | 244 | 1292433 | 26.29 | ppm | -0.09 |
| Spiked Amount 50.000 | | | Recovery = 52.58% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.594 | 88 | 203680 | 27.49 | ppm | 98 |
| 3) Pyridine | 1.904 | 79 | 454809 | 26.99 | ppm | 95 |
| 4) N-Nitrosodimethylamine | 1.883 | 74 | 274990 | 28.00 | ppm | 93 |
| 6) Indene | 4.370 | 116 | 846575 | 27.74 | ppm | 100 |
| 7) Cumene | 3.567 | 105 | 1270921 | 29.07 | ppm | 97 |
| 9) Phenol | 3.974 | 94 | 652762 | 26.61 | ppm | 90 |
| 10) Aniline | 3.947 | 93 | 660759 | 30.18 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 3.995 | 93 | 461294 | 27.14 | ppm | 96 |
| 12) 2-Chlorophenol | 4.038 | 128 | 519826 | 26.72 | ppm | 95 |
| 13) Decane | 4.070 | 43 | 437722 | 29.31 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.140 | 146 | 570331 | 25.71 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.193 | 146 | 580284 | 25.56 | ppm | 98 |
| 16) Benzyl alcohol | 4.311 | 108 | 307984 | 29.14 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.305 | 146 | 547310 | 26.24 | ppm | 99 |
| 18) Acetophenone | 4.487 | 105 | 747670 | 28.59 | ppm | 98 |
| 19) 2-Methylphenol | 4.407 | 108 | 478637 | 28.98 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.396 | 121 | 161606 | 26.66 | ppm | 94 |
| 21) 3&4-Methylphenol | 4.525 | 108 | 502052 | 28.91 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481874.D
Acq On : 15 May 2019 9:17 am
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 15:12:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.498 | 70 | 350795 | 29.98 | ppm | 95 |
| 23) Hexachloroethane | 4.546 | 201 | 188705 | 23.82 | ppm | 99 |
| 26) Nitrobenzene | 4.616 | 77 | 571409 | 29.27 | ppm | 96 |
| 27) Quinoline | 5.477 | 129 | 1110119 | 26.54 | ppm | 97 |
| 28) Isophorone | 4.798 | 82 | 961581 | 28.83 | ppm | 99 |
| 29) 2-Nitrophenol | 4.856 | 139 | 313442 | 27.47 | ppm | 72 |
| 30) 2,4-Dimethylphenol | 4.915 | 107 | 508076 | 29.17 | ppm | 98 |
| 31) Benzoic acid | 5.070 | 105 | 493676 | 28.05 | ppm | 95 |
| 32) bis(2-Chloroethoxy)met... | 4.969 | 93 | 569439 | 27.17 | ppm | 98 |
| 33) 2,4-Dichlorophenol | 5.065 | 162 | 430801 | 25.02 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.236 | 162 | 433243 | 25.40 | ppm | 94 |
| 35) 1,3,5-Trichlorobenzene | 4.862 | 180 | 485782 | 23.81 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.113 | 180 | 456149 | 23.14 | ppm | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.295 | 180 | 457590 | 23.32 | ppm | 95 |
| 38) Naphthalene | 5.167 | 128 | 1602134 | 26.69 | ppm | 99 |
| 39) 4-Chloroaniline | 5.236 | 127 | 634829 | 26.25 | ppm | 97 |
| 40) 2,3-Dichloroaniline | 6.054 | 161 | 538614 | 24.65 | ppm | 94 |
| 41) Caprolactam | 5.557 | 55 | 212012 | 28.77 | ppm | 97 |
| 42) Hexachlorobutadiene | 5.279 | 225 | 258887 | 23.08 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.696 | 107 | 514343 | 29.10 | ppm | 86 |
| 44) 2-Methylnaphthalene | 5.776 | 141 | 879256 | 25.89 | ppm | 96 |
| 45) 1-Methylnaphthalene | 5.867 | 141 | 998625 | 26.32 | ppm | 98 |
| 46) Dimethylnaphthalene | 6.386 | 156 | 1037600 | 25.71 | ppm | 96 |
| 48) Hexachlorocyclopentadiene | 5.926 | 237 | 304235 | 37.95 | ppm | 97 |
| 49) 2,4,6-Trichlorophenol | 6.071 | 196 | 309784 | 24.46 | ppm | 96 |
| 50) 2,4,5-Trichlorophenol | 6.124 | 196 | 331690 | 24.61 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.247 | 162 | 1020527 | 25.48 | ppm | 95 |
| 53) Biphenyl | 6.231 | 154 | 1382850 | 26.62 | ppm | 99 |
| 54) 2-Nitroaniline | 6.375 | 65 | 353165 | 33.93 | ppm | 83 |
| 55) Dimethylphthalate | 6.563 | 163 | 1203811 | 25.88 | ppm | 99 |
| 56) Acenaphthylene | 6.664 | 152 | 1672933 | 27.07 | ppm | 98 |
| 57) 2,6-Dinitrotoluene | 6.627 | 165 | 282593 | 26.87 | ppm | 85 |
| 58) 3-Nitroaniline | 6.809 | 138 | 318237 | 27.82 | ppm | 87 |
| 59) Acenaphthene | 6.846 | 153 | 1101566 | 26.85 | ppm | 98 |
| 60) 2,4-Dinitrophenol | 6.942 | 184 | 312155 | 45.48 | ppm | 81 |
| 61) 4-Nitrophenol | 7.065 | 109 | 177548 | 30.29 | ppm | 94 |
| 62) Dibenzofuran | 7.033 | 168 | 1550001 | 27.13 | ppm | 92 |
| 63) 2,4-Dinitrotoluene | 7.076 | 165 | 413146 | 28.28 | ppm | 77 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.199 | 232 | 258163 | 23.41 | ppm | 93 |
| 65) Diethylphthalate | 7.327 | 149 | 1286109 | 28.04 | ppm | 97 |
| 66) Fluorene | 7.408 | 166 | 1219239 | 26.29 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.424 | 204 | 561393 | 23.88 | ppm | 89 |
| 68) 4-Nitroaniline | 7.488 | 138 | 295912 | 24.43 | ppm | 85 |
| 70) 4,6-Dinitro-2-methylph... | 7.536 | 198 | 223361 | 24.10 | ppm | 84 |
| 71) n-Nitrosodiphenylamine | 7.568 | 169 | 895692 | 27.01 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 7.600 | 77 | 1205995 | 32.12 | ppm | 95 |
| 74) 4-Bromophenyl-phenylether | 7.969 | 248 | 318443 | 24.69 | ppm | 83 |
| 75) Hexachlorobenzene | 8.044 | 284 | 361923 | 23.89 | ppm | 89 |
| 76) Pentachlorophenol | 8.296 | 266 | 416165 | 43.92 | ppm | 99 |
| 77) Phenanthrene | 8.499 | 178 | 1668993 | 25.90 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481874.D
Acq On : 15 May 2019 9:17 am
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 15:12:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

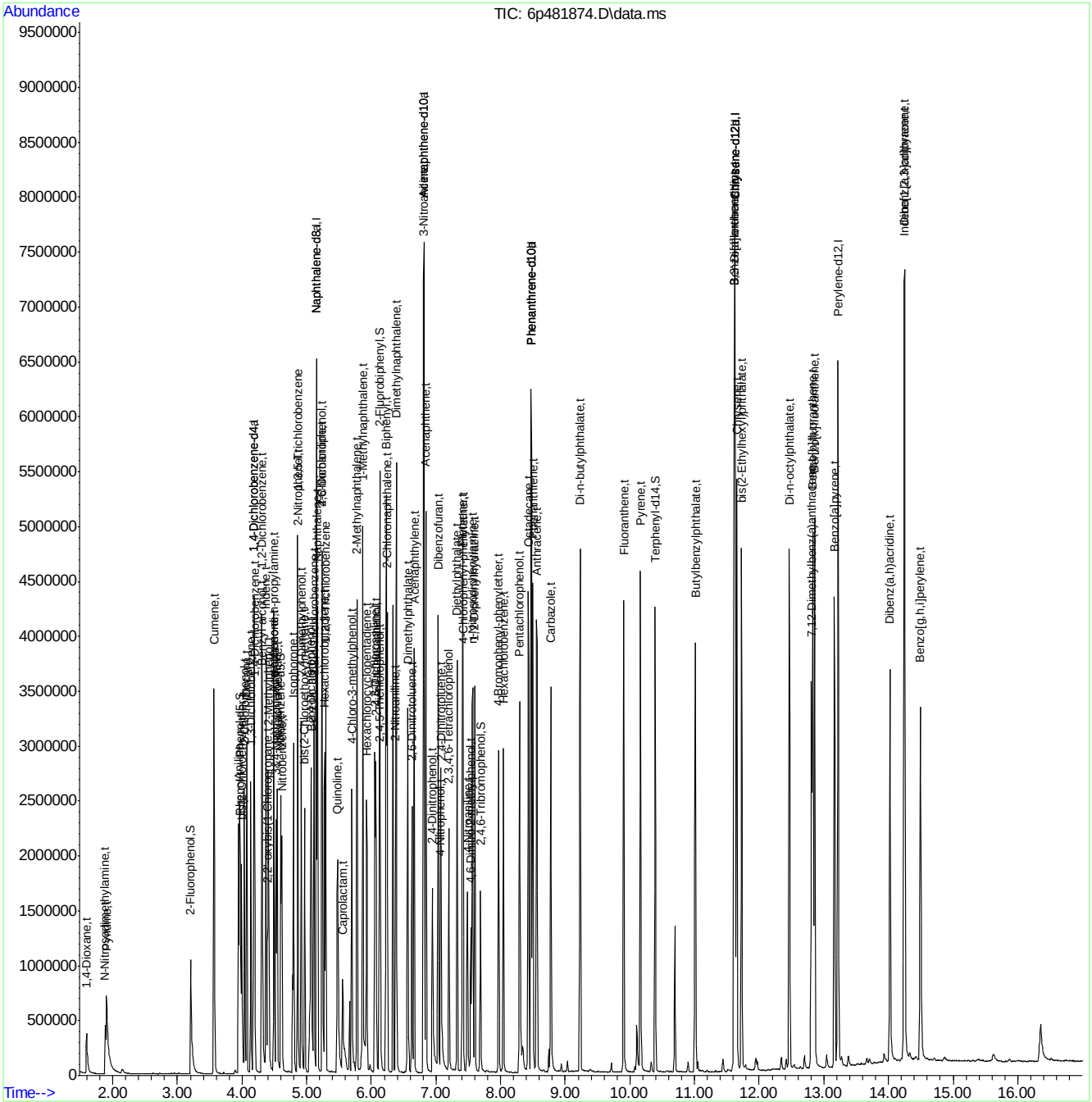
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.558 | 178 | 1735009 | 26.84 | ppm | 99 |
| 79) | Carbazole | 8.777 | 167 | 1636058 | 26.74 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.232 | 149 | 2313262 | 32.37 | ppm | 99 |
| 81) | Fluoranthene | 9.905 | 202 | 1867363 | 26.67 | ppm | 98 |
| 82) | Octadecane | 8.429 | 57 | 722100 | 33.44 | ppm | 98 |
| 84) | Pyrene | 10.162 | 202 | 1893242 | 26.93 | ppm | 98 |
| 86) | Butylbenzylphthalate | 11.013 | 149 | 1002216 | 33.07 | ppm | 85 |
| 87) | Benzo[a]anthracene | 11.612 | 228 | 1778674 | 26.46 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.612 | 252 | 680004 | 26.93 | ppm | 100 |
| 89) | Chrysene | 11.655 | 228 | 1710286 | 25.95 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.729 | 149 | 1396703 | 33.34 | ppm | 99 |
| 92) | Di-n-octylphthalate | 12.467 | 149 | 2415386 | 34.82 | ppm | 98 |
| 93) | Benzo[b]fluoranthene | 12.831 | 252 | 1795123 | 25.24 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 12.858 | 252 | 1769437 | 28.10 | ppm | 98 |
| 95) | Benzo[a]pyrene | 13.163 | 252 | 1590659 | 27.22 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.243 | 276 | 2050820 | 26.29 | ppm | 98 |
| 97) | Dibenz(a,h)acridine | 14.024 | 279 | 1458502 | 25.45 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.249 | 278 | 1791824 | 25.92 | ppm | 96 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.810 | 256 | 800950 | 25.38 | ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 14.495 | 276 | 1510793 | 24.83 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481874.D
Acq On : 15 May 2019 9:17 am
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 15 15:12:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481875.D
Acq On : 15 May 2019 9:41 am
Operator : angelar
Sample : cc2563-25
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 16:44:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

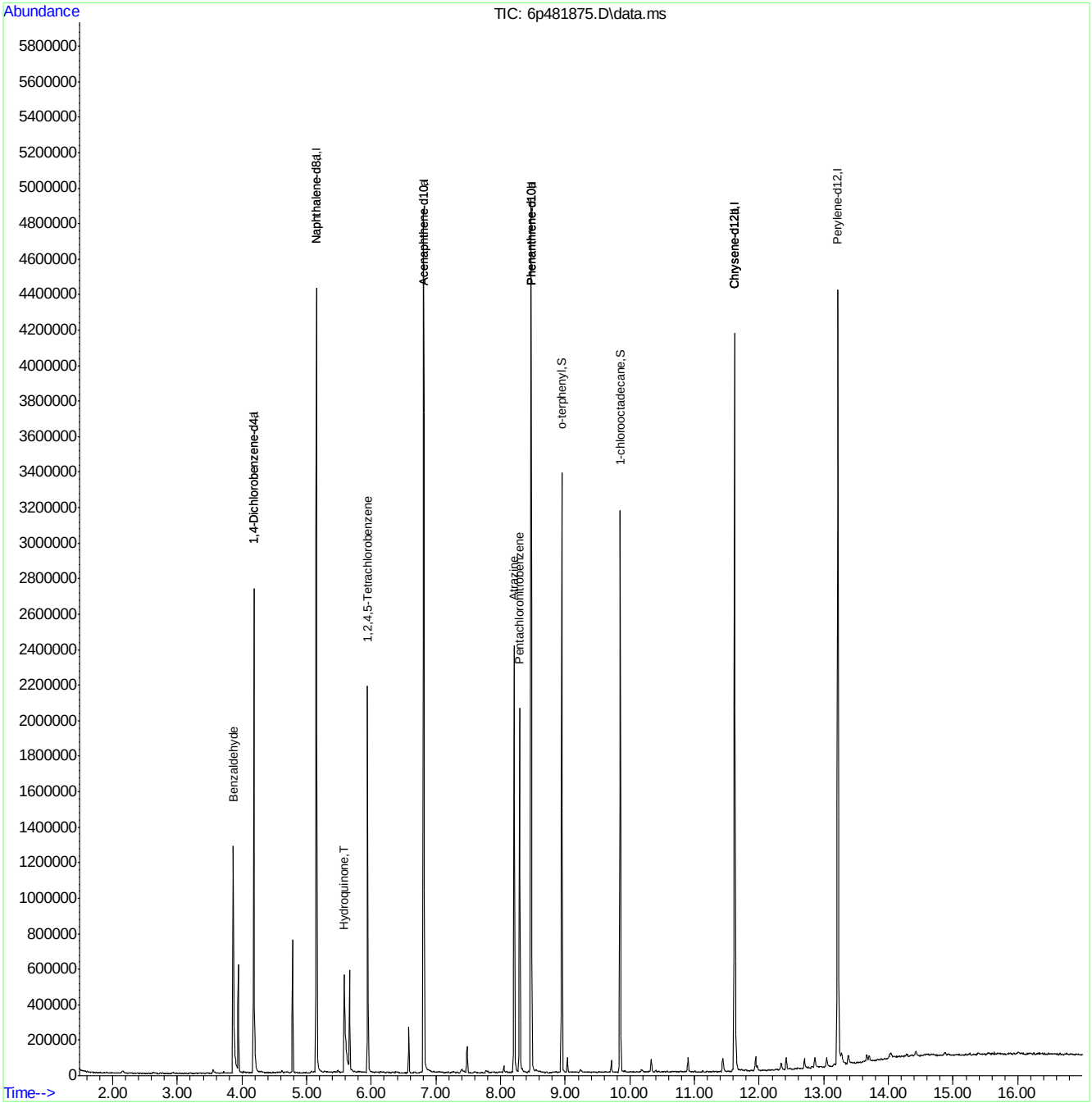
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.183 | 152 | 410088 | 40.00 | ppm | -0.07 |
| 24) Naphthalene-d8 | 5.151 | 136 | 1676635 | 40.00 | ppm | -0.08 |
| 47) Acenaphthene-d10 | 6.809 | 164 | 965498 | 40.00 | ppm | -0.10 |
| 69) Phenanthrene-d10 | 8.472 | 188 | 1731875 | 40.00 | ppm | -0.11 |
| 83) Chrysene-d12 | 11.623 | 240 | 1450566 | 40.00 | ppm | -0.11 |
| 91) Perylene-d12 | 13.217 | 264 | 1679240 | 40.00 | ppm | -0.11 |
| 101) 1,4-Dichlorobenzene-d4a | 4.183 | 152 | 410088 | 40.00 | ppm | -0.07 |
| 103) Acenaphthene-d10a | 6.809 | 164 | 965498 | 40.00 | ppm | -0.10 |
| 105) Phenanthrene-d10a | 8.472 | 188 | 1731875 | 40.00 | ppm | -0.11 |
| 109) Chrysene-d12a | 11.623 | 240 | 1450566 | 40.00 | ppm | -0.11 |
| 111) Naphthalene-d8a | 5.151 | 136 | 1676635 | 40.00 | ppm | -0.08 |
| 113) Phenanthrene-d10b | 8.472 | 188 | 1731875 | 40.00 | ppm | -0.11 |
| 115) Chrysene-d12b | 11.623 | 240 | 1450566 | 40.00 | ppm | -0.11 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 106) 1-chlorooctadecane | 9.852 | 57 | 403271 | 38.97 | ppm | -0.09 |
| 107) o-terphenyl | 8.948 | 230 | 670805 | 26.55 | ppm | -0.10 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.862 | 105 | 313113 | 30.76 | ppm | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 5.942 | 216 | 302571 | 23.48 | ppm | 99 |
| 108) Atrazine | 8.210 | 215 | 133290 | 26.65 | ppm | 82 |
| 112) Hydroquinone | 5.579 | 110 | 390546 | 30.34 | ppm | 95 |
| 114) Pentachloronitrobenzene | 8.296 | 295 | 50007 | 23.59 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2591\
Data File : 6p481875.D
Acq On : 15 May 2019 9:41 am
Operator : angelar
Sample : cc2563-25
Misc : op17006,e6p2591,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 15 16:44:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
04/16/19 10:44

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153401a.D
Acq On : 12 Apr 2019 5:56 pm
Operator : christc2
Sample : ic6556-100
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 10:17:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 209799 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.699 | 136 | 772072 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.996 | 164 | 456258 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.581 | 188 | 962273 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.713 | 240 | 751600 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.309 | 264 | 938114 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 209799 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.996 | 164 | 456258 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.713 | 240 | 751600 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.713 | 240 | 751600 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.581 | 188 | 962273 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.699 | 136 | 772072 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.713 | 240 | 751600 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.605 | 112 | 861150 | 96.77 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 193.54% | | |
| 8) Phenol-d5 | 4.332 | 99 | 1016962 | 94.70 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 189.40% | | |
| 25) Nitrobenzene-d5 | 5.031 | 82 | 793175 | 96.11 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 192.22% | | |
| 51) 2-Fluorobiphenyl | 7.008 | 172 | 1465098 | 93.29 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 186.58% | | |
| 73) 2,4,6-Tribromophenol | 9.331 | 330 | 322547 | 90.84 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 181.68% | | |
| 85) Terphenyl-d14 | 13.743 | 244 | 2066039 | 99.57 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 199.14% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.120 | 88 | 460644 | 105.26 | ppm | 98 |
| 3) Pyridine | 2.441 | 79 | 1091159 | 104.74 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.409 | 42 | 392524 | 103.03 | ppm | 99 |
| 6) Indene | 4.791 | 116 | 983600 | 91.81 | ppm | 99 |
| 7) Cumene | 3.995 | 105 | 1784695 | 91.79 | ppm | 99 |
| 9) Phenol | 4.342 | 94 | 947265 | 89.09 | ppm | 81 |
| 10) Aniline | 4.348 | 93 | 813831 | 88.85 | ppm | 93 |
| 11) bis(2-Chloroethyl)ether | 4.396 | 93 | 683763 | 95.37 | ppm | 99 |
| 12) 2-Chlorophenol | 4.438 | 128 | 692304 | 93.29 | ppm | 98 |
| 13) Decane | 4.481 | 43 | 465485 | 89.48 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 4.545 | 146 | 746108 | 89.90 | ppm | 97 |
| 15) 1,4-Dichlorobenzene | 4.604 | 146 | 706031 | 92.10 | ppm | 98 |
| 16) Benzyl alcohol | 4.700 | 108 | 449881 | 96.66 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.722 | 146 | 676103 | 88.77 | ppm | 99 |
| 18) Acetophenone | 4.909 | 105 | 848333 | 92.65 | ppm | 97 |
| 19) 2-Methylphenol | 4.796 | 108 | 550039 | 91.48 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153401a.D
Acq On : 12 Apr 2019 5:56 pm
Operator : christc2
Sample : ic6556-100
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 10:17:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.807 | 121 | 175370 | 93.95 | ppm | | 95 |
| 21) 3&4-Methylphenol | 4.914 | 108 | 551887 | 90.48 | ppm | # | 84 |
| 22) n-Nitroso-di-n-propyla... | 4.919 | 70 | 406599 | 90.62 | ppm | | 100 |
| 23) Hexachloroethane | 4.994 | 201 | 301890 | 91.63 | ppm | | 89 |
| 26) Nitrobenzene | 5.053 | 77 | 727144 | 92.49 | ppm | | 95 |
| 27) Quinoline | 6.094 | 129 | 1401789 | 93.50 | ppm | | 98 |
| 28) Isophorone | 5.261 | 82 | 1372049 | 91.69 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.330 | 139 | 370281 | 88.87 | ppm | | 96 |
| 30) 2,4-Dimethylphenol | 5.373 | 107 | 660434 | 98.24 | ppm | | 97 |
| 31) Benzoic acid | 5.523 | 105 | 494490 | 86.46 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.459 | 93 | 834296 | 94.81 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.560 | 162 | 585406 | 89.44 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.790 | 162 | 534178 | 91.20 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.346 | 180 | 657712 | 87.30 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.646 | 180 | 671871 | 89.26 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.875 | 180 | 608659 | 89.96 | ppm | | 99 |
| 38) Naphthalene | 5.720 | 128 | 1682052 | 91.21 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.779 | 127 | 739698 | 88.40 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.879 | 161 | 732442 | 90.75 | ppm | | 98 |
| 41) Caprolactam | 6.196 | 55 | 314353m | 98.30 | ppm | | |
| 42) Hexachlorobutadiene | 5.865 | 225 | 410798 | 91.11 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.345 | 107 | 664854 | 92.63 | ppm | | 99 |
| 44) 2-Methylnaphthalene | 6.511 | 141 | 1060287 | 89.46 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.634 | 142 | 1332258 | 89.87 | ppm | | 98 |
| 46) Dimethylnaphthalene | 7.371 | 156 | 1163933 | 89.71 | ppm | | 100 |
| 48) Hexachlorocyclopentadiene | 6.730 | 237 | 875753 | 185.52 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.890 | 196 | 445550 | 91.61 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.938 | 196 | 494836 | 93.18 | ppm | | 96 |
| 52) 2-Chloronaphthalene | 7.162 | 162 | 1170343 | 92.62 | ppm | | 98 |
| 53) Biphenyl | 7.146 | 154 | 1603724 | 92.63 | ppm | | 99 |
| 54) 2-Nitroaniline | 7.317 | 65 | 427892 | 100.22 | ppm | | 97 |
| 55) Dimethylphthalate | 7.622 | 163 | 1578760 | 94.05 | ppm | | 99 |
| 56) Acenaphthylene | 7.766 | 152 | 1956395 | 92.74 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 7.697 | 165 | 349646 | 92.84 | ppm | | 95 |
| 58) 3-Nitroaniline | 7.953 | 138 | 420081 | 97.90 | ppm | | 97 |
| 59) Acenaphthene | 8.049 | 153 | 1233364 | 94.71 | ppm | | 97 |
| 60) 2,4-Dinitrophenol | 8.124 | 184 | 369947 | 193.40 | ppm | | 94 |
| 61) 4-Nitrophenol | 8.279 | 109 | 241544 | 101.27 | ppm | | 95 |
| 62) Dibenzofuran | 8.332 | 168 | 1739892 | 93.20 | ppm | | 94 |
| 63) 2,4-Dinitrotoluene | 8.343 | 165 | 433917 | 95.59 | ppm | | 93 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.556 | 232 | 490611 | 93.25 | ppm | | 99 |
| 65) Diethylphthalate | 8.807 | 149 | 1574142 | 94.34 | ppm | | 99 |
| 66) Fluorene | 8.909 | 166 | 1486101 | 93.26 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.946 | 204 | 737051 | 92.38 | ppm | | 100 |
| 68) 4-Nitroaniline | 8.989 | 138 | 380339 | 99.61 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 9.042 | 198 | 285701 | 93.98 | ppm | | 98 |
| 71) n-Nitrosodiphenylamine | 9.160 | 169 | 1117447 | 91.37 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 9.219 | 77 | 1579035 | 94.81 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 9.812 | 248 | 583579 | 90.05 | ppm | | 95 |
| 75) Hexachlorobenzene | 9.892 | 284 | 610907 | 90.10 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153401a.D
Acq On : 12 Apr 2019 5:56 pm
Operator : christc2
Sample : ic6556-100
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 10:17:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

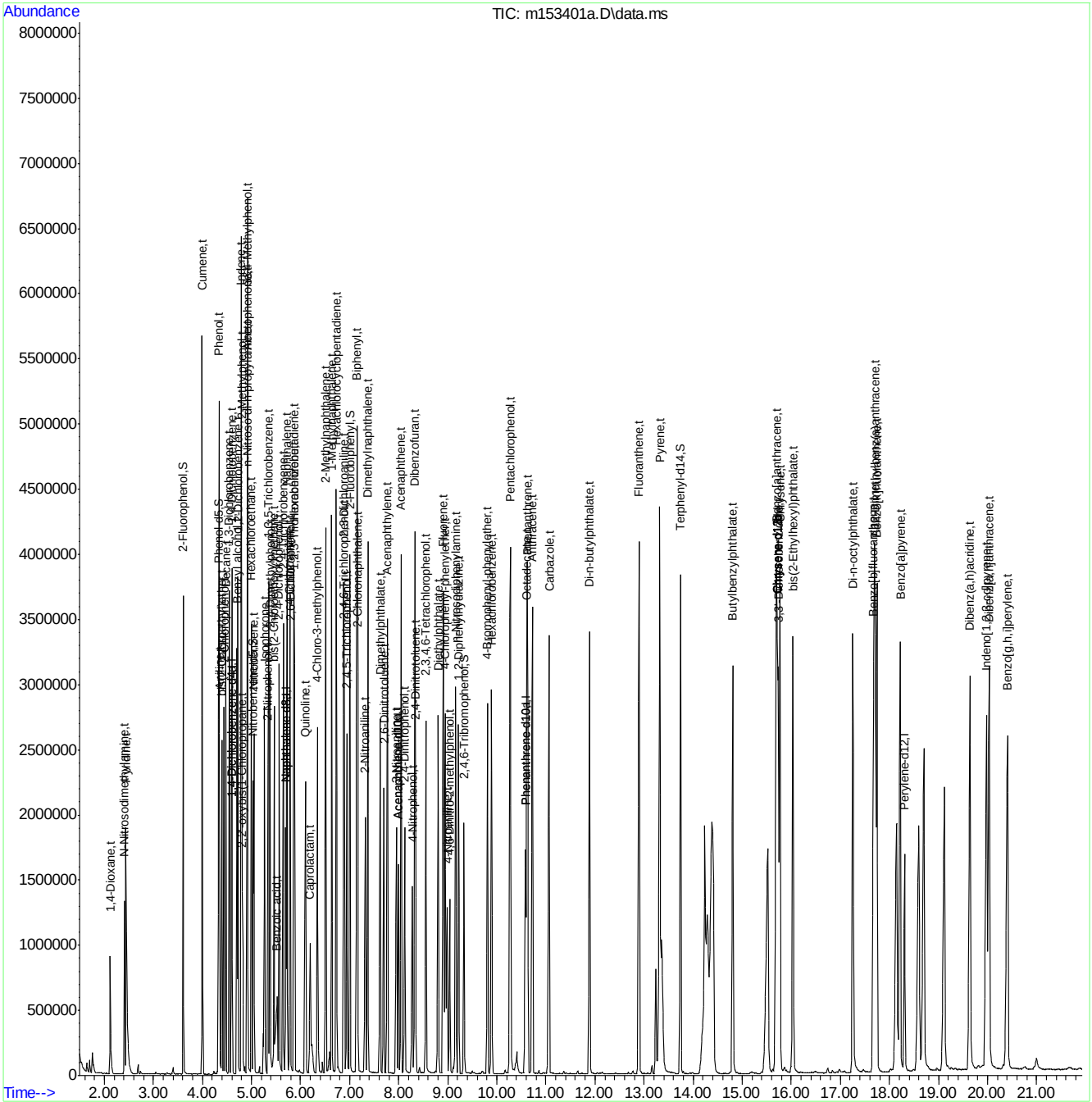
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.271 | 266 | 807802 | 180.41 | ppm | 100 |
| 77) Phenanthrene | 10.629 | 178 | 2000630 | 91.13 | ppm | 99 |
| 78) Anthracene | 10.725 | 178 | 2194380 | 90.91 | ppm | 99 |
| 79) Carbazole | 11.067 | 167 | 2158130 | 90.94 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.889 | 149 | 2809220 | 91.66 | ppm | 99 |
| 81) Fluoranthene | 12.899 | 202 | 2777400 | 89.99 | ppm | 99 |
| 82) Octadecane | 10.607 | 57 | 706040 | 93.66 | ppm | 99 |
| 84) Pyrene | 13.321 | 202 | 2672983 | 96.76 | ppm | 98 |
| 86) Butylbenzylphthalate | 14.806 | 149 | 1260057 | 99.97 | ppm | 99 |
| 87) Benzo[a]anthracene | 15.697 | 228 | 2555041 | 92.93 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 15.735 | 252 | 987333 | 101.83 | ppm | 97 |
| 89) Chrysene | 15.772 | 228 | 2324355 | 101.70 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 16.034 | 149 | 1663302 | 104.23 | ppm | 100 |
| 92) Di-n-octylphthalate | 17.252 | 149 | 3068911 | 96.73 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.679 | 252 | 2938717 | 94.75 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 17.743 | 252 | 2487206 | 91.95 | ppm | 97 |
| 95) Benzo[a]pyrene | 18.224 | 252 | 2429933 | 86.34 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 19.981 | 276 | 2517133 | 97.55 | ppm | 100 |
| 97) Dibenz(a,h)acridine | 19.645 | 279 | 2440916 | 93.82 | ppm | 85 |
| 98) Dibenz[a,h]anthracene | 20.034 | 278 | 2501423 | 96.26 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 17.706 | 256 | 1251747 | 98.43 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 20.408 | 276 | 2507626 | 95.95 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153401a.D
Acq On : 12 Apr 2019 5:56 pm
Operator : christc2
Sample : ic6556-100
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 10:17:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration










SGS JC87535

# Manual Integration Approval Summary



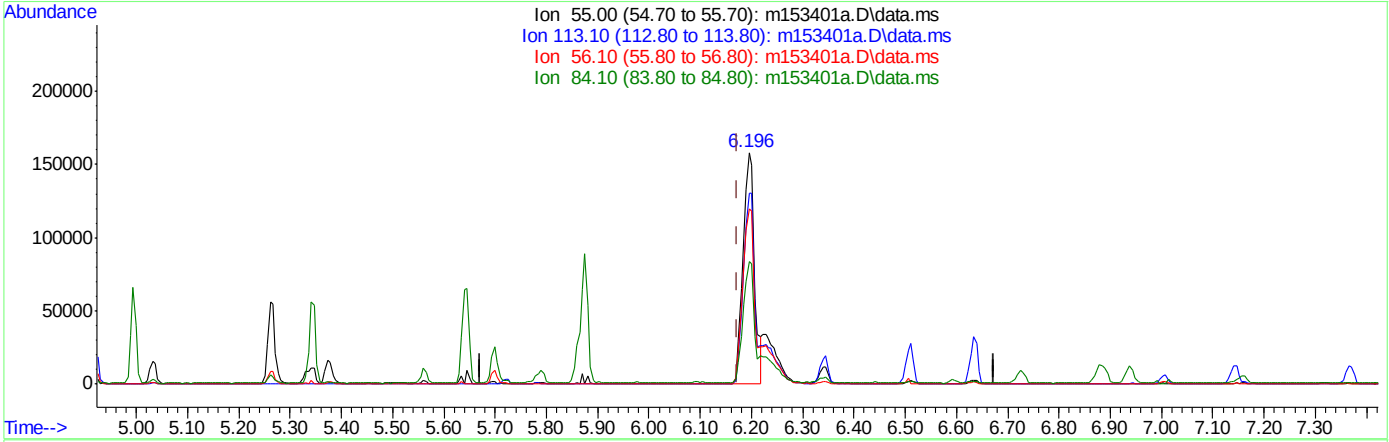
| | | | |
|---|---|---|---|
| **Sample Number:** | EM6556-IC6556 | **Method:** | SW846 8270D |
| **Lab FileID:** | M153401A.D | **Analyst approved:** | 04/15/19 12:08 Ying Li |
| **Injection Time:** | 04/12/19 17:56 | **Supervisor approved:** | 04/16/19 10:44 Nina Pandya |

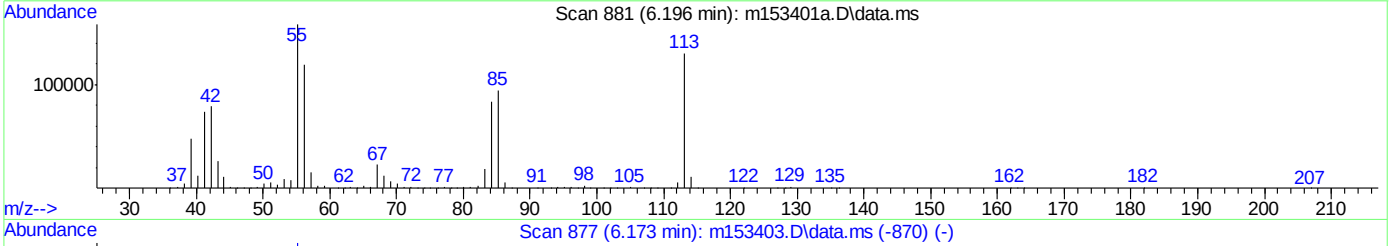
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 6.20 | Split peak |

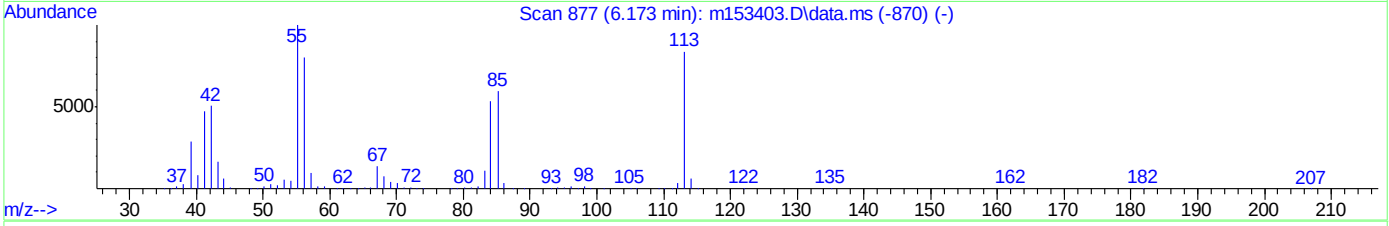
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153401a.D
Acq On : 12 Apr 2019 5:56 pm
Operator : christc2
Sample : ic6556-100
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 10:15:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration




TIC: m153401a.D\data.ms

(41) Caprolactam (t)

6.196min (+0.023) 76.33ppm

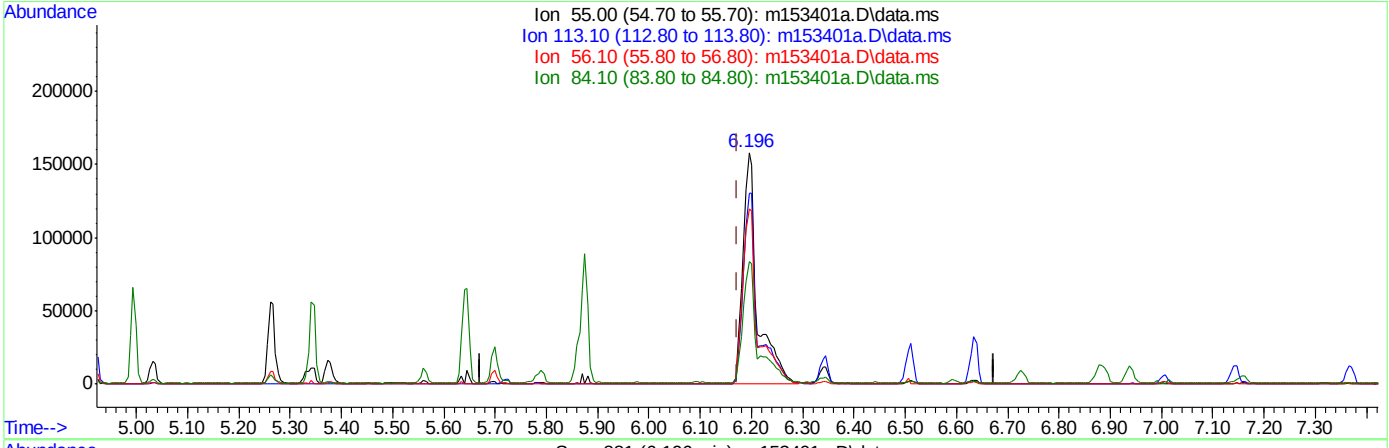
response 244082

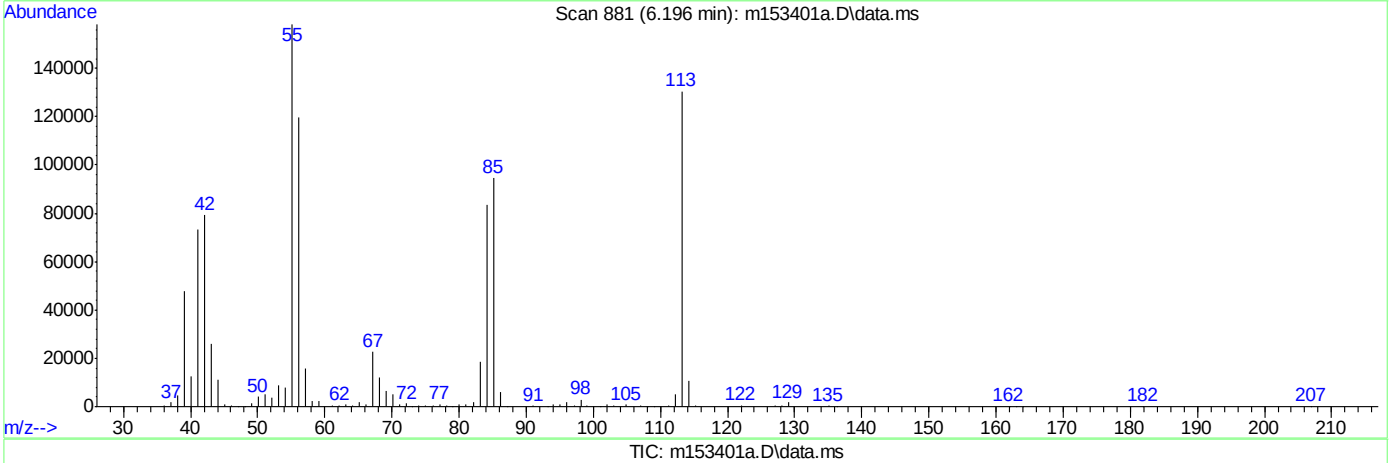
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.10 | 83.80 | 82.69 |
| 56.10 | 80.40 | 75.39 |
| 84.10 | 53.50 | 51.72 |

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153401a.D
Acq On : 12 Apr 2019 5:56 pm
Operator : christc2
Sample : ic6556-100
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 10:17:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration




TIC: m153401a.D\data.ms

(41) Caprolactam (t)

6.196min (+0.023) 98.30ppm m

response 314353

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.10 | 83.80 | 82.45 |
| 56.10 | 80.40 | 75.72 |
| 84.10 | 53.50 | 52.79 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153402.D
Acq On : 12 Apr 2019 6:24 pm
Operator : christc2
Sample : ic6556-80
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 10:19:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.592 | 152 | 225155 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 803489 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 7.994 | 164 | 479679 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 10.579 | 188 | 997619 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 15.712 | 240 | 851028 | 40.00 | ppm | | 0.00 |
| 91) Perylene-d12 | 18.307 | 264 | 999499 | 40.00 | ppm | | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.592 | 152 | 225155 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 7.994 | 164 | 479679 | 40.00 | ppm | | 0.00 |
| 106) Chrysene-d12a | 15.712 | 240 | 851028 | 40.00 | ppm | | 0.00 |
| 108) Chrysene-d12b | 15.712 | 240 | 851028 | 40.00 | ppm | | 0.00 |
| 110) Phenanthrene-d10a | 10.579 | 188 | 997619 | 40.00 | ppm | | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 803489 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12c | 15.712 | 240 | 851028 | 40.00 | ppm | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 3.603 | 112 | 732085 | 76.66 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 153.32% | | | | |
| 8) Phenol-d5 | 4.330 | 99 | 867447 | 75.27 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 150.54% | | | | |
| 25) Nitrobenzene-d5 | 5.030 | 82 | 660145 | 76.87 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 153.74% | | | | |
| 51) 2-Fluorobiphenyl | 7.006 | 172 | 1258043 | 76.20 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 152.40% | | | | |
| 73) 2,4,6-Tribromophenol | 9.329 | 330 | 281508 | 76.48 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 152.96% | | | | |
| 85) Terphenyl-d14 | 13.741 | 244 | 1823182 | 77.60 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 155.20% | | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | | |
| Target Compounds | | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.119 | 88 | 377230 | 80.32 | ppm | | 99 |
| 3) Pyridine | 2.444 | 79 | 908435 | 81.25 | ppm | | 97 |
| 4) N-Nitrosodimethylamine | 2.407 | 42 | 320590 | 78.41 | ppm | | 98 |
| 6) Indene | 4.789 | 116 | 846091 | 73.59 | ppm | | 100 |
| 7) Cumene | 3.993 | 105 | 1544937 | 74.04 | ppm | | 98 |
| 9) Phenol | 4.341 | 94 | 826435 | 72.42 | ppm | | 82 |
| 10) Aniline | 4.346 | 93 | 722357 | 73.49 | ppm | | 97 |
| 11) bis(2-Chloroethyl)ether | 4.394 | 93 | 581395 | 75.56 | ppm | | 99 |
| 12) 2-Chlorophenol | 4.437 | 128 | 595646 | 74.79 | ppm | | 98 |
| 13) Decane | 4.479 | 43 | 406911 | 72.88 | ppm | | 99 |
| 14) 1,3-Dichlorobenzene | 4.549 | 146 | 646405 | 72.57 | ppm | | 98 |
| 15) 1,4-Dichlorobenzene | 4.602 | 146 | 622280 | 75.64 | ppm | | 99 |
| 16) Benzyl alcohol | 4.698 | 108 | 376577 | 75.39 | ppm | | 97 |
| 17) 1,2-Dichlorobenzene | 4.720 | 146 | 596046 | 72.92 | ppm | | 99 |
| 18) Acetophenone | 4.907 | 105 | 732580 | 74.55 | ppm | # | 60 |
| 19) 2-Methylphenol | 4.795 | 108 | 473535 | 73.38 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153402.D
Acq On : 12 Apr 2019 6:24 pm
Operator : christc2
Sample : ic6556-80
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 10:19:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.805 | 121 | 151063 | 75.41 | ppm | | 100 |
| 21) 3&4-Methylphenol | 4.912 | 108 | 488132 | 74.57 | ppm | # | 81 |
| 22) n-Nitroso-di-n-propyla... | 4.912 | 70 | 350213 | 72.73 | ppm | | 95 |
| 23) Hexachloroethane | 4.998 | 201 | 265594 | 75.12 | ppm | | 100 |
| 26) Nitrobenzene | 5.051 | 77 | 618972 | 75.65 | ppm | | 95 |
| 27) Quinoline | 6.092 | 129 | 1187613 | 76.12 | ppm | | 99 |
| 28) Isophorone | 5.259 | 82 | 1171099 | 75.20 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.329 | 139 | 329749 | 76.05 | ppm | | 98 |
| 30) 2,4-Dimethylphenol | 5.371 | 107 | 558209 | 79.78 | ppm | | 97 |
| 31) Benzoic acid | 5.510 | 105 | 469499 | 78.88 | ppm | | 96 |
| 32) bis(2-Chloroethoxy)met... | 5.457 | 93 | 704348 | 76.92 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.564 | 162 | 511255 | 75.06 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.788 | 162 | 457218 | 75.01 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.345 | 180 | 570920 | 72.82 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.644 | 180 | 584453 | 74.61 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 5.873 | 180 | 527854 | 74.97 | ppm | | 100 |
| 38) Naphthalene | 5.724 | 128 | 1445690 | 75.33 | ppm | | 100 |
| 39) 4-Chloroaniline | 5.777 | 127 | 641760 | 73.70 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.878 | 161 | 635130 | 75.61 | ppm | | 98 |
| 41) Caprolactam | 6.189 | 55 | 263983 | 79.32 | ppm | | 99 |
| 42) Hexachlorobutadiene | 5.863 | 225 | 353936 | 75.43 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.338 | 107 | 565483 | 75.70 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 6.509 | 141 | 923318 | 74.86 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.637 | 142 | 1146353 | 74.30 | ppm | | 99 |
| 46) Dimethylnaphthalene | 7.369 | 156 | 1002140 | 74.22 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.728 | 237 | 762663 | 153.67 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.888 | 196 | 387941 | 75.87 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.936 | 196 | 439278 | 78.68 | ppm | | 97 |
| 52) 2-Chloronaphthalene | 7.161 | 162 | 1010850 | 76.09 | ppm | | 99 |
| 53) Biphenyl | 7.145 | 154 | 1372802 | 75.42 | ppm | | 99 |
| 54) 2-Nitroaniline | 7.316 | 65 | 355954 | 79.30 | ppm | | 94 |
| 55) Dimethylphthalate | 7.620 | 163 | 1350998 | 76.55 | ppm | | 99 |
| 56) Acenaphthylene | 7.770 | 152 | 1679865 | 75.75 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 7.695 | 165 | 301047 | 76.03 | ppm | | 100 |
| 58) 3-Nitroaniline | 7.951 | 138 | 356271 | 78.97 | ppm | | 98 |
| 59) Acenaphthene | 8.047 | 153 | 1066647 | 77.91 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 8.117 | 184 | 325259 | 161.74 | ppm | | 92 |
| 61) 4-Nitrophenol | 8.272 | 109 | 197042 | 78.58 | ppm | | 99 |
| 62) Dibenzofuran | 8.330 | 168 | 1490794 | 75.96 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 8.341 | 165 | 365850 | 76.66 | ppm | | 85 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.555 | 232 | 423476 | 76.56 | ppm | | 98 |
| 65) Diethylphthalate | 8.806 | 149 | 1341665 | 76.48 | ppm | | 100 |
| 66) Fluorene | 8.907 | 166 | 1276678 | 76.21 | ppm | | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.945 | 204 | 639241 | 76.21 | ppm | | 100 |
| 68) 4-Nitroaniline | 8.982 | 138 | 314723 | 78.40 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 9.035 | 198 | 253467 | 80.42 | ppm | | 99 |
| 71) n-Nitrosodiphenylamine | 9.158 | 169 | 955792 | 75.38 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 9.217 | 77 | 1332214 | 77.16 | ppm | | 99 |
| 74) 4-Bromophenyl-phenylether | 9.810 | 248 | 506124 | 75.33 | ppm | | 97 |
| 75) Hexachlorobenzene | 9.890 | 284 | 527735 | 75.08 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153402.D
Acq On : 12 Apr 2019 6:24 pm
Operator : christc2
Sample : ic6556-80
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 10:19:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

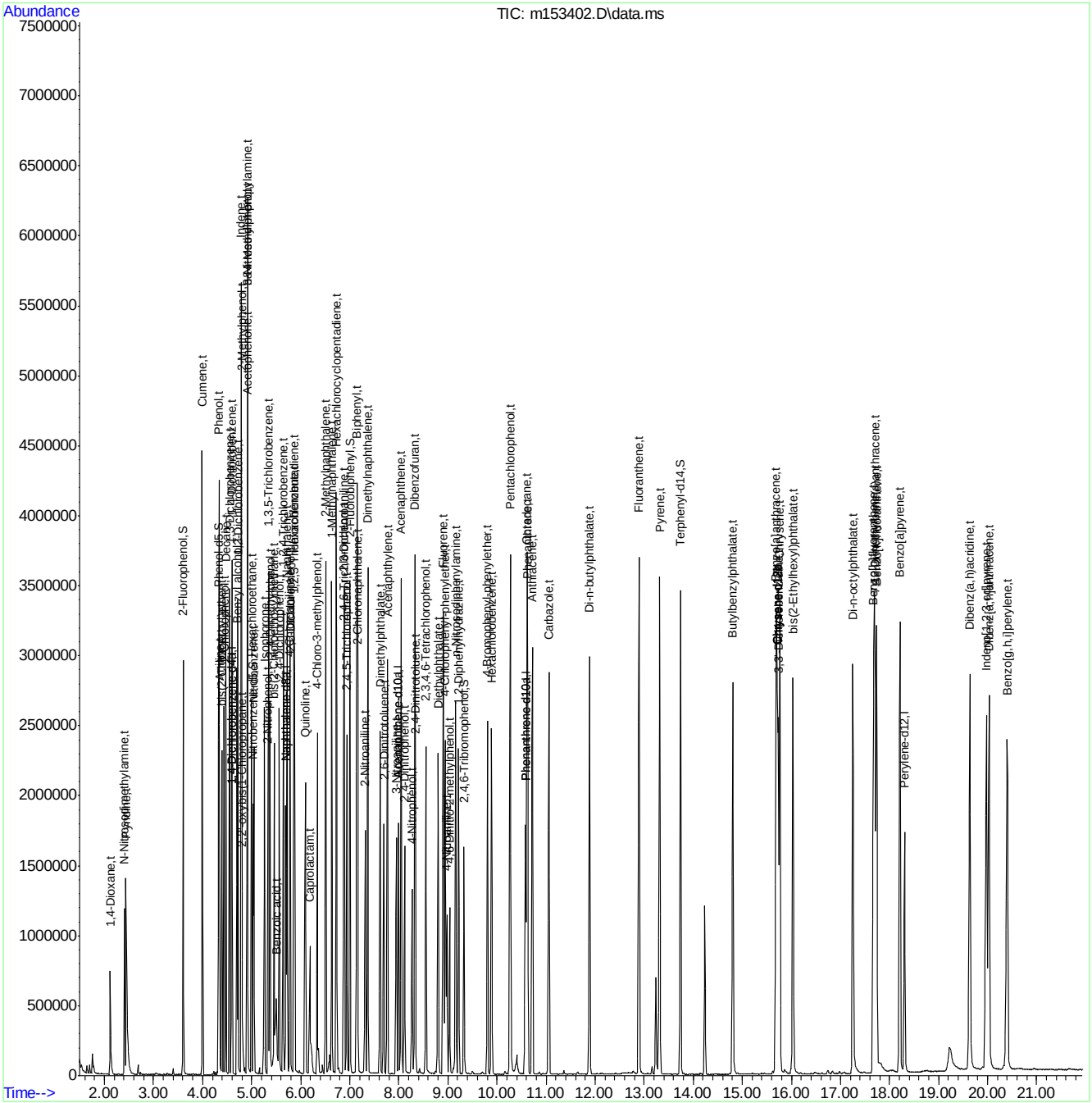
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.269 | 266 | 697346 | 150.22 | ppm | 100 |
| 77) Phenanthrene | 10.627 | 178 | 1718325 | 75.50 | ppm | 100 |
| 78) Anthracene | 10.723 | 178 | 1877702 | 75.03 | ppm | 99 |
| 79) Carbazole | 11.065 | 167 | 1850995 | 75.24 | ppm | 100 |
| 80) Di-n-butylphthalate | 11.887 | 149 | 2405373 | 75.70 | ppm | 99 |
| 81) Fluoranthene | 12.897 | 202 | 2395875 | 74.88 | ppm | 99 |
| 82) Octadecane | 10.611 | 57 | 606517 | 77.61 | ppm | 99 |
| 84) Pyrene | 13.319 | 202 | 2365428 | 75.62 | ppm | 98 |
| 86) Butylbenzylphthalate | 14.809 | 149 | 1116335 | 78.22 | ppm | 100 |
| 87) Benzo[a]anthracene | 15.690 | 228 | 2395645 | 76.95 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 15.733 | 252 | 866134 | 78.89 | ppm | 97 |
| 89) Chrysene | 15.765 | 228 | 2002818 | 77.40 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 16.032 | 149 | 1398864 | 77.41 | ppm | 99 |
| 92) Di-n-octylphthalate | 17.250 | 149 | 2615480 | 77.37 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.677 | 252 | 2563740 | 77.59 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.741 | 252 | 2126801 | 73.80 | ppm | 99 |
| 95) Benzo[a]pyrene | 18.217 | 252 | 2293521 | 76.49 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 19.979 | 276 | 2136134 | 77.70 | ppm | 99 |
| 97) Dibenz(a,h)acridine | 19.643 | 279 | 2110895 | 76.16 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 20.027 | 278 | 2137844 | 77.22 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 17.704 | 256 | 1049442 | 77.46 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 20.401 | 276 | 2143558 | 76.98 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153402.D
Acq On : 12 Apr 2019 6:24 pm
Operator : christc2
Sample : ic6556-80
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 10:19:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration










SGS JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153403.D
Acq On : 12 Apr 2019 6:53 pm
Operator : christc2
Sample : icc6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 10:14:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.592 | 152 | 263272 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.698 | 136 | 947451 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.994 | 164 | 577166 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.579 | 188 | 1186859 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.712 | 240 | 1034026 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.308 | 264 | 1197275 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.592 | 152 | 263272 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.994 | 164 | 577166 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.712 | 240 | 1034026 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.712 | 240 | 1034026 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.579 | 188 | 1186859 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.698 | 136 | 947451 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.712 | 240 | 1034026 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.604 | 112 | 558336 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 8) Phenol-d5 | 4.325 | 99 | 673801 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 25) Nitrobenzene-d5 | 5.030 | 82 | 506356 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 51) 2-Fluorobiphenyl | 7.006 | 172 | 993283 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 73) 2,4,6-Tribromophenol | 9.324 | 330 | 218961 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 85) Terphenyl-d14 | 13.741 | 244 | 1427344 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 100.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.119 | 88 | 274573 | 50.00 | ppm | 100 |
| 3) Pyridine | 2.445 | 79 | 653638 | 50.00 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.407 | 42 | 239053 | 50.00 | ppm | 100 |
| 6) Indene | 4.790 | 116 | 672209 | 50.00 | ppm | 100 |
| 7) Cumene | 3.999 | 105 | 1219950 | 50.00 | ppm | 100 |
| 9) Phenol | 4.336 | 94 | 667164 | 50.00 | ppm | 100 |
| 10) Aniline | 4.346 | 93 | 574687 | 50.00 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 4.394 | 93 | 449859 | 50.00 | ppm | 100 |
| 12) 2-Chlorophenol | 4.437 | 128 | 465621 | 50.00 | ppm | 100 |
| 13) Decane | 4.480 | 43 | 326411 | 50.00 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.549 | 146 | 520746 | 50.00 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.603 | 146 | 480987 | 50.00 | ppm | 100 |
| 16) Benzyl alcohol | 4.699 | 108 | 292025 | 50.00 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 4.720 | 146 | 477859 | 50.00 | ppm | 100 |
| 18) Acetophenone | 4.907 | 105 | 574482 | 50.00 | ppm | 100 |
| 19) 2-Methylphenol | 4.790 | 108 | 379257 | 50.26 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153403.D
Acq On : 12 Apr 2019 6:53 pm
Operator : christc2
Sample : icc6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 10:14:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.806 | 121 | 117124 | 50.00 | ppm | 100 |
| 21) 3&4-Methylphenol | 4.912 | 108 | 386192 | 50.46 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.912 | 70 | 281513 | 50.00 | ppm | 100 |
| 23) Hexachloroethane | 4.998 | 201 | 206713 | 50.00 | ppm | 100 |
| 26) Nitrobenzene | 5.046 | 77 | 482380 | 50.00 | ppm | 100 |
| 27) Quinoline | 6.087 | 129 | 919860 | 50.00 | ppm | 100 |
| 28) Isophorone | 5.260 | 82 | 918158 | 50.00 | ppm | 100 |
| 29) 2-Nitrophenol | 5.329 | 139 | 255650 | 50.00 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 5.372 | 107 | 412499 | 50.00 | ppm | 100 |
| 31) Benzoic acid | 5.495 | 105 | 351227 | 50.05 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 5.457 | 93 | 539901 | 50.00 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.559 | 162 | 401597 | 50.00 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.788 | 162 | 359394 | 50.00 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 5.345 | 180 | 462244 | 50.00 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.644 | 180 | 461860 | 50.00 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 5.874 | 180 | 415127 | 50.00 | ppm | 100 |
| 38) Naphthalene | 5.719 | 128 | 1131562 | 50.00 | ppm | 100 |
| 39) 4-Chloroaniline | 5.778 | 127 | 513415 | 50.00 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 6.878 | 161 | 495228 | 50.00 | ppm | 100 |
| 41) Caprolactam | 6.173 | 55 | 196213 | 50.00 | ppm | 100 |
| 42) Hexachlorobutadiene | 5.863 | 225 | 276656 | 50.00 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 6.338 | 107 | 440399 | 50.00 | ppm | 100 |
| 44) 2-Methylnaphthalene | 6.509 | 141 | 727215 | 50.00 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.632 | 142 | 909009 | 49.97 | ppm | 100 |
| 46) Dimethylnaphthalene | 7.364 | 156 | 796076 | 50.00 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.728 | 237 | 597151 | 100.00 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 6.889 | 196 | 307631 | 50.00 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 6.937 | 196 | 335791 | 49.99 | ppm | 100 |
| 52) 2-Chloronaphthalene | 7.156 | 162 | 799205 | 50.00 | ppm | 100 |
| 53) Biphenyl | 7.140 | 154 | 1095071 | 50.00 | ppm | 100 |
| 54) 2-Nitroaniline | 7.316 | 65 | 270060 | 50.00 | ppm | 100 |
| 55) Dimethylphthalate | 7.615 | 163 | 1061699 | 50.00 | ppm | 100 |
| 56) Acenaphthylene | 7.765 | 152 | 1334232 | 50.00 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 7.690 | 165 | 238205 | 50.00 | ppm | 100 |
| 58) 3-Nitroaniline | 7.946 | 138 | 271410 | 50.00 | ppm | 100 |
| 59) Acenaphthene | 8.048 | 153 | 823702 | 50.00 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 8.117 | 184 | 241976 | 100.00 | ppm | 100 |
| 61) 4-Nitrophenol | 8.267 | 109 | 150862 | 50.00 | ppm | 100 |
| 62) Dibenzofuran | 8.325 | 168 | 1180805 | 50.00 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 8.336 | 165 | 287128 | 50.00 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.550 | 232 | 332782 | 50.00 | ppm | 100 |
| 65) Diethylphthalate | 8.801 | 149 | 1055379 | 50.00 | ppm | 100 |
| 66) Fluorene | 8.902 | 166 | 1007892 | 50.00 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.940 | 204 | 504648 | 50.00 | ppm | 100 |
| 68) 4-Nitroaniline | 8.972 | 138 | 241517 | 50.00 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 9.030 | 198 | 187472 | 50.00 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 9.153 | 169 | 754210 | 50.00 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 9.217 | 77 | 1027051 | 50.00 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 9.810 | 248 | 399649 | 50.00 | ppm | 100 |
| 75) Hexachlorobenzene | 9.890 | 284 | 418128 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153403.D
Acq On : 12 Apr 2019 6:53 pm
Operator : christc2
Sample : icc6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 10:14:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

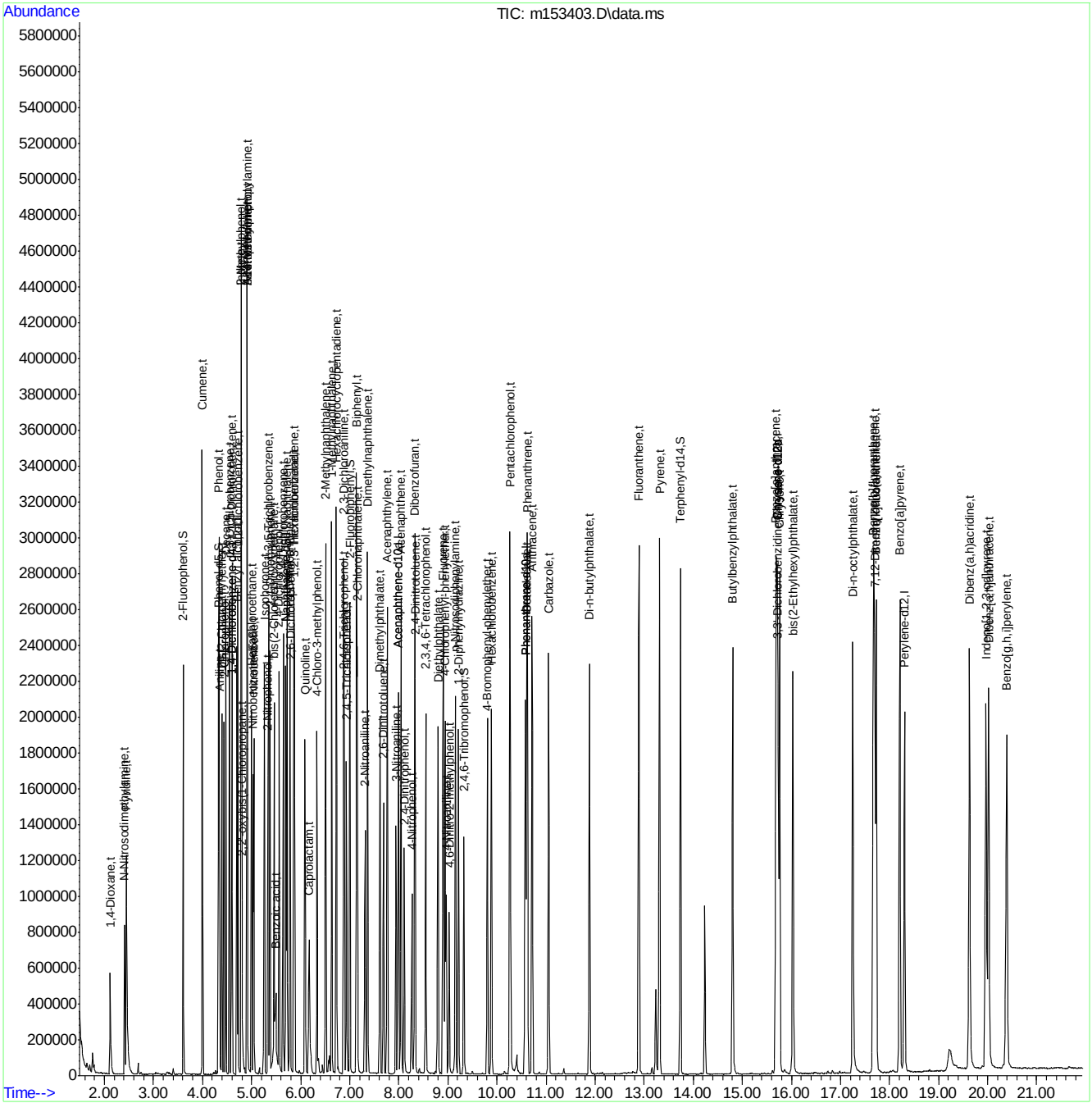
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.264 | 266 | 552267 | 100.00 | ppm | 100 |
| 77) Phenanthrene | 10.622 | 178 | 1353903 | 50.00 | ppm | 100 |
| 78) Anthracene | 10.718 | 178 | 1488565 | 50.00 | ppm | 100 |
| 79) Carbazole | 11.060 | 167 | 1463436 | 50.00 | ppm | 100 |
| 80) Di-n-butylphthalate | 11.883 | 149 | 1890098 | 50.00 | ppm | 100 |
| 81) Fluoranthene | 12.892 | 202 | 1903264 | 50.00 | ppm | 100 |
| 82) Octadecane | 10.606 | 57 | 464873 | 50.00 | ppm | 100 |
| 84) Pyrene | 13.314 | 202 | 1900281 | 50.00 | ppm | 100 |
| 86) Butylbenzylphthalate | 14.804 | 149 | 867014 | 50.00 | ppm | 100 |
| 87) Benzo[a]anthracene | 15.691 | 228 | 1891375 | 50.00 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 15.728 | 252 | 666968 | 50.00 | ppm | 100 |
| 89) Chrysene | 15.760 | 228 | 1572083 | 50.00 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 16.032 | 149 | 1097762 | 50.00 | ppm | 100 |
| 92) Di-n-octylphthalate | 17.250 | 149 | 2024578 | 50.00 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 17.672 | 252 | 1979106 | 50.00 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 17.731 | 252 | 1726096 | 50.00 | ppm | 100 |
| 95) Benzo[a]pyrene | 18.212 | 252 | 1795877 | 50.00 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 19.969 | 276 | 1646538 | 50.00 | ppm | 100 |
| 97) Dibenz(a,h)acridine | 19.632 | 279 | 1660151 | 50.00 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 20.022 | 278 | 1657997 | 49.99 | ppm | 100 |
| 99) 7,12-Dimethylbenz(a)an... | 17.699 | 256 | 811481 | 50.00 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 20.391 | 276 | 1673654 | 50.18 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153403.D
Acq On : 12 Apr 2019 6:53 pm
Operator : christc2
Sample : icc6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 10:14:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153404.D
Acq On : 12 Apr 2019 7:21 pm
Operator : christc2
Sample : ic6556-25
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 10:20:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 277562 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.699 | 136 | 964004 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.991 | 164 | 582129 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.576 | 188 | 1169573 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.708 | 240 | 1084540 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.304 | 264 | 1211388 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 277562 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.991 | 164 | 582129 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.708 | 240 | 1084540 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.708 | 240 | 1084540 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.576 | 188 | 1169573 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.699 | 136 | 964004 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.708 | 240 | 1084540 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.606 | 112 | 286882 | 24.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 48.74% | | |
| 8) Phenol-d5 | 4.321 | 99 | 346438 | 24.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 48.76% | | |
| 25) Nitrobenzene-d5 | 5.026 | 82 | 262596 | 25.48 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 50.96% | | |
| 51) 2-Fluorobiphenyl | 7.002 | 172 | 529165 | 26.41 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 52.82% | | |
| 73) 2,4,6-Tribromophenol | 9.320 | 330 | 108513 | 25.15 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 50.30% | | |
| 85) Terphenyl-d14 | 13.738 | 244 | 744115 | 24.85 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 49.70% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.121 | 88 | 139830 | 24.15 | ppm | 98 |
| 3) Pyridine | 2.447 | 79 | 349580 | 25.36 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.409 | 42 | 123459 | 24.49 | ppm | 99 |
| 6) Indene | 4.791 | 116 | 360998 | 25.47 | ppm | 97 |
| 7) Cumene | 3.995 | 105 | 668535 | 25.99 | ppm | 97 |
| 9) Phenol | 4.332 | 94 | 366361 | 26.04 | ppm | 95 |
| 10) Aniline | 4.343 | 93 | 332962 | 27.48 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.391 | 93 | 243495 | 25.67 | ppm | 98 |
| 12) 2-Chlorophenol | 4.433 | 128 | 248181 | 25.28 | ppm | 96 |
| 13) Decane | 4.476 | 43 | 184365 | 26.79 | ppm | 95 |
| 14) 1,3-Dichlorobenzene | 4.546 | 146 | 282526 | 25.73 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.599 | 146 | 258610 | 25.50 | ppm | 97 |
| 16) Benzyl alcohol | 4.695 | 108 | 145414 | 23.62 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.722 | 146 | 256741 | 25.48 | ppm | 99 |
| 18) Acetophenone | 4.903 | 105 | 316389 | 26.12 | ppm | 98 |
| 19) 2-Methylphenol | 4.786 | 108 | 208524 | 26.21 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153404.D
Acq On : 12 Apr 2019 7:21 pm
Operator : christc2
Sample : ic6556-25
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 10:20:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.802 | 121 | 62030 | 25.12 | ppm | 99 |
| 21) 3&4-Methylphenol | 4.909 | 108 | 209562 | 25.97 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.909 | 70 | 158725 | 26.74 | ppm | 99 |
| 23) Hexachloroethane | 4.994 | 201 | 110479 | 25.35 | ppm | 93 |
| 26) Nitrobenzene | 5.042 | 77 | 253131 | 25.79 | ppm | 100 |
| 27) Quinoline | 6.078 | 129 | 465379 | 24.86 | ppm | 99 |
| 28) Isophorone | 5.256 | 82 | 482683 | 25.83 | ppm | 99 |
| 29) 2-Nitrophenol | 5.325 | 139 | 130292 | 25.04 | ppm | 98 |
| 30) 2,4-Dimethylphenol | 5.368 | 107 | 211484 | 25.19 | ppm | 96 |
| 31) Benzoic acid | 5.470 | 105 | 158009 | 22.13 | ppm | 97 |
| 32) bis(2-Chloroethoxy)met... | 5.454 | 93 | 278968 | 25.39 | ppm | 98 |
| 33) 2,4-Dichlorophenol | 5.555 | 162 | 209733 | 25.66 | ppm | 97 |
| 34) 2,6-Dichlorophenol | 5.785 | 162 | 187836 | 25.68 | ppm | 97 |
| 35) 1,3,5-Trichlorobenzene | 5.341 | 180 | 253752 | 26.98 | ppm | 97 |
| 36) 1,2,4-Trichlorobenzene | 5.640 | 180 | 246007 | 26.17 | ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.870 | 180 | 225633 | 26.71 | ppm | 97 |
| 38) Naphthalene | 5.721 | 128 | 595618 | 25.87 | ppm | 99 |
| 39) 4-Chloroaniline | 5.774 | 127 | 265565 | 25.42 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.874 | 161 | 262704 | 26.07 | ppm | 98 |
| 41) Caprolactam | 6.148 | 55 | 95863 | 24.01 | ppm | 97 |
| 42) Hexachlorobutadiene | 5.859 | 225 | 147872 | 26.27 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 6.329 | 107 | 220877 | 24.65 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.506 | 141 | 384085 | 25.95 | ppm | 98 |
| 45) 1-Methylnaphthalene | 6.629 | 142 | 478793 | 25.87 | ppm | 100 |
| 46) Dimethylnaphthalene | 7.360 | 156 | 420932 | 25.98 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.725 | 237 | 302109 | 50.16 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.885 | 196 | 162550 | 26.19 | ppm | 97 |
| 50) 2,4,5-Trichlorophenol | 6.928 | 196 | 170063 | 25.10 | ppm | 98 |
| 52) 2-Chloronaphthalene | 7.152 | 162 | 434162 | 26.93 | ppm | 100 |
| 53) Biphenyl | 7.136 | 154 | 583857 | 26.43 | ppm | 99 |
| 54) 2-Nitroaniline | 7.307 | 65 | 129397 | 23.75 | ppm | 99 |
| 55) Dimethylphthalate | 7.611 | 163 | 545123 | 25.45 | ppm | 100 |
| 56) Acenaphthylene | 7.761 | 152 | 706715 | 26.26 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 7.681 | 165 | 116586 | 24.26 | ppm | 98 |
| 58) 3-Nitroaniline | 7.937 | 138 | 133122 | 24.32 | ppm | 98 |
| 59) Acenaphthene | 8.044 | 153 | 428194 | 25.77 | ppm | 98 |
| 60) 2,4-Dinitrophenol | 8.108 | 184 | 96805 | 39.66 | ppm | 99 |
| 61) 4-Nitrophenol | 8.252 | 109 | 71256 | 23.41 | ppm | 96 |
| 62) Dibenzofuran | 8.322 | 168 | 631593 | 26.52 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 8.327 | 165 | 144447 | 24.94 | ppm | 90 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.546 | 232 | 167139 | 24.90 | ppm | 97 |
| 65) Diethylphthalate | 8.792 | 149 | 541553 | 25.44 | ppm | 99 |
| 66) Fluorene | 8.899 | 166 | 523316 | 25.74 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.936 | 204 | 273734 | 26.89 | ppm | 98 |
| 68) 4-Nitroaniline | 8.957 | 138 | 121698 | 24.98 | ppm | 96 |
| 70) 4,6-Dinitro-2-methylph... | 9.021 | 198 | 78819 | 21.33 | ppm | 99 |
| 71) n-Nitrosodiphenylamine | 9.150 | 169 | 390300 | 26.26 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 9.214 | 77 | 537626 | 26.56 | ppm | 99 |
| 74) 4-Bromophenyl-phenylether | 9.807 | 248 | 201222 | 25.55 | ppm | 99 |
| 75) Hexachlorobenzene | 9.887 | 284 | 218898 | 26.56 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153404.D
Acq On : 12 Apr 2019 7:21 pm
Operator : christc2
Sample : ic6556-25
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 10:20:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

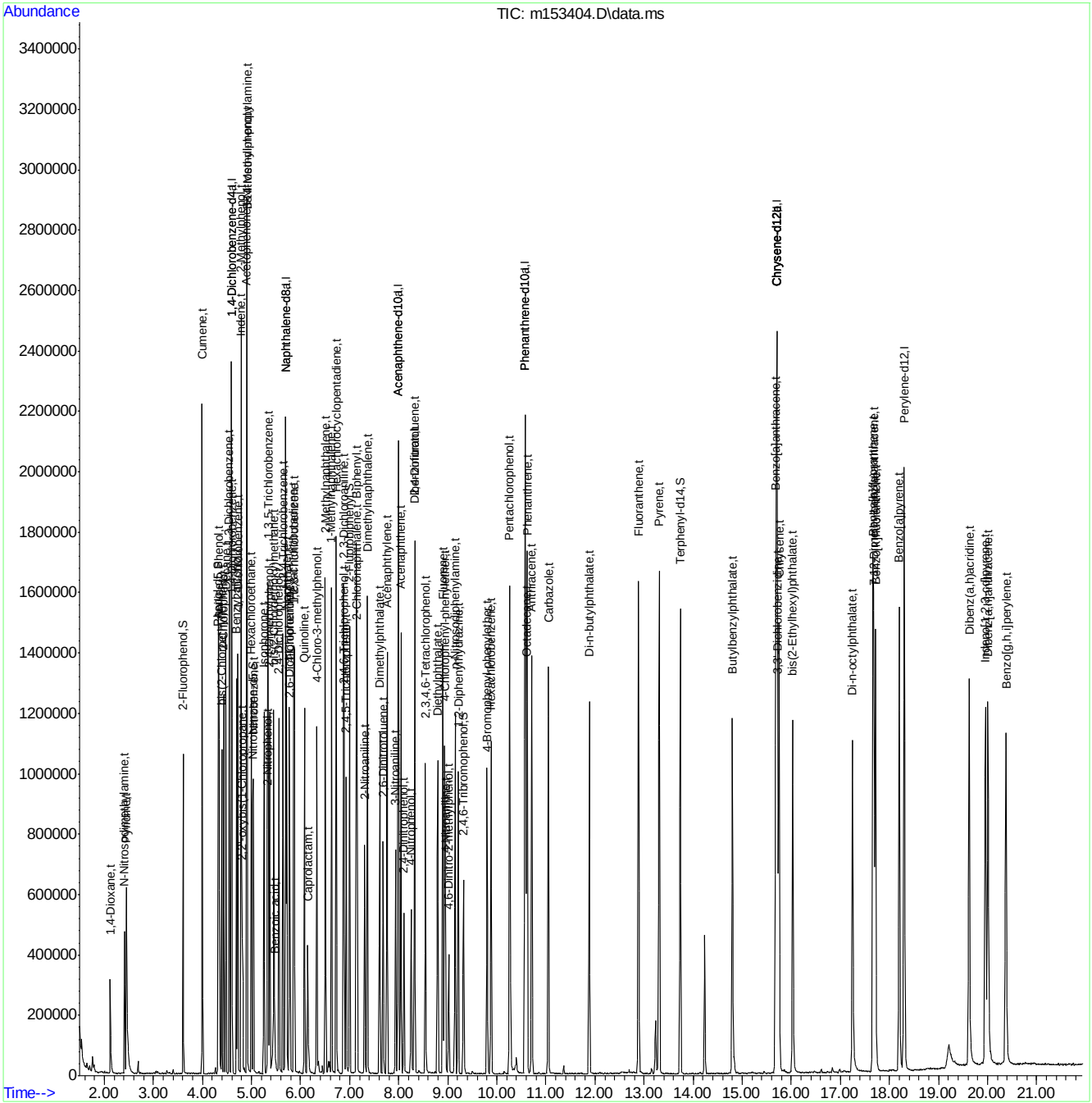
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.261 | 266 | 275158 | 50.56 | ppm | 99 |
| 77) Phenanthrene | 10.618 | 178 | 712495 | 26.70 | ppm | 100 |
| 78) Anthracene | 10.709 | 178 | 771837 | 26.31 | ppm | 99 |
| 79) Carbazole | 11.051 | 167 | 758535 | 26.30 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.884 | 149 | 965711 | 25.92 | ppm | 99 |
| 81) Fluoranthene | 12.888 | 202 | 995951 | 26.55 | ppm | 99 |
| 82) Octadecane | 10.602 | 57 | 241476 | 26.36 | ppm | 99 |
| 84) Pyrene | 13.310 | 202 | 999023 | 25.06 | ppm | 99 |
| 86) Butylbenzylphthalate | 14.800 | 149 | 432256 | 23.77 | ppm | 97 |
| 87) Benzo[a]anthracene | 15.687 | 228 | 962166 | 24.25 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 15.724 | 252 | 330743 | 23.64 | ppm | 99 |
| 89) Chrysene | 15.756 | 228 | 810822 | 24.59 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 16.029 | 149 | 539079 | 23.41 | ppm | 99 |
| 92) Di-n-octylphthalate | 17.247 | 149 | 978451 | 23.88 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.663 | 252 | 1027165 | 25.65 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 17.717 | 252 | 914510 | 26.18 | ppm | 99 |
| 95) Benzo[a]pyrene | 18.203 | 252 | 922796 | 25.39 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 19.960 | 276 | 847552 | 25.44 | ppm | 99 |
| 97) Dibenz(a,h)acridine | 19.629 | 279 | 856264 | 25.49 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 20.008 | 278 | 854704 | 25.47 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 17.685 | 256 | 413338 | 25.17 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 20.376 | 276 | 873483 | 25.88 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153404.D
Acq On : 12 Apr 2019 7:21 pm
Operator : christc2
Sample : ic6556-25
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 10:20:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153405.D
Acq On : 12 Apr 2019 7:49 pm
Operator : christc2
Sample : ic6556-10
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 10:26:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 354996 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 1212660 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.993 | 164 | 726523 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.578 | 188 | 1444095 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.705 | 240 | 1398894 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.307 | 264 | 1524103 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 354996 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.993 | 164 | 726523 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.705 | 240 | 1398894 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.705 | 240 | 1398894 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.578 | 188 | 1444095 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 1212660 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.705 | 240 | 1398894 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.603 | 112 | 142571 | 9.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 18.94% | | |
| 8) Phenol-d5 | 4.318 | 99 | 179461 | 9.88 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 19.76% | | |
| 25) Nitrobenzene-d5 | 5.029 | 82 | 136646 | 10.54 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 21.08% | | |
| 51) 2-Fluorobiphenyl | 7.000 | 172 | 286720 | 11.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 22.94% | | |
| 73) 2,4,6-Tribromophenol | 9.318 | 330 | 53310 | 10.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.00% | | |
| 85) Terphenyl-d14 | 13.735 | 244 | 388476 | 10.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 20.12% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.123 | 88 | 68242 | 9.22 | ppm | 96 |
| 3) Pyridine | 2.454 | 79 | 171196 | 9.71 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.412 | 42 | 58566 | 9.08 | ppm | 93 |
| 6) Indene | 4.788 | 116 | 199320 | 11.00 | ppm | 99 |
| 7) Cumene | 3.998 | 105 | 354334 | 10.77 | ppm | 99 |
| 9) Phenol | 4.329 | 94 | 195300 | 10.85 | ppm | 93 |
| 10) Aniline | 4.345 | 93 | 193331 | 12.47 | ppm | 93 |
| 11) bis(2-Chloroethyl)ether | 4.393 | 93 | 131108 | 10.81 | ppm | 96 |
| 12) 2-Chlorophenol | 4.431 | 128 | 132507 | 10.55 | ppm | 92 |
| 13) Decane | 4.479 | 43 | 102662 | 11.66 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.548 | 146 | 149260 | 10.63 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.601 | 146 | 136059 | 10.49 | ppm | 98 |
| 16) Benzyl alcohol | 4.692 | 108 | 73456 | 9.33 | ppm | 92 |
| 17) 1,2-Dichlorobenzene | 4.719 | 146 | 137712 | 10.69 | ppm | 98 |
| 18) Acetophenone | 4.901 | 105 | 173973 | 11.23 | ppm | 98 |
| 19) 2-Methylphenol | 4.783 | 108 | 112191 | 11.03 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153405.D
Acq On : 12 Apr 2019 7:49 pm
Operator : christc2
Sample : ic6556-10
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 10:26:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.804 | 121 | 32853 | 10.40 | ppm | | 90 |
| 21) 3&4-Methylphenol | 4.906 | 108 | 113940 | 11.04 | ppm | # | 84 |
| 22) n-Nitroso-di-n-propyla... | 4.906 | 70 | 89723 | 11.82 | ppm | | 96 |
| 23) Hexachloroethane | 4.997 | 201 | 57135 | 10.25 | ppm | | 96 |
| 26) Nitrobenzene | 5.045 | 77 | 136346 | 11.04 | ppm | | 94 |
| 27) Quinoline | 6.076 | 129 | 242840 | 10.31 | ppm | | 99 |
| 28) Isophorone | 5.253 | 82 | 250383 | 10.65 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.328 | 139 | 65246 | 9.97 | ppm | | 93 |
| 30) 2,4-Dimethylphenol | 5.365 | 107 | 97255 | 9.21 | ppm | | 94 |
| 31) Benzoic acid | 5.445 | 105 | 72328 | 8.05 | ppm | | 94 |
| 32) bis(2-Chloroethoxy)met... | 5.451 | 93 | 147970 | 10.71 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.557 | 162 | 106062 | 10.32 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.782 | 162 | 98096 | 10.66 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.338 | 180 | 136442 | 11.53 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.643 | 180 | 131241 | 11.10 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.873 | 180 | 121904 | 11.47 | ppm | | 97 |
| 38) Naphthalene | 5.718 | 128 | 311293 | 10.75 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.771 | 127 | 141463 | 10.76 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.871 | 161 | 138949 | 10.96 | ppm | | 97 |
| 41) Caprolactam | 6.134 | 55 | 50065 | 9.97 | ppm | | 96 |
| 42) Hexachlorobutadiene | 5.862 | 225 | 78782 | 11.12 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.327 | 107 | 111891 | 9.93 | ppm | | 98 |
| 44) 2-Methylnaphthalene | 6.503 | 141 | 202399 | 10.87 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.631 | 142 | 253283 | 10.88 | ppm | | 99 |
| 46) Dimethylnaphthalene | 7.357 | 156 | 226014 | 11.09 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.727 | 237 | 152262 | 20.26 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.882 | 196 | 86106 | 11.12 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.925 | 196 | 92540 | 10.94 | ppm | | 96 |
| 52) 2-Chloronaphthalene | 7.149 | 162 | 237187 | 11.79 | ppm | | 99 |
| 53) Biphenyl | 7.133 | 154 | 312413 | 11.33 | ppm | | 99 |
| 54) 2-Nitroaniline | 7.304 | 65 | 65215 | 9.59 | ppm | | 98 |
| 55) Dimethylphthalate | 7.608 | 163 | 289710 | 10.84 | ppm | | 98 |
| 56) Acenaphthylene | 7.758 | 152 | 377514 | 11.24 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 7.678 | 165 | 55885 | 9.32 | ppm | | 90 |
| 58) 3-Nitroaniline | 7.934 | 138 | 66595 | 9.75 | ppm | | 94 |
| 59) Acenaphthene | 8.041 | 153 | 221964 | 10.70 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 8.100 | 184 | 36774 | 12.07 | ppm | | 94 |
| 61) 4-Nitrophenol | 8.249 | 109 | 33300 | 8.77 | ppm | | 99 |
| 62) Dibenzofuran | 8.324 | 168 | 338793 | 11.40 | ppm | | 98 |
| 63) 2,4-Dinitrotoluene | 8.324 | 165 | 72549 | 10.04 | ppm | | 85 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.543 | 232 | 83290 | 9.94 | ppm | | 95 |
| 65) Diethylphthalate | 8.789 | 149 | 279571 | 10.52 | ppm | | 99 |
| 66) Fluorene | 8.896 | 166 | 277441 | 10.93 | ppm | | 97 |
| 67) 4-Chlorophenyl-phenyle... | 8.938 | 204 | 145069 | 11.42 | ppm | | 99 |
| 68) 4-Nitroaniline | 8.949 | 138 | 61446 | 10.11 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 9.013 | 198 | 32862 | 7.20 | ppm | | 96 |
| 71) n-Nitrosodiphenylamine | 9.147 | 169 | 207178 | 11.29 | ppm | | 97 |
| 72) 1,2-Diphenylhydrazine | 9.211 | 77 | 285601 | 11.43 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 9.798 | 248 | 106153 | 10.92 | ppm | | 93 |
| 75) Hexachlorobenzene | 9.884 | 284 | 116490 | 11.45 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153405.D
Acq On : 12 Apr 2019 7:49 pm
Operator : christc2
Sample : ic6556-10
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 10:26:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration

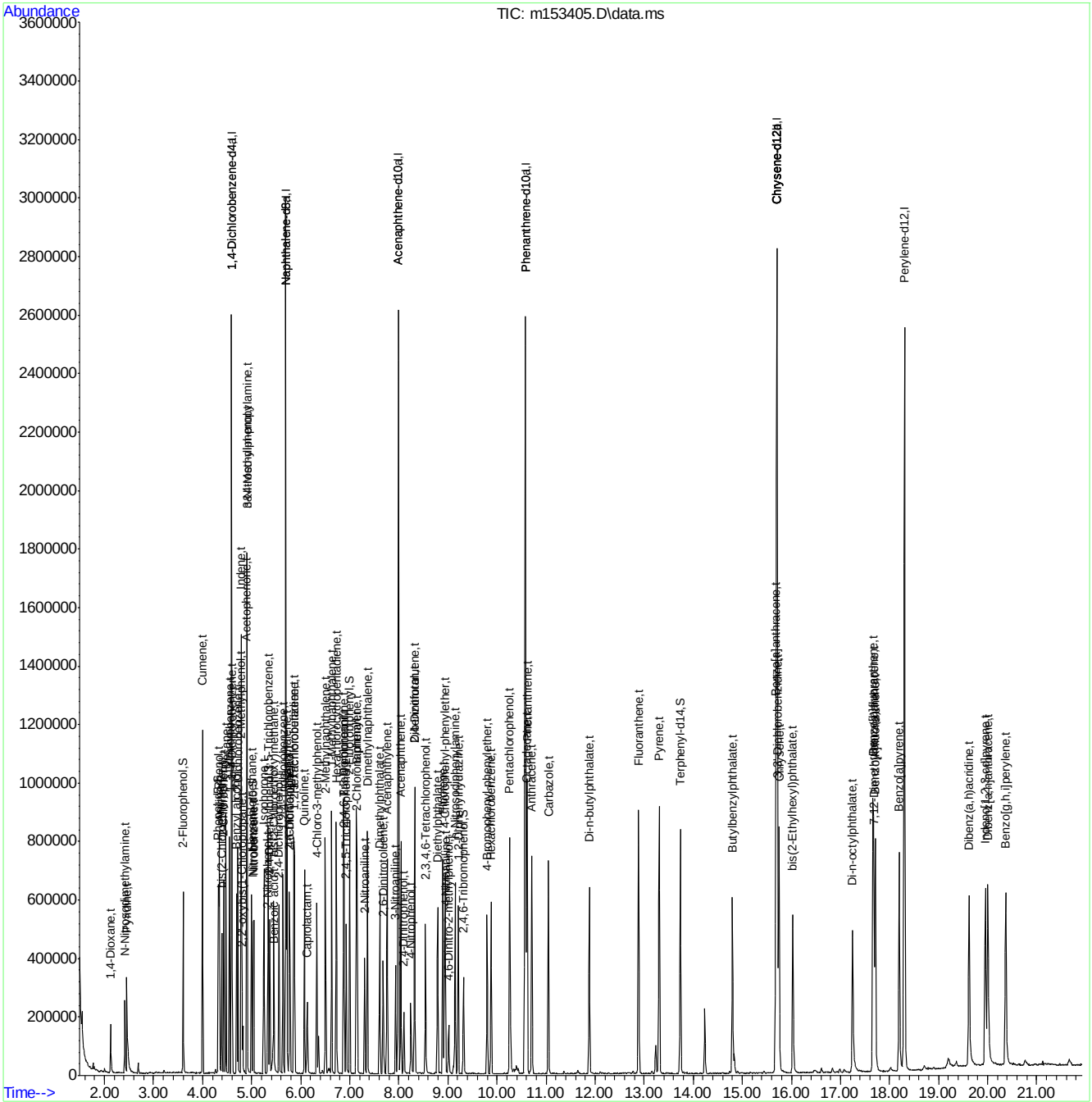
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.258 | 266 | 133443 | 19.86 | ppm | 98 |
| 77) Phenanthrene | 10.615 | 178 | 378895 | 11.50 | ppm | 98 |
| 78) Anthracene | 10.706 | 178 | 409530 | 11.31 | ppm | 99 |
| 79) Carbazole | 11.048 | 167 | 393565 | 11.05 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.881 | 149 | 487217 | 10.59 | ppm | 98 |
| 81) Fluoranthene | 12.885 | 202 | 520091 | 11.23 | ppm | 98 |
| 82) Octadecane | 10.605 | 57 | 124800 | 11.03 | ppm | 97 |
| 84) Pyrene | 13.307 | 202 | 536799 | 10.44 | ppm | 99 |
| 86) Butylbenzylphthalate | 14.798 | 149 | 213025 | 9.08 | ppm | 94 |
| 87) Benzo[a]anthracene | 15.684 | 228 | 489844 | 9.57 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 15.722 | 252 | 159967 | 8.86 | ppm | 100 |
| 89) Chrysene | 15.748 | 228 | 428205 | 10.07 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 16.026 | 149 | 257248 | 8.66 | ppm | 99 |
| 92) Di-n-octylphthalate | 17.244 | 149 | 458672 | 8.90 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.660 | 252 | 536283 | 10.64 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.708 | 252 | 493811 | 11.24 | ppm | 99 |
| 95) Benzo[a]pyrene | 18.200 | 252 | 474301 | 10.37 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 19.952 | 276 | 418872 | 9.99 | ppm | 98 |
| 97) Dibenz(a,h)acridine | 19.621 | 279 | 417188 | 9.87 | ppm | 85 |
| 98) Dibenz[a,h]anthracene | 20.005 | 278 | 446655 | 10.58 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 17.682 | 256 | 186797 | 9.04 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 20.368 | 276 | 449372 | 10.58 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153405.D
Acq On : 12 Apr 2019 7:49 pm
Operator : christc2
Sample : ic6556-10
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 10:26:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:14:08 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153406.D
Acq On : 12 Apr 2019 8:18 pm
Operator : christc2
Sample : ic6556-5
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 10:29:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 362931 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 1246004 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.988 | 164 | 740803 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 1448565 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.706 | 240 | 1422398 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.307 | 264 | 1538825 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 362931 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.988 | 164 | 740803 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.706 | 240 | 1422398 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.706 | 240 | 1422398 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 1448565 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 1246004 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.706 | 240 | 1422398 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.603 | 112 | 70644 | 4.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.18% | |
| 8) Phenol-d5 | 4.319 | 99 | 88665 | 4.77 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.54% | |
| 25) Nitrobenzene-d5 | 5.029 | 82 | 70282 | 5.28 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.56% | |
| 51) 2-Fluorobiphenyl | 7.000 | 172 | 148985 | 5.84 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 11.68% | |
| 73) 2,4,6-Tribromophenol | 9.318 | 330 | 25439 | 4.76 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.52% | |
| 85) Terphenyl-d14 | 13.735 | 244 | 191984 | 4.89 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.78% | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.129 | 88 | 33693 | 4.45 | ppm | 96 |
| 3) Pyridine | 2.465 | 79 | 86154 | 4.78 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.417 | 42 | 29834 | 4.53 | ppm | 91 |
| 6) Indene | 4.789 | 116 | 103122 | 5.56 | ppm | 96 |
| 7) Cumene | 3.998 | 105 | 178887 | 5.32 | ppm | 97 |
| 9) Phenol | 4.329 | 94 | 97959 | 5.33 | ppm | 93 |
| 10) Aniline | 4.340 | 93 | 104277 | 6.58 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.393 | 93 | 68122 | 5.49 | ppm | 96 |
| 12) 2-Chlorophenol | 4.431 | 128 | 68286 | 5.32 | ppm | 93 |
| 13) Decane | 4.479 | 43 | 53401 | 5.93 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 4.548 | 146 | 79026 | 5.50 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.602 | 146 | 69316 | 5.23 | ppm | 97 |
| 16) Benzyl alcohol | 4.692 | 108 | 36952 | 4.59 | ppm | 95 |
| 17) 1,2-Dichlorobenzene | 4.719 | 146 | 69919 | 5.31 | ppm | 96 |
| 18) Acetophenone | 4.901 | 105 | 90244 | 5.70 | ppm | 97 |
| 19) 2-Methylphenol | 4.783 | 108 | 58474 | 5.62 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153406.D
Acq On : 12 Apr 2019 8:18 pm
Operator : christc2
Sample : ic6556-5
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 10:29:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.805 | 121 | 17308 | 5.36 | ppm | | 97 |
| 21) 3&4-Methylphenol | 4.906 | 108 | 56842 | 5.39 | ppm | # | 82 |
| 22) n-Nitroso-di-n-propyla... | 4.906 | 70 | 46968 | 6.05 | ppm | | 97 |
| 23) Hexachloroethane | 4.997 | 201 | 29612 | 5.20 | ppm | | 97 |
| 26) Nitrobenzene | 5.045 | 77 | 68536 | 5.40 | ppm | | 96 |
| 27) Quinoline | 6.076 | 129 | 122244 | 5.05 | ppm | | 99 |
| 28) Isophorone | 5.253 | 82 | 125513 | 5.20 | ppm | | 99 |
| 29) 2-Nitrophenol | 5.328 | 139 | 29393 | 4.37 | ppm | | 95 |
| 30) 2,4-Dimethylphenol | 5.365 | 107 | 48293 | 4.45 | ppm | | 93 |
| 31) Benzoic acid | 5.429 | 105 | 26139 | 2.83 | ppm | | 95 |
| 32) bis(2-Chloroethoxy)met... | 5.451 | 93 | 77057 | 5.43 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.552 | 162 | 55157 | 5.22 | ppm | | 98 |
| 34) 2,6-Dichlorophenol | 5.782 | 162 | 51151 | 5.41 | ppm | | 96 |
| 35) 1,3,5-Trichlorobenzene | 5.339 | 180 | 70750 | 5.82 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.638 | 180 | 68256 | 5.62 | ppm | | 94 |
| 37) 1,2,3-Trichlorobenzene | 5.873 | 180 | 63064 | 5.78 | ppm | | 96 |
| 38) Naphthalene | 5.718 | 128 | 162154 | 5.45 | ppm | | 98 |
| 39) 4-Chloroaniline | 5.771 | 127 | 72570 | 5.37 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.872 | 161 | 71480 | 5.49 | ppm | | 99 |
| 41) Caprolactam | 6.124 | 55 | 24890 | 4.82 | ppm | | 95 |
| 42) Hexachlorobutadiene | 5.862 | 225 | 40703 | 5.59 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.327 | 107 | 55171 | 4.76 | ppm | | 98 |
| 44) 2-Methylnaphthalene | 6.503 | 141 | 103175 | 5.39 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 6.631 | 142 | 130708 | 5.46 | ppm | | 97 |
| 46) Dimethylnaphthalene | 7.358 | 156 | 116566 | 5.57 | ppm | | 98 |
| 48) Hexachlorocyclopentadiene | 6.722 | 237 | 74016 | 9.66 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.882 | 196 | 42257 | 5.35 | ppm | | 96 |
| 50) 2,4,5-Trichlorophenol | 6.925 | 196 | 43620 | 5.06 | ppm | | 97 |
| 52) 2-Chloronaphthalene | 7.149 | 162 | 126157 | 6.15 | ppm | | 99 |
| 53) Biphenyl | 7.133 | 154 | 158517 | 5.64 | ppm | | 97 |
| 54) 2-Nitroaniline | 7.304 | 65 | 30403 | 4.39 | ppm | | 92 |
| 55) Dimethylphthalate | 7.609 | 163 | 145142 | 5.33 | ppm | | 98 |
| 56) Acenaphthylene | 7.758 | 152 | 192037 | 5.61 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 7.678 | 165 | 25057 | 4.10 | ppm | | 95 |
| 58) 3-Nitroaniline | 7.929 | 138 | 30026 | 4.31 | ppm | | 91 |
| 59) Acenaphthene | 8.041 | 153 | 113242 | 5.36 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 8.100 | 184 | 12104 | 3.90 | ppm | | 89 |
| 61) 4-Nitrophenol | 8.244 | 109 | 13988 | 3.61 | ppm | | 94 |
| 62) Dibenzofuran | 8.319 | 168 | 176984 | 5.84 | ppm | | 95 |
| 63) 2,4-Dinitrotoluene | 8.324 | 165 | 31453 | 4.27 | ppm | | 78 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.543 | 232 | 40001 | 4.68 | ppm | | 97 |
| 65) Diethylphthalate | 8.789 | 149 | 139896 | 5.16 | ppm | | 98 |
| 66) Fluorene | 8.896 | 166 | 141985 | 5.49 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.939 | 204 | 75706 | 5.84 | ppm | | 93 |
| 68) 4-Nitroaniline | 8.944 | 138 | 30140 | 4.86 | ppm | | 97 |
| 70) 4,6-Dinitro-2-methylph... | 9.013 | 198 | 11641 | 2.54 | ppm | | 88 |
| 71) n-Nitrosodiphenylamine | 9.147 | 169 | 105291 | 5.72 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 9.206 | 77 | 141494 | 5.64 | ppm | | 95 |
| 74) 4-Bromophenyl-phenylether | 9.804 | 248 | 52386 | 5.37 | ppm | | 98 |
| 75) Hexachlorobenzene | 9.884 | 284 | 58771 | 5.76 | ppm | | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153406.D
Acq On : 12 Apr 2019 8:18 pm
Operator : christc2
Sample : ic6556-5
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 10:29:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.258 | 266 | 60539 | 8.98 | ppm | 96 |
| 77) Phenanthrene | 10.616 | 178 | 194160 | 5.87 | ppm | 97 |
| 78) Anthracene | 10.706 | 178 | 205982 | 5.67 | ppm | 99 |
| 79) Carbazole | 11.048 | 167 | 198330 | 5.55 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.881 | 149 | 229812 | 4.98 | ppm | 99 |
| 81) Fluoranthene | 12.886 | 202 | 258142 | 5.56 | ppm | 98 |
| 82) Octadecane | 10.605 | 57 | 61435 | 5.41 | ppm | 98 |
| 84) Pyrene | 13.302 | 202 | 270696 | 5.18 | ppm | 98 |
| 86) Butylbenzylphthalate | 14.798 | 149 | 96861 | 4.06 | ppm | 98 |
| 87) Benzo[a]anthracene | 15.684 | 228 | 241117 | 4.63 | ppm | 97 |
| 88) 3,3'-Dichlorobenzidine | 15.722 | 252 | 74185 | 4.04 | ppm | 97 |
| 89) Chrysene | 15.748 | 228 | 218513 | 5.05 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 16.031 | 149 | 114005 | 3.77 | ppm | 96 |
| 92) Di-n-octylphthalate | 17.244 | 149 | 180377 | 3.47 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 17.661 | 252 | 258950 | 5.09 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.709 | 252 | 249484 | 5.62 | ppm | 99 |
| 95) Benzo[a]pyrene | 18.195 | 252 | 223126 | 4.83 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 19.952 | 276 | 180234 | 4.26 | ppm | 97 |
| 97) Dibenz(a,h)acridine | 19.621 | 279 | 182514 | 4.28 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 20.005 | 278 | 207861 | 4.88 | ppm | 97 |
| 99) 7,12-Dimethylbenz(a)an... | 17.677 | 256 | 76015 | 3.64 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 20.368 | 276 | 206161 | 4.81 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

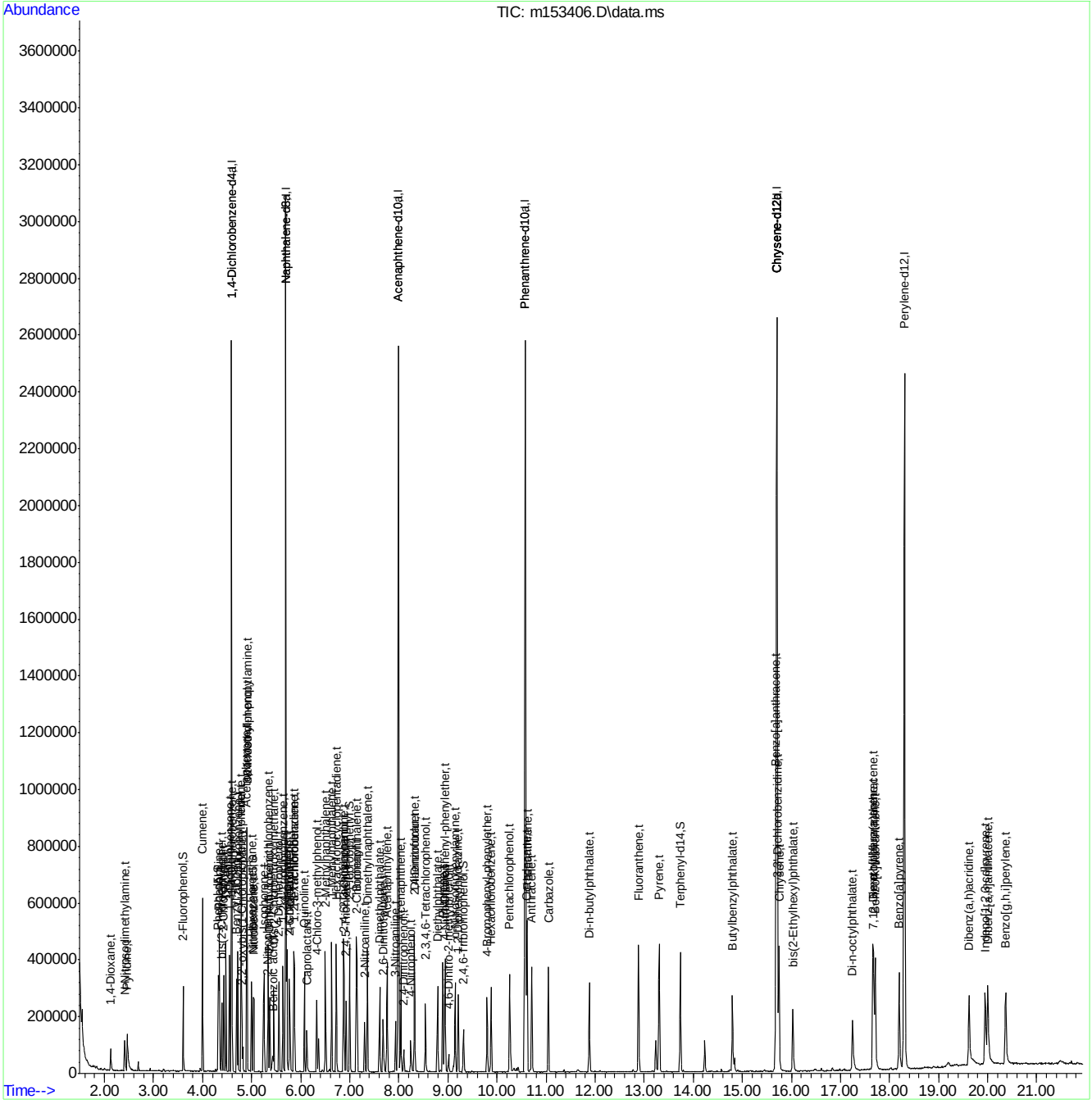
9.8.1.06

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153406.D
Acq On : 12 Apr 2019 8:18 pm
Operator : christc2
Sample : ic6556-5
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 10:29:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153407.D
Acq On : 12 Apr 2019 8:46 pm
Operator : christc2
Sample : ic6556-2
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 12:01:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 321302 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 1086613 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 624876 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 1221213 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.701 | 240 | 1187922 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.302 | 264 | 1279525 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 321302 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 624876 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.701 | 240 | 1187922 | 40.00 | ppm | -0.01 |
| 108) Chrysene-d12b | 15.701 | 240 | 1187922 | 40.00 | ppm | -0.01 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 1221213 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 1086613 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.701 | 240 | 1187922 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.604 | 112 | 22357 | 1.64 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.28% | | |
| 8) Phenol-d5 | 4.319 | 99 | 28291 | 1.72 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.44% | | |
| 25) Nitrobenzene-d5 | 5.030 | 82 | 21979 | 1.89 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.78% | | |
| 51) 2-Fluorobiphenyl | 7.001 | 172 | 51123 | 2.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 4.76% | | |
| 73) 2,4,6-Tribromophenol | 9.313 | 330 | 6411 | 1.42 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = | 2.84% | | |
| 85) Terphenyl-d14 | 13.736 | 244 | 60854 | 1.86 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.72% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.130 | 88 | 11381 | 1.70 | ppm | 90 |
| 3) Pyridine | 2.482 | 79 | 27623 | 1.73 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.418 | 42 | 9815 | 1.68 | ppm | 93 |
| 6) Indene | 4.789 | 116 | 35295 | 2.15 | ppm | 94 |
| 7) Cumene | 3.999 | 105 | 60597 | 2.04 | ppm | 96 |
| 9) Phenol | 4.330 | 94 | 32262 | 1.98 | ppm | 97 |
| 10) Aniline | 4.341 | 93 | 35832 | 2.55 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.389 | 93 | 23172 | 2.11 | ppm | 94 |
| 12) 2-Chlorophenol | 4.432 | 128 | 21560 | 1.90 | ppm | 92 |
| 13) Decane | 4.480 | 43 | 18451 | 2.32 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 4.549 | 146 | 27382 | 2.15 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.602 | 146 | 24815 | 2.11 | ppm | 96 |
| 16) Benzyl alcohol | 4.693 | 108 | 11499 | 1.61 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.720 | 146 | 23744 | 2.04 | ppm | 98 |
| 18) Acetophenone | 4.902 | 105 | 30620 | 2.18 | ppm | 97 |
| 19) 2-Methylphenol | 4.784 | 108 | 18590 | 2.02 | ppm | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153407.D
Acq On : 12 Apr 2019 8:46 pm
Operator : christc2
Sample : ic6556-2
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 12:01:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.805 | 121 | 5582 | 1.95 | ppm | | 97 |
| 21) 3&4-Methylphenol | 4.907 | 108 | 18888 | 2.02 | ppm | | 85 |
| 22) n-Nitroso-di-n-propyla... | 4.907 | 70 | 15794 | 2.30 | ppm | | 93 |
| 23) Hexachloroethane | 4.998 | 201 | 9876 | 1.96 | ppm | | 92 |
| 26) Nitrobenzene | 5.040 | 77 | 22994 | 2.08 | ppm | | 97 |
| 27) Quinoline | 6.077 | 129 | 39477 | 1.87 | ppm | | 99 |
| 28) Isophorone | 5.254 | 82 | 41790 | 1.98 | ppm | | 96 |
| 29) 2-Nitrophenol | 5.329 | 139 | 8483 | 1.45 | ppm | | 93 |
| 30) 2,4-Dimethylphenol | 5.366 | 107 | 14556 | 1.54 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.452 | 93 | 25887 | 2.09 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.553 | 162 | 17282 | 1.88 | ppm | | 98 |
| 34) 2,6-Dichlorophenol | 5.783 | 162 | 16133 | 1.96 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.340 | 180 | 24781 | 2.34 | ppm | | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.639 | 180 | 23847 | 2.25 | ppm | | 93 |
| 37) 1,2,3-Trichlorobenzene | 5.874 | 180 | 21881 | 2.30 | ppm | | 95 |
| 38) Naphthalene | 5.719 | 128 | 53779 | 2.07 | ppm | | 96 |
| 39) 4-Chloroaniline | 5.772 | 127 | 24490 | 2.08 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.872 | 161 | 23482 | 2.07 | ppm | | 98 |
| 41) Caprolactam | 6.119 | 55 | 7211 | 1.60 | ppm | | 86 |
| 42) Hexachlorobutadiene | 5.858 | 225 | 13305 | 2.10 | ppm | | 97 |
| 43) 4-Chloro-3-methylphenol | 6.322 | 107 | 16880 | 1.67 | ppm | | 92 |
| 44) 2-Methylnaphthalene | 6.504 | 141 | 33355 | 2.00 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 6.627 | 142 | 44650 | 2.14 | ppm | | 95 |
| 46) Dimethylnaphthalene | 7.358 | 156 | 38554 | 2.11 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.723 | 237 | 21743 | 3.36 | ppm | | 93 |
| 49) 2,4,6-Trichlorophenol | 6.878 | 196 | 13988 | 2.10 | ppm | | 93 |
| 50) 2,4,5-Trichlorophenol | 6.920 | 196 | 14693 | 2.02 | ppm | | 89 |
| 52) 2-Chloronaphthalene | 7.150 | 162 | 43258 | 2.50 | ppm | | 98 |
| 53) Biphenyl | 7.134 | 154 | 53685 | 2.26 | ppm | | 98 |
| 54) 2-Nitroaniline | 7.300 | 65 | 7430 | 1.27 | ppm | | 92 |
| 55) Dimethylphthalate | 7.604 | 163 | 47572 | 2.07 | ppm | | 99 |
| 56) Acenaphthylene | 7.759 | 152 | 62856 | 2.18 | ppm | | 97 |
| 57) 2,6-Dinitrotoluene | 7.679 | 165 | 6502 | 1.26 | ppm | | 97 |
| 58) 3-Nitroaniline | 7.930 | 138 | 8052 | 1.37 | ppm | | 75 |
| 59) Acenaphthene | 8.037 | 153 | 36991 | 2.07 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 8.101 | 184 | 2307 | 0.88 | ppm | | 86 |
| 62) Dibenzofuran | 8.320 | 168 | 59165 | 2.31 | ppm | | 97 |
| 63) 2,4-Dinitrotoluene | 8.320 | 165 | 7001 | 1.13 | ppm | # | 48 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.544 | 232 | 11072 | 1.54 | ppm | | 96 |
| 65) Diethylphthalate | 8.785 | 149 | 44675 | 1.95 | ppm | | 96 |
| 66) Fluorene | 8.897 | 166 | 47360 | 2.17 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 8.934 | 204 | 25071 | 2.29 | ppm | | 94 |
| 68) 4-Nitroaniline | 8.945 | 138 | 8066 | 1.54 | ppm | | 94 |
| 70) 4,6-Dinitro-2-methylph... | 9.014 | 198 | 2444 | 0.63 | ppm | | 97 |
| 71) n-Nitrosodiphenylamine | 9.142 | 169 | 33425 | 2.15 | ppm | | 97 |
| 72) 1,2-Diphenylhydrazine | 9.206 | 77 | 45557 | 2.16 | ppm | | 99 |
| 74) 4-Bromophenyl-phenylether | 9.799 | 248 | 16693 | 2.03 | ppm | | 91 |
| 75) Hexachlorobenzene | 9.879 | 284 | 20541 | 2.39 | ppm | | 90 |
| 76) Pentachlorophenol | 10.259 | 266 | 13876 | 2.44 | ppm | | 97 |
| 77) Phenanthrene | 10.611 | 178 | 66733 | 2.40 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153407.D
Acq On : 12 Apr 2019 8:46 pm
Operator : christc2
Sample : ic6556-2
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 12:01:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) Anthracene | 10.707 | 178 | 66921 | 2.18 | ppm | 98 |
| 79) Carbazole | 11.044 | 167 | 61545 | 2.04 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.877 | 149 | 64886 | 1.67 | ppm | 98 |
| 81) Fluoranthene | 12.881 | 202 | 79743 | 2.04 | ppm | 97 |
| 82) Octadecane | 10.606 | 57 | 19409 | 2.03 | ppm | 93 |
| 84) Pyrene | 13.303 | 202 | 86090 | 1.97 | ppm | 97 |
| 86) Butylbenzylphthalate | 14.799 | 149 | 25053 | 1.26 | ppm | 91 |
| 87) Benzo[a]anthracene | 15.685 | 228 | 73939 | 1.70 | ppm | 97 |
| 88) 3,3'-Dichlorobenzidine | 15.723 | 252 | 19312 | 1.26 | ppm | 96 |
| 89) Chrysene | 15.749 | 228 | 72902 | 2.02 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 16.032 | 149 | 25473 | 1.01 | ppm | 97 |
| 92) Di-n-octylphthalate | 17.239 | 149 | 37963 | 0.88 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 17.656 | 252 | 71309 | 1.69 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 17.704 | 252 | 81842 | 2.22 | ppm | 98 |
| 95) Benzo[a]pyrene | 18.195 | 252 | 61108 | 1.59 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 19.947 | 276 | 44478 | 1.26 | ppm | 98 |
| 97) Dibenz(a,h)acridine | 19.622 | 279 | 45973 | 1.30 | ppm | 80 |
| 98) Dibenz[a,h]anthracene | 20.001 | 278 | 52605 | 1.48 | ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 17.672 | 256 | 22406 | 1.29 | ppm | 99 |
| 100) Benzo[g,h,i]perylene | 20.364 | 276 | 56491 | 1.58 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

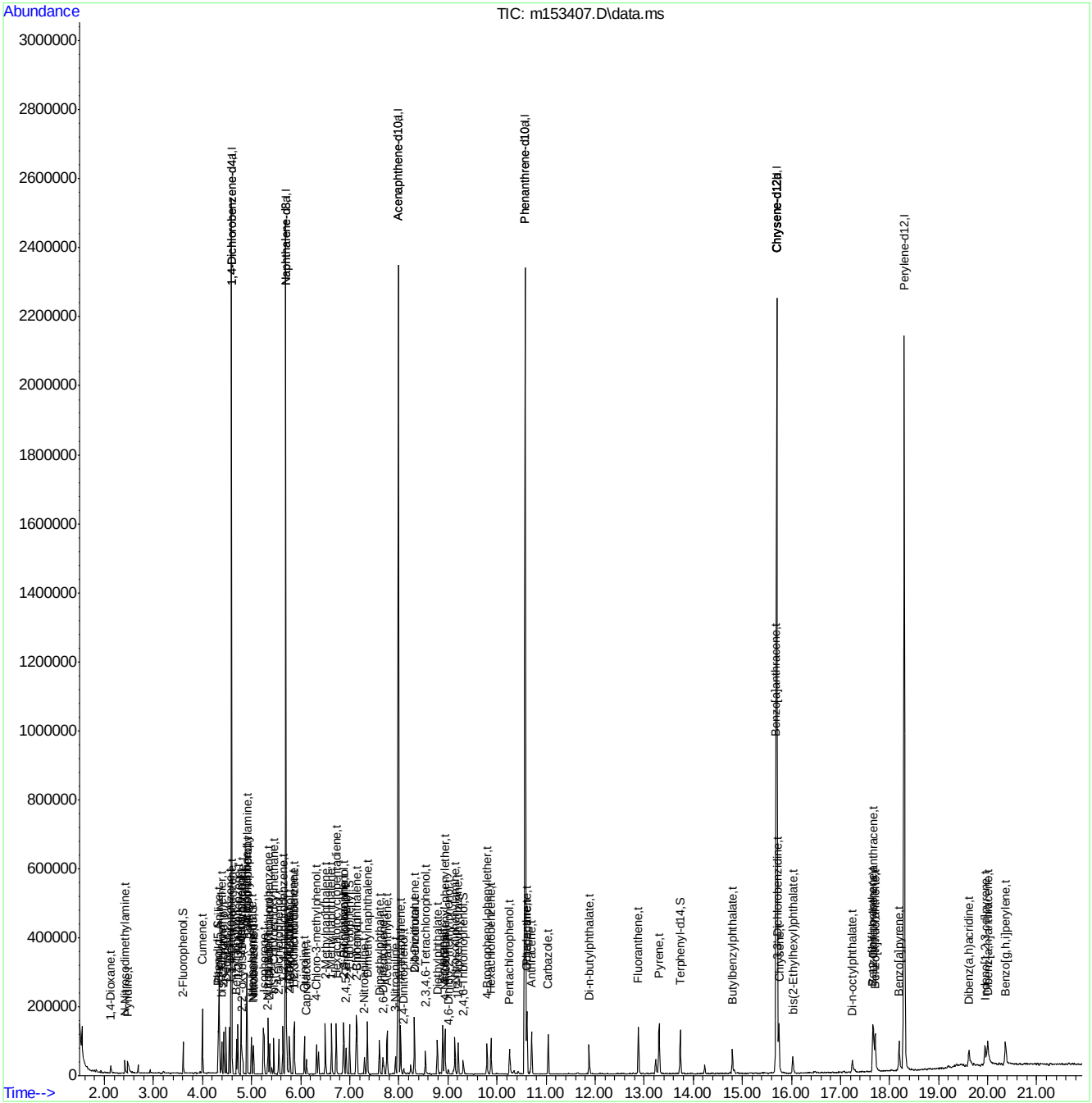
9.8.107

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153407.D
Acq On : 12 Apr 2019 8:46 pm
Operator : christc2
Sample : ic6556-2
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 12:01:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153408.D
Acq On : 12 Apr 2019 9:15 pm
Operator : christc2
Sample : ic6556-1
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 12:02:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 361595 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 1234210 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.991 | 164 | 719774 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.576 | 188 | 1399253 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.703 | 240 | 1374109 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.304 | 264 | 1498240 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 361595 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.991 | 164 | 719774 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.703 | 240 | 1374109 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.703 | 240 | 1374109 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.576 | 188 | 1399253 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 1234210 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.703 | 240 | 1374109 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.606 | 112 | 12086 | 0.79 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.58% | | |
| 8) Phenol-d5 | 4.321 | 99 | 16302 | 0.88 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.76% | | |
| 25) Nitrobenzene-d5 | 5.026 | 82 | 13024 | 0.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.98% | | |
| 51) 2-Fluorobiphenyl | 6.997 | 172 | 29626 | 1.20 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 2.40% | | |
| 73) 2,4,6-Tribromophenol | 9.321 | 330 | 3925 | 0.76 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.52% | | |
| 85) Terphenyl-d14 | 13.732 | 244 | 35772 | 0.94 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 1.88% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.137 | 88 | 6820 | 0.90 | ppm | 93 |
| 3) Pyridine | 2.489 | 79 | 14453 | 0.80 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.425 | 42 | 5387 | 0.82 | ppm | 95 |
| 6) Indene | 4.791 | 116 | 21025 | 1.14 | ppm | 94 |
| 7) Cumene | 3.995 | 105 | 34265 | 1.02 | ppm | 99 |
| 9) Phenol | 4.332 | 94 | 18877 | 1.03 | ppm | 95 |
| 10) Aniline | 4.343 | 93 | 20382 | 1.29 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 4.391 | 93 | 13058 | 1.06 | ppm | 98 |
| 12) 2-Chlorophenol | 4.433 | 128 | 11977 | 0.94 | ppm | 94 |
| 13) Decane | 4.476 | 43 | 10763 | 1.20 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 4.546 | 146 | 15906 | 1.11 | ppm | 97 |
| 15) 1,4-Dichlorobenzene | 4.599 | 146 | 13381 | 1.01 | ppm | 94 |
| 16) Benzyl alcohol | 4.695 | 108 | 7183 | 0.90 | ppm | 88 |
| 17) 1,2-Dichlorobenzene | 4.722 | 146 | 13810 | 1.05 | ppm | 99 |
| 18) Acetophenone | 4.903 | 105 | 18563 | 1.18 | ppm | 97 |
| 19) 2-Methylphenol | 4.786 | 108 | 11075 | 1.07 | ppm | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153408.D
Acq On : 12 Apr 2019 9:15 pm
Operator : christc2
Sample : ic6556-1
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 12:02:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.802 | 121 | 3806 | 1.18 | ppm | | 95 |
| 21) 3&4-Methylphenol | 4.903 | 108 | 10956 | 1.04 | ppm | # | 58 |
| 22) n-Nitroso-di-n-propyla... | 4.903 | 70 | 8960 | 1.16 | ppm | | 88 |
| 23) Hexachloroethane | 4.994 | 201 | 5686 | 1.00 | ppm | | 89 |
| 26) Nitrobenzene | 5.042 | 77 | 12725 | 1.01 | ppm | | 99 |
| 27) Quinoline | 6.073 | 129 | 22674 | 0.95 | ppm | | 93 |
| 28) Isophorone | 5.251 | 82 | 23667 | 0.99 | ppm | | 96 |
| 29) 2-Nitrophenol | 5.325 | 139 | 4443 | 0.67 | ppm | | 98 |
| 30) 2,4-Dimethylphenol | 5.368 | 107 | 7754 | 0.72 | ppm | | 85 |
| 32) bis(2-Chloroethoxy)met... | 5.454 | 93 | 15522 | 1.10 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.555 | 162 | 10227 | 0.98 | ppm | | 94 |
| 34) 2,6-Dichlorophenol | 5.785 | 162 | 8877 | 0.95 | ppm | | 96 |
| 35) 1,3,5-Trichlorobenzene | 5.341 | 180 | 14638 | 1.22 | ppm | | 90 |
| 36) 1,2,4-Trichlorobenzene | 5.641 | 180 | 13384 | 1.11 | ppm | | 94 |
| 37) 1,2,3-Trichlorobenzene | 5.870 | 180 | 13641 | 1.26 | ppm | | 90 |
| 38) Naphthalene | 5.715 | 128 | 32776 | 1.11 | ppm | | 97 |
| 39) 4-Chloroaniline | 5.769 | 127 | 13320 | 1.00 | ppm | | 94 |
| 40) 2,3-Dichloroaniline | 6.874 | 161 | 12827 | 0.99 | ppm | | 99 |
| 41) Caprolactam | 6.116 | 55 | 3769 | 0.74 | ppm | | 84 |
| 42) Hexachlorobutadiene | 5.860 | 225 | 8056 | 1.12 | ppm | | 94 |
| 43) 4-Chloro-3-methylphenol | 6.324 | 107 | 8832 | 0.77 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 6.506 | 141 | 20018 | 1.06 | ppm | | 96 |
| 45) 1-Methylnaphthalene | 6.629 | 142 | 26361 | 1.11 | ppm | | 96 |
| 46) Dimethylnaphthalene | 7.360 | 156 | 21537 | 1.04 | ppm | | 94 |
| 48) Hexachlorocyclopentadiene | 6.725 | 237 | 12043 | 1.62 | ppm | | 95 |
| 49) 2,4,6-Trichlorophenol | 6.880 | 196 | 7522 | 0.98 | ppm | | 88 |
| 50) 2,4,5-Trichlorophenol | 6.928 | 196 | 7962 | 0.95 | ppm | | 80 |
| 52) 2-Chloronaphthalene | 7.152 | 162 | 25386 | 1.27 | ppm | | 94 |
| 53) Biphenyl | 7.136 | 154 | 31420 | 1.15 | ppm | | 95 |
| 54) 2-Nitroaniline | 7.302 | 65 | 4564 | 0.68 | ppm | | 90 |
| 55) Dimethylphthalate | 7.606 | 163 | 28427 | 1.07 | ppm | | 98 |
| 56) Acenaphthylene | 7.761 | 152 | 36620 | 1.10 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 7.681 | 165 | 3512 | 0.59 | ppm | | 85 |
| 59) Acenaphthene | 8.039 | 153 | 21927 | 1.07 | ppm | | 94 |
| 62) Dibenzofuran | 8.322 | 168 | 33666 | 1.14 | ppm | | 97 |
| 63) 2,4-Dinitrotoluene | 8.322 | 165 | 4112 | 0.57 | ppm | # | 48 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.541 | 232 | 5257 | 0.63 | ppm | | 94 |
| 65) Diethylphthalate | 8.786 | 149 | 25405 | 0.97 | ppm | | 98 |
| 66) Fluorene | 8.899 | 166 | 28200 | 1.12 | ppm | | 96 |
| 67) 4-Chlorophenyl-phenyle... | 8.936 | 204 | 15259 | 1.21 | ppm | | 97 |
| 68) 4-Nitroaniline | 8.941 | 138 | 4000 | 0.66 | ppm | | 92 |
| 71) n-Nitrosodiphenylamine | 9.144 | 169 | 19772 | 1.11 | ppm | | 97 |
| 72) 1,2-Diphenylhydrazine | 9.208 | 77 | 26698 | 1.10 | ppm | | 83 |
| 74) 4-Bromophenyl-phenylether | 9.801 | 248 | 10051 | 1.07 | ppm | | 96 |
| 75) Hexachlorobenzene | 9.881 | 284 | 12007 | 1.22 | ppm | | 90 |
| 77) Phenanthrene | 10.613 | 178 | 39852 | 1.25 | ppm | | 99 |
| 78) Anthracene | 10.709 | 178 | 37676 | 1.07 | ppm | | 98 |
| 79) Carbazole | 11.046 | 167 | 34716 | 1.01 | ppm | | 94 |
| 80) Di-n-butylphthalate | 11.879 | 149 | 35987 | 0.81 | ppm | | 94 |
| 81) Fluoranthene | 12.883 | 202 | 46006 | 1.03 | ppm | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153408.D
Acq On : 12 Apr 2019 9:15 pm
Operator : christc2
Sample : ic6556-1
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 12:02:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 82) Octadecane | 10.602 | 57 | 11357 | 1.04 | ppm | 89 |
| 84) Pyrene | 13.305 | 202 | 49946 | 0.99 | ppm | 96 |
| 87) Benzo[a]anthracene | 15.687 | 228 | 44818 | 0.89 | ppm | 98 |
| 89) Chrysene | 15.746 | 228 | 42317 | 1.01 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.658 | 252 | 37401 | 0.76 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 17.706 | 252 | 46383 | 1.07 | ppm | 99 |
| 95) Benzo[a]pyrene | 18.197 | 252 | 33232 | 0.74 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 19.944 | 276 | 22073 | 0.54 | ppm | 84 |
| 98) Dibenz[a,h]anthracene | 19.997 | 278 | 26530 | 0.64 | ppm | 87 |
| 100) Benzo[g,h,i]perylene | 20.366 | 276 | 31660 | 0.76 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

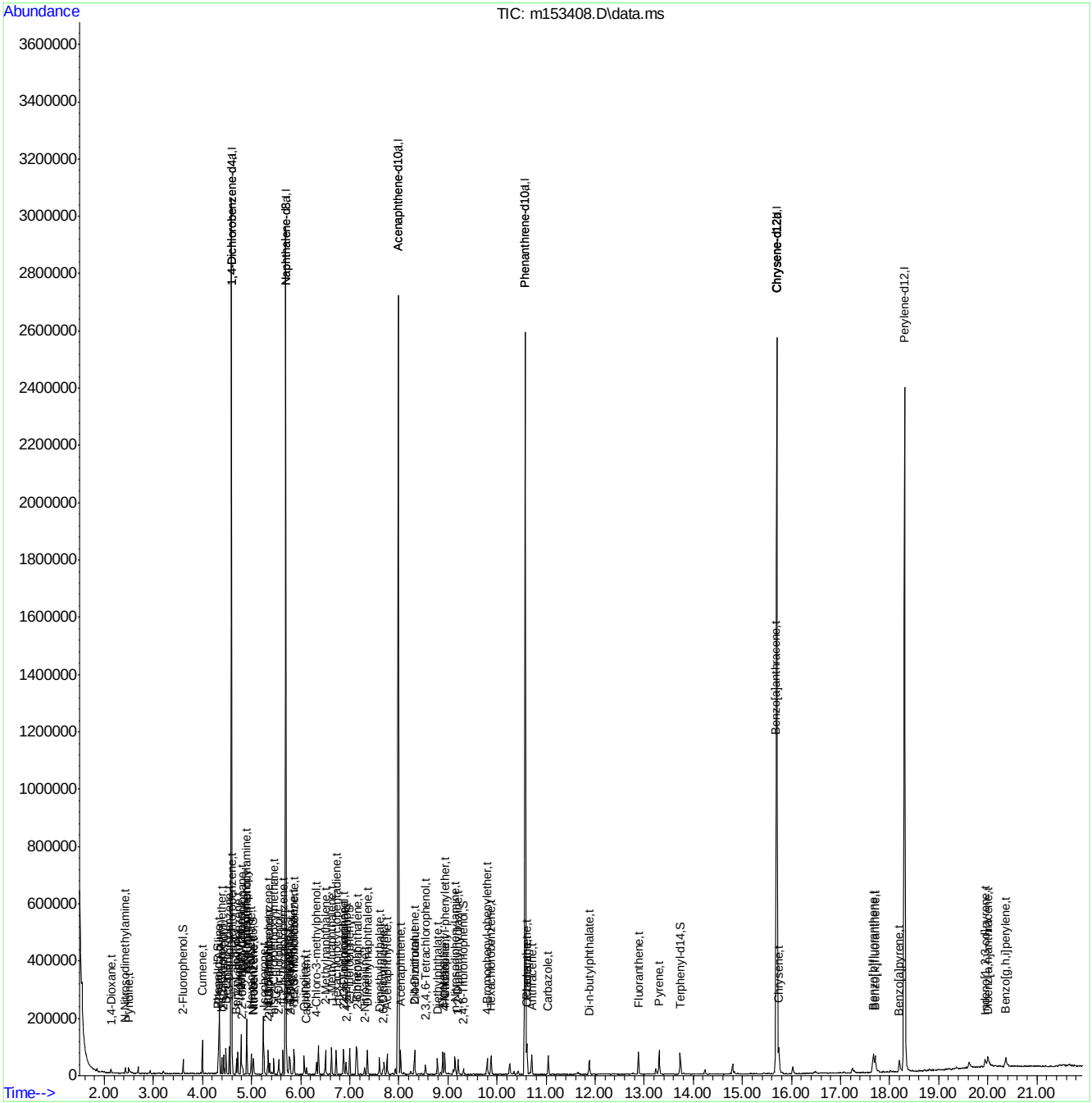
9.8.108

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153408.D
Acq On : 12 Apr 2019 9:15 pm
Operator : christc2
Sample : ic6556-1
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 12:02:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 10:27:56 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153409.D
Acq On : 12 Apr 2019 9:43 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 11:54:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:19:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.590 | 152 | 255989 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 854763 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.993 | 164 | 517248 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.572 | 188 | 1007716 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.705 | 240 | 815608 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.301 | 264 | 903170 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.590 | 152 | 255989 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.993 | 164 | 517248 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.705 | 240 | 815608 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.705 | 240 | 815608 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.572 | 188 | 1007716 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 854763 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.705 | 240 | 815608 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 4) N-Nitrosodimethylamine | 2.422 | 42 | 180752 | 41.67 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 4.393 | 93 | 459749 | 51.17 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 4.548 | 146 | 485227 | 46.81 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.601 | 146 | 442586 | 47.02 | ppm | 98 |
| 17) 1,2-Dichlorobenzene | 4.719 | 146 | 431561 | 46.33 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.804 | 121 | 128350 | 55.26 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.906 | 70 | 301654 | 51.35 | ppm | 97 |
| 23) Hexachloroethane | 4.996 | 201 | 179100 | 45.04 | ppm | 97 |
| 26) Nitrobenzene | 5.044 | 77 | 398131 | 44.97 | ppm | 96 |
| 28) Isophorone | 5.253 | 82 | 755092 | 45.71 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 5.456 | 93 | 489120 | 48.81 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.643 | 180 | 410184 | 47.19 | ppm | 98 |
| 38) Naphthalene | 5.717 | 128 | 989343 | 47.27 | ppm | 100 |
| 42) Hexachlorobutadiene | 5.862 | 225 | 249878 | 48.24 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.727 | 237 | 243786 | 48.47 | ppm | 100 |
| 52) 2-Chloronaphthalene | 7.154 | 162 | 760150 | 47.77 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153409.D
Acq On : 12 Apr 2019 9:43 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 11:54:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:19:20 2019
Response via : Initial Calibration

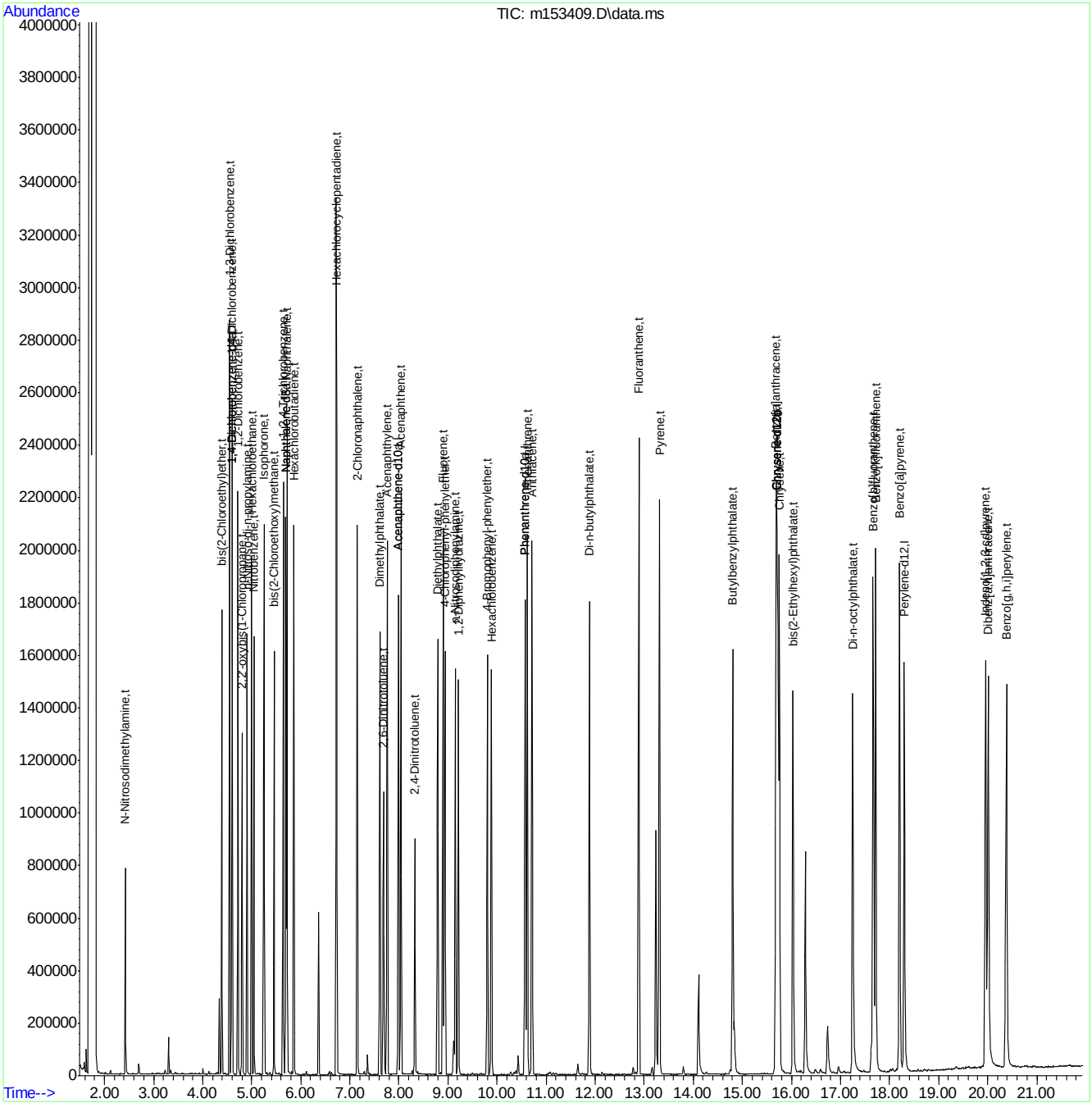
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 55) Dimethylphthalate | 7.613 | 163 | 861945 | 44.34 | ppm | 99 |
| 56) Acenaphthylene | 7.763 | 152 | 1066980 | 42.70 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 7.683 | 165 | 158034 | 43.40 | ppm | 93 |
| 59) Acenaphthene | 8.041 | 153 | 642939 | 42.50 | ppm | 96 |
| 63) 2,4-Dinitrotoluene | 8.329 | 165 | 196523 | 38.32 | ppm | 89 |
| 65) Diethylphthalate | 8.794 | 149 | 829797 | 44.17 | ppm | 99 |
| 66) Fluorene | 8.901 | 166 | 816843 | 43.52 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.938 | 204 | 406549 | 41.70 | ppm | 98 |
| 71) n-Nitrosodiphenylamine | 9.152 | 169 | 560669 | 41.85 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 9.210 | 77 | 798413 | 43.46 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 9.803 | 248 | 309156 | 44.93 | ppm | 94 |
| 75) Hexachlorobenzene | 9.889 | 284 | 319865 | 41.86 | ppm | 99 |
| 77) Phenanthrene | 10.621 | 178 | 1138336 | 45.56 | ppm | 99 |
| 78) Anthracene | 10.711 | 178 | 1163645 | 44.21 | ppm | 99 |
| 80) Di-n-butylphthalate | 11.881 | 149 | 1391234 | 45.65 | ppm | 100 |
| 81) Fluoranthene | 12.890 | 202 | 1438085 | 43.54 | ppm | 98 |
| 84) Pyrene | 13.312 | 202 | 1383124 | 46.31 | ppm | 99 |
| 86) Butylbenzylphthalate | 14.803 | 149 | 607124 | 49.50 | ppm | 99 |
| 87) Benzo[a]anthracene | 15.689 | 228 | 1317427 | 47.18 | ppm | 100 |
| 89) Chrysene | 15.753 | 228 | 1110896 | 44.75 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 16.031 | 149 | 750962 | 45.23 | ppm | 99 |
| 92) Di-n-octylphthalate | 17.249 | 149 | 1325247 | 44.04 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 17.665 | 252 | 1307739 | 45.96 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 17.719 | 252 | 1275584 | 47.10 | ppm | 99 |
| 95) Benzo[a]pyrene | 18.205 | 252 | 1254031 | 50.21 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 19.957 | 276 | 1156959 | 46.70 | ppm | 99 |
| 98) Dibenz[a,h]anthracene | 20.015 | 278 | 1088531 | 47.29 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 20.384 | 276 | 1210960 | 51.12 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153409.D
Acq On : 12 Apr 2019 9:43 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 11:54:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:19:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153410.D
Acq On : 12 Apr 2019 10:12 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 15 11:34:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:20:55 2019
Response via : Initial Calibration

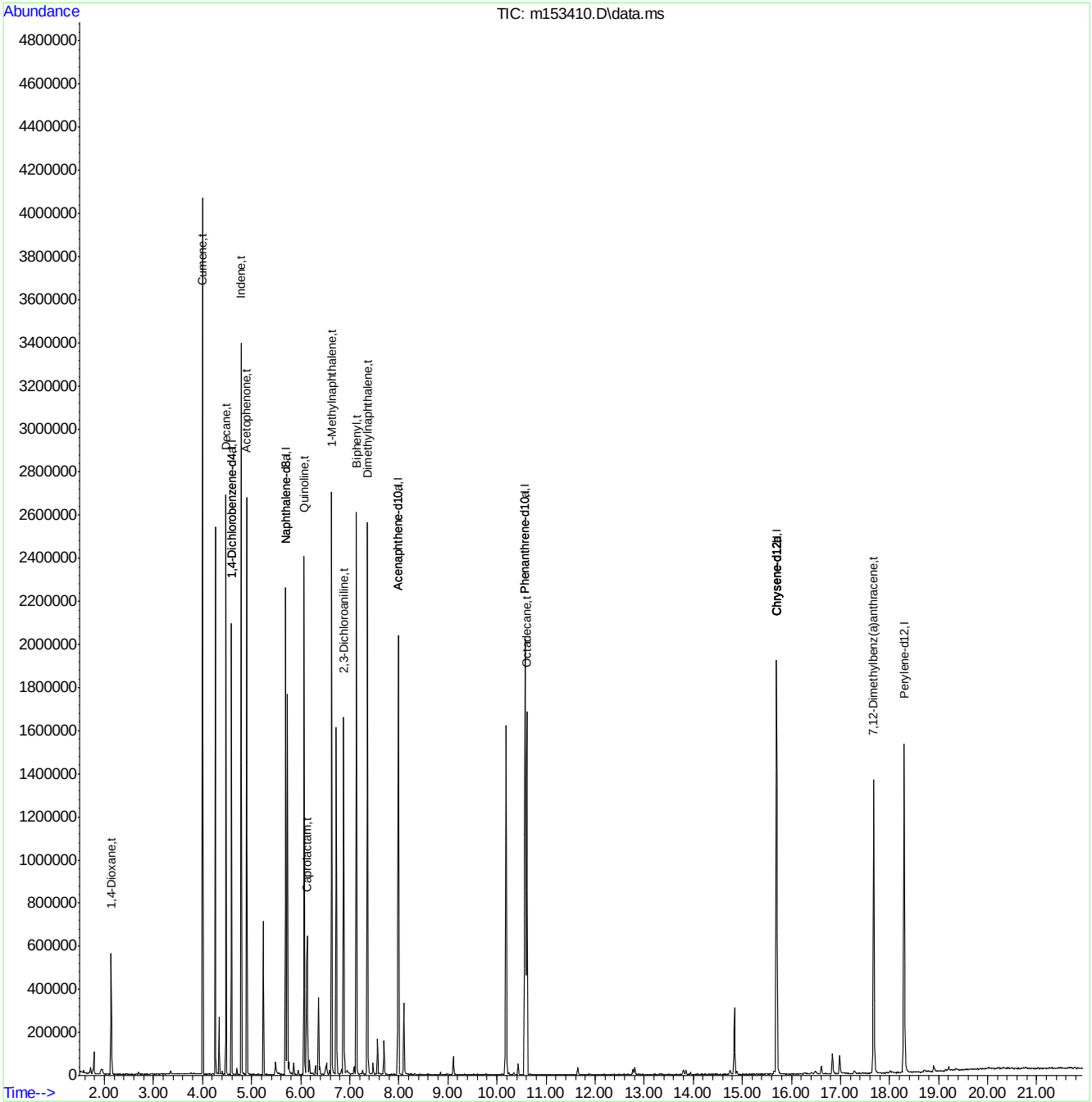
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.587 | 152 | 272197 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.698 | 136 | 1002860 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 520748 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 1073176 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.696 | 240 | 1083311 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 18.303 | 264 | 923549 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.587 | 152 | 272197 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 520748 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.696 | 240 | 1083311 | 40.00 | ppm | -0.02 |
| 108) Chrysene-d12b | 15.696 | 240 | 1083311 | 40.00 | ppm | -0.02 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 1073176 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.698 | 136 | 1002860 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.696 | 240 | 1083311 | 40.00 | ppm | -0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 2.135 | 88 | 227785 | 42.30 | ppm | 98 |
| 6) Indene | 4.790 | 116 | 764954 | 53.15 | ppm | 97 |
| 7) Cumene | 3.999 | 105 | 1126025 | 44.28 | ppm | 99 |
| 13) Decane | 4.480 | 43 | 312181 | 43.08 | ppm | 98 |
| 18) Acetophenone | 4.902 | 105 | 581613 | 46.44 | ppm | 88 |
| 27) Quinoline | 6.072 | 129 | 812753 | 42.78 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.873 | 161 | 409589 | 38.51 | ppm | 97 |
| 41) Caprolactam | 6.136 | 55 | 144688 | 37.48 | ppm | 97 |
| 45) 1-Methylnaphthalene | 6.632 | 142 | 799685 | 40.40 | ppm | 99 |
| 46) Dimethylnaphthalene | 7.364 | 156 | 722174 | 41.91 | ppm | 99 |
| 53) Biphenyl | 7.134 | 154 | 980730 | 46.88 | ppm | 99 |
| 82) Octadecane | 10.606 | 57 | 421400 | 48.92 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 17.678 | 256 | 447153 | 40.08 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153410.D
Acq On : 12 Apr 2019 10:12 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 15 11:34:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:20:55 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153411.D
Acq On : 12 Apr 2019 10:40 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 15 11:40:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:38:00 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 264730 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 863210 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 533118 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 960221 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.696 | 240 | 910115 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 18.297 | 264 | 931035 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 264730 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 533118 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.696 | 240 | 910115 | 40.00 | ppm | -0.02 |
| 108) Chrysene-d12b | 15.696 | 240 | 910115 | 40.00 | ppm | -0.02 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 960221 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 863210 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.696 | 240 | 910115 | 40.00 | ppm | -0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.335 | 94 | 657793 | 48.97 | ppm | 89 |
| 12) 2-Chlorophenol | 4.432 | 128 | 463052 | 50.18 | ppm | 94 |
| 19) 2-Methylphenol | 4.784 | 108 | 409886 | 52.76 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.907 | 108 | 421160 | 53.92 | ppm | 98 |
| 29) 2-Nitrophenol | 5.329 | 139 | 230378 | 55.70 | ppm | 92 |
| 30) 2,4-Dimethylphenol | 5.366 | 107 | 401819 | 58.67 | ppm | 98 |
| 31) Benzoic acid | 5.478 | 105 | 259004 | 47.58 | ppm | 97 |
| 33) 2,4-Dichlorophenol | 5.553 | 162 | 354984 | 49.43 | ppm | 97 |
| 34) 2,6-Dichlorophenol | 5.783 | 162 | 349388 | 53.67 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 6.322 | 107 | 374639 | 50.41 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 6.883 | 196 | 311464 | 53.97 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.926 | 196 | 297762 | 48.07 | ppm | 95 |
| 60) 2,4-Dinitrophenol | 8.101 | 184 | 73751 | 37.76 | ppm | 89 |
| 61) 4-Nitrophenol | 8.250 | 109 | 114332 | 44.50 | ppm | 97 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.544 | 232 | 267965 | 48.31 | ppm | 95 |
| 70) 4,6-Dinitro-2-methylph... | 9.014 | 198 | 140324 | 46.69 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153411.D
Acq On : 12 Apr 2019 10:40 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 15 11:40:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:38:00 2019
Response via : Initial Calibration

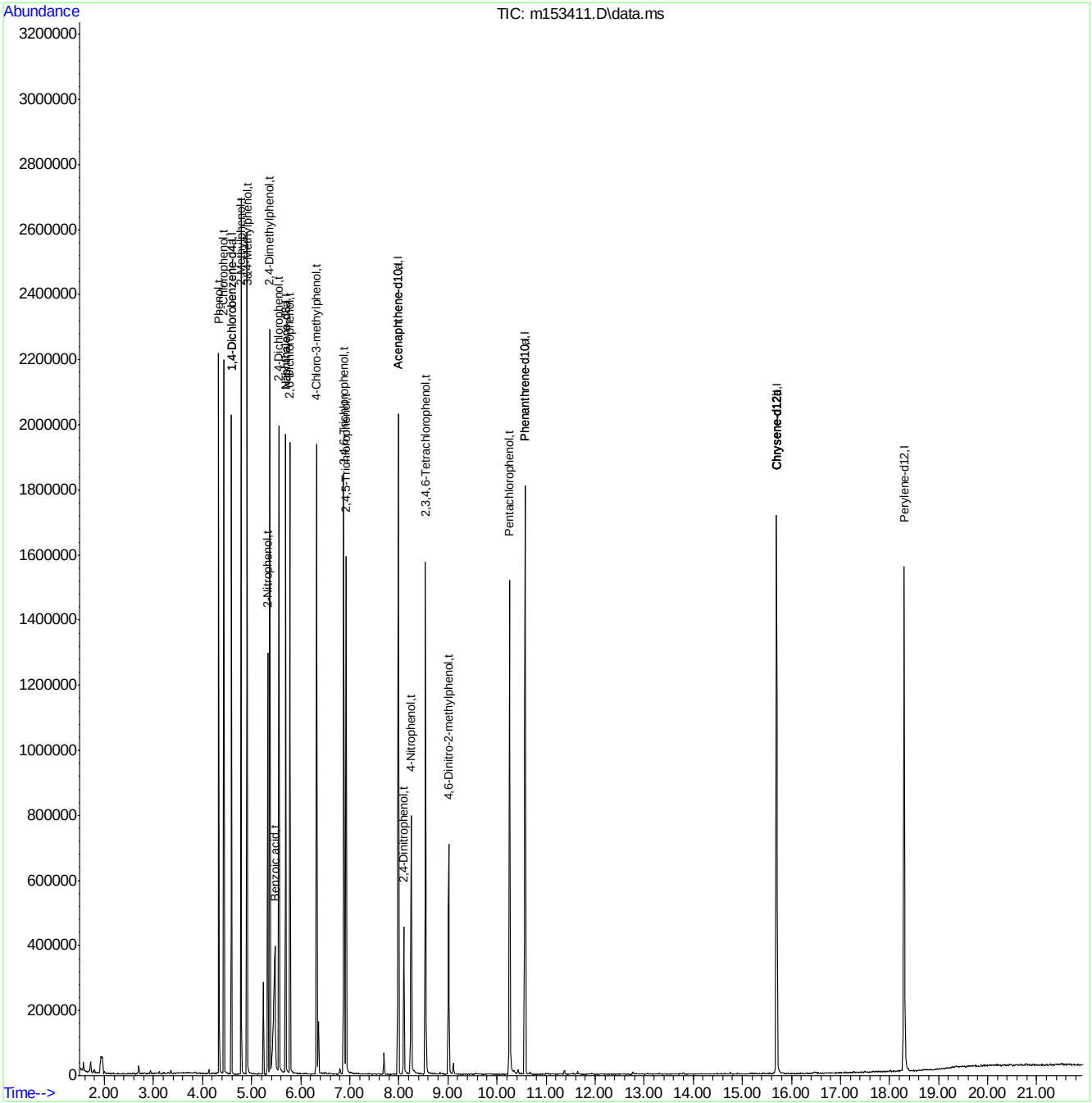
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 10.259 | 266 | 259692 | 64.03 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153411.D
Acq On : 12 Apr 2019 10:40 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 15 11:40:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:38:00 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153413.D
Acq On : 12 Apr 2019 11:37 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 15 11:55:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:48:45 2019
Response via : Initial Calibration

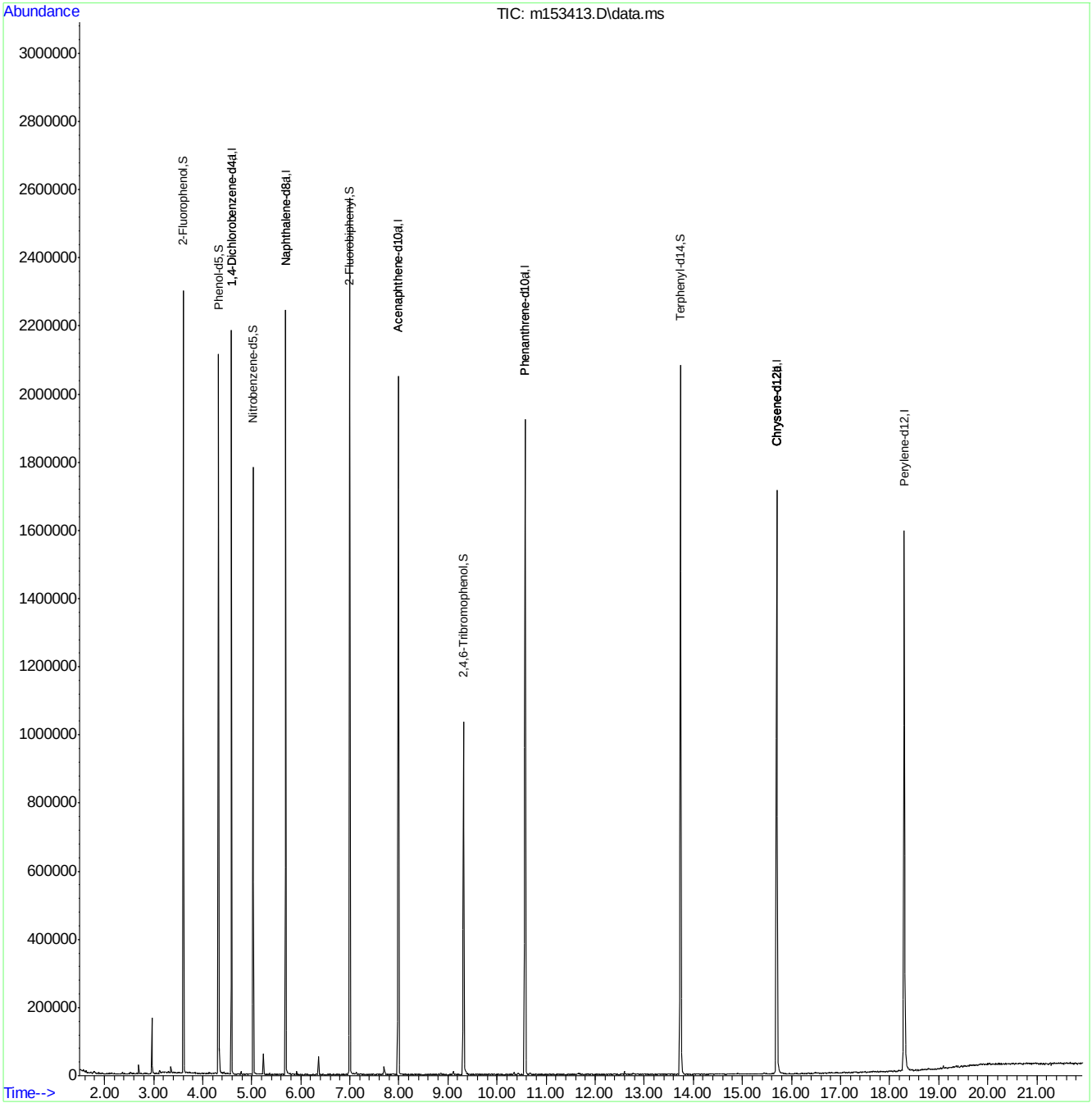
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 281722 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 960107 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.987 | 164 | 539229 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 1006489 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.700 | 240 | 882944 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.301 | 264 | 919162 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 281722 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.987 | 164 | 539229 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.700 | 240 | 882944 | 40.00 | ppm | -0.01 |
| 108) Chrysene-d12b | 15.700 | 240 | 882944 | 40.00 | ppm | -0.01 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 1006489 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 960107 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.700 | 240 | 882944 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.608 | 112 | 474038 | 43.04 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 86.08% | | | |
| 8) Phenol-d5 | 4.324 | 99 | 566883 | 41.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 83.34% | | | |
| 25) Nitrobenzene-d5 | 5.029 | 82 | 458825 | 44.80 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 89.60% | | | |
| 51) 2-Fluorobiphenyl | 6.999 | 172 | 916400 | 45.71 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 91.42% | | | |
| 73) 2,4,6-Tribromophenol | 9.317 | 330 | 171091 | 50.53 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 101.06% | | | |
| 85) Terphenyl-d14 | 13.740 | 244 | 1147831 | 48.21 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 96.42% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153413.D
Acq On : 12 Apr 2019 11:37 pm
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 15 11:55:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:48:45 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153414.D
Acq On : 13 Apr 2019 12:06 am
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 15 11:58:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:48:45 2019
Response via : Initial Calibration

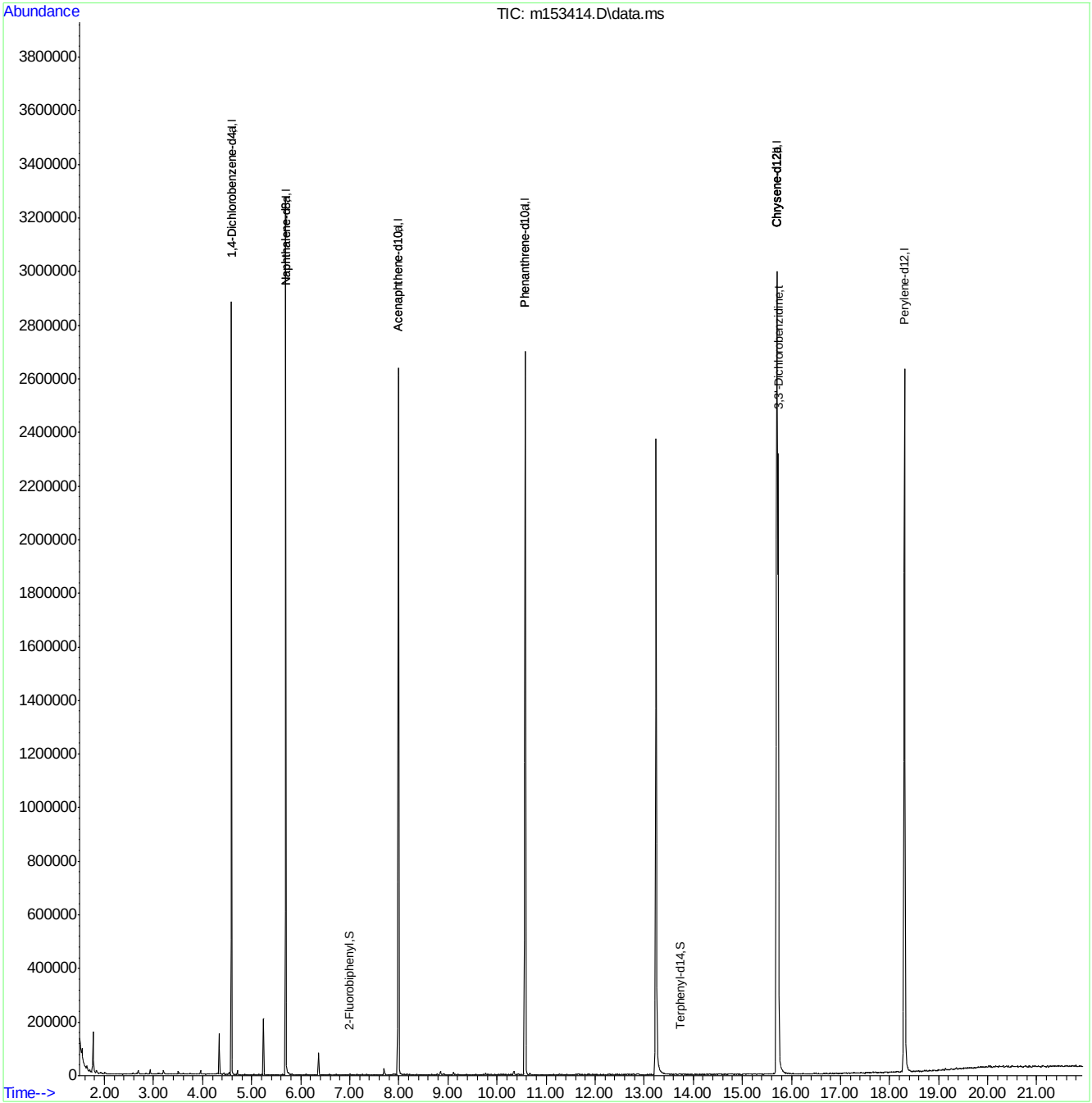
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 391476 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 1323791 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.988 | 164 | 755879 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 1530539 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.705 | 240 | 1602158 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.307 | 264 | 1647623 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 391476 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.988 | 164 | 755879 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.705 | 240 | 1602158 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.705 | 240 | 1602158 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 1530539 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 1323791 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.705 | 240 | 1602158 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 7.000 | 172 | 894 | 0.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 0.06% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 13.735 | 244 | 1429 | 0.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 0.06% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 88) 3,3'-Dichlorobenzidine | 15.732 | 252 | 857087 | 46.26 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6556\
Data File : m153414.D
Acq On : 13 Apr 2019 12:06 am
Operator : christc2
Sample : icv6556-50
Misc : op17006,em6556,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 15 11:58:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 11:48:45 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153420.D
Acq On : 13 Apr 2019 1:52 am
Operator : chriss2
Sample : ic6557-100
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 12:26:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

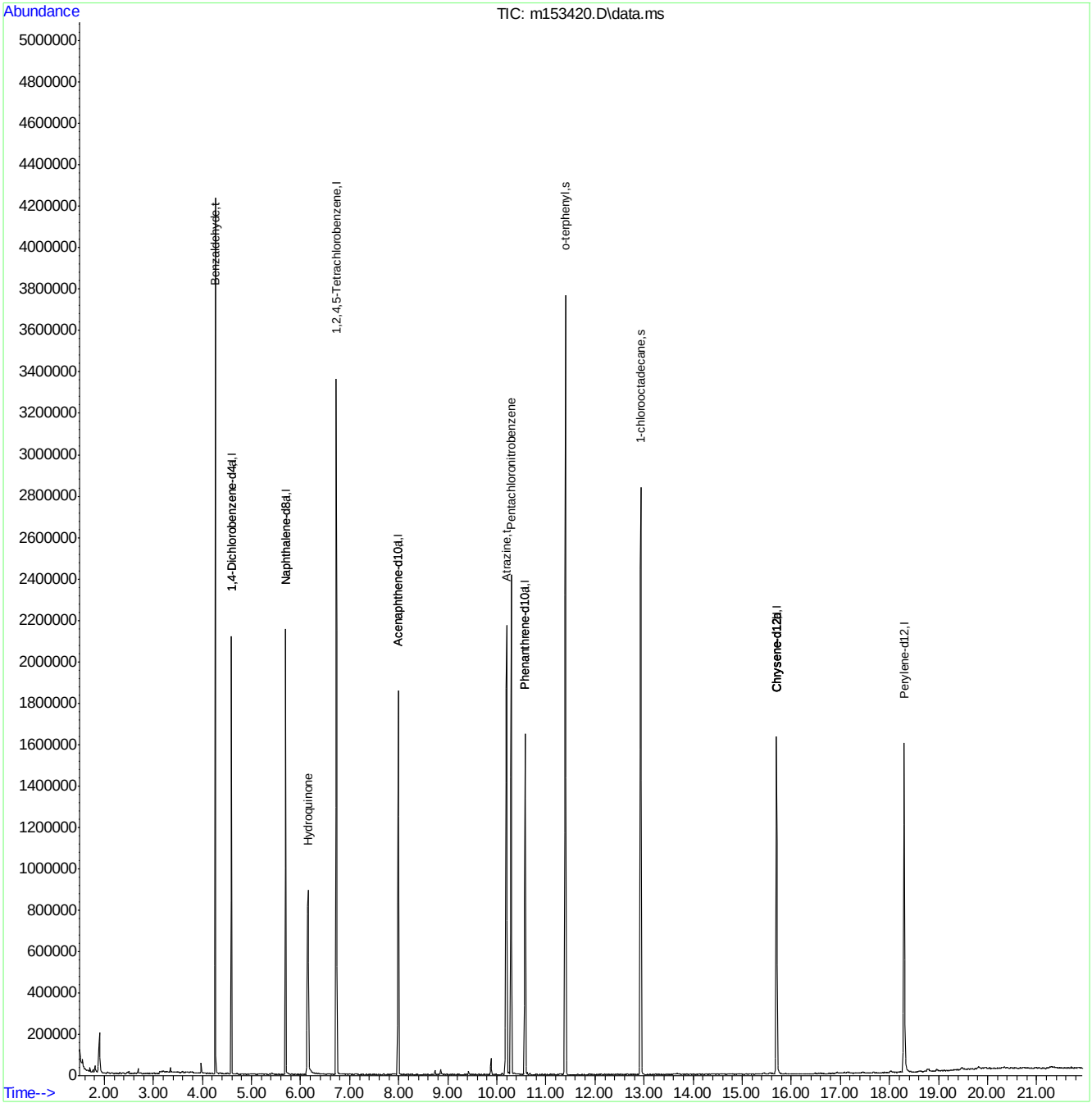
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 248991 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 888990 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.990 | 164 | 494865 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.575 | 188 | 860239 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.697 | 240 | 867470 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.304 | 264 | 944528 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 248991 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.990 | 164 | 494865 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.697 | 240 | 867470 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.697 | 240 | 867470 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.575 | 188 | 860239 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 888990 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.697 | 240 | 867470 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.931 | 57 | 519520 | 90.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 180.90% | | |
| 111) o-terphenyl | 11.398 | 230 | 1185509 | 90.52 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 181.04% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.262 | 105 | 632656 | 91.41 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.730 | 216 | 721687 | 89.16 | ppm | 99 |
| 105) Atrazine | 10.196 | 215 | 242842 | 92.28 | ppm | 99 |
| 112) Pentachloronitrobenzene | 10.292 | 295 | 110807 | 95.49 | ppm | 97 |
| 114) Hydroquinone | 6.153 | 110 | 784835 | 100.57 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153420.D
Acq On : 13 Apr 2019 1:52 am
Operator : chriss2
Sample : ic6557-100
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 12:26:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153421.D
Acq On : 13 Apr 2019 2:20 am
Operator : chriss2
Sample : ic6557-80
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 12:28:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

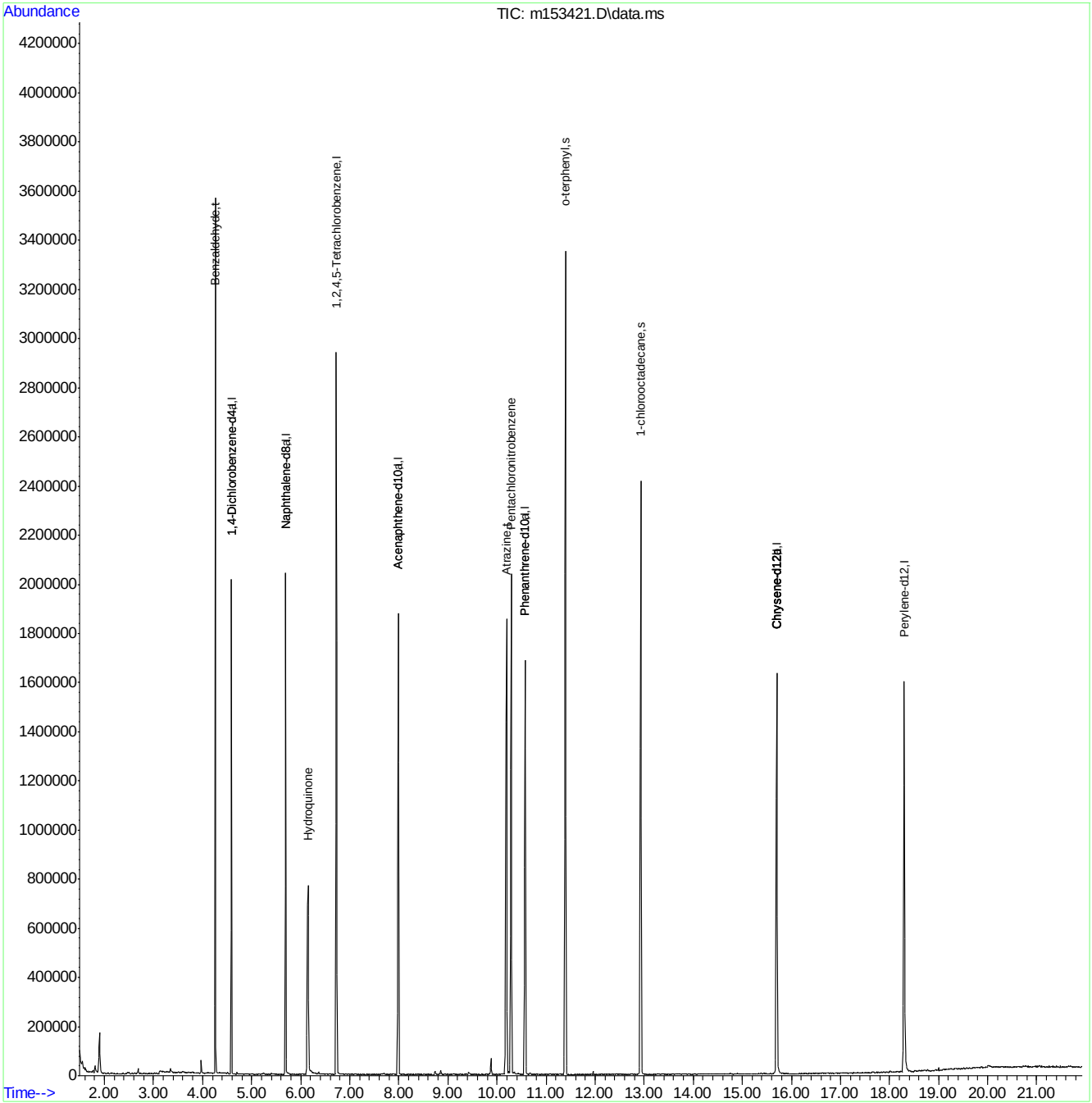
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 243035 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.692 | 136 | 874501 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 498260 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 871711 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.701 | 240 | 870140 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.302 | 264 | 935216 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 243035 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 498260 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.701 | 240 | 870140 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.701 | 240 | 870140 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 871711 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.692 | 136 | 874501 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.701 | 240 | 870140 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.929 | 57 | 428342 | 74.35 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 148.70% | | |
| 111) o-terphenyl | 11.396 | 230 | 997159 | 75.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 150.28% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.261 | 105 | 523047 | 77.43 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.728 | 216 | 608164 | 74.62 | ppm | 99 |
| 105) Atrazine | 10.194 | 215 | 201735 | 76.14 | ppm | 96 |
| 112) Pentachloronitrobenzene | 10.291 | 295 | 91963 | 78.21 | ppm | 99 |
| 114) Hydroquinone | 6.151 | 110 | 623099 | 81.16 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153421.D
Acq On : 13 Apr 2019 2:20 am
Operator : chriss2
Sample : ic6557-80
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 12:28:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153422.D
Acq On : 13 Apr 2019 2:49 am
Operator : chriss2
Sample : icc6557-50
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 12:24:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

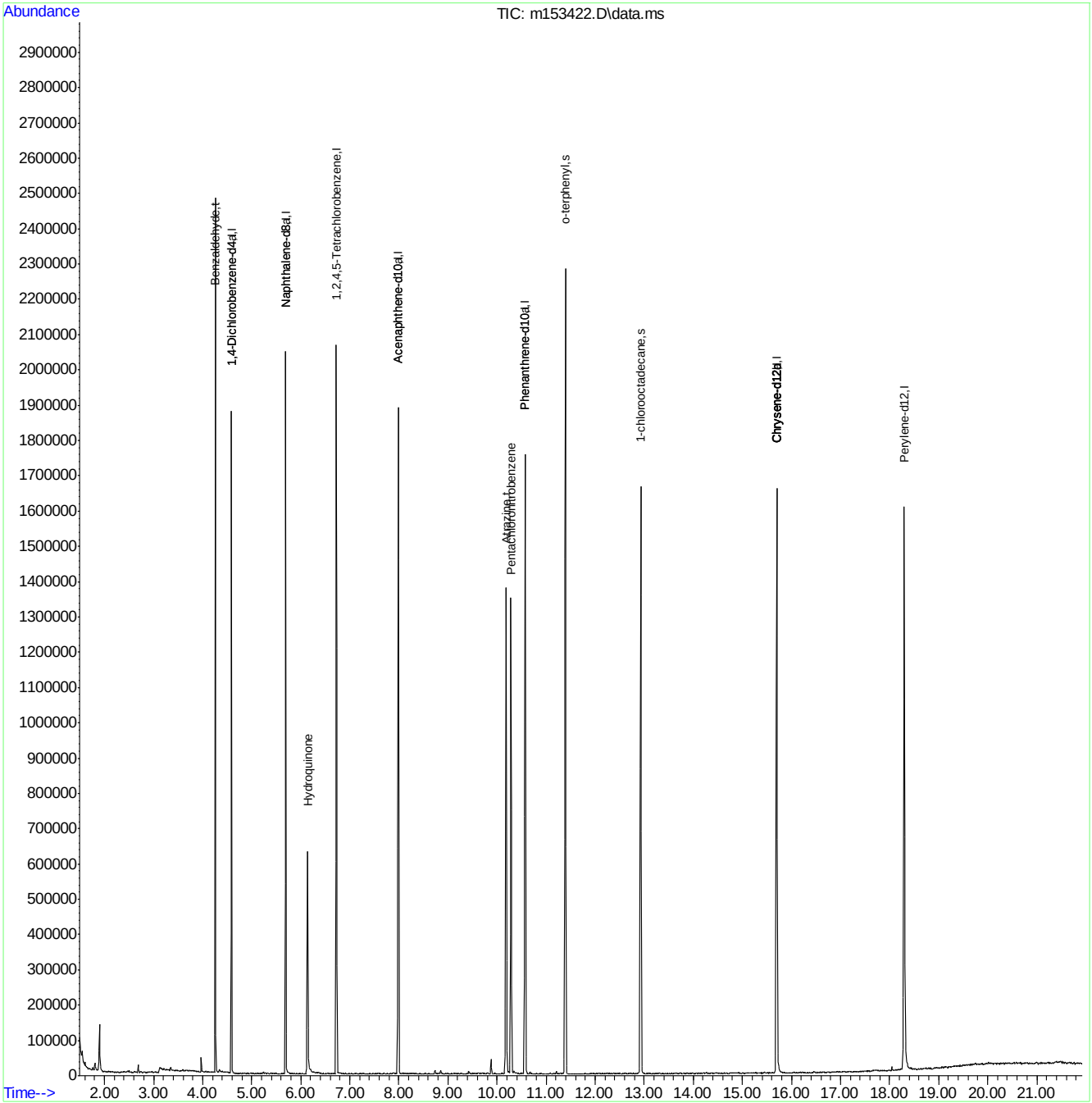
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.585 | 152 | 248621 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 869958 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.987 | 164 | 497180 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 887279 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.700 | 240 | 868264 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.301 | 264 | 936185 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.585 | 152 | 248621 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.987 | 164 | 497180 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.700 | 240 | 868264 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.700 | 240 | 868264 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 887279 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 869958 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.700 | 240 | 868264 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 109) 1-chlorooctadecane | 12.928 | 57 | 287441 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 100.00% | | | |
| 111) o-terphenyl | 11.395 | 230 | 675395 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 100.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.259 | 105 | 345534 | 50.00 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 6.727 | 216 | 406621 | 50.00 | ppm | 100 |
| 105) Atrazine | 10.188 | 215 | 132189 | 50.00 | ppm | 100 |
| 112) Pentachloronitrobenzene | 10.289 | 295 | 59841 | 50.00 | ppm | 100 |
| 114) Hydroquinone | 6.139 | 110 | 381857 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153422.D
Acq On : 13 Apr 2019 2:49 am
Operator : chriss2
Sample : icc6557-50
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 12:24:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153423.D
Acq On : 13 Apr 2019 3:17 am
Operator : chriss2
Sample : ic6557-25
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 12:29:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

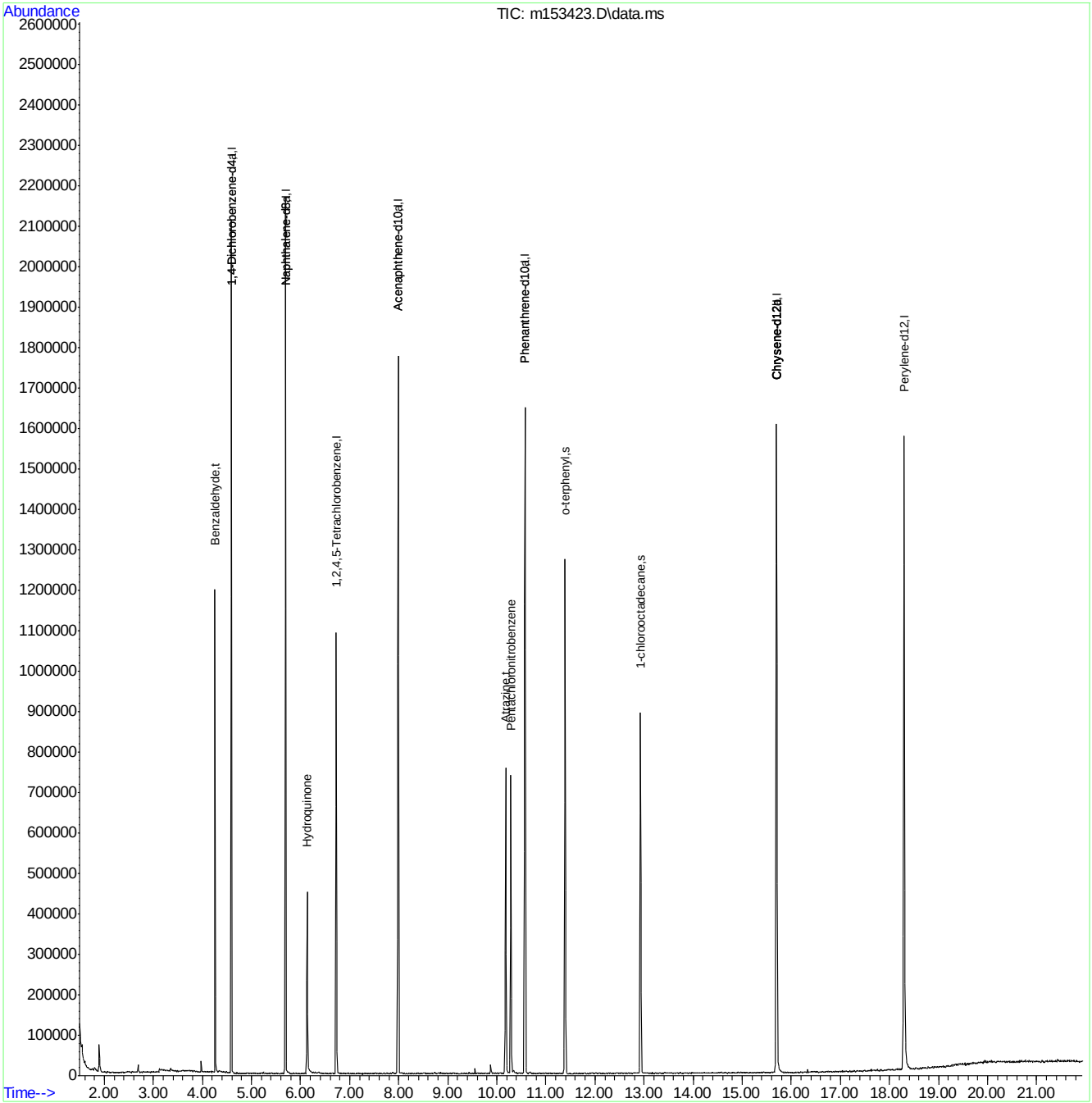
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 248183 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 874946 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.990 | 164 | 491195 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.570 | 188 | 882243 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.698 | 240 | 849067 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.299 | 264 | 910419 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 248183 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.990 | 164 | 491195 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.698 | 240 | 849067 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.698 | 240 | 849067 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.570 | 188 | 882243 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 874946 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.698 | 240 | 849067 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.926 | 57 | 148373 | 26.39 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 52.78% | | |
| 111) o-terphenyl | 11.393 | 230 | 364283 | 27.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 54.24% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.257 | 105 | 185136 | 26.84 | ppm | 96 |
| 104) 1,2,4,5-Tetrachloroben... | 6.725 | 216 | 220531 | 27.45 | ppm | 98 |
| 105) Atrazine | 10.180 | 215 | 65573 | 25.10 | ppm | 96 |
| 112) Pentachloronitrobenzene | 10.287 | 295 | 28170 | 23.67 | ppm | 96 |
| 114) Hydroquinone | 6.132 | 110 | 179238 | 23.34 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153423.D
Acq On : 13 Apr 2019 3:17 am
Operator : chriss2
Sample : ic6557-25
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 12:29:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153424.D
Acq On : 13 Apr 2019 3:46 am
Operator : chriss2
Sample : ic6557-10
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 12:31:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

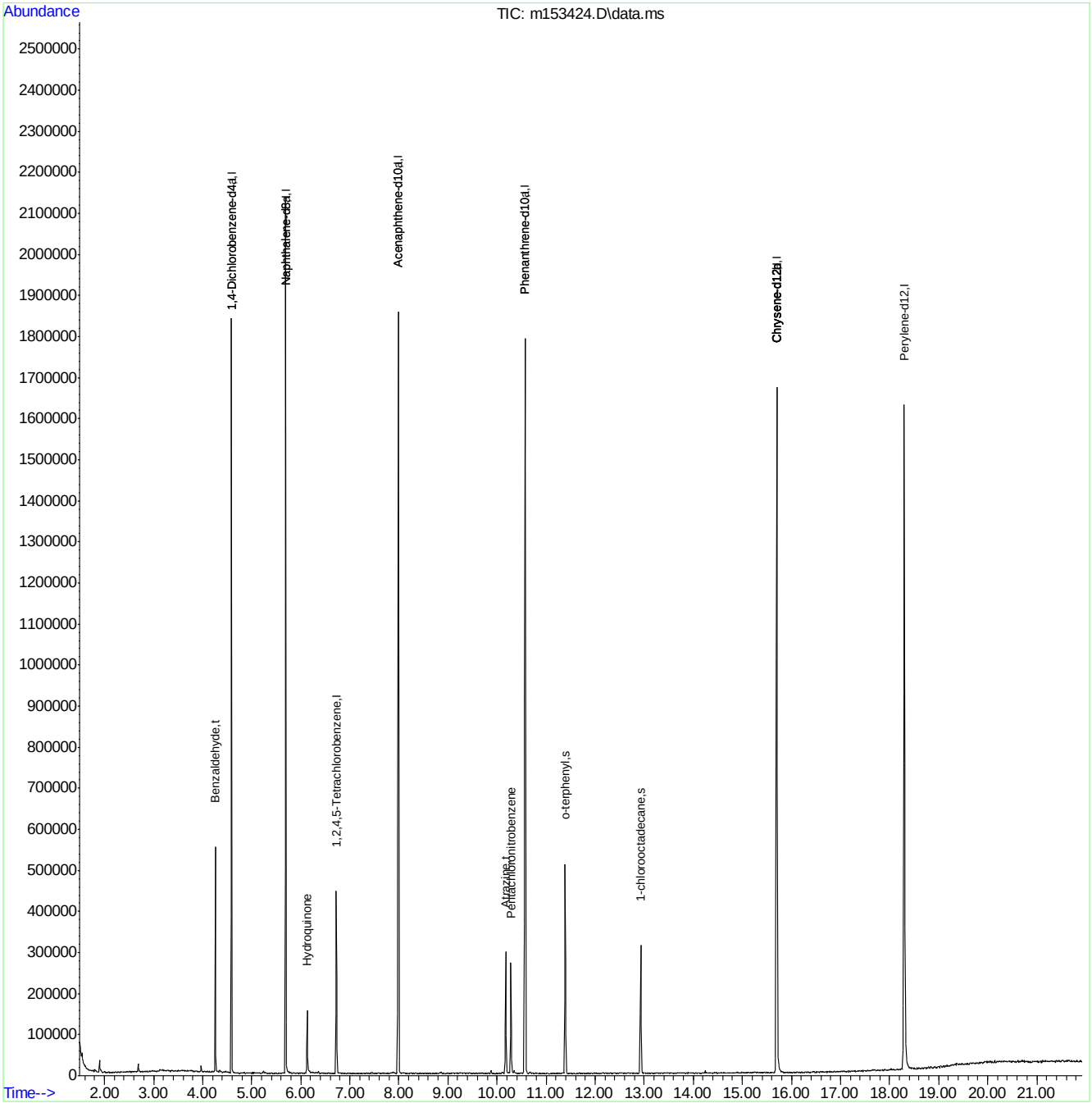
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 255818 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 892243 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.987 | 164 | 505258 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 938579 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.700 | 240 | 874604 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.301 | 264 | 921494 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 255818 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.987 | 164 | 505258 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.700 | 240 | 874604 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.700 | 240 | 874604 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 938579 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 892243 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.700 | 240 | 874604 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.928 | 57 | 52058 | 8.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 17.98% | | |
| 111) o-terphenyl | 11.390 | 230 | 142404 | 9.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 19.94% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.259 | 105 | 71952 | 10.12 | ppm | 96 |
| 104) 1,2,4,5-Tetrachloroben... | 6.727 | 216 | 89089 | 10.78 | ppm | 98 |
| 105) Atrazine | 10.177 | 215 | 23507 | 8.75 | ppm | 93 |
| 112) Pentachloronitrobenzene | 10.284 | 295 | 9630 | 7.61 | ppm | 97 |
| 114) Hydroquinone | 6.129 | 110 | 53620 | 6.85 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153424.D
Acq On : 13 Apr 2019 3:46 am
Operator : chriss2
Sample : ic6557-10
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 12:31:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153425.D
Acq On : 13 Apr 2019 4:14 am
Operator : chriss2
Sample : ic6557-5
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 12:32:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

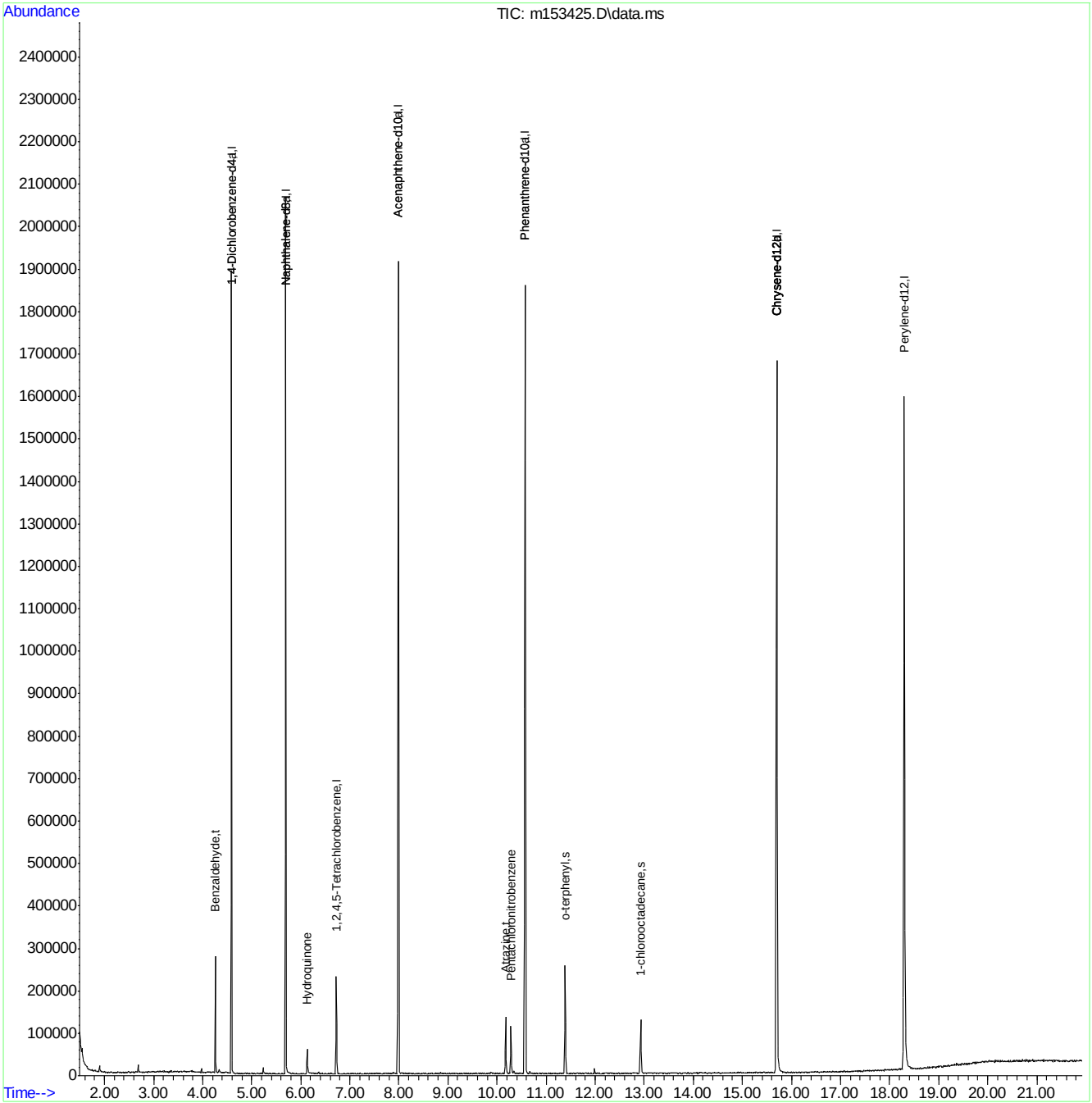
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 260557 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 872990 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.987 | 164 | 500483 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 936387 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.700 | 240 | 866791 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.301 | 264 | 913024 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 260557 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.987 | 164 | 500483 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.700 | 240 | 866791 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.700 | 240 | 866791 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 936387 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 872990 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.700 | 240 | 866791 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.928 | 57 | 22583 | 3.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 7.86% | | |
| 111) o-terphenyl | 11.390 | 230 | 70987 | 4.98 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 9.96% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.259 | 105 | 37284 | 5.15 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.727 | 216 | 45863 | 5.60 | ppm | 99 |
| 105) Atrazine | 10.177 | 215 | 10172 | 3.82 | ppm | 93 |
| 112) Pentachloronitrobenzene | 10.284 | 295 | 3820 | 3.02 | ppm | 85 |
| 114) Hydroquinone | 6.129 | 110 | 22627 | 2.95 | ppm | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153425.D
Acq On : 13 Apr 2019 4:14 am
Operator : chriss2
Sample : ic6557-5
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 12:32:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153426.D
Acq On : 13 Apr 2019 4:42 am
Operator : chriss2
Sample : ic6557-2
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 12:33:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration

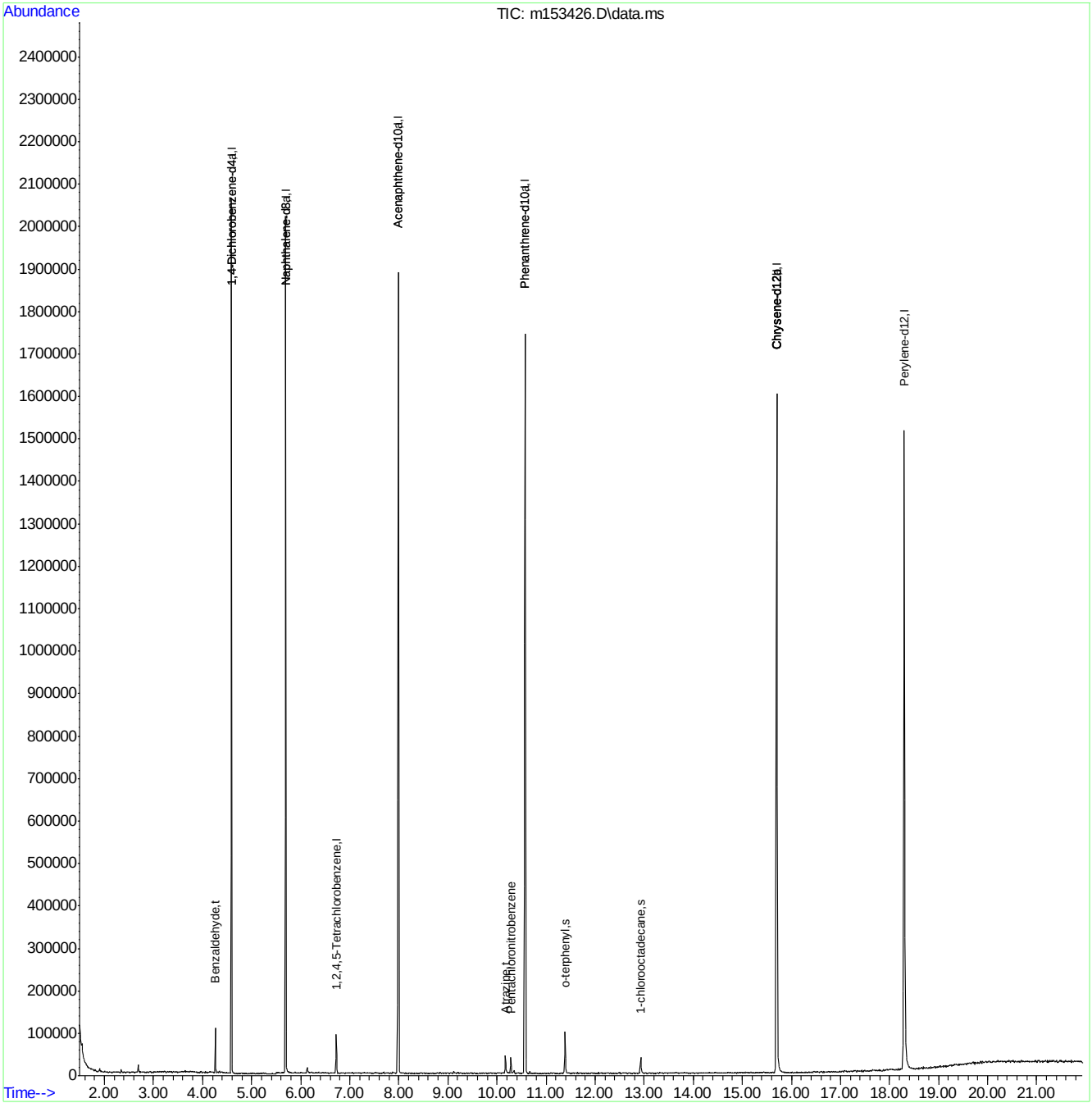
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 261346 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 879739 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 7.988 | 164 | 502520 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 929939 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 15.701 | 240 | 849953 | 40.00 | ppm | | -0.01 |
| 91) Perylene-d12 | 18.302 | 264 | 882871 | 40.00 | ppm | | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 261346 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 7.988 | 164 | 502520 | 40.00 | ppm | | 0.00 |
| 106) Chrysene-d12a | 15.701 | 240 | 849953 | 40.00 | ppm | | 0.00 |
| 108) Chrysene-d12b | 15.701 | 240 | 849953 | 40.00 | ppm | | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 929939 | 40.00 | ppm | | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 879739 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12c | 15.701 | 240 | 849953 | 40.00 | ppm | | 0.00 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 109) 1-chlorooctadecane | 12.929 | 57 | 7346 | 1.31 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 2.62% | | | |
| 111) o-terphenyl | 11.391 | 230 | 26782 | 1.89 | ppm | | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 3.78% | | | |
| Target Compounds | | | | | | | Qvalue |
| 102) Benzaldehyde | 4.260 | 105 | 15043 | 2.07 | ppm | | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 6.728 | 216 | 17824 | 2.17 | ppm | | 94 |
| 105) Atrazine | 10.178 | 215 | 3463 | 1.30 | ppm | # | 84 |
| 112) Pentachloronitrobenzene | 10.285 | 295 | 1148 | 0.92 | ppm | # | 80 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153426.D
Acq On : 13 Apr 2019 4:42 am
Operator : chriss2
Sample : ic6557-2
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 12:33:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:23:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153427.D
Acq On : 13 Apr 2019 5:11 am
Operator : chriss2
Sample : ic6557-1
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 12:35:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu Apr 11 08:18:08 2019
Response via : Initial Calibration

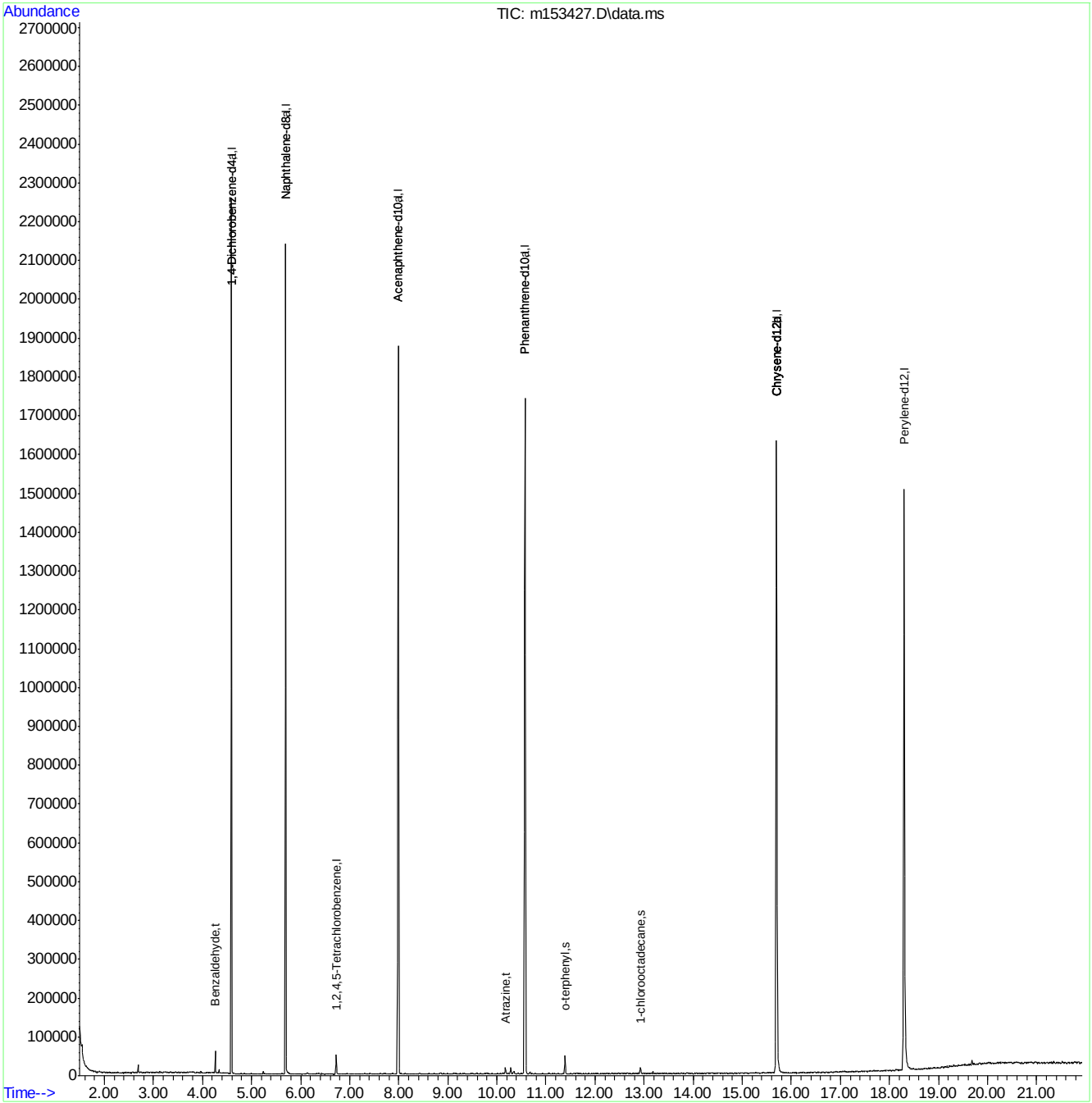
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.587 | 152 | 264413 | 40.00 | ppm | -0.02 |
| 24) Naphthalene-d8 | 5.693 | 136 | 880440 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 7.990 | 164 | 506899 | 40.00 | ppm | -0.04 |
| 69) Phenanthrene-d10 | 10.569 | 188 | 938033 | 40.00 | ppm | -0.05 |
| 83) Chrysene-d12 | 15.697 | 240 | 843931 | 40.00 | ppm | -0.06 |
| 91) Perylene-d12 | 18.298 | 264 | 885109 | 40.00 | ppm | -0.05 |
| 101) 1,4-Dichlorobenzene-d4a | 4.587 | 152 | 264413 | 40.00 | ppm | -0.02 |
| 103) Acenaphthene-d10a | 7.990 | 164 | 506899 | 40.00 | ppm | -0.04 |
| 106) Chrysene-d12a | 15.697 | 240 | 843931 | 40.00 | ppm | -0.04 |
| 108) Chrysene-d12b | 15.697 | 240 | 843931 | 40.00 | ppm | -0.05 |
| 110) Phenanthrene-d10a | 10.569 | 188 | 938033 | 40.00 | ppm | -0.05 |
| 113) Naphthalene-d8a | 5.693 | 136 | 880440 | 40.00 | ppm | -0.03 |
| 115) Chrysene-d12c | 15.697 | 240 | 843931 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.925 | 57 | 3140 | 0.54 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 1.08% | | |
| 111) o-terphenyl | 11.392 | 230 | 13314 | 0.98 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 1.96% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.262 | 105 | 7675 | 1.00 | ppm | 90 |
| 104) 1,2,4,5-Tetrachloroben... | 6.724 | 216 | 9523 | 1.32 | ppm | 90 |
| 105) Atrazine | 10.174 | 215 | 1573 | 0.70 | ppm | 85 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153427.D
Acq On : 13 Apr 2019 5:11 am
Operator : chriss2
Sample : ic6557-1
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 12:35:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu Apr 11 08:18:08 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153432.D
Acq On : 14 Apr 2019 2:42 pm
Operator : chriss2
Sample : ic6558-100
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 15 13:19:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

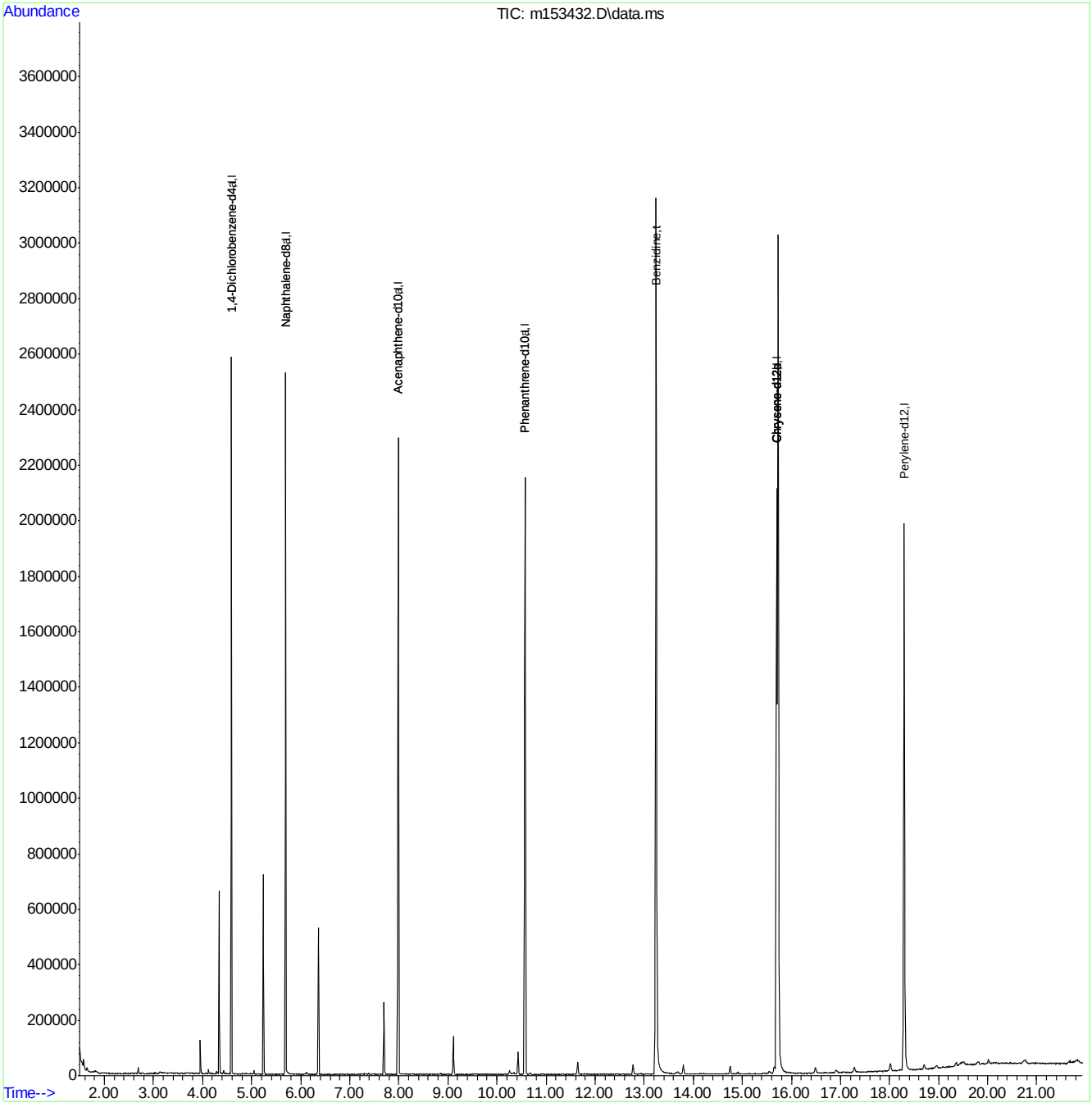
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 313386 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.692 | 136 | 1062812 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 612603 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 1146736 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.701 | 240 | 1065828 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.302 | 264 | 1175787 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 313386 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 612603 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.701 | 240 | 1065828 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.701 | 240 | 1065828 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 1146736 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.692 | 136 | 1062812 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.701 | 240 | 1065828 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.250 | 184 | 2194106 | 99.15 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153432.D
Acq On : 14 Apr 2019 2:42 pm
Operator : chriss2
Sample : ic6558-100
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 15 13:19:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153433.D
Acq On : 14 Apr 2019 3:11 pm
Operator : chriss2
Sample : ic6558-80
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 13:20:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

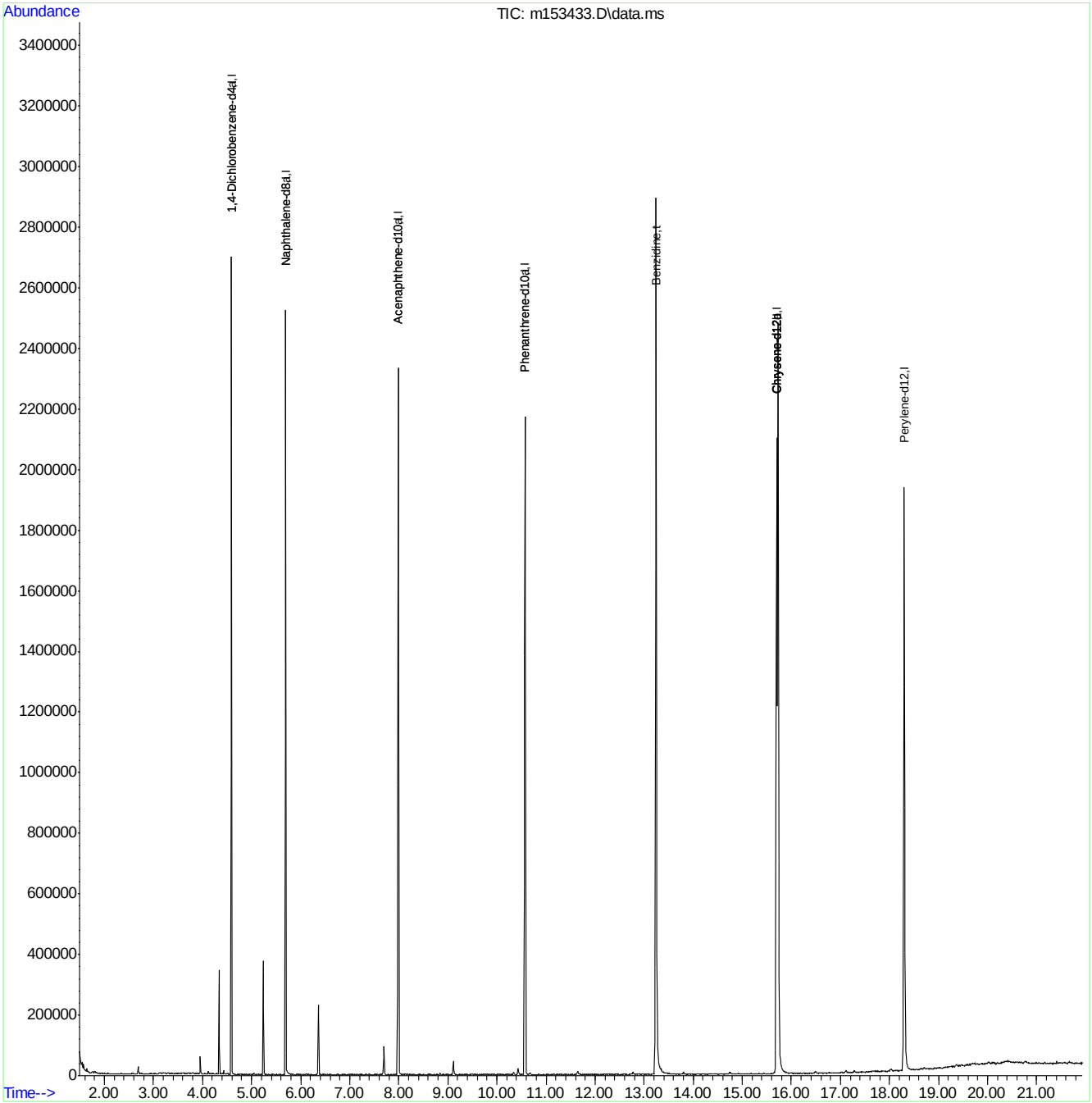
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.587 | 152 | 324199 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.693 | 136 | 1093390 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 619798 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 1158756 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.702 | 240 | 1064854 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.303 | 264 | 1146936 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.587 | 152 | 324199 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 619798 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.702 | 240 | 1064854 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.702 | 240 | 1064854 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 1158756 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.693 | 136 | 1093390 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.702 | 240 | 1064854 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.245 | 184 | 1823706 | 82.49 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153433.D
Acq On : 14 Apr 2019 3:11 pm
Operator : chriss2
Sample : ic6558-80
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 13:20:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153434.D
Acq On : 14 Apr 2019 3:39 pm
Operator : chriss2
Sample : ic6558-50
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 15 13:17:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

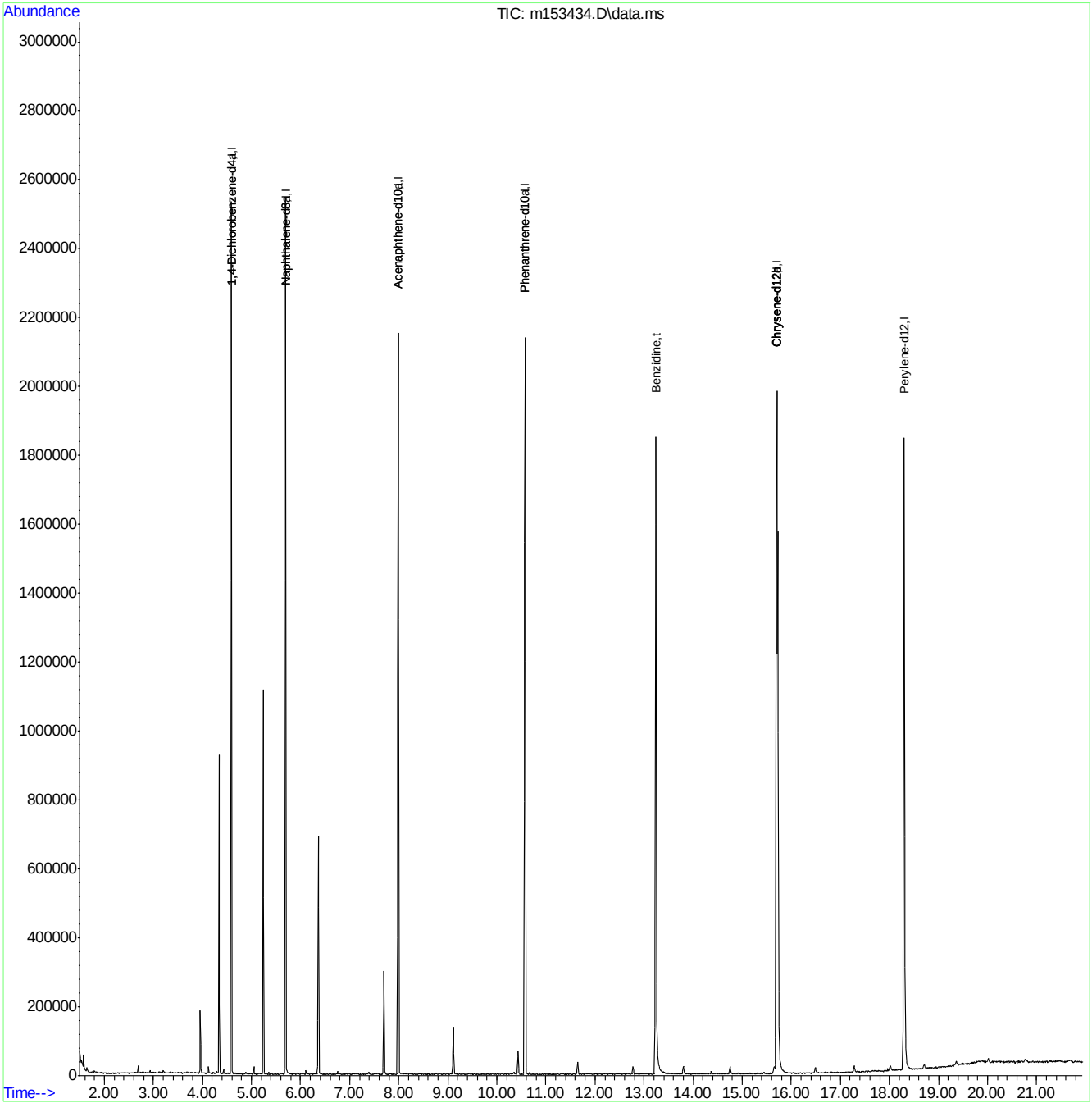
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 307606 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 1043268 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.990 | 164 | 595733 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.570 | 188 | 1134616 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.703 | 240 | 1037708 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.304 | 264 | 1128772 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 307606 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.990 | 164 | 595733 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.703 | 240 | 1037708 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.703 | 240 | 1037708 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.570 | 188 | 1134616 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 1043268 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.703 | 240 | 1037708 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.241 | 184 | 1077281 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153434.D
Acq On : 14 Apr 2019 3:39 pm
Operator : chriss2
Sample : ic6558-50
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 15 13:17:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153435.D
Acq On : 14 Apr 2019 4:08 pm
Operator : chriss2
Sample : ic6558-25
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 15 13:21:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

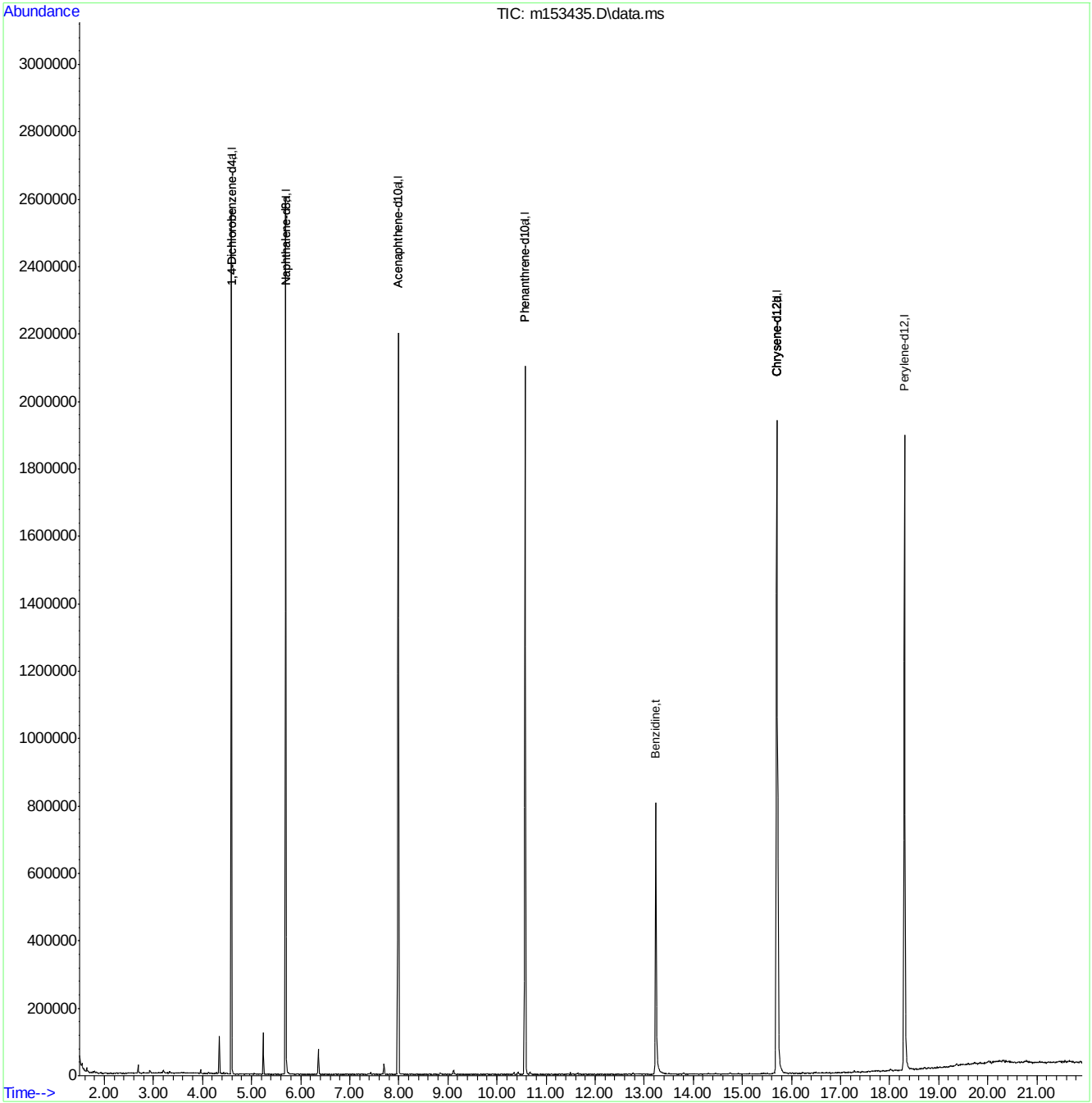
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.589 | 152 | 315538 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 1068152 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.991 | 164 | 611960 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.571 | 188 | 1134129 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.704 | 240 | 1042016 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.305 | 264 | 1101514 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.589 | 152 | 315538 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.991 | 164 | 611960 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.704 | 240 | 1042016 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.704 | 240 | 1042016 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.571 | 188 | 1134129 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 1068152 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.704 | 240 | 1042016 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.236 | 184 | 486413 | 22.48 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153435.D
Acq On : 14 Apr 2019 4:08 pm
Operator : chriss2
Sample : ic6558-25
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 15 13:21:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153436.D
Acq On : 14 Apr 2019 4:37 pm
Operator : chriss2
Sample : ic6558-10
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 13:23:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

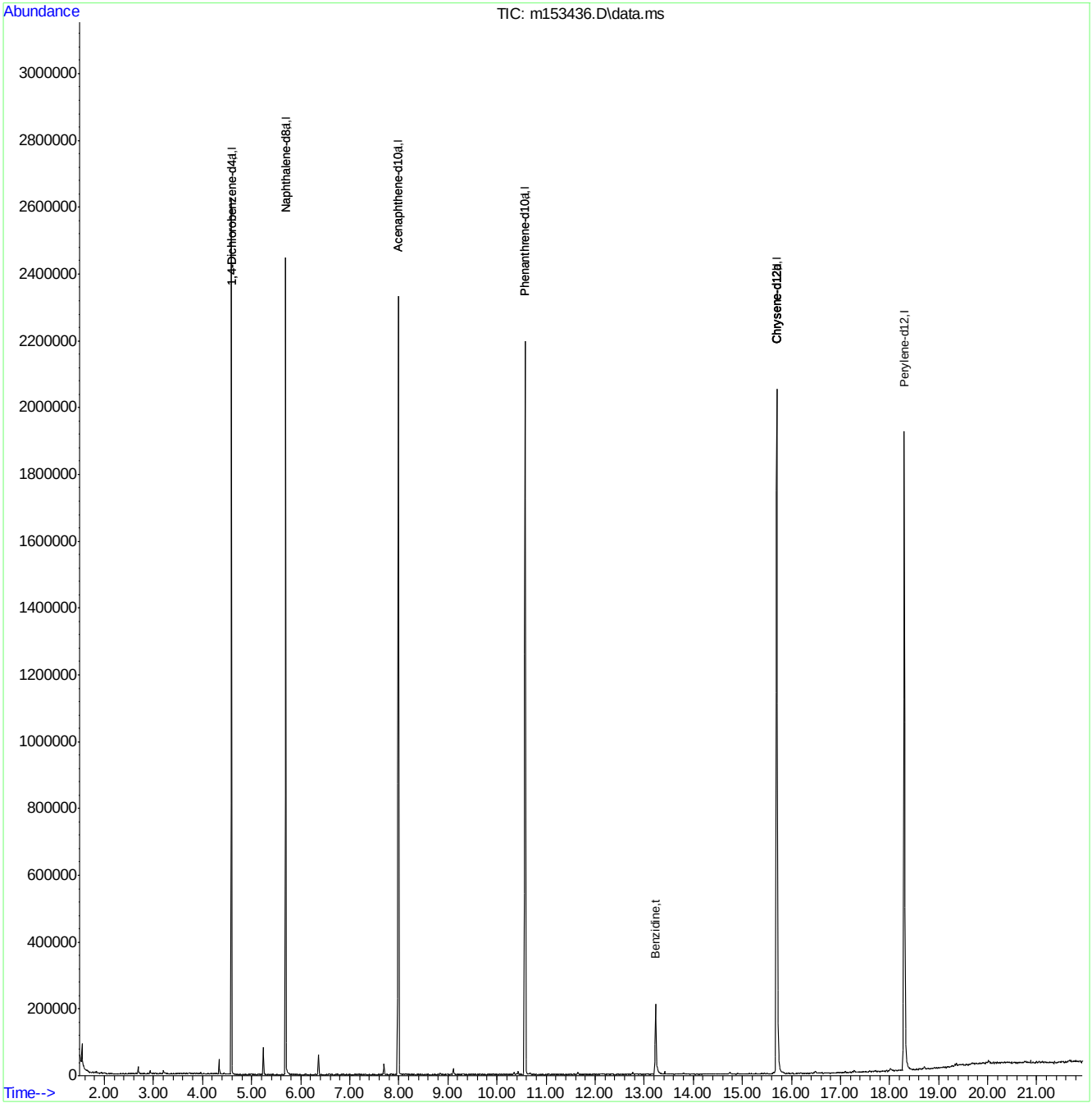
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.587 | 152 | 332083 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.698 | 136 | 1089459 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.989 | 164 | 630875 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 1179104 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.702 | 240 | 1076531 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.303 | 264 | 1152693 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.587 | 152 | 332083 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.989 | 164 | 630875 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.702 | 240 | 1076531 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.702 | 240 | 1076531 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 1179104 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.698 | 136 | 1089459 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.702 | 240 | 1076531 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.234 | 184 | 139701 | 6.25 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153436.D
Acq On : 14 Apr 2019 4:37 pm
Operator : chriss2
Sample : ic6558-10
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 15 13:23:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153437.D
Acq On : 14 Apr 2019 5:05 pm
Operator : chriss2
Sample : ic6558-5
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 15 13:24:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

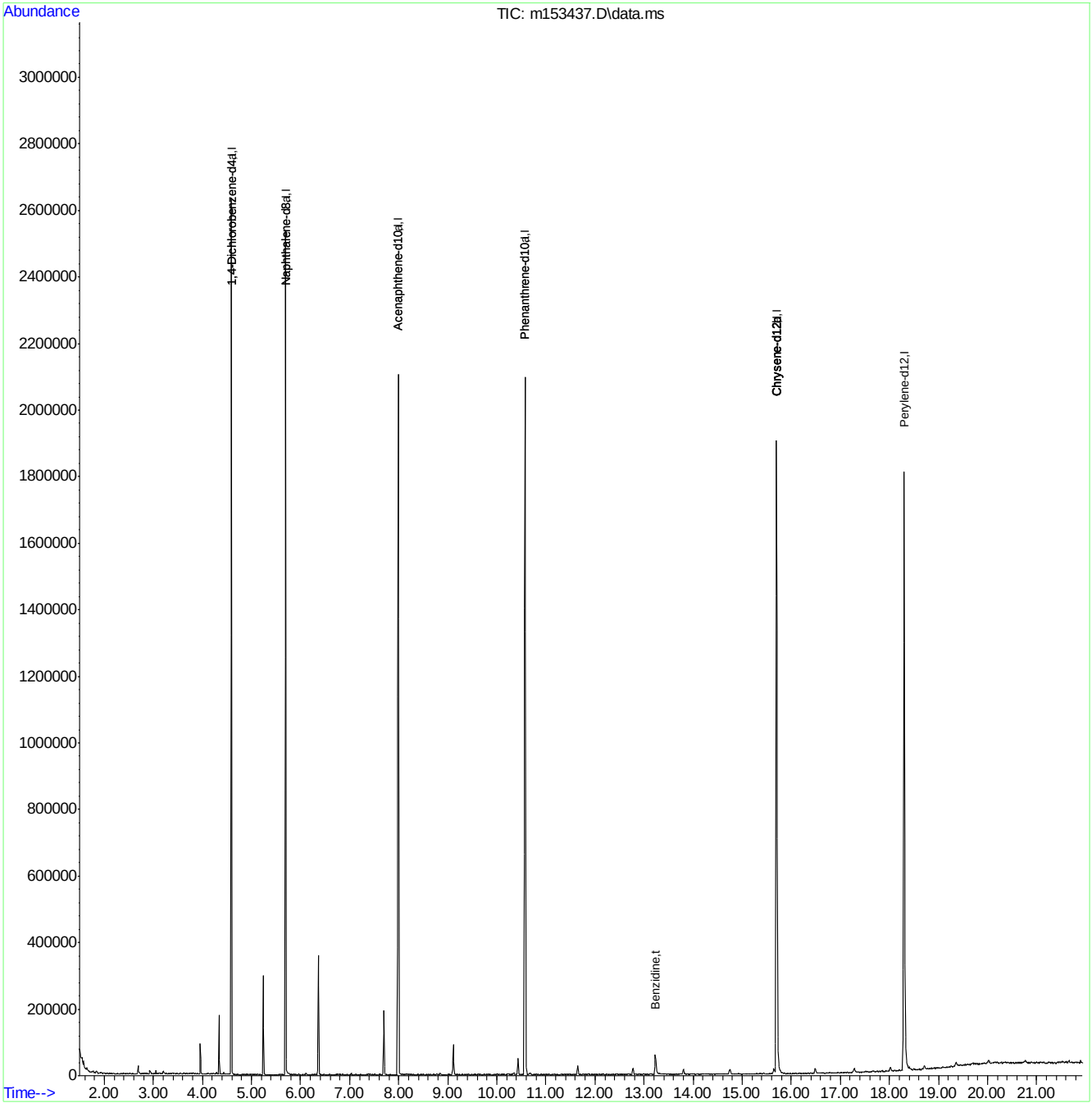
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 309123 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 1049965 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.990 | 164 | 590536 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.570 | 188 | 1122568 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.698 | 240 | 1035150 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.304 | 264 | 1090811 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 309123 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.990 | 164 | 590536 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.698 | 240 | 1035150 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.698 | 240 | 1035150 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.570 | 188 | 1122568 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 1049965 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.698 | 240 | 1035150 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.230 | 184 | 43034 | 2.00 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153437.D
Acq On : 14 Apr 2019 5:05 pm
Operator : chriss2
Sample : ic6558-5
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 15 13:24:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153438.D
Acq On : 14 Apr 2019 5:34 pm
Operator : chriss2
Sample : ic6558-2
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 15 13:25:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

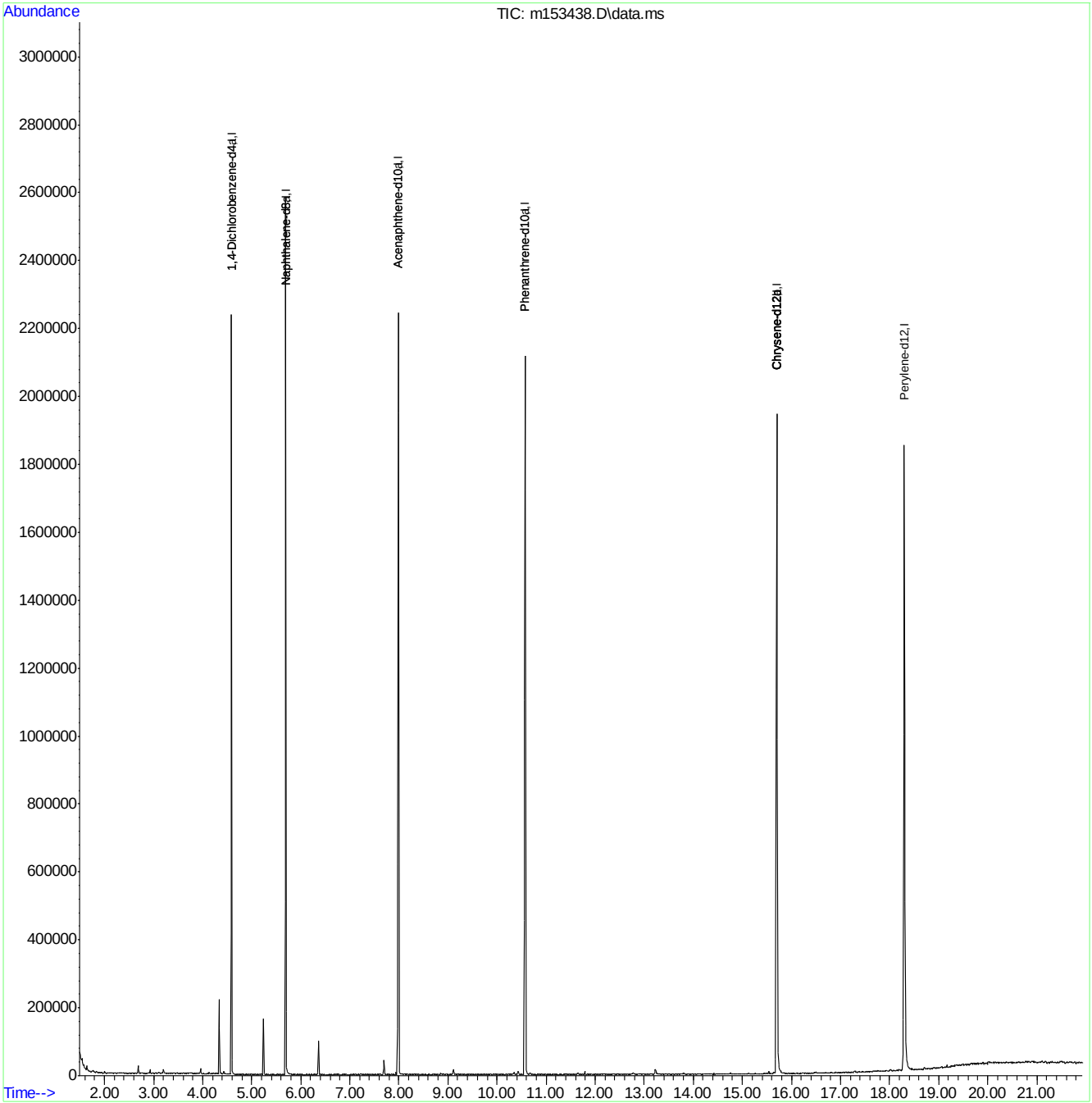
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 316006 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.696 | 136 | 1055335 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.987 | 164 | 607511 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 1123107 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.700 | 240 | 1040904 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.301 | 264 | 1090284 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 316006 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.987 | 164 | 607511 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.700 | 240 | 1040904 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.700 | 240 | 1040904 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 1123107 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.696 | 136 | 1055335 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.700 | 240 | 1040904 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153438.D
Acq On : 14 Apr 2019 5:34 pm
Operator : chriss2
Sample : ic6558-2
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 15 13:25:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153439.D
Acq On : 14 Apr 2019 6:02 pm
Operator : chriss2
Sample : ic6558-1
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 15 13:27:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration

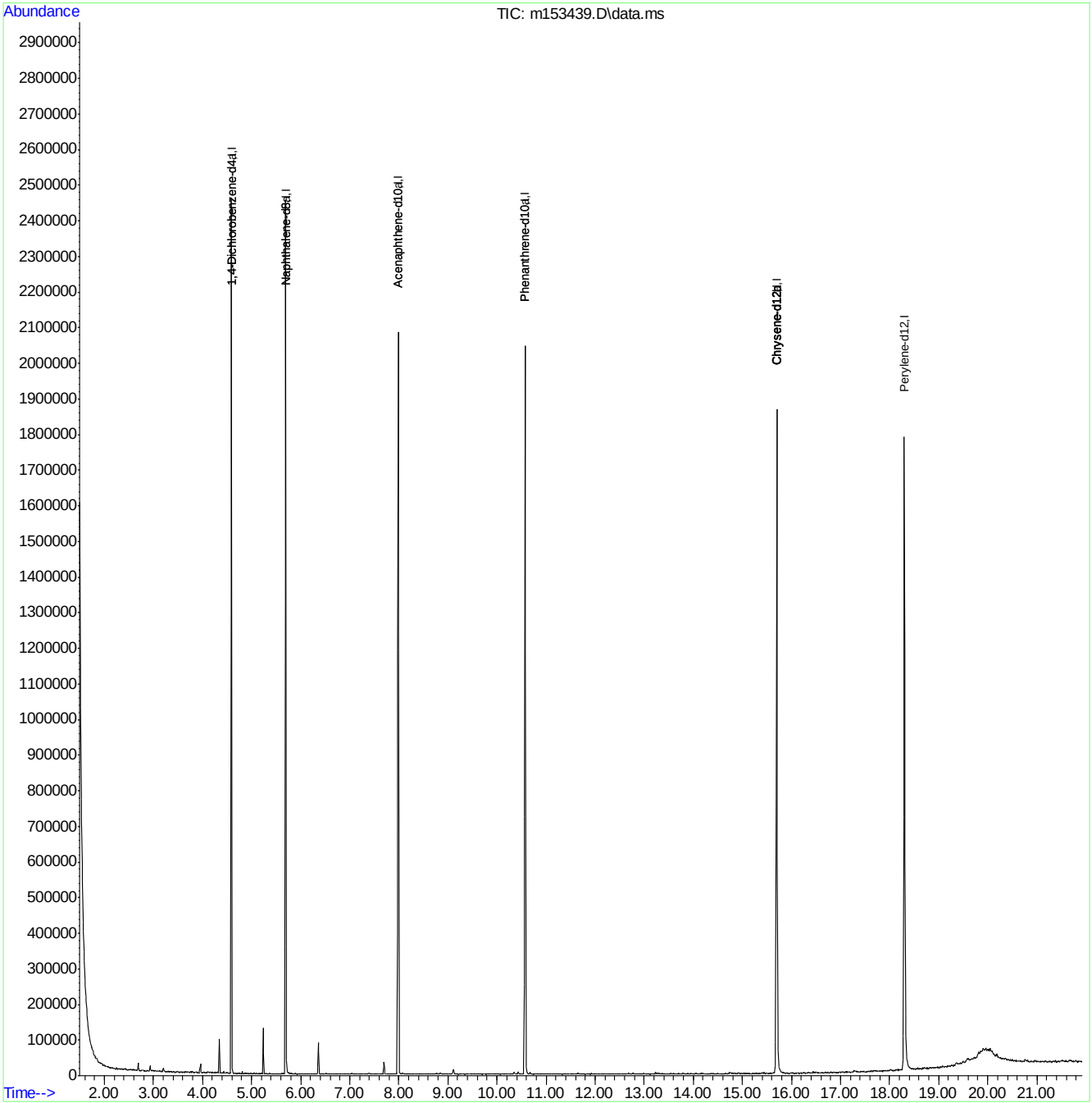
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.589 | 152 | 295192 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 994476 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.991 | 164 | 581752 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.571 | 188 | 1086350 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.704 | 240 | 999624 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.299 | 264 | 1040638 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.589 | 152 | 295192 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.991 | 164 | 581752 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.704 | 240 | 999624 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.704 | 240 | 999624 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.571 | 188 | 1086350 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 994476 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.704 | 240 | 999624 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153439.D
Acq On : 14 Apr 2019 6:02 pm
Operator : chriss2
Sample : ic6558-1
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 15 13:27:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:16:34 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153440.D
Acq On : 14 Apr 2019 6:31 pm
Operator : chriss2
Sample : icv6558-50
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 15 13:38:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:37:21 2019
Response via : Initial Calibration

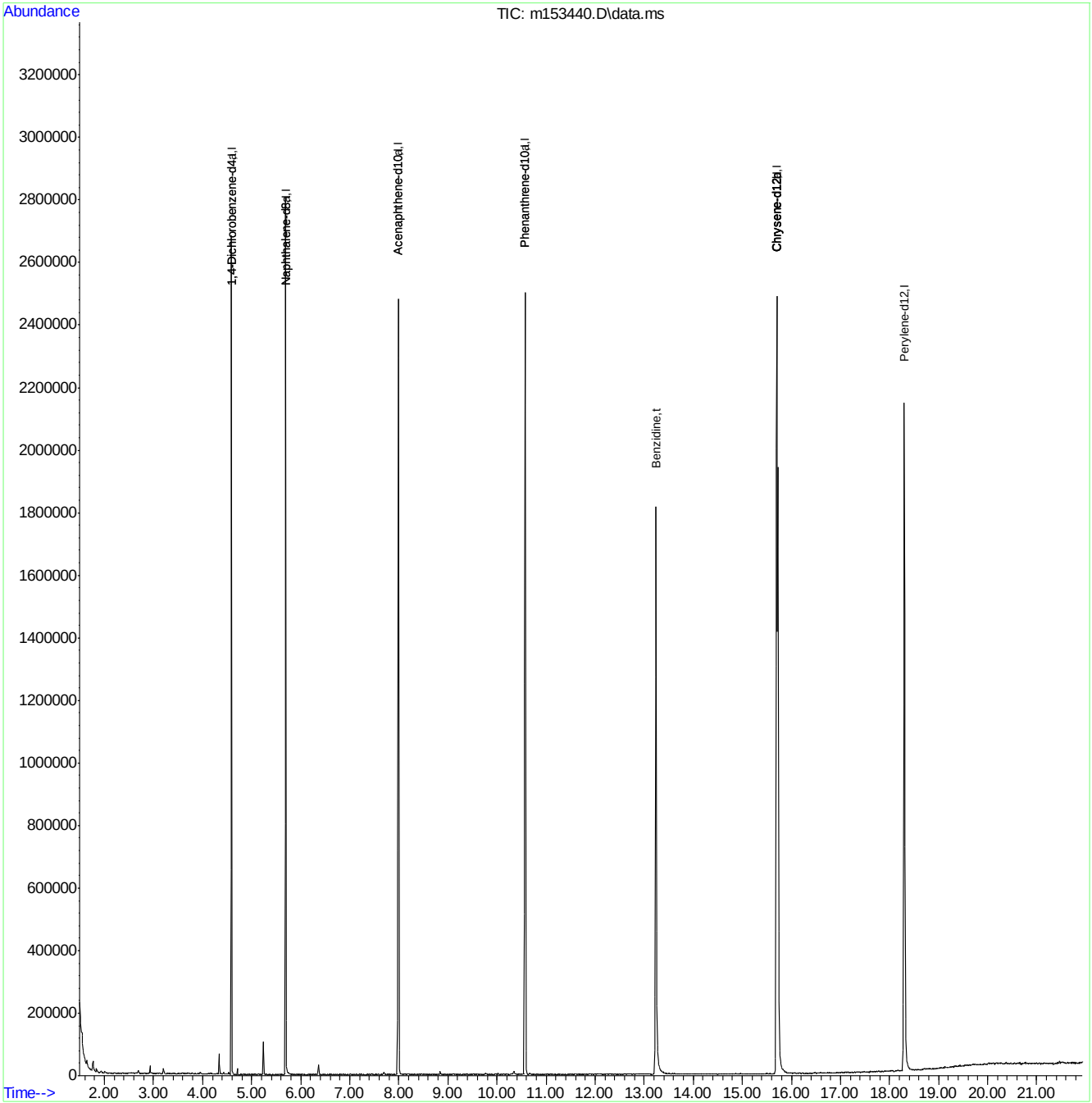
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 355387 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 1210601 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.988 | 164 | 679943 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.573 | 188 | 1358609 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.701 | 240 | 1370467 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.307 | 264 | 1380199 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 355387 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.988 | 164 | 679943 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.701 | 240 | 1370467 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.701 | 240 | 1370467 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.573 | 188 | 1358609 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 1210601 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.701 | 240 | 1370467 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 13.244 | 184 | 1124510 | 43.46 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153440.D
Acq On : 14 Apr 2019 6:31 pm
Operator : chriss2
Sample : icv6558-50
Misc : op17006,em6558,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 15 13:38:25 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:37:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153441.D
Acq On : 14 Apr 2019 7:00 pm
Operator : chriss2
Sample : icv6557-50
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 15 12:54:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:52:14 2019
Response via : Initial Calibration

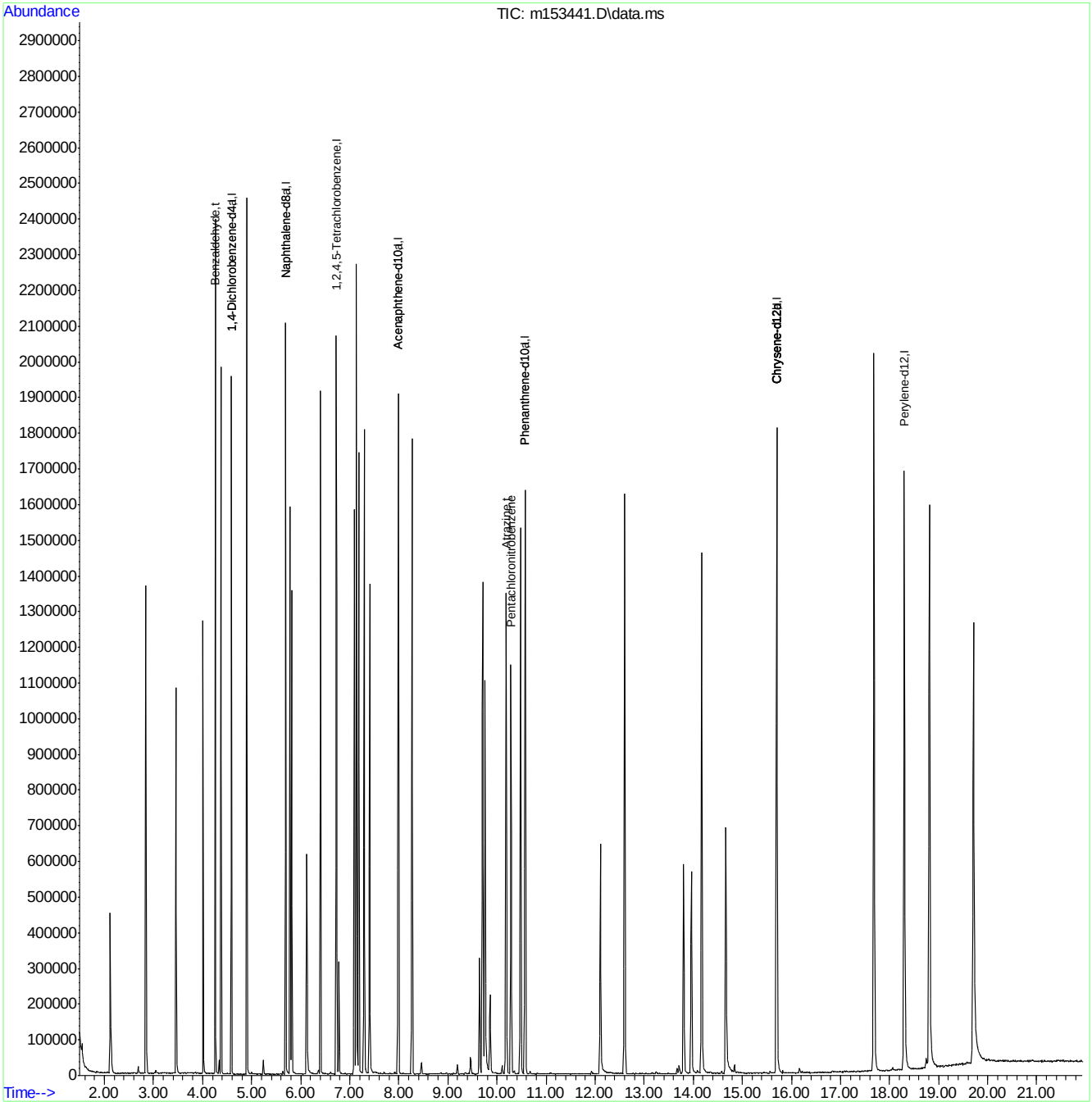
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.586 | 152 | 251302 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.697 | 136 | 913631 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.988 | 164 | 510965 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.574 | 188 | 883153 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.701 | 240 | 924351 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 18.302 | 264 | 979351 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.586 | 152 | 251302 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.988 | 164 | 510965 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.701 | 240 | 924351 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.701 | 240 | 924351 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.574 | 188 | 883153 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.697 | 136 | 913631 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.701 | 240 | 924351 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.260 | 105 | 340363 | 48.26 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.728 | 216 | 409726 | 46.95 | ppm | 98 |
| 105) Atrazine | 10.189 | 215 | 131085 | 54.77 | ppm | 95 |
| 112) Pentachloronitrobenzene | 10.290 | 295 | 51722 | 49.67 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153441.D
Acq On : 14 Apr 2019 7:00 pm
Operator : chriss2
Sample : icv6557-50
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 15 12:54:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:52:14 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153442.D
Acq On : 14 Apr 2019 7:28 pm
Operator : chriss2
Sample : icv6557-50
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 15 12:55:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:52:14 2019
Response via : Initial Calibration

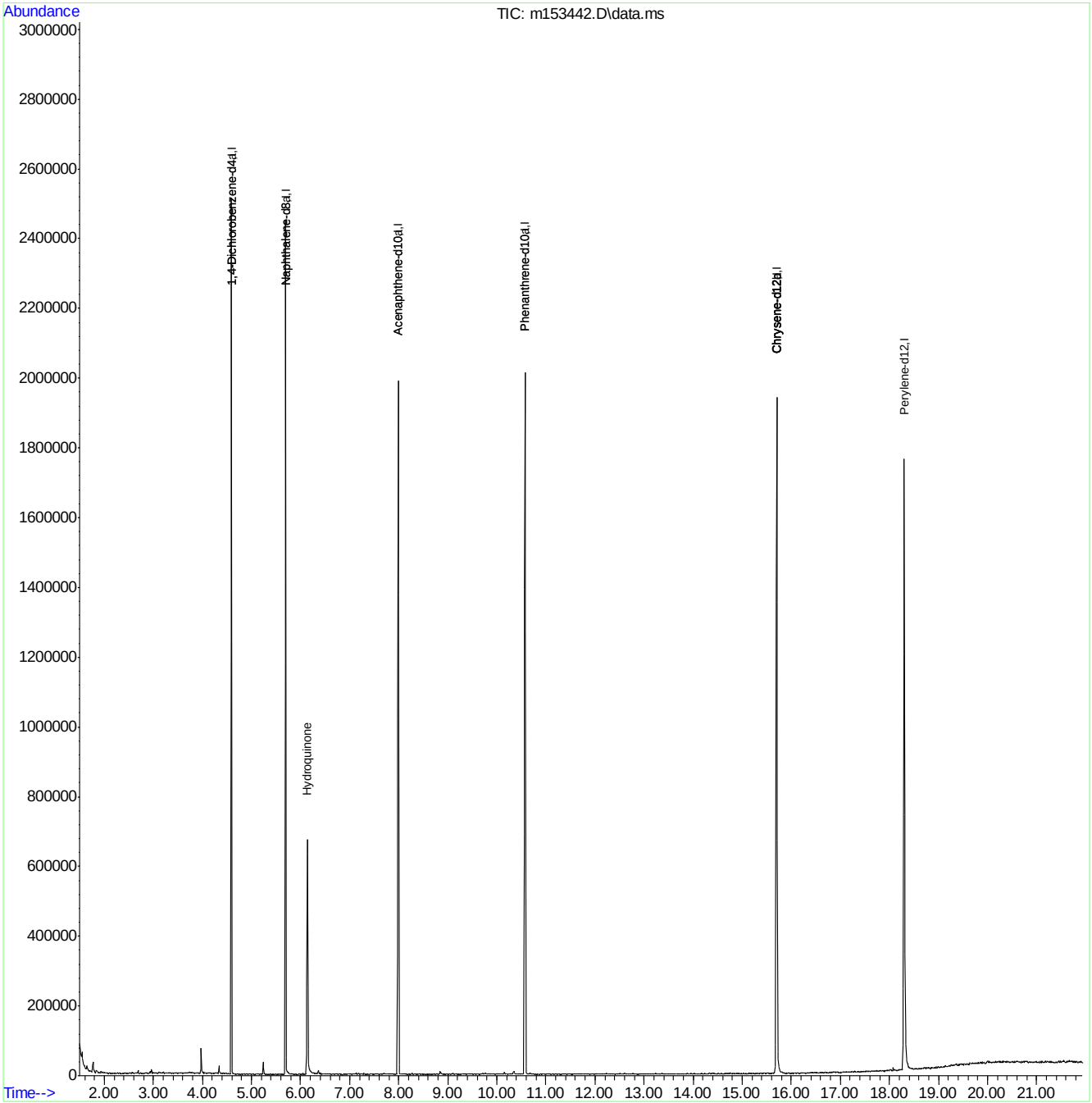
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.588 | 152 | 292219 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.694 | 136 | 1010964 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.991 | 164 | 537966 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.576 | 188 | 1106091 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.703 | 240 | 1089749 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 18.304 | 264 | 1043981 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.588 | 152 | 292219 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.991 | 164 | 537966 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.703 | 240 | 1089749 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.703 | 240 | 1089749 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.576 | 188 | 1106091 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.694 | 136 | 1010964 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.703 | 240 | 1089749 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 114) Hydroquinone | 6.137 | 110 | 384489 | 46.70 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6557\
Data File : m153442.D
Acq On : 14 Apr 2019 7:28 pm
Operator : chriss2
Sample : icv6557-50
Misc : op17006,em6557,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 15 12:55:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 12:52:14 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6559\
Data File : m153444.D
Acq On : 15 Apr 2019 2:05 pm
Operator : christc2
Sample : ic6556-50
Misc : op17006,em6559,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 14:53:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:37:21 2019
Response via : Initial Calibration

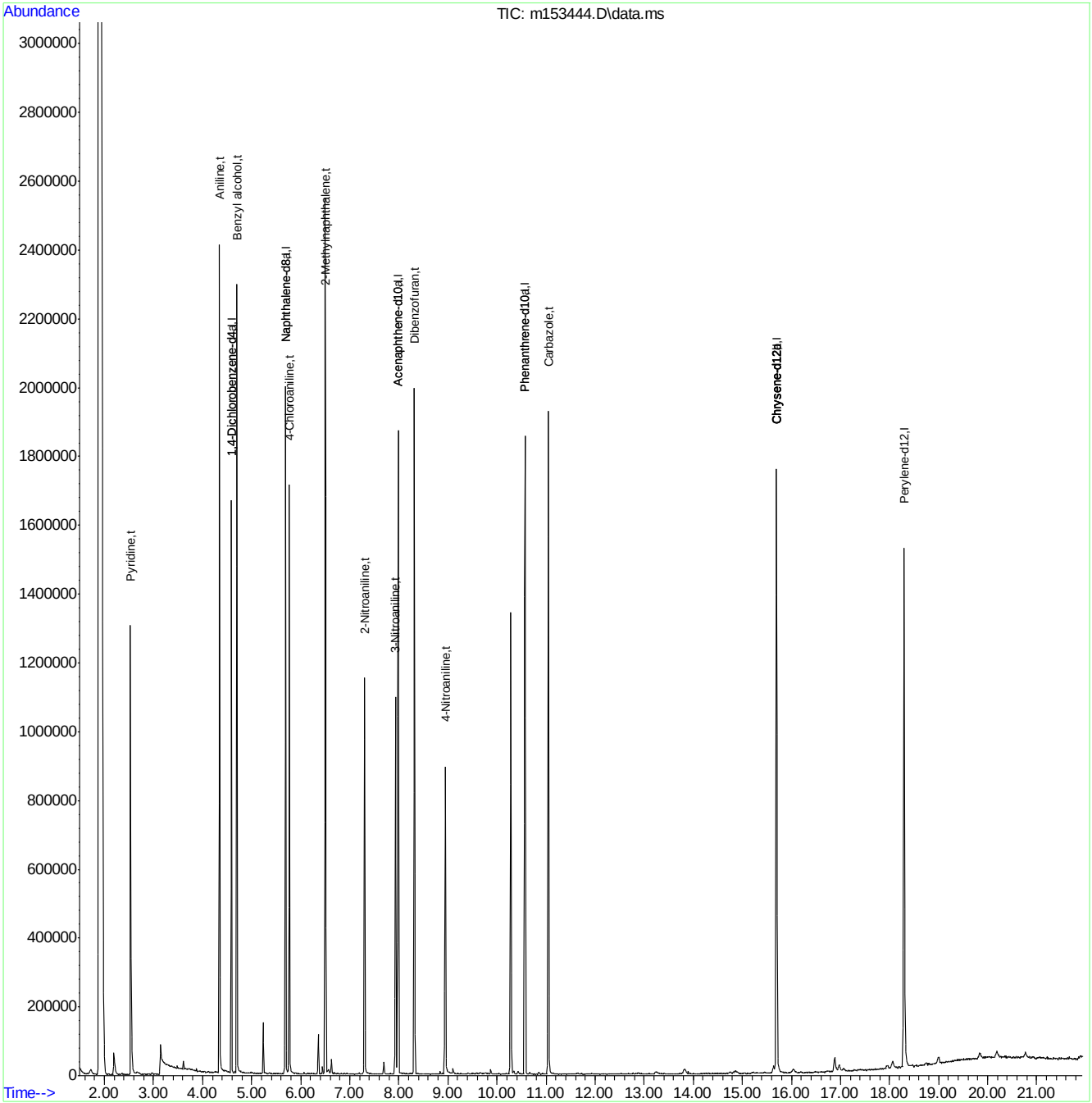
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.591 | 152 | 259492 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.692 | 136 | 951960 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.988 | 164 | 516788 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.568 | 188 | 984216 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 15.695 | 240 | 882663 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 18.296 | 264 | 888272 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.591 | 152 | 259492 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.988 | 164 | 516788 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.695 | 240 | 882663 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.695 | 240 | 882663 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.568 | 188 | 984216 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.692 | 136 | 951960 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.695 | 240 | 882663 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Pyridine | 2.530 | 79 | 533530 | 43.16 | ppm | 99 |
| 10) Aniline | 4.346 | 93 | 729119 | 55.28 | ppm | 98 |
| 16) Benzyl alcohol | 4.698 | 108 | 277294 | 52.03 | ppm | 96 |
| 39) 4-Chloroaniline | 5.772 | 127 | 480601 | 46.53 | ppm | 99 |
| 44) 2-Methylnaphthalene | 6.503 | 141 | 626814 | 42.41 | ppm | 98 |
| 54) 2-Nitroaniline | 7.305 | 65 | 202466 | 47.22 | ppm | 96 |
| 58) 3-Nitroaniline | 7.935 | 138 | 212033 | 47.27 | ppm | 96 |
| 62) Dibenzofuran | 8.319 | 168 | 1046488 | 46.31 | ppm | 98 |
| 68) 4-Nitroaniline | 8.950 | 138 | 204471 | 51.16 | ppm | 97 |
| 79) Carbazole | 11.049 | 167 | 1158275 | 46.87 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6559\
Data File : m153444.D
Acq On : 15 Apr 2019 2:05 pm
Operator : christc2
Sample : ic6556-50
Misc : op17006,em6559,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 14:53:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Mon Apr 15 13:37:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154390.d
Acq On : 15 May 2019 8:50 am
Operator : christc2
Sample : cc6556-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:26:18 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:25:25 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.373 | 152 | 332409 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.425 | 136 | 1150510 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.631 | 164 | 732667 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.174 | 188 | 1282345 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.285 | 240 | 1269747 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.875 | 264 | 1363842 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.373 | 152 | 332409 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.631 | 164 | 732667 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.285 | 240 | 1269747 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.285 | 240 | 1269747 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.174 | 188 | 1282345 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.425 | 136 | 1150510 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.285 | 240 | 1269747 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.454 | 112 | 558894 | 43.01 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 86.02% | | |
| 8) Phenol-d5 | 4.197 | 99 | 717732 | 44.72 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 89.44% | | |
| 25) Nitrobenzene-d5 | 4.800 | 82 | 582289 | 47.44 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 94.88% | | |
| 51) 2-Fluorobiphenyl | 6.675 | 172 | 1243174 | 45.64 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 91.28% | | |
| 73) 2,4,6-Tribromophenol | 8.956 | 330 | 261210 | 60.55 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 121.10% | | |
| 85) Terphenyl-d14 | 13.325 | 244 | 1586709 | 46.34 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 92.68% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.831 | 88 | 271607 | 41.30 | ppm | 100 |
| 3) Pyridine | 2.178 | 79 | 661024 | 41.74 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.146 | 42 | 217532 | 38.62 | ppm | 100 |
| 6) Indene | 4.565 | 116 | 909047 | 51.72 | ppm | 100 |
| 7) Cumene | 3.775 | 105 | 1354207 | 43.61 | ppm | 100 |
| 9) Phenol | 4.208 | 94 | 768135 | 45.54 | ppm | 100 |
| 10) Aniline | 4.149 | 93 | 718700 | 42.54 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 4.186 | 93 | 598081 | 51.26 | ppm | 100 |
| 12) 2-Chlorophenol | 4.250 | 128 | 561766 | 48.49 | ppm | 100 |
| 13) Decane | 4.261 | 43 | 472809 | 53.43 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.330 | 146 | 637801 | 47.39 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.384 | 146 | 613122 | 50.16 | ppm | 100 |
| 16) Benzyl alcohol | 4.507 | 108 | 359021 | 52.59 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 4.496 | 146 | 653183 | 54.01 | ppm | 100 |
| 18) Acetophenone | 4.683 | 105 | 784948 | 51.33 | ppm | 100 |
| 19) 2-Methylphenol | 4.624 | 108 | 549594 | 56.34 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.581 | 121 | 137906 | 45.72 | ppm | 100 |
| 21) 3&4-Methylphenol | 4.747 | 108 | 599285 | 61.10 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.688 | 70 | 414160 | 54.29 | ppm | 100 |
| 23) Hexachloroethane | 4.752 | 201 | 243280 | 47.12 | ppm | 100 |
| 26) Nitrobenzene | 4.816 | 77 | 576516 | 48.37 | ppm | 100 |
| 27) Quinoline | 5.799 | 129 | 1064661 | 48.85 | ppm | 100 |
| 28) Isophorone | 5.014 | 82 | 1099923 | 49.47 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154390.d
Acq On : 15 May 2019 8:50 am
Operator : christc2
Sample : cc6556-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:26:18 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:25:25 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 29) 2-Nitrophenol | 5.083 | 139 | 349288 | 63.36 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 5.164 | 107 | 483426 | 52.96 | ppm | 100 |
| 31) Benzoic acid | 5.329 | 105 | 485689 | 66.94 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 5.206 | 93 | 685085 | 50.79 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.335 | 162 | 490515 | 51.25 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.532 | 162 | 481442 | 55.49 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 5.089 | 180 | 606532 | 50.47 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.372 | 180 | 525356 | 44.91 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 5.591 | 180 | 506441 | 46.63 | ppm | 100 |
| 38) Naphthalene | 5.447 | 128 | 1500842 | 53.28 | ppm | 100 |
| 39) 4-Chloroaniline | 5.527 | 127 | 647876 | 51.90 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 6.568 | 161 | 615715 | 50.46 | ppm | 100 |
| 41) Caprolactam | 5.901 | 55 | 252244 | 56.96 | ppm | 100 |
| 42) Hexachlorobutadiene | 5.575 | 225 | 299207 | 42.91 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 6.114 | 107 | 460905 | 46.53 | ppm | 100 |
| 44) 2-Methylnaphthalene | 6.200 | 141 | 858499 | 48.06 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.317 | 142 | 1163322 | 51.22 | ppm | 100 |
| 46) Dimethylnaphthalene | 7.022 | 156 | 982806 | 49.71 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.397 | 237 | 720012 | 101.06 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 6.595 | 196 | 374372 | 47.20 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 6.670 | 196 | 441035 | 51.81 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.819 | 162 | 1019553 | 45.23 | ppm | 100 |
| 53) Biphenyl | 6.809 | 154 | 1416689 | 48.13 | ppm | 100 |
| 54) 2-Nitroaniline | 7.006 | 65 | 311301 | 51.21 | ppm | 100 |
| 55) Dimethylphthalate | 7.279 | 163 | 1125380 | 40.87 | ppm | 100 |
| 56) Acenaphthylene | 7.407 | 152 | 1611213 | 45.53 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 7.359 | 165 | 262849 | 50.97 | ppm | 100 |
| 58) 3-Nitroaniline | 7.631 | 138 | 330080 | 51.90 | ppm | 100 |
| 59) Acenaphthene | 7.679 | 153 | 1047910 | 48.90 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 7.791 | 184 | 362136 | 119.99 | ppm | 100 |
| 61) 4-Nitrophenol | 8.080 | 109 | 114814 | 32.52 | ppm | 100 |
| 62) Dibenzofuran | 7.957 | 168 | 1474291 | 46.02 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 7.994 | 165 | 345326 | 47.78 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.213 | 232 | 383394 | 50.30 | ppm | 100 |
| 65) Diethylphthalate | 8.432 | 149 | 1133400 | 42.60 | ppm | 100 |
| 66) Fluorene | 8.523 | 166 | 1242215 | 46.72 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 8.561 | 204 | 569835 | 41.27 | ppm | 100 |
| 68) 4-Nitroaniline | 8.657 | 138 | 302011 | 53.30 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 8.689 | 198 | 254307 | 63.66 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 8.790 | 169 | 836217 | 49.06 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 8.833 | 77 | 1193515 | 51.05 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 9.415 | 248 | 424739 | 48.51 | ppm | 100 |
| 75) Hexachlorobenzene | 9.490 | 284 | 508646 | 52.31 | ppm | 100 |
| 76) Pentachlorophenol | 9.912 | 266 | 659461 | 121.76 | ppm | 100 |
| 77) Phenanthrene | 10.216 | 178 | 1818079 | 57.18 | ppm | 100 |
| 78) Anthracene | 10.312 | 178 | 1717900 | 51.29 | ppm | 100 |
| 79) Carbazole | 10.692 | 167 | 1662082 | 51.62 | ppm | 100 |
| 80) Di-n-butylphthalate | 11.487 | 149 | 2124965 | 54.79 | ppm | 100 |
| 81) Fluoranthene | 12.476 | 202 | 2103087 | 50.04 | ppm | 100 |
| 82) Octadecane | 10.211 | 57 | 685775 | 66.62 | ppm | 100 |
| 84) Pyrene | 12.892 | 202 | 2132634 | 45.87 | ppm | 100 |
| 86) Butylbenzylphthalate | 14.393 | 149 | 989409 | 51.82 | ppm | 100 |
| 87) Benzo[a]anthracene | 15.264 | 228 | 2183512 | 50.23 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 15.322 | 252 | 910271 | 61.99 | ppm | 100 |
| 89) Chrysene | 15.333 | 228 | 2047235 | 52.98 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 15.616 | 149 | 1351373 | 51.79 | ppm | 100 |
| 92) Di-n-octylphthalate | 16.834 | 149 | 2364618 | 52.06 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154390.d
Acq On : 15 May 2019 8:50 am
Operator : christc2
Sample : cc6556-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:26:18 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:25:25 2019
Response via : Initial Calibration

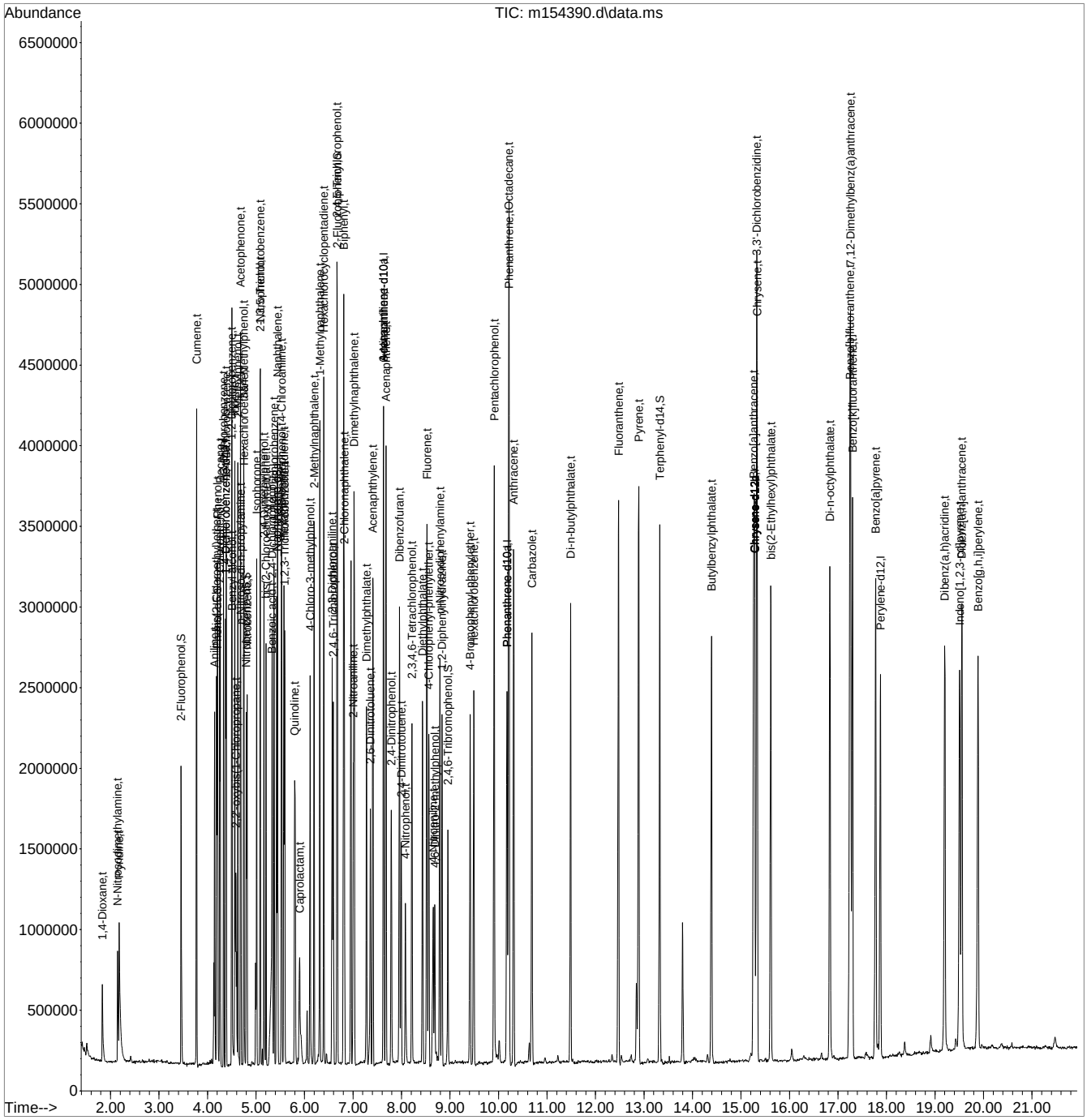
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 93) | Benzo[b]fluoranthene | 17.245 | 252 | 2325146 | 54.11 | ppm | 100 |
| 94) | Benzo[k]fluoranthene | 17.299 | 252 | 1977846 | 48.36 | ppm | 100 |
| 95) | Benzo[a]pyrene | 17.779 | 252 | 1925600 | 51.05 | ppm | 100 |
| 96) | Indeno[1,2,3-cd]pyrene | 19.510 | 276 | 1716342 | 45.87 | ppm | 100 |
| 97) | Dibenz(a,h)acridine | 19.200 | 279 | 1669264 | 48.27 | ppm | 100 |
| 98) | Dibenz[a,h]anthracene | 19.552 | 278 | 1812171 | 52.13 | ppm | 100 |
| 99) | 7,12-Dimethylbenz(a)an... | 17.256 | 256 | 1034664 | 62.80 | ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 19.889 | 276 | 1711168 | 47.84 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154390.d
Acq On : 15 May 2019 8:50 am
Operator : christc2
Sample : cc6556-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\mm6556.m
Quant Results File: mm6556.RES
Quant Time: May 16 13:26:18 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 13:25:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154391.d
Acq On : 15 May 2019 9:18 am
Operator : christc2
Sample : cc6557-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 16 12:34:23 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Tue May 14 11:13:06 2019
Response via : Initial Calibration

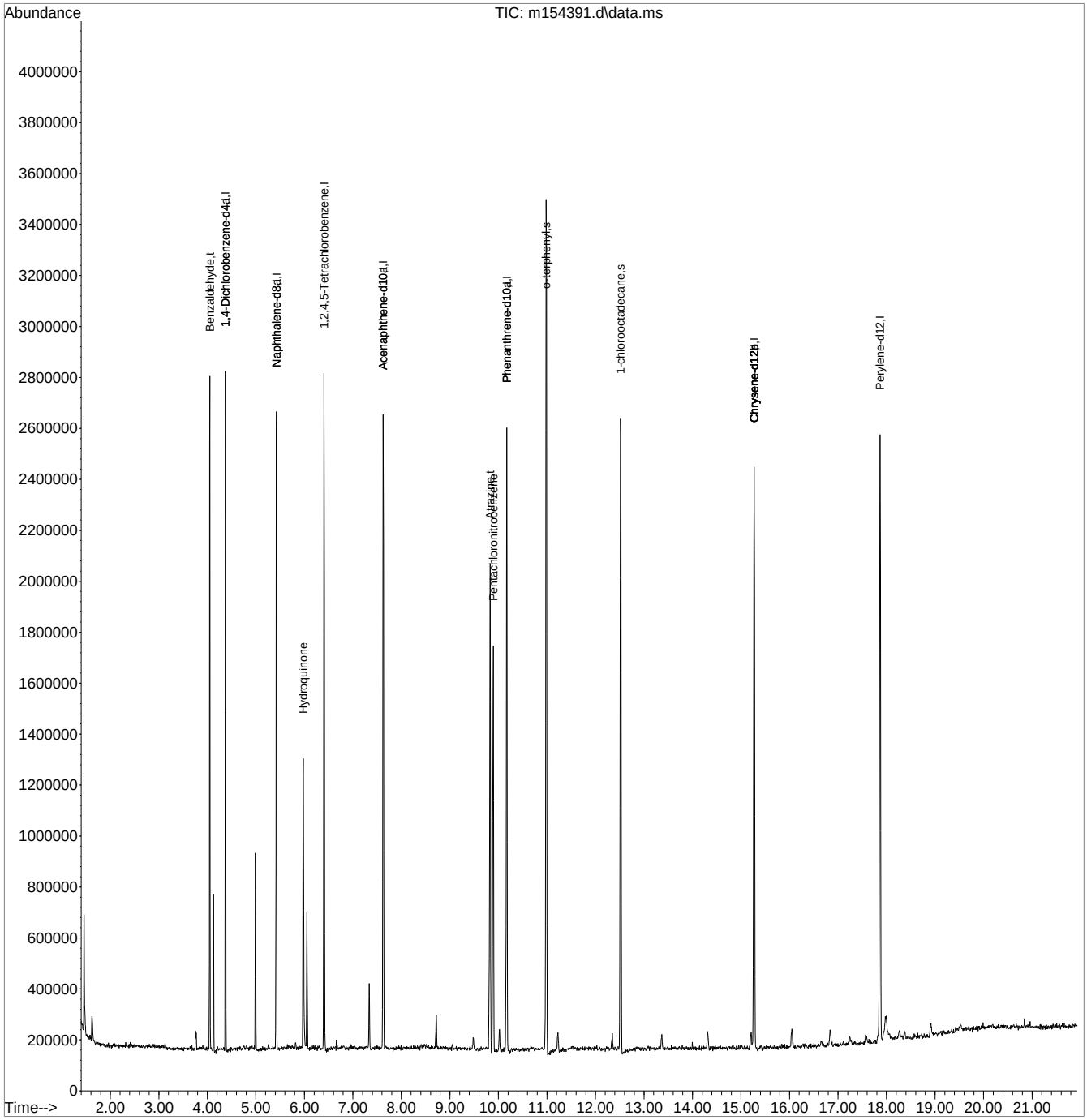
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.371 | 152 | 305079 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.424 | 136 | 1089722 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.624 | 164 | 622247 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.172 | 188 | 1235895 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.273 | 240 | 1158826 | 40.00 | ppm | 0.01 |
| 91) Perylene-d12 | 17.868 | 264 | 1337525 | 40.00 | ppm | 0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.371 | 152 | 305079 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.624 | 164 | 622239 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.273 | 240 | 1157965 | 40.00 | ppm | 0.01 |
| 108) Chrysene-d12b | 15.273 | 240 | 1158190 | 40.00 | ppm | # 0.01 |
| 110) Phenanthrene-d10a | 10.172 | 188 | 1235895 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.424 | 136 | 1089722 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.273 | 240 | 1158826 | 40.00 | ppm | 0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.517 | 57 | 490557 | 68.84 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = | 137.68% | | |
| 111) o-terphenyl | 10.984 | 230 | 985171 | 53.70 | ppm | 0.03 |
| Spiked Amount 50.000 | | | Recovery = | 107.40% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.051 | 105 | 444702 | 51.94 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.406 | 216 | 511593 | 48.14 | ppm | 99 |
| 105) Atrazine | 9.830 | 215 | 189926 | 65.16 | ppm | 93 |
| 112) Pentachloronitrobenzene | 9.894 | 295 | 87789 | 60.24 | ppm | 89 |
| 114) Hydroquinone | 5.979 | 110 | 559816 | 63.08 | ppm | 91 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154391.d
Acq On : 15 May 2019 9:18 am
Operator : christc2
Sample : cc6557-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 16 12:34:23 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Tue May 14 11:13:06 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154392.d
Acq On : 15 May 2019 9:47 am
Operator : christc2
Sample : cc6558-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 16 12:31:44 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Tue May 14 11:13:06 2019
Response via : Initial Calibration

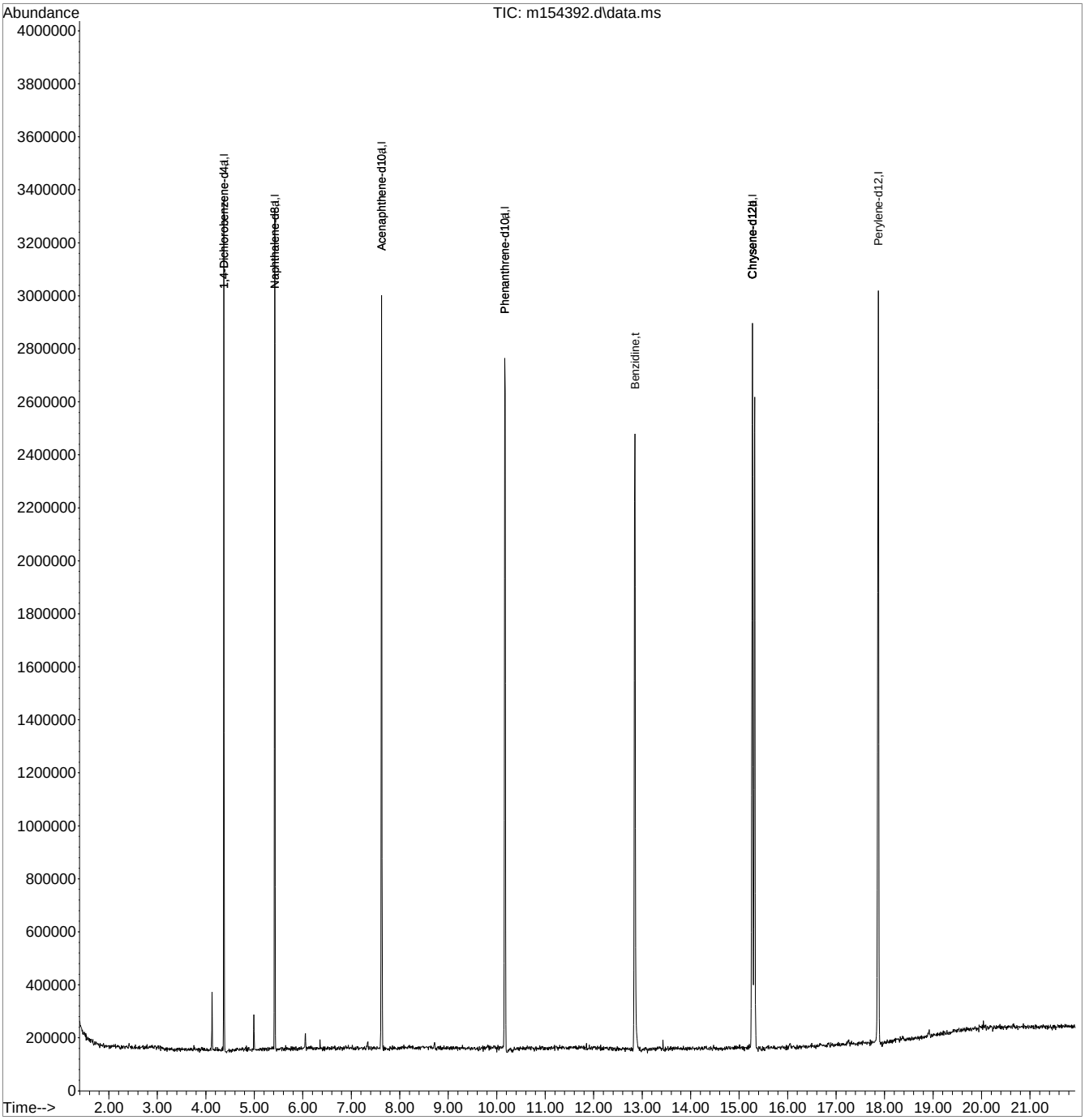
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.373 | 152 | 373968 | 40.00 | ppm | | 0.00 |
| 24) Naphthalene-d8 | 5.420 | 136 | 1296759 | 40.00 | ppm | | 0.00 |
| 47) Acenaphthene-d10 | 7.626 | 164 | 752342 | 40.00 | ppm | | 0.00 |
| 69) Phenanthrene-d10 | 10.168 | 188 | 1339485 | 40.00 | ppm | | 0.00 |
| 83) Chrysene-d12 | 15.274 | 240 | 1409780 | 40.00 | ppm | | 0.01 |
| 91) Perylene-d12 | 17.870 | 264 | 1622141 | 40.00 | ppm | | 0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.373 | 152 | 373968 | 40.00 | ppm | | 0.00 |
| 103) Acenaphthene-d10a | 7.626 | 164 | 752342 | 40.00 | ppm | | 0.00 |
| 106) Chrysene-d12a | 15.274 | 240 | 1409780 | 40.00 | ppm | | 0.01 |
| 108) Chrysene-d12b | 15.274 | 240 | 1409780 | 40.00 | ppm | # | 0.01 |
| 110) Phenanthrene-d10a | 10.168 | 188 | 1339485 | 40.00 | ppm | | 0.00 |
| 113) Naphthalene-d8a | 5.420 | 136 | 1296759 | 40.00 | ppm | | 0.00 |
| 115) Chrysene-d12c | 15.274 | 240 | 1409780 | 40.00 | ppm | | 0.01 |
| System Monitoring Compounds | | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | | |
| Target Compounds | | | | | | | Qvalue |
| 107) Benzidine | 12.849 | 184 | 1566292 | 58.84 | ppm | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jonkm\em6594\
Data File : m154392.d
Acq On : 15 May 2019 9:47 am
Operator : christc2
Sample : cc6558-50 Inst : MSM
Misc : op17006,em6594,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Results File: MM6556.RES
Quant Time: May 16 12:31:44 2019
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Tue May 14 11:13:06 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154416.D
Acq On : 16 May 2019 8:57 am
Operator : christc2
Sample : cc6556-25
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:45:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 09:20:22 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.366 | 152 | 284264 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.413 | 136 | 962480 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.613 | 164 | 550693 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.156 | 188 | 1092667 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.256 | 240 | 1086502 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.852 | 264 | 1119330 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.366 | 152 | 284264 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.613 | 164 | 550693 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.256 | 240 | 1086502 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.256 | 240 | 1086588 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.156 | 188 | 1092667 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.413 | 136 | 962480 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.256 | 240 | 1086502 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.442 | 112 | 230643 | 20.75 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 41.50% | | | |
| 8) Phenol-d5 | 4.184 | 99 | 290059 | 21.13 | ppm | 0.07 |
| Spiked Amount 50.000 | | | Recovery = 42.26% | | | |
| 25) Nitrobenzene-d5 | 4.788 | 82 | 232806 | 22.67 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 45.34% | | | |
| 51) 2-Fluorobiphenyl | 6.657 | 172 | 472422 | 23.07 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 46.14% | | | |
| 73) 2,4,6-Tribromophenol | 8.932 | 330 | 96974 | 26.38 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 52.76% | | | |
| 85) Terphenyl-d14 | 13.301 | 244 | 580551 | 19.81 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = 39.62% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.818 | 88 | 110288 | 19.61 | ppm | 95 |
| 3) Pyridine | 2.176 | 79 | 267297 | 19.74 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.139 | 42 | 88941 | 18.46 | ppm | 95 |
| 6) Indene | 4.553 | 116 | 365194 | 24.30 | ppm | 97 |
| 7) Cumene | 3.762 | 105 | 547892 | 20.63 | ppm | 99 |
| 9) Phenol | 4.195 | 94 | 314055 | 21.77 | ppm | 84 |
| 10) Aniline | 4.136 | 93 | 361059 | 24.99 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 4.179 | 93 | 246134 | 24.67 | ppm | 96 |
| 12) 2-Chlorophenol | 4.238 | 128 | 233358 | 23.55 | ppm | 93 |
| 13) Decane | 4.254 | 43 | 202582 | 26.77 | ppm | 91 |
| 14) 1,3-Dichlorobenzene | 4.323 | 146 | 255866 | 22.23 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.376 | 146 | 245468 | 23.48 | ppm | 97 |
| 16) Benzyl alcohol | 4.494 | 108 | 146163 | 25.04 | ppm | 80 |
| 17) 1,2-Dichlorobenzene | 4.489 | 146 | 253914 | 24.55 | ppm | 96 |
| 18) Acetophenone | 4.670 | 105 | 310053 | 23.71 | ppm | 99 |
| 19) 2-Methylphenol | 4.611 | 108 | 214676 | 25.74 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154416.D
Acq On : 16 May 2019 8:57 am
Operator : christc2
Sample : cc6556-25
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:45:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 09:20:22 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.574 | 121 | 59090 | 22.91 | ppm | # | 41 |
| 21) 3&4-Methylphenol | 4.729 | 108 | 229548 | 27.37 | ppm | | 90 |
| 22) n-Nitroso-di-n-propyla... | 4.676 | 70 | 172721 | 26.48 | ppm | | 97 |
| 23) Hexachloroethane | 4.745 | 201 | 91885 | 20.81 | ppm | | 93 |
| 26) Nitrobenzene | 4.804 | 77 | 239440 | 24.02 | ppm | | 96 |
| 27) Quinoline | 5.781 | 129 | 433955 | 23.80 | ppm | | 95 |
| 28) Isophorone | 5.001 | 82 | 455217 | 24.47 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.071 | 139 | 133846 | 29.02 | ppm | | 93 |
| 30) 2,4-Dimethylphenol | 5.151 | 107 | 207329 | 27.15 | ppm | | 87 |
| 31) Benzoic acid | 5.279 | 105 | 194717 | 32.08 | ppm | | 92 |
| 32) bis(2-Chloroethoxy)met... | 5.194 | 93 | 275248 | 24.39 | ppm | | 97 |
| 33) 2,4-Dichlorophenol | 5.322 | 162 | 195106 | 24.37 | ppm | | 94 |
| 34) 2,6-Dichlorophenol | 5.519 | 162 | 189406 | 26.10 | ppm | | 97 |
| 35) 1,3,5-Trichlorobenzene | 5.076 | 180 | 228101 | 22.69 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.365 | 180 | 215621 | 22.03 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.584 | 180 | 202845 | 22.33 | ppm | | 98 |
| 38) Naphthalene | 5.434 | 128 | 592361 | 25.14 | ppm | | 98 |
| 39) 4-Chloroaniline | 5.509 | 127 | 261642 | 25.06 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.550 | 161 | 245234 | 24.02 | ppm | | 99 |
| 41) Caprolactam | 5.856 | 55 | 109271 | 29.49 | ppm | | 88 |
| 42) Hexachlorobutadiene | 5.562 | 225 | 114675 | 19.66 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 6.091 | 107 | 189450 | 22.86 | ppm | | 92 |
| 44) 2-Methylnaphthalene | 6.182 | 141 | 344956 | 23.08 | ppm | | 94 |
| 45) 1-Methylnaphthalene | 6.299 | 142 | 447177 | 23.54 | ppm | | 94 |
| 46) Dimethylnaphthalene | 7.004 | 156 | 379982 | 22.97 | ppm | | 97 |
| 48) Hexachlorocyclopentadiene | 6.385 | 237 | 259943 | 48.54 | ppm | | 96 |
| 49) 2,4,6-Trichlorophenol | 6.577 | 196 | 147292 | 24.71 | ppm | | 96 |
| 50) 2,4,5-Trichlorophenol | 6.646 | 196 | 162434 | 25.39 | ppm | | 95 |
| 52) 2-Chloronaphthalene | 6.801 | 162 | 408868 | 24.13 | ppm | | 95 |
| 53) Biphenyl | 6.791 | 154 | 545858 | 24.67 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.983 | 65 | 128921 | 28.22 | ppm | | 96 |
| 55) Dimethylphthalate | 7.261 | 163 | 460984 | 22.27 | ppm | | 99 |
| 56) Acenaphthylene | 7.389 | 152 | 665092 | 25.00 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 7.335 | 165 | 110425 | 28.49 | ppm | | 94 |
| 58) 3-Nitroaniline | 7.608 | 138 | 135676 | 28.38 | ppm | | 88 |
| 59) Acenaphthene | 7.661 | 153 | 396905 | 24.64 | ppm | | 95 |
| 60) 2,4-Dinitrophenol | 7.768 | 184 | 134180 | 61.65 | ppm | | 91 |
| 61) 4-Nitrophenol | 8.046 | 109 | 49216 | 18.55 | ppm | # | 78 |
| 62) Dibenzofuran | 7.939 | 168 | 592616 | 24.61 | ppm | | 92 |
| 63) 2,4-Dinitrotoluene | 7.971 | 165 | 139644 | 25.51 | ppm | | 84 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.190 | 232 | 139370 | 24.33 | ppm | | 97 |
| 65) Diethylphthalate | 8.409 | 149 | 453006 | 22.65 | ppm | | 100 |
| 66) Fluorene | 8.505 | 166 | 478357 | 23.94 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 8.543 | 204 | 226471 | 21.82 | ppm | | 96 |
| 68) 4-Nitroaniline | 8.617 | 138 | 126272 | 29.65 | ppm | | 78 |
| 70) 4,6-Dinitro-2-methylph... | 8.660 | 198 | 100224 | 29.81 | ppm | | 94 |
| 71) n-Nitrosodiphenylamine | 8.767 | 169 | 342749 | 23.60 | ppm | | 97 |
| 72) 1,2-Diphenylhydrazine | 8.815 | 77 | 500716 | 25.14 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 9.392 | 248 | 160891 | 21.57 | ppm | | 100 |
| 75) Hexachlorobenzene | 9.472 | 284 | 186183 | 22.47 | ppm | | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154416.D
Acq On : 16 May 2019 8:57 am
Operator : christc2
Sample : cc6556-25
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:45:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 09:20:22 2019
Response via : Initial Calibration

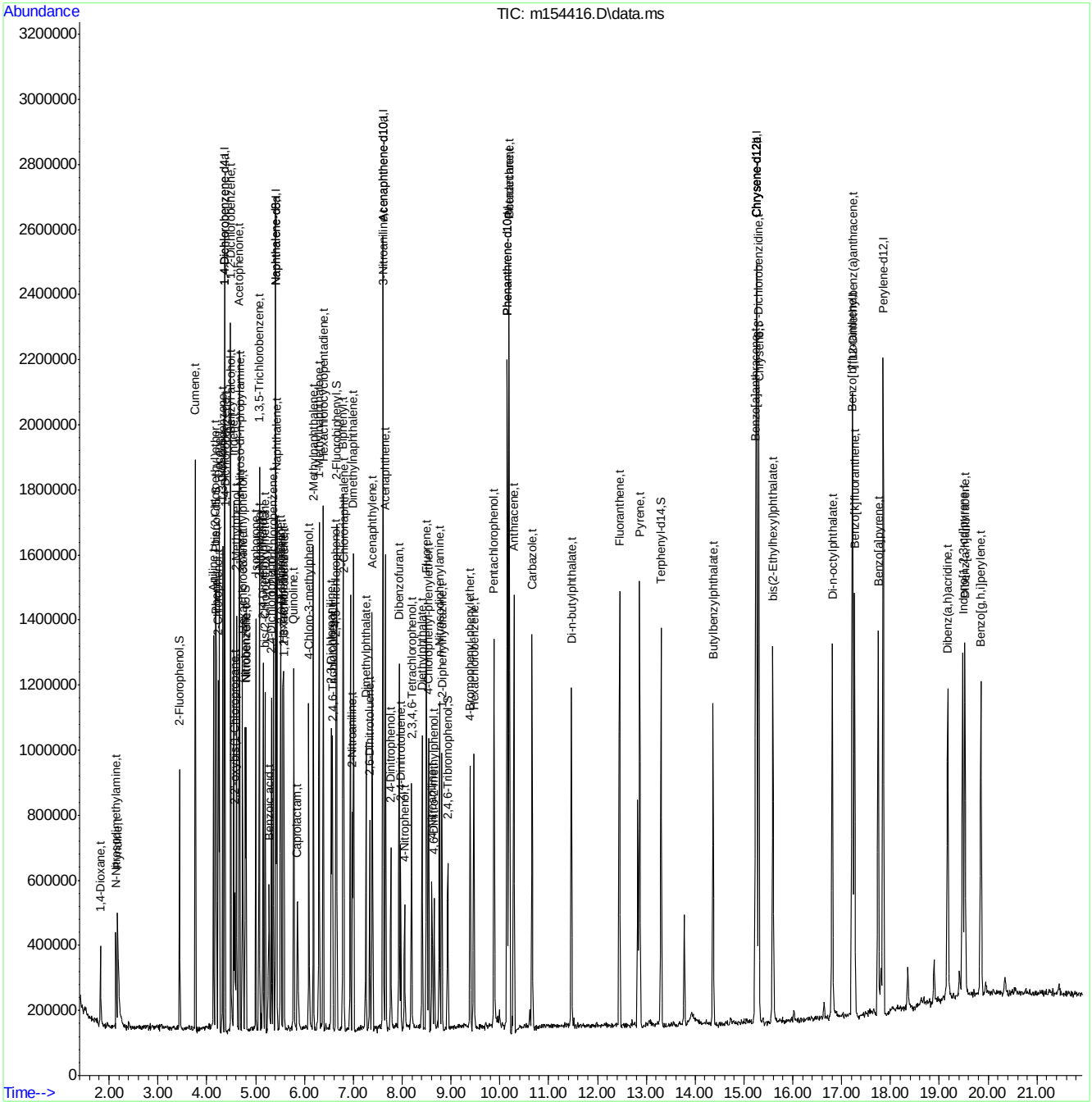
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 9.883 | 266 | 226347 | 49.05 | ppm | 98 |
| 77) Phenanthrene | 10.193 | 178 | 702129 | 25.92 | ppm | 98 |
| 78) Anthracene | 10.289 | 178 | 726557 | 25.46 | ppm | 98 |
| 79) Carbazole | 10.663 | 167 | 693286 | 25.27 | ppm | 97 |
| 80) Di-n-butylphthalate | 11.469 | 149 | 844163 | 25.54 | ppm | 99 |
| 81) Fluoranthene | 12.452 | 202 | 799551 | 22.33 | ppm | 96 |
| 82) Octadecane | 10.193 | 57 | 284102 | 32.39 | ppm | 96 |
| 84) Pyrene | 12.863 | 202 | 832722 | 20.93 | ppm | 98 |
| 86) Butylbenzylphthalate | 14.370 | 149 | 368307 | 22.54 | ppm | 93 |
| 87) Benzo[a]anthracene | 15.240 | 228 | 789942 | 21.23 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 15.299 | 252 | 298588 | 23.76 | ppm | 96 |
| 89) Chrysene | 15.304 | 228 | 712744 | 21.55 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 15.593 | 149 | 516803 | 24.26 | ppm | 100 |
| 92) Di-n-octylphthalate | 16.810 | 149 | 877917 | 23.91 | ppm | 96 |
| 93) Benzo[b]fluoranthene | 17.216 | 252 | 829131 | 23.51 | ppm | 95 |
| 94) Benzo[k]fluoranthene | 17.264 | 252 | 711311 | 21.19 | ppm | 96 |
| 95) Benzo[a]pyrene | 17.750 | 252 | 731603 | 23.63 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 19.481 | 276 | 661497 | 21.52 | ppm | 89 |
| 97) Dibenz(a,h)acridine | 19.177 | 279 | 646149 | 22.77 | ppm | 88 |
| 98) Dibenz[a,h]anthracene | 19.524 | 278 | 690527 | 24.20 | ppm | 94 |
| 99) 7,12-Dimethylbenz(a)an... | 17.227 | 256 | 379759 | 28.08 | ppm | 95 |
| 100) Benzo[g,h,i]perylene | 19.855 | 276 | 677828 | 23.09 | ppm | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154416.D
Acq On : 16 May 2019 8:57 am
Operator : christc2
Sample : cc6556-25
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 16 12:45:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 09:20:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154417.D
Acq On : 16 May 2019 9:25 am
Operator : christc2
Sample : cc6557-25
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 16 12:46:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 09:20:22 2019
Response via : Initial Calibration

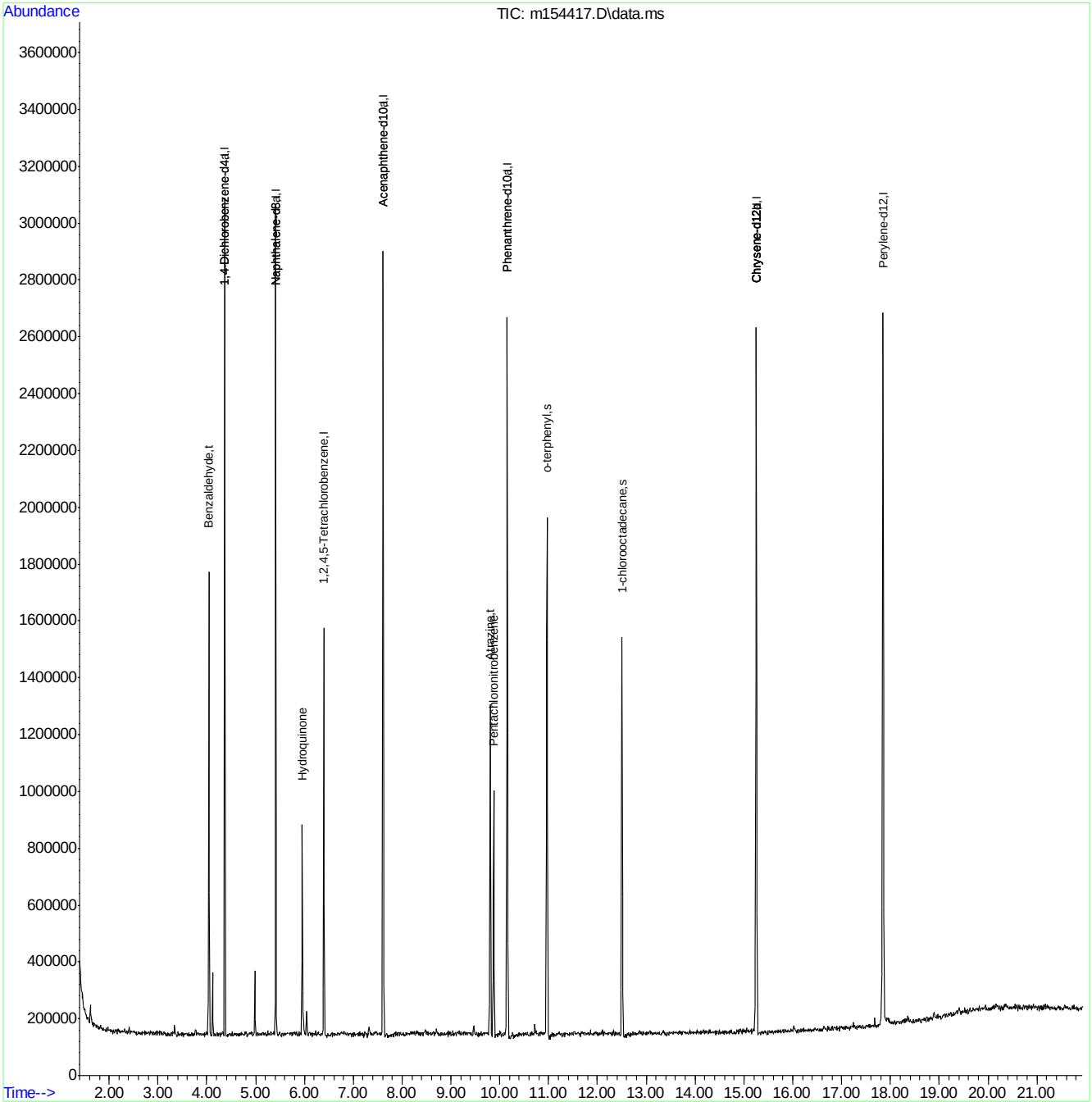
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.363 | 152 | 365634 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.410 | 136 | 1263711 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 7.611 | 164 | 719917 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 10.153 | 188 | 1302074 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 15.254 | 240 | 1240991 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 17.850 | 264 | 1422734 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.363 | 152 | 365634 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.611 | 164 | 719917 | 40.00 | ppm | 0.00 |
| 106) Chrysene-d12a | 15.254 | 240 | 1240991 | 40.00 | ppm | 0.00 |
| 108) Chrysene-d12b | 15.254 | 240 | 1240486 | 40.00 | ppm | 0.00 |
| 110) Phenanthrene-d10a | 10.153 | 188 | 1302074 | 40.00 | ppm | 0.00 |
| 113) Naphthalene-d8a | 5.410 | 136 | 1263711 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12c | 15.254 | 240 | 1240991 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.503 | 57 | 285218 | 37.37 | ppm | -0.06 |
| Spiked Amount 50.000 | | | Recovery = | 74.74% | | |
| 111) o-terphenyl | 10.965 | 230 | 516862 | 26.74 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = | 53.48% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.043 | 105 | 257224 | 25.07 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 6.393 | 216 | 297353 | 24.18 | ppm | 98 |
| 105) Atrazine | 6.806 | 215 | 98631 | 29.25 | ppm | 91 |
| 112) Pentachloronitrobenzene | 9.875 | 295 | 46393 | 30.22 | ppm | 91 |
| 114) Hydroquinone | 5.955 | 110 | 343686 | 33.40 | ppm | 90 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6595\
Data File : m154417.D
Acq On : 16 May 2019 9:25 am
Operator : christc2
Sample : cc6557-25
Misc : op17006,em6595,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 16 12:46:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 09:20:22 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154448.D
Acq On : 17 May 2019 12:23 pm
Operator : christc2
Sample : cc6556-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 15:37:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.358 | 152 | 247709 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.405 | 136 | 856301 | 40.00 | ppm | -0.02 |
| 47) Acenaphthene-d10 | 7.600 | 164 | 485889 | 40.00 | ppm | -0.02 |
| 69) Phenanthrene-d10 | 10.137 | 188 | 972233 | 40.00 | ppm | -0.02 |
| 83) Chrysene-d12 | 15.243 | 240 | 962501 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 17.828 | 264 | 989347 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.358 | 152 | 247709 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.600 | 164 | 485889 | 40.00 | ppm | -0.02 |
| 106) Chrysene-d12a | 15.243 | 240 | 963410 | 40.00 | ppm | -0.02 |
| 108) Chrysene-d12b | 15.243 | 240 | 962643 | 40.00 | ppm | -0.02 |
| 110) Phenanthrene-d10a | 10.137 | 188 | 972233 | 40.00 | ppm | -0.02 |
| 113) Naphthalene-d8a | 5.405 | 136 | 856301 | 40.00 | ppm | -0.02 |
| 115) Chrysene-d12c | 15.243 | 240 | 962627 | 40.00 | ppm | -0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.429 | 112 | 429274 | 44.33 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 88.66% | | | |
| 8) Phenol-d5 | 4.171 | 99 | 593103 | 49.59 | ppm | 0.05 |
| Spiked Amount 50.000 | | | Recovery = 99.18% | | | |
| 25) Nitrobenzene-d5 | 4.785 | 82 | 420735 | 46.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 92.12% | | | |
| 51) 2-Fluorobiphenyl | 6.649 | 172 | 855606 | 47.36 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 94.72% | | | |
| 73) 2,4,6-Tribromophenol | 8.919 | 330 | 187485 | 57.32 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = 114.64% | | | |
| 85) Terphenyl-d14 | 13.288 | 244 | 1056587 | 40.71 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 81.42% | | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.821 | 88 | 200918 | 41.00 | ppm | 96 |
| 3) Pyridine | 2.168 | 79 | 509532 | 43.18 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 2.131 | 42 | 158232 | 37.69 | ppm | 93 |
| 6) Indene | 4.545 | 116 | 692258 | 52.85 | ppm | 98 |
| 7) Cumene | 3.760 | 105 | 1008372 | 43.58 | ppm | 97 |
| 9) Phenol | 4.182 | 94 | 586646 | 46.68 | ppm | 83 |
| 10) Aniline | 4.128 | 93 | 714049 | 56.71 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 4.171 | 93 | 463662 | 53.33 | ppm | 96 |
| 12) 2-Chlorophenol | 4.230 | 128 | 430002 | 49.80 | ppm | 97 |
| 13) Decane | 4.251 | 43 | 354433 | 53.75 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 4.315 | 146 | 470101 | 46.87 | ppm | 96 |
| 15) 1,4-Dichlorobenzene | 4.369 | 146 | 449818 | 49.39 | ppm | 99 |
| 16) Benzyl alcohol | 4.486 | 108 | 281565 | 55.34 | ppm | 74 |
| 17) 1,2-Dichlorobenzene | 4.481 | 146 | 492097 | 54.60 | ppm | 97 |
| 18) Acetophenone | 4.662 | 105 | 593134 | 52.04 | ppm | 99 |
| 19) 2-Methylphenol | 4.604 | 108 | 410542 | 56.48 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154448.D
Acq On : 17 May 2019 12:23 pm
Operator : christc2
Sample : cc6556-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 15:37:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 20) 2,2'-oxybis(1-Chloropr... | 4.572 | 121 | 106488 | 47.38 | ppm | # | 70 |
| 21) 3&4-Methylphenol | 4.721 | 108 | 426026 | 58.29 | ppm | | 94 |
| 22) n-Nitroso-di-n-propyla... | 4.673 | 70 | 304800 | 53.62 | ppm | | 97 |
| 23) Hexachloroethane | 4.737 | 201 | 148441 | 38.58 | ppm | | 86 |
| 26) Nitrobenzene | 4.796 | 77 | 422918 | 47.68 | ppm | | 98 |
| 27) Quinoline | 5.773 | 129 | 827212 | 51.00 | ppm | | 94 |
| 28) Isophorone | 4.994 | 82 | 842817 | 50.93 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.063 | 139 | 259660 | 63.29 | ppm | | 95 |
| 30) 2,4-Dimethylphenol | 5.138 | 107 | 378820 | 55.76 | ppm | | 85 |
| 31) Benzoic acid | 5.287 | 105 | 351441 | 65.08 | ppm | | 88 |
| 32) bis(2-Chloroethoxy)met... | 5.191 | 93 | 507185 | 50.52 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 5.309 | 162 | 342721 | 48.11 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.512 | 162 | 336835 | 52.16 | ppm | | 96 |
| 35) 1,3,5-Trichlorobenzene | 5.068 | 180 | 415711 | 46.48 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.357 | 180 | 362212 | 41.60 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 5.570 | 180 | 352874 | 43.66 | ppm | | 99 |
| 38) Naphthalene | 5.426 | 128 | 1137304 | 54.24 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.501 | 127 | 521018 | 56.08 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 6.542 | 161 | 441782 | 48.64 | ppm | | 98 |
| 41) Caprolactam | 5.875 | 55 | 191326 | 58.05 | ppm | | 94 |
| 42) Hexachlorobutadiene | 5.554 | 225 | 190262 | 36.66 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 6.078 | 107 | 358040 | 48.57 | ppm | | 98 |
| 44) 2-Methylnaphthalene | 6.174 | 141 | 643490 | 48.40 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 6.291 | 142 | 843979 | 49.93 | ppm | | 94 |
| 46) Dimethylnaphthalene | 6.996 | 156 | 700438 | 47.60 | ppm | | 93 |
| 48) Hexachlorocyclopentadiene | 6.377 | 237 | 432021 | 91.43 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.564 | 196 | 243322 | 46.26 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.633 | 196 | 274863 | 48.69 | ppm | | 95 |
| 52) 2-Chloronaphthalene | 6.793 | 162 | 717434 | 48.00 | ppm | | 98 |
| 53) Biphenyl | 6.777 | 154 | 1025087 | 52.51 | ppm | | 100 |
| 54) 2-Nitroaniline | 6.975 | 65 | 236112 | 58.57 | ppm | | 96 |
| 55) Dimethylphthalate | 7.247 | 163 | 837001 | 45.83 | ppm | | 99 |
| 56) Acenaphthylene | 7.381 | 152 | 1235485 | 52.64 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 7.328 | 165 | 199922 | 58.45 | ppm | | 96 |
| 58) 3-Nitroaniline | 7.595 | 138 | 253585 | 60.13 | ppm | | 94 |
| 59) Acenaphthene | 7.648 | 153 | 755227 | 53.14 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 7.760 | 184 | 236326 | 118.12 | ppm | | 89 |
| 61) 4-Nitrophenol | 8.027 | 109 | 89365 | 38.17 | ppm | | 93 |
| 62) Dibenzofuran | 7.926 | 168 | 1071471 | 50.43 | ppm | | 91 |
| 63) 2,4-Dinitrotoluene | 7.963 | 165 | 249580 | 52.22 | ppm | | 79 |
| 64) 2,3,4,6-Tetrachlorophenol | 8.177 | 232 | 236441 | 46.77 | ppm | | 97 |
| 65) Diethylphthalate | 8.401 | 149 | 859878 | 48.73 | ppm | | 98 |
| 66) Fluorene | 8.492 | 166 | 886981 | 50.30 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 8.529 | 204 | 392894 | 42.90 | ppm | | 96 |
| 68) 4-Nitroaniline | 8.609 | 138 | 235587 | 62.69 | ppm | | 82 |
| 70) 4,6-Dinitro-2-methylph... | 8.652 | 198 | 165283 | 54.35 | ppm | | 96 |
| 71) n-Nitrosodiphenylamine | 8.754 | 169 | 634132 | 49.07 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 8.802 | 77 | 940712 | 53.08 | ppm | | 96 |
| 74) 4-Bromophenyl-phenylether | 9.384 | 248 | 276274 | 41.62 | ppm | | 99 |
| 75) Hexachlorobenzene | 9.459 | 284 | 325354 | 44.13 | ppm | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154448.D
Acq On : 17 May 2019 12:23 pm
Operator : christc2
Sample : cc6556-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 15:37:38 2019
Response via : Initial Calibration

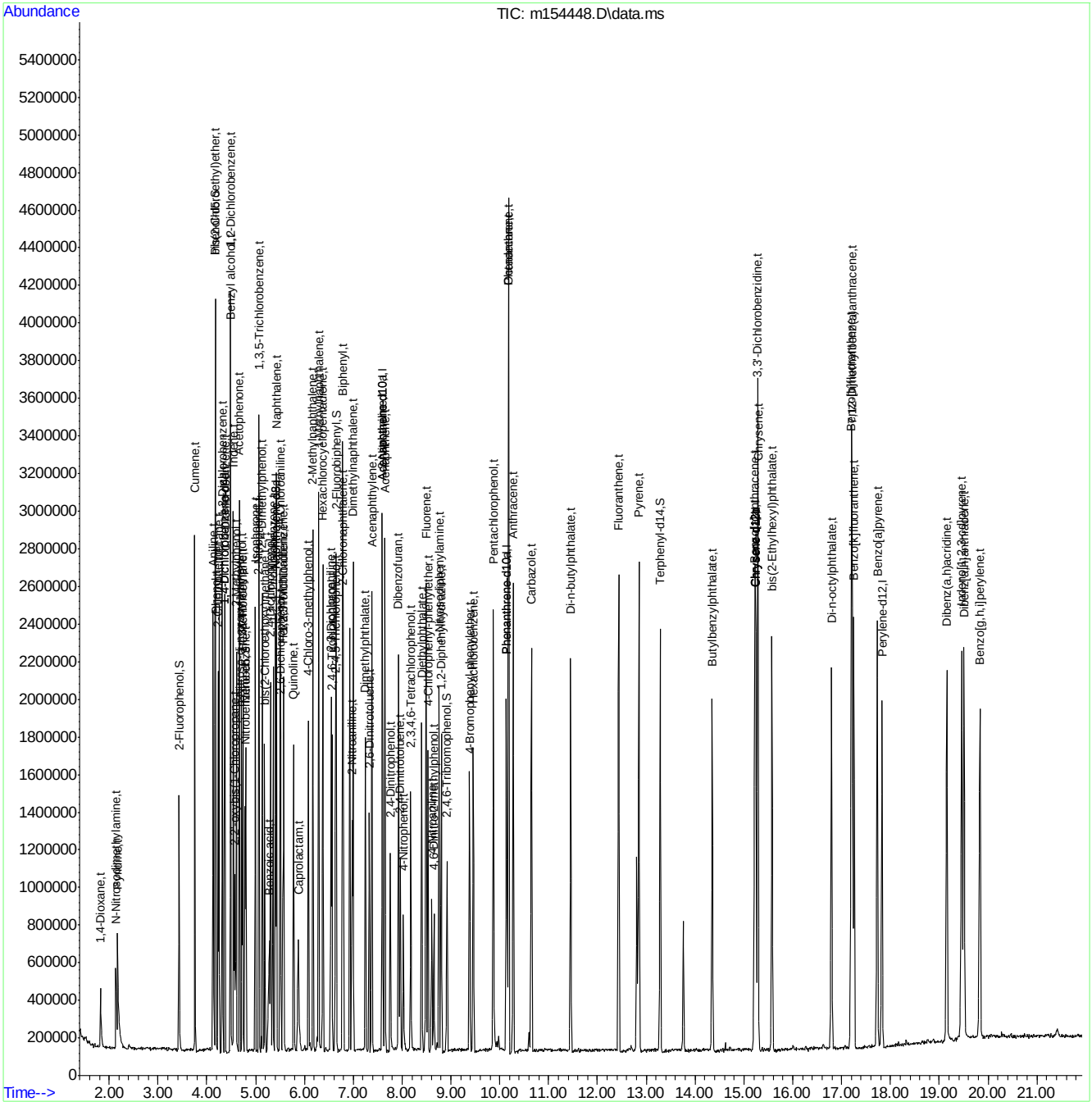
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 76) Pentachlorophenol | 9.870 | 266 | 424196 | 103.30 | ppm | 97 |
| 77) Phenanthrene | 10.180 | 178 | 1317355 | 54.65 | ppm | 99 |
| 78) Anthracene | 10.276 | 178 | 1292914 | 50.92 | ppm | 99 |
| 79) Carbazole | 10.650 | 167 | 1285082 | 52.64 | ppm | 98 |
| 80) Di-n-butylphthalate | 11.451 | 149 | 1635477 | 55.62 | ppm | 99 |
| 81) Fluoranthene | 12.434 | 202 | 1461765 | 45.87 | ppm | 93 |
| 82) Octadecane | 10.180 | 57 | 528950 | 67.78 | ppm | 97 |
| 84) Pyrene | 12.850 | 202 | 1459386 | 41.41 | ppm | 98 |
| 86) Butylbenzylphthalate | 14.356 | 149 | 733279 | 50.66 | ppm | 95 |
| 87) Benzo[a]anthracene | 15.222 | 228 | 1420830 | 43.11 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 15.280 | 252 | 563446 | 50.62 | ppm | 97 |
| 89) Chrysene | 15.291 | 228 | 1302298 | 44.46 | ppm | 98 |
| 90) bis(2-Ethylhexyl)phtha... | 15.574 | 149 | 1000897 | 50.68 | ppm | 99 |
| 92) Di-n-octylphthalate | 16.792 | 149 | 1735776 | 52.68 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 17.203 | 252 | 1540546 | 49.43 | ppm | 93 |
| 94) Benzo[k]fluoranthene | 17.257 | 252 | 1276639 | 43.03 | ppm | 96 |
| 95) Benzo[a]pyrene | 17.732 | 252 | 1330504 | 48.63 | ppm | 94 |
| 96) Indeno[1,2,3-cd]pyrene | 19.462 | 276 | 1237079 | 45.57 | ppm | 82 |
| 97) Dibenz(a,h)acridine | 19.158 | 279 | 1190986 | 47.48 | ppm | 87 |
| 98) Dibenz[a,h]anthracene | 19.511 | 278 | 1258019 | 49.89 | ppm | 95 |
| 99) 7,12-Dimethylbenz(a)an... | 17.214 | 256 | 685128 | 57.32 | ppm | 92 |
| 100) Benzo[g,h,i]perylene | 19.836 | 276 | 1209903 | 46.63 | ppm | 90 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154448.D
Acq On : 17 May 2019 12:23 pm
Operator : christc2
Sample : cc6556-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 17 16:00:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 15:37:38 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154449.D
Acq On : 17 May 2019 1:01 pm
Operator : christc2
Sample : cc6557-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 16:04:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 16:02:59 2019
Response via : Initial Calibration

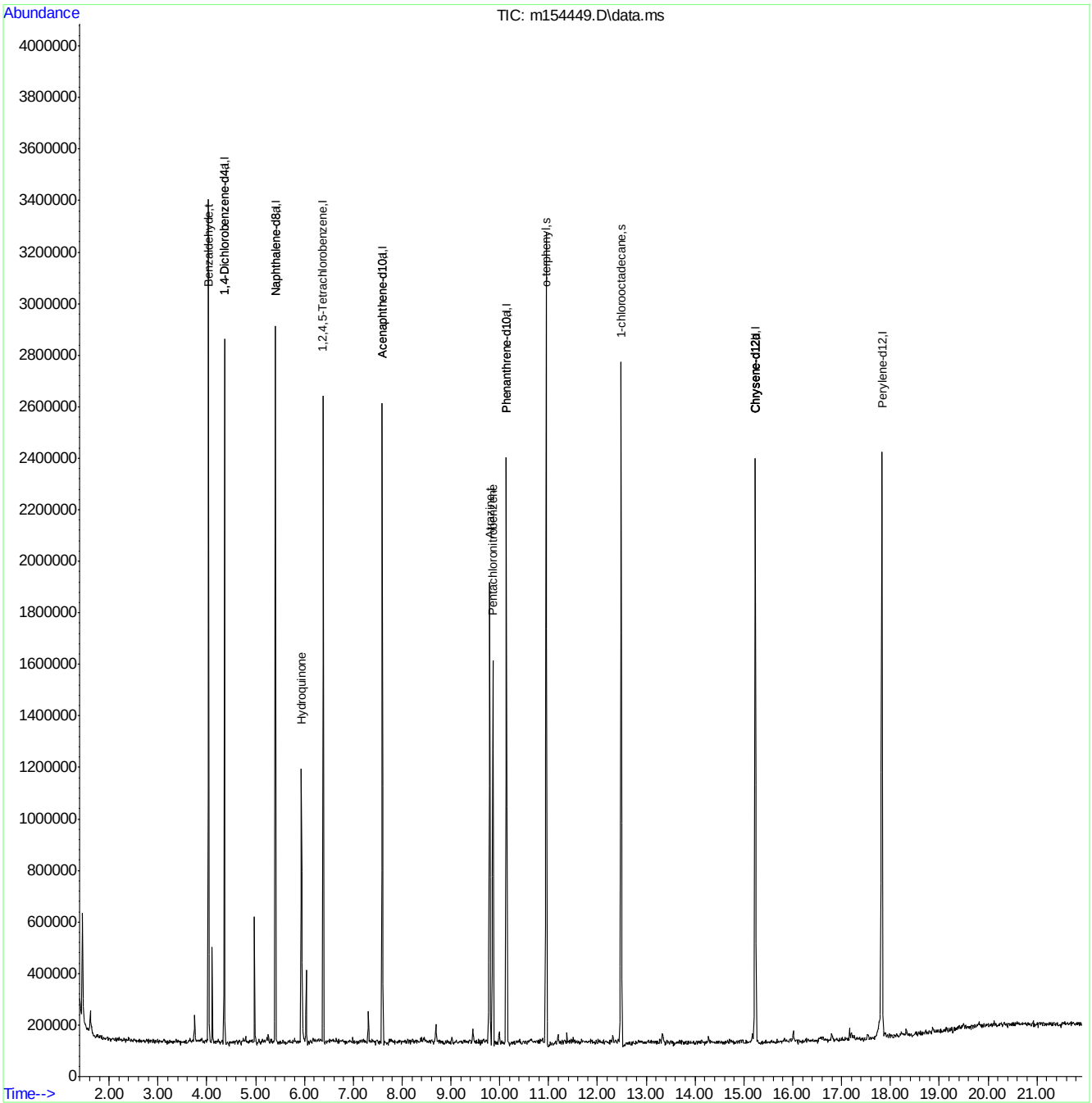
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.358 | 152 | 334951 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.405 | 136 | 1194516 | 40.00 | ppm | -0.02 |
| 47) Acenaphthene-d10 | 7.595 | 164 | 648957 | 40.00 | ppm | -0.02 |
| 69) Phenanthrene-d10 | 10.137 | 188 | 1160829 | 40.00 | ppm | -0.02 |
| 83) Chrysene-d12 | 15.232 | 240 | 1073585 | 40.00 | ppm | -0.03 |
| 91) Perylene-d12 | 17.828 | 264 | 1223871 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.358 | 152 | 334951 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 7.595 | 164 | 648957 | 40.00 | ppm | -0.02 |
| 106) Chrysene-d12a | 15.232 | 240 | 1073585 | 40.00 | ppm | -0.03 |
| 108) Chrysene-d12b | 15.232 | 240 | 1073638 | 40.00 | ppm | -0.03 |
| 110) Phenanthrene-d10a | 10.137 | 188 | 1160829 | 40.00 | ppm | -0.02 |
| 113) Naphthalene-d8a | 5.405 | 136 | 1194516 | 40.00 | ppm | -0.02 |
| 115) Chrysene-d12c | 15.232 | 240 | 1073585 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 12.482 | 57 | 513734 | 77.77 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 155.54% | | |
| 111) o-terphenyl | 10.949 | 230 | 874974 | 50.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 101.56% | | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.032 | 105 | 480030 | 51.07 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.382 | 216 | 468513 | 42.27 | ppm | 99 |
| 105) Atrazine | 9.795 | 215 | 161742 | 53.21 | ppm # | 86 |
| 112) Pentachloronitrobenzene | 9.859 | 295 | 76389 | 55.81 | ppm | 89 |
| 114) Hydroquinone | 5.939 | 110 | 595791 | 61.25 | ppm | 91 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154449.D
Acq On : 17 May 2019 1:01 pm
Operator : christc2
Sample : cc6557-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 17 16:04:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Fri May 17 16:02:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154450.D
Acq On : 17 May 2019 1:30 pm
Operator : christc2
Sample : cc6558-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 17 16:05:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 15:37:38 2019
Response via : Initial Calibration

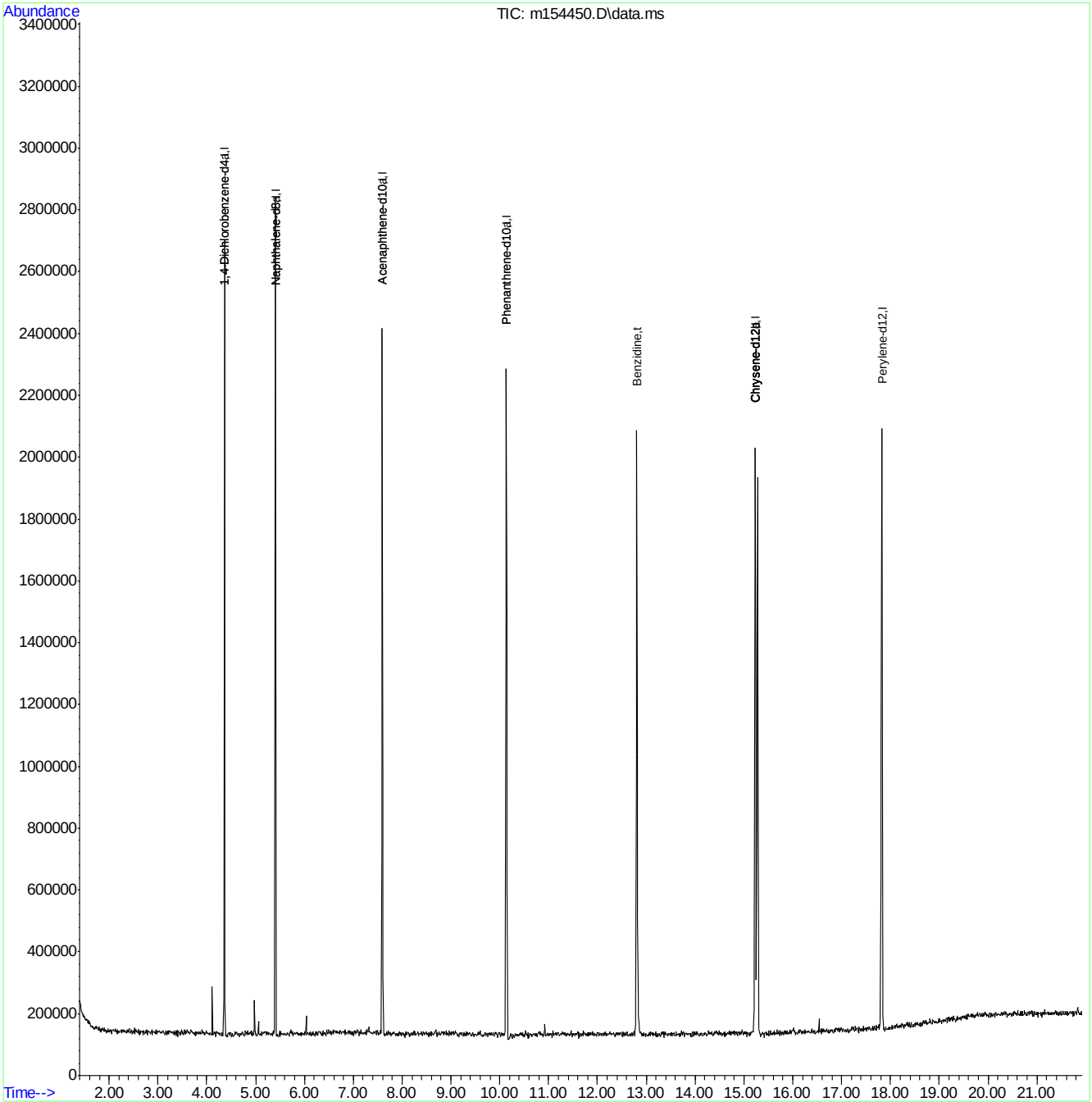
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.358 | 152 | 311423 | 40.00 | ppm | -0.01 |
| 24) Naphthalene-d8 | 5.405 | 136 | 1106233 | 40.00 | ppm | -0.02 |
| 47) Acenaphthene-d10 | 7.594 | 164 | 587993 | 40.00 | ppm | -0.02 |
| 69) Phenanthrene-d10 | 10.137 | 188 | 1114074 | 40.00 | ppm | -0.02 |
| 83) Chrysene-d12 | 15.232 | 240 | 957659 | 40.00 | ppm | -0.03 |
| 91) Perylene-d12 | 17.828 | 264 | 1072969 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.358 | 152 | 311423 | 40.00 | ppm | -0.01 |
| 103) Acenaphthene-d10a | 7.594 | 164 | 587993 | 40.00 | ppm | -0.02 |
| 106) Chrysene-d12a | 15.232 | 240 | 957659 | 40.00 | ppm | -0.03 |
| 108) Chrysene-d12b | 15.232 | 240 | 957723 | 40.00 | ppm | -0.03 |
| 110) Phenanthrene-d10a | 10.137 | 188 | 1114074 | 40.00 | ppm | -0.02 |
| 113) Naphthalene-d8a | 5.405 | 136 | 1106233 | 40.00 | ppm | -0.02 |
| 115) Chrysene-d12c | 15.232 | 240 | 957659 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 109) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| 111) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = | 0.00% | | |
| Target Compounds | | | | | | Qvalue |
| 107) Benzidine | 12.807 | 184 | 1208224 | 66.82 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EM6596\
Data File : m154450.D
Acq On : 17 May 2019 1:30 pm
Operator : christc2
Sample : cc6558-50
Misc : op17006,em6596,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 17 16:05:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\MM6556.M
Quant Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
QLast Update : Thu May 16 15:37:38 2019
Response via : Initial Calibration



# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| | | | DCM- fisher | 191108 | --- |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | christc2 | Quant Method/s | M2M4974 |
| Batch ID | E2M4974 | Analysis Date | 5/14/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 0/2019 10:02:37 / | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111867 | DFTPP | | | | 1 | | | | | ok | 3:43pm |
| 2M | 111868 | IC4974-1 | | bna | | 2 | | | | | ok | sv182535-96i |
| 2M | 111869 | IC4974-100 | | | | 3 | | | | | ok | sv182535-96a |
| 2M | 111870 | IC4974-80 | | | | 4 | | | | | ok | sv182535-96b |
| 2M | 111871 | ICC4974-50 | | | | 5 | | | | | ok | sv182535-96c |
| 2M | 111872 | IC4974-25 | | | | 6 | | | | | ok | sv182535-96d |
| 2M | 111873 | IC4974-10 | | | | 7 | | | | | ok | sv182535-96e |
| 2M | 111874 | IC4974-5 | | | | 8 | | | | | ok | sv182535-96g |
| 2M | 111875 | IC4974-2 | | | | 9 | | | | | ok | sv182535-96h |
| 2M | 111876 | ICV4974-50 | | bn1 | | 10 | | | | | ng | op192336-70 rr 2,4-dinitrophenol low |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111877 | ICV4974-50 | | bn2 | | 11 | | | | | ok | op192336-72 |
| 2M | 111878 | ICV4974-50 | | aniline | | 12 | | | | | ok | op192336-103 |
| 2M | 111879 | ICV4974-50 | | acid | | 13 | | | | | ok | op192336-47 |
| 2M | 111880 | ICV4974-50 | | abn surr | | 14 | | | | | ok | op192336-76 |
| 2M | 111881 | ICV4974-50 | | bzd 3rd | | 15 | | | | | ok | sv192573-25 9:55 pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| | | | DCM- fisher | 191108 | --- |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | christc2 | Quant Method/s | M2M4974 |
| Batch ID | E2M4975 | Analysis Date | 5/14/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 0/2019 10:02:56 / | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111882 | DFTPP | | | | 1 | | | | | ok | 10:18pm |
| 2M | 111883 | IC4975-100 | | tcl42 | | 16 | | | | | ok | sv192573-9a |
| 2M | 111884 | IC4975-80 | | | | 17 | | | | | ok | sv192573-9b |
| 2M | 111885 | ICC4975-50 | | | | 18 | | | | | ok | sv192573-9c |
| 2M | 111886 | IC4975-25 | | | | 19 | | | | | ok | sv192573-9d |
| 2M | 111887 | IC4975-10 | | | | 20 | | | | | ok | sv192573-9e |
| 2M | 111888 | IC4975-5 | | | | 21 | | | | | ok | sv192573-9g |
| 2M | 111889 | IC4975-2 | | | | 22 | | | | | ok | sv192573-9h |
| 2M | 111890 | IC4975-1 | | | | 23 | | | | | ok | sv192573-9i |
| 2M | 111891 | ICV4975-50 | | ap9 mix 2 | | 24 | | | | | ok | sv192573-8 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111892 | ICV4975-50 | | hq 2nd | | 25 | | | | | ok | sv182490-103b 2:40am |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| | | | DCM- fisher | 191108 | --- |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | christc2 | Quant Method/s | M2M4974 |
| Batch ID | E2M4976 | Analysis Date | 5/14/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:56:33 F | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111893 | DFTPP | | | | 1 | | | | | ok | 3:03am |
| 2M | 111894 | IC4976-100 | | bzd | | 26 | | | | | ok | sv182535-70a |
| 2M | 111895 | IC4976-80 | | | | 27 | | | | | ok | sv182535-70b |
| 2M | 111896 | ICC4976-50 | | | | 28 | | | | | ok | sv182535-70c |
| 2M | 111897 | IC4976-25 | | | | 29 | | | | | ok | sv182535-70d |
| 2M | 111898 | IC4976-10 | | | | 30 | | | | | ok | sv182535-101 |
| 2M | 111899 | IC4976-5 | | | | 31 | | | | | ok | sv182535-70g |
| 2M | 111900 | IC4976-2 | | | | 32 | | | | | ok | sv182535-70h |
| 2M | 111901 | IC4976-1 | | | | 33 | | | | | ok | sv182535-70i |
| 2M | 111902 | ICV4976-50 | | bzd 3rd | | 34 | | | | | ok | sv192573-25 6:41am |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| BNA | sv182535-121b | 50ppm | DCM- fisher | 192851 | --- |
| TCL42 | sv182535-120b | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | angelar | Quant Method/s | M2M4974 |
| Batch ID | E2M4977 | Analysis Date | 5/15/2019 | Data Processed By: | jonkm | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 0/2019 10:03:17 / | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111904 | DFTPP | | | | 1 | | | | | ok | 12:04pm |
| 2M | 111905 | ICV4974-50 | | Mega Mix | | 2 | | | | | ok | sv192573-44 |
| 2M | 111906 | CC4974-50 | | bna | | 3 | | | | | OK | |
| 2M | 111907 | CC4975-50 | | tcl42 | | 4 | | | | | OK | |
| | 111908 | OP20380-MB1 | OP20380 | | AQ | 5 | | X | Y | Y | OK | |
| | 111909 | OP20380-BS1 | OP20380 | | AQ | 6 | | X | Y | Y | OK | |
| | 111910 | OP20380-BSD | OP20380 | | AQ | 7 | | X | Y | Y | OK | |
| | 111911 | JC87877-15 | OP20380 | AB8270SL,BMS+14DIOX | AQ | 8 | | X | N | Y | corr | surr out |
| | 111912 | JC87877-16 | OP20380 | AB8270SL,BMS+14DIOX | AQ | 9 | | X | Y | Y | OK | |
| 2M | 111913 | JC87831-1 | OP20380 | AB8270TCL20+ | AQ | 10 | | X | Y | Y | OK | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111914 | JC87831-3 | OP20380 | AB8270TCL20+ | AQ | 11 | | X | Y | Y | OK | |
| 2M | 111915 | JC87831-4 | OP20380 | AB8270TCL20+ | AQ | 12 | | X | Y | Y | OK | |
| 2M | 111916 | JC87832-1 | OP20380 | AB8270TCL | AQ | 13 | | | Y | Y | OK | |
| | 111917 | JC87839-1 | OP20380 | AB8270NJTCL20+ | AQ | 14 | | X | Y | Y | OK | |
| | 111918 | JC87839-3 | OP20380 | AB8270NJTCL20+ | AQ | 15 | | X | Y | Y | OK | |
| 2M | 111919 | JC87842-10 | OP20380 | AB8270TCL20+ | AQ | 16 | | X | Y | Y | RR | needs ECC |
| 2M | 111920 | JC87927-19 | OP20380 | B8270PAH | AQ | 17 | | | Y | Y | OK | |
| | 111921 | JC87922-4 | OP20380 | B8270NJTCL20+ | AQ | 18 | | X | Y | Y | OK | |
| | 111922 | JC87839-2 | OP20380 | AB8270NJTCL20+ | AQ | 19 | | X | Y | Y | OK | |
| 2M | 111923 | JC87938-3 | OP20380 | AB8270TCL20+ | AQ | 20 | | X | N | N | corr | istd/surr out |
| 2M | 111924 | JC87938-1 | OP20380 | AB8270TCL20+ | AQ | 21 | 2 | X | N | N | corr | diluted due to viscosity. Istd/surr out (20:45, 5/15/19) |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| BNA | sv192573-47f | 25ppm | DCM- fisher | 192851 | --- |
| TCL42 | sv182535-120f | 25ppm | | | |
| Bzd | sv182535-71e | 25ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | chriss2 | Quant Method/s | M2M4974 |
| Batch ID | E2M4980 | Analysis Date | 5/18/2019 | Data Processed By: | jeryllr/aimeel | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 2/2019 10:55:09 / | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111982 | DFTPP | | | | 1 | | | | | OK | 2:10am |
| 2M | 111983 | CC4974-25 | | | | 2 | | | | | OK | HIGH:25,29,30,31,48,49,54,57,58,60,63,64,70 |
| 2M | 111984 | CC4975-25 | | | | 3 | | | | | OK | |
| | 111985 | CC4976-25 | | | | 4 | | | | | OK | |
| | 111986 | OP20269-MB1 | OP20269 | AB8270TCL20,B8270PAH,B8270TCL20 | SO | 5 | | | Y | Y | OK | |
| | 111987 | OP20269-BS1 | OP20269 | AB8270TCL20,B8270PAH,B8270TCL20 | SO | 6 | | | y | y | ok | |
| | 111988 | OP20465-MB1 | OP20465 | AB8270SL1+,B8270TICS+ | AQ | 7 | | X | Y | Y | OK | |
| | 111989 | OP20465-BS1 | OP20465 | AB8270SL1+,B8270TICS+ | AQ | 8 | | X | Y | Y | OK | |
| | 111990 | OP20465-BSD | OP20465 | AB8270SL1+,B8270TICS+ | AQ | 9 | | X | Y | Y | OK | |
| 2M | 111991 | JC87853-20 | OP20465 | B8270PAH | AQ | 10 | | | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 111992 | JC88224-1 | OP20465 | B8270TICS+ | AQ | 11 | | X | y | y | ok | |
| 2M | 111993 | JC88224-1F | OP20465 | B8270TICS+ | AQ | 12 | | X | y | y | ok | |
| 2M | 111994 | JC88224-2 | OP20465 | B8270TICS+ | AQ | 13 | | X | y | y | ok | |
| 2M | 111995 | JC87535-6 | OP20269 | AB8270TCL20 | SO | 14 | | | y | y | ok | |
| 2M | 111996 | JC87535-9 | OP20269 | AB8270TCL20 | SO | 15 | | | x | x | RR | . ISTD 2,3,4 Out/Surrout #25,51/ Needs Dilution |
| 2M | 111997 | JC87535-10 | OP20269 | AB8270TCL20 | SO | 16 | | | y | y | ok | |
| 2M | 111998 | JC87535-12 | OP20269 | AB8270TCL20 | SO | 17 | | | y | y | ok | |
| 2M | 111999 | JC87535-5 | OP20269 | AB8270TCL20 | SO | 18 | | | y | y | ok | |
| | 112000 | OP20269-MS2 | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 19 | | | y | y | ok | |
| | 112001 | OP20269-MSD2 | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 20 | | | y | y | ok | |
| 2M | 112002 | JC87535-8 | OP20269 | AB8270TCL20 | SO | 21 | | | y | y | N | Needs Dilution |
| | 112003 | OP20269-MS | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 22 | | | y | y | ok | |
| | 112004 | OP20269-MSD | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 23 | | | y | y | ok | |
| 2M | 112005 | JC87563-7 | OP20269 | B8270PAH | SO | 24 | | | y | y | ok | |
| 2M | 112006 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 25 | 5 | | x | x | RR | diluted for visc. ISTD 2,4,5 Out/Surrout #25,85/ Needs Dilution |
| 2M | 112007 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 26 | 2 | | x | x | RR | diluted for visc.. ISTD 2,4,5 Out/Surrout #25,85/ Needs Dilution 1:09pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| BNA | sv192573-121c | 50ppm | DCM- fisher | 192851 | --- |
| TCL42 | sv182535-120c | 50ppm | | | |
| Bzd | sv182535-71c | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | carolb | Quant Method/s | M2M4974 |
| Batch ID | E2M4981 | Analysis Date | 5/18/2019 | Data Processed By: | michellc | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 2/2019 10:53:50 / | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 112008 | DFTPP | | | | 1 | | | | | ok | 649 pm |
| 2M | 112009 | CC4974-50 | | | | 2 | | | | | ok | |
| 2M | 112010 | CC4975-50 | | | | 3 | | | | | ok | |
| 2M | 112011 | CC4976-50 | | | | 4 | | | | | ok | |
| 2M | 112012 | OP20482-MB1 | OP20482 | AB8270SL | AQ | 5 | | | y | y | ok | |
| 2M | 112013 | OP20482-BS1 | OP20482 | AB8270SL | AQ | 6 | | | y | y | ok | |
| 2M | 112014 | OP20482-BSD | OP20482 | AB8270SL | AQ | 7 | | | y | y | ok | |
| 2M | 112015 | JC87799-1 | OP20482 | AB8270SL | AQ | 8 | | | y | y | ok | |
| 2M | 112016 | JC87799-2 | OP20482 | AB8270SL | AQ | 9 | | | y | y | ok | |
| 2M | 112017 | JC87799-3 | OP20482 | AB8270SL | AQ | 10 | | | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 112018 | JC87799-4 | OP20482 | AB8270SL | AQ | 11 | | | y | y | ok | |
| 2M | 112019 | JC87799-5 | OP20482 | AB8270SL | AQ | 12 | | | y | y | ok | |
| 2M | 112020 | JC87799-6 | OP20482 | AB8270SL | AQ | 13 | | | y | y | ok | |
| 2M | 112021 | JC87799-7 | OP20482 | AB8270SL | AQ | 14 | | | y | y | ok | |
| 2M | 112022 | JC87799-8 | OP20482 | AB8270SL | AQ | 15 | | | y | y | ok | |
| 2M | 112023 | JC87799-9 | OP20482 | AB8270SL | AQ | 16 | | | y | y | ok | |
| 2M | 112024 | JC87799-10 | OP20482 | AB8270SL | AQ | 17 | | | y | y | ok | |
| 2M | 112025 | JC87799-11 | OP20482 | AB8270SL | AQ | 18 | | | y | y | ok | |
| 2M | 112026 | JC87799-12 | OP20482 | AB8270SL | AQ | 19 | | | y | y | ok | |
| 2M | 112027 | JC87799-13 | OP20482 | AB8270SL | AQ | 20 | | | y | y | ok | |
| 2M | 112028 | JC87799-14 | OP20482 | AB8270SL | AQ | 21 | | | y | y | ok | |
| 2M | 112029 | JC87799-15 | OP20482 | AB8270SL | AQ | 22 | | | y | y | ok | |
| 2M | 112030 | JC87535-9 | OP20269 | AB8270TCL20 | SO | 23 | 10 | X | y | y | ok | rr overcal |
| 2M | 112031 | JC87535-8 | OP20269 | AB8270TCL20 | SO | 24 | 5 | | y | y | ok | |
| 2M | 112032 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 25 | 50 | | y | y | ok | rr overcal 627 am |
| 2M | 112033 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 26 | 20 | | | | no | outoftune |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS2M

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| BNA | sv192573-47f | 25ppm | DCM- fisher | 192851 | --- |
| TCL42 | sv182535-120f | 25ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/24/19 | Sequence Loaded By: | carolb | Quant Method/s | M2M4974 |
| Batch ID | E2M4982 | Analysis Date | 5/19/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:56:54 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2M | 112034 | DFTPP | | | | 1 | | | | | ok | 11:10am |
| 2M | 112035 | CC4974-25 | | bna | | 2 | | | | | ok | |
| 2M | 112036 | CC4975-25 | | tcl42 | | 3 | | | | | ok | |
| 2M | 112037 | OP20464-MB1 | OP20464 | AB8270NJTCL20+ | AQ | 4 | | X | y | y | ok | |
| 2M | 112038 | OP20464-BS1 | OP20464 | AB8270NJTCL20+ | AQ | 5 | | X | y | y | ok | |
| 2M | 112039 | OP20464-BSD | OP20464 | AB8270NJTCL20+ | AQ | 6 | | X | y | y | ok | |
| | 112040 | JC88178-1 | OP20464 | AB8270NJTCL20+ | AQ | 7 | | X | y | y | ok | |
| | 112041 | JC88178-2 | OP20464 | AB8270NJTCL20+ | AQ | 8 | | X | y | y | ok | |
| | 112042 | JC88178-3 | OP20464 | AB8270NJTCL20+ | AQ | 9 | | X | y | y | ok | |
| | 112043 | JC88178-4 | OP20464 | AB8270NJTCL20+ | AQ | 10 | | X | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 112044 | JC88178-5 | OP20464 | AB8270NJTCL20+ | AQ | 11 | | X | y | y | ok | |
| 2M | 112045 | JC87535-9 | OP20269 | AB8270TCL20 | SO | 12 | 20 | | y | y | ok | |
| 2M | 112046 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 13 | 200 | | y | y | ok | |
| 2M | 112047 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 14 | 100 | | y | y | ok | |
| 2M | 112048 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 15 | 20 | | y | y | ok | |
| 2M | 112049 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 16 | 200 | | y | y | ok | 6:47pm |

# GCMS Semi Volatile Run Log

## Instrument ID: GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| | | | DCM- fisher | 190729 | --- |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2018 | Sequence Loaded By: | chriss2 | Quant Method/s | M5P2761 |
| Batch ID | E5P2761 | Analysis Date | 4/8/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | NINAP | Approved Date | 10/2019 9:44:19 A | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 58248 | DFTPP | | | | 1 | | | | | ok | 11:58pm |
| 5P | 58249a | IC2761-100 | | BNA | | 2 | | | | | ok | sv182535-96a, sequence halted, rerun as "a" file |
| 5P | 58250 | IC2761-80 | | | | 3 | | | | | ok | sv182535-96b |
| 5P | 58251 | ICC2761-50 | | | | 4 | | | | | ok | sv182535-96c |
| 5P | 58252 | IC2761-25 | | | | 5 | | | | | ok | sv182535-96d |
| 5P | 58253 | IC2761-10 | | | | 6 | | | | | ok | sv182535-96e |
| 5P | 58254 | IC2761-5 | | | | 7 | | | | | ok | sv182535-96g |
| 5P | 58255 | IC2761-2 | | | | 8 | | | | | ok | sv182535-96h |
| 5P | 58256 | IC2761-1 | | | | 9 | | | | | ok | sv182535-96i |
| 5P | 58257 | ICV2761-50 | | BN1 | | 10 | | | | | ok | op192336-51 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 58258 | ICV2761-50 | | BN2 | | 11 | | | | | ok/r | op182160-30 rr for 99# |
| 5P | 58259 | ICV2761-50 | | Aniline | | 12 | | | | | ok | op192336-39 |
| 5P | 58260 | ICV2761-50 | | Acid | | 13 | | | | | ok | op192336-47 |
| 5P | 58261 | ICV2761-50 | | ABN Surr | | 14 | | | | | ok | op192336-76 |
| 5P | 58262 | ICV2761-50 | | Bzd 3rd | | 15 | | | | | ok | op182490-113; 5:55am |

# GCMS Semi Volatile Run Log

## Instrument ID: GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| | | | DCM- fisher | 190729 | --- |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2018 | Sequence Loaded By: | chriss2 | Quant Method/s | M5P2761 |
| Batch ID | E5P2762 | Analysis Date | 4/9/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | NINAP | Approved Date | 10/2019 9:44:42 A | | | | |

☐ SW846 8270 D

☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 58263 | DFTPP | | | | 1 | | | | | ok | 6:15 am |
| 5P | 58264 | IC2762-100 | | TCL42 | | 16 | | | | | ok | sv182535-50a |
| 5P | 58265 | IC2762-80 | | | | 17 | | | | | ok | sv182535-50b |
| 5P | 58266 | ICC2762-50 | | | | 18 | | | | | ok | sv182535-50c |
| 5P | 58267 | IC2762-25 | | | | 19 | | | | | ok | sv182535-50d |
| 5P | 58268 | IC2762-10 | | | | 20 | | | | | ok | sv182535-50e |
| 5P | 58269 | IC2762-5 | | | | 21 | | | | | ok | sv182535-50g |
| 5P | 58270 | IC2762-2 | | | | 22 | | | | | ok | sv182535-50h |
| 5P | 58271 | IC2762-1 | | | | 23 | | | | | ok | sv182535-50i |
| 5P | 58272 | ICV2762-50 | | AP9 Mix #2 | | 24 | | | | | ok | sv182490-78 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 58273 | ICV2762-50 | | HQ 2nd | | 25 | | | | | ok | sv182490-103b; 10:27 am |



SGS 1887 of 2974 JC87535

# GCMS Semi Volatile Run Log

## Instrument ID: GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| | | | DCM- fisher | 190729 | --- |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2018 | Sequence Loaded By: | yujiac | Quant Method/s | M5P2761 |
| Batch ID | E5P2763 | Analysis Date | 4/9/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | NINAP | Approved Date | 10/2019 9:45:02 A | | | | |

☐ SW846 8270 D

☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 58274 | DFTPP | | | | 1 | | | | | ok | 10:54 am |
| 5P | 58275 | IC2763-100 | | bzd | | 26 | | | | | ok | sv182535-70a |
| 5P | 58276 | IC2763-80 | | | | 27 | | | | | ok | sv182535-70b |
| 5P | 58277 | ICC2763-50 | | | | 28 | | | | | ok | sv182535-70c |
| 5P | 58278 | IC2763-25 | | | | 29 | | | | | ok | sv182535-70d |
| 5P | 58279 | IC2763-10 | | | | 30 | | | | | ok | sv182535-70e |
| 5P | 58280 | IC2763-5.0 | | | | 31 | | | | | ok | sv182535-70g |
| 5P | 58281 | IC2763-2.0 | | | | 32 | | | | | ok | sv182535-70h |
| 5P | 58282 | IC2763-1.0 | | | | 33 | | | | | ok | sv182535-70i |
| 5P | 58283 | ICV2763-50 | | bzd 3rd | | 34 | | | | | ok | sv182490-113 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 58294 | ICV2761-50 | | BN2 | | 35 | | | | | ok | op192336-72 3:10pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| bna | sv192573-47c | 50ppm | DCM- fisher | 191108 | --- |
| tcl42 | sv192573-120c | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2019 | Sequence Loaded By: | christc2 | Quant Method/s | MM6556 |
| Batch ID | E5P2816 | Analysis Date | 5/16/2019 | Data Processed By: | michellc | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:56:12 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 59676 | DFTPP | | | | 1 | | | | | OK | 9:45am |
| 5P | 59677 | CC6556-50 | | bna | | 2 | | | | | no | lower flow, rt out |
| 5P | 59678 | CC6556-50 | | bna | | 2 | | | | | OK | |
| 5P | 59679 | CC6557-50 | | tcl42 | | 3 | | | | | OK | |
| 5P | 59680 | BNA 1PPM TEST | | | | 4 | | | | | OK | |
| 5P | 59681 | BNA 2PPM TEST | | | | 5 | | | | | OK | |
| 5P | 59682 | JC87704-2 | OP20289 | B8270PAH | SO | 6 | | | Y | Y | OK | |
| | 59683 | JC87324-2 | OP20289 | AB8270TCL20-PAH+ | SO | 7 | | X | Y | Y | OK | |
| 5P | 59684 | DCM CLEANUP | | | | 8 | | | | | no | |
| | 59685 | OP20269-MB1 | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 9 | | | Y | Y | OK | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59686 | OP20269-BS1 | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 10 | | | Y | Y | OK | |
| 5P | 59687 | JC85551-11 | OP20394 | B8270PAH | AQ | 11 | 5 | | Y | Y | OK | |
| | 59688 | JC87956-18 | OP20394 | AB8270SL,BMS+14DIOX | AQ | 12 | 100 | X | Y | Y | OK | |
| | 59689 | JC87956-18 | OP20394 | AB8270SL,BMS+14DIOX | AQ | 13 | 10 | X | Y | Y | OK | |
| 5P | 59690 | JC87535-6 | OP20269 | AB8270TCL20 | SO | 14 | | | Y | Y | OK | |
| 5P | 59691 | JC87535-9 | OP20269 | AB8270TCL20 | SO | 15 | | | y | y | ok | .rr overcal |
| 5P | 59692 | JC87535-10 | OP20269 | AB8270TCL20 | SO | 16 | | | y | y | ok | |
| 5P | 59693 | JC87535-12 | OP20269 | AB8270TCL20 | SO | 17 | | | y | y | ok | |
| 5P | 59694 | JC87535-5 | OP20269 | AB8270TCL20 | SO | 18 | | | y | y | ok | |
| 5P | 59695 | JC87537-1 | OP20269 | B8270TCL20 | SO | 19 | | | y | y | ok | |
| 5P | 59696 | JC87537-4 | OP20269 | B8270TCL20 | SO | 20 | | | y | low | ok | |
| 5P | 59697 | JC87537-5 | OP20269 | B8270TCL20 | SO | 21 | | | y | y | ok | matrix carry over |
| 5P | 59698 | JC87535-8 | OP20269 | AB8270TCL20 | SO | 22 | | | y | y | ok | .rr overcal |
| | 59699 | OP20269-MS2 | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 23 | | | y | y | ok | |
| | 59700 | OP20269-MSD2 | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 24 | | | y | y | ok | |
| 5P | 59701 | JC87563-7 | OP20269 | B8270PAH | SO | 25 | | | y | y | ok | |
| | 59702 | OP20269-MS | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 26 | | | y | y | ok | |
| | 59703 | OP20269-MSD | OP20269 | AB8270TCL20,B8270PAH,B8270 TCL20 | SO | 27 | | | y | y | ok | |
| 5P | 59704 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 28 | 2 | | high | y | ok | diluted for visc..rr overcal ccvhit |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 59705 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 29 | 5 | | y | y | ok | diluted for visc.rr overcal. Ccvhit 900 pm |
| 5P | 59706 | JC87364-8 | OP20250 | B8270PAH | SO | 30 | | | y | y | ok | ran after 5p59686 |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| bna | sv192573-34d | 50ppm | DCM- fisher | 191108 | --- |
| tcl42 | sv192573-120e | 50ppm | | | |
| | | | | | |
| bna verif | sv182535-10s | 1ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2019 | Sequence Loaded By: | christc2 | Quant Method/s | M5P2761 |
| Batch ID | E5P2818 | Analysis Date | 5/17/2019 | Data Processed By: | jeryllr | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 20/2019 6:29:27 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 59740 | DFTPP | | | | 1 | | | | | | pcp tailing high, rr |
| 5P | 59741 | DFTPP | | | | 1 | | | | | OK | 4:08pm |
| 5P | 59742 | CC2761-50 | | bna | | 2 | | | | | OK | LOW:41 |
| 5P | 59743 | CC2762-50 | | tcl42 | | 3 | | | | | OK | |
| 5P | 59744 | BNA 1PPM VERF | | | | 4 | | | | | OK | |
| 5P | 59745 | JC87535-9 | OP20269 | AB8270TCL20 | SO | 5 | 10 | | Y | Y | OK | CORR RR 50X |
| 5P | 59746 | JC87535-8 | OP20269 | AB8270TCL20 | SO | 6 | 5 | | Y | Y | OK | |
| 5P | 59747 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 7 | 500 | | Y | Y | OK | |
| 5P | 59748 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 8 | 200 | | Y | Y | OK | RR UNDER PASSING CCV |
| 5P | 59749 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 9 | 50 | | Y | Y | OK | RR UNDER PASSING CCV |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 59750 | JC87535-11 | OP20269 | AB8270TCL20 | SO | 10 | 20 | | Y | Y | OK | RR UNDER PASSING CCV |
| 5P | 59751 | JC87640-3R | OP20441 | B8270TCL20+ | SO | 11 | | X | Y | Y | not using | rerun carryover |
| 5P | 59752 | JC87640-5R | OP20441 | B8270TCL20+ | SO | 12 | | X | Y | Y | OK | |
| 5P | 59753 | JC87563-1 | OP20269 | B8270PAH | SO | 13 | | | Y | Y | OK | |
| 5P | 59754 | JC87563-3 | OP20269 | B8270PAH | SO | 14 | | | Y | Y | OK | |
| 5P | 59755 | JC87563-6 | OP20269 | B8270PAH | SO | 15 | | | Y | Y | OK | |
| 5P | 59756 | JC87563-2 | OP20269 | B8270PAH | SO | 16 | | | Y | Y | OK | |
| 5P | 59757 | JC87563-4 | OP20269 | B8270PAH | SO | 17 | | | Y | Y | OK | |
| 5P | 59758 | JC87563-9 | OP20269 | B8270PAH | SO | 18 | | | Y | Y | OK | CORR NEEDS DILUTION |
| 5P | 59759 | JC87563-5 | OP20269 | B8270PAH | SO | 19 | | | Y | Y | OK | |
| 5P | 59760 | JC87563-8 | OP20269 | B8270PAH | SO | 20 | | | Y | Y | OK | 11:12PM |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| bna | sv192573-34e | 25ppm | DCM- fisher | 191108 | --- |
| tcl42 | sv182535-37b | 25ppm | | | |
| bna verif | sv182535-10q | 1ppm | | | |
| bna verif | sv182535-10m | 2ppm | | | |
| bna verif | sv182535-46g | 5ppm | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2019 | Sequence Loaded By: | chriss2 | Quant Method/s | M5P2761 |
| Batch ID | E5P2823 | Analysis Date | 5/21/2019 | Data Processed By: | ying li | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:55:22 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 59858 | DFTPP | | | | 1 | | | | | ok | 3:22am |
| 5P | 59859 | CC2761-25 | | | | 2 | | | | | N | run method error, rerun |
| 5P | 59860 | CC2761-25 | | | | 2 | | | | | ok | |
| 5P | 59861 | CC2762-25 | | | | 3 | | | | | ok | |
| 5P | 59862 | BNA VERIF-1PPM | | | | 4 | | | | | ok | for 52/84/87 |
| 5P | 59863 | BNA VERIF-2PPM | | | | 5 | | | | | ok | for 48/61 |
| 5P | 59864 | BNA VERIF-5PPM | | | | 6 | | | | | ok | for 70 |
| 5P | 59865 | OP20489-MB1 | OP20489 | AB8270NJTCL20+ | AQ | 7 | | X | y | y | ok | |
| 5P | 59866 | OP20489-BS1 | OP20489 | AB8270NJTCL20+ | AQ | 8 | | X | y | y | ok | |
| | 59867 | OP20488-MB1 | OP20488 | AB8270SL,B8270PAH,B8270SIM PAUMO,BMS+14DIOX | AQ | 9 | | X | y | y | ok | |

# GCMS Semi Volatile Run Log

| | Data File | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59868 | OP20488-BS1 | OP20488 | AB8270SL,B8270PAH,B8270SIM PAUMO,BMS+14DIOX | AQ | 10 | | X | y | y | ok | |
| | 59869 | JC88071-13 | OP20488 | AB8270SL,BMS+14DIOX | AQ | 11 | | X | y | y | ok | |
| | 59870 | OP20488-MS | OP20488 | AB8270SL,B8270PAH,B8270SIM PAUMO,BMS+14DIOX | AQ | 12 | | X | y | y | ok | |
| | 59871 | OP20488-MSD | OP20488 | AB8270SL,B8270PAH,B8270SIM PAUMO,BMS+14DIOX | AQ | 13 | | X | y | y | ok | |
| 5P | 59872 | JC88347-1 | OP20488 | B8270PAH | AQ | 14 | | | y | y | ok | |
| 5P | 59873 | JC88347-2 | OP20488 | B8270PAH | AQ | 15 | | | y | y | ok | |
| 5P | 59874 | JC88347-4 | OP20488 | B8270PAH | AQ | 16 | | | y | y | ok | |
| 5P | 59875 | JC88347-5 | OP20488 | B8270PAH | AQ | 17 | | | y | y | ok | |
| 5P | 59876 | JC88347-6 | OP20488 | B8270PAH | AQ | 18 | | | y | y | ok | |
| 5P | 59877 | OP20489-MS | OP20489 | AB8270NJTCL20+ | AQ | 19 | | X | y | y | ok | |
| 5P | 59878 | OP20489-MSD | OP20489 | AB8270NJTCL20+ | AQ | 20 | | X | y | y | ok | |
| | 59879 | JC88253-1 | OP20489 | AB8270NJTCL20+ | AQ | 21 | | X | y | y | ok | |
| | 59880 | JC88253-2 | OP20489 | AB8270NJTCL20+ | AQ | 22 | | X | y | y | ok | |
| | 59881 | JC88253-3 | OP20489 | AB8270NJTCL20+ | AQ | 23 | | X | | | not ran | cut from sequence |
| | 59882 | JC88253-4 | OP20489 | AB8270NJTCL20+ | AQ | 24 | | X | | | not ran | cut from sequence |
| | 59883 | JC88253-5 | OP20489 | AB8270NJTCL20+ | AQ | 25 | | X | | | not ran | cut from sequence |
| 5P | 59884 | JC88253-6 | OP20489 | AB8270NJTCL20+ | AQ | 26 | | X | | | not ran | cut from sequence |
| 5P | 59885 | JC87535-7 | OP20269 | AB8270TCL20 | SO | 27 | 5 | | high | y | ok | diluted due to viscosity 12:07pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | istd | A0144955 | 4000 ppm |
| | | | dcm/fisher | 190729 | --- |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2562 | Analysis Date | 4/16/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 8/2019 10:27:05 A | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481124 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, reinstall |
| 6P | 481125 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, cut column and replace inlet seal and washer |
| 6P | 481126 | DFTPP | | | | 1 | | | | | ok | 9:34am |
| 6P | 481127 | IC2562-100 | | BNA | | 2 | | | | | ok | sv182535-96A |
| 6P | 481128 | IC2562-80 | | | | 3 | | | | | ok | sv182535-96B |
| 6P | 481129 | ICC2562-50 | | | | 4 | | | | | ok | sv182535-96C |
| 6P | 481130 | IC2562-25 | | | | 5 | | | | | ok | sv182535-96D |
| 6P | 481131 | IC2562-10 | | | | 6 | | | | | ok | sv182535-96E |
| 6P | 481132 | IC2562-5 | | | | 7 | | | | | ok | sv182535-96G |
| 6P | 481133 | IC2562-2 | | | | 8 | | | | | ok | sv182535-96H |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481134 | IC2562-1 | | | | 9 | | | | | ok | sv182535-96l |
| 6P | 481135 | ICV2562-50 | | BN1 | | 10 | | | | | ok | op192336-51 |
| 6P | 481136 | ICV2562-50 | | BN2 | | 11 | | | | | ok | op192336-72 |
| 6P | 481137 | ICV2562-50 | | ABN SURR | | 12 | | | | | ok | op192336-76 |
| 6P | 481138 | ICV2562-50 | | ANILINE | | 13 | | | | | ok | op192336-85 |
| 6P | 481139 | ICV2562-50 | | ACID | | 14 | | | | | ok | op192336-47 |
| 6P | 481140 | ICV2562-50 | | BZD 3rd | | 15 | | | | | ok | sv182490-113 3:06pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | istd | A0144955 | 4000 ppm |
| | | | dcm/fisher | 190729 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2563 | Analysis Date | 4/16/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 8/2019 10:27:22 A | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481141 | DFTPP | | | | 1 | | | | | ok | 3:25pm |
| 6P | 481142 | IC2563-100 | | TCL42 | | 16 | | | | | ok | sv192573-9A |
| 6P | 481143 | IC2563-80 | | | | 17 | | | | | ok | sv192573-9B |
| 6P | 481144 | ICC2563-50 | | | | 18 | | | | | ok | sv192573-9C |
| 6P | 481145 | IC2563-25 | | | | 19 | | | | | ok | sv192573-9D |
| 6P | 481146 | IC2563-10 | | | | 20 | | | | | ok | sv192573-9E |
| 6P | 481147 | IC2563-5 | | | | 21 | | | | | ok | sv192573-9G |
| 6P | 481148 | IC2563-2 | | | | 22 | | | | | ok | sv192573-9H |
| 6P | 481149 | IC2563-1 | | | | 23 | | | | | ok | sv192573-9I |
| 6P | 481150 | ICV2563-50 | | AP9 MIX #2 | | 24 | | | | | ok | sv192573-8 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481151 | ICV2563-50 | | HQ 2nd | | 25 | | | | | ok | sv182490-103B 7:16pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | istd | CL13166 | 4000 ppm |
| bna | sv182535-121b | 50ppm | dcm/fisher | 191108 | -- |
| tcl42 | sv182535-120b | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2590 | Analysis Date | 5/14/2019 | Data Processed By: | jeryllr | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 5/2019 10:44:56 A | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481841 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, rr |
| 6P | 481842 | DFTPP | | | | 1 | | | | | not using | pcp tailing and 68 high, raise flow |
| 6P | 481843 | DFTPP | | | | 1 | | | | | ok | 3:47pm |
| 6P | 481844 | CC2562-50 | | bna | | 2 | | | | | ok | low: 48 |
| 6P | 481845 | CC2563-25 | | | | 3 | | | | | ok | |
| 6P | 481846 | OP20353-MB | OP20353 | AB8270TCLP | SO | 4 | | | y | y | ok | |
| 6P | 481847 | OP20353-LB34 | OP20353 | AB8270TCLP | SO | 5 | | | y | y | ok | |
| 6P | 481848 | OP20354-LB36 | OP20354 | AB8270TCLP | SO | 6 | | | y | y | ok | |
| 6P | 481849 | OP20355-LB31 | OP20355 | AB8270TCLP | SO | 7 | | | y | y | ok | |
| 6P | 481850 | OP20353-BS | OP20353 | AB8270TCLP | SO | 8 | | | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481851 | OP20353-BSD | OP20353 | | | 9 | | | y | y | ok | |
| 6P | 481852 | JC86000-3P | OP20381 | AB8270TCLP | SO | 10 | | | y | y | ok | |
| 6P | 481853 | JC86000-3P | OP20381 | AB8270TCLP | SO | 11 | 5 | | y | y | ok | |
| 6P | 481854 | JC87414-5R | OP20353 | AB8270TCLP | SO | 12 | | X | y | y | ok | |
| 6P | 481855 | JC87414-10R | OP20353 | AB8270TCLP | SO | 13 | | X | y | y | ok | |
| 6P | 481856 | JC87414-15R | OP20353 | AB8270TCLP | SO | 14 | | X | y | y | ok | |
| 6P | 481857 | JC87715-1 | OP20355 | AB8270TCLP | SO | 15 | | | y | y | ok | |
| 6P | 481858 | OP20353-LS20 | OP20353 | AB8270TCLP | SO | 16 | | | y | y | ok | |
| 6P | 481859 | OP20353-MSD | OP20353 | AB8270TCLP | SO | 17 | | | y | y | ok | |
| 6P | 481860 | JC87610-2A | OP20354 | AB8270TCLP | SO | 18 | | X | y | y | ok | |
| 6P | 481861 | JC87610-4A | OP20354 | AB8270TCLP | SO | 19 | | | y | y | ok | |
| 6P | 481862 | OP20354-LS22 | OP20354 | AB8270TCLP | SO | 20 | | | y | y | ok | |
| 6P | 481863 | OP20354-MSD | OP20354 | AB8270TCLP | SO | 21 | | | y | y | ok | |
| 6P | 481864 | JC87670-5A | OP20355 | AB8270TCLP | SO | 22 | | X | y | y | ok | |
| 6P | 481865 | OP20355-LS18 | OP20355 | AB8270TCLP | SO | 23 | | | y | y | ok | |
| 6P | 481866 | OP20355-MSD | OP20355 | AB8270TCLP | SO | 24 | | | y | y | ok | |
| 6P | 481867 | JC87811-2 | OP20324 | B8270PAH | SO | 25 | | | y | y | ok | |
| 6P | 481868 | JC87811-3 | OP20324 | B8270PAH | SO | 26 | | | y | y | ok | |
| 6P | 481869 | JC87811-6 | OP20324 | B8270PAH | SO | 27 | | | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481870 | JC87811-7 | OP20324 | B8270PAH | SO | 28 | | | y | 6 low | ok | 02:29pm; corr is fail |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | istd | CL13166 | 4000 ppm |
| bna | sv182535-121f | 25ppm | dcm/fisher | 191108 | -- |
| tcl42 | sv182535-120f | 25ppm | | | |
| bna ver | sv182535-46e | 10ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2591 | Analysis Date | 5/15/2019 | Data Processed By: | michellc | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:57:18 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481871 | DFTPP | | | | 1 | | | | | not using | pcp cut off, adjust solvent delay |
| 6P | 481872 | DFTPP | | | | 1 | | | | | not using | 68 high, rr |
| 6P | 481873 | DFTPP | | | | 1 | | | | | ok | 9:04am |
| 6P | 481874 | CC2562-25 | | bna | | 2 | | | | | ok | |
| 6P | 481875 | CC2563-25 | | tcl42 | | 3 | | | | | ok | |
| 6P | 481876 | BNA 10PPM VER | | | | 4 | | | | | ok | |
| 6P | 481877 | OP19978A-MB1 | OP19978A | B8270EPHPAH | SO | 5 | | | y | y | ok | |
| 6P | 481878 | OP19978A-BS1 | OP19978A | B8270EPHPAH | SO | 6 | | | y | y | ok | |
| 6P | 481879 | OP19978A-BSD | OP19978A | B8270EPHPAH | SO | 7 | | | y | y | ok | |
| 6P | 481880 | OP20224A-MB | OP20224A | B8270EPHPAH | AQ | 8 | | | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481881 | OP20224A-BS | OP20224A | B8270EPHPAH | AQ | 9 | | | y | y | ok | |
| 6P | 481882 | OP20224A-BSD | OP20224A | B8270EPHPAH | AQ | 10 | | | y | y | ok | |
| 6P | 481883 | JC87747-1A | OP20355 | AB8270TCLP | SO | 11 | | | y | y | ok | |
| 6P | 481884 | JC87747-2A | OP20355 | AB8270TCLP | SO | 12 | | | y | y | ok | |
| 6P | 481885 | JC87747-3A | OP20355 | AB8270TCLP | SO | 13 | | | y | y | ok | |
| 6P | 481886 | JC87747-4A | OP20355 | AB8270TCLP | SO | 14 | | | y | y | ok | |
| 6P | 481887 | JC87670-11A | OP20355 | AB8270TCLP | SO | 15 | | | y | y | ok | |
| 6P | 481888 | JC87670-17A | OP20355 | AB8270TCLP | SO | 16 | | | y | y | ok | |
| 6P | 481889 | JC87670-23A | OP20355 | AB8270TCLP | SO | 17 | | | y | y | ok | |
| 6P | 481890 | JC87535-13 | OP20353 | AB8270TCLP | SO | 18 | | | y | y | ok | |
| 6P | 481891 | JC87535-14 | OP20353 | AB8270TCLP | SO | 19 | | | y | y | ok | |
| 6P | 481892 | JC87535-15 | OP20353 | AB8270TCLP | SO | 20 | | | y | y | ok | |
| 6P | 481893 | JC87435-16 | OP20224A | B8270EPHPAH | AQ | 21 | | | y | y | ok | |
| 6P | 481894 | JC86683-1R | OP19978A | B8270EPHPAH | SO | 22 | | | Y | Y | OK | rr overcal |
| 6P | 481895 | OP19978A-DUP | OP19978A | B8270EPHPAH | SO | 23 | | | Y | Y | OK | |
| 6P | 481896 | JC87756-11 | OP20324 | AB8270TCL20+ | SO | 24 | | X | Y | Y | OK | |
| 6P | 481897 | JC87756-1 | OP20324 | AB8270TCL20+ | SO | 25 | | X | Y | low | OK | |
| 6P | 481898 | JC87811-7 | OP20324 | B8270PAH | SO | 26 | 2 | | Y | Y | OK | diluted due to matrix 700 pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSM

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| | | | DCM/fisher | 190729 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/12/2019 | Sequence Loaded By: | christc2 | Quant Method/s | MM6556 |
| Batch ID | EM6556 | Analysis Date | 4/12/2019 | Data Processed By: | ying li | Injection Volume | 1uL |
| Approved By: | KRISTIS | Approved Date | 24/2019 5:48:51 F | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153397 | DFTPP | | | | 1 | | | | | | |
| M | 153398 | DFTPP | | | | 1 | | | | | | |
| M | 153399 | DFTPP | | | | 1 | | | | | | |
| M | 153400 | DFTPP | | | | 1 | | | | | ok | 4:58pm |
| M | 153401 | IC6556-100 | | | | 2 | | | | | ok | sv182535-96a |
| M | 153402 | IC6556-80 | | | | 3 | | | | | ok | sv182535-96b |
| M | 153403 | ICC6556-50 | | | | 4 | | | | | ok | sv182535-96c |
| M | 153404 | IC6556-25 | | | | 5 | | | | | ok | sv182535-96d |
| M | 153405 | IC6556-10 | | | | 6 | | | | | ok | sv182535-96e |
| M | 153406 | IC6556-5 | | | | 7 | | | | | ok | sv182535-96g |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153407 | IC6556-2 | | | | 8 | | | | | ok | sv182535-96h |
| M | 153408 | IC6556-1 | | | | 9 | | | | | ok | sv182535-96i |
| M | 153409 | ICV6556-50 | | bn1 | | 10 | | | | | ok | op182336-51 |
| M | 153410 | ICV6556-50 | | bn2 | | 11 | | | | | ok | op182160-30 |
| M | 153411 | ICV6556-50 | | acid | | 12 | | | | | ok | op192336-47 |
| M | 153412 | ICV6556-50 | | aniline | | 13 | | | | | ng | op192336-72 10#/68# high |
| M | 153413 | ICV6556-50 | | abn surr | | 14 | | | | | ok | op192336-76 |
| M | 153414 | ICV6556-50 | | bzd 3rd | | 15 | | | | | ok | sv182490-113 12:06am |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSM

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| | | | DCM/fisher | 190729 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/12/2019 | Sequence Loaded By: | chriss2 | Quant Method/s | MM6556 |
| Batch ID | EM6557 | Analysis Date | 4/13/2019 | Data Processed By: | ying li | Injection Volume | 1uL |
| Approved By: | KRISTIS | Approved Date | 24/2019 5:49:14 F | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153415 | DFTPP | | | | 1 | | | | | | 51 low, up flow |
| M | 153416 | DFTPP | | | | 1 | | | | | | 51 low, rerun |
| M | 153417 | DFTPP | | | | 1 | | | | | | 51 low, drop flow |
| M | 153418 | DFTPP | | | | 1 | | | | | | 51 low, drop repeller |
| M | 153419 | DFTPP | | | | 1 | | | | | ok | 1:19am |
| M | 153420 | IC6557-100 | | TCL42 | | 2 | | | | | ok | sv192573-9a |
| M | 153421 | IC6557-80 | | | | 3 | | | | | ok | sv192573-9b |
| M | 153422 | ICC6557-50 | | | | 4 | | | | | ok | sv192573-9c |
| M | 153423 | IC6557-25 | | | | 5 | | | | | ok | sv192573-9d |
| M | 153424 | IC6557-10 | | | | 6 | | | | | ok | sv192573-9e |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153425 | IC6557-5 | | | | 7 | | | | | ok | sv192573-9g |
| M | 153426 | IC6557-2 | | | | 8 | | | | | ok | sv192573-9h |
| M | 153427 | IC6557-1 | | | | 9 | | | | | ok | sv192573-9i 5:11am |
| M | 153428 | ICV6557-50 | | AP9 Mix#2 | | 10 | | | | | nr | sv192573-8 |
| M | 153429 | ICV6557-50 | | HQ 2nd | | 11 | | | | | nr | sv18490-103b |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSM

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| | | | DCM/fisher | 190729 | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/12/2019 | Sequence Loaded By: | chriss2 | Quant Method/s | MM6556 |
| Batch ID | EM6558 | Analysis Date | 4/13/2019 | Data Processed By: | ying li | Injection Volume | 1uL |
| Approved By: | KRISTIS | Approved Date | 24/2019 5:49:29 F | | | | |

☐ SW846 8270 D

☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153431 | DFTPP | | | | 1 | | | | | ok | 2:31pm |
| M | 153432 | IC6558-100 | | Bzd | | 12 | | | | | ok | sv182535-70a |
| M | 153433 | IC6558-80 | | | | 13 | | | | | ok | sv182535-70b |
| M | 153434 | ICC6558-50 | | | | 14 | | | | | ok | sv182535-70c |
| M | 153435 | IC6558-25 | | | | 15 | | | | | ok | sv182535-70d |
| M | 153436 | IC6558-10 | | | | 16 | | | | | ok | sv182535-101 |
| M | 153437 | IC6558-5 | | | | 17 | | | | | ok | sv182535-70g |
| M | 153438 | IC6558-2 | | | | 18 | | | | | ok | sv182535-70h |
| M | 153439 | IC6558-1 | | | | 19 | | | | | ok | sv182535-70i |
| M | 153440 | ICV6558-50 | | Bzd 3rd | | 20 | | | | | ok | sv182490-113 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153441 | ICV6557-50 | | AP9MIX#2 | | 1 | | | | | ok | sv192573-8 |
| M | 153442 | ICV5667-50 | | HQ2nd | | 2 | | | | | ok | sv18490-103b 7:28pm |



SGS
1911 of 2974
JC87535
6
9.9.20

# GCMS Semi Volatile Run Log

## Instrument ID: GCMSM

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | A0144955 | 4000ppm |
| bna | sv182535-121b | 50ppm | DCM/fisher | 190729 | |
| tcl42 | sv182535-120b | 50ppm | | | |
| bzd | sv182535-71b | 50ppm | | | |
| bna verf | sv182535-10t | 2ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/12/2019 | Sequence Loaded By: | christc2 | Quant Method/s | MM6556 |
| Batch ID | EM6559 | Analysis Date | 4/15/2019 | Data Processed By: | aimeel | Injection Volume | 1uL |
| Approved By: | KRISTIS | Approved Date | 24/2019 5:50:30 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 153443 | DFTPP | | | | 1 | | | | | ok | 1:54pm |
| M | 153444 | ICV6556-50 | | aniline | | 2 | | | | | ok | op192336-85 |
| M | 153445 | CC6556-50 | | bna | | 3 | | | | | ok | Low 31,60 |
| M | 153446 | CC6557-50 | | tcl42 | | 4 | | | | | OK | |
| M | 153447 | CC6558-50 | | bzd | | 5 | | | | | OK | |
| M | 153448 | BNA 2PPM VERF | | | | 6 | | | | | OK | Verified |
| M | 153449 | OP19637-MB1 | OP19637 | B8270HQ | AQ | 7 | | | | | | |
| M | 153450 | JC80385A-2I | OP19637 | B8270HQ | AQ | 8 | | | | | | bs1 |
| M | 153451 | JC80385A-2I | OP19637 | B8270HQ | AQ | 9 | | | | | | bs2 |
| M | 153452 | JC80385A-2I | OP19637 | B8270HQ | AQ | 10 | | | | | | bs3 |

# GCMS Semi Volatile Run Log

| | Data File | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 153453 | OP19732-MB1 | OP19732 | | SO | 11 | | X | y | y | OK | Hit 53 |
| | 153454 | OP19732-BS1 | OP19732 | | SO | 12 | | X | y | y | OK | |
| | 153455 | OP19732-BSD | OP19732 | | SO | 13 | | X | y | y | OK | |
| | 153456 | JC86060-8F | OP19680 | B8270TICS+ | AQ | 14 | | X | y | y | OK | |
| | 153457 | JC86060-8 | OP19680 | B8270TICS+ | AQ | 15 | | X | y | y | OK | |
| M | 153458 | JC86229-5 | OP19732 | AB8270TCL20+ | SO | 16 | | X | y | y | OK | |
| M | 153459 | JC86222-1 | OP19732 | AB8270PPTCL20+ | SO | 17 | | X | y | y | OK | |
| M | 153460 | JC86204-7 | OP19732 | AB8270TCL20 | SO | 18 | | | y | y | OK | |
| | 153461 | OP19732-MS | OP19732 | | SO | 19 | | X | y | y | OK | |
| | 153462 | OP19732-MSD | OP19732 | | SO | 20 | | X | y | y | OK | |
| M | 153463 | JC86204-8 | OP19732 | AB8270TCL20 | SO | 21 | | | y | y | OK | |
| M | 153464 | JC86204-14 | OP19732 | AB8270TCL20 | SO | 22 | | | y | y | OK | |
| M | 153465 | JC86204-10 | OP19732 | AB8270TCL20 | SO | 23 | | | y | y | OK | |
| M | 153466 | JC86204-9 | OP19732 | AB8270TCL20 | SO | 24 | | | y | y | OK | |
| M | 153467 | JC86204-13 | OP19732 | AB8270TCL20 | SO | 25 | | | y | y | OK | |
| M | 153468 | JC86204-12 | OP19732 | AB8270TCL20 | SO | 26 | | | y | y | N | Needs Dilution |
| M | 153469 | JC86204-4 | OP19732 | AB8270TCL20 | SO | 27 | | | y | y | OK | 1:50am |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSM

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| bna | sv182535-120c | 50ppm | DCM/fisher | 191532 | |
| tcl42 | sv182535-121c | 50ppm | | | |
| bzd | sv192573-71d | 50ppm | | | |
| bna verif | sv182535-10u | 2ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/12/2019 | Sequence Loaded By: | christc2 | Quant Method/s | MM6556 |
| Batch ID | EM6594 | Analysis Date | 5/15/2019 | Data Processed By: | jonkm | Injection Volume | 1uL |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:57:50 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 154387 | DFTPP | | | | 1 | | | | | not using | 51 low, rr |
| M | 154388 | DFTPP | | | | 1 | | | | | not using | 51 low, drop repeller |
| M | 154389 | DFTPP | | | | 1 | | | | | ok | 8:39am |
| M | 154390 | CC6556-50 | | bna | | 2 | | | | | ok | 4, 61 low |
| M | 154391 | CC6557-50 | | tcl42 | | 3 | | | | | ok | |
| M | 154392 | CC6558-50 | | bzd | | 4 | | | | | ok | |
| M | 154393 | BNA 2PPM VERF | | | | 5 | | | | | ok | all verified |
| | 154394 | OP20268-MB1 | OP20268 | | SO | 6 | | X | y | y | ok | |
| | 154395 | OP20268-BS1 | OP20268 | | SO | 7 | | X | y | y | ok | |
| | 154396 | JC87783-1 | OP20294 | AB8270NJTCL20+ | AQ | 8 | | X | y | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 154397 | JC87670-5 | OP20268 | AB8270TCL20+ | SO | 9 | | X | y | y | ok | |
| M | 154398 | JC87670-11 | OP20268 | AB8270TCL20+ | SO | 10 | | X | y | y | ok | |
| M | 154399 | JC87670-17 | OP20268 | AB8270TCL20+ | SO | 11 | | X | y | y | ok | |
| M | 154400 | JC87670-23 | OP20268 | AB8270TCL20+ | SO | 12 | | X | y | y | ok | |
| M | 154401 | JC87450-16 | OP20268 | AB8270STD | SO | 13 | | | y | y | ok | |
| M | 154402 | JC87450-17 | OP20268 | AB8270STD | SO | 14 | | | y | y | ok | |
| M | 154403 | JC87423-4A | OP20268 | AB8270TCL20+ | SO | 15 | | X | y | y | ok | |
| M | 154404 | JC87423-5A | OP20268 | AB8270TCL20+ | SO | 16 | | X | y | y | ok | |
| | 154405 | OP20268-MS | OP20268 | | SO | 17 | | X | y | y | ok | |
| | 154406 | OP20268-MSD | OP20268 | | SO | 18 | | X | y | y | ok | |
| M | 154407 | JC87450-14 | OP20263 | AB8270STD | SO | 19 | | | y | y | ok | |
| M | 154408 | JC87450-11 | OP20263 | AB8270STD | SO | 20 | | | 6 low | y | corr | surr out |
| M | 154409 | JC87450-13 | OP20263 | AB8270STD | SO | 21 | | | y | y | ok | |
| M | 154410 | JC87396-1 | OP20263 | AB8270TCL20+ | SO | 22 | | X | y | y | ok | |
| M | 154411 | JC87435-3 | OP20263 | AB8270TCL20+ | SO | 23 | | X | y | y | ok | |
| M | 154412 | JC87450-1 | OP20263 | AB8270STD | SO | 24 | | | y | y | ok | |
| M | 154413 | JC87450-3 | OP20263 | AB8270STD | SO | 25 | | | y | y | ok | |
| M | 154414 | JC87450-5 | OP20263 | B8270PAH | SO | 26 | | | y | y | ok | end (20:21,5/15/19) |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS5P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| bna | sv192573-47d | 25ppm | DCM- fisher | 191108 | --- |
| tcl42 | sv192573-120h | 25ppm | | | |
| bna verf | sv182535-10q | 1ppm | | | |
| bna verf | sv192573-3e | 5ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | il MS 30m x 0.25 mm x ( | Initial Calib Date | 4/8/2019 | Sequence Loaded By: | christc2 | Quant Method/s | MM6556 |
| Batch ID | EM6595 | Analysis Date | 5/16/2019 | Data Processed By: | jonkm | Injection Volume | 1 uL |
| Approved By: | KRISTIS | Approved Date | 7/2019 12:56:20 I | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 154415 | DFTPP | | | | 1 | | | | | ok | 8:45pm |
| 5P | 154416 | CC6556-25 | | bna | | 2 | | | | | ok | |
| 5P | 154417 | CC6557-25 | | tcl42 | | 3 | | | | | ok | |
| 5P | 154418 | BNA 1PPM VERF | | | | 4 | | | | | ok | |
| 5P | 154419 | BNA 5PPM VERF | | | | 5 | | | | | ok | |
| 5P | 154420 | OP20412-MB | OP20412 | AB8270TCLP | SO | 6 | | | y | y | ok | |
| 5P | 154421 | OP20412-LB38 | OP20412 | AB8270TCLP | SO | 7 | | | h | y | ok | |
| 5P | 154422 | OP20412-BS | OP20412 | AB8270TCLP | SO | 8 | | | h | y | ok | |
| | 154423 | JC87783-2 | OP20294 | AB8270NJTCL20+ | AQ | 9 | | X | y | y | ok | |
| 5P | 154424 | TD38572-1 | OP20412 | AB8270TCLP | SO | 10 | | | h | y | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5P | 154425 | OP20412-LS24 | OP20412 | AB8270TCLP | SO | 11 | | | h | y | ok | |
| 5P | 154426 | OP20412-MSD | OP20412 | AB8270TCLP | SO | 12 | | | h | y | ok | |
| 5P | 154427 | JC87456-1 | OP20268 | B82702MNAP | SO | 13 | | | y | y | ok | |
| 5P | 154428 | JC87456-2 | OP20268 | B82702MNAP | SO | 14 | | | y | y | ok | |
| 5P | 154429 | JC87456-3 | OP20268 | B82702MNAP | SO | 15 | | | Y | Y | OK | |
| 5P | 154430 | JC87535-2 | OP20268 | AB8270TCL20 | SO | 16 | | | Y | Y | OK | |
| 5P | 154431 | JC87530-1 | OP20268 | AB8270TCL20+ | SO | 17 | | X | Y | Y | OK | |
| 5P | 154432 | JC87530-2 | OP20268 | AB8270TCL20+ | SO | 18 | | X | Y | Y | OK | |
| 5P | 154433 | JC87530-3 | OP20268 | AB8270TCL20+ | SO | 19 | | X | Y | Y | OK | |
| 5P | 154434 | JC87535-1 | OP20268 | AB8270TCL20 | SO | 20 | | | Y | Y | OK | |
| 5P | 154435 | JC87535-4 | OP20268 | AB8270TCL20 | SO | 21 | | | Y | Y | OK | |
| 5P | 154436 | JC87520-1 | OP20268 | B8270SL | SO | 22 | | | Y | Y | OK | |
| 5P | 154437 | JC87535-3 | OP20268 | AB8270TCL20 | SO | 23 | 5 | | Y | Y | ok/DL | diluted for visc. Needs further dil. End (20:23,5/16/19) - #96 deleted due to belowcal but actually overcal (quadratic) |
| 5P | 154438 | JC87306-5 | OP20134 | B8270NJTCL20+ | AQ | 24 | 2 | X | y | y | ok | ran after m154422 |
| 5P | 154439 | OP20139-MB | OP20139 | AB8270TCL,AB8270TCL11 | AQ | 25 | | | y | y | ok | ran after m154426 |
| 5P | 154440 | JC87341-2 | OP20139 | AB8270TCL11 | AQ | 25 | | | y | y | ok | ran after m154426 |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSM

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | ISTD | CL13166 | 4000ppm |
| bna 625.1 | sv192573-29a | 50ppm | DCM/fisher | 191532 | |
| tcl42 | sv182535-121e | 50ppm | | | |
| bzd | sv192573-71d | 50ppm | | | |
| bna verif | sv182535-10s | 1ppm | | | |
| bna verf | sv182535-3b | 5ppm | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/12/2019 | Sequence Loaded By: | christc2 | Quant Method/s | MM6556 |
| Batch ID | EM6596 | Analysis Date | 5/17/2019 | Data Processed By: | michellc | Injection Volume | 1uL |
| Approved By: | KRISTIS | Approved Date | 21/2019 5:58:18 F | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 154441 | DFTPP | | | | 1 | | | | | no | 51 low, rr |
| M | 154442 | DFTPP | | | | 1 | | | | | no | 51 low, drop repeller |
| M | 154443 | DFTPP | | | | 1 | | | | | no | 51 low, drop repeller |
| M | 154444 | DFTPP | | | | 1 | | | | | no | 51 low, lower 219 and 131 |
| M | 154445 | DFTPP | | | | 1 | | | | | no | 51 low |
| M | 154446 | DFTPP | | | | 1 | | | | | ok | 11:41am |
| M | 154447 | CC6556-50 | | 625.1 bna | | 2 | | | | | ng | 625.1 check doesn't pass, run 8270 |
| M | 154448 | CC6556-50 | | bna | | 2 | | | | | ok | sv192573-47b |
| M | 154449 | CC6557-50 | | tcl42 | | 3 | | | | | ok | |
| M | 154450 | CC6558-50 | | bzd | | 4 | | | | | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 154451 | BNA 1PPM VERF | | | | 5 | | | | | ok | |
| M | 154452 | BNA 5PPM VERF | | | | 6 | | | | | ok | |
| | 154453 | OP20460-MB1 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 7 | | X | h | y | ng | sur high |
| | 154454 | OP20460-BS1 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 8 | | X | y | y | ok | 3,3-dichlorobenzidine low |
| | 154455 | OP20460-BSD | OP20460 | AB8270SL,BMS+14DIOX | AQ | 9 | | X | y | y | ok | |
| M | 154456 | OP20466-MB1 | OP20466 | AB8270SL1 | SO | 10 | | | y | y | ok | |
| M | 154457 | OP20466-BS1 | OP20466 | AB8270SL1 | SO | 11 | | | y | y | ok | |
| M | 154458 | JC88291-1 | OP20460 | AB8270SL1 | AQ | 12 | | | | | ok | |
| M | 154459 | JC88288-1 | OP20466 | AB8270SL1 | SO | 13 | | | | | ok | |
| M | 154460 | JC88289-1 | OP20466 | AB8270SL1 | SO | 14 | | | | | ok | |
| M | 154461 | JC88290-1 | OP20466 | AB8270SL1 | SO | 15 | | | | | ok | |
| M | 154462 | OP20466-MS | OP20466 | AB8270SL1 | SO | 16 | | | Y | Y | OK | |
| M | 154463 | OP20466-MSD | OP20466 | AB8270SL1 | SO | 17 | | | Y | Y | OK | |
| M | 154464 | JC87535-3 | OP20268 | AB8270TCL20 | SO | 18 | 50 | | Y | Y | OK | |
| M | 154465 | JC87535-3 | OP20268 | AB8270TCL20 | SO | 19 | 500 | | Y | Y | OK | |
| | 154466 | JC87956-22 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 20 | | X | Y | Y | OK | |
| | 154467 | JC87956-20 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 21 | | X | Y | Y | OK | rr overcal |
| | 154468 | JC87956-21 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 22 | | X | Y | Y | OK | rr overcal |
| M | 154469 | JC88095-37 | OP20460 | B8270PAH | AQ | 23 | | | Y | Y | OK | no ecc 1107 pm |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | 154470 | OP20460-MB1 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 7 | | X | y | y | ok | ran after m154456 |
| | 154471 | OP20460-BS1 | OP20460 | AB8270SL,BMS+14DIOX | AQ | 8 | | X | y | y | ok | ran after m154463 |

# ABN Extraction Log - Solids

LOGBOOK ID:

Date started: 5/11/19 Time started: 9:00am
Date finished: 5/11/19 Time finished: 4:20PM

Extract Method (CHECK OFF "√" /DO NOT CIRCLE):
Microwave SW3546 √ Sonication SW3550C _____
Waste Dil. SW3580A _____ Soxhlet SW3540C _____

BATCH # MS 20268 RACK# R-46

| | |
|---|---|
| Weighed by: | SA |
| Extracted by: | SA |
| Concentrated by: | SA |
| Final Vol. Top-up: | |
| Vialed by: | SA |
| Supervisor Review: | JP 5/13/19 |

| Special Client Spike Instructions | | | | | |
|---|---|---|---|---|---|
| QC ID# for Special Spike | Amt to Spike | Spike ID | Lot # | Conc. | Amt. Spiked |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

WITNESS SIGN: SPIKE SIGN:

Manager/Supervisor/Team Lead Approval:

**SPECIAL PROCESSING INSTRUCTIONS**

Rx Reason:

Spiking:

Weights/Volumes:

Required MS/MSD:

Final Volume:

Other:

| | Sample # | Analysis Type | Sample# Bottle # | Sample Description | Sample Wet Wt. (g) Oil (g) Liq (mL) | Decant Y | Decant N | Sonicator ID | Microwave ID | Final Extract Color | Final Extract Vol(mL) | GPC Cleanup | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | ABN | | Sand | 30.0 | | | | 12 | clear | 1.0 | | |
| | BS1 | | | Sand | 30.0 | | | | 12 | yellow | 1.0 | | |
| | JC87450-16MS | | 1 | Soil | 30.8 | | | - | 12 | brown | 1.0 | | |
| | MSD | | 1 | Soil | 31.6 | | | - | 12 | brown | 1.0 | | |
| | BS | | | | | | | | | | | | |
| | MS | | | | | | | | | | | | |
| | MSD | | | | | | | | | | | | |
| | BS | | | | | | | | | | | | |
| | MS | | | | | | | | | | | | |
| | MSD | | | | | | | | | | | | |
| 1 | JC87450-16 | ABN | 1 | Soil | 31.5 | | ✓ | | 12 | brown | 1.0 | | |
| 2 | -17 | | 1 | Soil | 30.7 | | ✓ | | 12 | brown | 1.0 | | |
| 3 | JC87456-1 | | 1 | Soil | 30.2 | | ✓ | | 12 | yellow | 1.0 | | |
| 4 | -2 | | 1 | wet Sand | 30.1 | | ✓ | | 12 | yellow | 1.0 | | |
| 5 | -3 | | 1 | Sand | 30.6 | | ✓ | | 12 | clear | 1.0 | | |
| 6 | JC87520-1 | | 1 | Soil | 31.4 | | ✓ | | 12 | brown | 1.0 | | |
| 7 | JC87530-1 | | 1 | Sand | 30.4 | | ✓ | | 12 | yellow | 1.0 | | |
| 8 | -2 | | 1 | Sand | 30.4 | | ✓ | | 12 | yellow | 1.0 | | |
| 9 | -3 | | 1 | Sand | 30.6 | | ✓ | | 12 | yellow | 1.0 | | |
| 10 | JC87535-1 | | 1 | Soil | 32.4 | | ✓ | | 12 | yellow | 1.0 | | |
| 11 | -2 | | 1 | Soil | 30.5 | | ✓ | | 12 | yellow | 1.0 | | |
| 12 | -3 | | 1 | Soil | 30.4 | | ✓ | | 12 | brown | 1.0 | | |
| 13 | -4 | | 1 | Soil | 30.8 | | ✓ | | 12 | brown | 1.0 | | |
| 14 | JC87670-5 | | 1 | Clay | 32.5 | | ✓ | | 12 | clear | 1.0 | | |
| 15 | -11 | | 1 | Clay | 32.7 | | ✓ | | 12 | clear | 1.0 | | |
| 16 | -17 | | 1 | Clay | 31.6 | | ✓ | | 12 | clear | 1.0 | | |
| 17 | 23 | | 1 | Clay | 30.2 | | ✓ | | 12 | clear | 1.0 | | |
| 18 | JC87423-4A | | 1 | Soil | 31.5 | | ✓ | | 12 | brown | 1.0 | | |
| 19 | -5A | | 1 | Soil | 30.1 | | ✓ | | 12 | brown | 1.0 | | |
| 20 | | | | | | | | | | | | | |

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:

| Equipment/ Range | ID | Observed Temp (°C) | Correction Factor (°C) | Corrected Temp (°C) | Pressure/ Flowrate |
|---|---|---|---|---|---|
| Buchi (65-71°C) | | | | | |
| Buchi Chiller | | | | | |
| Waterbath (70-80°C) | 10 | 75 | -1.0 | 74 | OK |
| Waterbath Chiller (GPM) | V-1 | 6 | - | - | 1.5 |
| NEVAP (32-38°C, LPM) | 2 | 35 | 0.1 | 35 | 10 |
| Balance | B-38 | N/A | N/A | N/A | N/A |

| SURROGATE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| ABN Dp | 192336107 | 100 | 1.0 |
| ABN DOD SIM | | | |

WITNESS SIGN: VP SPIKE SIGN: SA

| MATRIX SPIKE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| Acid Dp | 192336104 | 100 | Acid: 1.0 |
| Acid (for SIM) | | | A(SIM): |
| Base #1 | 192336100 | 100 | 1.0 |
| Base #2 | 192336106 | 100 | 1.0 |
| Aniline | 192336109 | 100 | 1.0 |
| BSIM | | | |

WITNESS SIGN: VP SPIKE SIGN: SA

| SOLVENT | LOT # | BRAND | AMT (mL) |
|---|---|---|---|
| 1:1 METH CHLOR/ ACETONE | 191532 174411 | ~~Fisher~~ | 30 |
| METH CHLOR | | | |

| REAGENT | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| HYDROMATRIX | 643092 | 4-4-19A | Applied |
| SODIUM SULFATE | 183473 | 4-11-19A | Fisher |
| FILTER PAPER | 168/19760 | | Fisher |

| MATRIX | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| SAND | 86A1804301A | 3.12.19 | Fisher |

SGS
Form: OP019A-10
Rev Date: 8/2/17

55

LOGBOOK ID:

# ABN Extraction Log - Solids

Date started: 5/12/19 Time started: 12:20
Date finished: 5/12/19 Time finished: 16:35

Extract Method (CHECK OFF "√" /DO NOT CIRCLE):
Microwave SW3546 √ Sonication SW3550C _____
Waste Dil. SW3580A _____ Soxhlet SW3540C _____

| BATCH # MS 20269 | RACK# R46 |
|---|---|
| Weighed by: | SA |
| Extracted by: | SA |
| Concentrated by: | SA LJ |
| Final Vol. Top-up: | |
| Vialed by: | LJ |
| Supervisor Review: | JP 5/13/19 |

**Special Client Spike Instructions**

| QC ID# for Special Spike | Amt to Spike | Spike ID | Lot # | Conc. | Amt. Spiked |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

WITNESS SIGN: SPIKE SIGN:
Manager/Supervisor/Team Lead Approval:

**SPECIAL PROCESSING INSTRUCTIONS**

Rx Reason:

Spiking:

Weights/Volumes:

Required MS/MSD:

Final Volume:

Other:

| | Sample # | Analysis Type | Sample Bottle # | Sample Description | Sample Wet Wt. (g) Oil (g) Liq (mL) | Decant Y | Decant N | Sonicator ID | Microwave ID | Final Extract Color | Final Extract Vol(mL) | GPC Cleanup | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | ABN | | Sand | 30.0 | | | | 12 | clear | 1.0 | | |
| | BS1 | | | Sand | 30.0 | | | | 12 | yellow | 1.0 | | |
| | JC87563-7 MS | | 1 | Soil | 31.5 | | | - | 12 | brown | 1.0 | | |
| | MSD | | 1 | Soil | 31.4 | | | - | 12 | brown | 1.0 | | |
| | BS | | | | | | | | * | | | | |
| | JC87535-8 MS2 | | 3 | Soil | 30.2 | | | - | 12 | brown | 1.0 | | |
| | JC87535-8 MSD2 | | 3 | Soil | 31.6 | | | - | 12 | brown | 1.0 | | |
| | BS | | | | | | | | | | | | |
| | MS | | | | | | | | | | | | |
| | MSD | | | | | | | | | | | | |
| 1 | JC87535-5 | ABN | 1 | Clay | 30.4 | | | - | 12 | brown | 1.0 | | |
| 2 | -6 | | 1 | Clay | 30.6 | | | - | 12 | yellow | 1.0 | | |
| 3 | -7 | | 1 | Soil | 30.6 | | | - | 12 | brown | 1.0 | | |
| 4 | -8 | | 3 | Soil | 30.3 | | | - | 12 | brown | 1.0 | | |
| 5 | -9 | | 1 | wet sand | 32.8 | | | - | 12 | brown | 1.0 | | |
| 6 | -10 | | 1 | clay | 26.2 | | | - | 12 | brown | 1.0 | | |
| 7 | -11 | | 1 | Tar | 25.5 | | | - | 12 | brown | 5.0 | 4 | * |
| 8 | -12 | | 1 | Clay | 30.6 | | | - | 12 | brown | 1.0 | | |
| 9 | JC87537-1 | | 1 | Mud | 30.9 | | | - | 12 | brown | 1.0 | | |
| 10 | -4 | | 1 | Plastic | 2.4 | | | - | 12 | brown | 1.0 | * | |
| 11 | -5 | | 1 | Little bowl | 11.7 | | | - | 12 | brown | 1.0 | * | |
| 12 | JC87563-1 | | 1 | Soil | 31.1 | | | - | 12 | yellow | 1.0 | | |
| 13 | -2 | | 1 | Soil | 30.9 | | | - | 12 | brown | 1.0 | | |
| 14 | -3 | | 1 | Sand | 30.2 | | | - | 12 | yellow | 1.0 | | |
| 15 | -4 | | 1 | Soil | 30.5 | | | - | 12 | brown | 1.0 | | |
| 16 | -5 | | 1 | Soil | 30.6 | | | - | 12 | brown | 1.0 | | |
| 17 | -6 | | 1 | Soil | 32.3 | | | - | 12 | yellow | 1.0 | | |
| 18 | -7 | | 1 | Soil | 30.6 | | | - | 12 | brown | 1.0 | | |
| 19 | -8 | | 1 | Soil | 36.6 | | | - | 12 | brown | 1.0 | | |
| 20 | -9 | | 1 | wet Soil | 31.1 | | | - | 12 | brown | 1.0 | | |

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:
*: Reduced Volume weighted out due to sample Matrix &

| Equipment/ Range | ID | Observed Temp (°C) | Correction Factor (°C) | Corrected Temp (°C) | Pressure/ Flowrate |
|---|---|---|---|---|---|
| Buchi (65-71°C) | | | | | |
| Buchi Chiller | | | | | |
| Waterbath (70-80°C) | 10 | 76.0 | -1.0 | 75.0 | Ok |
| Waterbath Chiller (GPM) | V3 | 7.0 | - | - | 0.8 |
| NEVAP (32-35°C, LPM) | 2 | 35.0 | 0.1 | 35.1 | 10 |
| Balance | B-35 | N/A | N/A | N/A | N/A |

| SURROGATE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| ABN | 192336116 | 50 | 1.0 |
| ABN DOD SIM | | | |

WITNESS SIGN: SA SPIKE SIGN: LJ

| MATRIX SPIKE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| Acid | 192336104 | 50 | Acid: 1.0 |
| Acid (for SIM) | | | A(SIM): |
| Base #1 | 192336100 | 50 | 1.0 |
| Base #2 | 192336106 | 50 | 1.0 |
| Aniline | 192336109 | 50 | 1.0 |
| BSIM | | | |

WITNESS SIGN: SA SPIKE SIGN: LJ

| SOLVENT | LOT # | BRAND | AMT (mL) |
|---|---|---|---|
| 1:1 METH CHLOR/ ACETONE | 191532 / 174411 | Fisher | 30 |
| METH CHLOR | | | |

| REAGENT | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| HYDROMATRIX | 6435042 | 5619A | Agilent |
| SODIUM SULFATE | 183473 | 5.5.19 | Fisher |
| FILTER PAPER | 16819760 | | Fisher |

| MATRIX | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| SAND | 894180510071A | 11-19-18 | Fisher |

SGS
Form: OP019A-10
Rev Date: 8/2/17

57

~~LS20~~ ~~LS18~~ LS18 20355
LS22 OP20354 LS20 OP20353

# ABN Aqueous Extraction Logbook

LOGBOOK ID:

Date Started: 5-14-19 Time Started: 6710n
Date Finished: _____ Time Finished: 4:56

Extract Method (CHECK OFF "√" /DO NOT CIRCLE):
Separatory Funnel: SW846 3510C/CLP/other_____ 3510C SIM_____
Continuous Liquid Liquid: SW846 3520C/CLP/other_____

| BATCH # MS OP20381 | RACK# Green |
|---|---|
| Set-up by: | BJ |
| Extracted by: | BJ |
| Concentrated by: | BJ |
| Final Vol. Top-up: | |
| Vialed by: | BJ |
| Supervisor Review: | BJ 5-14-19 |

| Equipment/ Range | ID | Observed Temp (°C) | Correction Factor (°C) | Corrected Temp (°C) | Pressure/ Flowrate |
|---|---|---|---|---|---|
| Buchi (65-71°C) | | | | | |
| Buchi Chiller | | | | | |
| Waterbath (70-80°C) | 5,6 | 75,27 | 0,2 | 75,75 | OK |
| Waterbath Chiller (GPM) | F3 | 4 | – | – | 2 |
| NEVAP (32-38°C, LPM) | 41 | 35 | – | – | 10 |

| SURROGATE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| ABN | 192336116 | 50 | 1.0 |
| ABN DOD SIM | | | |

WITNESS SIGN: VP SPIKE SIGN: BJ

| MATRIX SPIKE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| Acid | | | Acid: 1.0 |
| Acid (for SIM) | 192332104 | 50 | A(SIM): 0.1 |
| Base #1 | 192336108 | 50 | 1.0 |
| Base #2 | 192336106 | 50 | 1.0 |
| Anilines | 192336110 | 50 | 1.0 |
| BSIM | 192336174 | 1 | 1.0 |

WITNESS SIGN: VP SPIKE SIGN: BJ

| SOLVENT | LOT # | BRAND | AMT (mL) |
|---|---|---|---|
| METH CHLOR | 191108 | Fisher | 60X6 |

| REAGENT | LOT # | BATCH # | BRAND |
|---|---|---|---|
| NaOH | 186388 | | Fisher |
| H2SO4 | 2810932 | | ricca |
| Sodium Sulfate | 183473 | 5-5-19 | Fisher |
| Glass Wool | 11T08 | | Lab |
| Filter Paper | | | |
| pH strips | 217518 | | Hydrion |

**Special Client Spike Instructions**

| QC ID# for Special Spike | Amt to Spike | Spike ID | Lot # | Conc. | Amt. Spiked |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

WITNESS SIGN: SPIKE SIGN:
Manager/Supervisor/Team Lead Approval:

**SPECIAL PROCESSING INSTRUCTIONS**

Rx Reason:

Spiking:

Weights/Volumes:

Required MS/MSD:

Final Volume:

Other: due 5/6 due SM

SGS
Form: OP022A-12
Rev Date: 8/2/17

89

| | Sample # | Analysis Type | Sample Bottle # | Sample Description | Sample Volume (mL) | pH Adjust(mL) <2 H2SO4 | pH Adjust(mL) >11 NaOH | Final Extract Color | Final Extract Vol(mL) | Misc. GPC Cleanup | Misc. Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | ABN | | DIH2O | 1000 | 1.0 | 4.0 | Clear | 1.0 | | |
| | BS1 | BCLP | | TCLP | 100 | 1.0 | 4.0 | Yellow | 1.0 | | |
| | LS20/JC87445 MS | | | | 100 | 1.0 | 4.0 | Yellow | 1.0 | | |
| | JC87445 MSD | | | | 100 | 1.0 | 4.0 | Yellow | 1.0 | | |
| | LB34 ~~BS~~ | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | | |
| | LS22/JC87610-2 MS | | | | 100 | 1.0 | 4.0 | Yellow | 1.0 | | |
| | JC87610-2 MSD | | | | 100 | 1.0 | 4.0 | Yellow | 1.0 | | |
| | LB36 ~~DS~~ | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | | |
| | LS18/JC87705 MS | | | | 100 | 1.0 | 4.0 | Yellow | 1.0 | LS | LB |
| | JC87705 MSD | | | | 100 | 1.0 | 4.0 | Yellow | 1.0 | LS | LB |
| 1 | JC87414-5R | ABN | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 20 | 34 |
| 2 | JC87414-10 | TCLP | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 3 | JC87414-15 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 4 | JC87415-1 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 18 | 31 |
| 5 | JC87610-2 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 22 | 36 |
| 6 | -4 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 7 | JC87747-1 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 18 | 31 |
| 8 | -2 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 9 | -3 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 10 | -4 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 11 | JC87670-5A | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 12 | JC87670-11 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 13 | -17 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 14 | -23 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 15 | JC87535-13 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 20 | 34 |
| 16 | -14 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 17 | -15 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | 1 | 1 |
| 18 | JC86000-3P (P sample) | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | | |
| 19 | LB 31 | | | | 100 | 1.0 | 4.0 | Clear | 1.0 | | |
| 20 | BSD | | | DIH2O | 100 | 1.0 | 4.0 | Yellow | 1.0 | | |

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:
No volume for JC86000-3P ~~MS~~/MSD Link to BS1/BSD

## GC/LC Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20312-MB1 | 5G88436.D | 1 | 05/14/19 | SK | 05/14/19 | OP20312 | G5G2132 |

**The QC reported here applies to the following samples:** **Method:** SW846 8082A

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 33 | 16 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | ND | 33 | 17 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | ND | 33 | 26 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | ND | 33 | 14 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | ND | 33 | 30 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | ND | 33 | 18 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | ND | 33 | 14 | ug/kg | |
| 11100-14-4 | Aroclor 1268 | ND | 33 | 14 | ug/kg | |
| 37324-23-5 | Aroclor 1262 | ND | 33 | 22 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 86% | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 96% | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 89% | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 92% | 17-164% |

# Method Blank Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20312-MB1 | 2G179804.D | 1 | 05/14/19 | TR | 05/14/19 | OP20312 | G2G4657 |

**The QC reported here applies to the following samples:** **Method:** SW846 8082A

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | 33 | 16 | ug/kg | |
| 11104-28-2 | Aroclor 1221 | ND | 33 | 17 | ug/kg | |
| 11141-16-5 | Aroclor 1232 | ND | 33 | 26 | ug/kg | |
| 53469-21-9 | Aroclor 1242 | ND | 33 | 14 | ug/kg | |
| 12672-29-6 | Aroclor 1248 | ND | 33 | 30 | ug/kg | |
| 11097-69-1 | Aroclor 1254 | ND | 33 | 18 | ug/kg | |
| 11096-82-5 | Aroclor 1260 | ND | 33 | 14 | ug/kg | |
| 11100-14-4 | Aroclor 1268 | ND | 33 | 14 | ug/kg | |
| 37324-23-5 | Aroclor 1262 | ND | 33 | 22 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 84% | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 81% | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 91% | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 78% | 17-164% |

# Blank Spike Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20312-BS1 | 5G88437.D | 1 | 05/14/19 | SK | 05/14/19 | OP20312 | G5G2132 |

**The QC reported here applies to the following samples:** **Method:** SW846 8082A

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 133 | 134 | 100 | 67-157 |
| 11104-28-2 | Aroclor 1221 | | ND | | 70-130 |
| 11141-16-5 | Aroclor 1232 | | ND | | 70-130 |
| 53469-21-9 | Aroclor 1242 | | ND | | 70-130 |
| 12672-29-6 | Aroclor 1248 | | ND | | 70-130 |
| 11097-69-1 | Aroclor 1254 | | ND | | 70-130 |
| 11096-82-5 | Aroclor 1260 | 133 | 126 | 94 | 63-155 |
| 11100-14-4 | Aroclor 1268 | | ND | | 50-150 [a] |
| 37324-23-5 | Aroclor 1262 | | ND | | 50-150 [a] |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 98% | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 111% | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 98% | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 100% | 17-164% |

(a) Advisory control limits.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20312-MS | 5G88439.D | 1 | 05/14/19 | SK | 05/14/19 | OP20312 | G5G2132 |
| OP20312-MSD | 5G88440.D | 1 | 05/14/19 | SK | 05/14/19 | OP20312 | G5G2132 |
| JC87704-1 | 5G88438.D | 1 | 05/14/19 | SK | 05/14/19 | OP20312 | G5G2132 |

**The QC reported here applies to the following samples:** **Method:** SW846 8082A

JC87535-13, JC87535-14, JC87535-15

| CAS No. | Compound | JC87704-1 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | ND | | 147 | 163 | 111 | 147 | 158 | 108 | 3 | 36-191/60 |
| 11104-28-2 | Aroclor 1221 | ND | | | ND | | | ND | | nc | 70-130/50 |
| 11141-16-5 | Aroclor 1232 | ND | | | ND | | | ND | | nc | 70-130/1 |
| 53469-21-9 | Aroclor 1242 | ND | | | ND | | | ND | | nc | 70-130/6 |
| 12672-29-6 | Aroclor 1248 | ND | | | ND | | | ND | | nc | 70-130/33 |
| 11097-69-1 | Aroclor 1254 | ND | | | ND | | | ND | | nc | 70-130/38 |
| 11096-82-5 | Aroclor 1260 | ND | | 147 | 190 | 129 | 147 | 177 | 121 | 7 | 15-200/68 |
| 11100-14-4 | Aroclor 1268 | ND | | | ND | | | ND | | nc | -/50 |
| 37324-23-5 | Aroclor 1262 | ND | | | ND | | | ND | | nc | -/17 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87704-1 | Limits |
|---|---|---|---|---|---|
| 877-09-8 | Tetrachloro-m-xylene | 86% | 74% | 109% | 31-146% |
| 877-09-8 | Tetrachloro-m-xylene | 90% | 77% | 120% | 31-146% |
| 2051-24-3 | Decachlorobiphenyl | 110% | 102% | 108% | 17-164% |
| 2051-24-3 | Decachlorobiphenyl | 102% | 92% | 106% | 17-164% |

* = Outside of Control Limits.

# GC Identification Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | G5G2132-CC2127 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88434.D | **Injection Time:** | 09:16 |
| **Instrument ID:** | GC5G | **Method:** | SW846 8082A |

| | | | |
|---|---|---|---|
| **Sample ID:** | OP20312-BS1 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88437.D | **Injection Time:** | 10:54 |
| **Client ID:** | Blank Spike | | |

| Compound | Column | RT | StdRT | Conc | Q | Units | RPD Conc |
|---|---|---|---|---|---|---|---|
| Aroclor 1016 | 1 [a] | | | 134 | | ug/kg | 7.9 |
| Aroclor 1016 | 2 | | | 145 | | ug/kg | |
| AR1016-A | 1 | 4.28 | 4.28 | 140 | | ug/kg | |
| AR1016-A | 2 | 5.57 | 5.57 | 157 | | ug/kg | |
| AR1016-B | 1 | 5.00 | 5.00 | 140 | | ug/kg | |
| AR1016-B | 2 | 6.60 | 6.61 | 149 | | ug/kg | |
| AR1016-C | 1 | 6.07 | 6.06 | 124 | | ug/kg | |
| AR1016-C | 2 | 7.87 | 7.87 | 138 | | ug/kg | |
| AR1016-D | 1 | 6.38 | 6.38 | 134 | | ug/kg | |
| AR1016-D | 2 | 8.25 | 8.25 | 142 | | ug/kg | |
| AR1016-E | 1 | 7.40 | 7.40 | 134 | | ug/kg | |
| AR1016-E | 2 | 9.64 | 9.64 | 137 | | ug/kg | |
| Aroclor 1260 | 1 [a] | | | 126 | | ug/kg | 4.7 |
| Aroclor 1260 | 2 | | | 132 | | ug/kg | |
| AR1260-A | 1 | 12.54 | 12.54 | 126 | | ug/kg | |
| AR1260-A | 2 | 15.44 | 15.45 | 128 | | ug/kg | |
| AR1260-B | 1 | 12.92 | 12.91 | 140 | | ug/kg | |
| AR1260-B | 2 | 15.73 | 15.74 | 142 | | ug/kg | |
| AR1260-C | 1 | 13.67 | 13.66 | 126 | | ug/kg | |
| AR1260-C | 2 | 16.70 | 16.70 | 141 | | ug/kg | |
| AR1260-D | 1 | 14.67 | 14.67 | 119 | | ug/kg | |
| AR1260-D | 2 | 17.54 | 17.54 | 127 | | ug/kg | |
| AR1260-E | 1 | 15.55 | 15.55 | 120 | | ug/kg | |
| AR1260-E | 2 | 18.76 | 18.75 | 121 | | ug/kg | |

(a) QC results reported from this column.

# GC Identification Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | G5G2132-CC2127 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88434.D | **Injection Time:** | 09:16 |
| **Instrument ID:** | GC5G | **Method:** | SW846 8082A |

| | | | |
|---|---|---|---|
| **Sample ID:** | OP20312-MS | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88439.D | **Injection Time:** | 12:00 |
| **Client ID:** | Matrix Spike | | |

| Compound | Column | RT | StdRT | Conc | Q | Units | RPD Conc |
|---|---|---|---|---|---|---|---|
| Aroclor 1016 | 1 [a] | | | 163 | | ug/kg | 20.3 |
| Aroclor 1016 | 2 | | | 133 | | ug/kg | |
| AR1016-A | 1 | 4.27 | 4.28 | 177 | | ug/kg | |
| AR1016-A | 2 | 5.56 | 5.57 | 151 | | ug/kg | |
| AR1016-B | 1 | 5.00 | 5.00 | 147 | | ug/kg | |
| AR1016-B | 2 | 6.60 | 6.61 | 116 | | ug/kg | |
| AR1016-C | 1 | 6.05 | 6.06 | 148 | | ug/kg | |
| AR1016-C | 2 | 7.86 | 7.87 | 120 | | ug/kg | |
| AR1016-D | 1 | 6.37 | 6.38 | 180 | | ug/kg | |
| AR1016-D | 2 | 8.24 | 8.25 | 144 | | ug/kg | |
| Aroclor 1260 | 1 [a] | | | 190 | | ug/kg | 39.0 |
| Aroclor 1260 | 2 | | | 282 | | ug/kg | |
| AR1260-A | 1 | 12.53 | 12.54 | 208 | | ug/kg | |
| AR1260-A | 2 | 15.43 | 15.45 | 249 | | ug/kg | |
| AR1260-B | 1 | 12.91 | 12.91 | 287 | | ug/kg | |
| AR1260-B | 2 | 15.73 | 15.74 | 259 | | ug/kg | |
| AR1260-D | 1 | 14.65 | 14.67 | 75.6 | | ug/kg | |
| AR1260-D | 2 | 17.48 | 17.54 | 338 | | ug/kg | |

(a) QC results reported from this column.

# GC Identification Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | G5G2132-CC2127 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88434.D | **Injection Time:** | 09:16 |
| **Instrument ID:** | GC5G | **Method:** | SW846 8082A |

| | | | |
|---|---|---|---|
| **Sample ID:** | OP20312-MSD | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88440.D | **Injection Time:** | 12:32 |
| **Client ID:** | Matrix Spike Duplicate | | |

| Compound | Column | RT | StdRT | Conc | Q | Units | RPD Conc |
|---|---|---|---|---|---|---|---|
| Aroclor 1016 | 1 [a] | | | 158 | | ug/kg | 26.5 |
| Aroclor 1016 | 2 | | | 121 | | ug/kg | |
| AR1016-A | 1 | 4.27 | 4.28 | 179 | | ug/kg | |
| AR1016-A | 2 | 5.55 | 5.57 | 122 | | ug/kg | |
| AR1016-B | 1 | 4.99 | 5.00 | 158 | | ug/kg | |
| AR1016-B | 2 | 6.60 | 6.61 | 113 | | ug/kg | |
| AR1016-C | 1 | 6.05 | 6.06 | 133 | | ug/kg | |
| AR1016-C | 2 | 7.86 | 7.87 | 114 | | ug/kg | |
| AR1016-D | 1 | 6.36 | 6.38 | 162 | | ug/kg | |
| AR1016-D | 2 | 8.24 | 8.25 | 134 | | ug/kg | |
| Aroclor 1260 | 1 [a] | | | 177 | | ug/kg | 42.7 |
| Aroclor 1260 | 2 | | | 273 | | ug/kg | |
| AR1260-A | 1 | 12.53 | 12.54 | 184 | | ug/kg | |
| AR1260-A | 2 | 15.43 | 15.45 | 195 | | ug/kg | |
| AR1260-B | 1 | 12.91 | 12.91 | 264 | | ug/kg | |
| AR1260-B | 2 | 15.72 | 15.74 | 288 | | ug/kg | |
| AR1260-D | 1 | 14.65 | 14.67 | 83.0 | | ug/kg | |
| AR1260-D | 2 | 17.48 | 17.54 | 337 | | ug/kg | |

(a) QC results reported from this column.

# Surrogate Recovery Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8082A **Matrix:** SO

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 [a] | S1 [b] | S2 [a] | S2 [b] |
|---|---|---|---|---|---|
| JC87535-13 | 2G179806.D | 72 | 38 | 76 | 223* [c] |
| JC87535-14 | 2G179807.D | 69 | 61 | 66 | 256* [c] |
| JC87535-15 | 2G179808.D | 64 | 46 | 66 | 149 |
| OP20312-BS1 | 5G88437.D | 98 | 111 | 98 | 100 |
| OP20312-MB1 | 2G179804.D | 84 | 81 | 91 | 78 |
| OP20312-MB1 | 5G88436.D | 86 | 96 | 89 | 92 |
| OP20312-MS | 5G88439.D | 86 | 90 | 110 | 102 |
| OP20312-MSD | 5G88440.D | 74 | 77 | 102 | 92 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = Tetrachloro-m-xylene | 31-146% |
| **S2** = Decachlorobiphenyl | 17-164% |

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2
(c) Outside control limits due to matrix interference.

# GC Surrogate Retention Time Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | G2G4657-CC4640 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 2G179802.D | **Injection Time:** | 19:48 |
| **Instrument ID:** | GC2G | **Method:** | SW846 8082A |

| | S1 [a] RT | S1 [b] RT | S2 [a] RT | S2 [b] RT |
|---|---|---|---|---|
| Check Std | 3.05 | 3.47 | 10.38 | 11.77 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT | S1 [b] RT | S2 [a] RT | S2 [b] RT |
|---|---|---|---|---|---|---|---|
| OP20312-MB1 | 2G179804.D | 05/14/19 | 21:36 | 3.06 | 3.47 | 10.39 | 11.77 |
| JC87535-13 | 2G179806.D | 05/14/19 | 22:10 | 3.06 | 3.47 | 10.38 | 11.78 |
| JC87535-14 | 2G179807.D | 05/14/19 | 22:27 | 3.05 | 3.47 | 10.38 | 11.78 |
| JC87535-15 | 2G179808.D | 05/14/19 | 22:44 | 3.06 | 3.47 | 10.38 | 11.78 |
| ZZZZZZ | 2G179809.D | 05/14/19 | 23:01 | 3.05 | 3.47 | 10.38 | 11.77 |

**Surrogate Compounds**

**S1** = Tetrachloro-m-xylene
**S2** = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

# GC Surrogate Retention Time Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | G5G2132-CC2127 | **Injection Date:** | 05/14/19 |
| **Lab File ID:** | 5G88434.D | **Injection Time:** | 09:16 |
| **Instrument ID:** | GC5G | **Method:** | SW846 8082A |

| | S1 [a] RT | S1 [b] RT | S2 [a] RT | S2 [b] RT |
|---|---|---|---|---|
| Check Std | 3.61 | 4.38 | 19.11 | 22.61 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT | S1 [b] RT | S2 [a] RT | S2 [b] RT |
|---|---|---|---|---|---|---|---|
| OP20312-MB1 | 5G88436.D | 05/14/19 | 10:22 | 3.60 | 4.38 | 19.10 | 22.60 |
| OP20312-BS1 | 5G88437.D | 05/14/19 | 10:54 | 3.60 | 4.38 | 19.11 | 22.61 |
| JC87704-1 | 5G88438.D | 05/14/19 | 11:27 | 3.60 | 4.37 | 19.09 | 22.60 |
| OP20312-MS | 5G88439.D | 05/14/19 | 12:00 | 3.60 | 4.37 | 19.09 | 22.60 |
| OP20312-MSD | 5G88440.D | 05/14/19 | 12:32 | 3.61 | 4.37 | 19.09 | 22.60 |

**Surrogate Compounds**

**S1** = Tetrachloro-m-xylene
**S2** = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICC4640
**Lab FileID:** 2G178873.D

Response Factor Report HP G1530A

Method Path : C:\MSDCHEM\1\METHODS\
Method File : 2PCB4640.M
Title : 
Last Update : Fri Apr 26 08:31:59 2019
Response Via : Initial Calibration

Calibration Files
50 =2G178870.D 250 =2G178871.D 500 =2G178872.D
1000 =2G178873.D 2000 =2G178874.D 3000 =2G178875.D

| | Compound | 50 | 250 | 500 | 1000 | 2000 | 3000 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) S | Tetrachloro-m... | 4.028 | 3.675 | 3.768 | 3.952 | 4.037 | 4.113 | 3.929 | E6 | 4.35 |
| 2) | AR1221-A | | | | 3.769 | | | 3.769 | E4 | 0.00 |
| 3) | AR1221-B | | | | 4.808 | | | 4.808 | E4 | 0.00 |
| 4) | AR1221-C | | | | 1.556 | | | 1.556 | E5 | 0.00 |
| 5) | AR1221-D | | | | 1.729 | | | 1.729 | E4 | 0.00 |
| 6) | AR1221-E | | | | 1.291 | | | 1.291 | E4 | 0.00 |
| 7) | AR1232-A | | | | 1.177 | | | 1.177 | E5 | 0.00 |
| 8) | AR1232-B | | | | 8.037 | | | 8.037 | E4 | 0.00 |
| 9) | AR1232-C | | | | 1.641 | | | 1.641 | E5 | 0.00 |
| 10) | AR1232-D | | | | 6.378 | | | 6.378 | E4 | 0.00 |
| 11) | AR1232-E | | | | 6.124 | | | 6.124 | E4 | 0.00 |
| 12) | AR1242-A | | | | 1.307 | | | 1.307 | E5 | 0.00 |
| 13) | AR1242-B | | | | 2.838 | | | 2.838 | E5 | 0.00 |
| 14) | AR1242-C | | | | 1.080 | | | 1.080 | E5 | 0.00 |
| 15) | AR1242-D | | | | 1.134 | | | 1.134 | E5 | 0.00 |
| 16) | AR1242-E | | | | 1.068 | | | 1.068 | E5 | 0.00 |
| 17) | AR1248-A | | | | 7.019 | | | 7.019 | E4 | 0.00 |
| 18) | AR1248-B | | | | 1.916 | | | 1.916 | E5 | 0.00 |
| 19) | AR1248-C | | | | 1.984 | | | 1.984 | E5 | 0.00 |
| 20) | AR1248-D | | | | 1.818 | | | 1.818 | E5 | 0.00 |
| 21) | AR1248-E | | | | 9.605 | | | 9.605 | E4 | 0.00 |
| 22) | AR1248-F | | | | 1.750 | | | 1.750 | E5 | 0.00 |
| 23) | AR1248-G | | | | 1.396 | | | 1.396 | E5 | 0.00 |
| 24) | AR1254-A | | | | 1.607 | | | 1.607 | E5 | 0.00 |
| 25) | AR1254-B | | | | 2.942 | | | 2.942 | E5 | 0.00 |
| 26) | AR1254-C | | | | 1.602 | | | 1.602 | E5 | 0.00 |
| 27) | AR1254-D | | | | 3.204 | | | 3.204 | E5 | 0.00 |
| 28) | AR1254-E | | | | 2.374 | | | 2.374 | E5 | 0.00 |
| 29) | AR1254-F | | | | 2.130 | | | 2.130 | E5 | 0.00 |
| 30) | AR1254-G | | | | 2.992 | | | 2.992 | E5 | 0.00 |
| 31) | AR1016-A | 1.048 | 0.894 | 0.878 | 0.874 | 0.851 | 0.823 | 0.895 | E5 | 8.84 |
| 32) | AR1016-B | 2.048 | 1.758 | 1.679 | 1.652 | 1.621 | 1.590 | 1.725 | E5 | 9.76 |
| 33) | AR1016-C | 3.898 | 3.590 | 3.575 | 3.724 | 3.814 | 3.835 | 3.739 | E5 | 3.58 |
| 34) | AR1016-D | 1.636 | 1.438 | 1.389 | 1.395 | 1.392 | 1.381 | 1.439 | E5 | 6.87 |
| 35) | AR1016-E | 1.727 | 1.508 | 1.456 | 1.457 | 1.463 | 1.428 | 1.506 | E5 | 7.37 |
| 36) | AR1260-A | 3.563 | 3.243 | 3.398 | 3.560 | 3.686 | 3.703 | 3.526 | E5 | 5.01 |
| 37) | AR1260-B | 2.156 | 1.897 | 1.944 | 1.975 | 2.003 | 2.155 | 2.022 | E5 | 5.41 |
| 38) | AR1260-C | 2.317 | 1.993 | 2.031 | 2.101 | 2.175 | 2.182 | 2.133 | E5 | 5.50 |
| 39) | AR1260-D | 5.465 | 5.042 | 5.504 | 5.728 | 5.951 | 5.866 | 5.593 | E5 | 5.93 |
| 40) | AR1260-E | 5.654 | 5.162 | 5.290 | 5.301 | 5.599 | 5.501 | 5.418 | E5 | 3.61 |
| 41) | AR1262-A | | | | 2.187 | | | 2.187 | E5 | 0.00 |
| 42) | AR1262-B | | | | 3.016 | | | 3.016 | E5 | 0.00 |
| 43) | AR1262-C | | | | 2.658 | | | 2.658 | E5 | 0.00 |
| 44) | AR1262-D | | | | 6.657 | | | 6.657 | E5 | 0.00 |
| 45) | AR1262-E | | | | 7.018 | | | 7.018 | E5 | 0.00 |
| 46) | AR1268-A | | | | 6.629 | | | 6.629 | E5 | 0.00 |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICC4640
**Lab FileID:** 2G178873.D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 47) | | AR1268-B | | | | 7.919 | | | 7.919 E5 | 0.00 |
| 48) | | AR1268-C | | | | 5.856 | | | 5.856 E5 | 0.00 |
| 49) | | AR1268-D | | | | 2.503 | | | 2.503 E5 | 0.00 |
| 50) | | AR1268-E | | | | 2.013 | | | 2.013 E6 | 0.00 |
| 51) | S | Decachlorobip... | 4.773 | 4.756 | 4.341 | 4.347 | 4.339 | 4.341 | 4.483 E6 | 4.87 |

Signal #2 Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 50 | =2G178870.D | 250 | =2G178871.D | 500 | =2G178872.D |
| 1000 | =2G178873.D | 2000 | =2G178874.D | 3000 | =2G178875.D |

| | | Compound | 50 | 250 | 500 | 1000 | 2000 | 3000 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | Tetrachloro-m... | 2.767 | 2.641 | 2.622 | 2.715 | 2.712 | 2.736 | 2.699 E7 | 2.07 |
| 2) | | AR1221-A | | | | 2.243 | | | 2.243 E5 | 0.00 |
| 3) | | AR1221-B | | | | 3.206 | | | 3.206 E5 | 0.00 |
| 4) | | AR1221-C | | | | 8.205 | | | 8.205 E5 | 0.00 |
| 5) | | AR1221-D | | | | 1.611 | | | 1.611 E5 | 0.00 |
| 6) | | AR1221-E | | | | 1.191 | | | 1.191 E5 | 0.00 |
| 7) | | AR1232-A | | | | 6.596 | | | 6.596 E5 | 0.00 |
| 8) | | AR1232-B | | | | 5.140 | | | 5.140 E5 | 0.00 |
| 9) | | AR1232-C | | | | 1.067 | | | 1.067 E6 | 0.00 |
| 10) | | AR1232-D | | | | 4.394 | | | 4.394 E5 | 0.00 |
| 11) | | AR1232-E | | | | 2.923 | | | 2.923 E5 | 0.00 |
| 12) | | AR1242-A | | | | 8.237 | | | 8.237 E5 | 0.00 |
| 13) | | AR1242-B | | | | 1.828 | | | 1.828 E6 | 0.00 |
| 14) | | AR1242-C | | | | 7.495 | | | 7.495 E5 | 0.00 |
| 15) | | AR1242-D | | | | 5.586 | | | 5.586 E5 | 0.00 |
| 16) | | AR1242-E | | | | 7.270 | | | 7.270 E5 | 0.00 |
| 17) | | AR1248-A | | | | 4.513 | | | 4.513 E5 | 0.00 |
| 18) | | AR1248-B | | | | 1.200 | | | 1.200 E6 | 0.00 |
| 19) | | AR1248-C | | | | 6.884 | | | 6.884 E5 | 0.00 |
| 20) | | AR1248-D | | | | 9.149 | | | 9.149 E5 | 0.00 |
| 21) | | AR1248-E | | | | 1.039 | | | 1.039 E6 | 0.00 |
| 22) | | AR1248-F | | | | 1.294 | | | 1.294 E6 | 0.00 |
| 23) | | AR1248-G | | | | 1.121 | | | 1.121 E6 | 0.00 |
| 24) | | AR1254-A | | | | 1.135 | | | 1.135 E6 | 0.00 |
| 25) | | AR1254-B | | | | 1.209 | | | 1.209 E6 | 0.00 |
| 26) | | AR1254-C | | | | 9.878 | | | 9.878 E5 | 0.00 |
| 27) | | AR1254-D | | | | 2.155 | | | 2.155 E6 | 0.00 |
| 28) | | AR1254-E | | | | 1.398 | | | 1.398 E6 | 0.00 |
| 29) | | AR1254-F | | | | 1.515 | | | 1.515 E6 | 0.00 |
| 30) | | AR1254-G | | | | 1.929 | | | 1.929 E6 | 0.00 |
| 31) | | AR1016-A | 5.939 | 5.308 | 5.093 | 4.962 | 4.775 | 4.685 | 5.127 E5 | 8.90 |
| 32) | | AR1016-B | 1.252 | 1.079 | 1.034 | 1.028 | 0.997 | 0.989 | 1.063 E6 | 9.20 |
| 33) | | AR1016-C | 2.548 | 2.327 | 2.297 | 2.352 | 2.323 | 2.322 | 2.361 E6 | 3.94 |
| 34) | | AR1016-D | 1.072 | 0.988 | 0.956 | 0.953 | 0.926 | 0.919 | 0.969 E6 | 5.82 |
| 35) | | AR1016-E | 7.611 | 7.080 | 6.901 | 6.968 | 6.848 | 6.830 | 7.040 E5 | 4.18 |
| 36) | | AR1260-A | 2.442 | 2.246 | 2.252 | 2.310 | 2.214 | 2.223 | 2.281 E6 | 3.75 |
| 37) | | AR1260-B | 1.388 | 1.271 | 1.245 | 1.261 | 1.244 | 1.241 | 1.275 E6 | 4.43 |
| 38) | | AR1260-C | 1.541 | 1.422 | 1.417 | 1.455 | 1.446 | 1.450 | 1.455 E6 | 3.07 |
| 39) | | AR1260-D | 3.237 | 3.031 | 3.060 | 3.206 | 3.212 | 3.236 | 3.164 E6 | 2.94 |
| 40) | | AR1260-E | 3.513 | 3.210 | 3.196 | 3.250 | 3.228 | 3.240 | 3.272 E6 | 3.65 |
| 41) | | AR1262-A | | | | 1.314 | | | 1.314 E6 | 0.00 |
| 42) | | AR1262-B | | | | 1.833 | | | 1.833 E6 | 0.00 |
| 43) | | AR1262-C | | | | 1.762 | | | 1.762 E6 | 0.00 |
| 44) | | AR1262-D | | | | 3.800 | | | 3.800 E6 | 0.00 |
| 45) | | AR1262-E | | | | 4.250 | | | 4.250 E6 | 0.00 |
| 46) | | AR1268-A | | | | 4.270 | | | 4.270 E6 | 0.00 |
| 47) | | AR1268-B | | | | 4.652 | | | 4.652 E6 | 0.00 |
| 48) | | AR1268-C | | | | 3.656 | | | 3.656 E6 | 0.00 |

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICC4640
**Lab FileID:** 2G178873.D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 49) | | AR1268-D | | | | | | 1.564 | 1.564 E6 | 0.00 |
| 50) | | AR1268-E | | | | | | 1.246 | 1.246 E7 | 0.00 |
| 51) | S | Decachlorobip... | 3.400 | 2.909 | 2.778 | 2.761 | 2.678 | 2.658 | 2.864 E7 | 9.68 |

(#) = Out of Range

2PCB4640.M Fri Apr 26 08:44:29 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178880.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\2G4640\2G178880.D\ECD1A.CH Vial: 13
Signal #2 : C:\msdchem\1\DATA\2G4640\2G178880.D\ECD2B.CH
Acq On : 25 Apr 2019 3:53 pm Operator: tianweir
Sample : icv4640-1000 Inst : HP G1530A
Misc : op19934,G2G4640,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2PCB4640.M (Chemstation Integrator)
Title :
Last Update : Fri Apr 26 08:31:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 3.929 | 3.816 E6 | 2.9 | 97 | 0.02 | 3.05- 3.11 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1016-A | 89.462 | 86.558 E3 | 3.2 | 99 | 0.01 | 3.44- 3.50 |
| 32 | AR1016-B | 172.463 | 153.460 E3 | 11.0 | 93 | 0.02 | 3.86- 3.92 |
| 33 | AR1016-C | 373.930 | 346.321 E3 | 7.4 | 93 | 0.01 | 4.42- 4.48 |
| 34 | AR1016-D | 143.866 | 131.552 E3 | 8.6 | 94 | 0.00 | 4.59- 4.65 |
| 35 | AR1016-E | 150.645 | 136.460 E3 | 9.4 | 94 | 0.00 | 5.11- 5.17 |
| 36 | AR1260-A | 352.556 | 332.200 E3 | 5.8 | 93 | 0.00 | 7.50- 7.56 |
| 37 | AR1260-B | 202.172 | 191.621 E3 | 5.2 | 97 | 0.00 | 7.65- 7.71 |
| 38 | AR1260-C | 213.308 | 208.231 E3 | 2.4 | 99 | 0.00 | 7.99- 8.05 |
| 39 | AR1260-D | 559.268 | 561.121 E3 | -0.3 | 98 | 0.00 | 8.42- 8.48 |
| 40 | AR1260-E | 541.777 | 498.250 E3 | 8.0 | 94 | 0.00 | 8.77- 8.93 |
| 41 | AR1262-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178880.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |
| 48 | | AR1268-C | | ----------NA---------- | | | | | |
| 49 | | AR1268-D | | ----------NA---------- | | | | | |
| 50 | | AR1268-E | | ----------NA---------- | | | | | |
| 51 | S | Decachlorobiphenyl | 4.483 | 4.524 | E6 | -0.9 | 104 | 0.00 | 10.36-10.42 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 25.543 | E6 | 5.4 | 94 | 0.02 | 3.47- 3.53 |
| 2 | | AR1221-A | | ----------NA---------- | | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | | |
| 31 | | AR1016-A | 512.695 | 493.180 | E3 | 3.8 | 99 | 0.01 | 4.10- 4.16 |
| 32 | | AR1016-B | 1.063 | 0.963 | E6 | 9.4 | 94 | 0.00 | 4.63- 4.69 |
| 33 | | AR1016-C | 2.361 | 2.139 | E6 | 9.4 | 91 | 0.00 | 5.25- 5.31 |
| 34 | | AR1016-D | 0.969 | 0.844 | E6 | 12.9 | 88 | 0.00 | 5.43- 5.49 |
| 35 | | AR1016-E | 703.965 | 631.474 | E3 | 10.3 | 91 | 0.00 | 6.08- 6.14 |
| 36 | | AR1260-A | 2.281 | 2.068 | E6 | 9.3 | 89 | 0.00 | 8.66- 8.72 |
| 37 | | AR1260-B | 1.275 | 1.202 | E6 | 5.7 | 95 | 0.00 | 8.77- 8.83 |
| 38 | | AR1260-C | 1.455 | 1.384 | E6 | 4.9 | 95 | 0.00 | 9.20- 9.26 |
| 39 | | AR1260-D | 3.164 | 3.123 | E6 | 1.3 | 97 | 0.00 | 9.55- 9.61 |
| 40 | | AR1260-E | 3.272 | 2.983 | E6 | 8.8 | 92 | 0.00 | 10.09-10.15 |
| 41 | | AR1262-A | | ----------NA---------- | | | | | |
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178880.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48 | | AR1268-C | | | ----------NA---------- | | | | |
| 49 | | AR1268-D | | | ----------NA---------- | | | | |
| 50 | | AR1268-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 28.638 | 27.718 E6 | 3.2 | 100 | 0.00 | 11.75-11.81 | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2G178873.D 2PCB4640.M Fri Apr 26 08:42:10 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178881.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\2G4640\2G178881.D\ECD1A.CH Vial: 14
Signal #2 : C:\msdchem\1\DATA\2G4640\2G178881.D\ECD2B.CH
Acq On : 25 Apr 2019 4:10 pm Operator: tianweir
Sample : icv4640-1000 Inst : HP G1530A
Misc : op19934,G2G4640,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2PCB4640.M (Chemstation Integrator)
Title :
Last Update : Fri Apr 26 08:31:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 3.929 | 5.615 E6 | -42.9# | 142 | 0.00 | 3.03- 3.09 |
| 2 | AR1221-A | 37.690 | 38.033 E3 | -0.9 | 101 | 0.00 | 2.43- 2.63 |
| 3 | AR1221-B | 48.079 | 44.696 E3 | 7.0 | 93 | 0.00 | 3.15- 3.35 |
| 4 | AR1221-C | 155.610 | 143.764 E3 | 7.6 | 92 | 0.00 | 3.35- 3.55 |
| 5 | AR1221-D | 17.287 | 14.619 E3 | 15.4 | 85 | 0.00 | 3.77- 3.97 |
| 6 | AR1221-E | 12.912 | 14.523 E3 | -12.5 | 112 | 0.00 | 3.94- 4.14 |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | 160.749 | 159.476 E3 | 0.8 | 99 | 0.00 | 5.13- 6.13 |
| 25 | AR1254-B | 294.154 | 287.656 E3 | 2.2 | 98 | 0.00 | 5.87- 6.07 |
| 26 | AR1254-C | 160.153 | 158.326 E3 | 1.1 | 99 | 0.00 | 6.24- 6.44 |
| 27 | AR1254-D | 320.441 | 316.776 E3 | 1.1 | 99 | 0.00 | 6.41- 6.61 |
| 28 | AR1254-E | 237.417 | 232.342 E3 | 2.1 | 98 | 0.00 | 6.79- 6.99 |
| 29 | AR1254-F | 212.984 | 209.806 E3 | 1.5 | 99 | 0.00 | 7.04- 7.24 |
| 30 | AR1254-G | 299.152 | 296.189 E3 | 1.0 | 99 | 0.00 | 7.42- 7.62 |
| 31 | AR1016-A | | ----------NA---------- | | | | |
| 32 | AR1016-B | | ----------NA---------- | | | | |
| 33 | AR1016-C | | ----------NA---------- | | | | |
| 34 | AR1016-D | | ----------NA---------- | | | | |
| 35 | AR1016-E | | ----------NA---------- | | | | |
| 36 | AR1260-A | | ----------NA---------- | | | | |
| 37 | AR1260-B | | ----------NA---------- | | | | |
| 38 | AR1260-C | | ----------NA---------- | | | | |
| 39 | AR1260-D | | ----------NA---------- | | | | |
| 40 | AR1260-E | | ----------NA---------- | | | | |
| 41 | AR1262-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178881.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |
| 48 | | AR1268-C | | ----------NA---------- | | | | | |
| 49 | | AR1268-D | | ----------NA---------- | | | | | |
| 50 | | AR1268-E | | ----------NA---------- | | | | | |
| 51 | S | Decachlorobiphenyl | 4.483 | 5.922 | E6 | -32.1# | 136 | 0.00 | 10.36-10.42 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 36.711 | E6 | -36.0# | 135 | 0.00 | 3.45- 3.51 |
| 2 | | AR1221-A | 224.253 | 224.552 | E3 | -0.1 | 100 | 0.00 | 2.84- 3.04 |
| 3 | | AR1221-B | 320.610 | 297.993 | E3 | 7.1 | 93 | 0.00 | 3.75- 3.95 |
| 4 | | AR1221-C | 820.529 | 752.475 | E3 | 8.3 | 92 | 0.00 | 4.01- 4.21 |
| 5 | | AR1221-D | 161.088 | 136.169 | E3 | 15.5 | 85 | 0.00 | 4.55- 4.75 |
| 6 | | AR1221-E | 119.111 | 115.730 | E3 | 2.8 | 97 | 0.00 | 4.63- 4.83 |
| 7 | | AR1232-A | | ----------NA---------- | | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | |
| 24 | | AR1254-A | 1.135 | 1.142 | E6 | -0.6 | 101 | 0.00 | 6.19- 7.19 |
| 25 | | AR1254-B | 1.209 | 1.220 | E6 | -0.9 | 101 | 0.00 | 6.84- 7.04 |
| 26 | | AR1254-C | 987.775 | 999.615 | E3 | -1.2 | 101 | 0.00 | 7.34- 7.54 |
| 27 | | AR1254-D | 2.155 | 2.174 | E6 | -0.9 | 101 | 0.00 | 7.51- 7.71 |
| 28 | | AR1254-E | 1.398 | 1.417 | E6 | -1.4 | 101 | 0.00 | 7.82- 8.02 |
| 29 | | AR1254-F | 1.515 | 1.520 | E6 | -0.3 | 100 | 0.00 | 8.29- 8.49 |
| 30 | | AR1254-G | 1.929 | 1.938 | E6 | -0.5 | 100 | 0.00 | 8.59- 8.79 |
| 31 | | AR1016-A | | ----------NA---------- | | | | | |
| 32 | | AR1016-B | | ----------NA---------- | | | | | |
| 33 | | AR1016-C | | ----------NA---------- | | | | | |
| 34 | | AR1016-D | | ----------NA---------- | | | | | |
| 35 | | AR1016-E | | ----------NA---------- | | | | | |
| 36 | | AR1260-A | | ----------NA---------- | | | | | |
| 37 | | AR1260-B | | ----------NA---------- | | | | | |
| 38 | | AR1260-C | | ----------NA---------- | | | | | |
| 39 | | AR1260-D | | ----------NA---------- | | | | | |
| 40 | | AR1260-E | | ----------NA---------- | | | | | |
| 41 | | AR1262-A | | ----------NA---------- | | | | | |
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178881.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1268-C | | | ----------NA---------- | | | |
| 49 | | AR1268-D | | | ----------NA---------- | | | |
| 50 | | AR1268-E | | | ----------NA---------- | | | |
| 51 | S | Decachlorobiphenyl | 28.638 | 38.325 E6 | -33.8# | 139 | 0.00 | 11.75-11.81 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2G178873.D 2PCB4640.M Fri Apr 26 08:42:14 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178882.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\2G4640\2G178882.D\ECD1A.CH Vial: 15
Signal #2 : C:\msdchem\1\DATA\2G4640\2G178882.D\ECD2B.CH
Acq On : 25 Apr 2019 4:27 pm Operator: tianweir
Sample : icv4640-1000 Inst : HP G1530A
Misc : op19934,G2G4640,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2PCB4640.M (Chemstation Integrator)
Title :
Last Update : Fri Apr 26 08:31:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 3.929 | 5.474 E6 | -39.3# | 139 | 0.00 | 3.03- 3.09 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | 117.655 | 107.632 E3 | 8.5 | 91 | 0.00 | 3.36- 3.56 |
| 8 | AR1232-B | 80.372 | 75.195 E3 | 6.4 | 94 | 0.00 | 3.77- 3.97 |
| 9 | AR1232-C | 164.116 | 153.116 E3 | 6.7 | 93 | 0.00 | 4.34- 4.54 |
| 10 | AR1232-D | 63.780 | 59.848 E3 | 6.2 | 94 | 0.00 | 4.51- 4.71 |
| 11 | AR1232-E | 61.239 | 57.883 E3 | 5.5 | 95 | 0.00 | 5.03- 5.23 |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1016-A | | ----------NA---------- | | | | |
| 32 | AR1016-B | | ----------NA---------- | | | | |
| 33 | AR1016-C | | ----------NA---------- | | | | |
| 34 | AR1016-D | | ----------NA---------- | | | | |
| 35 | AR1016-E | | ----------NA---------- | | | | |
| 36 | AR1260-A | | ----------NA---------- | | | | |
| 37 | AR1260-B | | ----------NA---------- | | | | |
| 38 | AR1260-C | | ----------NA---------- | | | | |
| 39 | AR1260-D | | ----------NA---------- | | | | |
| 40 | AR1260-E | | ----------NA---------- | | | | |
| 41 | AR1262-A | 218.739 | 218.051 E3 | 0.3 | 100 | 0.00 | 7.04- 7.24 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178882.D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | 301.590 | 301.434 | E3 | 0.1 | 100 | 0.00 | 7.58- | 7.78 |
| 43 | | AR1262-C | 265.818 | 265.373 | E3 | 0.2 | 100 | 0.00 | 7.92- | 8.12 |
| 44 | | AR1262-D | 665.683 | 673.110 | E3 | -1.1 | 101 | 0.00 | 8.35- | 8.55 |
| 45 | | AR1262-E | 701.804 | 715.083 | E3 | -1.9 | 102 | 0.00 | 8.80- | 9.00 |
| 46 | | AR1268-A | | ----------NA---------- | | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | | |
| 48 | | AR1268-C | | ----------NA---------- | | | | | | |
| 49 | | AR1268-D | | ----------NA---------- | | | | | | |
| 50 | | AR1268-E | | ----------NA---------- | | | | | | |
| 51 | S | Decachlorobiphenyl | 4.483 | 5.970 | E6 | -33.2# | 137 | 0.00 | 10.36- | 10.42 |
| ***** | | Signal #2 ***** | | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 36.303 | E6 | -34.5# | 134 | 0.00 | 3.45- | 3.51 |
| 2 | | AR1221-A | | ----------NA---------- | | | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | | | |
| 7 | | AR1232-A | 659.629 | 607.898 | E3 | 7.8 | 92 | 0.00 | 4.01- | 4.21 |
| 8 | | AR1232-B | 514.044 | 477.577 | E3 | 7.1 | 93 | 0.00 | 4.56- | 4.76 |
| 9 | | AR1232-C | 1.067 | 0.988 | E6 | 7.4 | 93 | 0.00 | 5.17- | 5.37 |
| 10 | | AR1232-D | 439.363 | 411.258 | E3 | 6.4 | 94 | 0.00 | 5.36- | 5.56 |
| 11 | | AR1232-E | 292.278 | 273.097 | E3 | 6.6 | 93 | 0.00 | 6.00- | 6.20 |
| 12 | | AR1242-A | | ----------NA---------- | | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | | | |
| 31 | | AR1016-A | | ----------NA---------- | | | | | | |
| 32 | | AR1016-B | | ----------NA---------- | | | | | | |
| 33 | | AR1016-C | | ----------NA---------- | | | | | | |
| 34 | | AR1016-D | | ----------NA---------- | | | | | | |
| 35 | | AR1016-E | | ----------NA---------- | | | | | | |
| 36 | | AR1260-A | | ----------NA---------- | | | | | | |
| 37 | | AR1260-B | | ----------NA---------- | | | | | | |
| 38 | | AR1260-C | | ----------NA---------- | | | | | | |
| 39 | | AR1260-D | | ----------NA---------- | | | | | | |
| 40 | | AR1260-E | | ----------NA---------- | | | | | | |
| 41 | | AR1262-A | 1.314 | 1.314 | E6 | 0.0 | 100 | 0.00 | 8.06- | 8.26 |
| 42 | | AR1262-B | 1.833 | 1.827 | E6 | 0.3 | 100 | 0.00 | 8.70- | 8.90 |
| 43 | | AR1262-C | 1.762 | 1.760 | E6 | 0.1 | 100 | 0.00 | 9.13- | 9.33 |
| 44 | | AR1262-D | 3.800 | 3.786 | E6 | 0.4 | 100 | 0.00 | 9.48- | 9.68 |
| 45 | | AR1262-E | 4.250 | 4.220 | E6 | 0.7 | 99 | 0.00 | 10.00- | 10.20 |
| 46 | | AR1268-A | | ----------NA---------- | | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178882.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1268-C | | | ----------NA---------- | | | |
| 49 | | AR1268-D | | | ----------NA---------- | | | |
| 50 | | AR1268-E | | | ----------NA---------- | | | |
| 51 | S | Decachlorobiphenyl | 28.638 | 38.524 E6 | -34.5# | 140 | 0.00 | 11.75-11.81 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2G178873.D 2PCB4640.M Fri Apr 26 08:42:17 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178883.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\2G4640\2G178883.D\ECD1A.CH Vial: 16
Signal #2 : C:\msdchem\1\DATA\2G4640\2G178883.D\ECD2B.CH
Acq On : 25 Apr 2019 4:44 pm Operator: tianweir
Sample : icv4640-1000 Inst : HP G1530A
Misc : op19934,G2G4640,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2PCB4640.M (Chemstation Integrator)
Title :
Last Update : Fri Apr 26 08:31:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 3.929 | 5.331 E6 | -35.7# | 135 | 0.00 | 3.03- 3.09 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | 130.691 | 133.283 E3 | -2.0 | 102 | 0.00 | 3.77- 3.97 |
| 13 | AR1242-B | 283.782 | 290.009 E3 | -2.2 | 102 | 0.00 | 4.34- 4.54 |
| 14 | AR1242-C | 108.003 | 110.326 E3 | -2.2 | 102 | 0.00 | 4.51- 4.71 |
| 15 | AR1242-D | 113.422 | 112.672 E3 | 0.7 | 99 | 0.00 | 5.03- 5.23 |
| 16 | AR1242-E | 106.755 | 101.632 E3 | 4.8 | 95 | 0.00 | 5.63- 5.83 |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1016-A | | ----------NA---------- | | | | |
| 32 | AR1016-B | | ----------NA---------- | | | | |
| 33 | AR1016-C | | ----------NA---------- | | | | |
| 34 | AR1016-D | | ----------NA---------- | | | | |
| 35 | AR1016-E | | ----------NA---------- | | | | |
| 36 | AR1260-A | | ----------NA---------- | | | | |
| 37 | AR1260-B | | ----------NA---------- | | | | |
| 38 | AR1260-C | | ----------NA---------- | | | | |
| 39 | AR1260-D | | ----------NA---------- | | | | |
| 40 | AR1260-E | | ----------NA---------- | | | | |
| 41 | AR1262-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178883.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | | | ----------NA---------- | | | | |
| 43 | | AR1262-C | | | ----------NA---------- | | | | |
| 44 | | AR1262-D | | | ----------NA---------- | | | | |
| 45 | | AR1262-E | | | ----------NA---------- | | | | |
| 46 | | AR1268-A | 662.927 | 631.871 E3 | 4.7 | 95 | 0.00 | 8.80- 9.00 | |
| 47 | | AR1268-B | 791.949 | 745.088 E3 | 5.9 | 94 | 0.00 | 8.85- 9.05 | |
| 48 | | AR1268-C | 585.636 | 553.120 E3 | 5.6 | 94 | 0.00 | 9.13- 9.33 | |
| 49 | | AR1268-D | 250.295 | 234.215 E3 | 6.4 | 94 | 0.00 | 9.62- 9.82 | |
| 50 | | AR1268-E | 2.013 | 1.895 E6 | 5.9 | 94 | 0.00 | 10.02-10.22 | |
| 51 | S | Decachlorobiphenyl | 4.483 | 15.759 E6 | -251.5# | 363# | 0.00 | 10.36-10.42 | |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 36.947 E6 | -36.9# | 136 | 0.00 | 3.45- 3.51 | |
| 2 | | AR1221-A | | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | | ----------NA---------- | | | | |
| 12 | | AR1242-A | 823.741 | 840.000 E3 | -2.0 | 102 | 0.00 | 4.56- 4.76 | |
| 13 | | AR1242-B | 1.828 | 1.869 E6 | -2.2 | 102 | 0.00 | 5.17- 5.37 | |
| 14 | | AR1242-C | 749.487 | 771.908 E3 | -3.0 | 103 | 0.00 | 5.36- 5.56 | |
| 15 | | AR1242-D | 558.633 | 559.419 E3 | -0.1 | 100 | 0.00 | 6.00- 6.20 | |
| 16 | | AR1242-E | 726.955 | 715.000 E3 | 1.6 | 98 | 0.00 | 6.60- 6.80 | |
| 17 | | AR1248-A | | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | | ----------NA---------- | | | | |
| 24 | | AR1254-A | | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | | ----------NA---------- | | | | |
| 31 | | AR1016-A | | | ----------NA---------- | | | | |
| 32 | | AR1016-B | | | ----------NA---------- | | | | |
| 33 | | AR1016-C | | | ----------NA---------- | | | | |
| 34 | | AR1016-D | | | ----------NA---------- | | | | |
| 35 | | AR1016-E | | | ----------NA---------- | | | | |
| 36 | | AR1260-A | | | ----------NA---------- | | | | |
| 37 | | AR1260-B | | | ----------NA---------- | | | | |
| 38 | | AR1260-C | | | ----------NA---------- | | | | |
| 39 | | AR1260-D | | | ----------NA---------- | | | | |
| 40 | | AR1260-E | | | ----------NA---------- | | | | |
| 41 | | AR1262-A | | | ----------NA---------- | | | | |
| 42 | | AR1262-B | | | ----------NA---------- | | | | |
| 43 | | AR1262-C | | | ----------NA---------- | | | | |
| 44 | | AR1262-D | | | ----------NA---------- | | | | |
| 45 | | AR1262-E | | | ----------NA---------- | | | | |
| 46 | | AR1268-A | 4.270 | 4.053 E6 | 5.1 | 95 | 0.00 | 10.00-10.20 | |
| 47 | | AR1268-B | 4.652 | 4.386 E6 | 5.7 | 94 | 0.00 | 10.06-10.26 | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178883.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1268-C | 3.656 | 3.459 E6 | 5.4 | 95 | 0.00 | 10.43-10.63 |
| 49 | | AR1268-D | 1.564 | 1.467 E6 | 6.2 | 94 | 0.00 | 10.83-11.03 |
| 50 | | AR1268-E | 12.461 | 11.765 E6 | 5.6 | 94 | 0.00 | 11.30-11.50 |
| 51 | S | Decachlorobiphenyl | 28.638 | 95.806 E6 | -234.5# | 347# | 0.00 | 11.75-11.81 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2G178873.D 2PCB4640.M Fri Apr 26 08:42:21 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178884.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\2G4640\2G178884.D\ECD1A.CH Vial: 17
Signal #2 : C:\msdchem\1\DATA\2G4640\2G178884.D\ECD2B.CH
Acq On : 25 Apr 2019 5:01 pm Operator: tianweir
Sample : icv4640-1000 Inst : HP G1530A
Misc : op19934,G2G4640,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2PCB4640.M (Chemstation Integrator)
Title :
Last Update : Fri Apr 26 15:13:56 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 3.929 | 5.333 E6 | -35.7# | 135 | 0.00 | 3.03- 3.09 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | 70.195 | 65.054 E3 | 7.3 | 93 | 0.00 | 3.77- 3.97 |
| 18 | AR1248-B | 191.597 | 189.013 E3 | 1.3 | 99 | 0.00 | 4.34- 4.54 |
| 19 | AR1248-C | 198.419 | 200.511 E3 | -1.1 | 101 | 0.00 | 4.76- 4.96 |
| 20 | AR1248-D | 181.815 | 182.353 E3 | -0.3 | 100 | 0.00 | 5.03- 5.23 |
| 21 | AR1248-E | 96.053 | 97.596 E3 | -1.6 | 102 | 0.00 | 5.14- 5.34 |
| 22 | AR1248-F | 174.957 | 181.187 E3 | -3.6 | 104 | 0.00 | 5.62- 5.82 |
| 23 | AR1248-G | 139.574 | 139.511 E3 | 0.0 | 100 | 0.00 | 5.48- 6.48 |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1016-A | | ----------NA---------- | | | | |
| 32 | AR1016-B | | ----------NA---------- | | | | |
| 33 | AR1016-C | | ----------NA---------- | | | | |
| 34 | AR1016-D | | ----------NA---------- | | | | |
| 35 | AR1016-E | | ----------NA---------- | | | | |
| 36 | AR1260-A | | ----------NA---------- | | | | |
| 37 | AR1260-B | | ----------NA---------- | | | | |
| 38 | AR1260-C | | ----------NA---------- | | | | |
| 39 | AR1260-D | | ----------NA---------- | | | | |
| 40 | AR1260-E | | ----------NA---------- | | | | |
| 41 | AR1262-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178884.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | | | ----------NA---------- | | | | |
| 43 | | AR1262-C | | | ----------NA---------- | | | | |
| 44 | | AR1262-D | | | ----------NA---------- | | | | |
| 45 | | AR1262-E | | | ----------NA---------- | | | | |
| 46 | | AR1268-A | | | ----------NA---------- | | | | |
| 47 | | AR1268-B | | | ----------NA---------- | | | | |
| 48 | | AR1268-C | | | ----------NA---------- | | | | |
| 49 | | AR1268-D | | | ----------NA---------- | | | | |
| 50 | | AR1268-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 4.483 | 6.113 | E6 | -36.4# | 141 | 0.00 | 10.36-10.42 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 38.116 | E6 | -41.2# | 140 | 0.00 | 3.45- 3.51 |
| 2 | | AR1221-A | | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | | ----------NA---------- | | | | |
| 12 | | AR1242-A | | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | | ----------NA---------- | | | | |
| 17 | | AR1248-A | 451.345 | 410.867 | E3 | 9.0 | 91 | 0.00 | 4.55- 4.75 |
| 18 | | AR1248-B | 1.200 | 1.159 | E6 | 3.4 | 97 | 0.00 | 5.17- 5.37 |
| 19 | | AR1248-C | 688.439 | 683.075 | E3 | 0.8 | 99 | 0.00 | 5.62- 5.82 |
| 20 | | AR1248-D | 914.872 | 912.704 | E3 | 0.2 | 100 | 0.00 | 6.00- 6.20 |
| 21 | | AR1248-E | 1.039 | 1.064 | E6 | -2.4 | 102 | 0.00 | 6.18- 6.38 |
| 22 | | AR1248-F | 1.294 | 1.347 | E6 | -4.1 | 104 | 0.00 | 6.59- 6.79 |
| 23 | | AR1248-G | 1.121 | 1.184 | E6 | -5.6 | 106 | 0.00 | 6.52- 7.52 |
| 24 | | AR1254-A | | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | | ----------NA---------- | | | | |
| 31 | | AR1016-A | | | ----------NA---------- | | | | |
| 32 | | AR1016-B | | | ----------NA---------- | | | | |
| 33 | | AR1016-C | | | ----------NA---------- | | | | |
| 34 | | AR1016-D | | | ----------NA---------- | | | | |
| 35 | | AR1016-E | | | ----------NA---------- | | | | |
| 36 | | AR1260-A | | | ----------NA---------- | | | | |
| 37 | | AR1260-B | | | ----------NA---------- | | | | |
| 38 | | AR1260-C | | | ----------NA---------- | | | | |
| 39 | | AR1260-D | | | ----------NA---------- | | | | |
| 40 | | AR1260-E | | | ----------NA---------- | | | | |
| 41 | | AR1262-A | | | ----------NA---------- | | | | |
| 42 | | AR1262-B | | | ----------NA---------- | | | | |
| 43 | | AR1262-C | | | ----------NA---------- | | | | |
| 44 | | AR1262-D | | | ----------NA---------- | | | | |
| 45 | | AR1262-E | | | ----------NA---------- | | | | |
| 46 | | AR1268-A | | | ----------NA---------- | | | | |
| 47 | | AR1268-B | | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4640-ICV4640
**Lab FileID:** 2G178884.D

```
48      AR1268-C                              ----------NA----------
49      AR1268-D                              ----------NA----------
50      AR1268-E                              ----------NA----------
51 S    Decachlorobiphenyl       28.638  39.627 E6 -38.4# 144   0.00   11.75-11.81
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 0  CCC's out = 0
    2G178873.D 2PCB4640.M       Fri Apr 26 15:19:20 2019   RPT1
```

10.7.6 10

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4657-CC4640
**Lab FileID:** 2G179802.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\sa...7\2g179802.d\ECD1A.CH Vial: 80
Signal #2 : C:\msdchem\1\data\sarah\2g4657\2g179802.d\ECD2B.CH
Acq On : 14 May 2019 7:48 pm Operator: tianweir
Sample : cc4640-1000 Inst : HP G1530A
Misc : op20143,G2g4657,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2pcb4640.m (ChemStation Integrator)
Title :
Last Update : Wed May 15 01:05:41 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|---|
| 1 | S | Tetrachloro-m-xylene | 3.929 | 3.903 E6 | 0.7 | 99 | 0.00 | 3.02- 3.08 |
| 2 | | AR1221-A | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | |
| 31 | | AR1016-A | 89.462 | 86.966 E3 | 2.8 | 100 | 0.00 | 3.42- 3.48 |
| 32 | | AR1016-B | 172.463 | 165.114 E3 | 4.3 | 100 | 0.00 | 3.83- 3.89 |
| 33 | | AR1016-C | 373.930 | 370.040 E3 | 1.0 | 99 | 0.00 | 4.40- 4.46 |
| 34 | | AR1016-D | 143.866 | 139.174 E3 | 3.3 | 100 | 0.00 | 4.57- 4.63 |
| 35 | | AR1016-E | 150.645 | 145.611 E3 | 3.3 | 100 | 0.00 | 5.09- 5.15 |
| 36 | | AR1260-A | 352.556 | 351.299 E3 | 0.4 | 99 | 0.00 | 7.49- 7.55 |
| 37 | | AR1260-B | 202.172 | 198.786 E3 | 1.7 | 101 | 0.00 | 7.64- 7.70 |
| 38 | | AR1260-C | 213.308 | 208.522 E3 | 2.2 | 99 | 0.00 | 7.98- 8.04 |
| 39 | | AR1260-D | 559.268 | 570.975 E3 | -2.1 | 100 | 0.00 | 8.42- 8.48 |
| 40 | | AR1260-E | 541.777 | 512.288 E3 | 5.4 | 97 | -0.04 | 8.77- 8.92 |
| 41 | | AR1262-A | | ----------NA---------- | | | | |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4657-CC4640
**Lab FileID:** 2G179802.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |
| 48 | | AR1268-C | | ----------NA---------- | | | | | |
| 49 | | AR1268-D | | ----------NA---------- | | | | | |
| 50 | | AR1268-E | | ----------NA---------- | | | | | |
| 51 | S | Decachlorobiphenyl | 4.483 | 4.379 | E6 | 2.3 | 101 | 0.00 | 10.35-10.41 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 24.582 | E6 | 8.9 | 91 | 0.00 | 3.44- 3.50 |
| 2 | | AR1221-A | | ----------NA---------- | | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | | |
| 31 | | AR1016-A | 512.695 | 450.778 | E3 | 12.1 | 91 | 0.00 | 4.08- 4.14 |
| 32 | | AR1016-B | 1.063 | 0.957 | E6 | 10.0 | 93 | 0.00 | 4.62- 4.68 |
| 33 | | AR1016-C | 2.361 | 2.160 | E6 | 8.5 | 92 | 0.00 | 5.23- 5.29 |
| 34 | | AR1016-D | 0.969 | 0.871 | E6 | 10.1 | 91 | 0.00 | 5.42- 5.48 |
| 35 | | AR1016-E | 703.965 | 645.067 | E3 | 8.4 | 93 | 0.00 | 6.07- 6.13 |
| 36 | | AR1260-A | 2.281 | 2.080 | E6 | 8.8 | 90 | 0.00 | 8.65- 8.71 |
| 37 | | AR1260-B | 1.275 | 1.153 | E6 | 9.6 | 91 | 0.00 | 8.77- 8.83 |
| 38 | | AR1260-C | 1.455 | 1.304 | E6 | 10.4 | 90 | 0.00 | 9.20- 9.26 |
| 39 | | AR1260-D | 3.164 | 2.847 | E6 | 10.0 | 89 | 0.00 | 9.54- 9.60 |
| 40 | | AR1260-E | 3.272 | 2.779 | E6 | 15.1 | 86 | 0.00 | 10.08-10.14 |
| 41 | | AR1262-A | | ----------NA---------- | | | | | |
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4657-CC4640
**Lab FileID:** 2G179802.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48 | | AR1268-C | | | ----------NA---------- | | | | |
| 49 | | AR1268-D | | | ----------NA---------- | | | | |
| 50 | | AR1268-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 28.638 | 22.484 E6 | 21.5# | 81 | 0.00 | 11.74-11.80 | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2G178873.D 2pcb4640.m Wed May 15 01:09:21 2019

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4657-CC4640
**Lab FileID:** 2G179812.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\2G4657\2G179812.D\ECD1A.CH Vial: 87
Signal #2 : C:\msdchem\1\DATA\2G4657\2G179812.D\ECD2B.CH
Acq On : 14 May 2019 11:51 pm Operator: tianweir
Sample : cc4640-500 Inst : HP G1530A
Misc : op20143,G2g4657,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\2PCB4640.M (Chemstation Integrator)
Title :
Last Update : Fri Apr 26 15:13:56 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 3.929 | 3.895 E6 | 0.9 | 103 | -0.01 | 3.02- 3.08 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1016-A | 89.462 | 91.450 E3 | -2.2 | 104 | 0.00 | 3.42- 3.48 |
| 32 | AR1016-B | 172.463 | 177.110 E3 | -2.7 | 106 | 0.00 | 3.84- 3.90 |
| 33 | AR1016-C | 373.930 | 378.501 E3 | -1.2 | 106 | 0.00 | 4.41- 4.47 |
| 34 | AR1016-D | 143.866 | 147.089 E3 | -2.2 | 106 | 0.00 | 4.58- 4.64 |
| 35 | AR1016-E | 150.645 | 155.175 E3 | -3.0 | 107 | 0.00 | 5.09- 5.15 |
| 36 | AR1260-A | 352.556 | 355.314 E3 | -0.8 | 105 | 0.00 | 7.49- 7.55 |
| 37 | AR1260-B | 202.172 | 205.108 E3 | -1.5 | 106 | 0.00 | 7.64- 7.70 |
| 38 | AR1260-C | 213.308 | 210.656 E3 | 1.2 | 104 | 0.00 | 7.98- 8.04 |
| 39 | AR1260-D | 559.268 | 559.375 E3 | -0.0 | 102 | 0.00 | 8.42- 8.48 |
| 40 | AR1260-E | 541.777 | 536.735 E3 | 0.9 | 101 | 0.00 | 8.77- 8.93 |
| 41 | AR1262-A | | ----------NA---------- | | | | |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4657-CC4640
**Lab FileID:** 2G179812.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |
| 48 | | AR1268-C | | ----------NA---------- | | | | | |
| 49 | | AR1268-D | | ----------NA---------- | | | | | |
| 50 | | AR1268-E | | ----------NA---------- | | | | | |
| 51 | S | Decachlorobiphenyl | 4.483 | 4.388 | E6 | 2.1 | 101 | 0.00 | 10.36-10.42 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 26.989 | 24.892 | E6 | 7.8 | 95 | 0.00 | 3.44- 3.50 |
| 2 | | AR1221-A | | ----------NA---------- | | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | | |
| 31 | | AR1016-A | 512.695 | 461.128 | E3 | 10.1 | 91 | 0.00 | 4.08- 4.14 |
| 32 | | AR1016-B | 1.063 | 1.025 | E6 | 3.6 | 99 | 0.00 | 4.62- 4.68 |
| 33 | | AR1016-C | 2.361 | 2.221 | E6 | 5.9 | 97 | 0.00 | 5.23- 5.29 |
| 34 | | AR1016-D | 0.969 | 0.923 | E6 | 4.7 | 97 | 0.00 | 5.42- 5.48 |
| 35 | | AR1016-E | 703.965 | 670.302 | E3 | 4.8 | 97 | 0.00 | 6.07- 6.13 |
| 36 | | AR1260-A | 2.281 | 2.207 | E6 | 3.2 | 98 | 0.00 | 8.65- 8.71 |
| 37 | | AR1260-B | 1.275 | 1.214 | E6 | 4.8 | 98 | 0.00 | 8.77- 8.83 |
| 38 | | AR1260-C | 1.455 | 1.389 | E6 | 4.5 | 98 | 0.00 | 9.20- 9.26 |
| 39 | | AR1260-D | 3.164 | 3.094 | E6 | 2.2 | 101 | 0.00 | 9.54- 9.60 |
| 40 | | AR1260-E | 3.272 | 2.966 | E6 | 9.4 | 93 | 0.00 | 10.09-10.15 |
| 41 | | AR1262-A | | ----------NA---------- | | | | | |
| 42 | | AR1262-B | | ----------NA---------- | | | | | |
| 43 | | AR1262-C | | ----------NA---------- | | | | | |
| 44 | | AR1262-D | | ----------NA---------- | | | | | |
| 45 | | AR1262-E | | ----------NA---------- | | | | | |
| 46 | | AR1268-A | | ----------NA---------- | | | | | |
| 47 | | AR1268-B | | ----------NA---------- | | | | | |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G2G4657-CC4640
**Lab FileID:** 2G179812.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1268-C | | | ----------NA---------- | | | |
| 49 | | AR1268-D | | | ----------NA---------- | | | |
| 50 | | AR1268-E | | | ----------NA---------- | | | |
| 51 | S | Decachlorobiphenyl | 28.638 | 23.325 E6 | 18.6 | 84 | 0.00 | 11.74-11.80 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2G178872.D 2PCB4640.M Fri May 17 09:58:32 2019 RPT1

10.7.8 10

# Initial Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICC2127
**Lab FileID:** 5G88293.D

Response Factor Report GC5G

Method : C:\MSDCHEM\1\METHODS\5PCB2127.M (ChemStation Integrator)
Title :
Last Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration

Calibration Files
250 =5G88291.d 500 =5G88292.d 1000=5G88293.d 2000=5G88294.d
3000=5G88295.d 50 =5G88290.d =

| | Compound | 250 | 500 | 1000 | 2000 | 3000 | 50 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|
| 1)S | Tetrachloro-m-xyl | 2.859 | 2.884 | 2.860 | 2.825 | 2.804 | 2.952 | 2.864 E7 | 1.80 |
| 2) | AR1221-A | | | 2.171 | | | | 2.171 E5 | 0.00 |
| 3) | AR1221-B | | | 3.189 | | | | 3.189 E5 | 0.00 |
| 4) | AR1221-C | | | 8.497 | | | | 8.497 E5 | 0.00 |
| 5) | AR1221-D | | | 1.549 | | | | 1.549 E5 | 0.00 |
| 6) | AR1221-E | | | 9.572 | | | | 9.572 E4 | 0.00 |
| 7) | AR1232-A | | | 6.631 | | | | 6.631 E5 | 0.00 |
| 8) | AR1232-B | | | 3.385 | | | | 3.385 E5 | 0.00 |
| 9) | AR1232-C | | | 9.633 | | | | 9.633 E5 | 0.00 |
| 10) | AR1232-D | | | 4.073 | | | | 4.073 E5 | 0.00 |
| 11) | AR1232-E | | | 3.807 | | | | 3.807 E5 | 0.00 |
| 12) | AR1242-A | | | 8.778 | | | | 8.778 E5 | 0.00 |
| 13) | AR1242-B | | | 1.807 | | | | 1.807 E6 | 0.00 |
| 14) | AR1242-C | | | 7.582 | | | | 7.582 E5 | 0.00 |
| 15) | AR1242-D | | | 7.670 | | | | 7.670 E5 | 0.00 |
| 16) | AR1242-E | | | 6.610 | | | | 6.610 E5 | 0.00 |
| 17) | AR1248-A | | | 4.281 | | | | 4.281 E5 | 0.00 |
| 18) | AR1248-B | | | 1.078 | | | | 1.078 E6 | 0.00 |
| 19) | AR1248-C | | | 1.123 | | | | 1.123 E6 | 0.00 |
| 20) | AR1248-D | | | 1.132 | | | | 1.132 E6 | 0.00 |
| 21) | AR1248-E | | | 6.693 | | | | 6.693 E5 | 0.00 |
| 22) | AR1248-F | | | 1.019 | | | | 1.019 E6 | 0.00 |
| 23) | AR1248-G | | | 8.105 | | | | 8.105 E5 | 0.00 |
| 24) | AR1254-A | | | 8.866 | | | | 8.866 E5 | 0.00 |
| 25) | AR1254-B | | | 1.184 | | | | 1.184 E6 | 0.00 |
| 26) | AR1254-C | | | 9.817 | | | | 9.817 E5 | 0.00 |
| 27) | AR1254-D | | | 1.666 | | | | 1.666 E6 | 0.00 |
| 28) | AR1254-E | | | 1.469 | | | | 1.469 E6 | 0.00 |
| 29) | AR1254-F | | | 1.233 | | | | 1.233 E6 | 0.00 |
| 30) | AR1254-G | | | 1.778 | | | | 1.778 E6 | 0.00 |
| 31) | AR1262-A | | | 1.410 | | | | 1.410 E6 | 0.00 |
| 32) | AR1262-B | | | 1.963 | | | | 1.963 E6 | 0.00 |
| 33) | AR1262-C | | | 1.697 | | | | 1.697 E6 | 0.00 |
| 34) | AR1262-D | | | 3.793 | | | | 3.793 E6 | 0.00 |
| 35) | AR1262-E | | | 4.707 | | | | 4.707 E6 | 0.00 |
| 36) | AR1268-A | | | 4.600 | | | | 4.600 E6 | 0.00 |
| 37) | AR1268-B | | | 4.700 | | | | 4.700 E6 | 0.00 |
| 38) | AR1268-C | | | 3.981 | | | | 3.981 E6 | 0.00 |
| 39) | AR1268-D | | | 1.619 | | | | 1.619 E6 | 0.00 |
| 40) | AR1268-E | | | 1.175 | | | | 1.175 E7 | 0.00 |
| 41) | AR1016-A | 5.618 | 5.213 | 5.077 | 4.958 | 4.920 | 5.802 | 5.265 E5 | 6.92 |
| 42) | AR1016-B | 1.033 | 1.035 | 1.003 | 0.978 | 0.964 | 1.088 | 1.017 E6 | 4.43 |
| 43) | AR1016-C | 2.117 | 2.123 | 2.095 | 2.053 | 2.047 | 2.273 | 2.118 E6 | 3.88 |
| 44) | AR1016-D | 8.866 | 9.050 | 8.772 | 8.534 | 8.449 | 9.679 | 8.892 E5 | 4.99 |
| 45) | AR1016-E | 0.889 | 0.920 | 0.887 | 0.864 | 0.856 | 1.009 | 0.904 E6 | 6.21 |
| 46) | AR1260-A | 2.084 | 2.097 | 2.088 | 2.057 | 2.054 | 2.178 | 2.093 E6 | 2.15 |
| 47) | AR1260-B | 1.235 | 1.233 | 1.220 | 1.200 | 1.197 | 1.276 | 1.227 E6 | 2.37 |

10.7.9 10

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICC2127
**Lab FileID:** 5G88293.D

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 48) | AR1260-C | 1.256 | 1.249 | 1.247 | 1.221 | 1.221 | 1.443 | 1.273 | E6 | 6.66 |
| 49) | AR1260-D | 2.971 | 2.977 | 2.996 | 2.996 | 3.014 | 2.994 | 2.991 | E6 | 0.52 |
| 50) | AR1260-E | 3.297 | 3.282 | 3.274 | 3.254 | 3.257 | 3.438 | 3.300 | E6 | 2.10 |
| 51)S | Decachlorobipheny | 2.316 | 2.526 | 2.536 | 2.537 | 2.561 | 2.443 | 2.487 | E7 | 3.73 |

Signal #2

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1)S | Tetrachloro-m-xyl | 1.170 | 1.218 | 1.256 | 1.292 | 1.322 | 1.190 | 1.241 | E7 | 4.78 |
| 2) | AR1221-A | | | 1.004 | | | | 1.004 | E5 | 0.00 |
| 3) | AR1221-B | | | 1.445 | | | | 1.445 | E5 | 0.00 |
| 4) | AR1221-C | | | 3.648 | | | | 3.648 | E5 | 0.00 |
| 5) | AR1221-D | | | 7.044 | | | | 7.044 | E4 | 0.00 |
| 6) | AR1221-E | | | 3.554 | | | | 3.554 | E4 | 0.00 |
| 7) | AR1232-A | | | 2.838 | | | | 2.838 | E5 | 0.00 |
| 8) | AR1232-B | | | 2.237 | | | | 2.237 | E5 | 0.00 |
| 9) | AR1232-C | | | 4.667 | | | | 4.667 | E5 | 0.00 |
| 10) | AR1232-D | | | 1.804 | | | | 1.804 | E5 | 0.00 |
| 11) | AR1232-E | | | 1.318 | | | | 1.318 | E5 | 0.00 |
| 12) | AR1242-A | | | 4.037 | | | | 4.037 | E5 | 0.00 |
| 13) | AR1242-B | | | 8.978 | | | | 8.978 | E5 | 0.00 |
| 14) | AR1242-C | | | 3.423 | | | | 3.423 | E5 | 0.00 |
| 15) | AR1242-D | | | 2.637 | | | | 2.637 | E5 | 0.00 |
| 16) | AR1242-E | | | 3.240 | | | | 3.240 | E5 | 0.00 |
| 17) | AR1248-A | | | 1.935 | | | | 1.935 | E5 | 0.00 |
| 18) | AR1248-B | | | 5.410 | | | | 5.410 | E5 | 0.00 |
| 19) | AR1248-C | | | 3.027 | | | | 3.027 | E5 | 0.00 |
| 20) | AR1248-D | | | 4.133 | | | | 4.133 | E5 | 0.00 |
| 21) | AR1248-E | | | 4.687 | | | | 4.687 | E5 | 0.00 |
| 22) | AR1248-F | | | 5.544 | | | | 5.544 | E5 | 0.00 |
| 23) | AR1248-G | | | 5.040 | | | | 5.040 | E5 | 0.00 |
| 24) | AR1254-A | | | 5.302 | | | | 5.302 | E5 | 0.00 |
| 25) | AR1254-B | | | 5.607 | | | | 5.607 | E5 | 0.00 |
| 26) | AR1254-C | | | 4.508 | | | | 4.508 | E5 | 0.00 |
| 27) | AR1254-D | | | 8.361 | | | | 8.361 | E5 | 0.00 |
| 28) | AR1254-E | | | 6.463 | | | | 6.463 | E5 | 0.00 |
| 29) | AR1254-F | | | 7.117 | | | | 7.117 | E5 | 0.00 |
| 30) | AR1254-G | | | 8.601 | | | | 8.601 | E5 | 0.00 |
| 31) | AR1262-A | | | 6.242 | | | | 6.242 | E5 | 0.00 |
| 32) | AR1262-B | | | 9.883 | | | | 9.883 | E5 | 0.00 |
| 33) | AR1262-C | | | 8.585 | | | | 8.585 | E5 | 0.00 |
| 34) | AR1262-D | | | 1.917 | | | | 1.917 | E6 | 0.00 |
| 35) | AR1262-E | | | 2.174 | | | | 2.174 | E6 | 0.00 |
| 36) | AR1268-A | | | 2.342 | | | | 2.342 | E6 | 0.00 |
| 37) | AR1268-B | | | 2.266 | | | | 2.266 | E6 | 0.00 |
| 38) | AR1268-C | | | 2.009 | | | | 2.009 | E6 | 0.00 |
| 39) | AR1268-D | | | 7.885 | | | | 7.885 | E5 | 0.00 |
| 40) | AR1268-E | | | 6.364 | | | | 6.364 | E6 | 0.00 |
| 41) | AR1016-A | 2.201 | 2.217 | 2.205 | 2.182 | 2.178 | 2.443 | 2.238 | E5 | 4.55 |
| 42) | AR1016-B | 4.637 | 4.611 | 4.584 | 4.576 | 4.620 | 4.832 | 4.644 | E5 | 2.05 |
| 43) | AR1016-C | 1.011 | 1.021 | 1.038 | 1.053 | 1.080 | 1.063 | 1.044 | E6 | 2.50 |
| 44) | AR1016-D | 3.834 | 3.836 | 3.915 | 3.928 | 4.046 | 4.273 | 3.972 | E5 | 4.19 |
| 45) | AR1016-E | 3.019 | 3.056 | 3.081 | 3.065 | 3.188 | 3.340 | 3.125 | E5 | 3.83 |
| 46) | AR1260-A | 0.954 | 0.956 | 1.000 | 1.027 | 1.035 | 0.956 | 0.988 | E6 | 3.81 |
| 47) | AR1260-B | 5.784 | 5.756 | 5.978 | 6.166 | 6.103 | 6.065 | 5.975 | E5 | 2.86 |
| 48) | AR1260-C | 5.641 | 5.646 | 5.868 | 6.116 | 6.006 | 5.636 | 5.819 | E5 | 3.61 |
| 49) | AR1260-D | 1.404 | 1.448 | 1.504 | 1.592 | 1.592 | 1.379 | 1.486 | E6 | 6.21 |
| 50) | AR1260-E | 1.383 | 1.443 | 1.469 | 1.530 | 1.565 | 1.440 | 1.471 | E6 | 4.50 |
| 51)S | Decachlorobipheny | 1.136 | 1.179 | 1.209 | 1.258 | 1.289 | 1.184 | 1.209 | E7 | 4.63 |

(#) = Out of Range

# Initial Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICC2127
**Lab FileID:** 5G88293.D

5PCB2127.M Wed May 08 08:55:44 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88300.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2127\5G88300.d\ECD1A.ch Vial: 13
Signal #2 : C:\msdchem\1\DATA\G5G2127\5G88300.d\ECD2B.ch
Acq On : 7 May 2019 5:56 pm Operator: tianweir
Sample : icv2127-1000 Inst : GC5G
Misc : op20179,g5g2127,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2127.M (ChemStation Integrator)
Title :
Last Update : Wed May 08 08:45:48 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 28.639 | 31.485 E6 | -9.9 | 110 | 0.00 | 3.58- 3.65 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1262-A | | ----------NA---------- | | | | |
| 32 | AR1262-B | | ----------NA---------- | | | | |
| 33 | AR1262-C | | ----------NA---------- | | | | |
| 34 | AR1262-D | | ----------NA---------- | | | | |
| 35 | AR1262-E | | ----------NA---------- | | | | |
| 36 | AR1268-A | | ----------NA---------- | | | | |
| 37 | AR1268-B | | ----------NA---------- | | | | |
| 38 | AR1268-C | | ----------NA---------- | | | | |
| 39 | AR1268-D | | ----------NA---------- | | | | |
| 40 | AR1268-E | | ----------NA---------- | | | | |
| 41 | AR1016-A | 526.483 | 525.185 E3 | 0.2 | 103 | 0.00 | 4.26- 4.33 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88300.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | 1.017 | 1.058 | E6 | -4.0 | 105 | 0.00 | 4.99- 5.06 |
| 43 | | AR1016-C | 2.118 | 2.186 | E6 | -3.2 | 104 | 0.00 | 6.06- 6.12 |
| 44 | | AR1016-D | 889.172 | 918.027 | E3 | -3.2 | 105 | 0.00 | 6.37- 6.43 |
| 45 | | AR1016-E | 904.185 | 909.535 | E3 | -0.6 | 103 | 0.00 | 7.42- 7.48 |
| 46 | | AR1260-A | 2.093 | 2.224 | E6 | -6.3 | 107 | 0.00 | 12.58-12.64 |
| 47 | | AR1260-B | 1.227 | 1.308 | E6 | -6.6 | 107 | 0.00 | 12.96-13.02 |
| 48 | | AR1260-C | 1.273 | 1.308 | E6 | -2.7 | 105 | 0.00 | 13.71-13.77 |
| 49 | | AR1260-D | 2.991 | 3.126 | E6 | -4.5 | 104 | 0.00 | 14.71-14.77 |
| 50 | | AR1260-E | 3.300 | 3.332 | E6 | -1.0 | 102 | 0.00 | 15.59-15.65 |
| 51 | S | Decachlorobiphenyl | 24.866 | 29.065 | E6 | -16.9 | 115 | 0.00 | 19.17-19.23 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 14.031 | E6 | -13.0 | 112 | 0.00 | 4.35- 4.41 |
| 2 | | AR1221-A | | ----------NA---------- | | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | | |
| 31 | | AR1262-A | | ----------NA---------- | | | | | |
| 32 | | AR1262-B | | ----------NA---------- | | | | | |
| 33 | | AR1262-C | | ----------NA---------- | | | | | |
| 34 | | AR1262-D | | ----------NA---------- | | | | | |
| 35 | | AR1262-E | | ----------NA---------- | | | | | |
| 36 | | AR1268-A | | ----------NA---------- | | | | | |
| 37 | | AR1268-B | | ----------NA---------- | | | | | |
| 38 | | AR1268-C | | ----------NA---------- | | | | | |
| 39 | | AR1268-D | | ----------NA---------- | | | | | |
| 40 | | AR1268-E | | ----------NA---------- | | | | | |
| 41 | | AR1016-A | 223.768 | 233.758 | E3 | -4.5 | 106 | 0.00 | 5.53- 5.59 |
| 42 | | AR1016-B | 464.352 | 487.453 | E3 | -5.0 | 106 | 0.00 | 6.58- 6.64 |
| 43 | | AR1016-C | 1.044 | 1.104 | E6 | -5.7 | 106 | 0.00 | 7.84- 7.90 |
| 44 | | AR1016-D | 397.194 | 413.810 | E3 | -4.2 | 106 | 0.00 | 8.22- 8.28 |
| 45 | | AR1016-E | 312.491 | 324.503 | E3 | -3.8 | 105 | 0.00 | 9.61- 9.67 |
| 46 | | AR1260-A | 988.174 | 1067.821 | E3 | -8.1 | 107 | 0.00 | 15.43-15.49 |
| 47 | | AR1260-B | 597.543 | 637.998 | E3 | -6.8 | 107 | 0.00 | 15.72-15.78 |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88300.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48 | | AR1260-C | 581.873 | 639.229 | E3 | -9.9 | 109 | 0.00 | 16.69-16.75 |
| 49 | | AR1260-D | 1.486 | 1.633 | E6 | -9.9 | 109 | 0.00 | 17.53-17.59 |
| 50 | | AR1260-E | 1.471 | 1.575 | E6 | -7.1 | 107 | 0.00 | 18.74-18.80 |
| 51 | S | Decachlorobiphenyl | 12.091 | 14.407 | E6 | -19.2 | 119 | 0.00 | 22.61-22.67 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5G88293.d 5PCB2127.M Wed May 08 08:53:08 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88301.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2127\5G88301.d\ECD1A.ch Vial: 14
Signal #2 : C:\msdchem\1\DATA\G5G2127\5G88301.d\ECD2B.ch
Acq On : 7 May 2019 6:28 pm Operator: tianweir
Sample : icv2127-1000 Inst : GC5G
Misc : op20179,g5g2127,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2127.M (ChemStation Integrator)
Title :
Last Update : Wed May 08 08:45:48 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 28.639 | 38.780 E6 | -35.4# | 136 | 0.00 | 3.58- 3.65 |
| 2 | AR1221-A | 217.052 | 237.425 E3 | -9.4 | 109 | 0.00 | 2.71- 2.91 |
| 3 | AR1221-B | 318.921 | 305.657 E3 | 4.2 | 96 | 0.00 | 3.84- 4.04 |
| 4 | AR1221-C | 849.680 | 785.663 E3 | 7.5 | 92 | 0.00 | 4.19- 4.39 |
| 5 | AR1221-D | 154.897 | 131.580 E3 | 15.1 | 85 | 0.00 | 4.93- 5.13 |
| 6 | AR1221-E | 95.720 | 83.324 E3 | 13.0 | 87 | 0.00 | 5.21- 5.41 |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | 886.643 | 898.754 E3 | -1.4 | 101 | 0.00 | 8.38- 8.58 |
| 25 | AR1254-B | 1.184 | 1.186 E6 | -0.2 | 100 | 0.00 | 9.13- 9.33 |
| 26 | AR1254-C | 981.707 | 977.076 E3 | 0.5 | 100 | 0.00 | 9.90-10.10 |
| 27 | AR1254-D | 1.666 | 1.673 E6 | -0.4 | 100 | 0.00 | 10.26-10.46 |
| 28 | AR1254-E | 1.469 | 1.449 E6 | 1.4 | 99 | 0.00 | 11.10-11.30 |
| 29 | AR1254-F | 1.233 | 1.254 E6 | -1.7 | 102 | 0.00 | 11.67-11.87 |
| 30 | AR1254-G | 1.778 | 1.803 E6 | -1.4 | 101 | 0.00 | 12.51-12.71 |
| 31 | AR1262-A | | ----------NA---------- | | | | |
| 32 | AR1262-B | | ----------NA---------- | | | | |
| 33 | AR1262-C | | ----------NA---------- | | | | |
| 34 | AR1262-D | | ----------NA---------- | | | | |
| 35 | AR1262-E | | ----------NA---------- | | | | |
| 36 | AR1268-A | | ----------NA---------- | | | | |
| 37 | AR1268-B | | ----------NA---------- | | | | |
| 38 | AR1268-C | | ----------NA---------- | | | | |
| 39 | AR1268-D | | ----------NA---------- | | | | |
| 40 | AR1268-E | | ----------NA---------- | | | | |
| 41 | AR1016-A | | ----------NA---------- | | | | |

10.7.11 10

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88301.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |
| 48 | | AR1260-C | | | ----------NA---------- | | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 24.866 | 34.369 | E6 | -38.2# | 136 | 0.00 | 19.17-19.23 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 16.916 | E6 | -36.3# | 135 | 0.00 | 4.34- 4.40 |
| 2 | | AR1221-A | 100.417 | 99.941 | E3 | 0.5 | 100 | 0.00 | 3.38- 3.58 |
| 3 | | AR1221-B | 144.495 | 135.800 | E3 | 6.0 | 94 | 0.00 | 4.97- 5.17 |
| 4 | | AR1221-C | 364.796 | 332.428 | E3 | 8.9 | 91 | 0.00 | 5.46- 5.66 |
| 5 | | AR1221-D | 70.441 | 58.880 | E3 | 16.4 | 84 | 0.00 | 6.50- 6.70 |
| 6 | | AR1221-E | 35.536 | 42.374 | E3 | -19.2 | 119 | 0.00 | 6.67- 6.87 |
| 7 | | AR1232-A | | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | | ----------NA---------- | | | | |
| 12 | | AR1242-A | | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | | ----------NA---------- | | | | |
| 17 | | AR1248-A | | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | | ----------NA---------- | | | | |
| 24 | | AR1254-A | 530.199 | 526.142 | E3 | 0.8 | 99 | 0.00 | 10.83-11.03 |
| 25 | | AR1254-B | 560.736 | 551.759 | E3 | 1.6 | 98 | 0.00 | 11.43-11.63 |
| 26 | | AR1254-C | 450.752 | 426.488 | E3 | 5.4 | 95 | 0.00 | 12.52-12.72 |
| 27 | | AR1254-D | 836.089 | 827.332 | E3 | 1.0 | 99 | 0.00 | 12.89-13.09 |
| 28 | | AR1254-E | 646.341 | 606.984 | E3 | 6.1 | 94 | 0.00 | 13.62-13.82 |
| 29 | | AR1254-F | 711.748 | 700.795 | E3 | 1.5 | 98 | 0.00 | 14.75-14.95 |
| 30 | | AR1254-G | 860.088 | 889.695 | E3 | -3.4 | 103 | 0.00 | 15.36-15.56 |
| 31 | | AR1262-A | | | ----------NA---------- | | | | |
| 32 | | AR1262-B | | | ----------NA---------- | | | | |
| 33 | | AR1262-C | | | ----------NA---------- | | | | |
| 34 | | AR1262-D | | | ----------NA---------- | | | | |
| 35 | | AR1262-E | | | ----------NA---------- | | | | |
| 36 | | AR1268-A | | | ----------NA---------- | | | | |
| 37 | | AR1268-B | | | ----------NA---------- | | | | |
| 38 | | AR1268-C | | | ----------NA---------- | | | | |
| 39 | | AR1268-D | | | ----------NA---------- | | | | |
| 40 | | AR1268-E | | | ----------NA---------- | | | | |
| 41 | | AR1016-A | | | ----------NA---------- | | | | |
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88301.D

```
48      AR1260-C                              ----------NA----------
49      AR1260-D                              ----------NA----------
50      AR1260-E                              ----------NA----------
51 S    Decachlorobiphenyl       12.091  17.118 E6 -41.6# 142   0.00   22.61-22.67
------------------------------------------------------------------------------
------------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 0  CCC's out = 0
    5G88293.d  5PCB2127.M       Wed May 08 08:53:11 2019
```

10.7.11 10

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88302.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2127\5G88302.d\ECD1A.ch Vial: 15
Signal #2 : C:\msdchem\1\DATA\G5G2127\5G88302.d\ECD2B.ch
Acq On : 7 May 2019 7:01 pm Operator: tianweir
Sample : icv2127-1000 Inst : GC5G
Misc : op20179,g5g2127,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2127.M (ChemStation Integrator)
Title :
Last Update : Wed May 08 08:45:48 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 28.639 | 36.119 E6 | -26.1# | 126 | 0.00 | 3.58- 3.65 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | 663.135 | 664.676 E3 | -0.2 | 100 | 0.00 | 4.19- 4.39 |
| 8 | AR1232-B | 338.505 | 344.676 E3 | -1.8 | 102 | 0.00 | 5.36- 5.56 |
| 9 | AR1232-C | 963.347 | 978.258 E3 | -1.5 | 102 | 0.00 | 5.99- 6.19 |
| 10 | AR1232-D | 407.305 | 413.145 E3 | -1.4 | 101 | 0.00 | 6.31- 6.51 |
| 11 | AR1232-E | 380.705 | 379.835 E3 | 0.2 | 100 | 0.00 | 7.35- 7.55 |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1262-A | 1.410 | 1.341 E6 | 4.9 | 95 | 0.00 | 11.67-11.87 |
| 32 | AR1262-B | 1.963 | 1.877 E6 | 4.4 | 96 | 0.00 | 12.89-13.09 |
| 33 | AR1262-C | 1.697 | 1.627 E6 | 4.1 | 96 | 0.00 | 13.64-13.84 |
| 34 | AR1262-D | 3.793 | 3.615 E6 | 4.7 | 95 | 0.00 | 14.64-14.84 |
| 35 | AR1262-E | 4.707 | 4.625 E6 | 1.7 | 98 | 0.00 | 15.67-15.87 |
| 36 | AR1268-A | | ----------NA---------- | | | | |
| 37 | AR1268-B | | ----------NA---------- | | | | |
| 38 | AR1268-C | | ----------NA---------- | | | | |
| 39 | AR1268-D | | ----------NA---------- | | | | |
| 40 | AR1268-E | | ----------NA---------- | | | | |
| 41 | AR1016-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88302.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |
| 48 | | AR1260-C | | | ----------NA---------- | | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 24.866 | 32.677 | E6 | -31.4# | 129 | 0.00 | 19.17-19.23 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 15.852 | E6 | -27.7# | 126 | 0.00 | 4.35- 4.41 |
| 2 | | AR1221-A | | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | | ----------NA---------- | | | | |
| 7 | | AR1232-A | 283.830 | 291.484 | E3 | -2.7 | 103 | 0.00 | 5.46- 5.66 |
| 8 | | AR1232-B | 223.719 | 232.756 | E3 | -4.0 | 104 | 0.00 | 6.51- 6.71 |
| 9 | | AR1232-C | 466.672 | 490.506 | E3 | -5.1 | 105 | 0.00 | 7.77- 7.97 |
| 10 | | AR1232-D | 180.438 | 191.680 | E3 | -6.2 | 106 | 0.00 | 8.15- 8.35 |
| 11 | | AR1232-E | 131.824 | 128.631 | E3 | 2.4 | 98 | 0.00 | 9.54- 9.74 |
| 12 | | AR1242-A | | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | | ----------NA---------- | | | | |
| 17 | | AR1248-A | | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | | ----------NA---------- | | | | |
| 24 | | AR1254-A | | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | | ----------NA---------- | | | | |
| 31 | | AR1262-A | 624.204 | 661.584 | E3 | -6.0 | 106 | 0.00 | 14.20-14.40 |
| 32 | | AR1262-B | 988.279 | 963.376 | E3 | 2.5 | 97 | 0.00 | 15.65-15.85 |
| 33 | | AR1262-C | 858.539 | 855.110 | E3 | 0.4 | 100 | 0.00 | 16.62-16.82 |
| 34 | | AR1262-D | 1.917 | 1.886 | E6 | 1.6 | 98 | 0.00 | 17.46-17.66 |
| 35 | | AR1262-E | 2.174 | 2.132 | E6 | 1.9 | 98 | 0.00 | 18.65-18.85 |
| 36 | | AR1268-A | | | ----------NA---------- | | | | |
| 37 | | AR1268-B | | | ----------NA---------- | | | | |
| 38 | | AR1268-C | | | ----------NA---------- | | | | |
| 39 | | AR1268-D | | | ----------NA---------- | | | | |
| 40 | | AR1268-E | | | ----------NA---------- | | | | |
| 41 | | AR1016-A | | | ----------NA---------- | | | | |
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88302.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1260-C | | | ----------NA---------- | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | |
| 51 | S | Decachlorobiphenyl | 12.091 | 16.014 E6 | -32.4# | 132 | 0.00 | 22.61-22.67 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5G88293.d 5PCB2127.M Wed May 08 08:53:13 2019

10.7.12
10

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88303.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2127\5G88303.d\ECD1A.ch Vial: 16
Signal #2 : C:\msdchem\1\DATA\G5G2127\5G88303.d\ECD2B.ch
Acq On : 7 May 2019 7:33 pm Operator: tianweir
Sample : icv2127-1000 Inst : GC5G
Misc : op20179,g5g2127,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2127.M (ChemStation Integrator)
Title :
Last Update : Wed May 08 08:45:48 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 28.639 | 34.806 E6 | -21.5# | 122 | 0.00 | 3.58- 3.65 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | 877.831 | 855.389 E3 | 2.6 | 97 | 0.00 | 4.92- 5.12 |
| 13 | AR1242-B | 1.807 | 1.755 E6 | 2.9 | 97 | 0.00 | 5.99- 6.19 |
| 14 | AR1242-C | 758.223 | 735.419 E3 | 3.0 | 97 | 0.00 | 6.31- 6.51 |
| 15 | AR1242-D | 766.974 | 743.326 E3 | 3.1 | 97 | 0.00 | 7.35- 7.55 |
| 16 | AR1242-E | 661.047 | 621.838 E3 | 5.9 | 94 | 0.00 | 8.58- 8.78 |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1262-A | | ----------NA---------- | | | | |
| 32 | AR1262-B | | ----------NA---------- | | | | |
| 33 | AR1262-C | | ----------NA---------- | | | | |
| 34 | AR1262-D | | ----------NA---------- | | | | |
| 35 | AR1262-E | | ----------NA---------- | | | | |
| 36 | AR1268-A | 4.600 | 4.422 E6 | 3.9 | 96 | 0.00 | 15.66-15.86 |
| 37 | AR1268-B | 4.700 | 4.642 E6 | 1.2 | 99 | 0.00 | 15.78-15.98 |
| 38 | AR1268-C | 3.981 | 3.877 E6 | 2.6 | 97 | 0.00 | 16.40-16.60 |
| 39 | AR1268-D | 1.619 | 1.587 E6 | 2.0 | 98 | 0.00 | 17.56-17.76 |
| 40 | AR1268-E | 11.748 | 11.788 E6 | -0.3 | 100 | 0.00 | 18.49-18.69 |
| 41 | AR1016-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88303.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |
| 48 | | AR1260-C | | | ----------NA---------- | | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 24.866 | 89.657 E6 | -260.6# | 354# | 0.00 | 19.17-19.23 | |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 15.639 E6 | -26.0# | 125 | 0.00 | 4.34- 4.40 | |
| 2 | | AR1221-A | | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | | ----------NA---------- | | | | |
| 12 | | AR1242-A | 403.654 | 406.628 E3 | -0.7 | 101 | 0.00 | 6.51- 6.71 | |
| 13 | | AR1242-B | 897.809 | 916.016 E3 | -2.0 | 102 | 0.00 | 7.77- 7.97 | |
| 14 | | AR1242-C | 342.293 | 363.789 E3 | -6.3 | 106 | 0.00 | 8.15- 8.35 | |
| 15 | | AR1242-D | 263.651 | 255.846 E3 | 3.0 | 97 | 0.00 | 9.54- 9.74 | |
| 16 | | AR1242-E | 323.994 | 369.602 E3 | -14.1 | 114 | 0.00 | 10.84-11.04 | |
| 17 | | AR1248-A | | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | | ----------NA---------- | | | | |
| 24 | | AR1254-A | | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | | ----------NA---------- | | | | |
| 31 | | AR1262-A | | | ----------NA---------- | | | | |
| 32 | | AR1262-B | | | ----------NA---------- | | | | |
| 33 | | AR1262-C | | | ----------NA---------- | | | | |
| 34 | | AR1262-D | | | ----------NA---------- | | | | |
| 35 | | AR1262-E | | | ----------NA---------- | | | | |
| 36 | | AR1268-A | 2.342 | 2.301 E6 | 1.8 | 98 | 0.00 | 18.64-18.84 | |
| 37 | | AR1268-B | 2.266 | 2.259 E6 | 0.3 | 100 | 0.00 | 18.79-18.99 | |
| 38 | | AR1268-C | 2.009 | 1.968 E6 | 2.0 | 98 | 0.00 | 19.63-19.83 | |
| 39 | | AR1268-D | 788.477 | 749.480 E3 | 4.9 | 95 | 0.00 | 20.61-20.81 | |
| 40 | | AR1268-E | 6.364 | 6.278 E6 | 1.4 | 99 | 0.00 | 21.68-21.88 | |
| 41 | | AR1016-A | | | ----------NA---------- | | | | |
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88303.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1260-C | | | ----------NA---------- | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | |
| 51 | S | Decachlorobiphenyl | 12.091 | 45.192 E6 | -273.8# | 374# | 0.00 | 22.61-22.67 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5G88293.d 5PCB2127.M Wed May 08 08:53:15 2019

# Initial Calibration Verification



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88304.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2127\5G88304.d\ECD1A.ch Vial: 17
Signal #2 : C:\msdchem\1\DATA\G5G2127\5G88304.d\ECD2B.ch
Acq On : 7 May 2019 8:05 pm Operator: tianweir
Sample : icv2127-1000 Inst : GC5G
Misc : op20179,g5g2127,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2127.M (ChemStation Integrator)
Title :
Last Update : Wed May 08 08:45:48 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 28.639 | 34.368 E6 | -20.0# | 120 | 0.00 | 3.58- 3.65 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | 428.053 | 393.042 E3 | 8.2 | 92 | 0.00 | 4.92- 5.12 |
| 18 | AR1248-B | 1.078 | 1.049 E6 | 2.7 | 97 | 0.00 | 5.99- 6.19 |
| 19 | AR1248-C | 1.123 | 1.165 E6 | -3.7 | 104 | 0.00 | 6.78- 6.98 |
| 20 | AR1248-D | 1.132 | 1.175 E6 | -3.8 | 104 | 0.00 | 7.35- 7.55 |
| 21 | AR1248-E | 669.320 | 718.239 E3 | -7.3 | 107 | 0.00 | 7.57- 7.77 |
| 22 | AR1248-F | 1.019 | 1.095 E6 | -7.5 | 107 | 0.00 | 8.58- 8.78 |
| 23 | AR1248-G | 810.485 | 851.427 E3 | -5.1 | 105 | 0.00 | 9.12- 9.32 |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1262-A | | ----------NA---------- | | | | |
| 32 | AR1262-B | | ----------NA---------- | | | | |
| 33 | AR1262-C | | ----------NA---------- | | | | |
| 34 | AR1262-D | | ----------NA---------- | | | | |
| 35 | AR1262-E | | ----------NA---------- | | | | |
| 36 | AR1268-A | | ----------NA---------- | | | | |
| 37 | AR1268-B | | ----------NA---------- | | | | |
| 38 | AR1268-C | | ----------NA---------- | | | | |
| 39 | AR1268-D | | ----------NA---------- | | | | |
| 40 | AR1268-E | | ----------NA---------- | | | | |
| 41 | AR1016-A | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88304.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |
| 48 | | AR1260-C | | | ----------NA---------- | | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | | |
| 51 | S | Decachlorobiphenyl | 24.866 | 32.895 | E6 | -32.3# | 130 | 0.00 | 19.17-19.23 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 15.898 | E6 | -28.1# | 127 | 0.00 | 4.34- 4.40 |
| 2 | | AR1221-A | | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | | ----------NA---------- | | | | |
| 12 | | AR1242-A | | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | | ----------NA---------- | | | | |
| 17 | | AR1248-A | 193.507 | 183.237 | E3 | 5.3 | 95 | 0.00 | 6.50- 6.70 |
| 18 | | AR1248-B | 540.963 | 518.466 | E3 | 4.2 | 96 | 0.00 | 7.77- 7.97 |
| 19 | | AR1248-C | 302.678 | 315.299 | E3 | -4.2 | 104 | 0.00 | 8.75- 8.95 |
| 20 | | AR1248-D | 413.262 | 434.970 | E3 | -5.3 | 105 | 0.00 | 9.54- 9.74 |
| 21 | | AR1248-E | 468.746 | 509.005 | E3 | -8.6 | 109 | 0.00 | 9.91-10.11 |
| 22 | | AR1248-F | 554.361 | 598.396 | E3 | -7.9 | 108 | 0.00 | 10.84-11.04 |
| 23 | | AR1248-G | 503.967 | 545.363 | E3 | -8.2 | 108 | 0.00 | 11.55-11.75 |
| 24 | | AR1254-A | | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | | ----------NA---------- | | | | |
| 31 | | AR1262-A | | | ----------NA---------- | | | | |
| 32 | | AR1262-B | | | ----------NA---------- | | | | |
| 33 | | AR1262-C | | | ----------NA---------- | | | | |
| 34 | | AR1262-D | | | ----------NA---------- | | | | |
| 35 | | AR1262-E | | | ----------NA---------- | | | | |
| 36 | | AR1268-A | | | ----------NA---------- | | | | |
| 37 | | AR1268-B | | | ----------NA---------- | | | | |
| 38 | | AR1268-C | | | ----------NA---------- | | | | |
| 39 | | AR1268-D | | | ----------NA---------- | | | | |
| 40 | | AR1268-E | | | ----------NA---------- | | | | |
| 41 | | AR1016-A | | | ----------NA---------- | | | | |
| 42 | | AR1016-B | | | ----------NA---------- | | | | |
| 43 | | AR1016-C | | | ----------NA---------- | | | | |
| 44 | | AR1016-D | | | ----------NA---------- | | | | |
| 45 | | AR1016-E | | | ----------NA---------- | | | | |
| 46 | | AR1260-A | | | ----------NA---------- | | | | |
| 47 | | AR1260-B | | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2127-ICV2127
**Lab FileID:** 5G88304.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | | AR1260-C | | | ----------NA---------- | | | |
| 49 | | AR1260-D | | | ----------NA---------- | | | |
| 50 | | AR1260-E | | | ----------NA---------- | | | |
| 51 | S | Decachlorobiphenyl | 12.091 | 16.115 E6 | -33.3# | 133 | 0.00 | 22.61-22.67 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5G88293.d 5PCB2127.M Wed May 08 08:53:17 2019

10.7.14
10

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2132-CC2127
**Lab FileID:** 5G88434.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\sy...32\5g88434.d\ECD1A.ch Vial: 31
Signal #2 : C:\msdchem\1\data\syrap\g5g2132\5g88434.d\ECD2B.ch
Acq On : 14 May 2019 9:16 am Operator: tianweir
Sample : cc2127-1000 Inst : GC5G
Misc : op17615,G5g2132,1000,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5pcb2127.m (ChemStation Integrator)
Title :
Last Update : Wed May 15 12:18:45 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | Tetrachloro-m-xylene | 28.639 | 29.761 E6 | -3.9 | 104 | 0.00 | 3.57- 3.64 |
| 2 | AR1221-A | | ----------NA---------- | | | | |
| 3 | AR1221-B | | ----------NA---------- | | | | |
| 4 | AR1221-C | | ----------NA---------- | | | | |
| 5 | AR1221-D | | ----------NA---------- | | | | |
| 6 | AR1221-E | | ----------NA---------- | | | | |
| 7 | AR1232-A | | ----------NA---------- | | | | |
| 8 | AR1232-B | | ----------NA---------- | | | | |
| 9 | AR1232-C | | ----------NA---------- | | | | |
| 10 | AR1232-D | | ----------NA---------- | | | | |
| 11 | AR1232-E | | ----------NA---------- | | | | |
| 12 | AR1242-A | | ----------NA---------- | | | | |
| 13 | AR1242-B | | ----------NA---------- | | | | |
| 14 | AR1242-C | | ----------NA---------- | | | | |
| 15 | AR1242-D | | ----------NA---------- | | | | |
| 16 | AR1242-E | | ----------NA---------- | | | | |
| 17 | AR1248-A | | ----------NA---------- | | | | |
| 18 | AR1248-B | | ----------NA---------- | | | | |
| 19 | AR1248-C | | ----------NA---------- | | | | |
| 20 | AR1248-D | | ----------NA---------- | | | | |
| 21 | AR1248-E | | ----------NA---------- | | | | |
| 22 | AR1248-F | | ----------NA---------- | | | | |
| 23 | AR1248-G | | ----------NA---------- | | | | |
| 24 | AR1254-A | | ----------NA---------- | | | | |
| 25 | AR1254-B | | ----------NA---------- | | | | |
| 26 | AR1254-C | | ----------NA---------- | | | | |
| 27 | AR1254-D | | ----------NA---------- | | | | |
| 28 | AR1254-E | | ----------NA---------- | | | | |
| 29 | AR1254-F | | ----------NA---------- | | | | |
| 30 | AR1254-G | | ----------NA---------- | | | | |
| 31 | AR1262-A | | ----------NA---------- | | | | |
| 32 | AR1262-B | | ----------NA---------- | | | | |
| 33 | AR1262-C | | ----------NA---------- | | | | |
| 34 | AR1262-D | | ----------NA---------- | | | | |
| 35 | AR1262-E | | ----------NA---------- | | | | |
| 36 | AR1268-A | | ----------NA---------- | | | | |
| 37 | AR1268-B | | ----------NA---------- | | | | |
| 38 | AR1268-C | | ----------NA---------- | | | | |
| 39 | AR1268-D | | ----------NA---------- | | | | |
| 40 | AR1268-E | | ----------NA---------- | | | | |
| 41 | AR1016-A | 526.483 | 521.112 E3 | 1.0 | 103 | 0.00 | 4.25- 4.32 |

10.7.15 10

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2132-CC2127
**Lab FileID:** 5G88434.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | 1.017 | 1.047 | E6 | -2.9 | 104 | 0.00 | 4.96- 5.03 |
| 43 | | AR1016-C | 2.118 | 2.065 | E6 | 2.5 | 99 | 0.00 | 6.03- 6.09 |
| 44 | | AR1016-D | 889.172 | 895.883 | E3 | -0.8 | 102 | 0.00 | 6.35- 6.41 |
| 45 | | AR1016-E | 904.185 | 899.759 | E3 | 0.5 | 101 | -0.06 | 7.37- 7.43 |
| 46 | | AR1260-A | 2.093 | 1.955 | E6 | 6.6 | 94 | 0.00 | 12.51-12.57 |
| 47 | | AR1260-B | 1.227 | 1.212 | E6 | 1.2 | 99 | 0.00 | 12.88-12.94 |
| 48 | | AR1260-C | 1.273 | 1.159 | E6 | 9.0 | 93 | 0.00 | 13.63-13.69 |
| 49 | | AR1260-D | 2.991 | 2.632 | E6 | 12.0 | 88 | 0.00 | 14.64-14.70 |
| 50 | | AR1260-E | 3.300 | 2.999 | E6 | 9.1 | 92 | 0.00 | 15.52-15.58 |
| 51 | S | Decachlorobiphenyl | 24.866 | 23.164 | E6 | 6.8 | 91 | 0.00 | 19.08-19.14 |
| ***** | | Signal #2 ***** | | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 13.901 | E6 | -12.0 | 111 | 0.00 | 4.35- 4.41 |
| 2 | | AR1221-A | | ----------NA---------- | | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | | |
| 31 | | AR1262-A | | ----------NA---------- | | | | | |
| 32 | | AR1262-B | | ----------NA---------- | | | | | |
| 33 | | AR1262-C | | ----------NA---------- | | | | | |
| 34 | | AR1262-D | | ----------NA---------- | | | | | |
| 35 | | AR1262-E | | ----------NA---------- | | | | | |
| 36 | | AR1268-A | | ----------NA---------- | | | | | |
| 37 | | AR1268-B | | ----------NA---------- | | | | | |
| 38 | | AR1268-C | | ----------NA---------- | | | | | |
| 39 | | AR1268-D | | ----------NA---------- | | | | | |
| 40 | | AR1268-E | | ----------NA---------- | | | | | |
| 41 | | AR1016-A | 223.768 | 240.660 | E3 | -7.5 | 109 | 0.00 | 5.54- 5.60 |
| 42 | | AR1016-B | 464.352 | 511.281 | E3 | -10.1 | 112 | 0.00 | 6.58- 6.64 |
| 43 | | AR1016-C | 1.044 | 1.129 | E6 | -8.1 | 109 | 0.00 | 7.84- 7.90 |
| 44 | | AR1016-D | 397.194 | 426.977 | E3 | -7.5 | 109 | 0.00 | 8.22- 8.28 |
| 45 | | AR1016-E | 312.491 | 332.000 | E3 | -6.2 | 108 | 0.00 | 9.61- 9.67 |
| 46 | | AR1260-A | 988.174 | 972.263 | E3 | 1.6 | 97 | 0.00 | 15.42-15.48 |
| 47 | | AR1260-B | 597.543 | 615.737 | E3 | -3.0 | 103 | 0.00 | 15.71-15.77 |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2132-CC2127
**Lab FileID:** 5G88434.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48 | | AR1260-C | 581.873 | 605.048 | E3 | -4.0 | 103 | 0.00 | 16.67-16.73 |
| 49 | | AR1260-D | 1.486 | 1.466 | E6 | 1.3 | 98 | 0.00 | 17.51-17.57 |
| 50 | | AR1260-E | 1.471 | 1.478 | E6 | -0.5 | 101 | 0.00 | 18.72-18.78 |
| 51 | S | Decachlorobiphenyl | 12.091 | 12.329 | E6 | -2.0 | 102 | 0.00 | 22.58-22.64 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5g88434.d 5pcb2127.m Wed May 15 14:18:30 2019

# Continuing Calibration Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2132-CC2127
**Lab FileID:** 5G88445.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\sy...32\5g88445.d\ECD1A.ch Vial: 40
Signal #2 : C:\msdchem\1\data\syrap\g5g2132\5g88445.d\ECD2B.ch
Acq On : 14 May 2019 3:15 pm Operator: summerk
Sample : cc2127-500 Inst : GC5G
Misc : op20312,g5g2132,15.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5pcb2127.m (ChemStation Integrator)
Title :
Last Update : Wed May 15 12:18:45 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|---|
| 1 | S | Tetrachloro-m-xylene | 28.639 | 29.042 E6 | -1.4 | 101 | 0.00 | 3.57- 3.64 |
| 2 | | AR1221-A | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | |
| 31 | | AR1262-A | | ----------NA---------- | | | | |
| 32 | | AR1262-B | | ----------NA---------- | | | | |
| 33 | | AR1262-C | | ----------NA---------- | | | | |
| 34 | | AR1262-D | | ----------NA---------- | | | | |
| 35 | | AR1262-E | | ----------NA---------- | | | | |
| 36 | | AR1268-A | | ----------NA---------- | | | | |
| 37 | | AR1268-B | | ----------NA---------- | | | | |
| 38 | | AR1268-C | | ----------NA---------- | | | | |
| 39 | | AR1268-D | | ----------NA---------- | | | | |
| 40 | | AR1268-E | | ----------NA---------- | | | | |
| 41 | | AR1016-A | 526.483 | 513.224 E3 | 2.5 | 98 | 0.00 | 4.24- 4.31 |

10.7.16 10

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2132-CC2127
**Lab FileID:** 5G88445.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | AR1016-B | 1.017 | 1.027 E6 | -1.0 | 99 | 0.00 | 4.96- 5.03 |
| 43 | | AR1016-C | 2.118 | 2.100 E6 | 0.8 | 99 | 0.00 | 6.03- 6.09 |
| 44 | | AR1016-D | 889.172 | 901.759 E3 | -1.4 | 100 | 0.00 | 6.34- 6.40 |
| 45 | | AR1016-E | 904.185 | 897.896 E3 | 0.7 | 98 | -0.07 | 7.37- 7.43 |
| 46 | | AR1260-A | 2.093 | 2.093 E6 | 0.0 | 100 | 0.00 | 12.51-12.57 |
| 47 | | AR1260-B | 1.227 | 1.235 E6 | -0.7 | 100 | 0.00 | 12.88-12.94 |
| 48 | | AR1260-C | 1.273 | 1.230 E6 | 3.4 | 98 | 0.00 | 13.63-13.69 |
| 49 | | AR1260-D | 2.991 | 2.952 E6 | 1.3 | 99 | 0.00 | 14.63-14.69 |
| 50 | | AR1260-E | 3.300 | 3.296 E6 | 0.1 | 100 | -0.01 | 15.50-15.56 |
| 51 | S | Decachlorobiphenyl | 24.866 | 25.770 E6 | -3.6 | 102 | 0.00 | 19.07-19.13 |
| ***** | | Signal #2 ***** | | | | | | |
| 1 | S | Tetrachloro-m-xylene | 12.412 | 12.799 E6 | -3.1 | 105 | 0.00 | 4.34- 4.40 |
| 2 | | AR1221-A | | ----------NA---------- | | | | |
| 3 | | AR1221-B | | ----------NA---------- | | | | |
| 4 | | AR1221-C | | ----------NA---------- | | | | |
| 5 | | AR1221-D | | ----------NA---------- | | | | |
| 6 | | AR1221-E | | ----------NA---------- | | | | |
| 7 | | AR1232-A | | ----------NA---------- | | | | |
| 8 | | AR1232-B | | ----------NA---------- | | | | |
| 9 | | AR1232-C | | ----------NA---------- | | | | |
| 10 | | AR1232-D | | ----------NA---------- | | | | |
| 11 | | AR1232-E | | ----------NA---------- | | | | |
| 12 | | AR1242-A | | ----------NA---------- | | | | |
| 13 | | AR1242-B | | ----------NA---------- | | | | |
| 14 | | AR1242-C | | ----------NA---------- | | | | |
| 15 | | AR1242-D | | ----------NA---------- | | | | |
| 16 | | AR1242-E | | ----------NA---------- | | | | |
| 17 | | AR1248-A | | ----------NA---------- | | | | |
| 18 | | AR1248-B | | ----------NA---------- | | | | |
| 19 | | AR1248-C | | ----------NA---------- | | | | |
| 20 | | AR1248-D | | ----------NA---------- | | | | |
| 21 | | AR1248-E | | ----------NA---------- | | | | |
| 22 | | AR1248-F | | ----------NA---------- | | | | |
| 23 | | AR1248-G | | ----------NA---------- | | | | |
| 24 | | AR1254-A | | ----------NA---------- | | | | |
| 25 | | AR1254-B | | ----------NA---------- | | | | |
| 26 | | AR1254-C | | ----------NA---------- | | | | |
| 27 | | AR1254-D | | ----------NA---------- | | | | |
| 28 | | AR1254-E | | ----------NA---------- | | | | |
| 29 | | AR1254-F | | ----------NA---------- | | | | |
| 30 | | AR1254-G | | ----------NA---------- | | | | |
| 31 | | AR1262-A | | ----------NA---------- | | | | |
| 32 | | AR1262-B | | ----------NA---------- | | | | |
| 33 | | AR1262-C | | ----------NA---------- | | | | |
| 34 | | AR1262-D | | ----------NA---------- | | | | |
| 35 | | AR1262-E | | ----------NA---------- | | | | |
| 36 | | AR1268-A | | ----------NA---------- | | | | |
| 37 | | AR1268-B | | ----------NA---------- | | | | |
| 38 | | AR1268-C | | ----------NA---------- | | | | |
| 39 | | AR1268-D | | ----------NA---------- | | | | |
| 40 | | AR1268-E | | ----------NA---------- | | | | |
| 41 | | AR1016-A | 223.768 | 226.459 E3 | -1.2 | 102 | 0.00 | 5.53- 5.59 |
| 42 | | AR1016-B | 464.352 | 484.076 E3 | -4.2 | 105 | 0.00 | 6.57- 6.63 |
| 43 | | AR1016-C | 1.044 | 1.063 E6 | -1.8 | 104 | 0.00 | 7.83- 7.89 |
| 44 | | AR1016-D | 397.194 | 406.917 E3 | -2.4 | 106 | 0.00 | 8.21- 8.27 |
| 45 | | AR1016-E | 312.491 | 317.931 E3 | -1.7 | 104 | 0.00 | 9.60- 9.66 |
| 46 | | AR1260-A | 988.174 | 1015.380 E3 | -2.8 | 106 | 0.00 | 15.41-15.47 |
| 47 | | AR1260-B | 597.543 | 613.501 E3 | -2.7 | 107 | 0.00 | 15.70-15.76 |

# Continuing Calibration Summary

**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** G5G2132-CC2127
**Lab FileID:** 5G88445.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 48 | | AR1260-C | 581.873 | 595.751 | E3 | -2.4 | 106 | 0.00 | 16.67-16.73 |
| 49 | | AR1260-D | 1.486 | 1.524 | E6 | -2.6 | 105 | 0.00 | 17.51-17.57 |
| 50 | | AR1260-E | 1.471 | 1.508 | E6 | -2.5 | 105 | 0.00 | 18.71-18.77 |
| 51 | S | Decachlorobiphenyl | 12.091 | 12.164 | E6 | -0.6 | 103 | 0.00 | 22.57-22.63 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5G88292.d 5pcb2127.m Wed May 15 13:19:38 2019

10.7.16
10

GC/LC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/17/19 10:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179806.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 10:10 pm
Operator : tianweir
Sample : jc87535-13
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 83 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:46:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|
| System Monitoring Compounds | | | | | | |
| 1) S Tetrachlo... | 3.057 | 3.466 | 113.6E6 | 412.5E6 | 28.907m | 15.283m# |
| Spiked Amount 40.000 | | | Recovery | = | 72.27% | 38.21% |
| 51) S Decachlor... | 10.378 | 11.777 | 136.8E6 | 2557.1E6 | 30.507m | 89.289m# |
| Spiked Amount 40.000 | | | Recovery | = | 76.27% | 223.22% |
| Target Compounds | | | | | | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

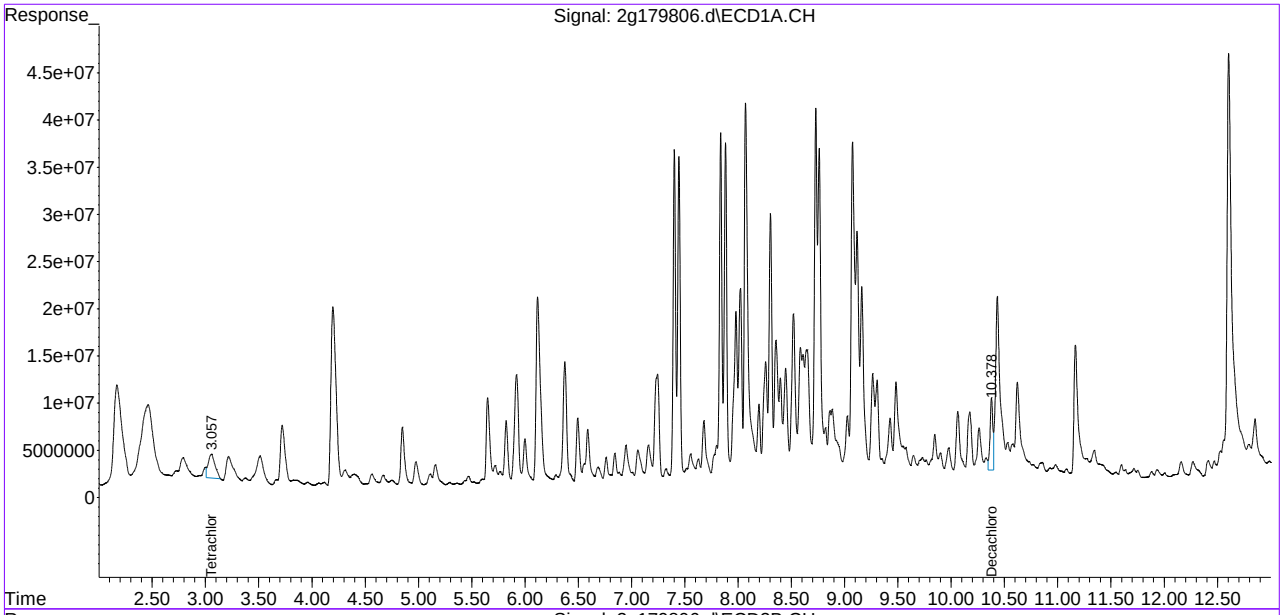
11.1.1 11

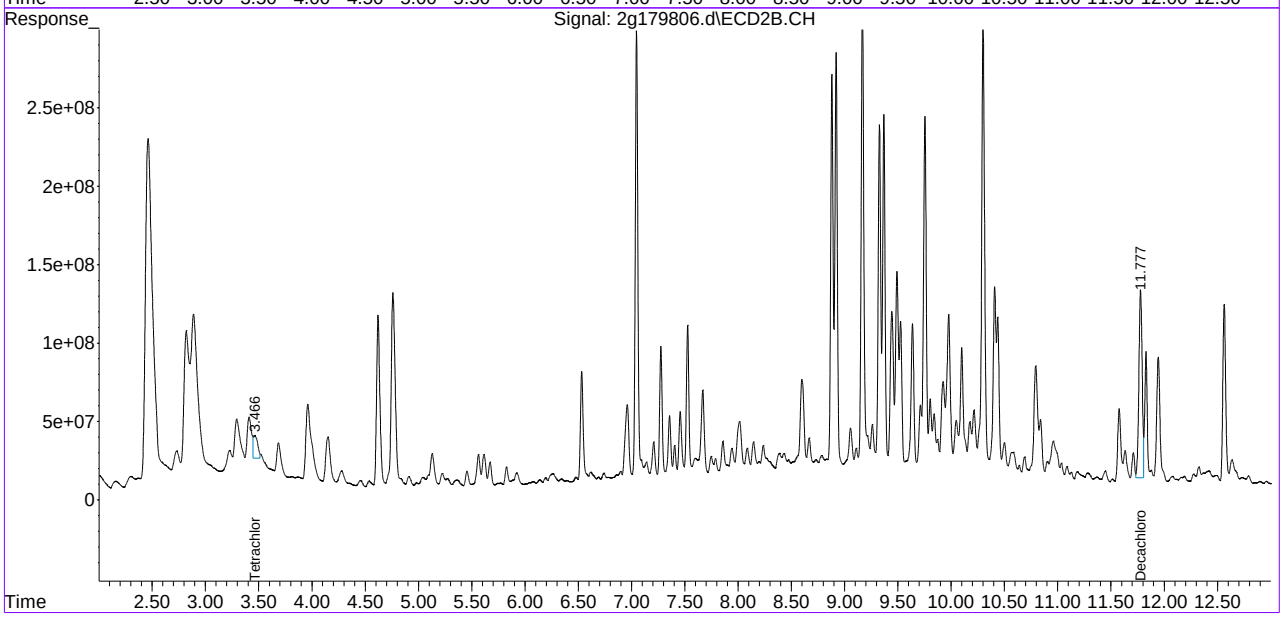
Quantitation Report (QT Reviewed)

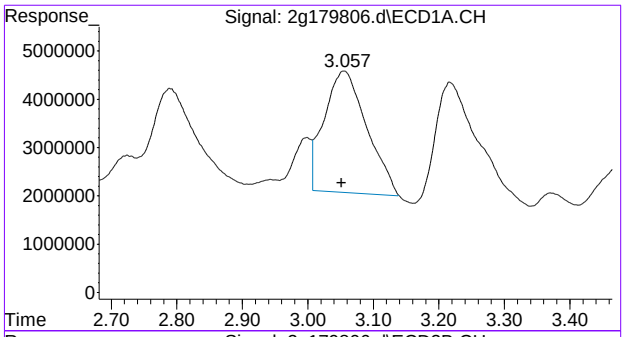
Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179806.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 10:10 pm
Operator : tianweir
Sample : jc87535-13
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 83 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:46:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

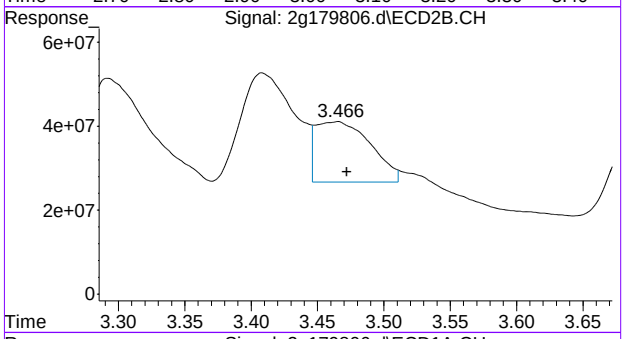




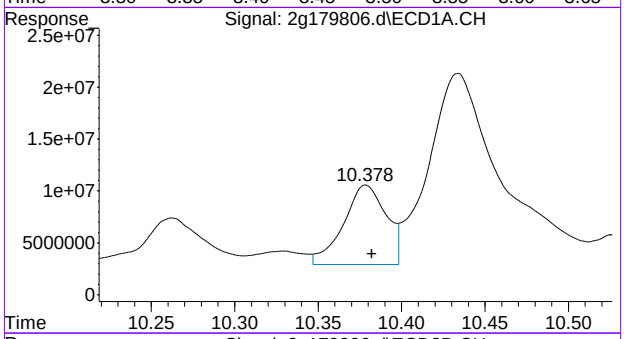

#1 Tetrachloro-m-xylene

R.T.: 3.057 min
Delta R.T.: 0.006 min
Response: 113574830
Conc: 28.91 ppb m



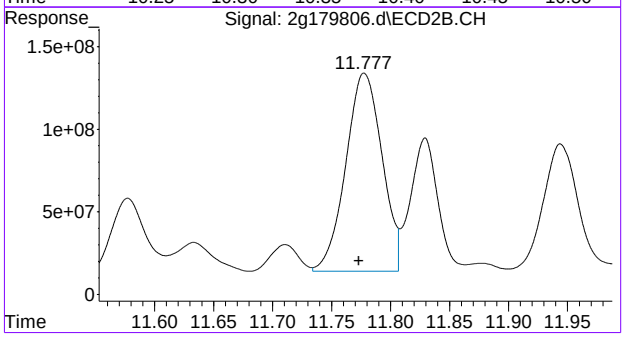

#1 Tetrachloro-m-xylene

R.T.: 3.466 min
Delta R.T.: -0.007 min
Response: 412463751
Conc: 15.28 ppb m




#51 Decachlorobiphenyl

R.T.: 10.378 min
Delta R.T.: -0.004 min
Response: 136753965
Conc: 30.51 ppb m




#51 Decachlorobiphenyl

R.T.: 11.777 min
Delta R.T.: 0.004 min
Response: 2557055470
Conc: 89.29 ppb m

# Manual Integration Approval Summary



**Sample Number:** JC87535-13
**Lab FileID:** 2G179806.D
**Injection Time:** 05/14/19 22:10
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 02:03 Sarah Cruz
**Supervisor approved:** 05/17/19 10:32 Gwendolyn Burns

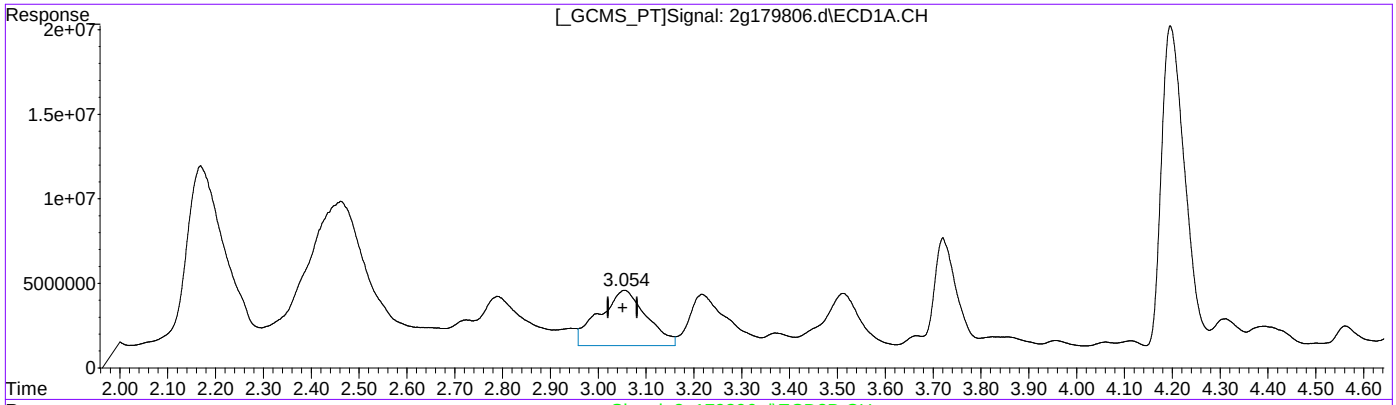
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Tetrachloro-m-xylene | 877-09-8 | 1 | 3.06 | Poorly defined baseline |
| Tetrachloro-m-xylene | 877-09-8 | 2 | 3.47 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 1 | 10.38 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 11.78 | Poorly defined baseline |

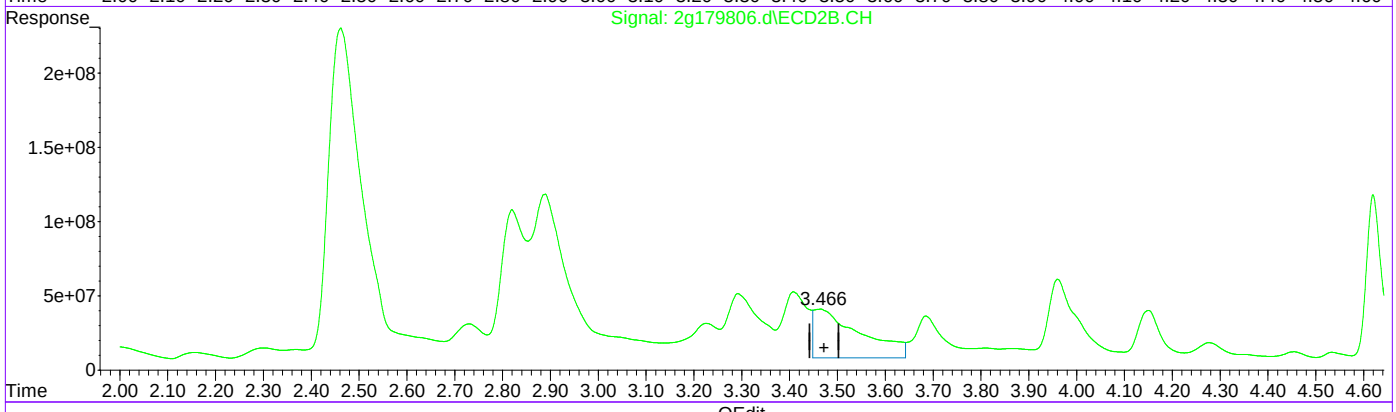
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179806.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:10 pm
Operator : tianweir
Sample : jc87535-13
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 83  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:15:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(1) Tetrachloro-m-xylene (S)

3.055min 56.933 ppb

response 223686704

(1) Tetrachloro-m-xylene #2 (S)

3.464min 82.431 ppb

response 2224714322

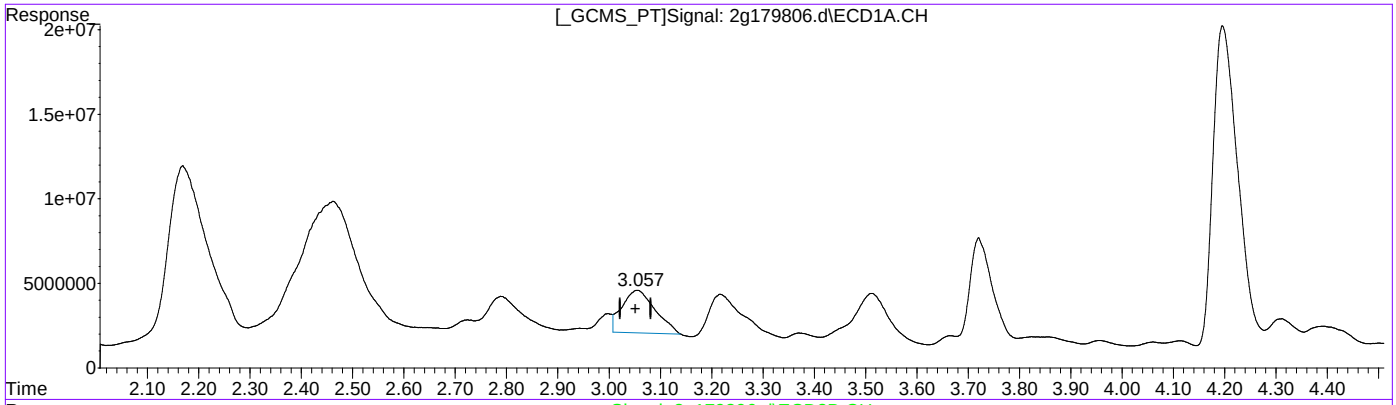
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:42:24 2019

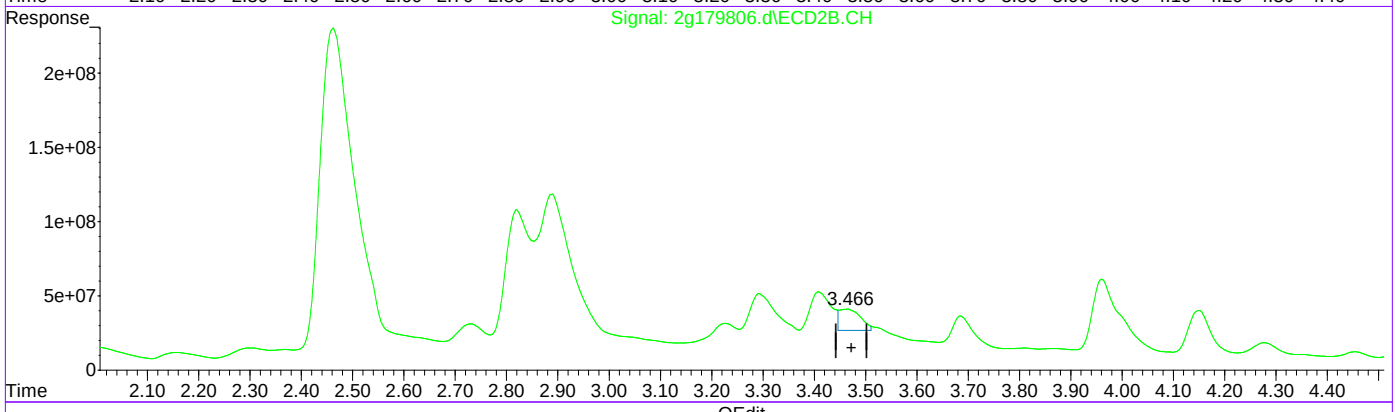
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179806.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:10 pm
Operator : tianweir
Sample : jc87535-13
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 83  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:15:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(1) Tetrachloro-m-xylene (S)

3.057min 28.907 ppb m

response 113574830

(1) Tetrachloro-m-xylene #2 (S)

3.466min 15.283 ppb m

response 412463751

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:44:08 2019



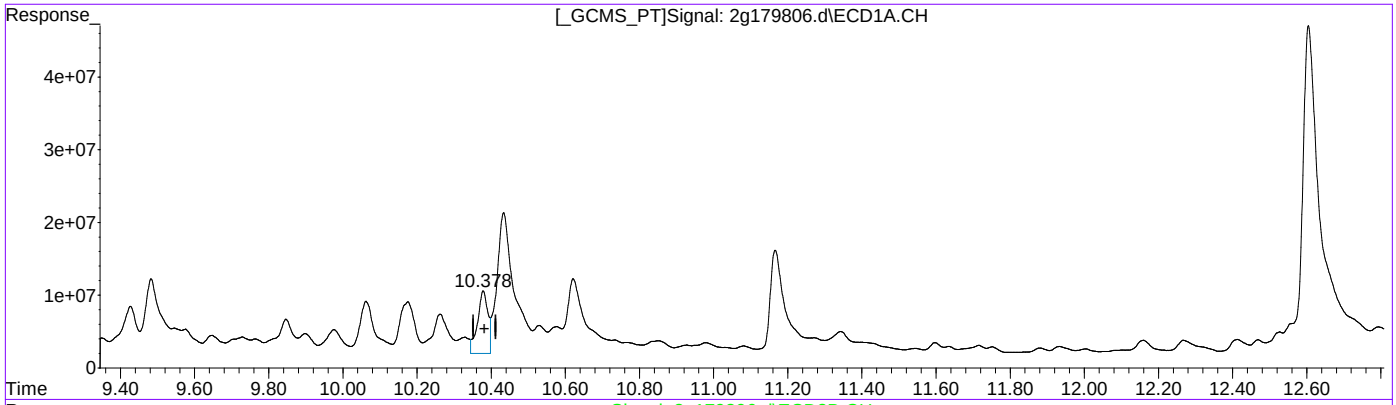
11.1.1.3
11

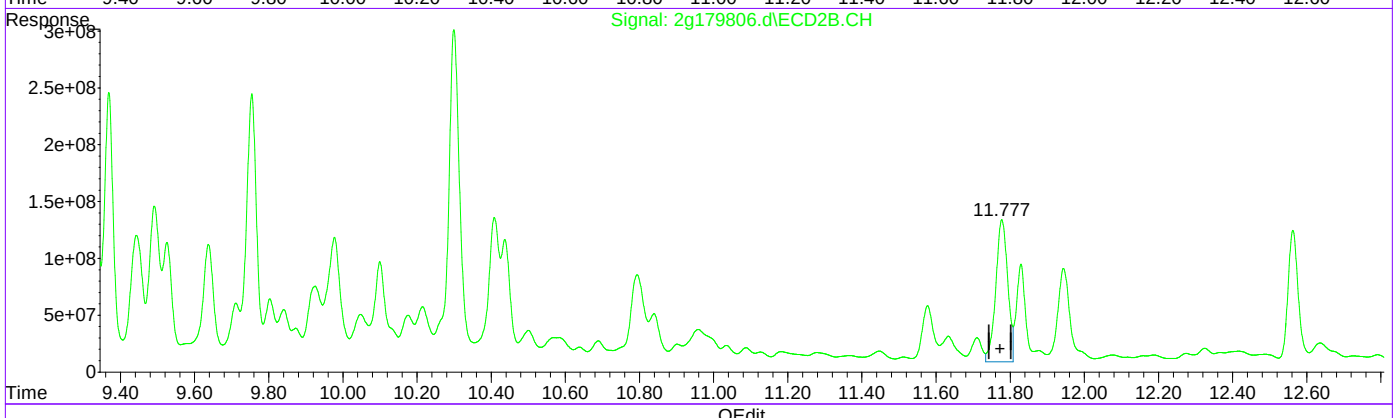
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179806.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:10 pm
Operator : tianweir
Sample : jc87535-13
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 83  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:15:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.379min 37.420 ppb

response 167743695

(51) Decachlorobiphenyl #2 (S)

11.778min 97.957 ppb

response 2805299553

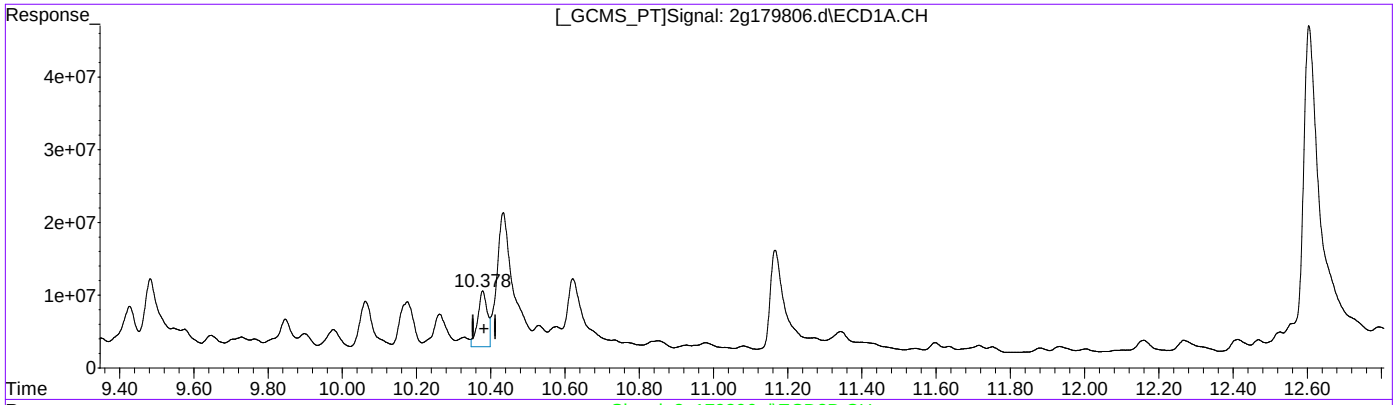
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:46:01 2019

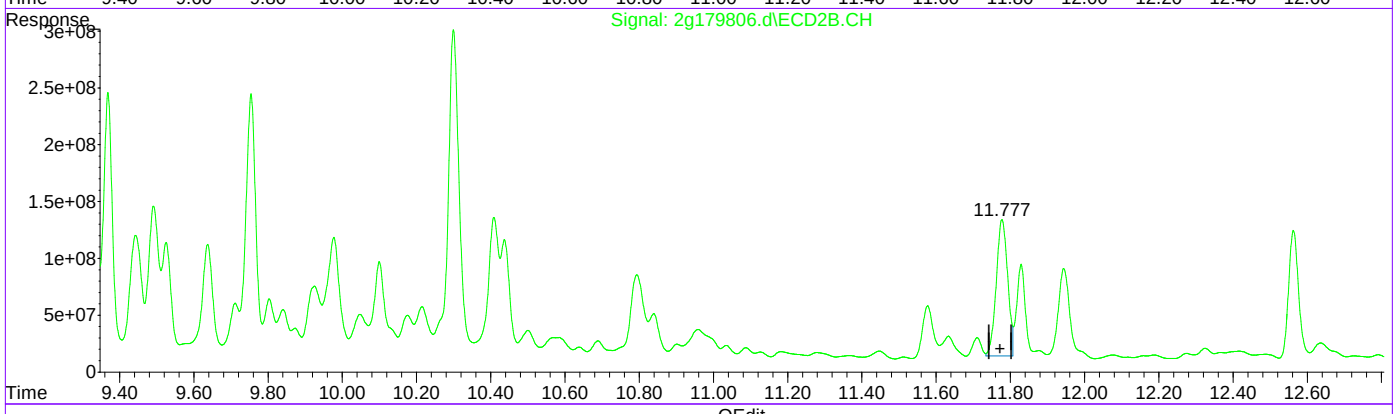
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179806.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:10 pm
Operator : tianweir
Sample : jc87535-13
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 83  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:15:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.378min 30.507 ppb m

response 136753965

(51) Decachlorobiphenyl #2 (S)

11.777min 89.289 ppb m

response 2557055470

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:46:47 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/17/19 10:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179807.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 10:27 pm
Operator : tianweir
Sample : jc87535-14
Misc : op20312,G2g4657,15.2,,,10,1
ALS Vial : 84 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:50:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|
| System Monitoring Compounds | | | | | | |
| 1) S Tetrachlo... | 3.055 | 3.471 | 109.0E6 | 661.2E6 | 27.753m | 24.497m |
| Spiked Amount 40.000 | | | Recovery | = | 69.38% | 61.24% |
| 51) S Decachlor... | 10.377 | 11.779 | 118.1E6 | 2937.9E6 | 26.335m | 102.587m# |
| Spiked Amount 40.000 | | | Recovery | = | 65.84% | 256.47% |
| Target Compounds | | | | | | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

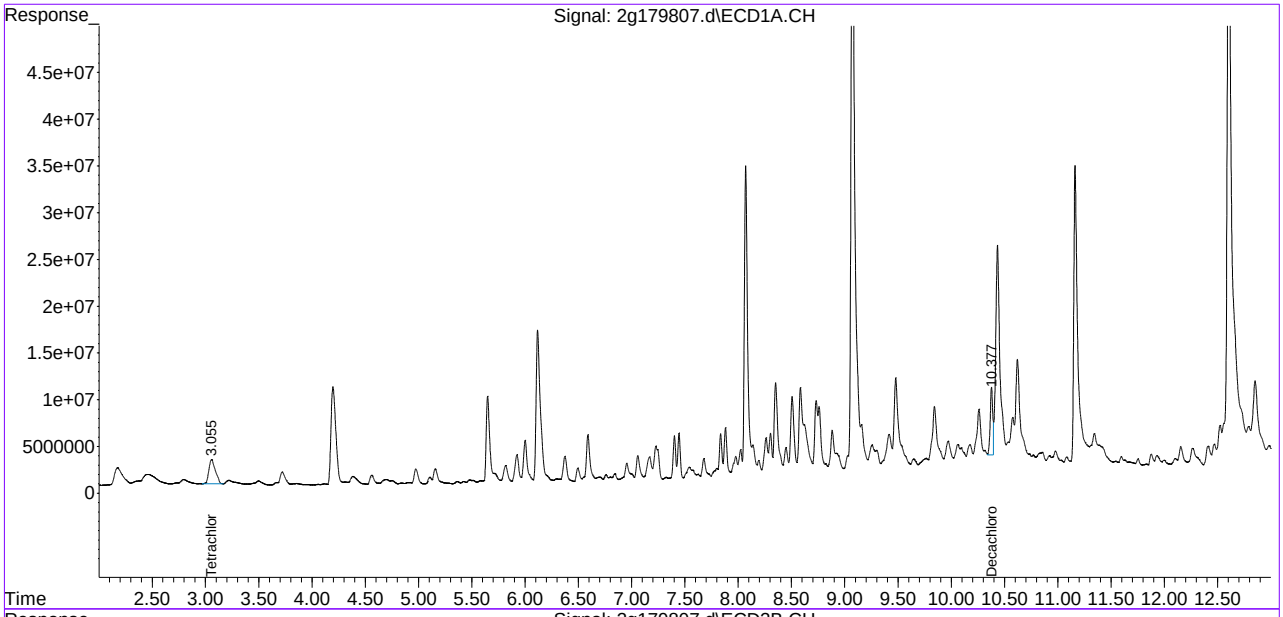
11.1.2 11

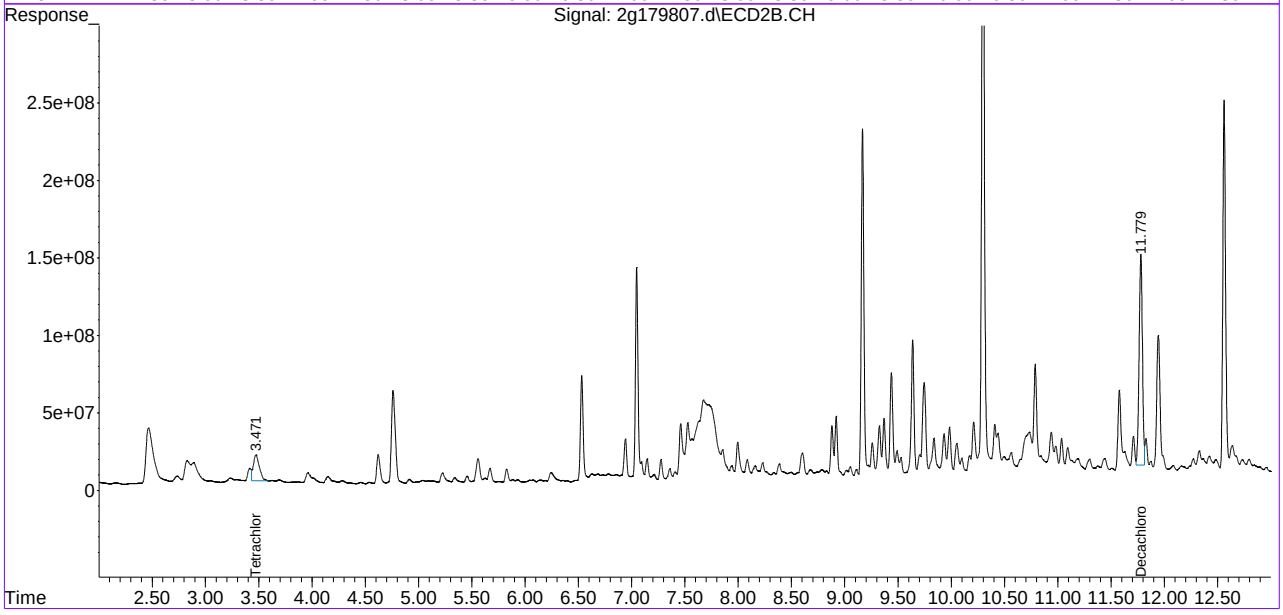
Quantitation Report (QT Reviewed)

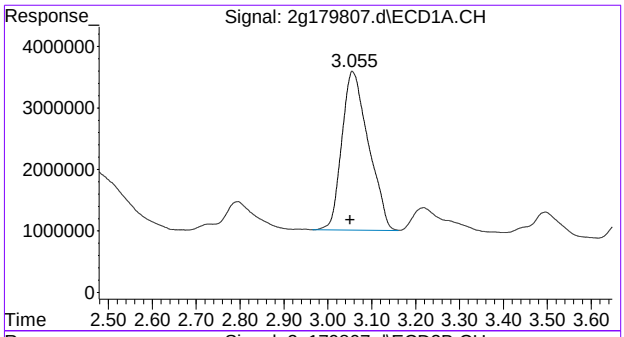
Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179807.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 10:27 pm
Operator : tianweir
Sample : jc87535-14
Misc : op20312,G2g4657,15.2,,,10,1
ALS Vial : 84 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:50:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

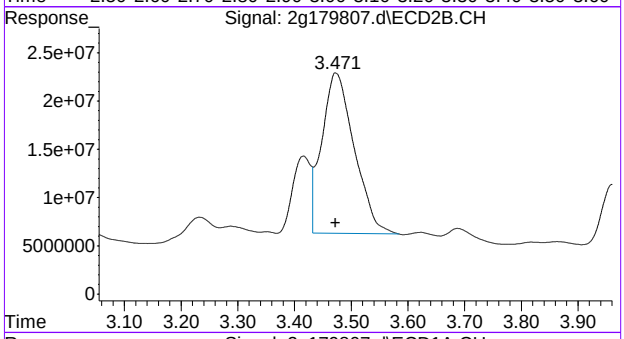




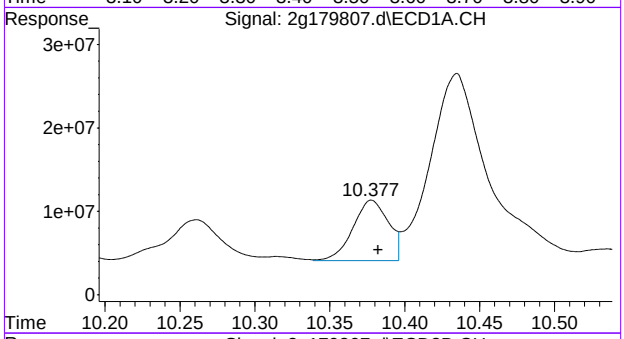

#1 Tetrachloro-m-xylene

R.T.: 3.055 min
Delta R.T.: 0.003 min
Response: 109039204
Conc: 27.75 ppb m



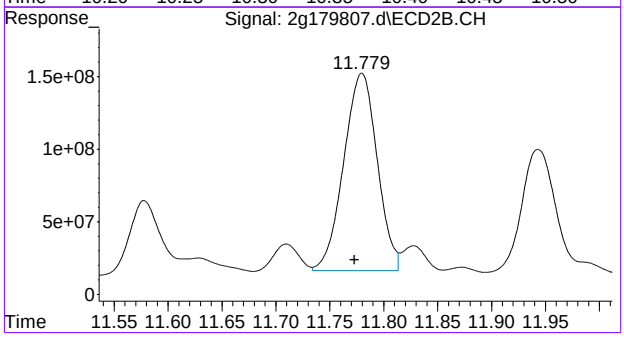

#1 Tetrachloro-m-xylene

R.T.: 3.471 min
Delta R.T.: 0.000 min
Response: 661157877
Conc: 24.50 ppb m




#51 Decachlorobiphenyl

R.T.: 10.377 min
Delta R.T.: -0.005 min
Response: 118051592
Conc: 26.34 ppb m




#51 Decachlorobiphenyl

R.T.: 11.779 min
Delta R.T.: 0.007 min
Response: 2937887139
Conc: 102.59 ppb m

# Manual Integration Approval Summary



**Sample Number:** JC87535-14
**Lab FileID:** 2G179807.D
**Injection Time:** 05/14/19 22:27
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 02:03 Sarah Cruz
**Supervisor approved:** 05/17/19 10:32 Gwendolyn Burns

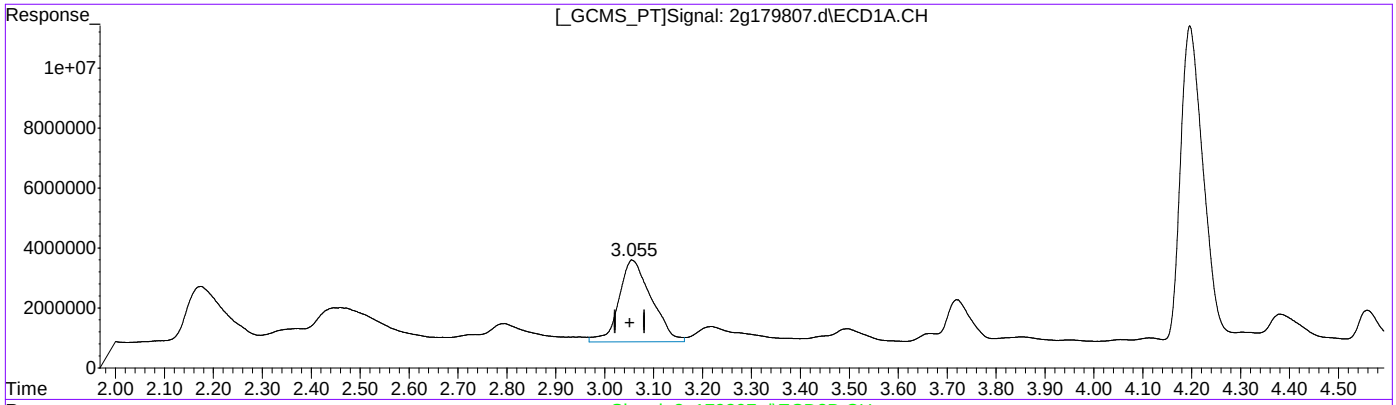
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Tetrachloro-m-xylene | 877-09-8 | 1 | 3.05 | Poorly defined baseline |
| Tetrachloro-m-xylene | 877-09-8 | 2 | 3.47 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 1 | 10.38 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 11.78 | Poorly defined baseline |

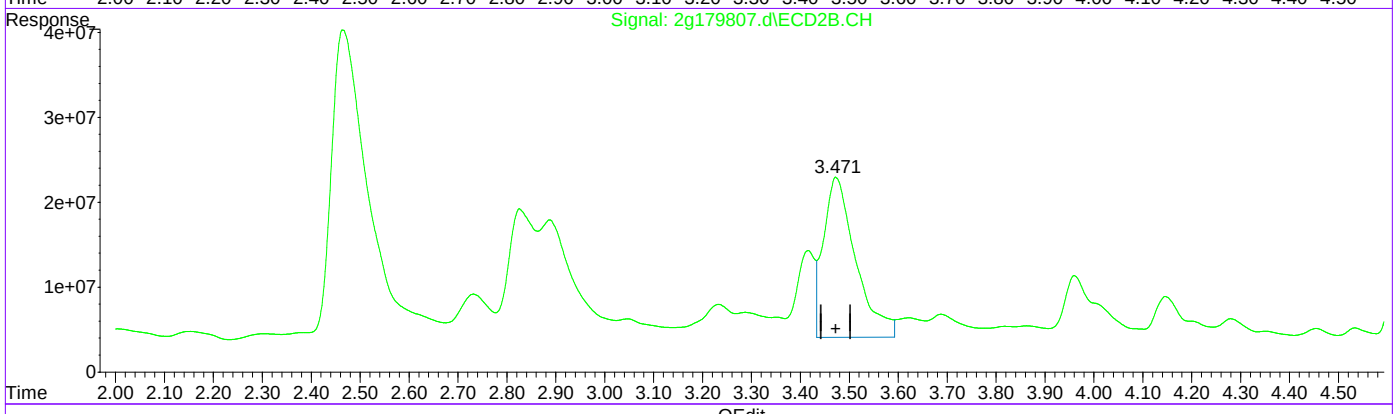
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179807.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:27 pm
Operator : tianweir
Sample : jc87535-14
Misc : op20312,G2g4657,15.2,,,10,1
ALS Vial : 84  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(1) Tetrachloro-m-xylene (S)

3.056min 32.082 ppb

response 126046743

(1) Tetrachloro-m-xylene #2 (S)

3.473min 32.065 ppb

response 865408126

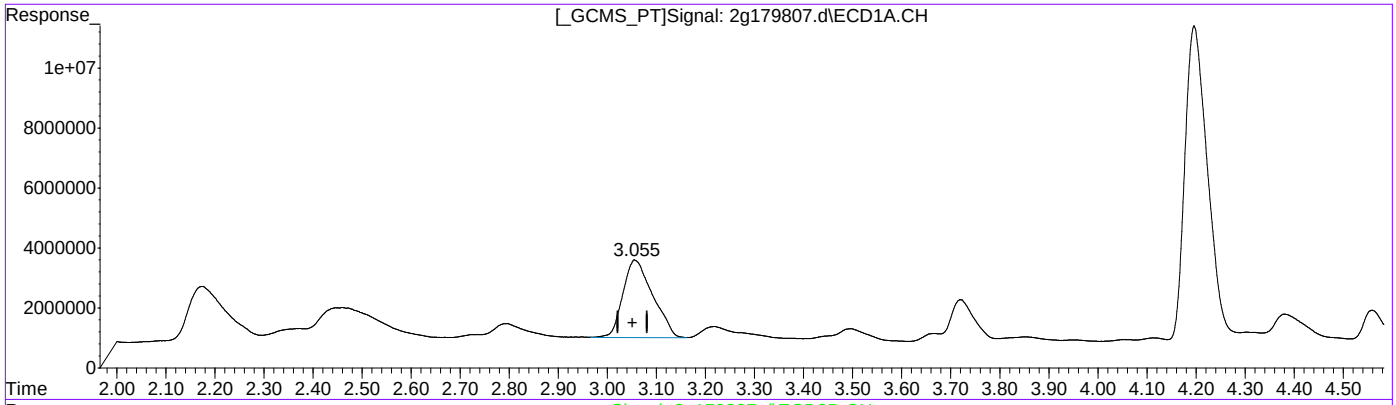
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:47:08 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179807.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:27 pm
Operator : tianweir
Sample : jc87535-14
Misc : op20312,G2g4657,15.2,,,10,1
ALS Vial : 84  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(1) Tetrachloro-m-xylene (S)

3.055min 27.753 ppb m

response 109039204

(1) Tetrachloro-m-xylene #2 (S)

3.471min 24.497 ppb m

response 661157877

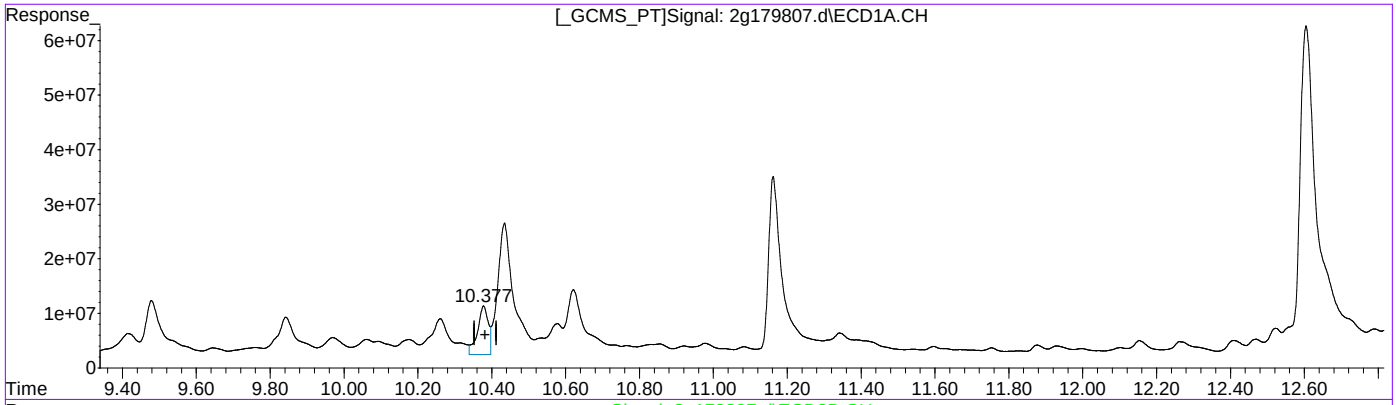
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:47:33 2019

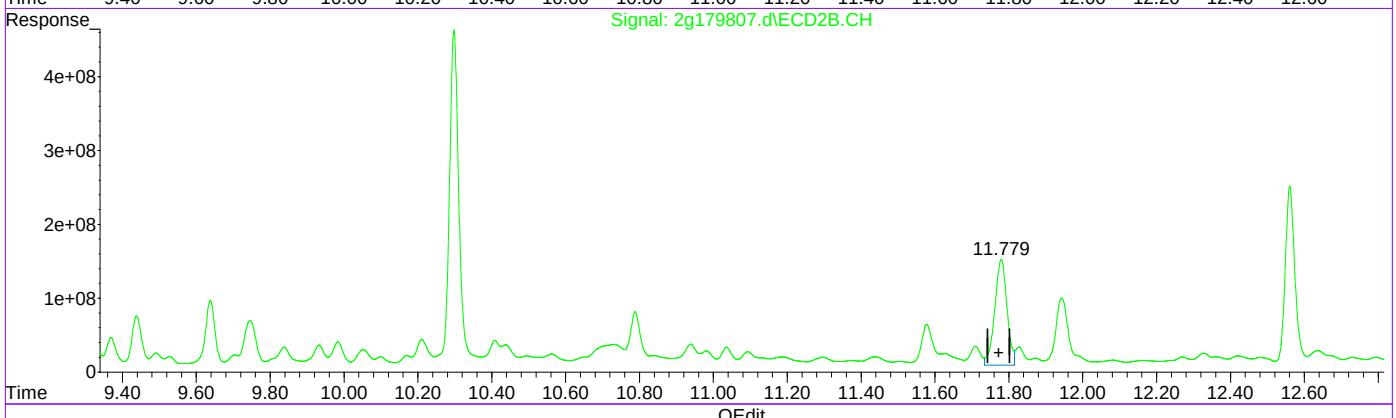
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179807.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:27 pm
Operator : tianweir
Sample : jc87535-14
Misc : op20312,G2g4657,15.2,,,10,1
ALS Vial : 84  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.378min 40.137 ppb

response 179921272

(51) Decachlorobiphenyl #2 (S)

11.780min 115.083 ppb

response 3295761592

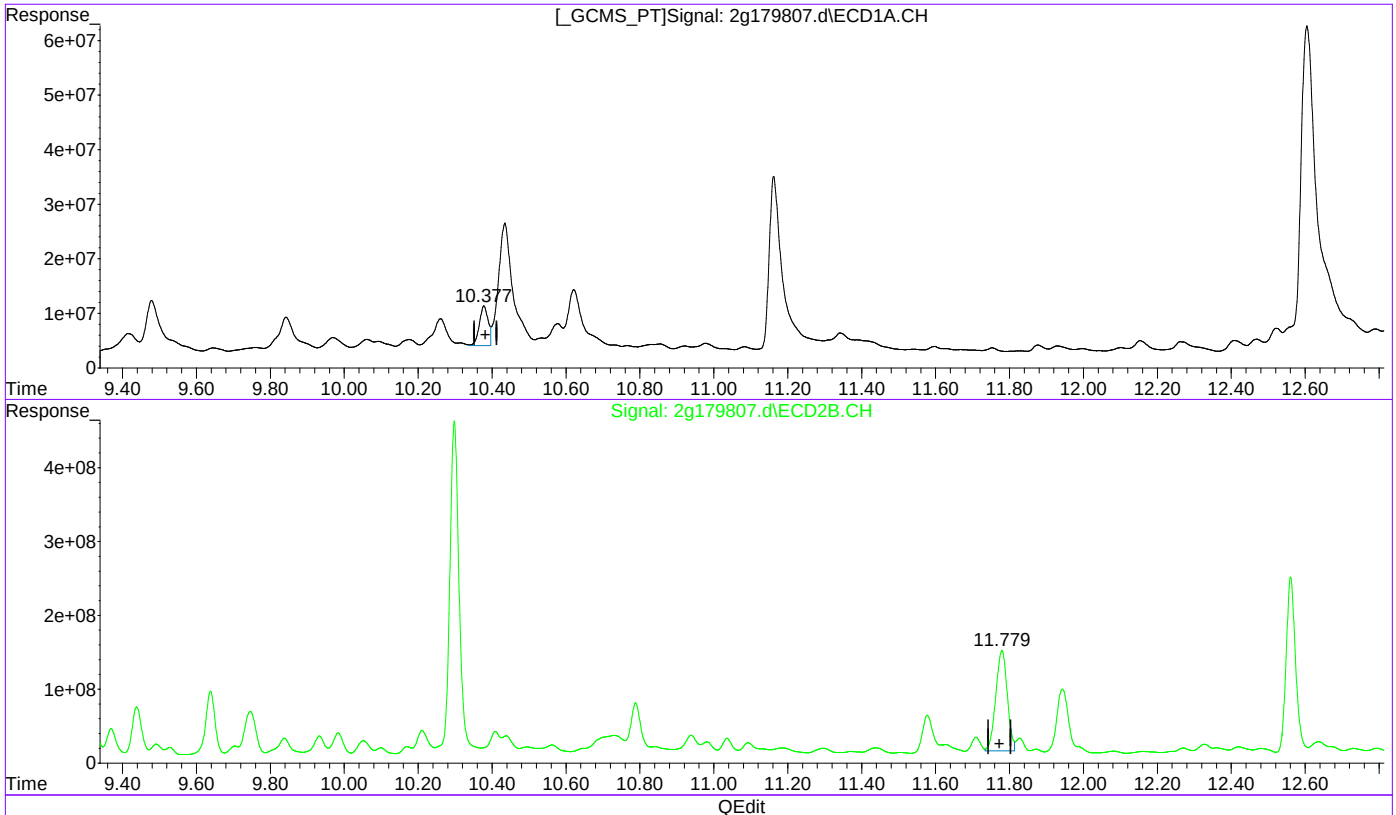
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:47:47 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179807.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:27 pm
Operator : tianweir
Sample : jc87535-14
Misc : op20312,G2g4657,15.2,,,10,1
ALS Vial : 84  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(51) Decachlorobiphenyl (S)

10.377min 26.335 ppb m

response 118051592

(51) Decachlorobiphenyl #2 (S)

11.779min 102.587 ppb m

response 2937887139

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:48:31 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/17/19 10:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179808.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 10:44 pm
Operator : tianweir
Sample : jc87535-15
Misc : op20312,G2g4657,16.4,,,10,1
ALS Vial : 85 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:53:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|
| System Monitoring Compounds | | | | | | |
| 1) S Tetrachlo... | 3.056 | 3.475 | 100.8E6 | 501.3E6 | 25.656 | 18.575m# |
| Spiked Amount 40.000 | | | Recovery | = | 64.14% | 46.44% |
| 51) S Decachlor... | 10.377 | 11.776 | 118.1E6 | 1701.8E6 | 26.355m | 59.425m# |
| Spiked Amount 40.000 | | | Recovery | = | 65.89% | 148.56% |
| Target Compounds | | | | | | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

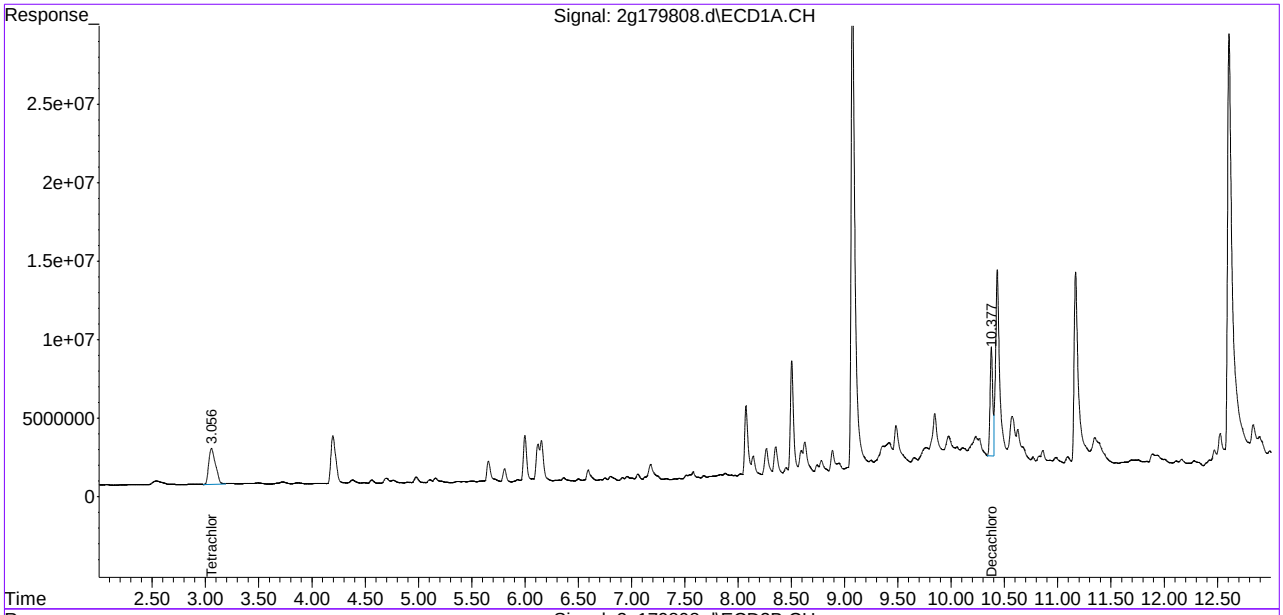
11.1.3 11

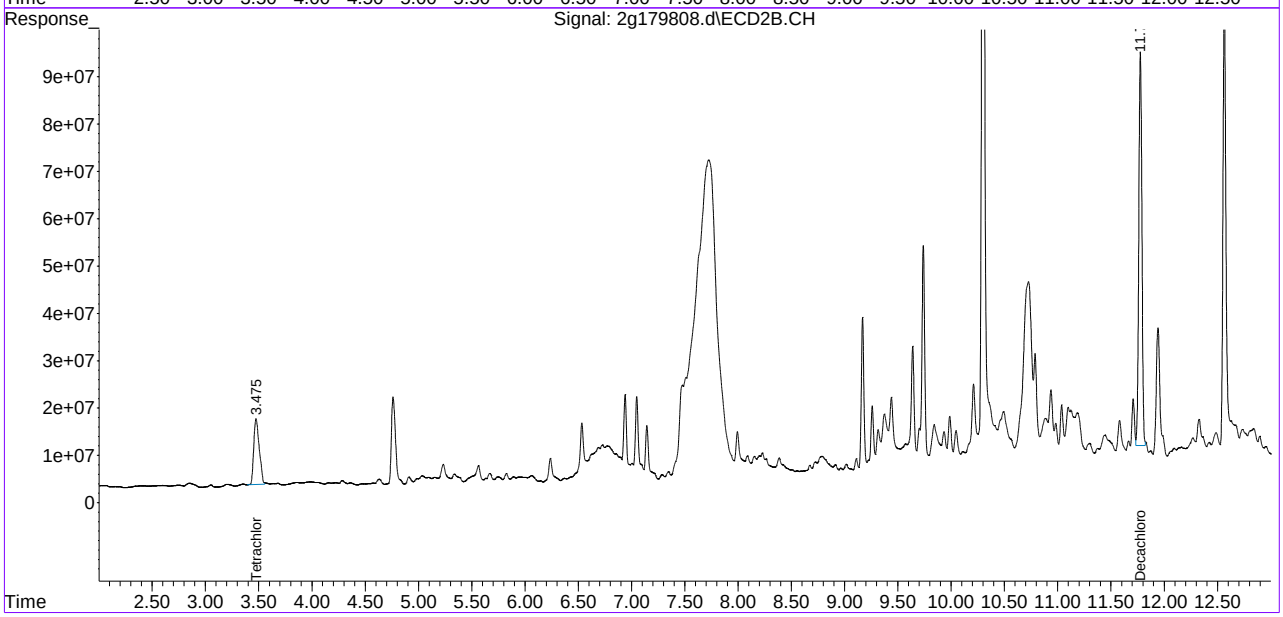
Quantitation Report (QT Reviewed)

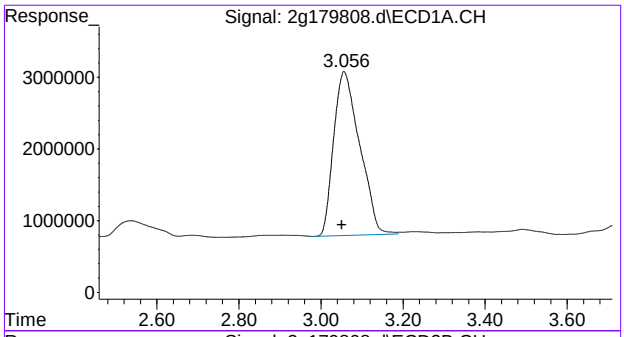
Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179808.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 10:44 pm
Operator : tianweir
Sample : jc87535-15
Misc : op20312,G2g4657,16.4,,,10,1
ALS Vial : 85 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:53:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

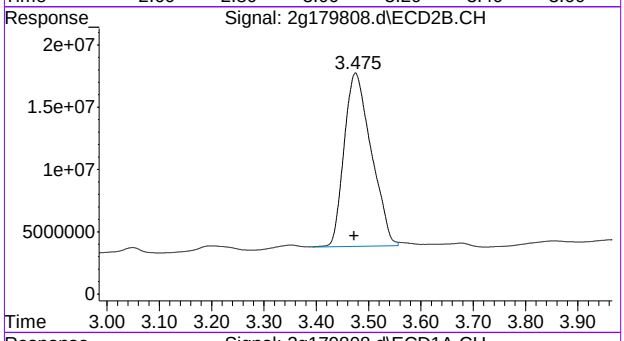




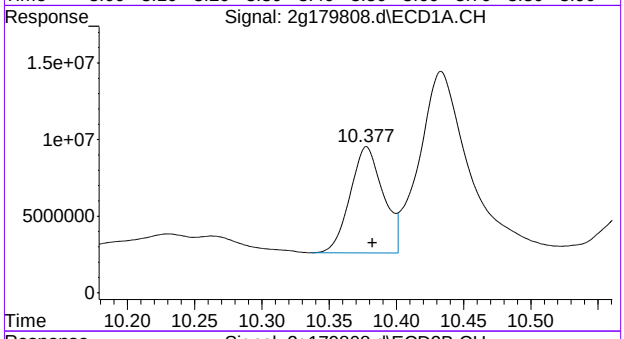

#1 Tetrachloro-m-xylene

R.T.: 3.056 min
Delta R.T.: 0.005 min
Response: 100801133
Conc: 25.66 ppb



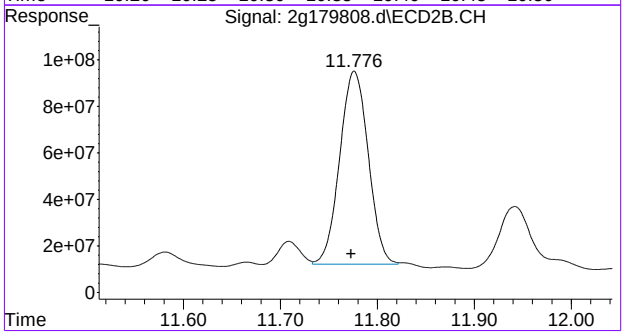

#1 Tetrachloro-m-xylene

R.T.: 3.475 min
Delta R.T.: 0.003 min
Response: 501321552
Conc: 18.58 ppb m




#51 Decachlorobiphenyl

R.T.: 10.377 min
Delta R.T.: -0.005 min
Response: 118141364
Conc: 26.36 ppb m




#51 Decachlorobiphenyl

R.T.: 11.776 min
Delta R.T.: 0.003 min
Response: 1701818206
Conc: 59.43 ppb m

# Manual Integration Approval Summary



**Sample Number:** JC87535-15
**Lab FileID:** 2G179808.D
**Injection Time:** 05/14/19 22:44
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 02:03 Sarah Cruz
**Supervisor approved:** 05/17/19 10:32 Gwendolyn Burns

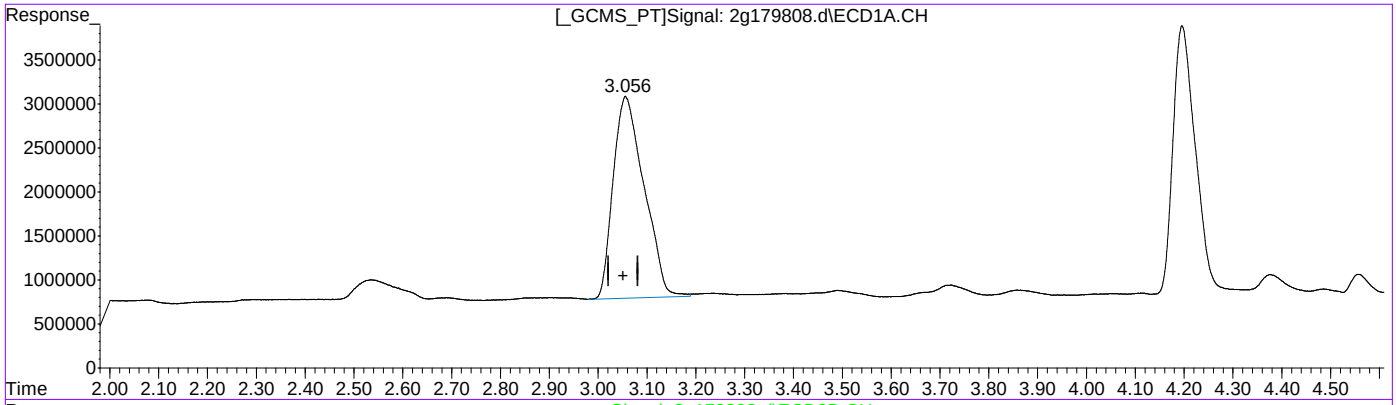
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Tetrachloro-m-xylene | 877-09-8 | 2 | 3.47 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 1 | 10.38 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 11.78 | Poorly defined baseline |

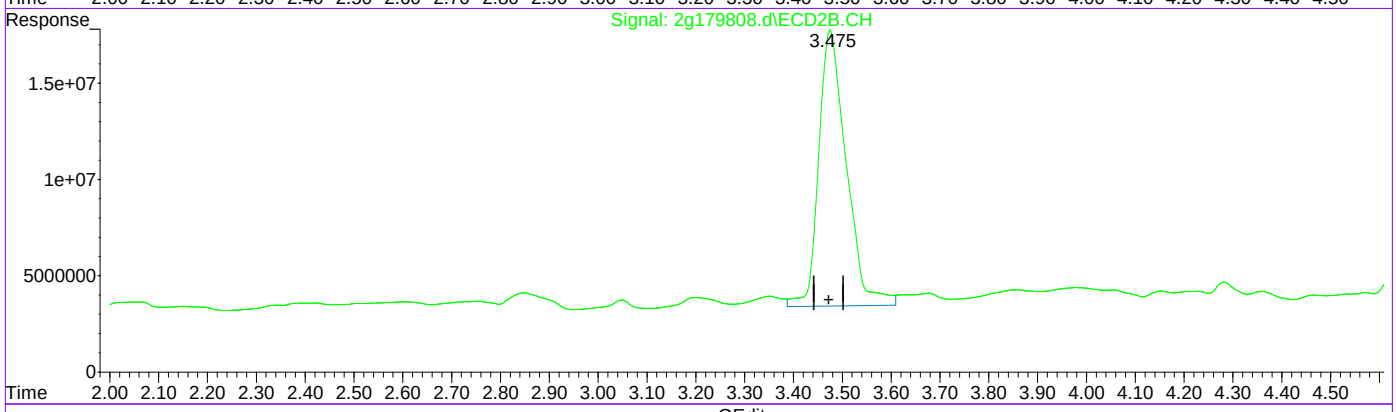
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179808.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:44 pm
Operator : tianweir
Sample : jc87535-15
Misc : op20312,G2g4657,16.4,,,10,1
ALS Vial : 85  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u  Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(1) Tetrachloro-m-xylene (S)

3.056min 25.656 ppb

response 100801133

(1) Tetrachloro-m-xylene #2 (S)

3.475min 20.826 ppb

response 562081200

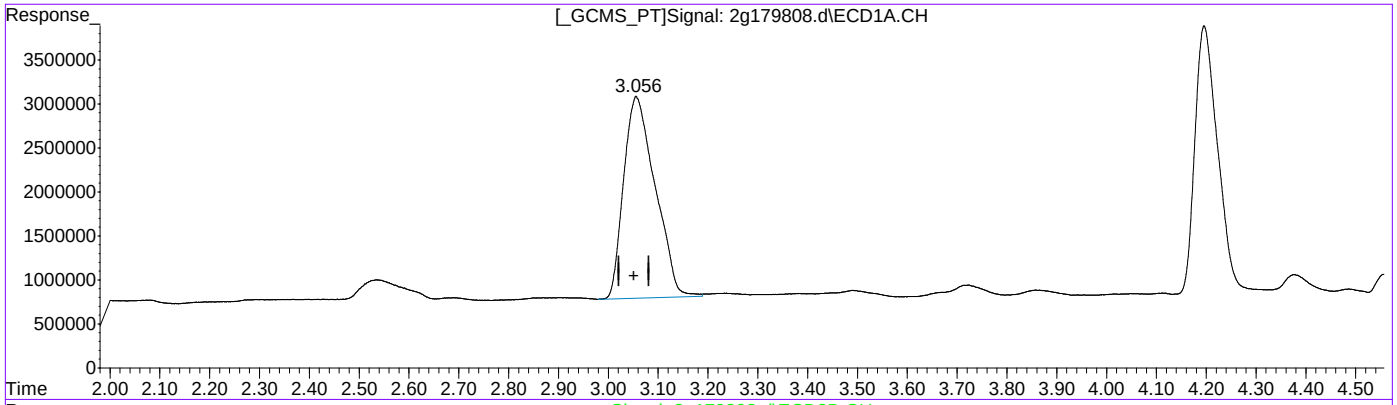
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:50:50 2019

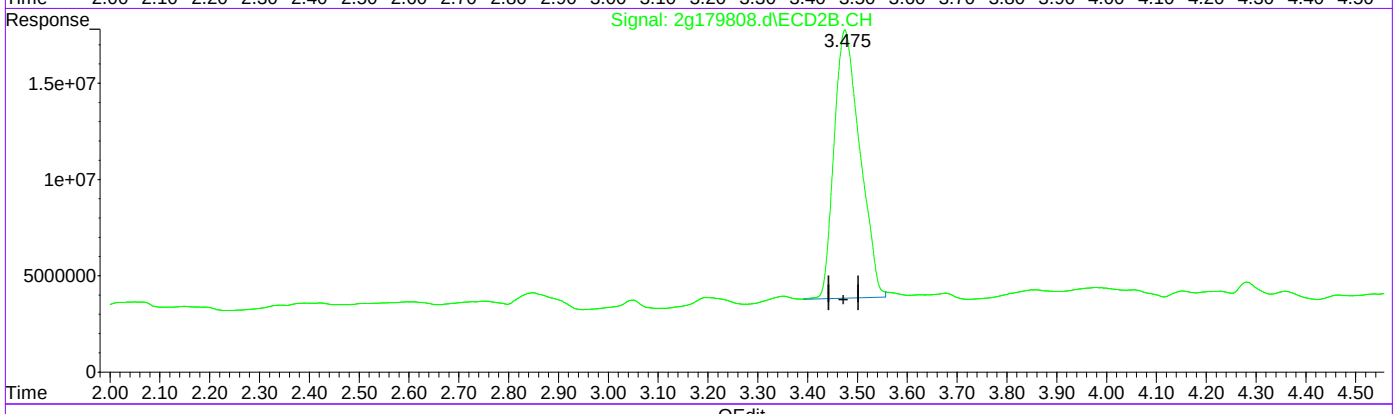
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179808.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:44 pm
Operator : tianweir
Sample : jc87535-15
Misc : op20312,G2g4657,16.4,,,10,1
ALS Vial : 85  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(1) Tetrachloro-m-xylene (S)

3.056min 25.656 ppb

response 100801133

(1) Tetrachloro-m-xylene #2 (S)

3.475min 18.575 ppb m

response 501321552

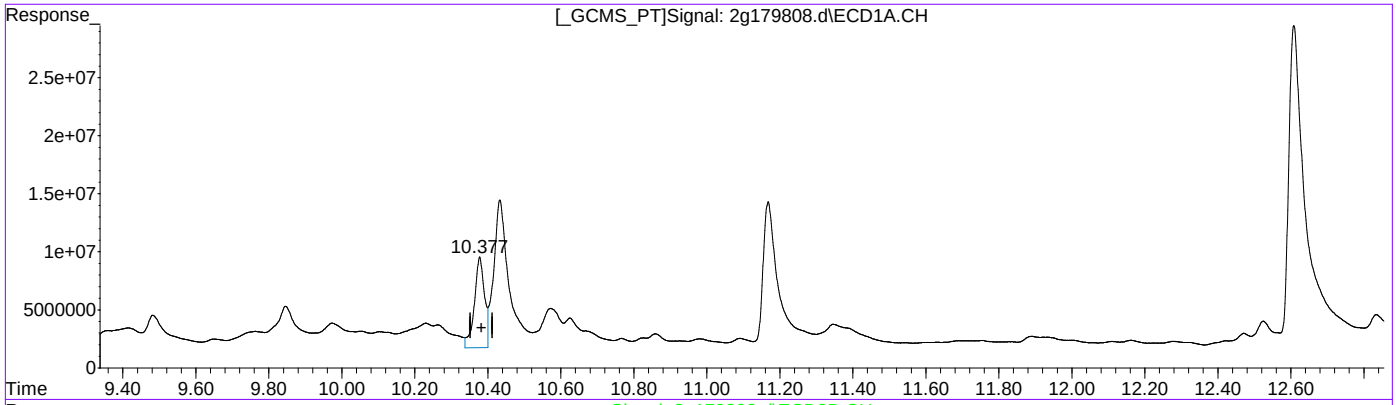
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:51:09 2019

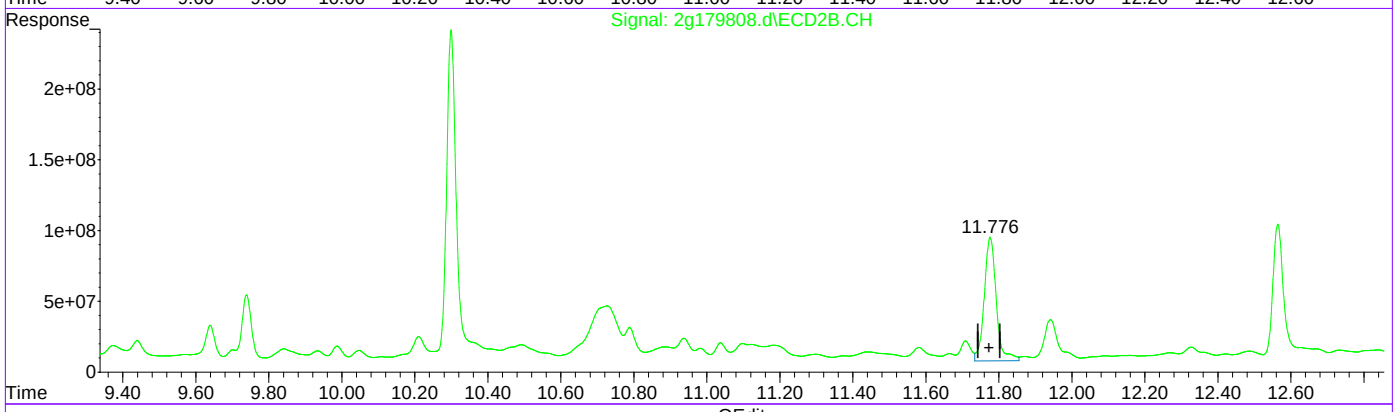
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179808.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:44 pm
Operator : tianweir
Sample : jc87535-15
Misc : op20312,G2g4657,16.4,,,10,1
ALS Vial : 85  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u  Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.378min 33.453 ppb

response 149958456

(51) Decachlorobiphenyl #2 (S)

11.776min 69.743 ppb

response 1997307378

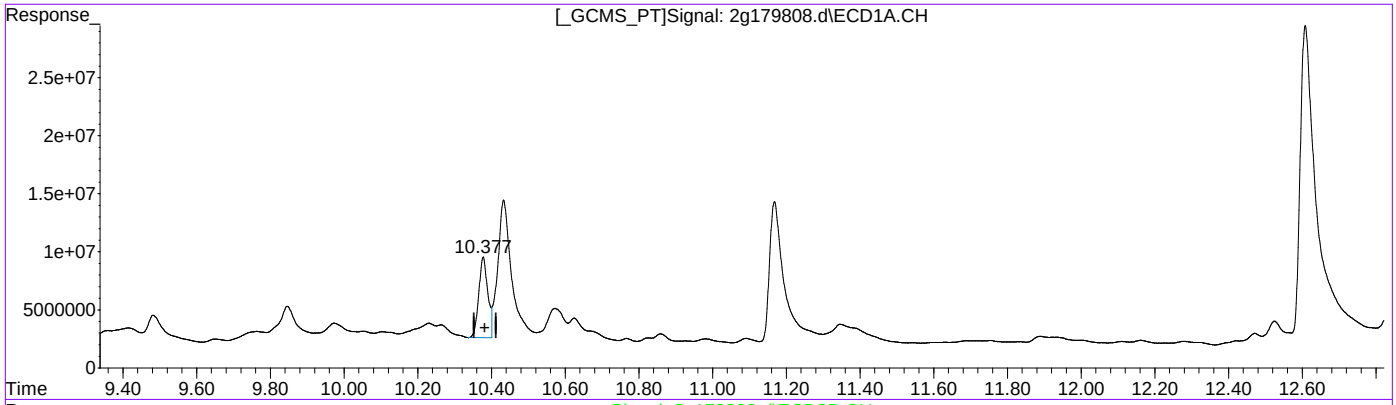
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:51:28 2019

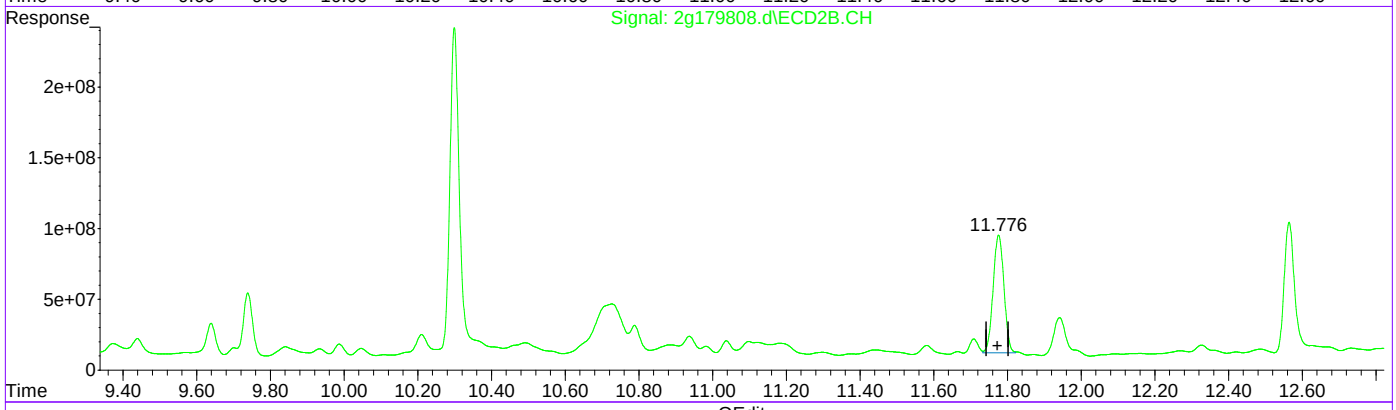
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179808.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  10:44 pm
Operator : tianweir
Sample : jc87535-15
Misc : op20312,G2g4657,16.4,,,10,1
ALS Vial : 85  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:16:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.377min 26.355 ppb m

response 118141364

(51) Decachlorobiphenyl #2 (S)

11.776min 59.425 ppb m

response 1701818206

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:52:03 2019

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88436.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 10:22 am
Operator : summerk
Sample : op20312-mb1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:38:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|
| System Monitoring Compounds | | | | | | |
| 1) S Tetrachlo... | 3.604 | 4.376 | 989.9E6 | 475.9E6 | 34.563 | 38.345 |
| Spiked Amount 40.000 | | | Recovery | = | 86.41% | 95.86% |
| 51) S Decachlor... | 19.105 | 22.604 | 890.0E6 | 442.7E6 | 35.793 | 36.614 |
| Spiked Amount 40.000 | | | Recovery | = | 89.48% | 91.53% |
| Target Compounds | | | | | | |

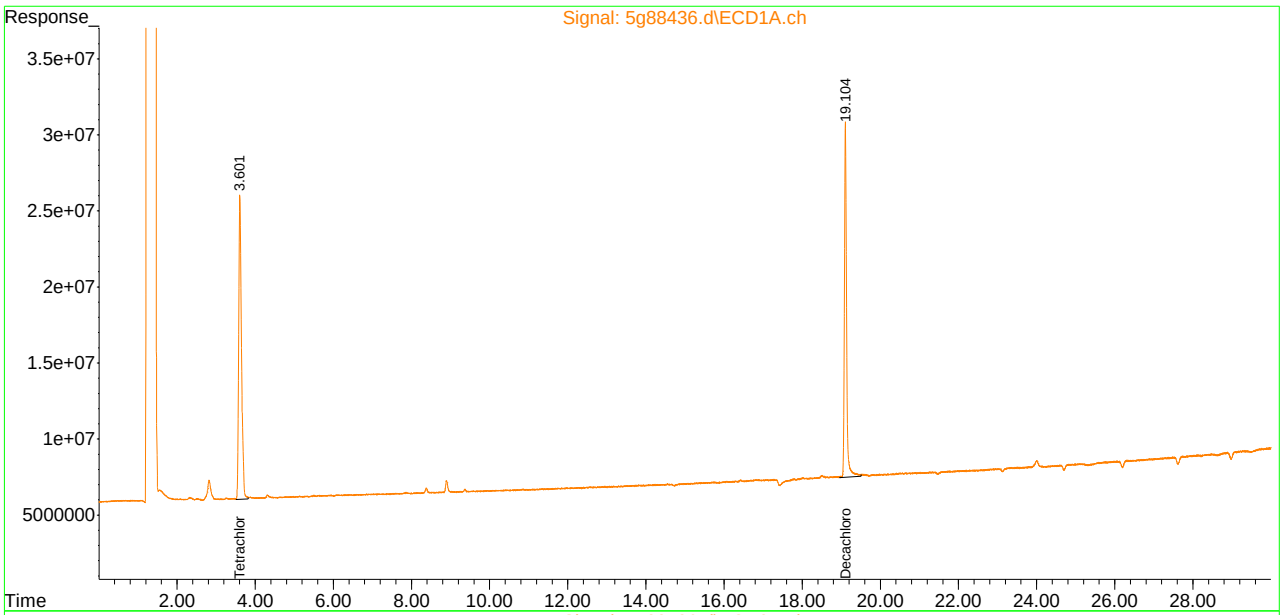
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88436.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 10:22 am
Operator : summerk
Sample : op20312-mb1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:38:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179804.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 9:36 pm
Operator : tianweir
Sample : op20312-mb1
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 81 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:37:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.065 | 3.469 | 132.3E6 | 873.1E6 | 33.685 | 32.350 |
| | Spiked Amount 40.000 | | | Recovery | = | 84.21% | 80.88% |
| 51) S | Decachlor... | 10.394 | 11.772 | 163.7E6 | 888.4E6 | 36.519 | 31.021 |
| | Spiked Amount 40.000 | | | Recovery | = | 91.30% | 77.55% |
| | Target Compounds | | | | | | |

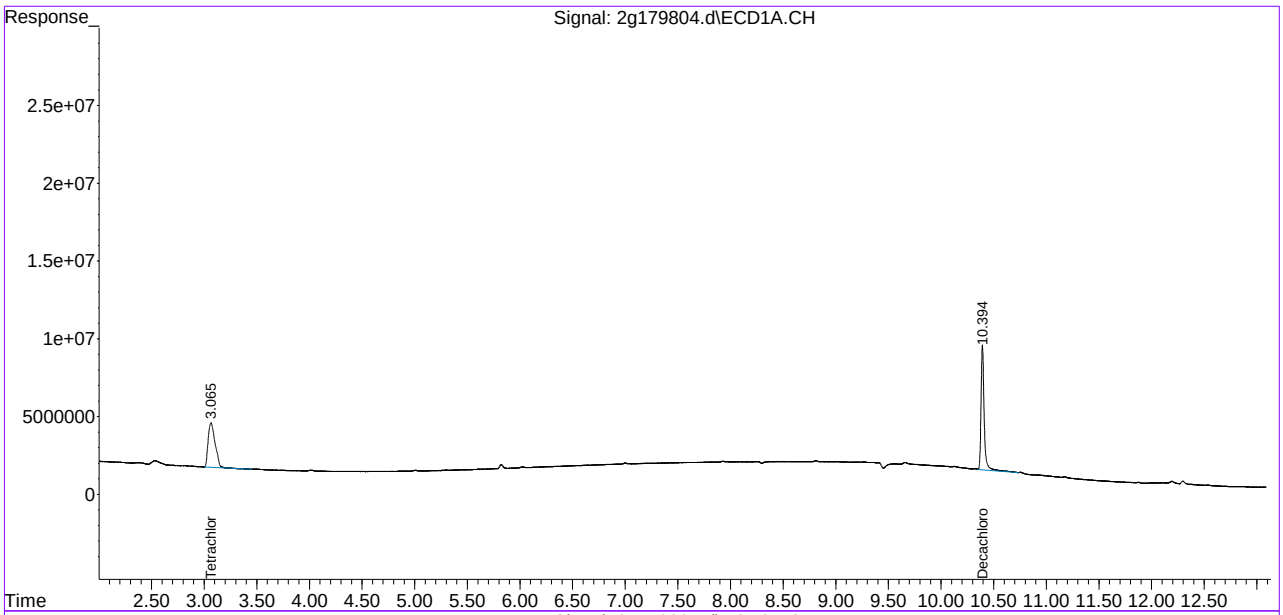
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

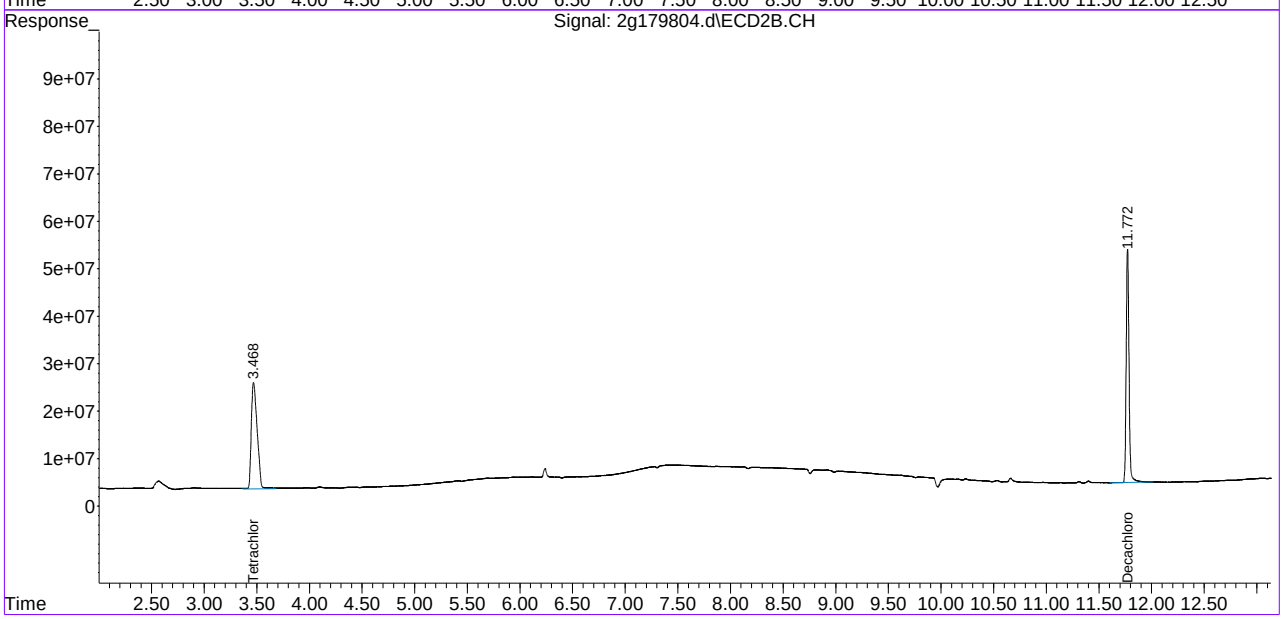
Quantitation Report (QT Reviewed)

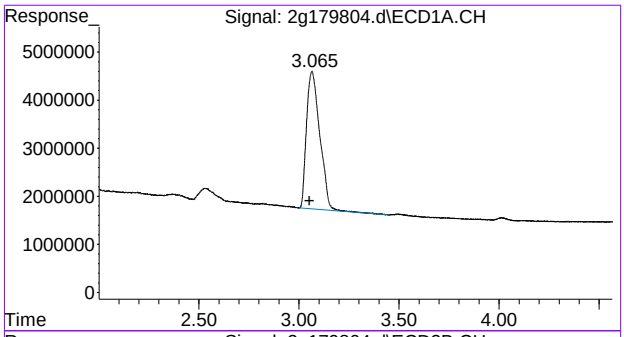
Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179804.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 9:36 pm
Operator : tianweir
Sample : op20312-mb1
Misc : op20312,G2g4657,15.0,,,10,1
ALS Vial : 81 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:37:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

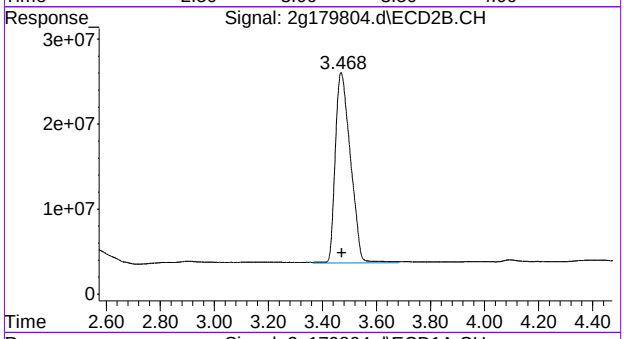




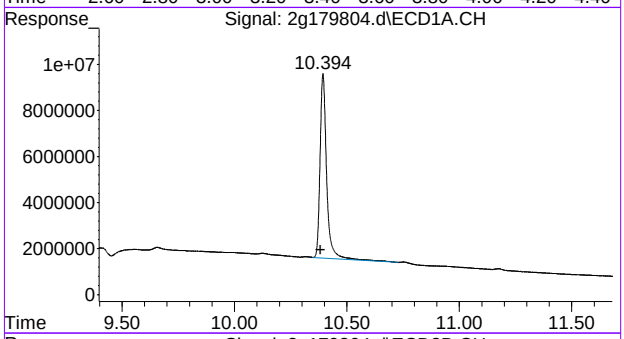

#1 Tetrachloro-m-xylene

R.T.: 3.065 min
Delta R.T.: 0.014 min
Response: 132346632
Conc: 33.69 ppb



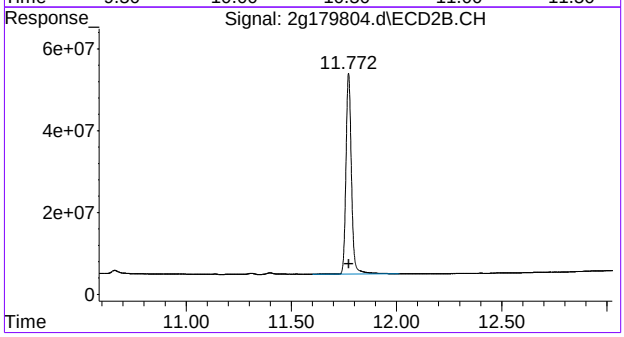

#1 Tetrachloro-m-xylene

R.T.: 3.469 min
Delta R.T.: -0.003 min
Response: 873103397
Conc: 32.35 ppb




#51 Decachlorobiphenyl

R.T.: 10.394 min
Delta R.T.: 0.012 min
Response: 163704073
Conc: 36.52 ppb




#51 Decachlorobiphenyl

R.T.: 11.772 min
Delta R.T.: 0.000 min
Response: 888389716
Conc: 31.02 ppb

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/15/19 14:51

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:42:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.603 | 4.379 | 1127.9E6 | 551.9E6 | 39.382 | 44.463 |
| | Spiked Amount 40.000 | | | Recovery | = | 98.45% | 111.16% |
| 51) S | Decachlor... | 19.106 | 22.608 | 974.8E6 | 484.0E6 | 39.203 | 40.029 |
| | Spiked Amount 40.000 | | | Recovery | = | 98.01% | 100.07% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.282 | 5.569 | 110.8E6 | 52562030 | 210.384 | 234.896 |
| 42) | AR1016-B | 5.001 | 6.603 | 213.0E6 | 103.8E6 | 209.434 | 223.574 |
| 43) | AR1016-C | 6.068 | 7.873 | 393.5E6 | 216.8E6 | 185.772m | 207.599 |
| 44) | AR1016-D | 6.381 | 8.251 | 178.2E6 | 84505567 | 200.426 | 212.757 |
| 45) | AR1016-E | 7.405f | 9.637 | 181.2E6 | 64410418 | 200.403m | 206.119 |
| 46) | AR1260-A | 12.543 | 15.444 | 396.0E6 | 189.5E6 | 189.186m | 191.723m |
| 47) | AR1260-B | 12.916 | 15.734 | 256.9E6 | 127.7E6 | 209.347 | 213.660 |
| 48) | AR1260-C | 13.666 | 16.698 | 241.1E6 | 123.1E6 | 189.436 | 211.578 |
| 49) | AR1260-D | 14.669 | 17.542 | 535.3E6 | 282.7E6 | 178.939 | 190.195 |
| 50) | AR1260-E | 15.551 | 18.763 | 595.6E6 | 266.5E6 | 180.466m | 181.128m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

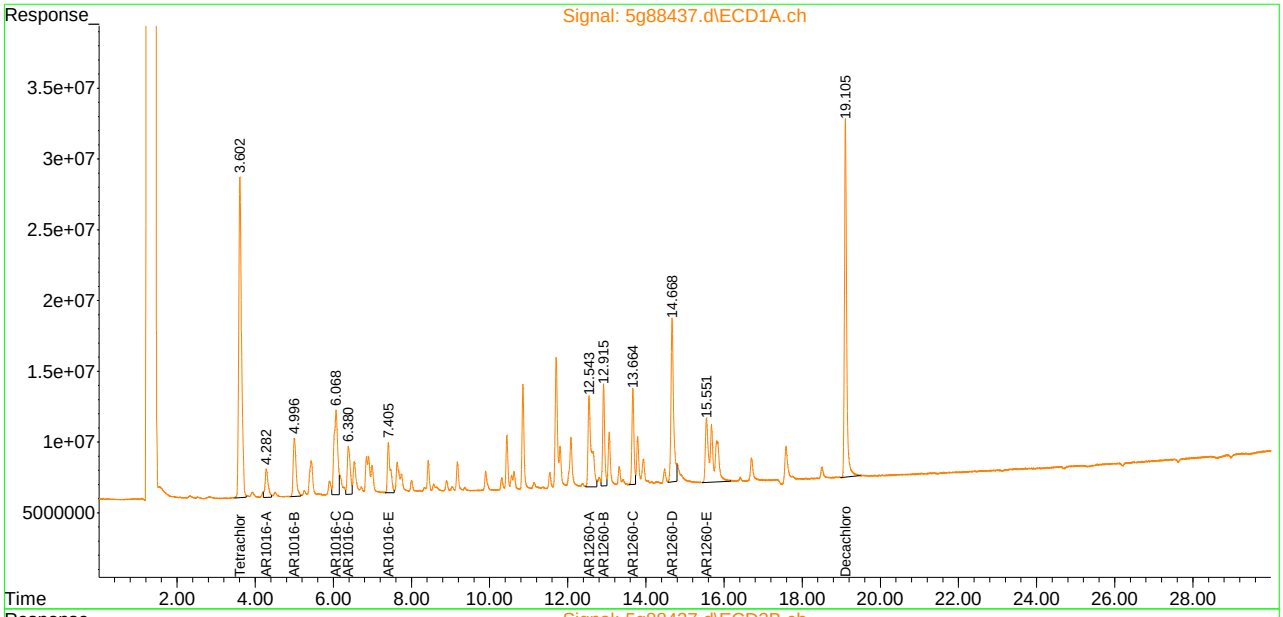
11.3.1 11

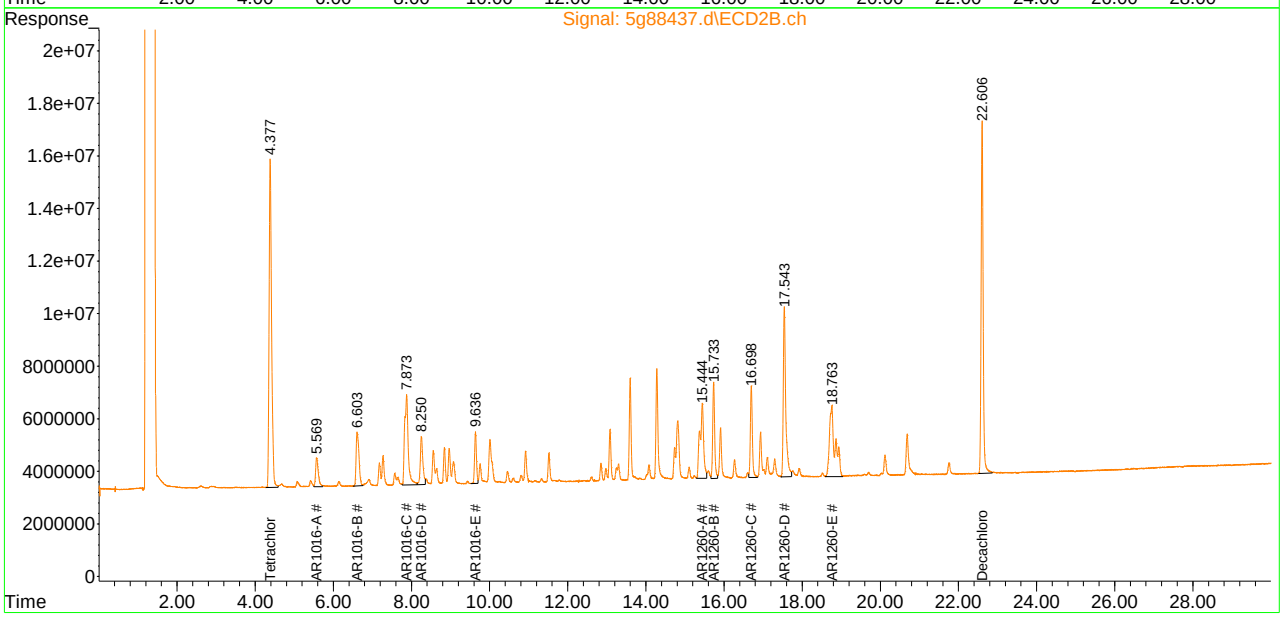
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:42:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



**Sample Number:** OP20312-BS1
**Lab FileID:** 5G88437.D
**Injection Time:** 05/14/19 10:54
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 14:14 Syra Marie Pacheco
**Supervisor approved:** 05/15/19 14:51 Gwendolyn Burns

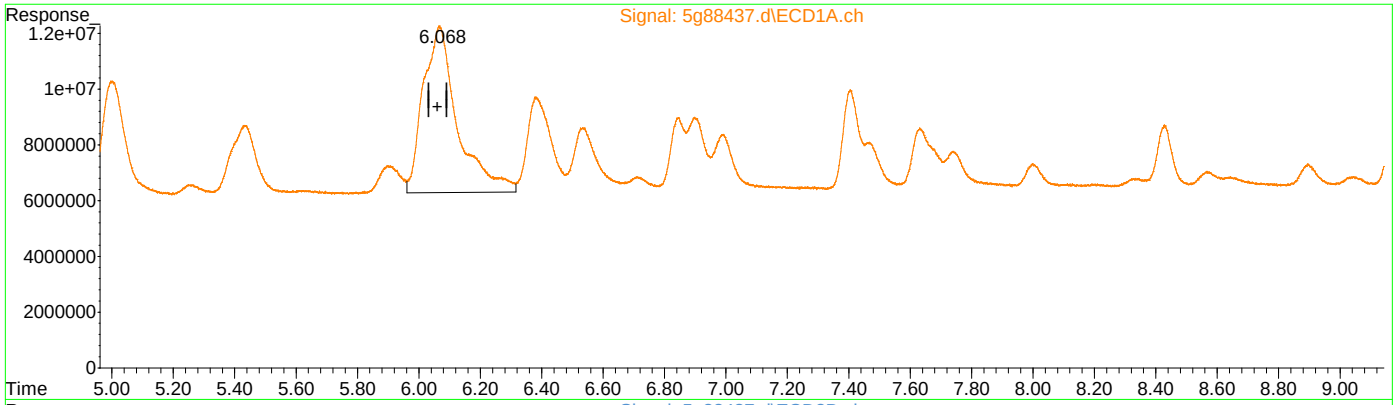
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1016-C | | 1 | 6.07 | Poorly defined baseline |
| AR1016-E | | 1 | 7.40 | Poorly defined baseline |
| AR1260-A | | 1 | 12.54 | Poorly defined baseline |
| AR1260-A | | 2 | 15.44 | Poorly defined baseline |
| AR1260-E | | 1 | 15.55 | Poorly defined baseline |
| AR1260-E | | 2 | 18.76 | Poorly defined baseline |

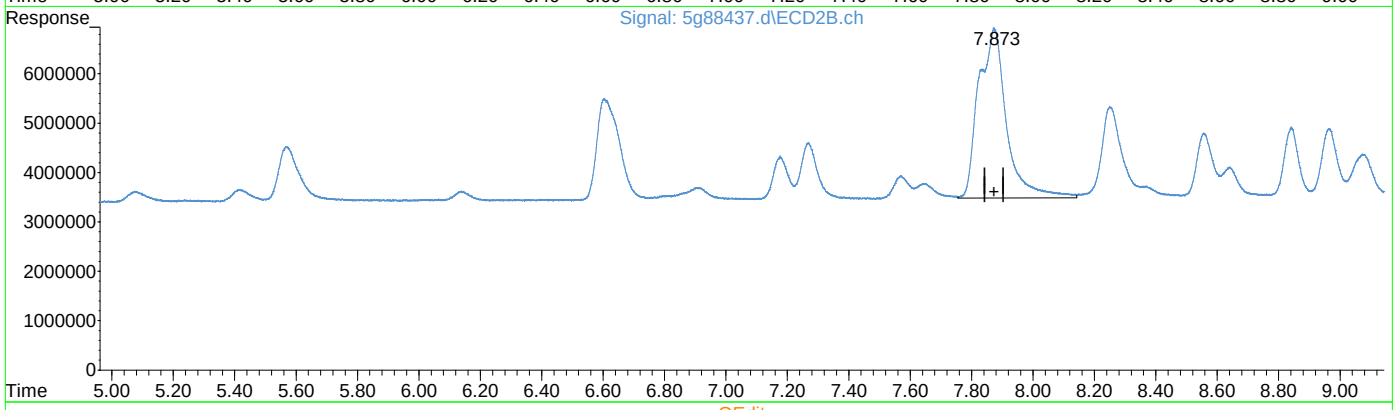
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.067min 218.081 PPB

response 461904894

(43) AR1016-C #2

7.873min 207.599 PPB

response 216800535

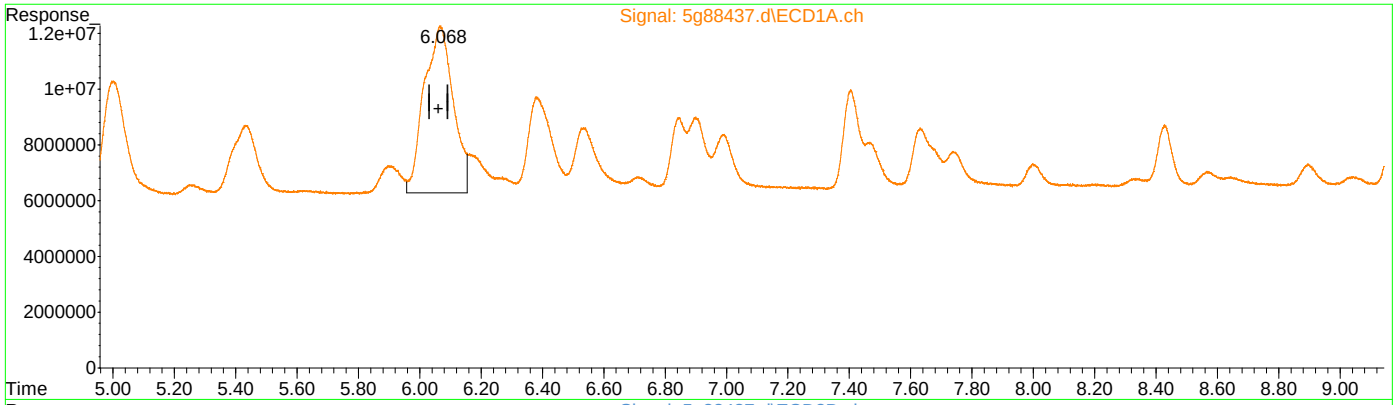
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:39:54 2019

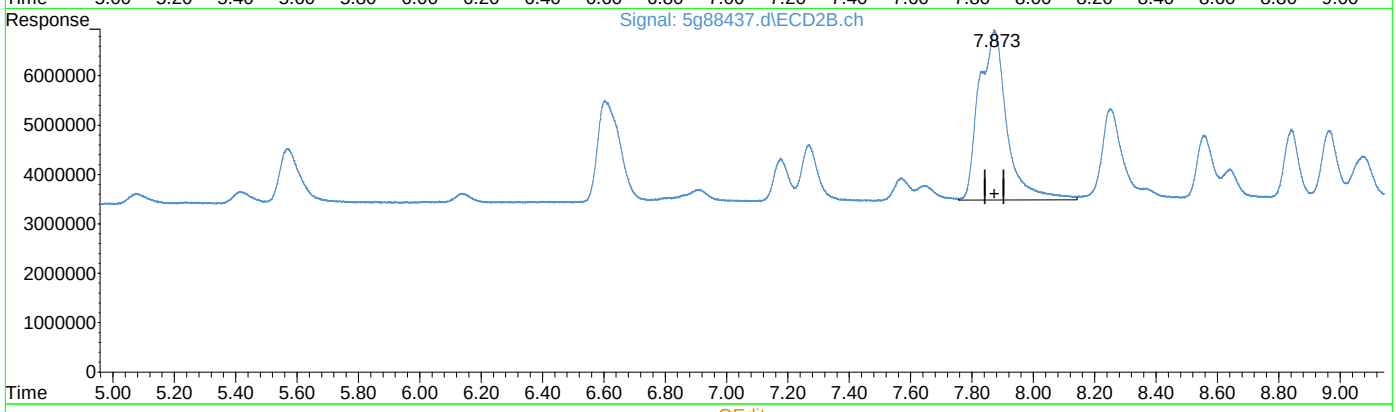
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.068min 185.772 PPB m

response 393473044

(43) AR1016-C #2

7.873min 207.599 PPB

response 216800535

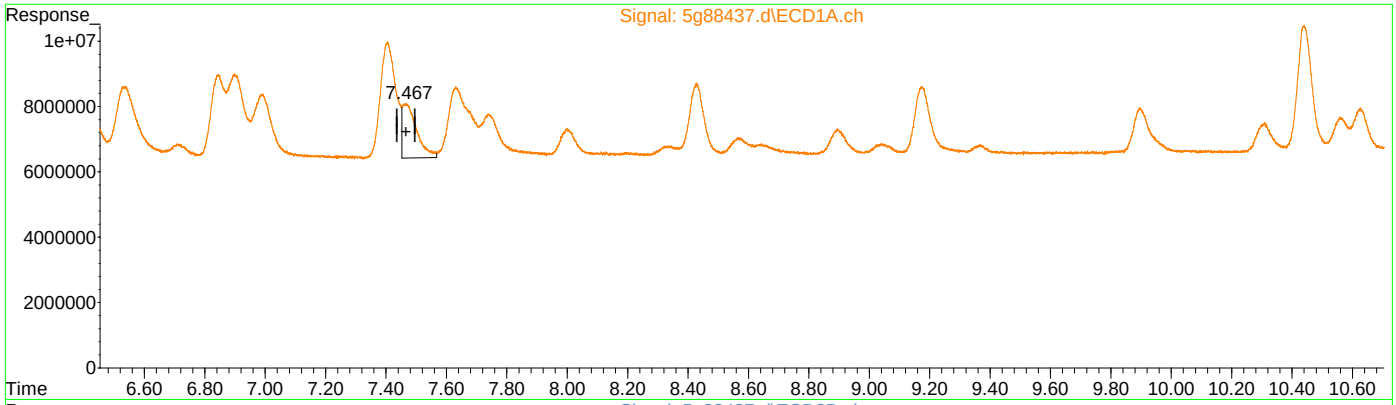
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:40:38 2019

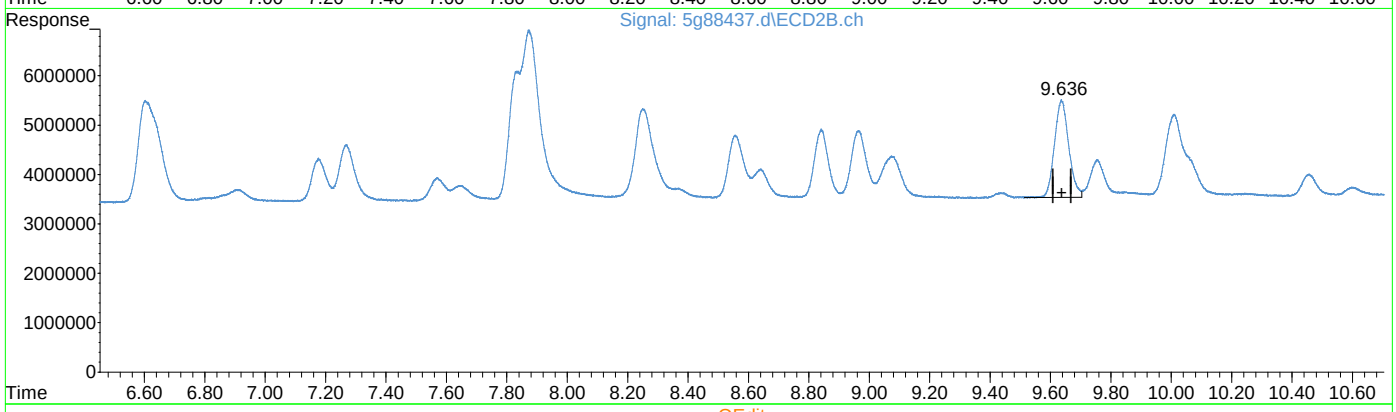
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.464min 60.760 PPB

response 54937940

(45) AR1016-E #2

9.637min 206.119 PPB

response 64410418

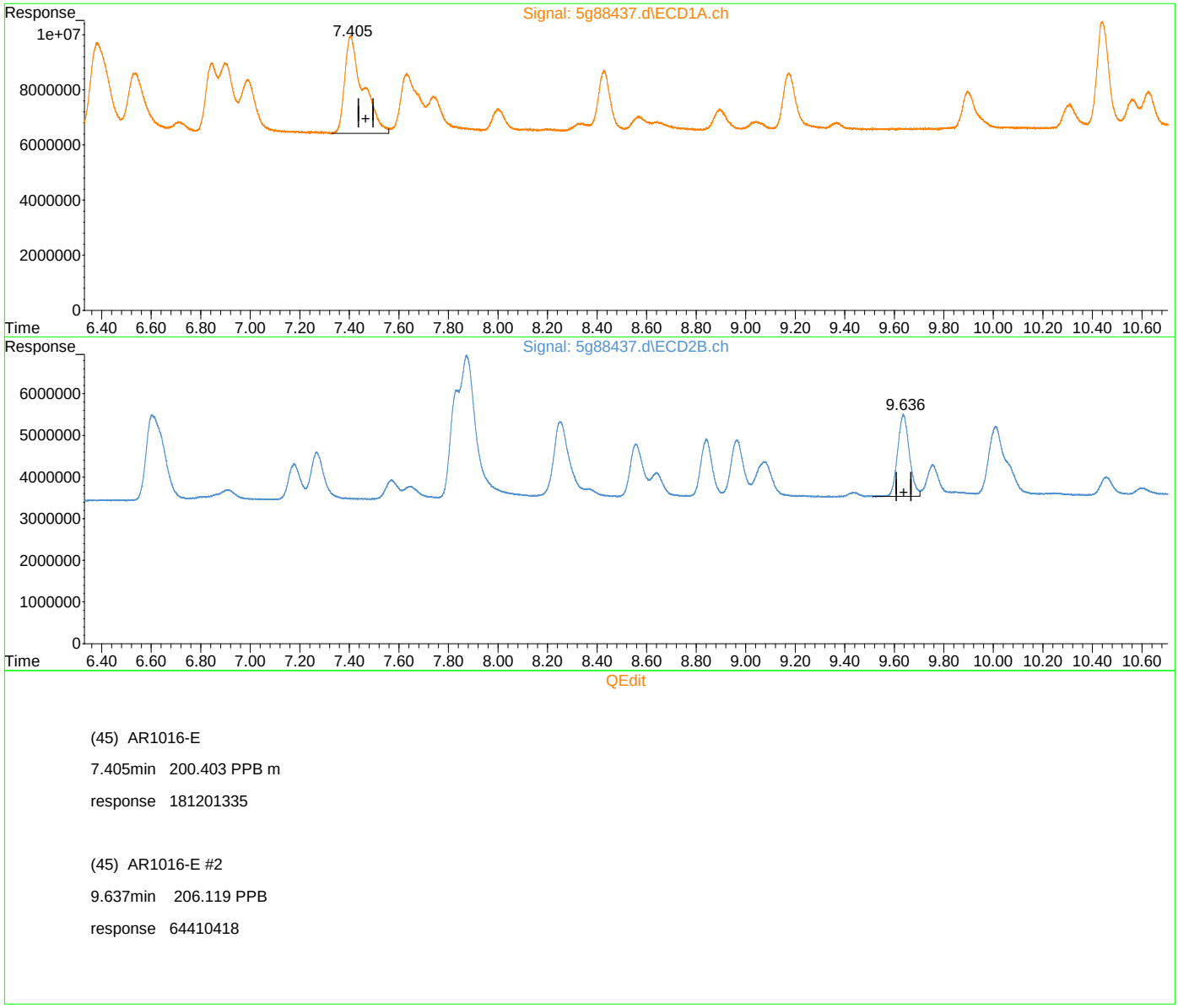
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:41:12 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(45) AR1016-E

7.405min 200.403 PPB m

response 181201335

(45) AR1016-E #2

9.637min 206.119 PPB

response 64410418

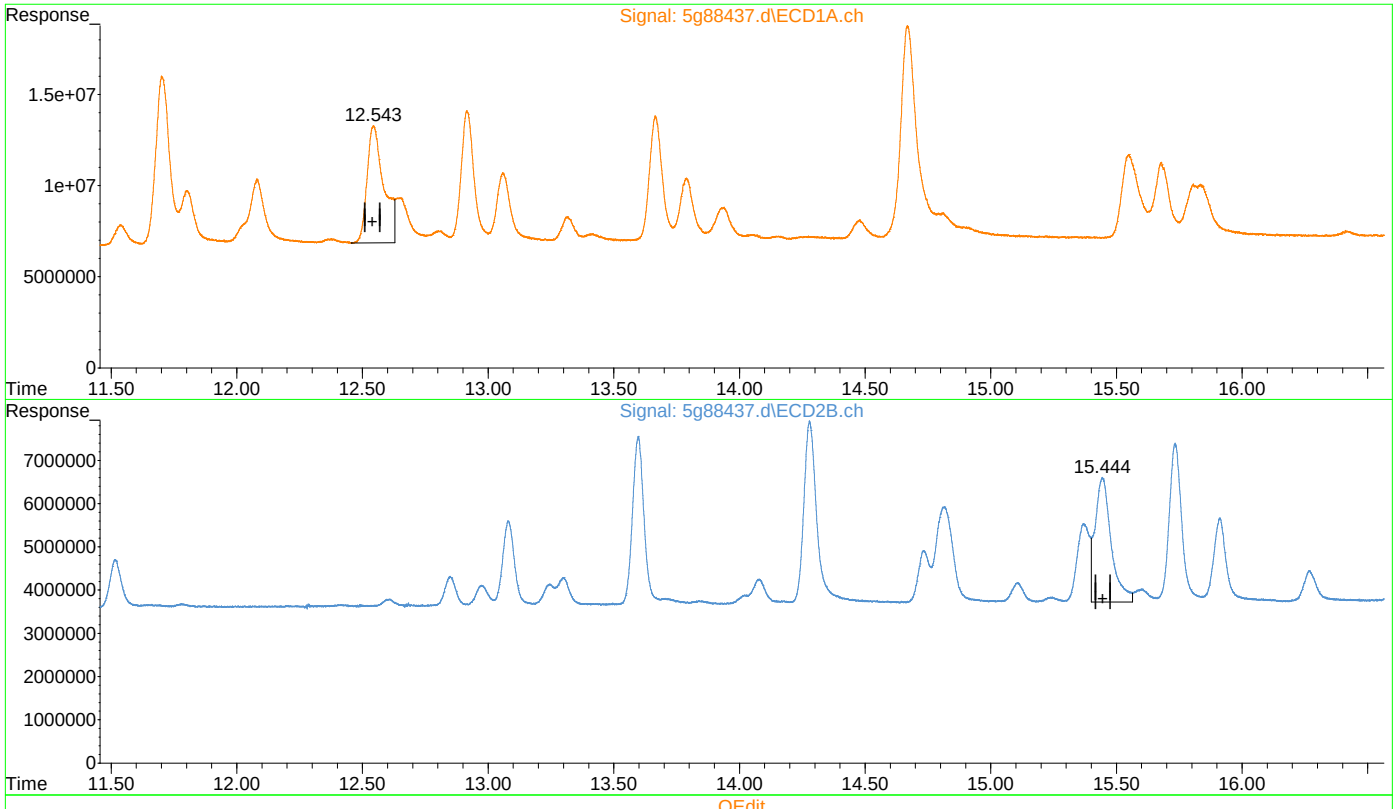
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:41:52 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.544min 141.970 PPB

response 297150921

(46) AR1260-A #2

15.444min 130.089 PPB

response 128550193

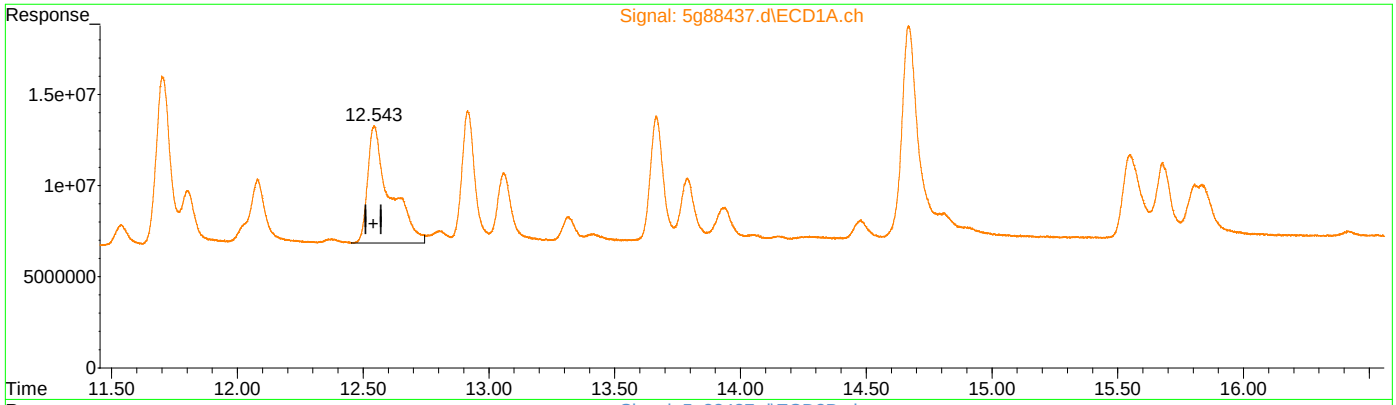
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:42:02 2019

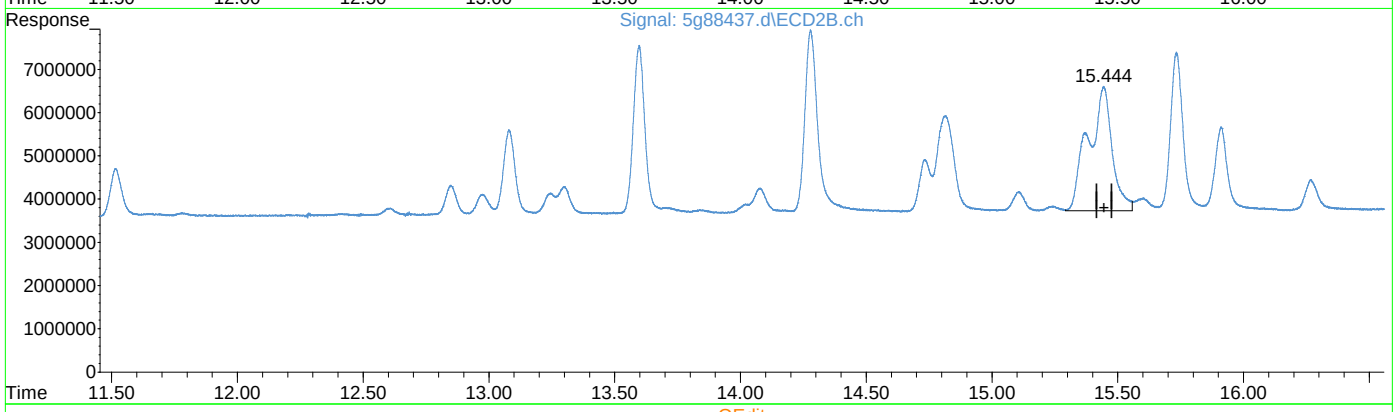
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.543min 189.186 PPB m

response 395977438

(46) AR1260-A #2

15.444min 191.723 PPB m

response 189456093

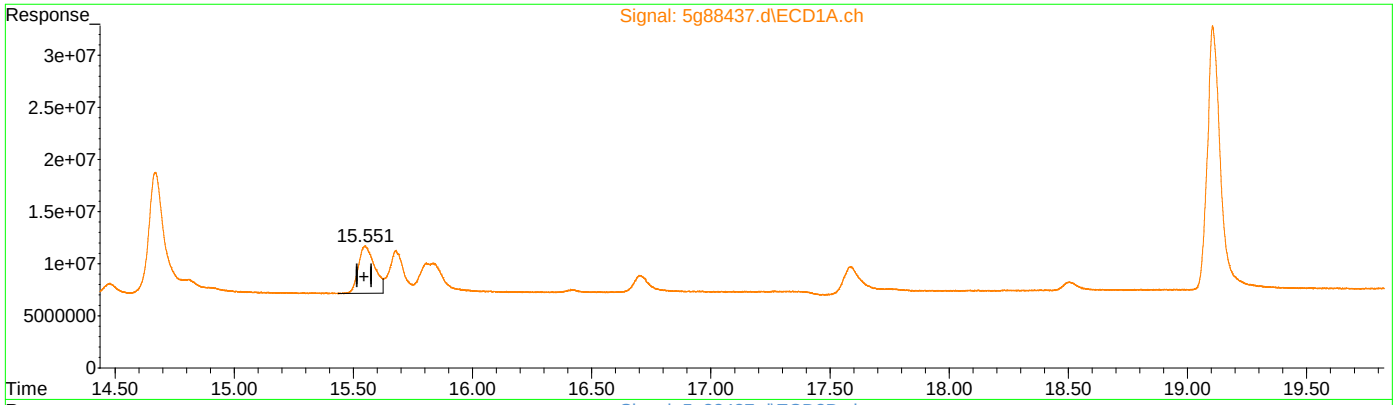
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:42:28 2019

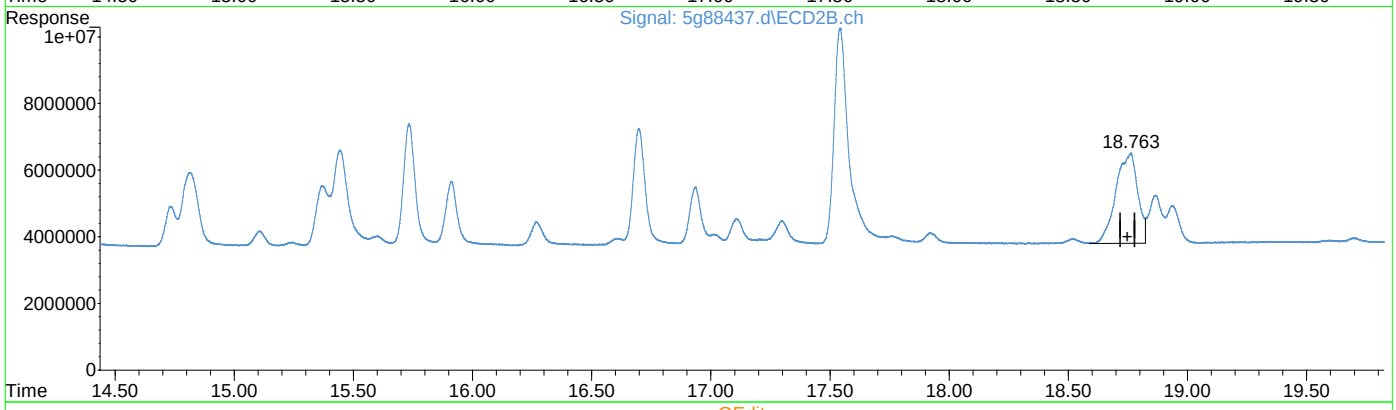
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.549min 65.412 PPB

response 215873718

(50) AR1260-E #2

18.762min 117.007 PPB

response 172174852

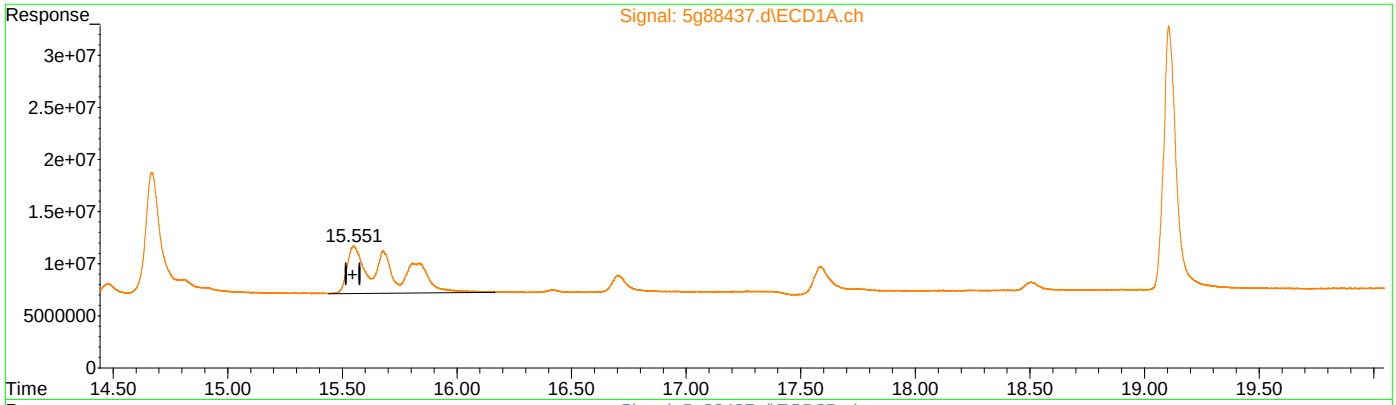
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:42:44 2019

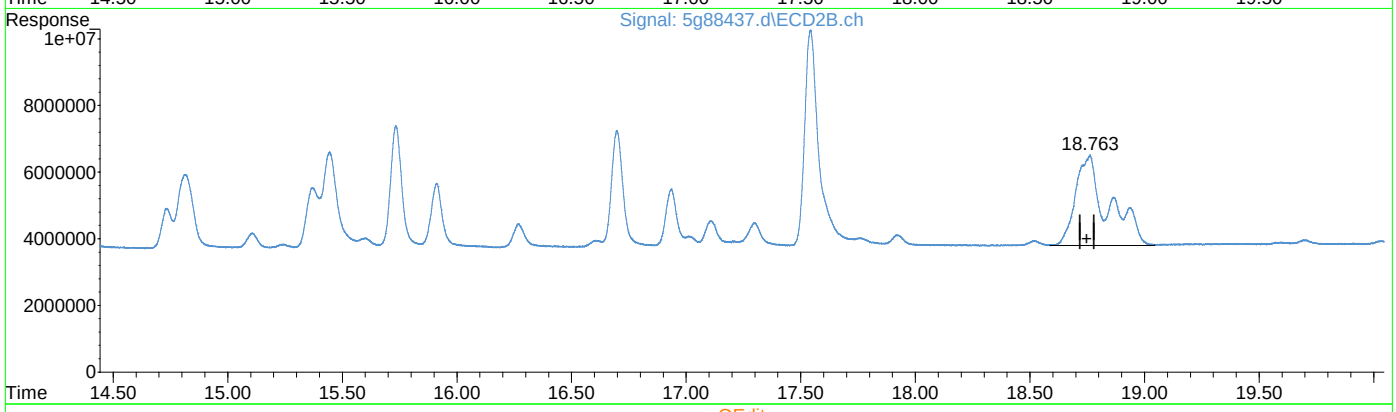
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88437.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  10:54 am
Operator : summerk
Sample : op20312-bs1
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 33  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:30:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.551min 180.466 PPB m

response 595574757

(50) AR1260-E #2

18.763min 181.128 PPB m

response 266528629

(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:43:05 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/15/19 14:51

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 13:51:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.599 | 4.374 | 985.8E6 | 447.9E6 | 34.420m | 36.091 |
| | Spiked Amount 40.000 | | | Recovery | = | 86.05% | 90.23% |
| 51) S | Decachlor... | 19.089f | 22.599 | 1095.4E6 | 491.0E6 | 44.051 | 40.614 |
| | Spiked Amount 40.000 | | | Recovery | = | 110.13% | 101.54% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.270 | 5.557 | 126.6E6 | 45933916 | 240.483m | 205.275m |
| 42) | AR1016-B | 4.999 | 6.598 | 203.2E6 | 73042980 | 199.816m | 157.301m |
| 43) | AR1016-C | 6.052 | 7.863 | 426.0E6 | 170.5E6 | 201.136m | 163.290m |
| 44) | AR1016-D | 6.366 | 8.239 | 217.5E6 | 77444340 | 244.644m | 194.979m |
| 46) | AR1260-A | 12.529 | 15.432 | 589.6E6 | 333.5E6 | 281.699 | 337.485m |
| 47) | AR1260-B | 12.908 | 15.726 | 477.9E6 | 209.9E6 | 389.491 | 351.256m |
| 49) | AR1260-D | 14.648f | 17.481f | 306.9E6 | 681.6E6 | 102.605m | 458.552m# |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

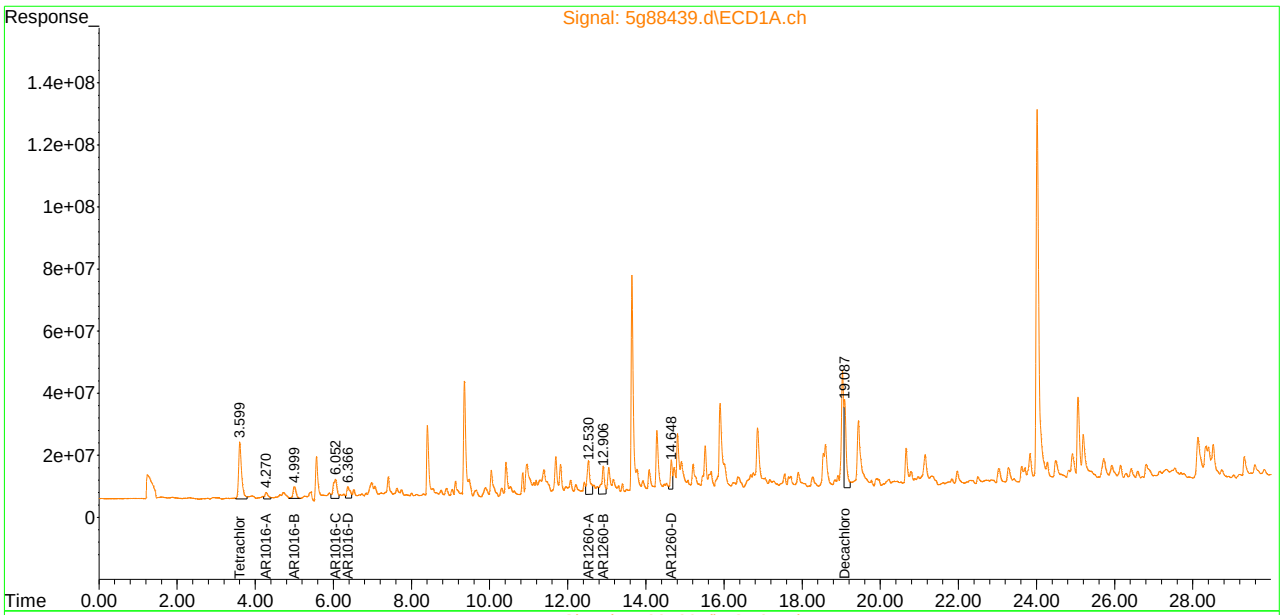
11.4.1 11

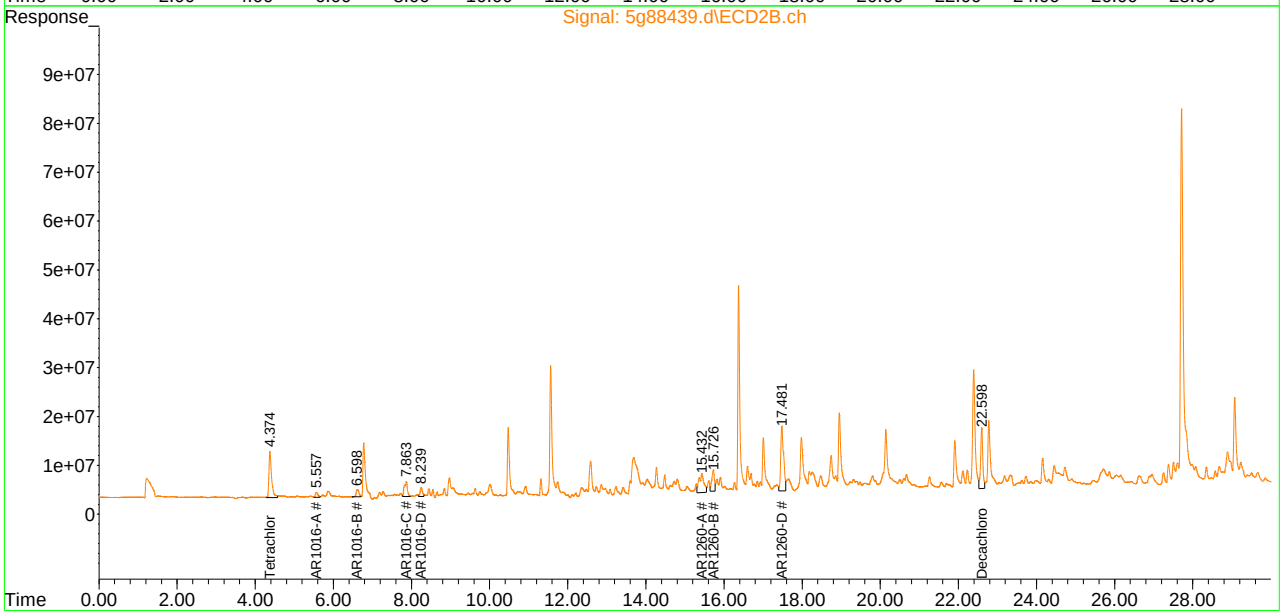
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 13:51:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



**Sample Number:** OP20312-MS
**Lab FileID:** 5G88439.D
**Injection Time:** 05/14/19 12:00
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 14:14 Syra Marie Pacheco
**Supervisor approved:** 05/15/19 14:51 Gwendolyn Burns

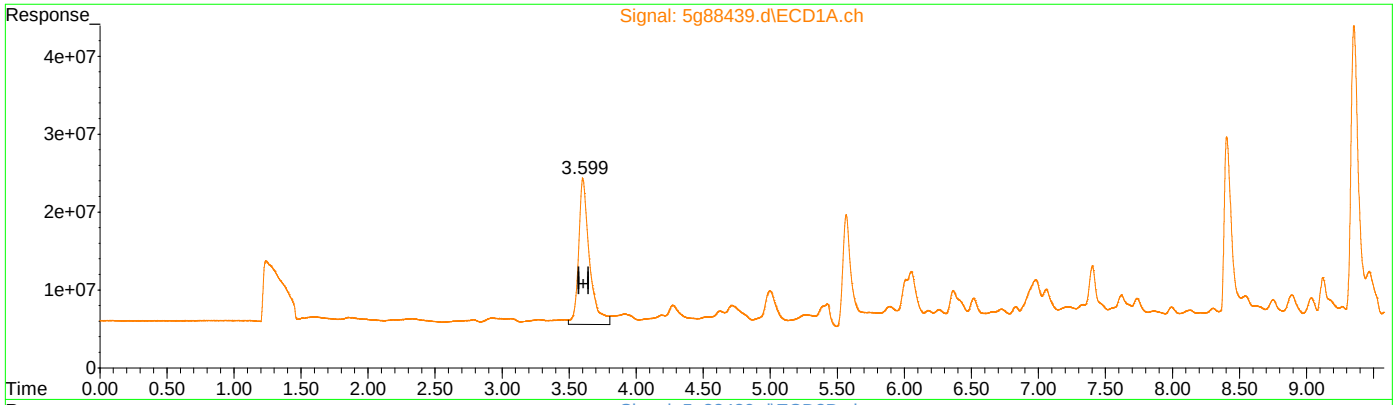
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Tetrachloro-m-xylene | 877-09-8 | 1 | 3.60 | Poorly defined baseline |
| AR1016-A | | 1 | 4.27 | Poorly defined baseline |
| AR1016-B | | 1 | 5.00 | Poorly defined baseline |
| AR1016-A | | 2 | 5.56 | Poorly defined baseline |
| AR1016-C | | 1 | 6.05 | Poorly defined baseline |
| AR1016-D | | 1 | 6.37 | Poorly defined baseline |
| AR1016-B | | 2 | 6.60 | Poorly defined baseline |
| AR1016-C | | 2 | 7.86 | Poorly defined baseline |
| AR1016-D | | 2 | 8.24 | Poorly defined baseline |
| AR1260-D | | 1 | 14.65 | Poorly defined baseline |
| AR1260-A | | 2 | 15.43 | Poorly defined baseline |
| AR1260-B | | 2 | 15.73 | Poorly defined baseline |
| AR1260-D | | 2 | 17.48 | Poorly defined baseline |

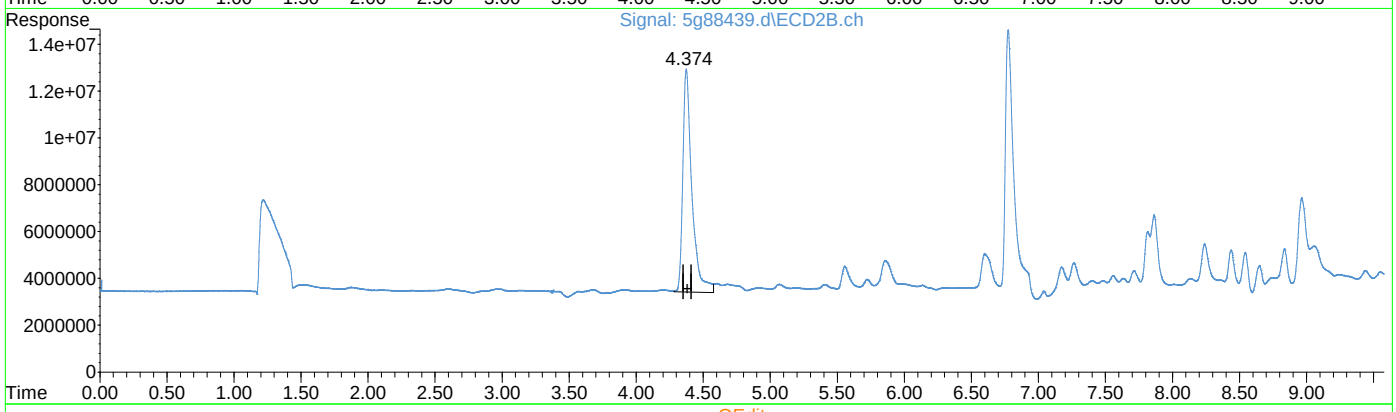
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(1) Tetrachloro-m-xylene (S)

3.602min 36.789 ppb

response 1053611615

(1) Tetrachloro-m-xylene #2 (S)

4.374min 36.091 ppb

response 447939850

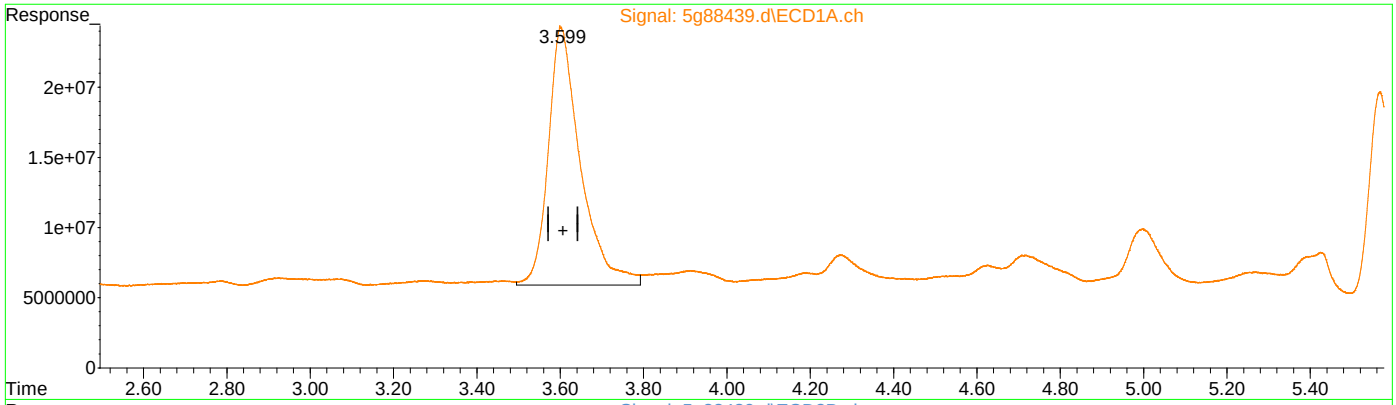
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:39:12 2019

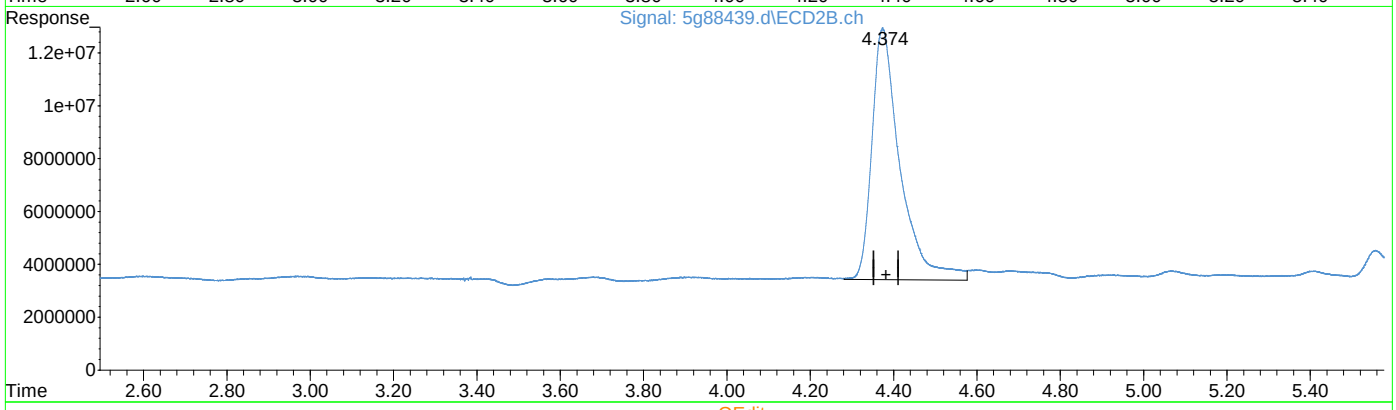
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(1) Tetrachloro-m-xylene (S)

3.599min 34.420 ppb m

response 985758595

(1) Tetrachloro-m-xylene #2 (S)

4.374min 36.091 ppb

response 447939850

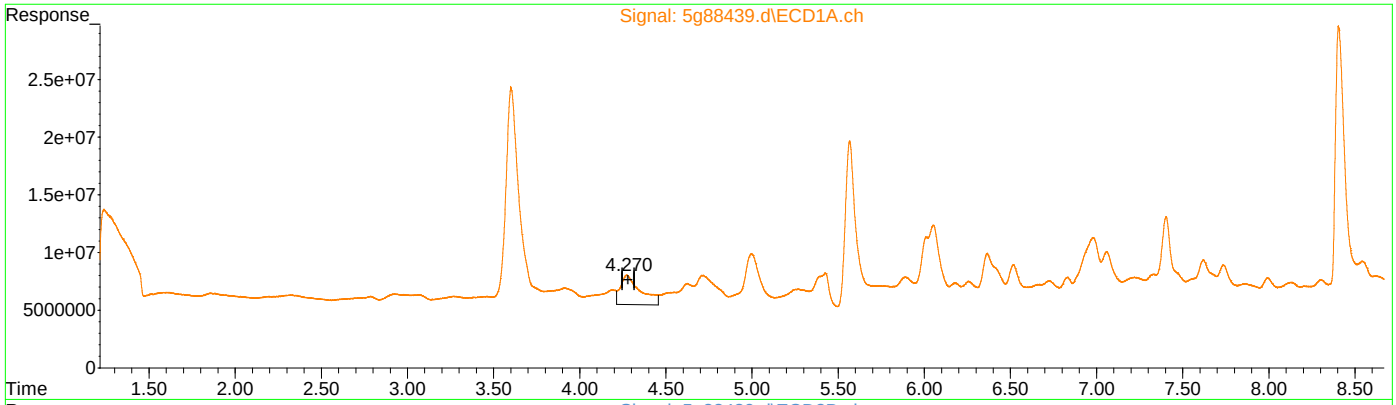
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:39:50 2019

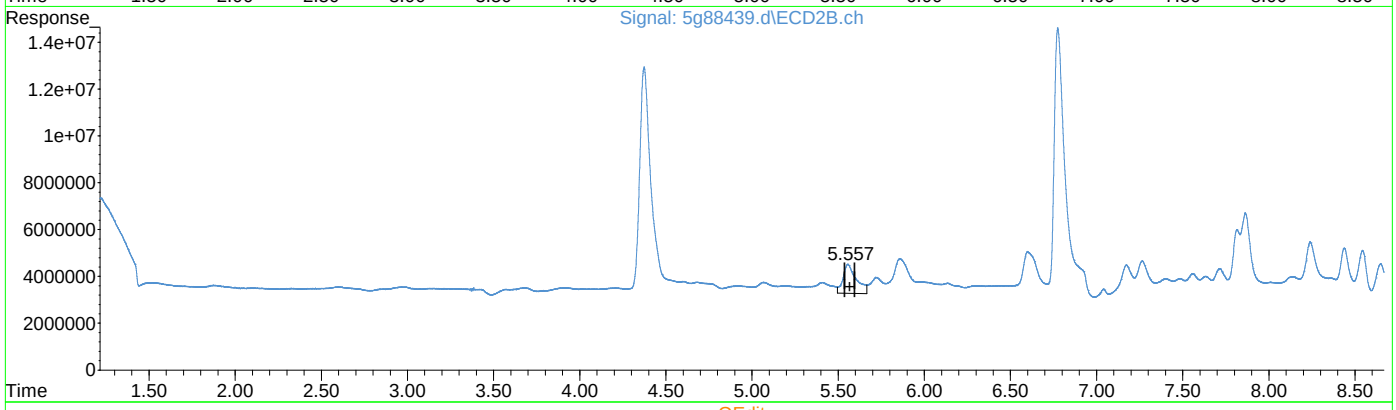
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(41) AR1016-A

4.273min 394.415 PPB

response 207652878

(41) AR1016-A #2

5.556min 298.521 PPB

response 66799428

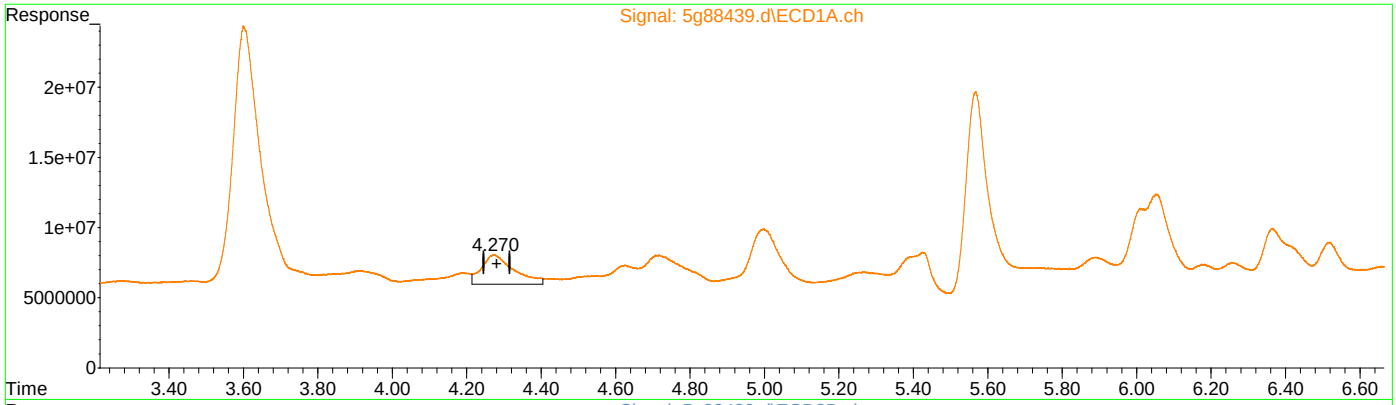
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:40:45 2019

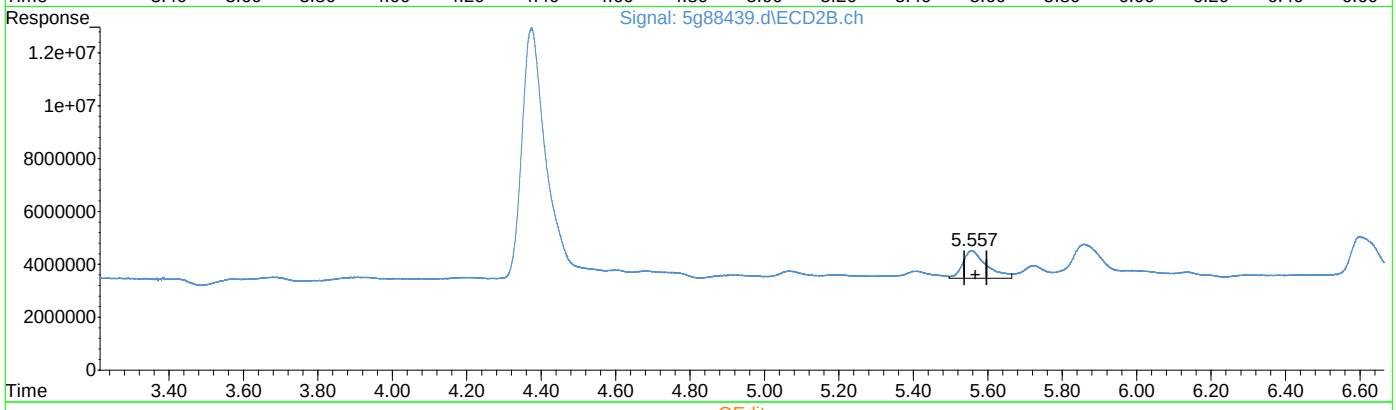
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(41) AR1016-A

4.270min 240.483 PPB m

response 126610106

(41) AR1016-A #2

5.557min 205.275 PPB m

response 45933916

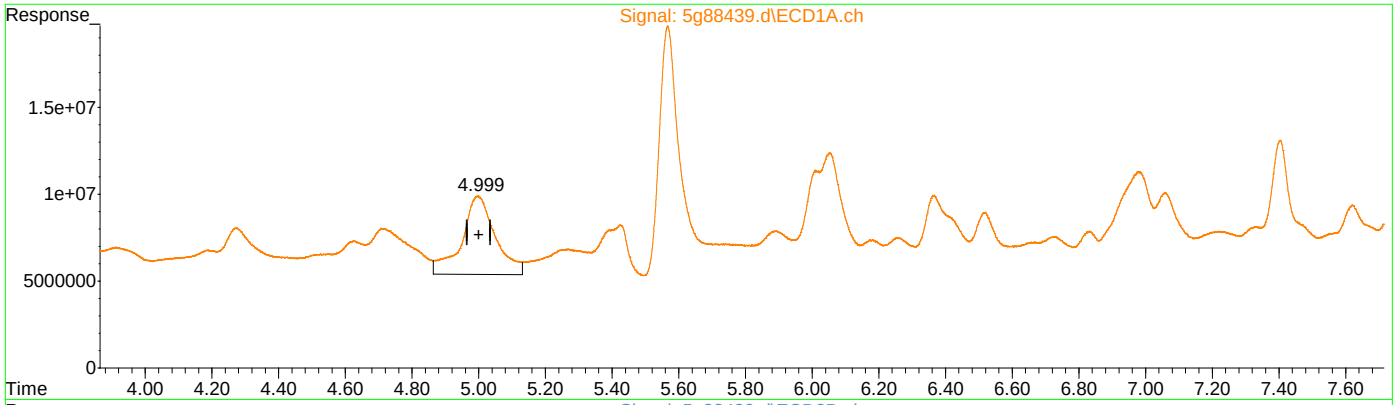
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:41:37 2019

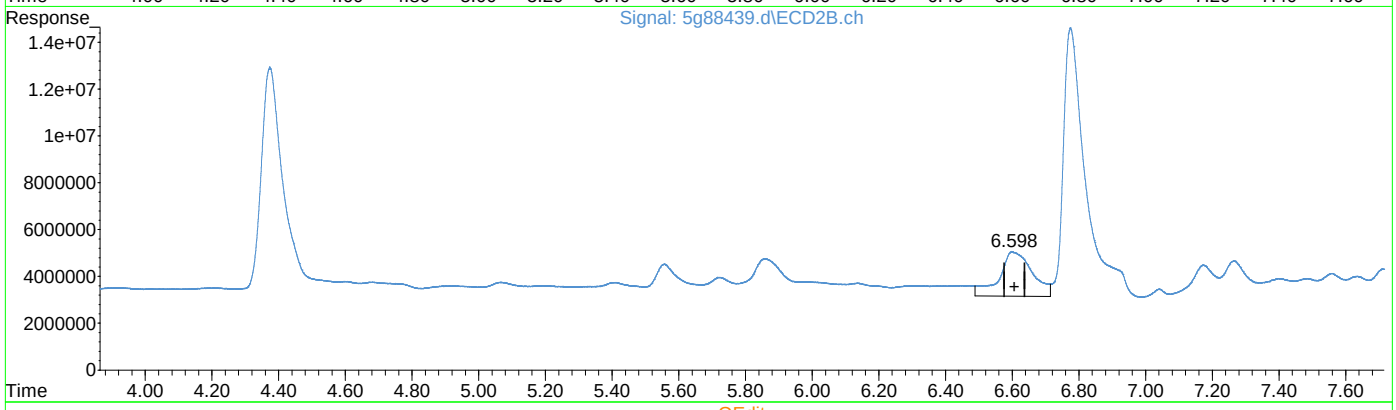
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(42) AR1016-B

4.997min 311.360 PPB

response 316597258

(42) AR1016-B #2

6.600min 282.916 PPB

response 131372512

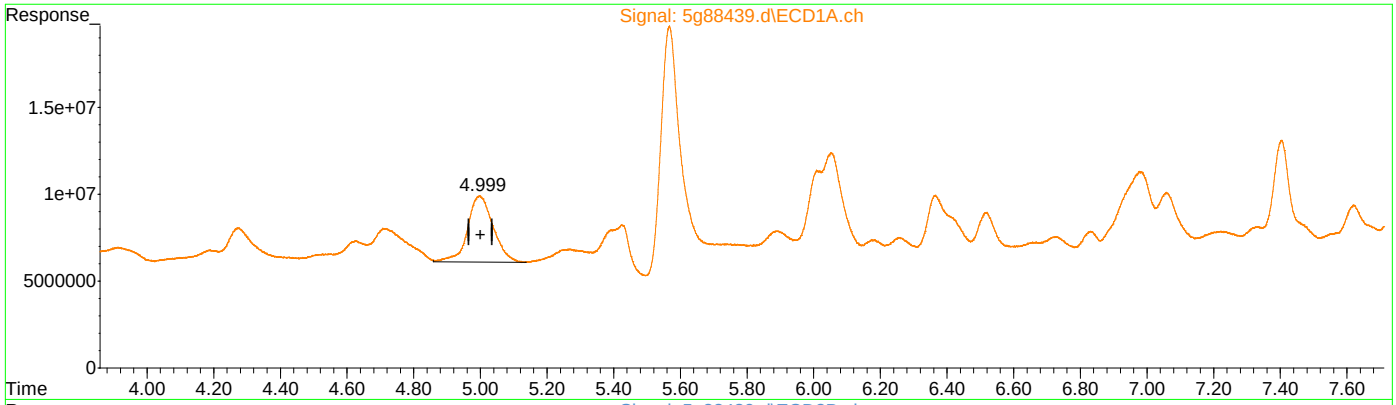
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:41:59 2019

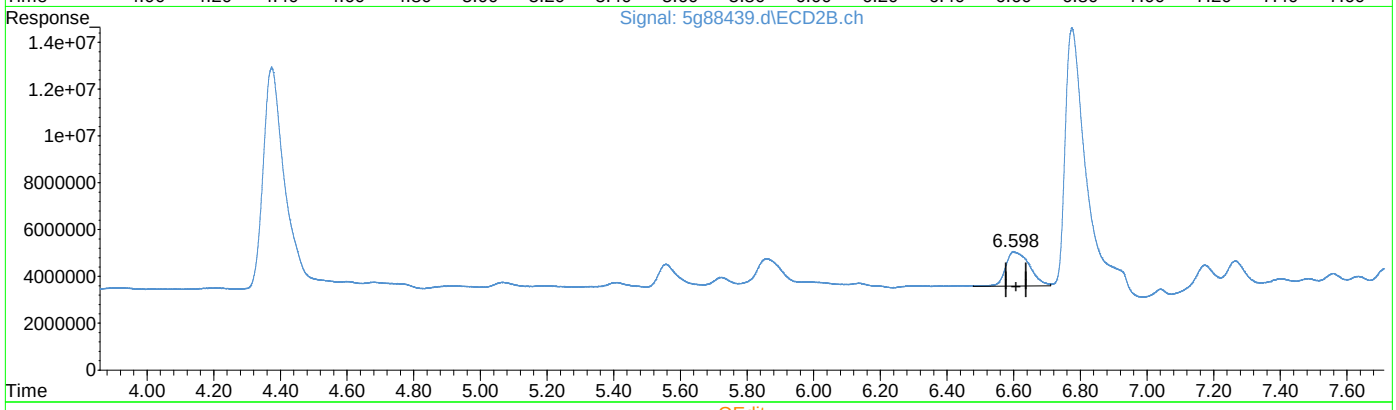
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(42) AR1016-B

4.999min 199.816 PPB m

response 203177120

(42) AR1016-B #2

6.598min 157.301 PPB m

response 73042980

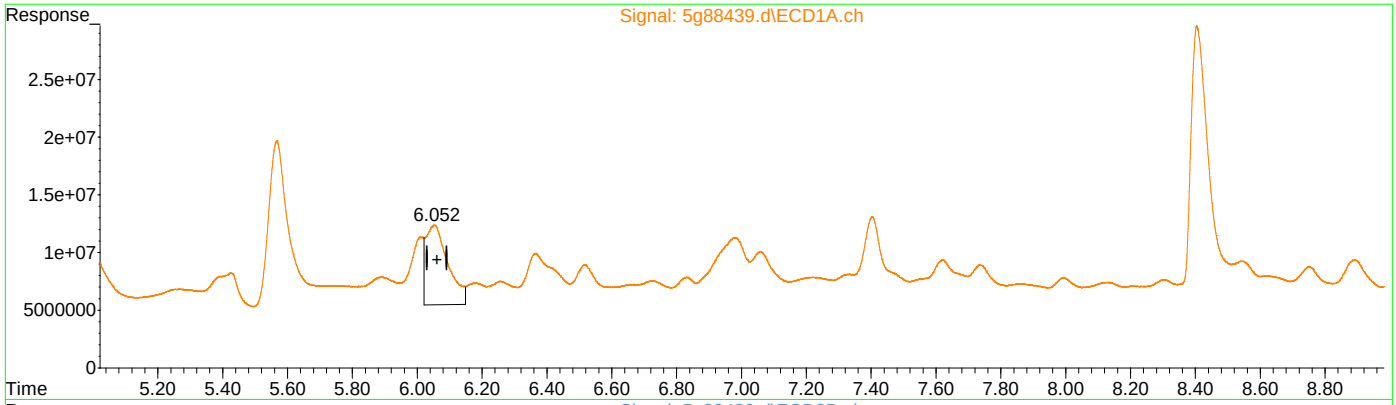
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:43:07 2019

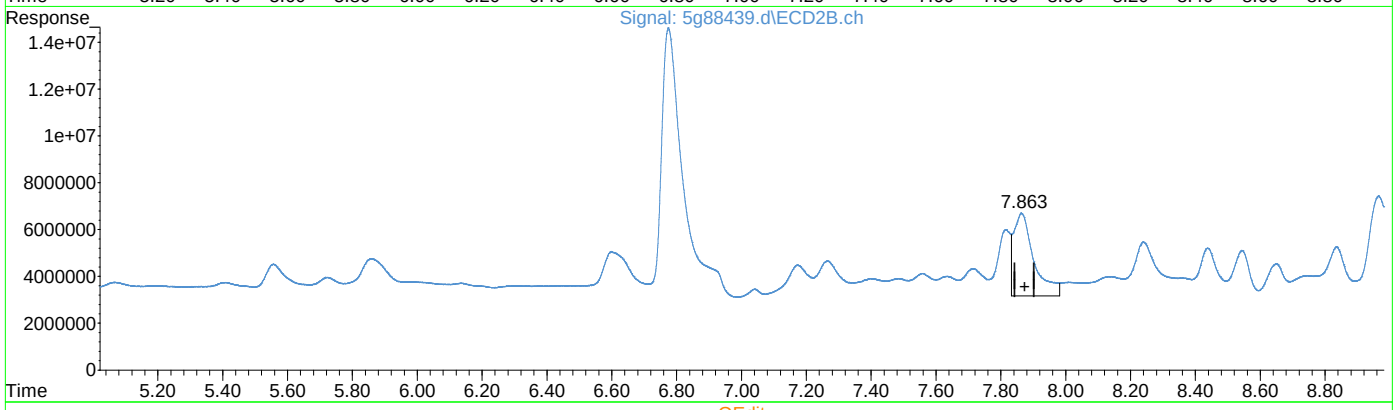
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.053min 154.138 PPB

response 326470978

(43) AR1016-C #2

7.864min 146.715 PPB

response 153217924

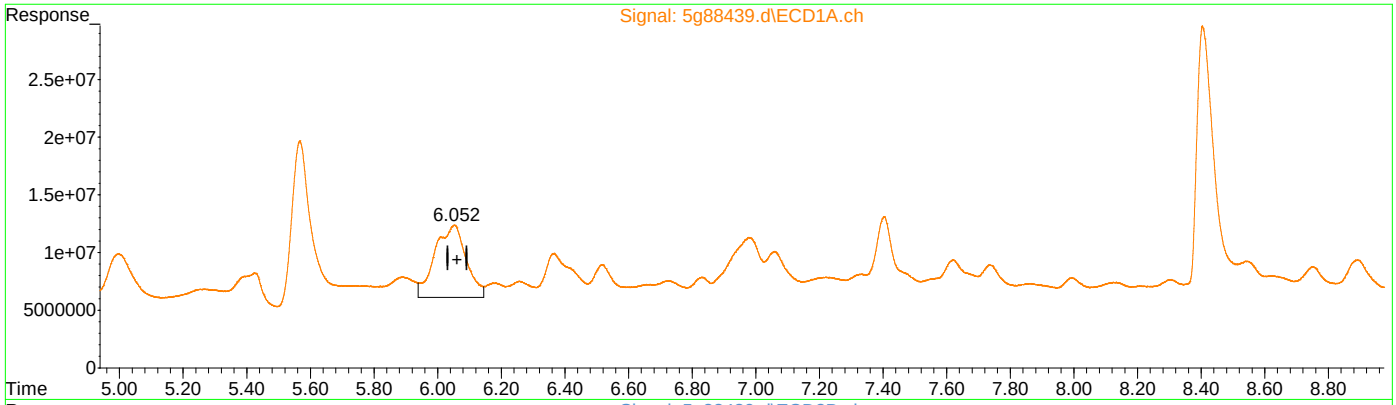
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:43:20 2019

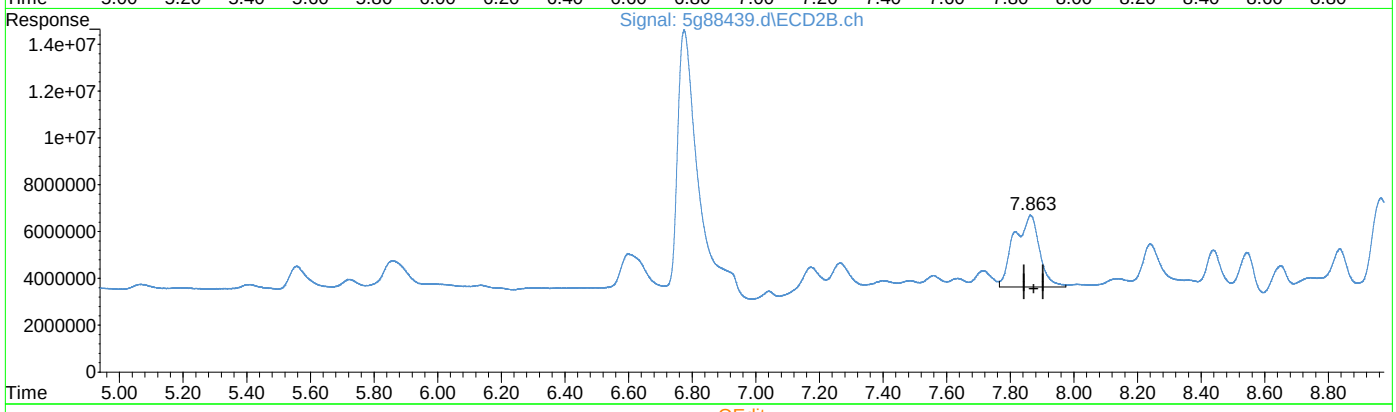
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.052min 201.136 PPB m

response 426015355

(43) AR1016-C #2

7.863min 163.290 PPB m

response 170527526

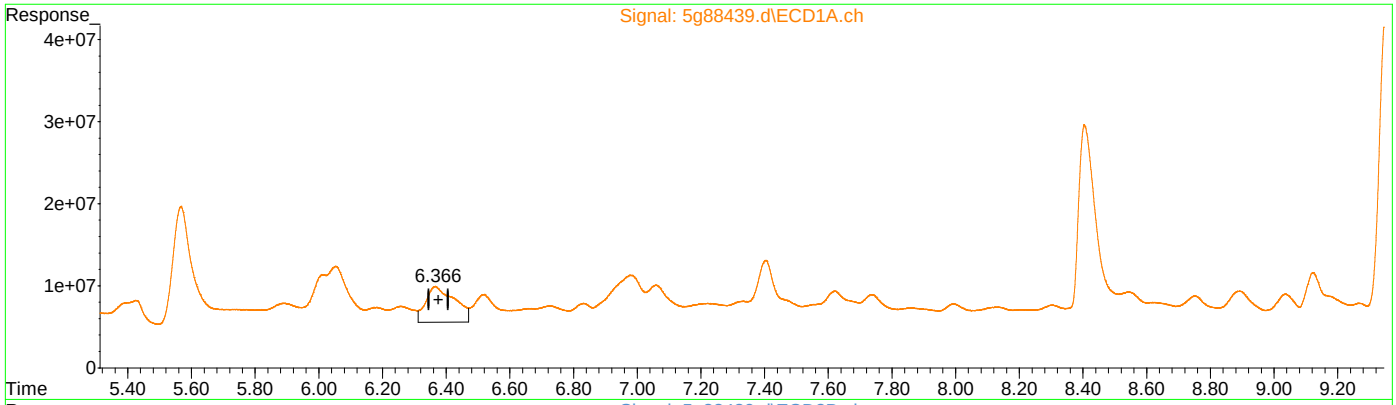
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:44:37 2019

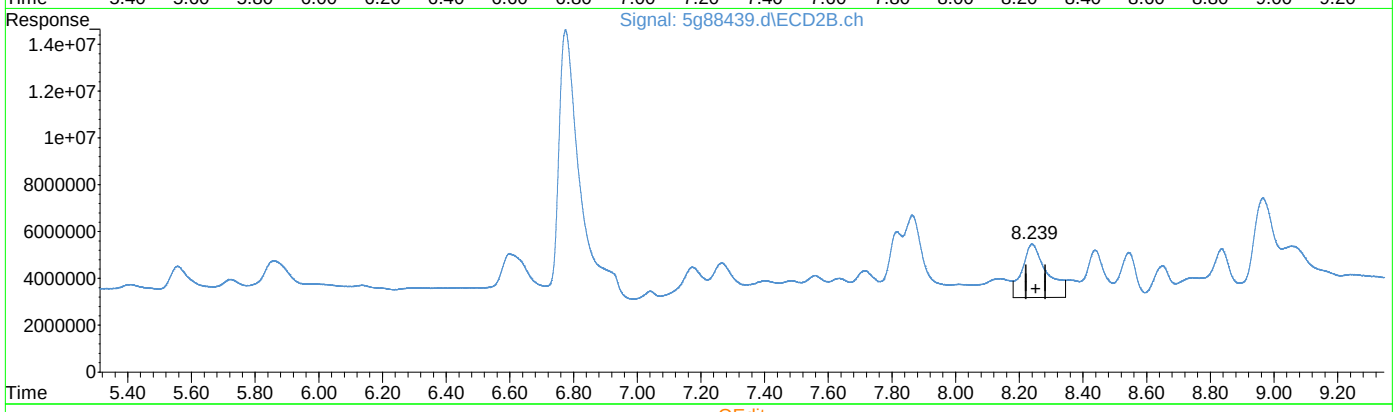
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(44) AR1016-D

6.365min 308.800 PPB

response 274576193

(44) AR1016-D #2

8.240min 312.385 PPB

response 124077263

(+) = Expected Retention Time

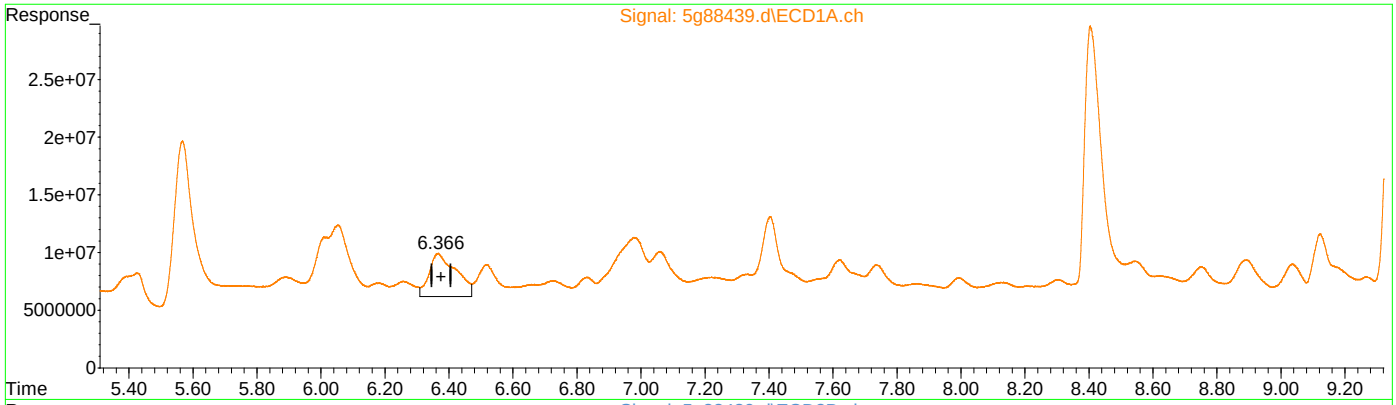
5pcb2127.m Wed May 15 13:44:49 2019

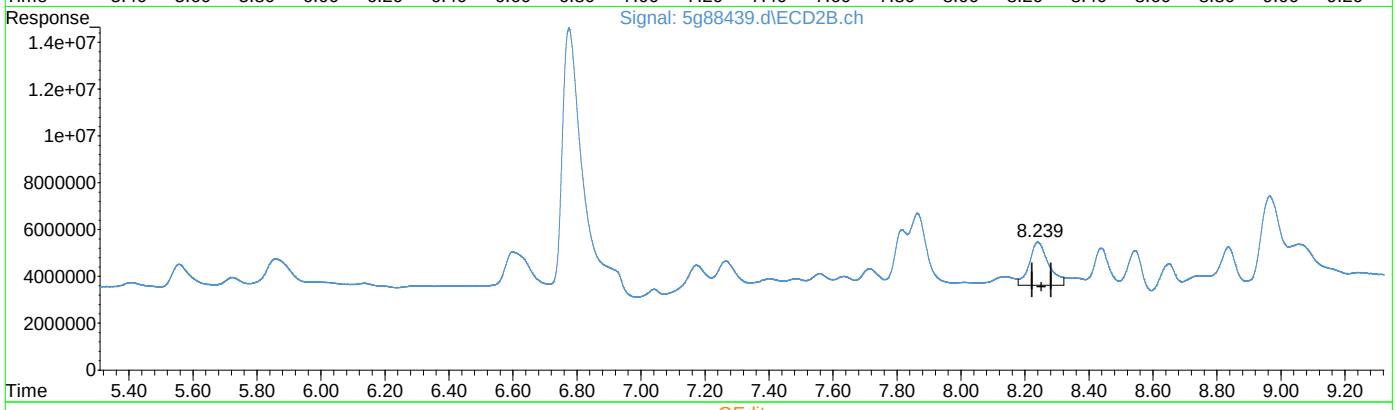
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(44) AR1016-D

6.366min 244.644 PPB m

response 217530372

(44) AR1016-D #2

8.239min 194.979 PPB m

response 77444340

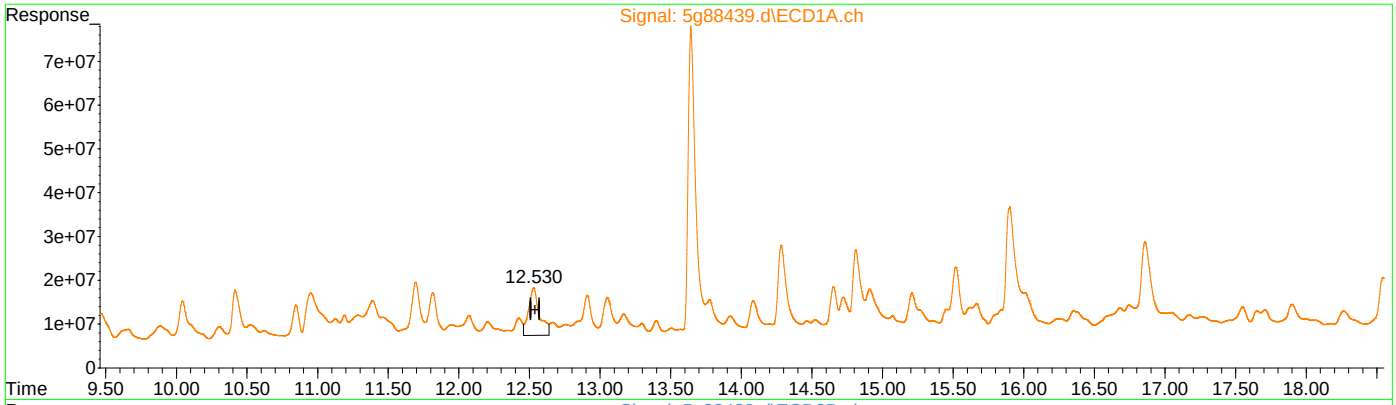
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:46:17 2019

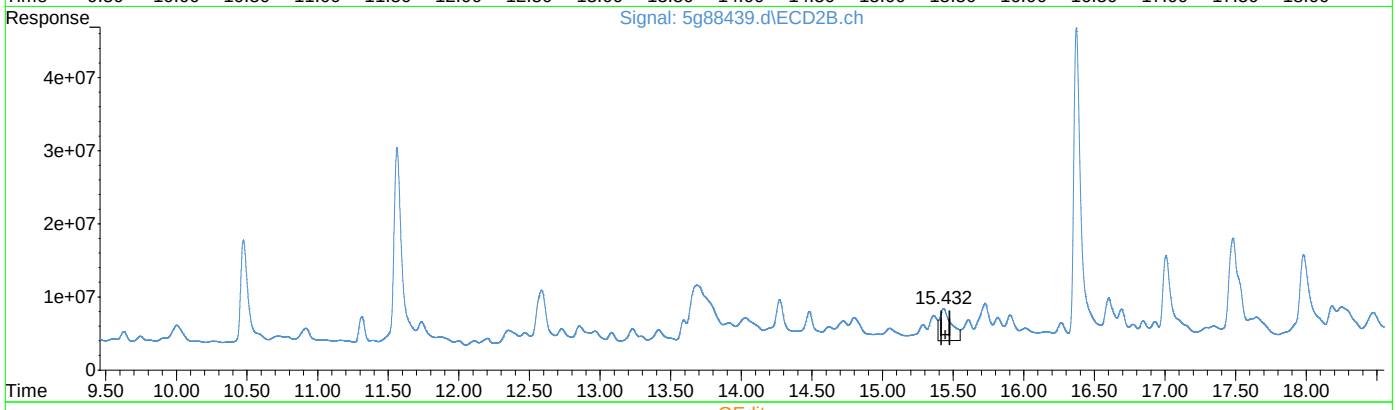
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.529min 281.699 PPB

response 589611505

(46) AR1260-A #2

15.431min 258.975 PPB

response 255912340

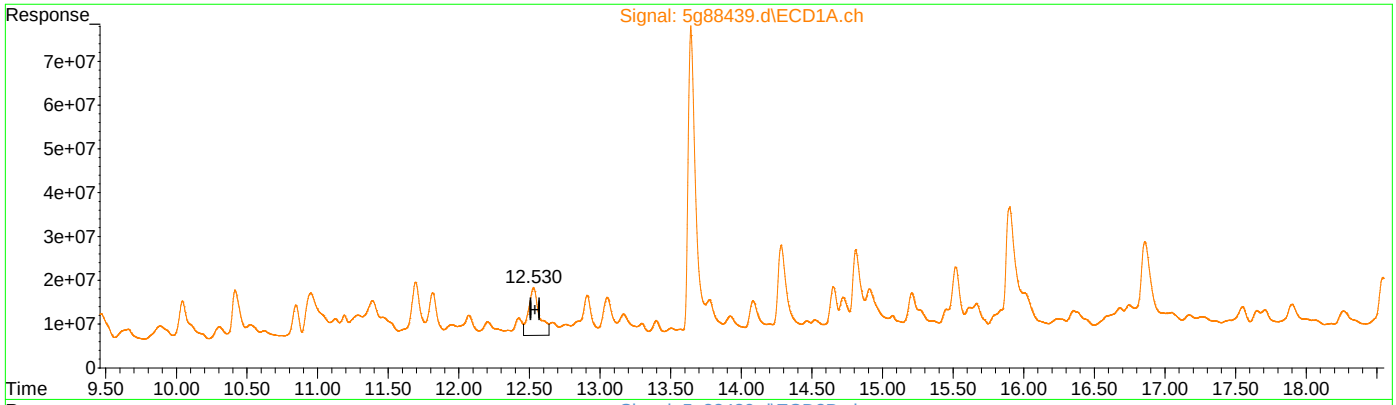
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:46:55 2019

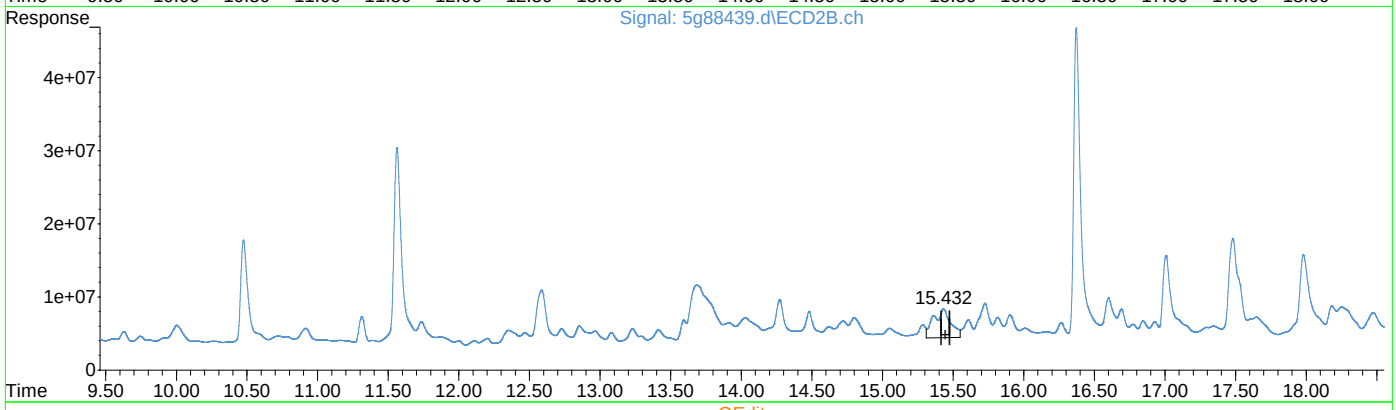
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.529min 281.699 PPB

response 589611505

(46) AR1260-A #2

15.432min 337.485 PPB m

response 333493581

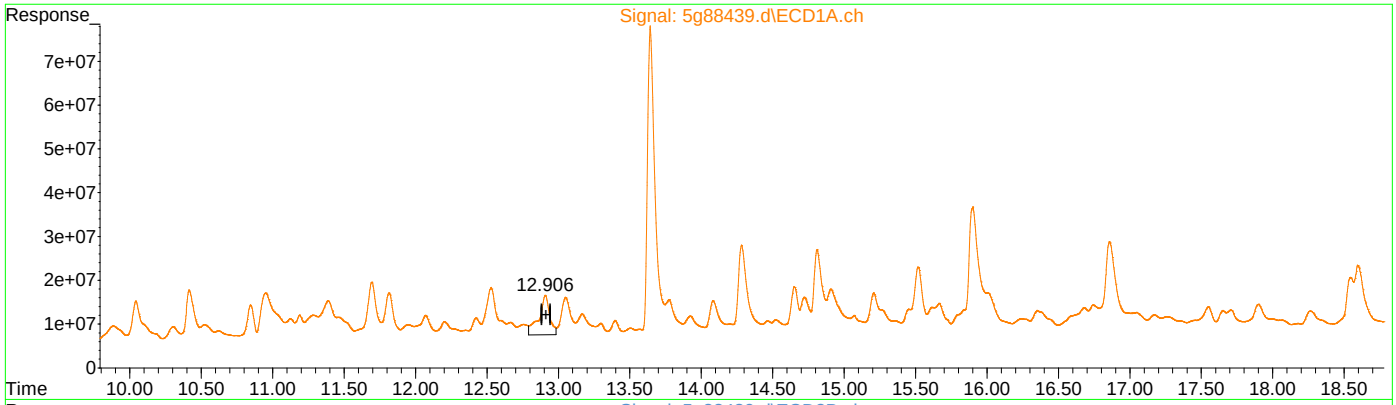
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:48:33 2019

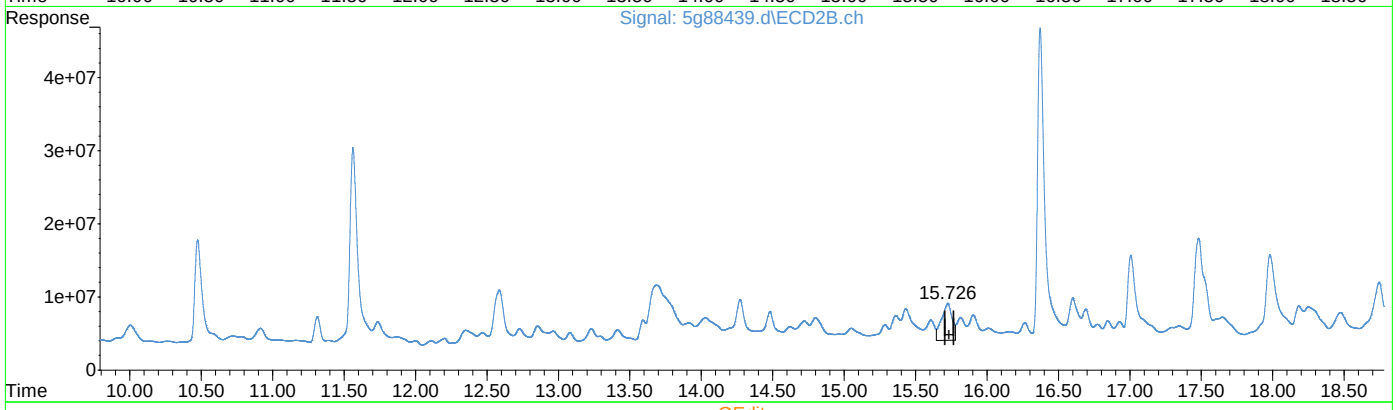
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(47) AR1260-B

12.908min 389.491 PPB

response 477921990

(47) AR1260-B #2

15.725min 441.132 PPB

response 263595036

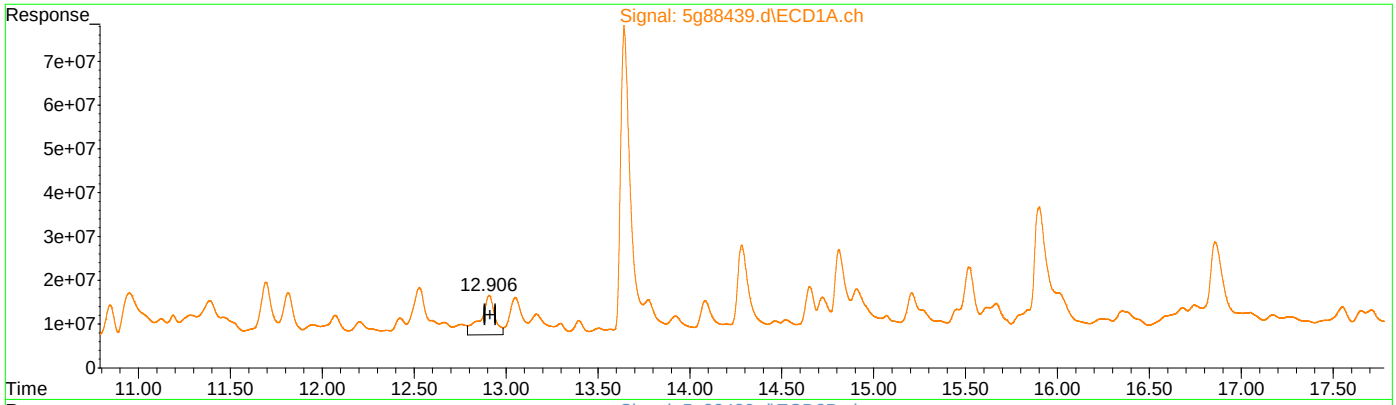
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:48:51 2019

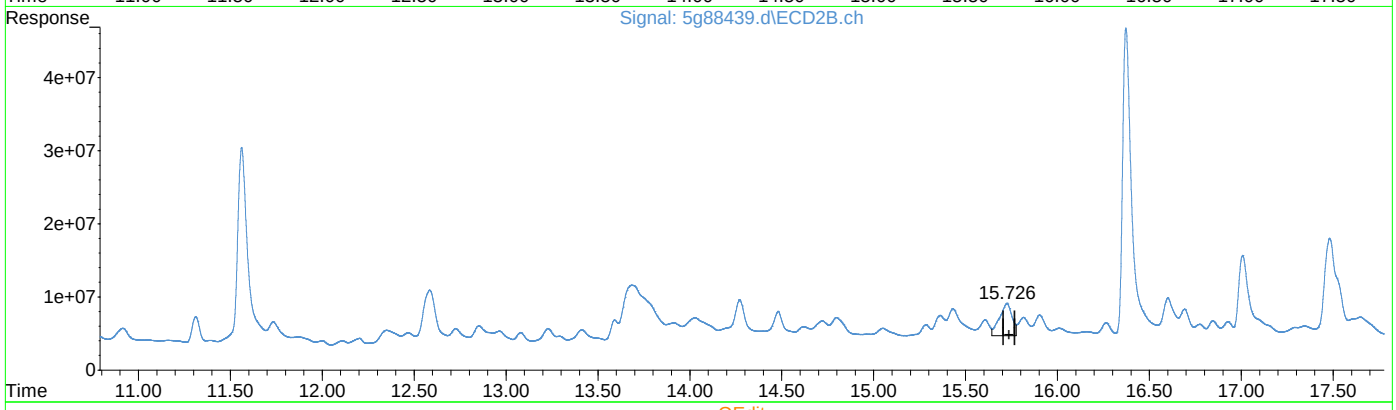
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(47) AR1260-B

12.908min 389.491 PPB

response 477921990

(47) AR1260-B #2

15.726min 351.256 PPB m

response 209890258

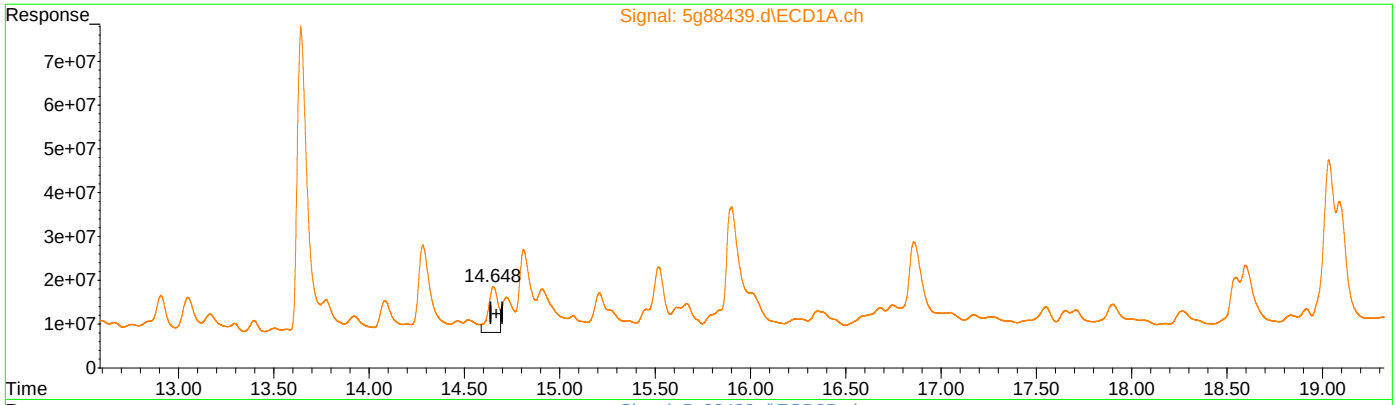
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:49:36 2019

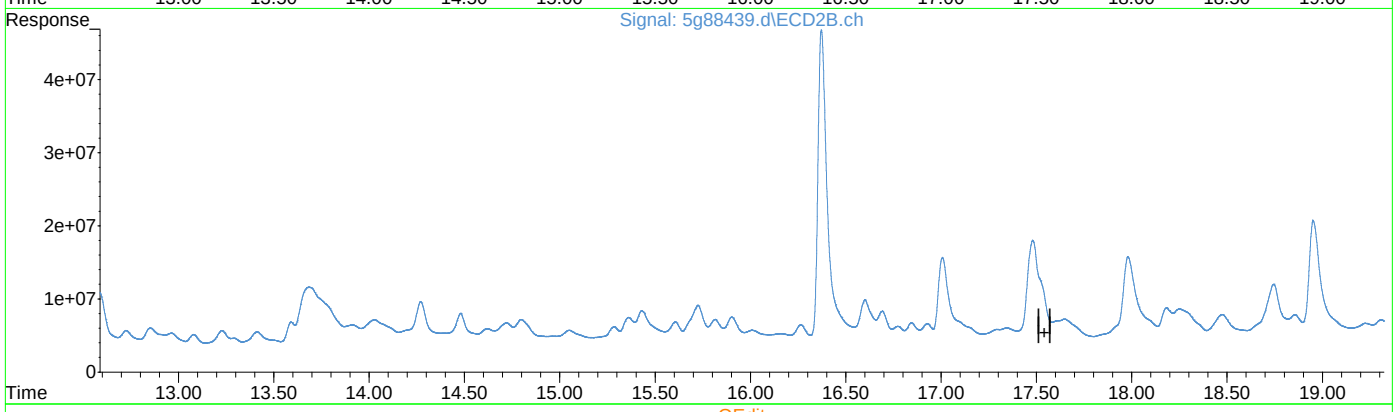
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(49) AR1260-D

14.652min 123.633 PPB

response 369824750

(49) AR1260-D #2

0.000min 0.000 PPB

response 0

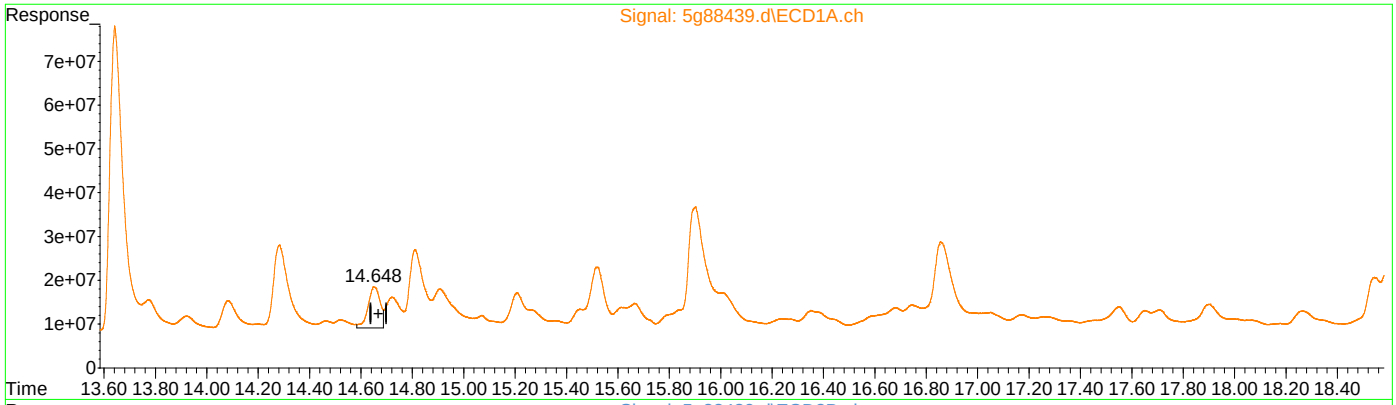
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:50:08 2019

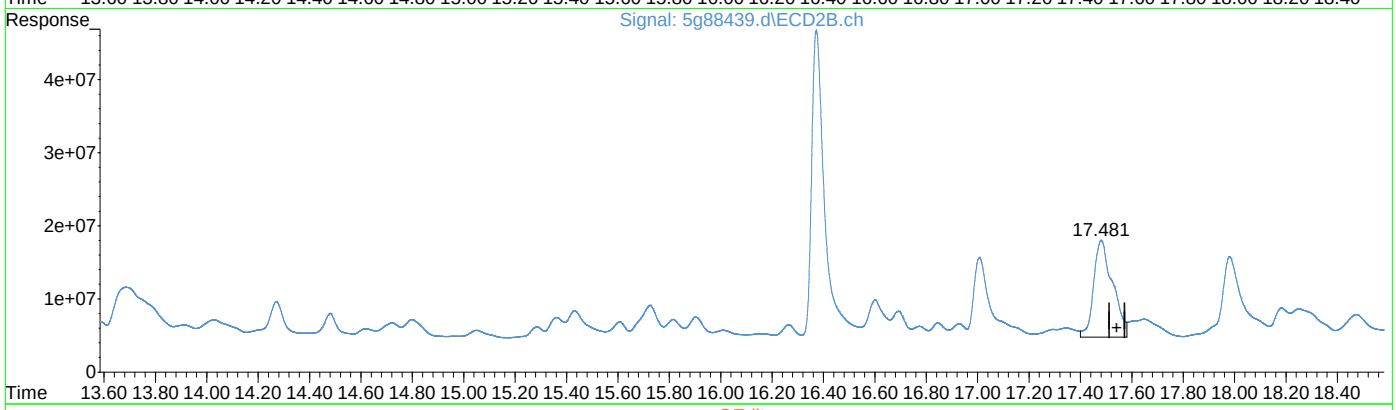
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88439.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:00 pm
Operator : summerk
Sample : op20312-ms
Misc : op20312,g5g2132,15.7,,,10,1
ALS Vial : 35  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:47:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(49) AR1260-D

14.648min 102.605 PPB m

response 306923896

(49) AR1260-D #2

17.481min 458.552 PPB m

response 681599919

(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:51:24 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns
05/15/19 14:51

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 14:04:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.605 | 4.373 | 846.2E6 | 383.3E6 | 29.547m | 30.884m |
| | Spiked Amount 40.000 | | | Recovery | = | 73.87% | 77.21% |
| 51) | S Decachlor... | 19.089f | 22.597 | 1014.0E6 | 445.9E6 | 40.776 | 36.877 |
| | Spiked Amount 40.000 | | | Recovery | = | 101.94% | 92.19% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.273 | 5.553 | 129.0E6 | 37199538 | 244.972m | 166.242m# |
| 42) | AR1016-B | 4.994 | 6.602 | 219.6E6 | 71624838 | 215.956m | 154.247m# |
| 43) | AR1016-C | 6.051 | 7.861 | 384.6E6 | 162.1E6 | 181.596m | 155.199m |
| 44) | AR1016-D | 6.364 | 8.240 | 196.8E6 | 72691752 | 221.283m | 183.013m |
| 46) | AR1260-A | 12.528 | 15.430f | 525.6E6 | 262.4E6 | 251.099 | 265.539m |
| 47) | AR1260-B | 12.907 | 15.725 | 441.5E6 | 235.0E6 | 359.814 | 393.194 |
| 49) | AR1260-D | 14.652f | 17.481f | 339.0E6 | 684.6E6 | 113.313 | 460.586m# |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

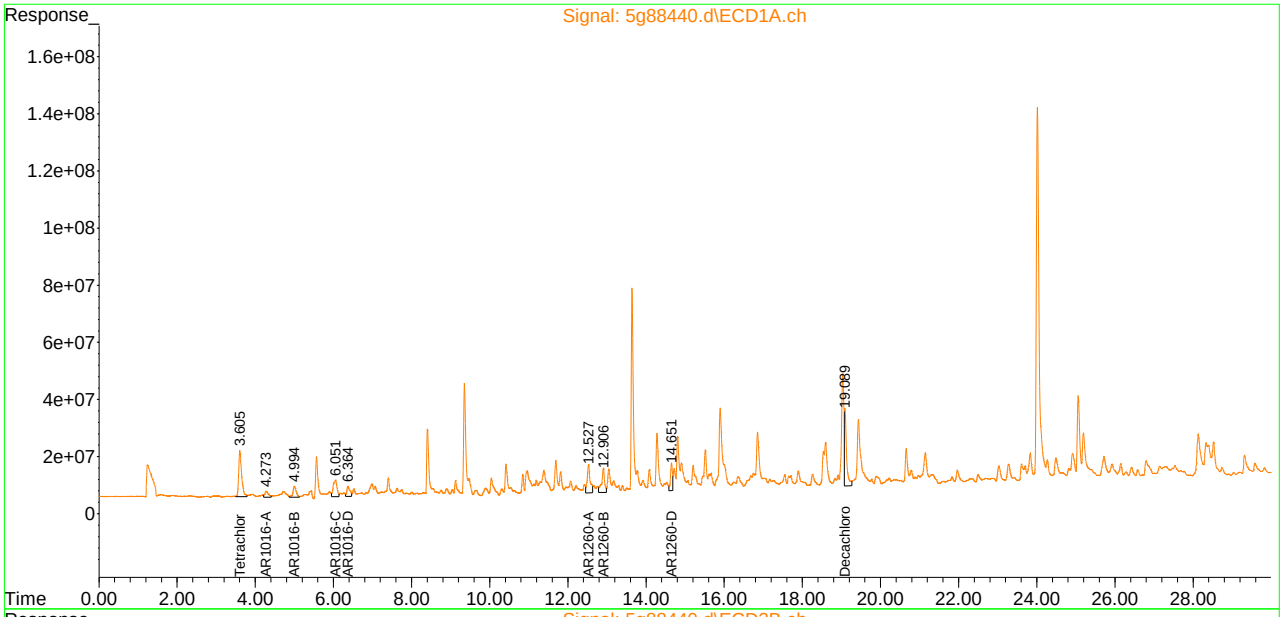
11.4.2 11

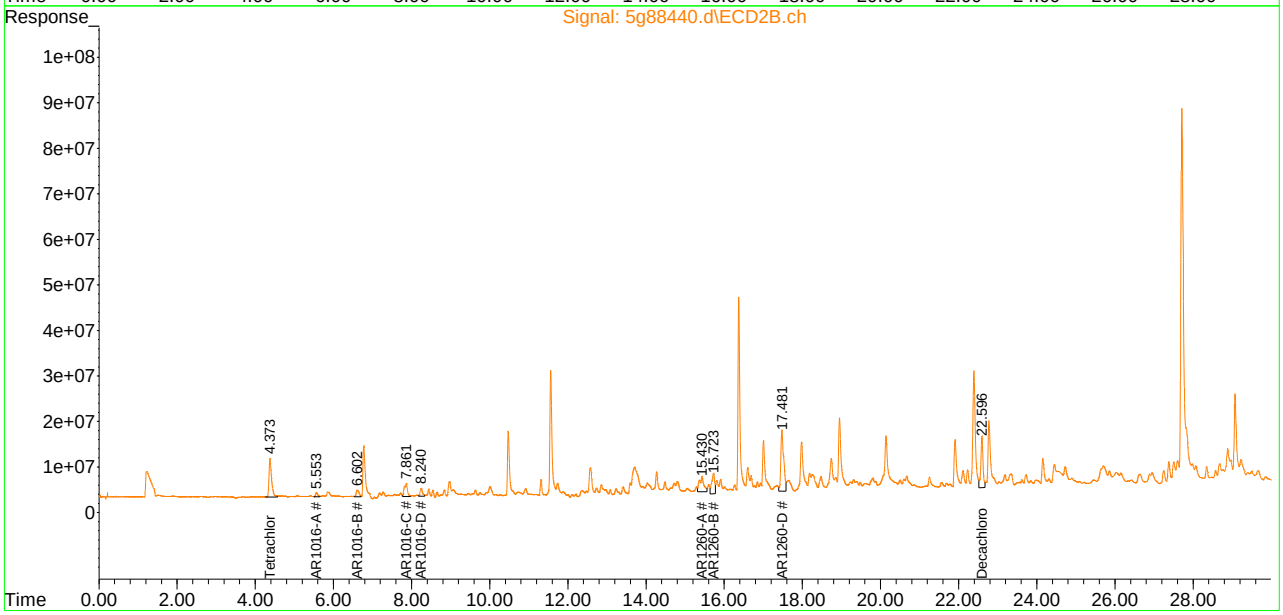
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 14:04:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



**Sample Number:** OP20312-MSD
**Lab FileID:** 5G88440.D
**Injection Time:** 05/14/19 12:32
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 14:14 Syra Marie Pacheco
**Supervisor approved:** 05/15/19 14:51 Gwendolyn Burns

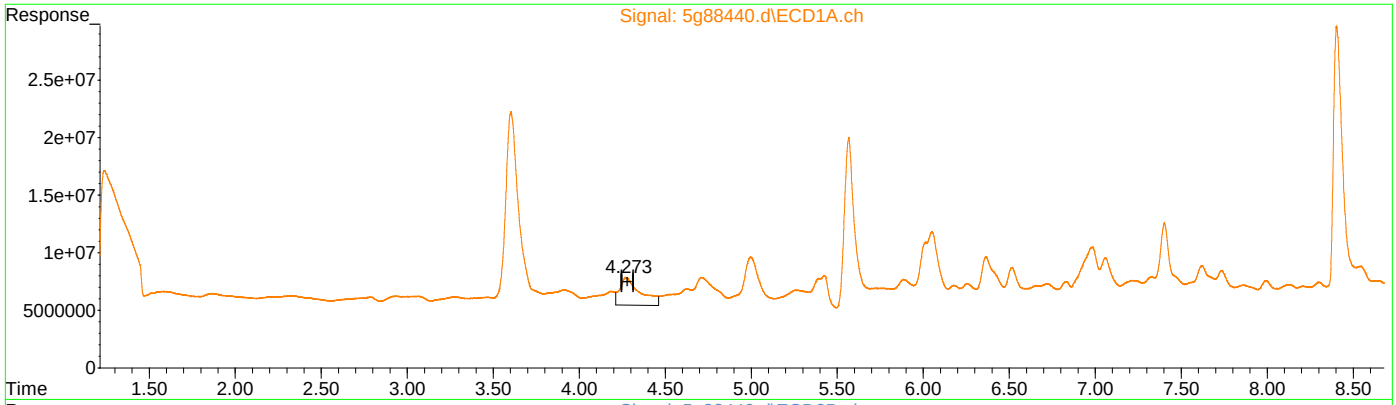
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Tetrachloro-m-xylene | 877-09-8 | 1 | 3.61 | Poorly defined baseline |
| AR1016-A | | 1 | 4.27 | Poorly defined baseline |
| Tetrachloro-m-xylene | 877-09-8 | 2 | 4.37 | Poorly defined baseline |
| AR1016-B | | 1 | 4.99 | Poorly defined baseline |
| AR1016-A | | 2 | 5.55 | Poorly defined baseline |
| AR1016-C | | 1 | 6.05 | Poorly defined baseline |
| AR1016-D | | 1 | 6.36 | Poorly defined baseline |
| AR1016-B | | 2 | 6.60 | Poorly defined baseline |
| AR1016-C | | 2 | 7.86 | Poorly defined baseline |
| AR1016-D | | 2 | 8.24 | Poorly defined baseline |
| AR1260-A | | 2 | 15.43 | Poorly defined baseline |
| AR1260-D | | 2 | 17.48 | Poorly defined baseline |

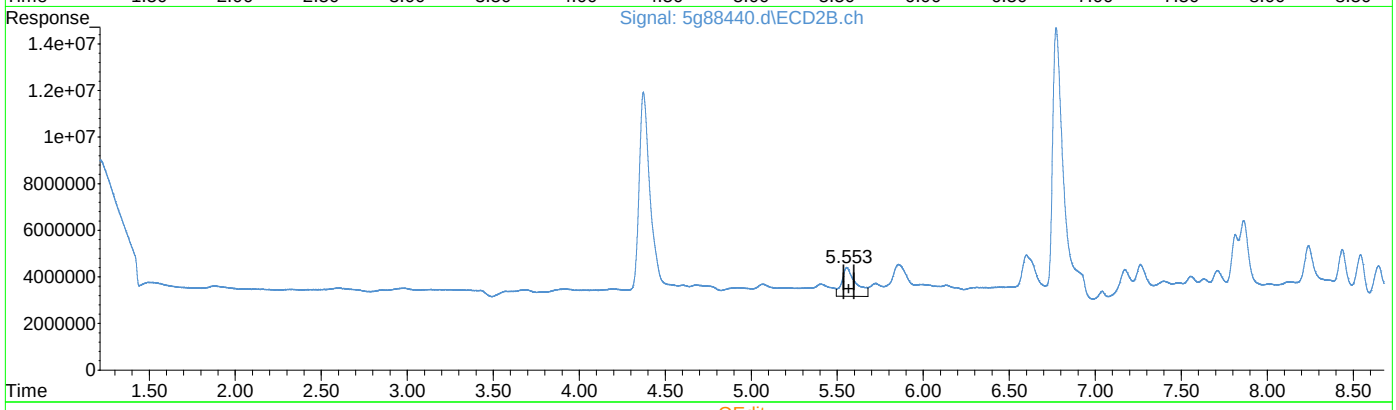
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(41) AR1016-A

4.272min 382.780 PPB

response 201527500

(41) AR1016-A #2

5.556min 314.672 PPB

response 70413409

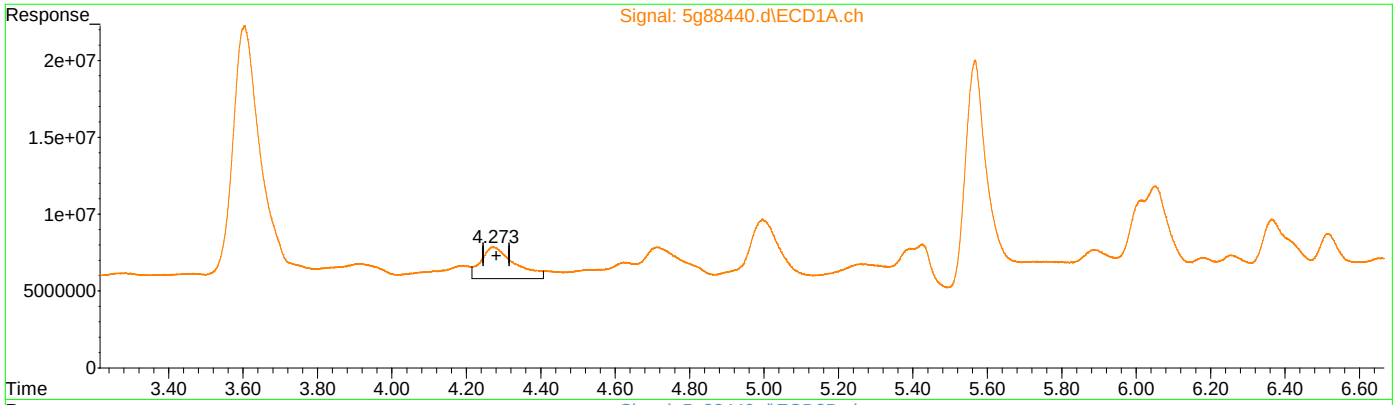
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:54:53 2019

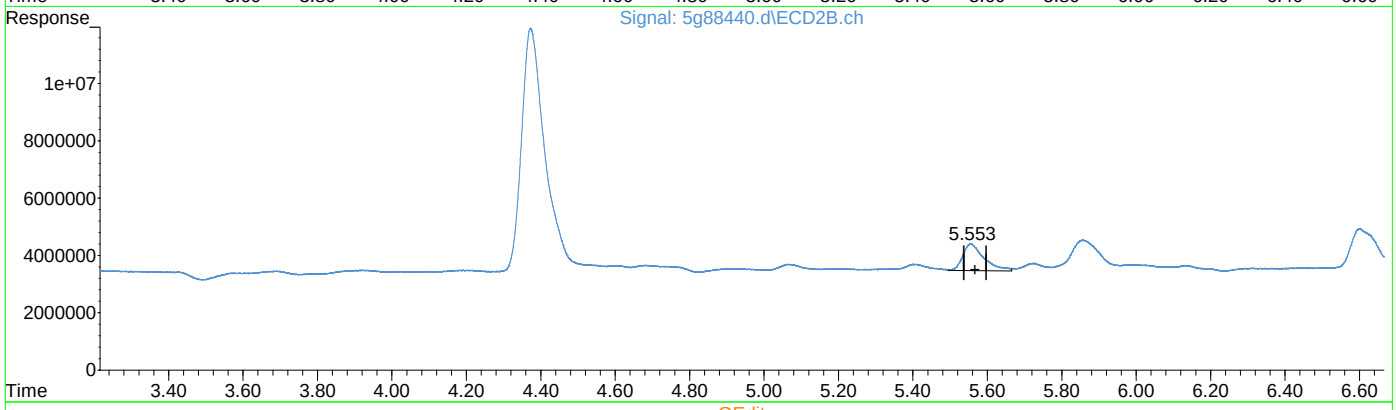
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(41) AR1016-A

4.273min 244.972 PPB m

response 128973444

(41) AR1016-A #2

5.553min 166.242 PPB m

response 37199538

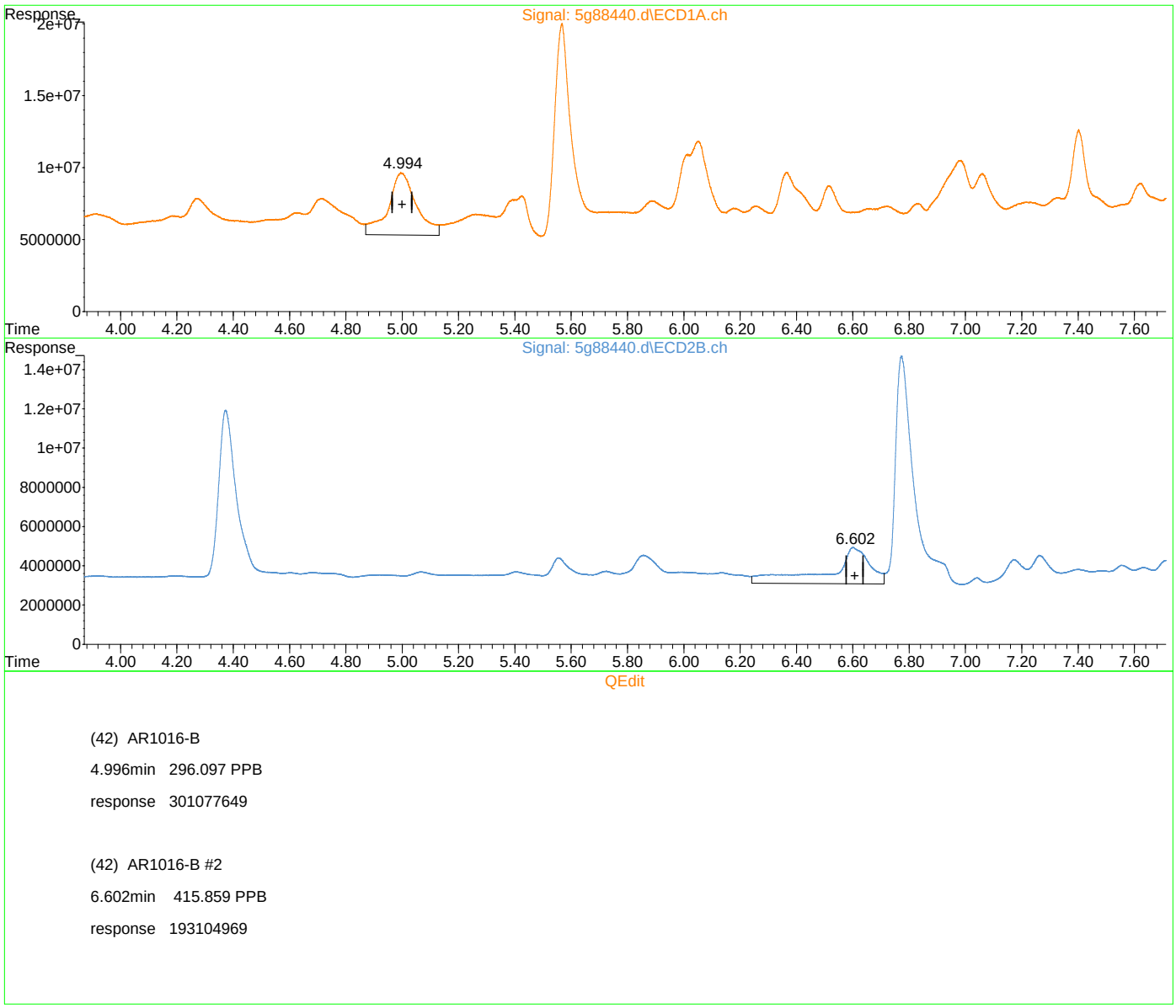
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:56:05 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(42) AR1016-B

4.996min 296.097 PPB

response 301077649

(42) AR1016-B #2

6.602min 415.859 PPB

response 193104969

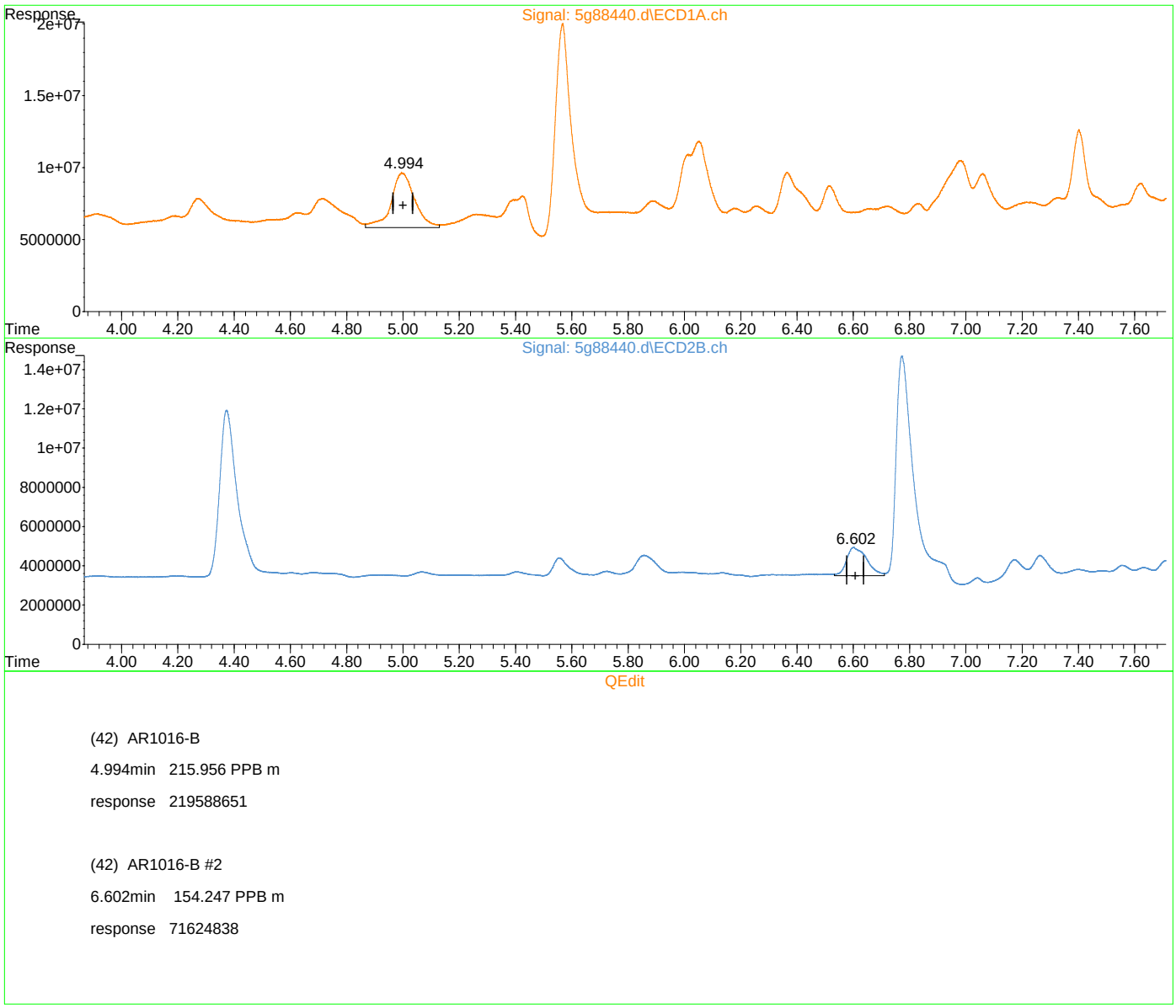
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:56:29 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(42) AR1016-B

4.994min 215.956 PPB m

response 219588651

(42) AR1016-B #2

6.602min 154.247 PPB m

response 71624838

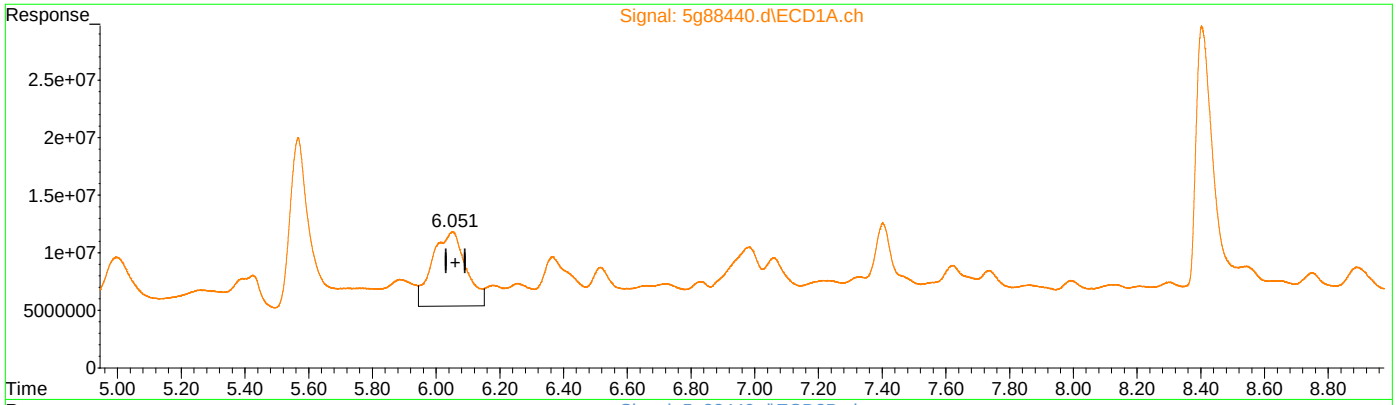
(+) = Expected Retention Time
5pcb2127.m Wed May 15 13:57:29 2019

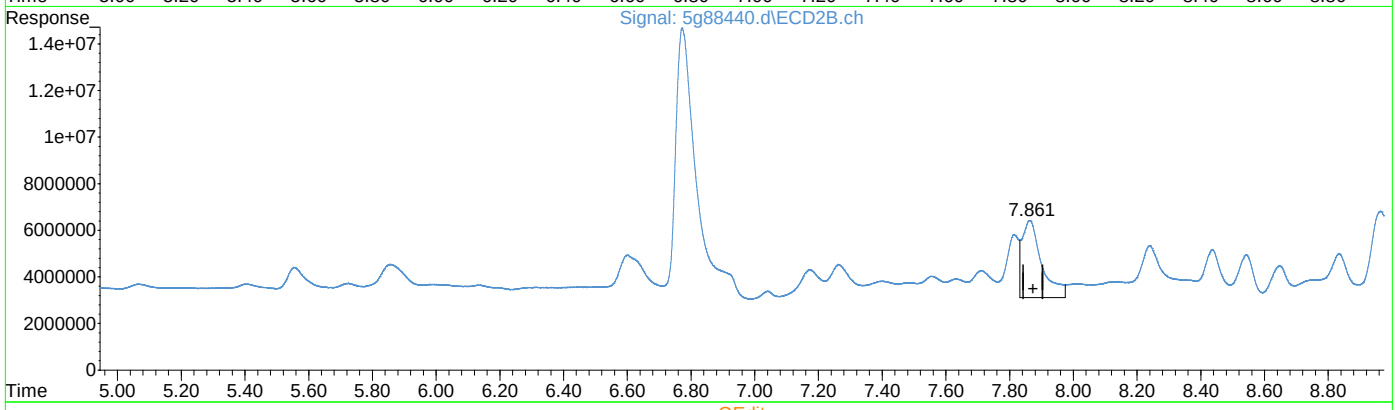
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.051min 224.092 PPB

response 474636221

(43) AR1016-C #2

7.863min 136.485 PPB

response 142534895

(+) = Expected Retention Time

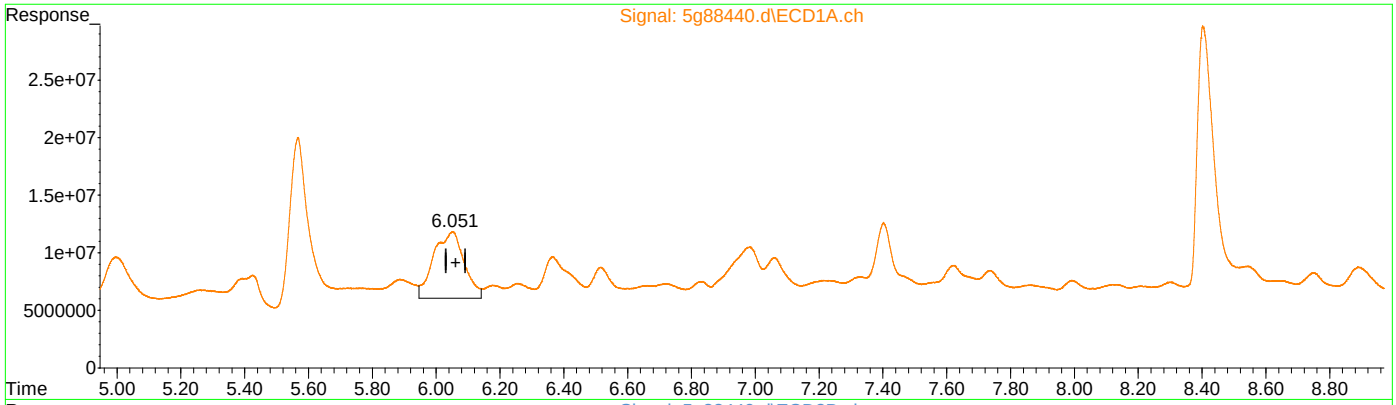
5pcb2127.m Wed May 15 13:59:05 2019

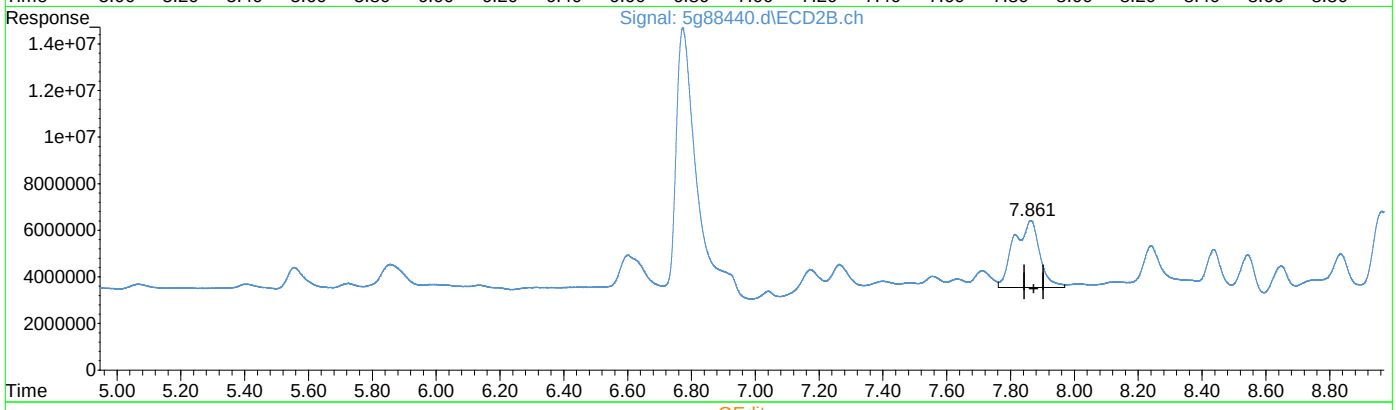
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.051min 181.596 PPB m

response 384627483

(43) AR1016-C #2

7.861min 155.199 PPB m

response 162077610

(+) = Expected Retention Time

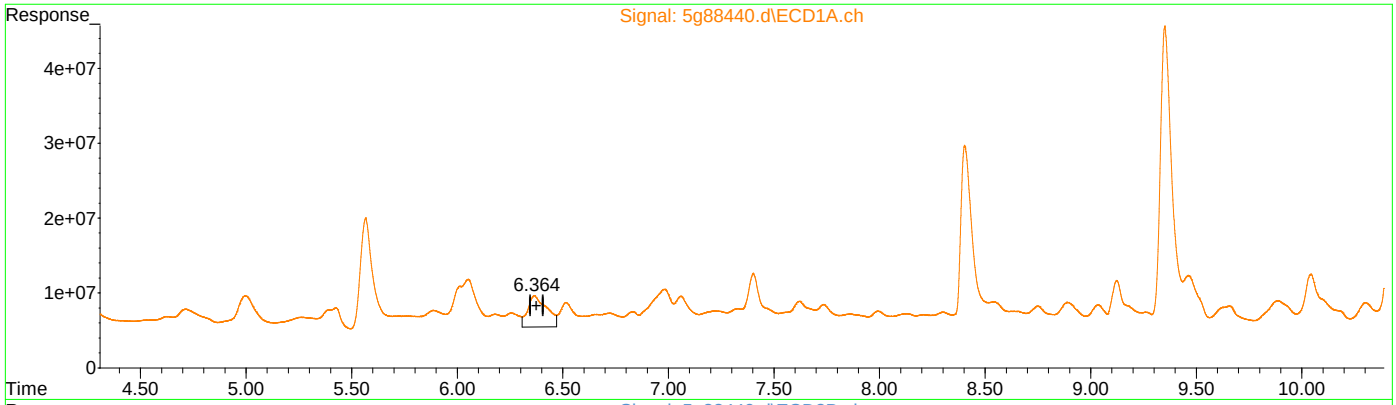
5pcb2127.m Wed May 15 13:59:56 2019

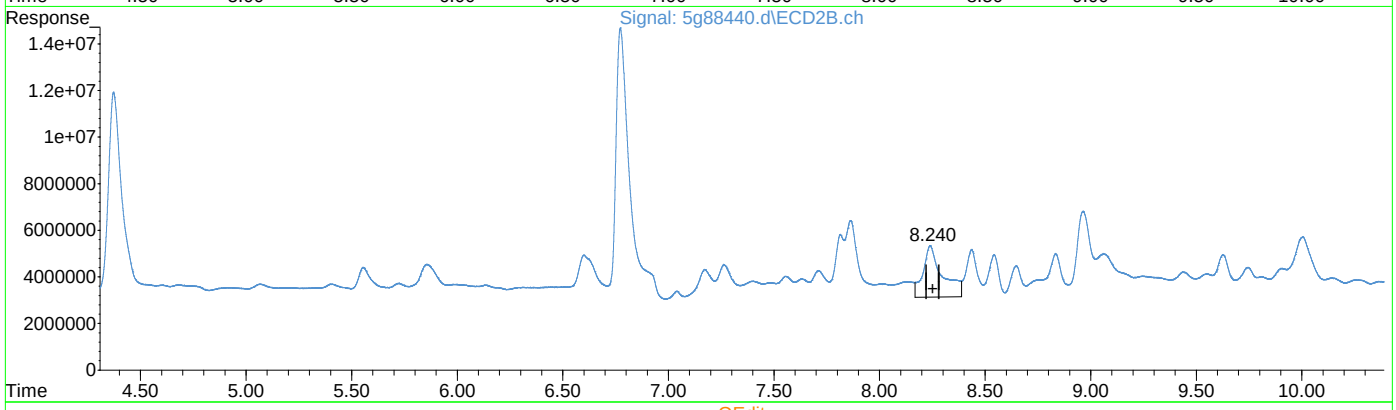
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(44) AR1016-D

6.365min 295.331 PPB

response 262599941

(44) AR1016-D #2

8.240min 354.953 PPB

response 140985255

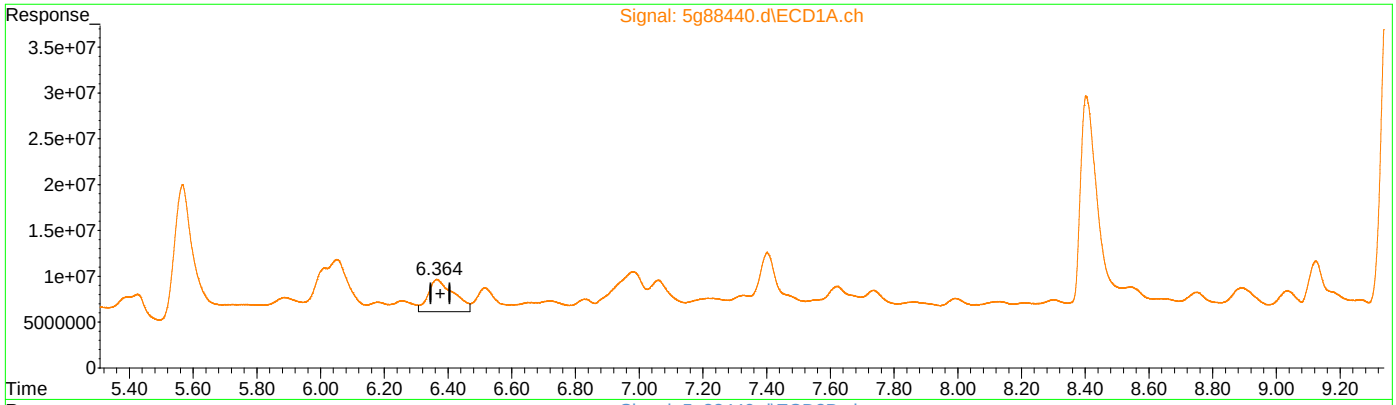
(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:00:10 2019

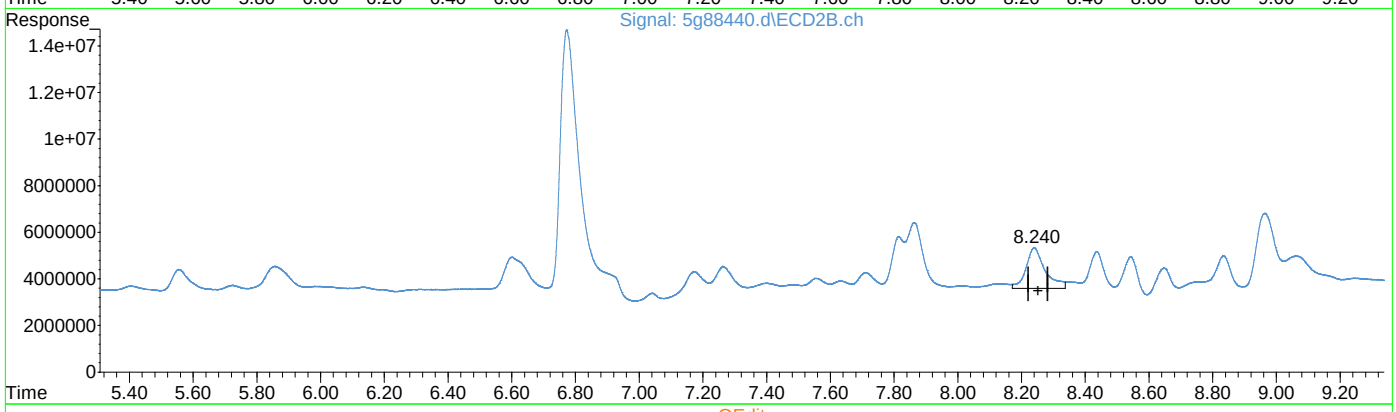
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(44) AR1016-D

6.364min 221.283 PPB m

response 196758713

(44) AR1016-D #2

8.240min 183.013 PPB m

response 72691752

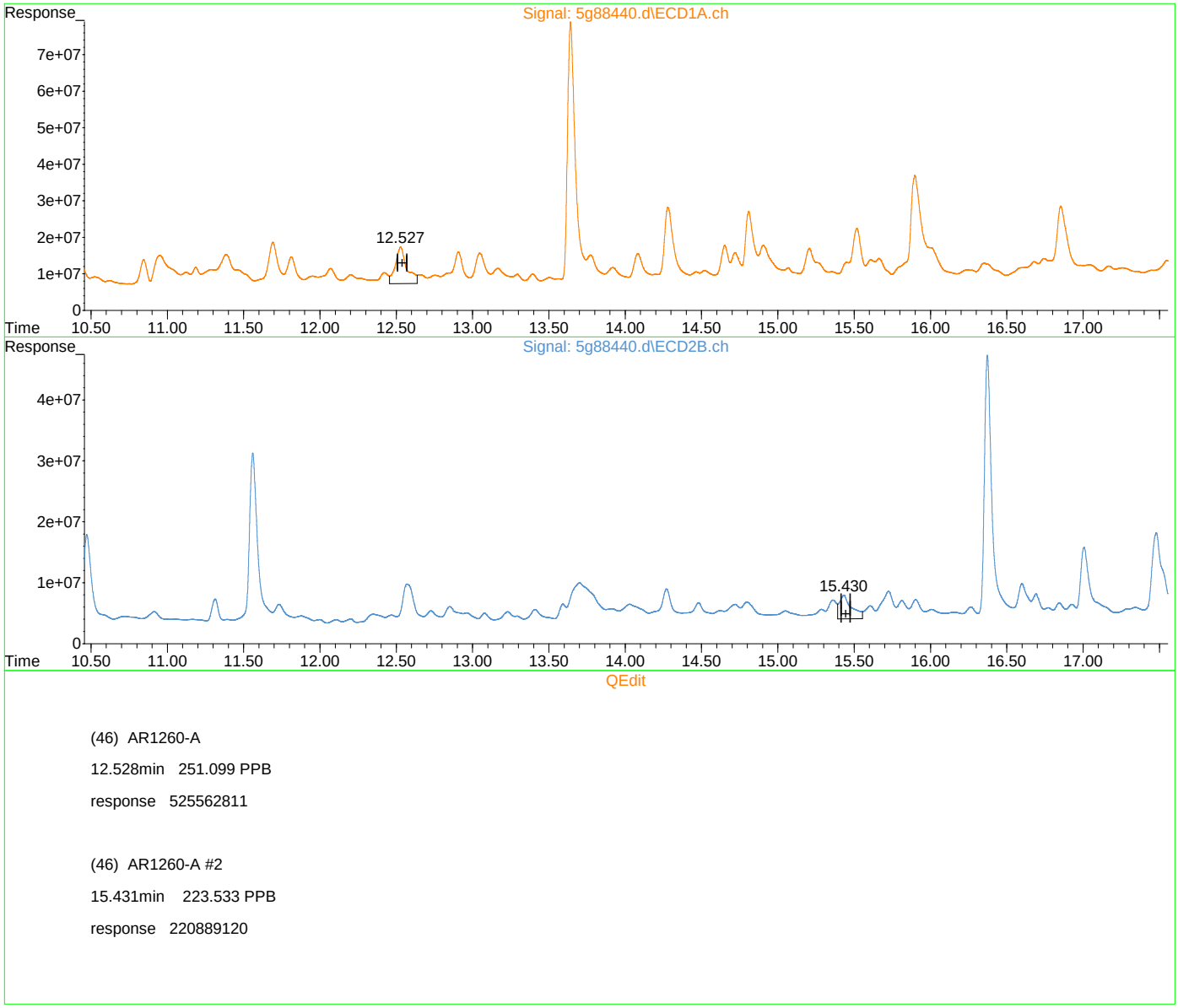
(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:01:06 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.528min 251.099 PPB

response 525562811

(46) AR1260-A #2

15.431min 223.533 PPB

response 220889120

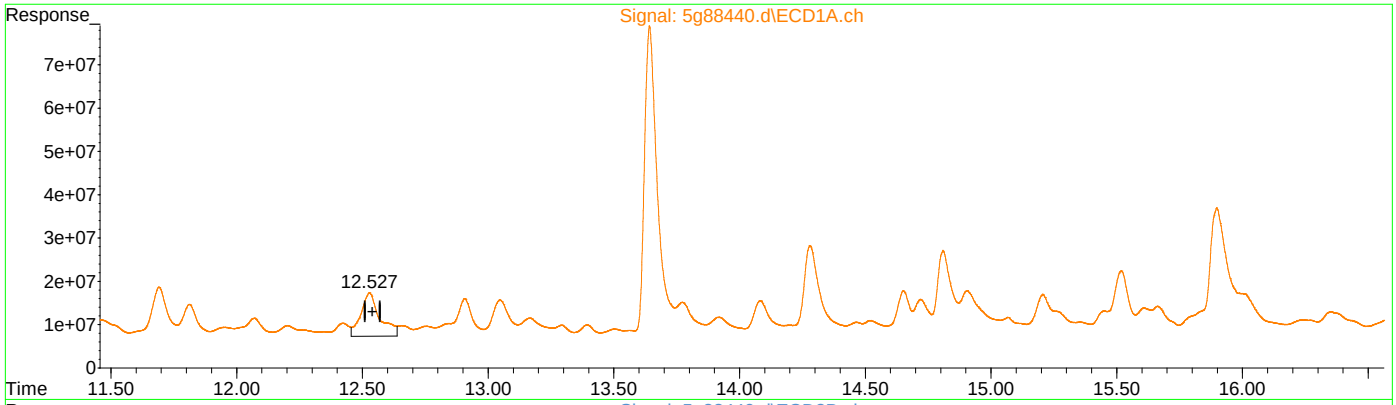
(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:01:21 2019

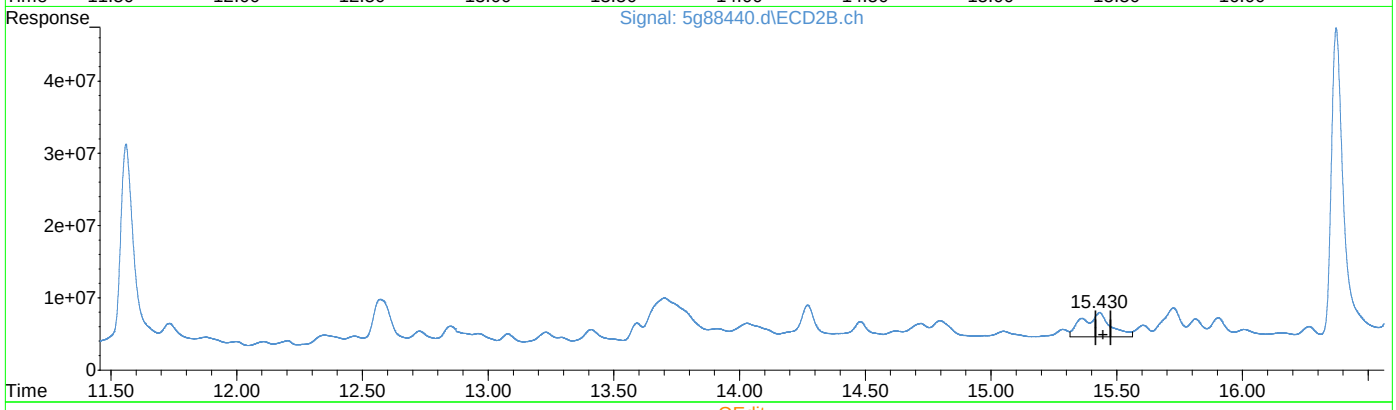
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.528min 251.099 PPB

response 525562811

(46) AR1260-A #2

15.430min 265.539 PPB m

response 262398319

(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:01:47 2019



11.4.2.11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um

QEdit

(49) AR1260-D

14.652min 113.313 PPB

response 338953983

(49) AR1260-D #2

0.000min 0.000 PPB

response 0

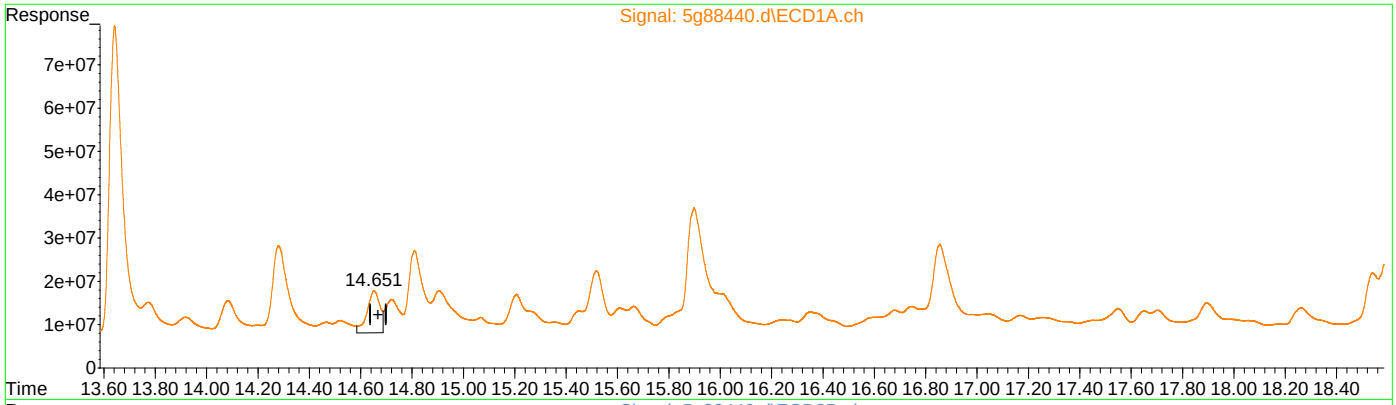
(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:02:21 2019

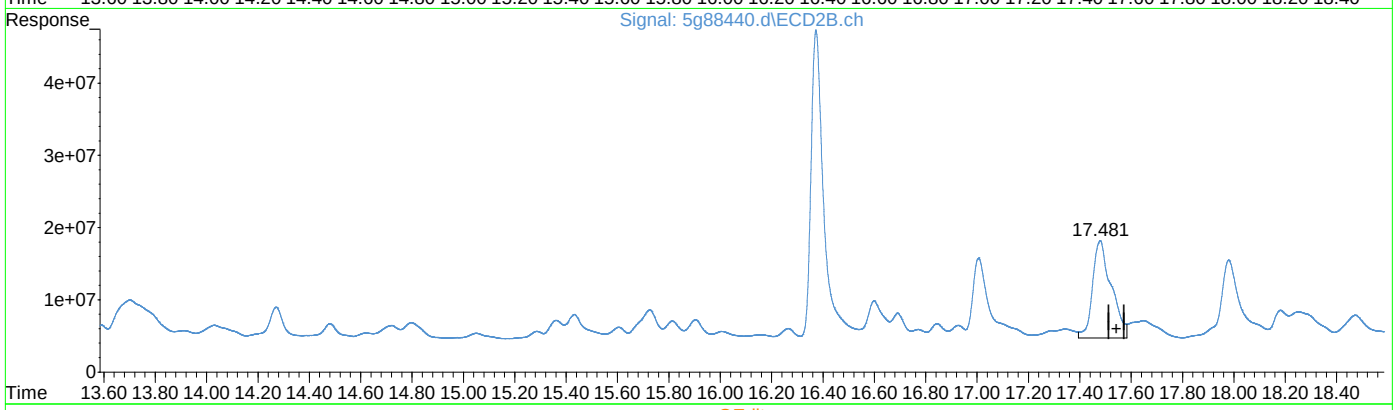
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(49) AR1260-D

14.652min 113.313 PPB

response 338953983

(49) AR1260-D #2

17.481min 460.586 PPB m

response 684622848

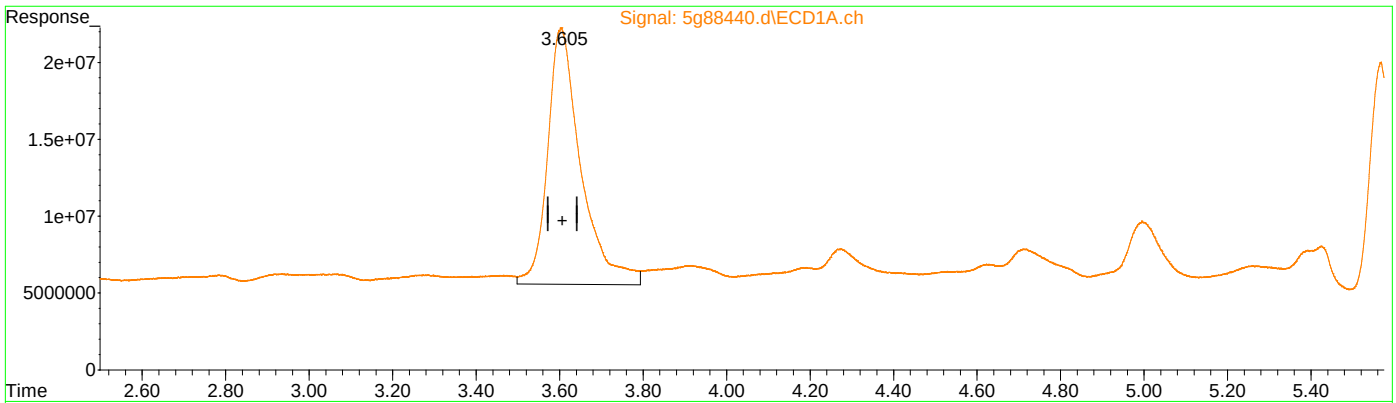
(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:02:51 2019

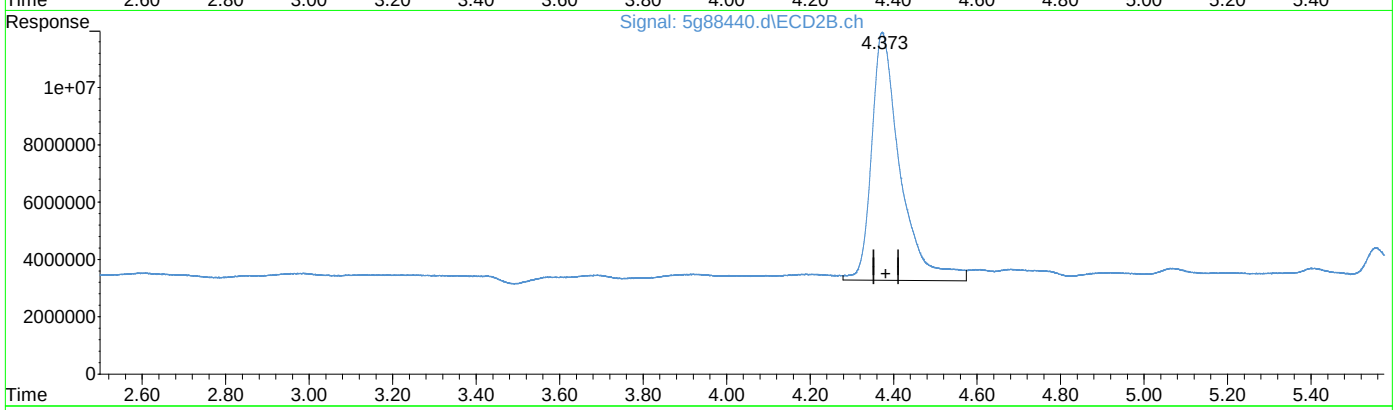
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(1) Tetrachloro-m-xylene (S)

3.603min 32.287 ppb

response 924680050

(1) Tetrachloro-m-xylene #2 (S)

4.373min 33.021 ppb

response 409846648

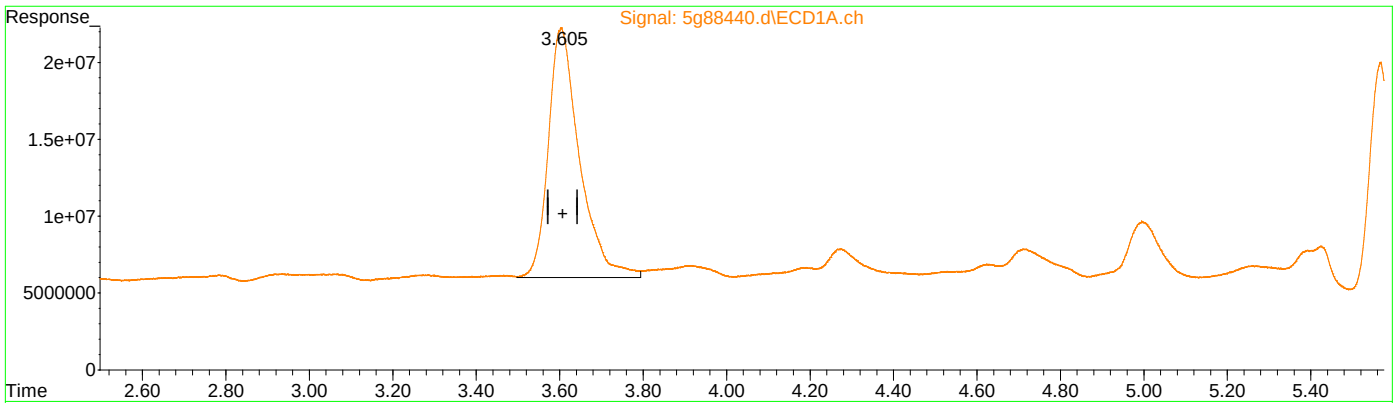
(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:03:31 2019

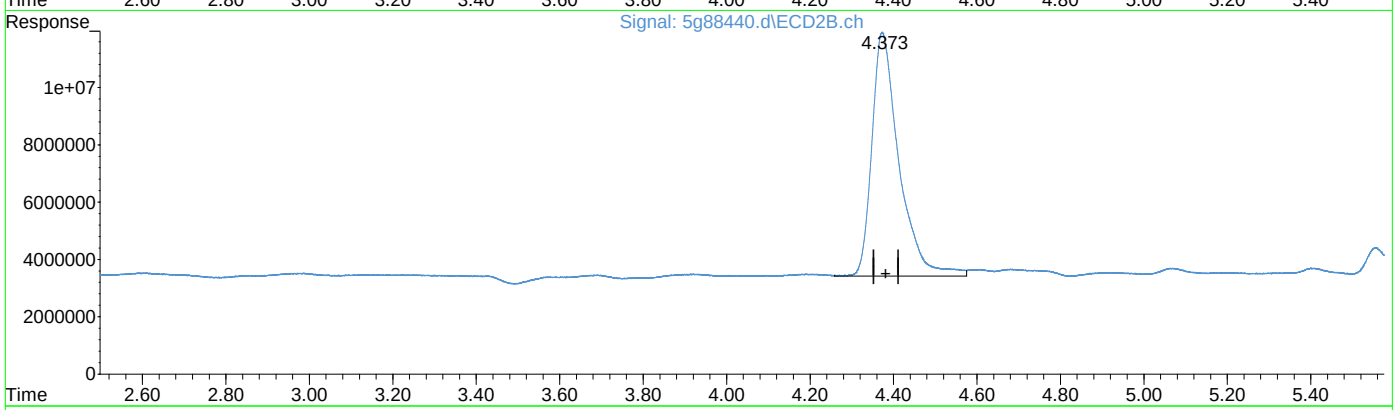
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88440.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  12:32 pm
Operator : summerk
Sample : op20312-msd
Misc : op20312,g5g2132,15.8,,,10,1
ALS Vial : 36  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:32:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(1) Tetrachloro-m-xylene (S)

3.605min 29.547 ppb m

response 846214257

(1) Tetrachloro-m-xylene #2 (S)

4.373min 30.884 ppb m

response 383323642

(+) = Expected Retention Time
5pcb2127.m Wed May 15 14:04:20 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:27:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.066 | 3.476 | 8056977 | 55330321 | 1.888m | 1.796m |
| | Spiked Amount 40.000 | | | Recovery | = | 4.72% | 4.49% |
| 51) | S Decachlor... | 10.399 | 11.781 | 9546098 | 67998213 | 2.097 | 2.633 # |
| | Spiked Amount 40.000 | | | Recovery | = | 5.24% | 6.58% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.468 | 4.113 | 5239337 | 29696918 | 58.139m | 55.649m |
| 32) | AR1016-B | 3.881 | 4.655 | 10239256 | 62592197 | 60.946m | 52.854 |
| 33) | AR1016-C | 4.453 | 5.271 | 19490176 | 127.4E6 | 48.319 | 48.767 |
| 34) | AR1016-D | 4.628f | 5.457 | 8180517 | 53623818 | 54.853 | 50.971 |
| 35) | AR1016-E | 5.140 | 6.104 | 8634161 | 38053863 | 55.936 | 48.760 |
| 36) | AR1260-A | 7.533 | 8.685 | 17815136 | 122.1E6 | 40.750 | 50.393m |
| 37) | AR1260-B | 7.689 | 8.804 | 10779133 | 69389161 | 35.657 | 52.282 # |
| 38) | AR1260-C | 8.029 | 9.234 | 11583226 | 77046748 | 43.939 | 49.780 |
| 39) | AR1260-D | 8.465 | 9.583 | 27323925 | 161.9E6 | 36.499 | 48.471 # |
| 40) | AR1260-E | 8.864f | 10.125 | 28268519 | 175.7E6 | 43.080m | 53.101m |

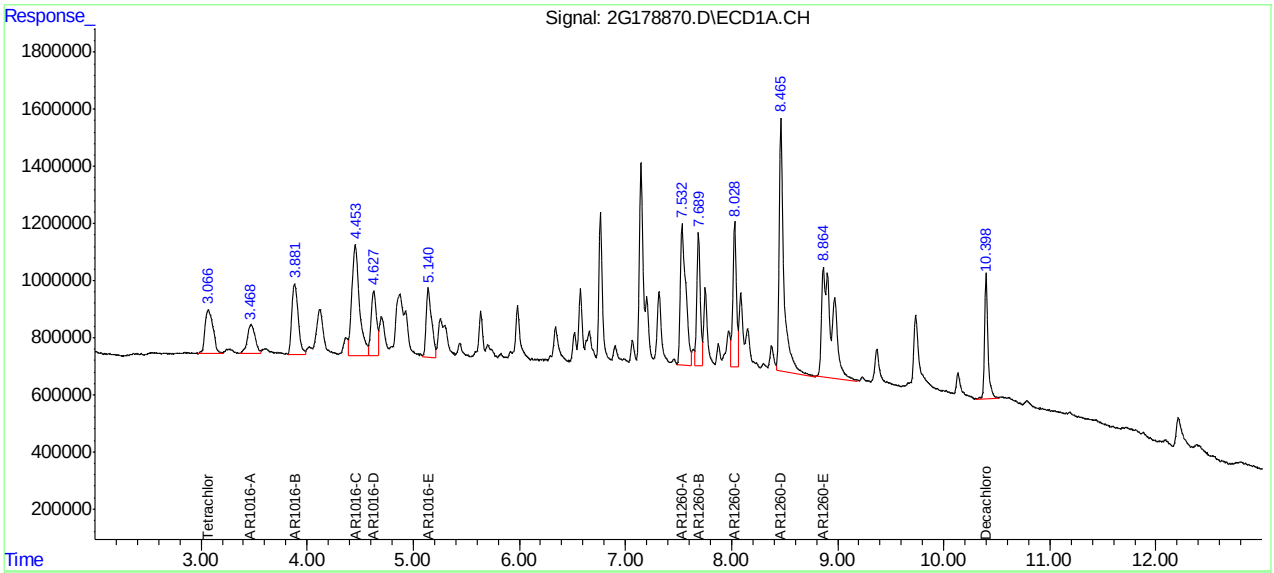
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

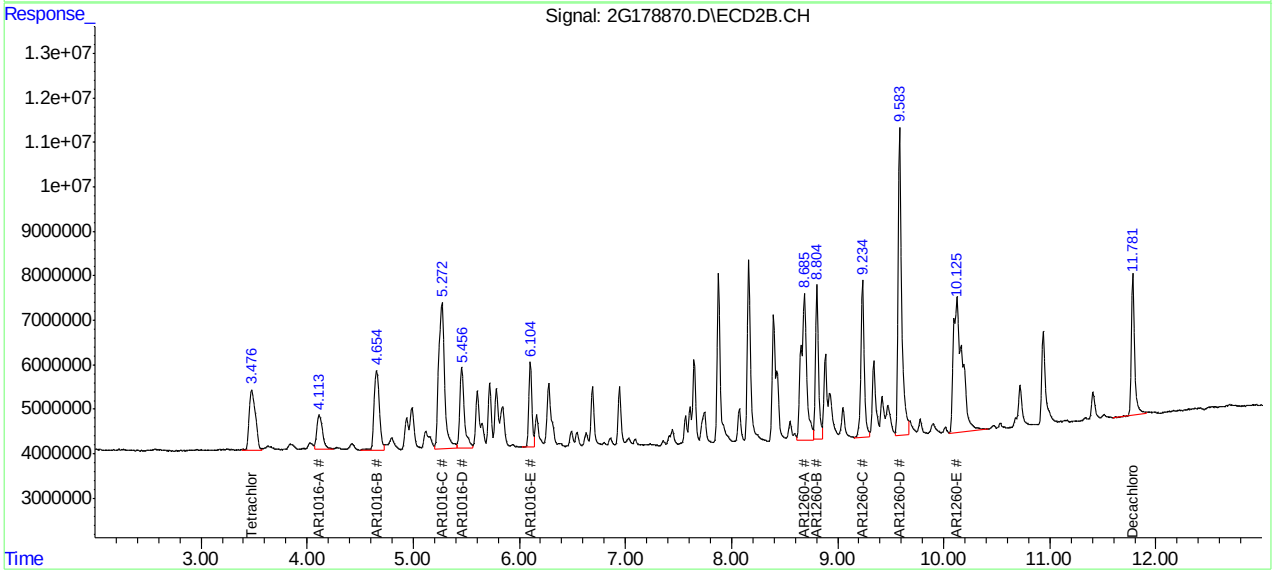
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:27:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



**Sample Number:** G2G4640-IC4640 **Method:** SW846 8082A
**Lab FileID:** 2G178870.D **Analyst approved:** 04/26/19 09:02 Tianwei Ruan
**Injection Time:** 04/25/19 13:04 **Supervisor approved:** 04/26/19 12:14 Gwendolyn Burns

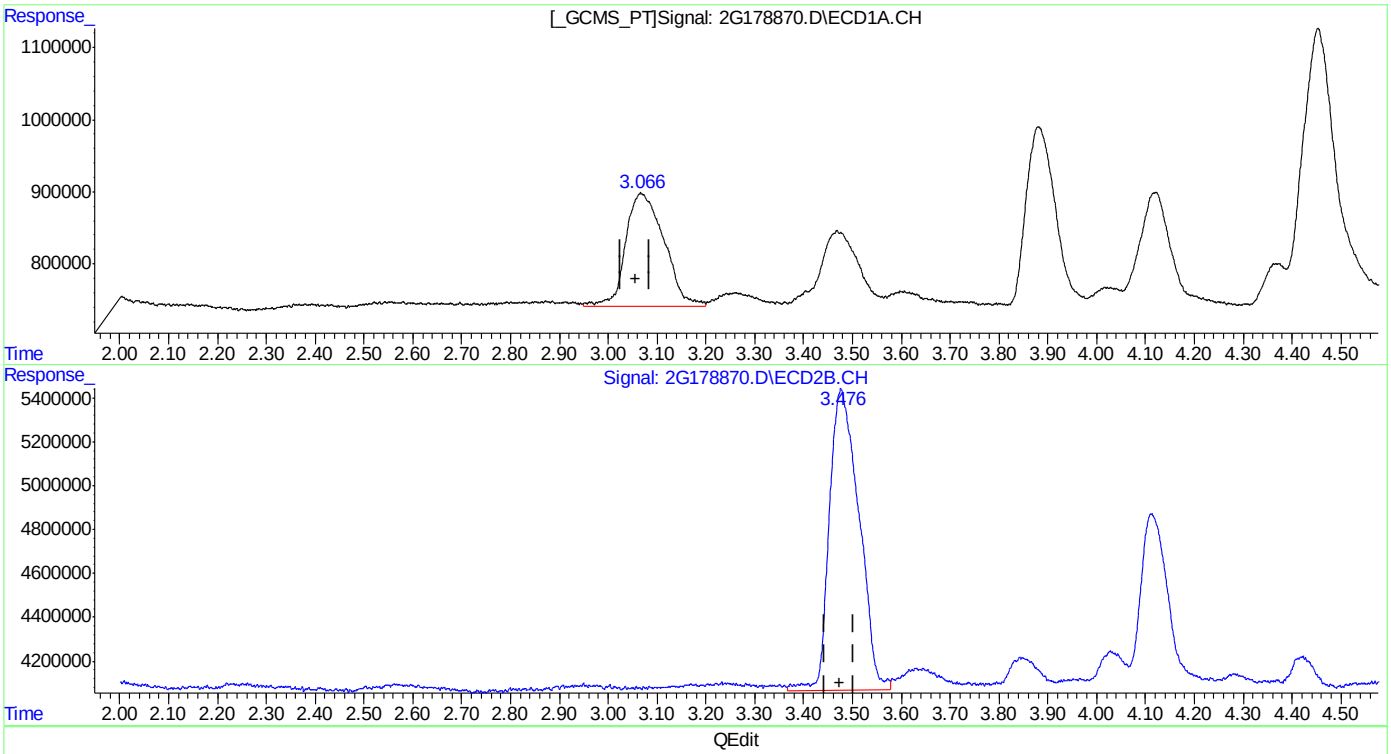
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Tetrachloro-m-xylene | 877-09-8 | 1 | 3.07 | Poorly defined baseline |
| AR1016-A | | 1 | 3.47 | Split peak |
| Tetrachloro-m-xylene | 877-09-8 | 2 | 3.48 | Poorly defined baseline |
| AR1016-B | | 1 | 3.88 | Split peak |
| AR1016-A | | 2 | 4.11 | Split peak |
| AR1260-A | | 2 | 8.69 | Split peak |
| AR1260-E | | 1 | 8.86 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(1) Tetrachloro-m-xylene (S)
3.067min 2.023ppb
response 8631255

(1) Tetrachloro-m-xylene #2 (S)
3.477min 1.882ppb
response 57974745

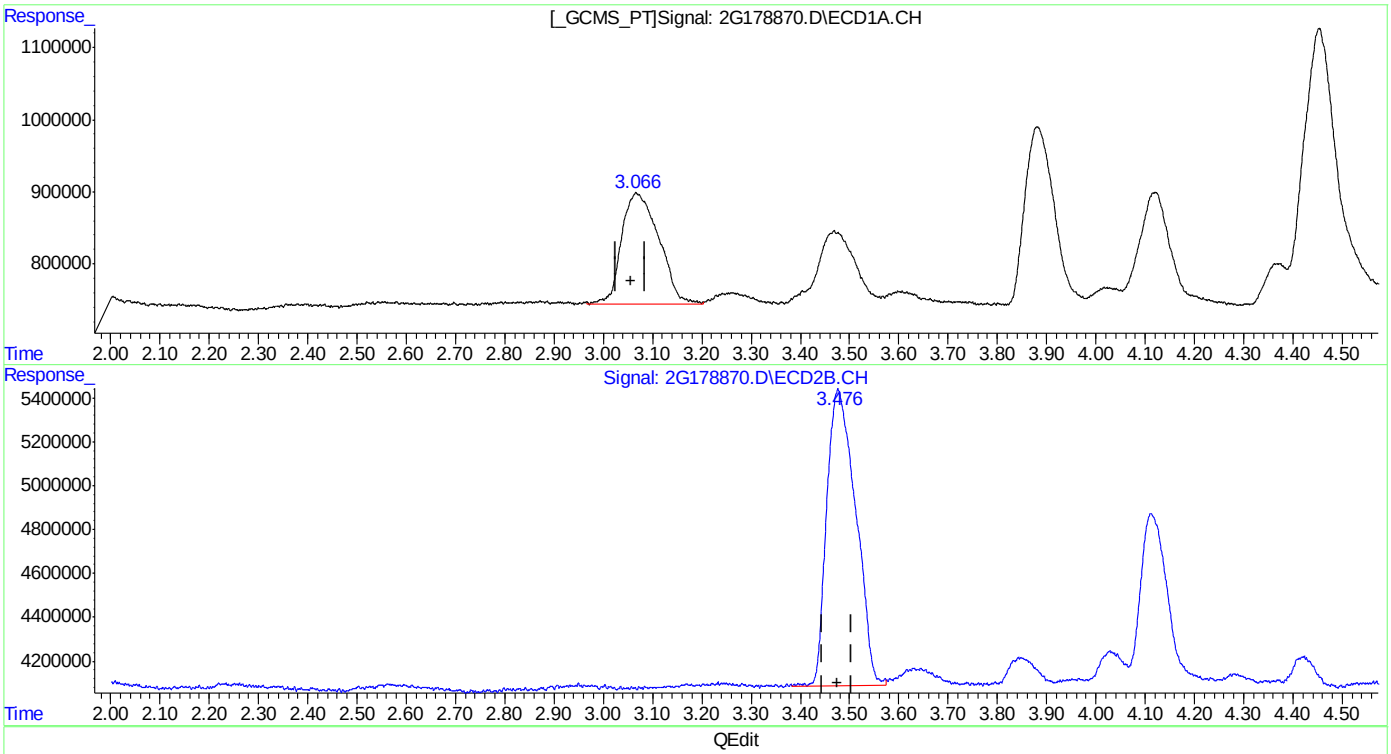
(+) = Expected Retention Time

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(1) Tetrachloro-m-xylene (S)
3.066min 1.888ppb m
response 8056977

(1) Tetrachloro-m-xylene #2 (S)
3.476min 1.796ppb m
response 55330321

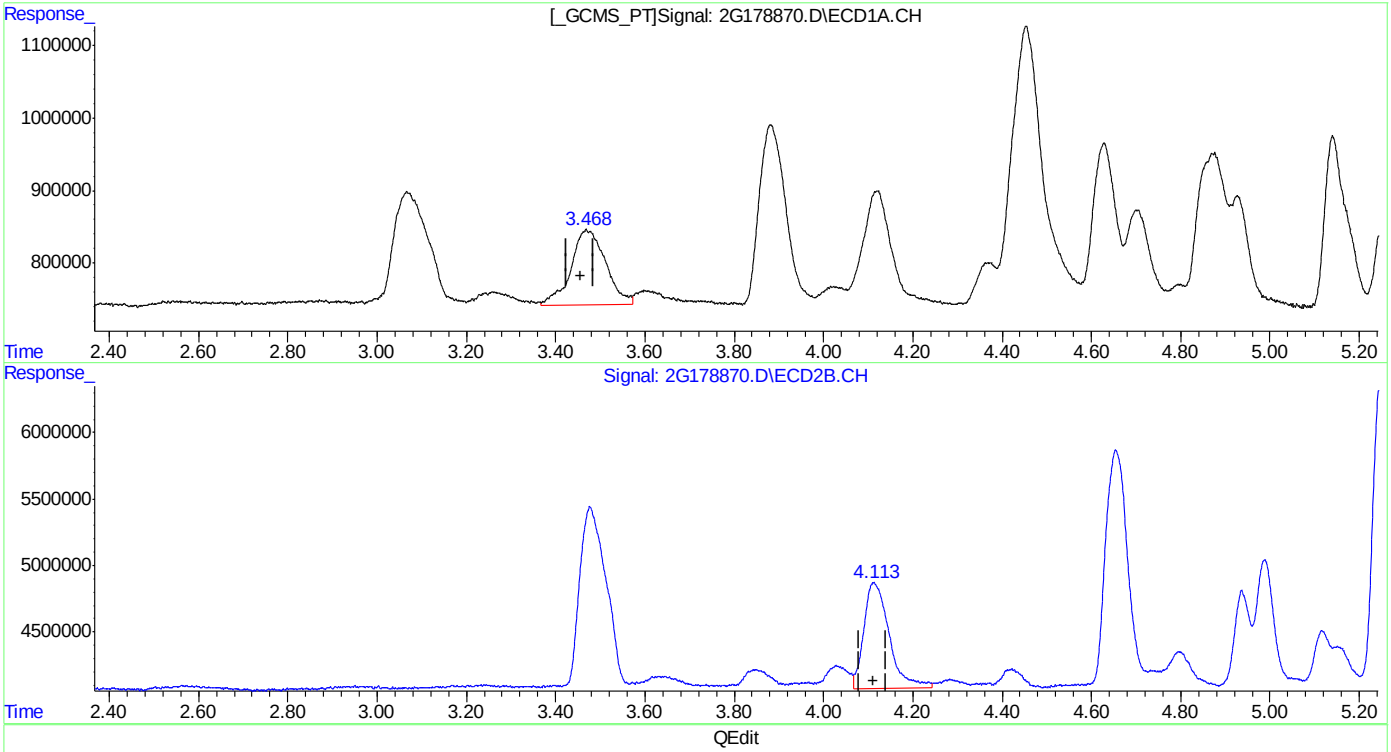
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(31) AR1016-A
3.468min 61.796PPB
response 5568871

(31) AR1016-A #2
4.113min 59.503PPB
response 31753696

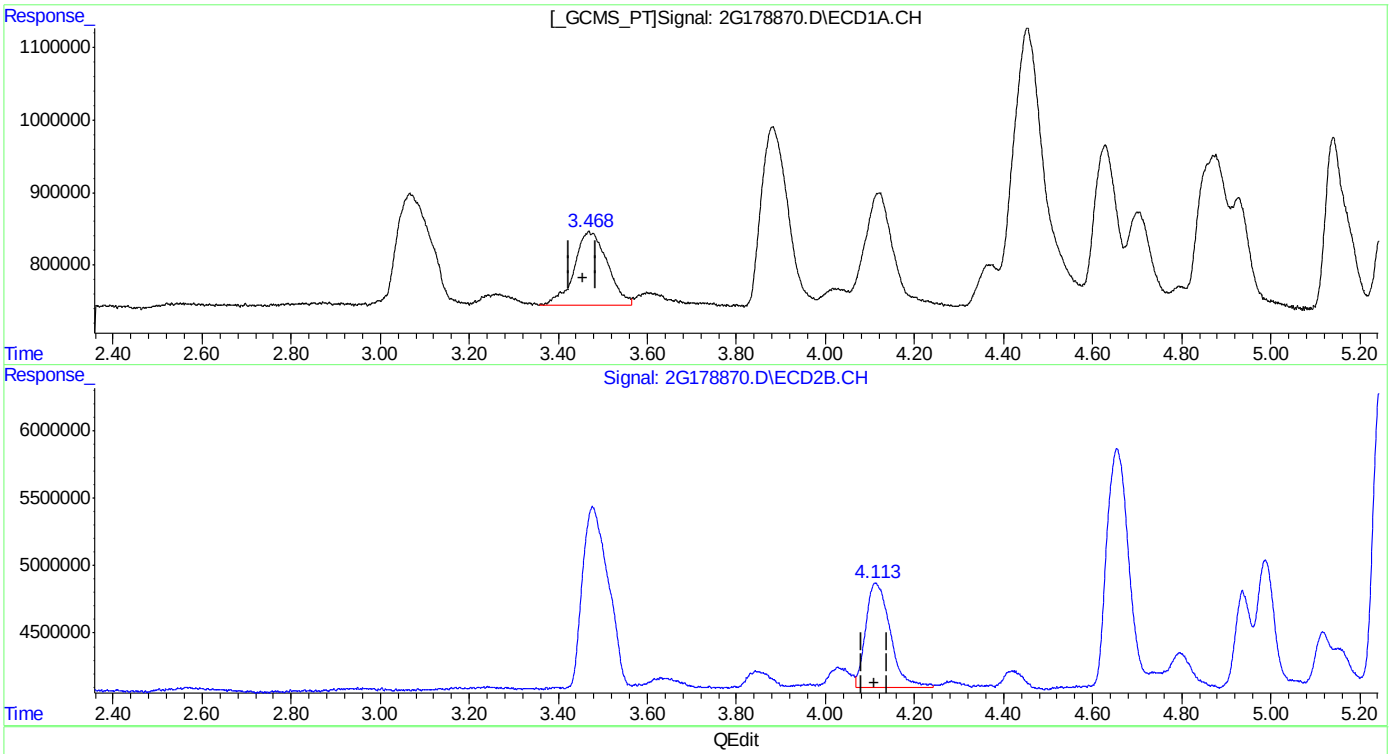
(+) = Expected Retention Time

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(31) AR1016-A
3.468min 58.139PPB m
response 5239337

(31) AR1016-A #2
4.113min 55.649PPB m
response 29696918

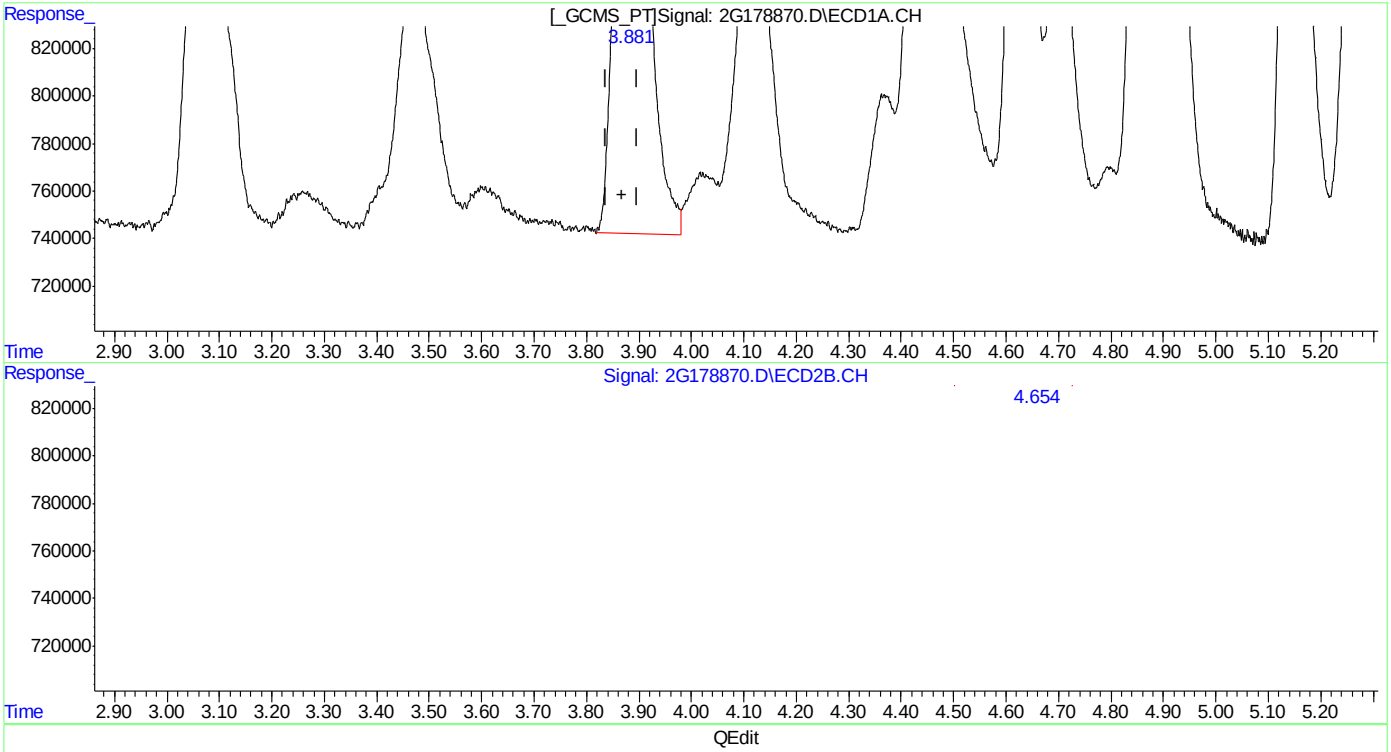
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:27:00 2019 RPT1

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(32) AR1016-B
3.881min 61.099PPB
response 10265051

(32) AR1016-B #2
4.655min 52.854PPB
response 62592197

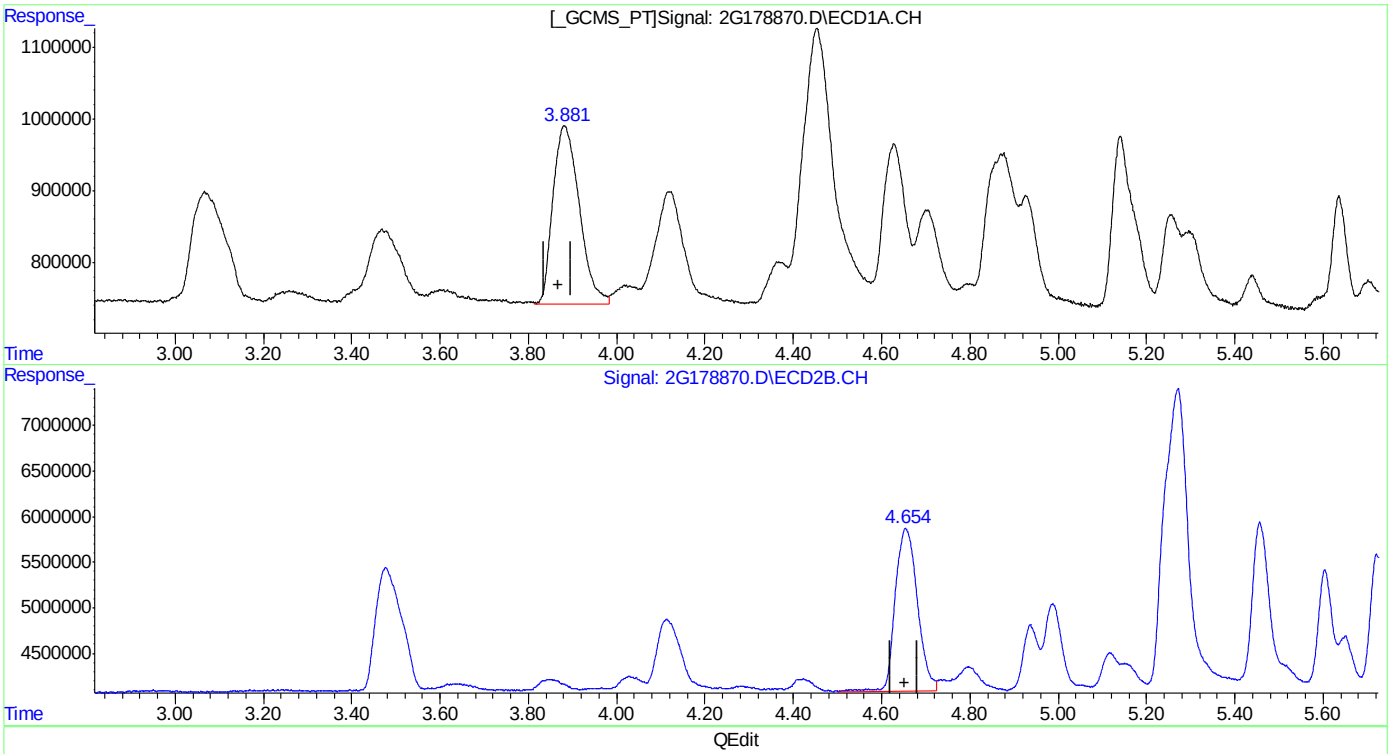
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(32) AR1016-B
3.881min 60.946PPB m
response 10239256

(32) AR1016-B #2
4.655min 52.854PPB
response 62592197

(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:27:22 2019 RPT1









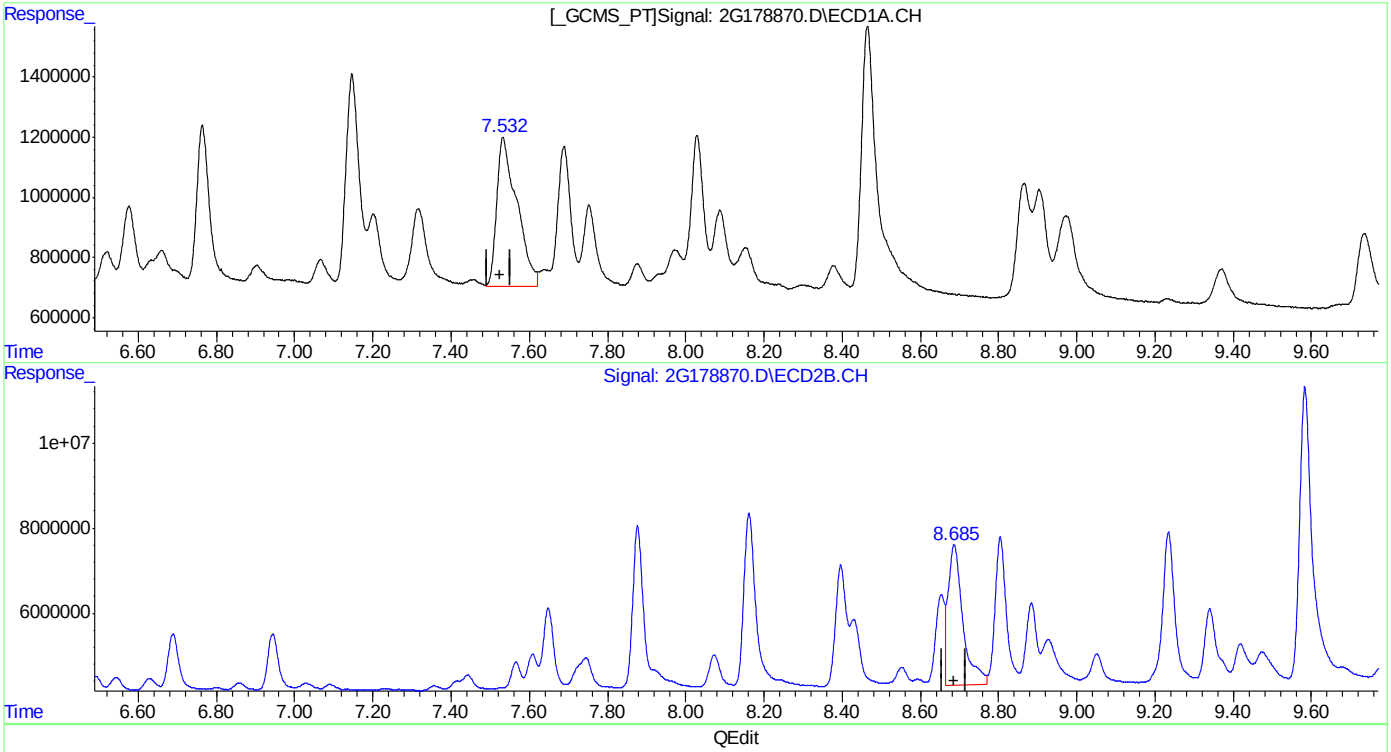
SGS JC87535

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.533min 40.750PPB
response 17815136

(36) AR1260-A #2
8.686min 36.395PPB
response 88187541

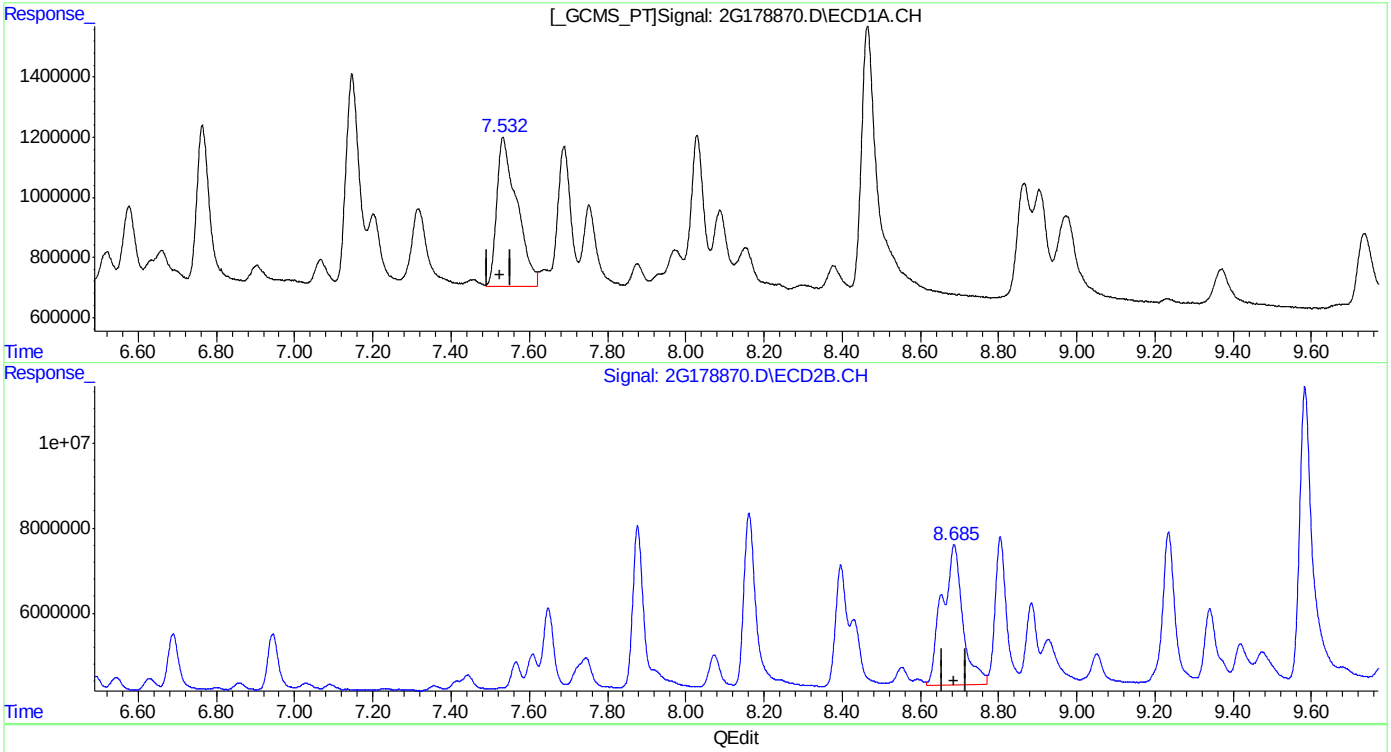
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.533min 40.750PPB
response 17815136

(36) AR1260-A #2
8.685min 50.393PPB m
response 122107793

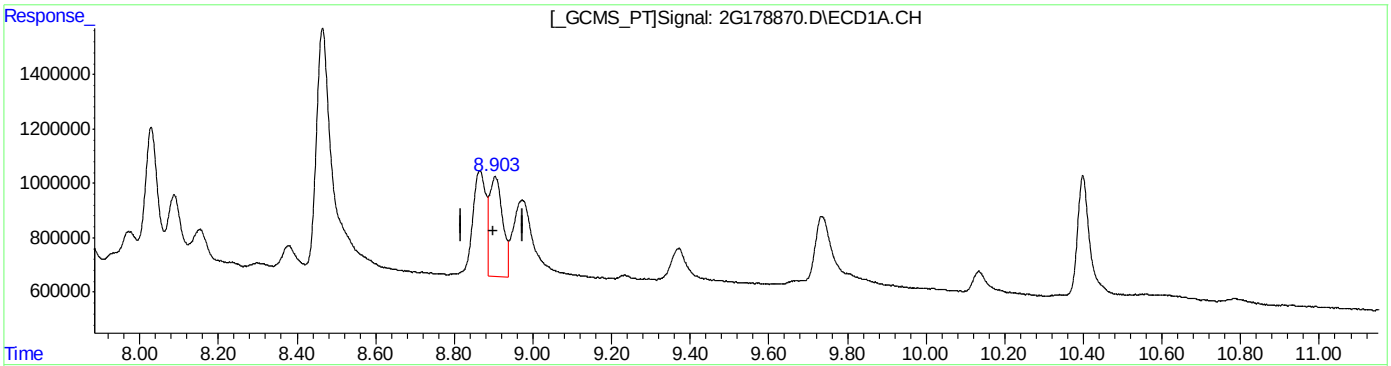
(+) = Expected Retention Time

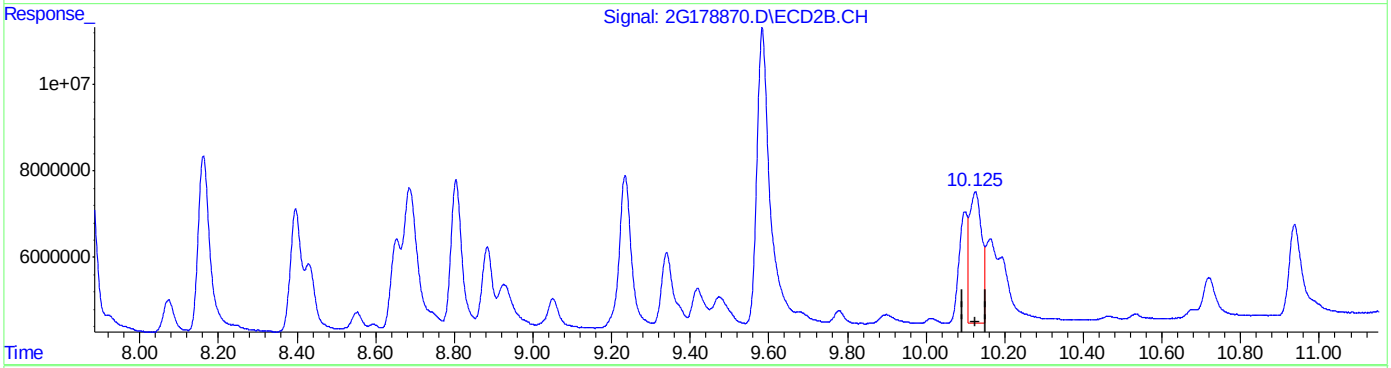
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.904min 13.139PPB
response 8621496

(40) AR1260-E #2
10.125min 19.896PPB
response 65816349

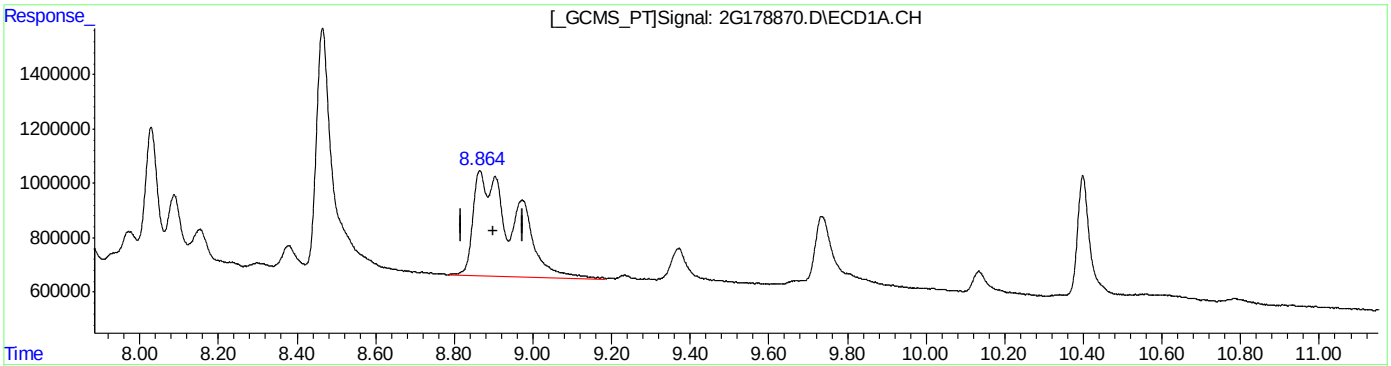
(+) = Expected Retention Time

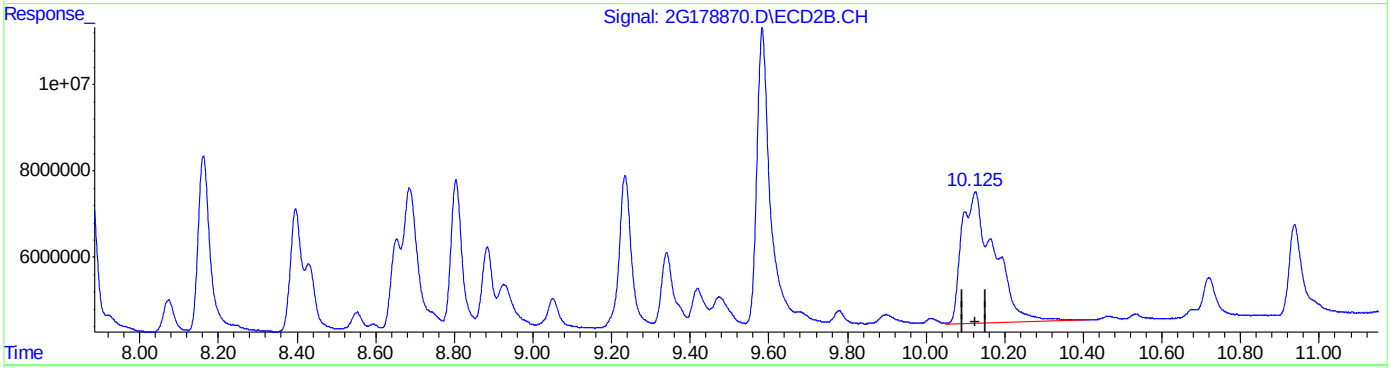
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178870.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:04 pm
Operator : tianweir
Sample : ic4640-50
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 3  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.864min 43.080PPB m
response 28268519

(40) AR1260-E #2
10.125min 53.101PPB m
response 175655785

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178871.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:21 pm
Operator : tianweir
Sample : ic4640-250
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:29:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.061 | 3.481 | 36753693 | 264.1E6 | 8.615 | 8.574 |
| | Spiked Amount 40.000 | | | Recovery | = | 21.54% | 21.43% |
| 51) | S Decachlor... | 10.392 | 11.781 | 47555160 | 290.9E6 | 10.445 | 11.265 |
| | Spiked Amount 40.000 | | | Recovery | = | 26.11% | 28.16% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.462 | 4.114 | 22350431 | 132.7E6 | 248.014 | 248.682 |
| 32) | AR1016-B | 3.873 | 4.656 | 43943845 | 269.6E6 | 261.562 | 227.694 |
| 33) | AR1016-C | 4.443 | 5.270 | 89740076 | 581.7E6 | 222.479 | 222.680 |
| 34) | AR1016-D | 4.617 | 5.457 | 35959043 | 247.0E6 | 241.117 | 234.814 |
| 35) | AR1016-E | 5.132 | 6.103 | 37704745 | 177.0E6 | 244.267 | 226.804 |
| 36) | AR1260-A | 7.526 | 8.686 | 81073072 | 561.6E6 | 185.444 | 231.766m |
| 37) | AR1260-B | 7.680 | 8.803 | 47431130 | 317.8E6 | 156.901 | 239.434 # |
| 38) | AR1260-C | 8.022 | 9.233 | 49834723 | 355.5E6 | 189.039 | 229.689 |
| 39) | AR1260-D | 8.457 | 9.583 | 126.0E6 | 757.7E6 | 168.367 | 226.895 # |
| 40) | AR1260-E | 8.857f | 10.124 | 129.0E6 | 802.4E6 | 196.665m | 242.572m |

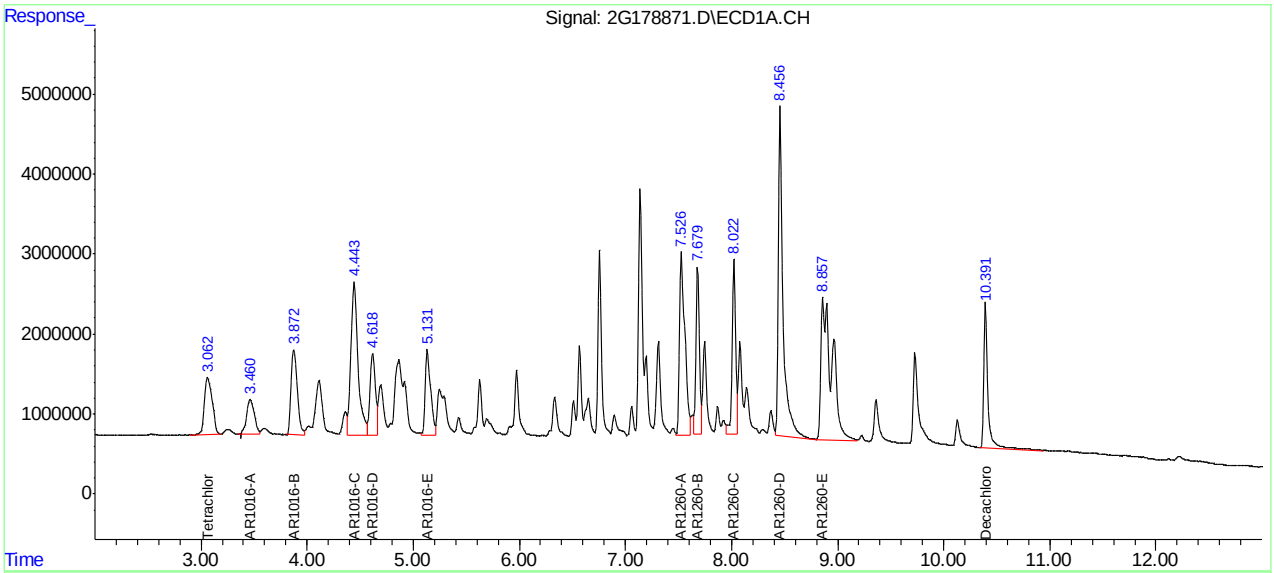
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

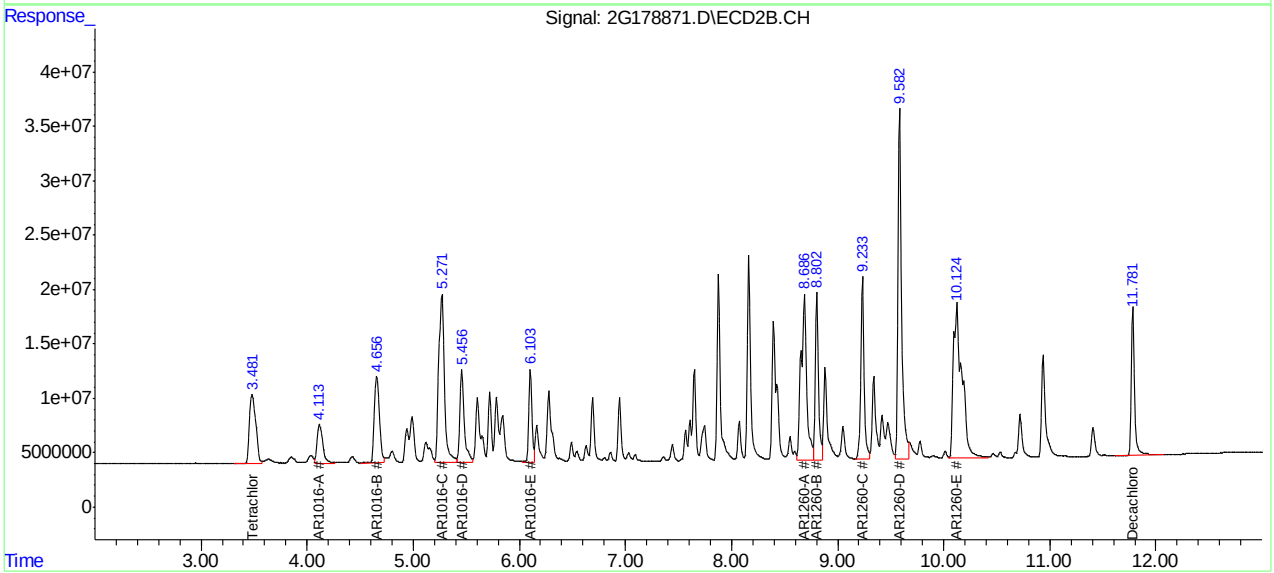
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178871.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:21 pm
Operator : tianweir
Sample : ic4640-250
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:29:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-IC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178871.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 13:21 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

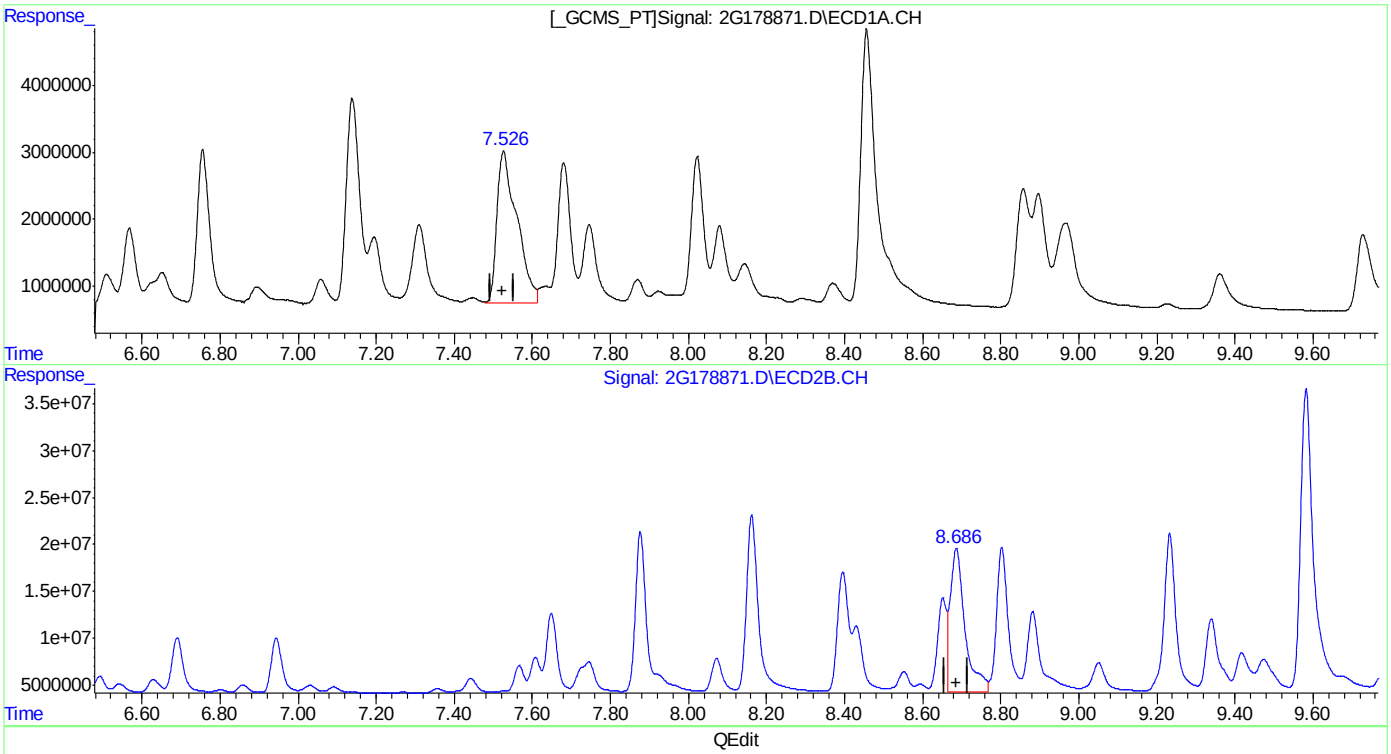
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.69 | Split peak |
| AR1260-E | | 1 | 8.86 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178871.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:21 pm
Operator : tianweir
Sample : ic4640-250
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 4  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:28:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(36) AR1260-A
7.526min 185.444PPB
response 81073072

(36) AR1260-A #2
8.687min 167.222PPB
response 405194649

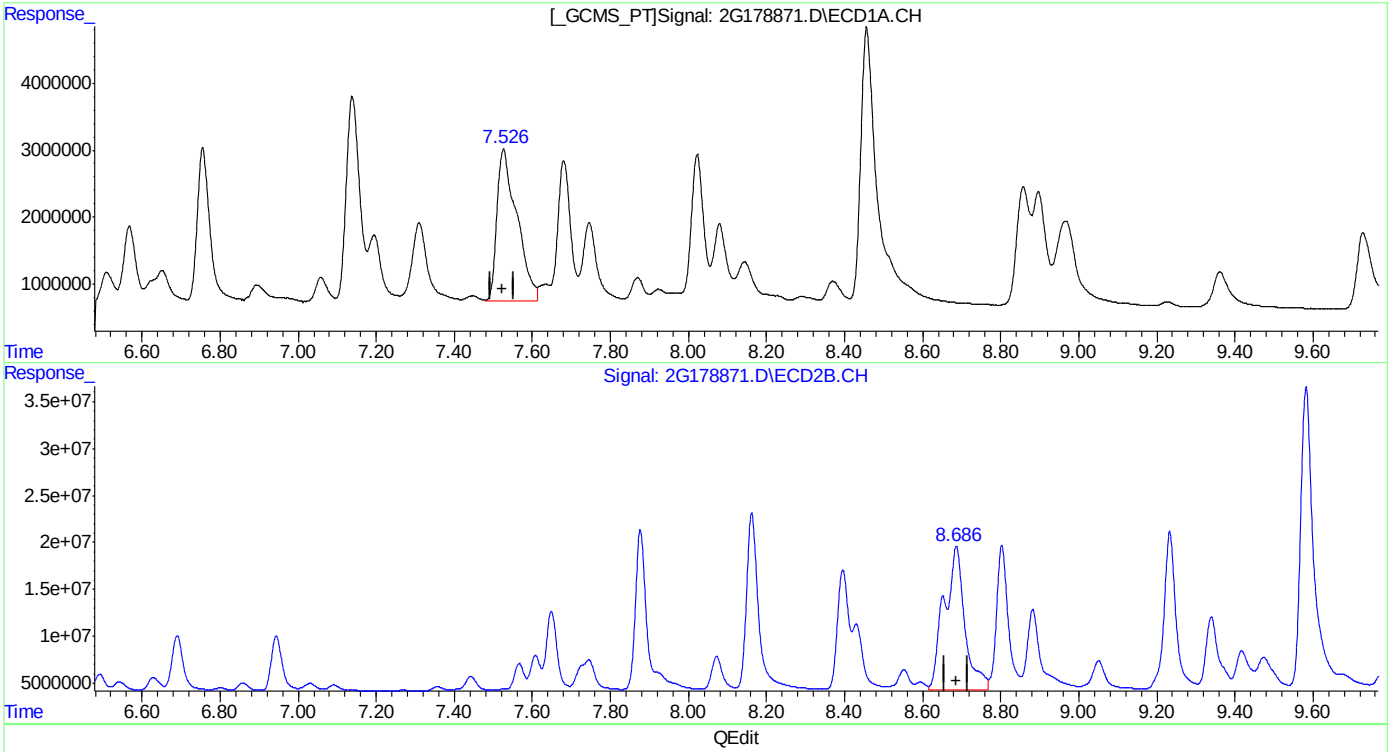
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:28:47 2019 RPT1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178871.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:21 pm
Operator : tianweir
Sample : ic4640-250
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 4  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:28:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(36) AR1260-A
7.526min 185.444PPB
response 81073072

(36) AR1260-A #2
8.686min 231.766PPB m
response 561590705

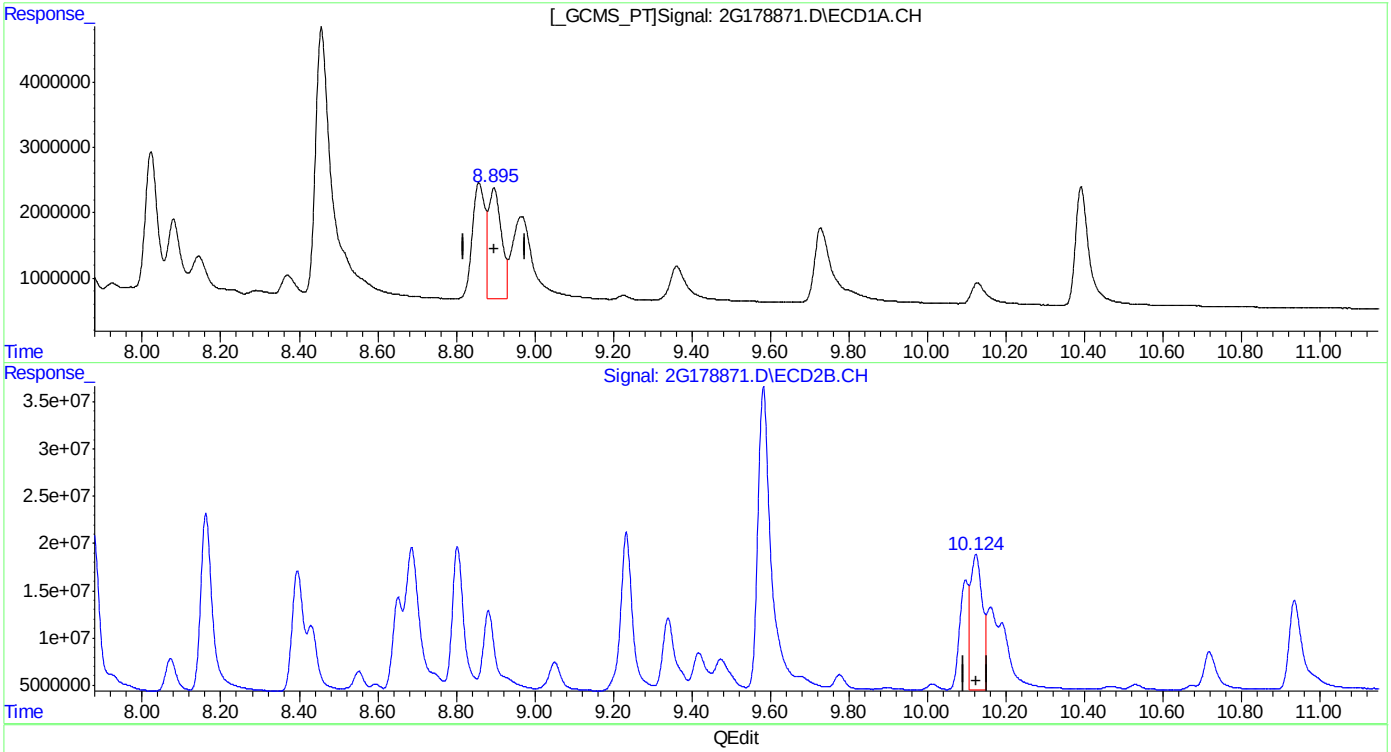
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:28:53 2019 RPT1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178871.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:21 pm
Operator : tianweir
Sample : ic4640-250
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 4  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:28:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.896min 59.840PPB
response 39266689

(40) AR1260-E #2
10.124min 91.929PPB
response 304094979

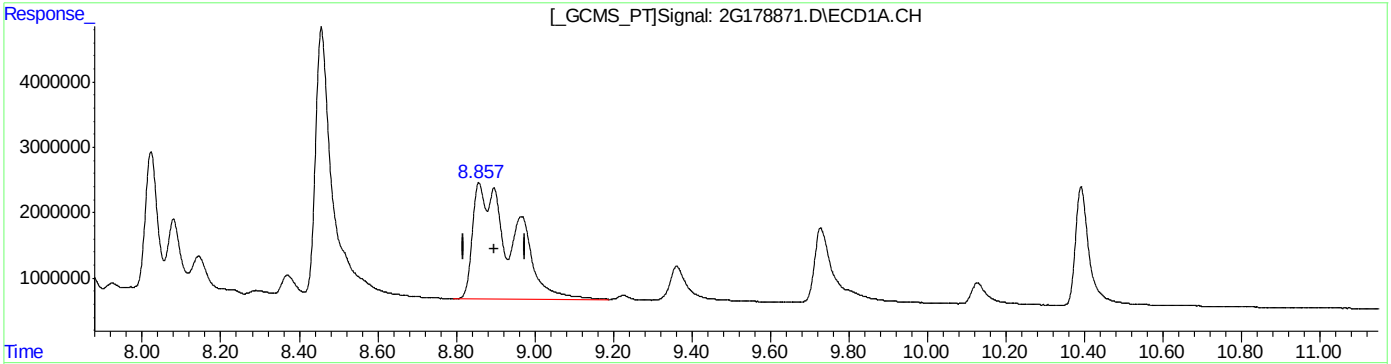
(+) = Expected Retention Time

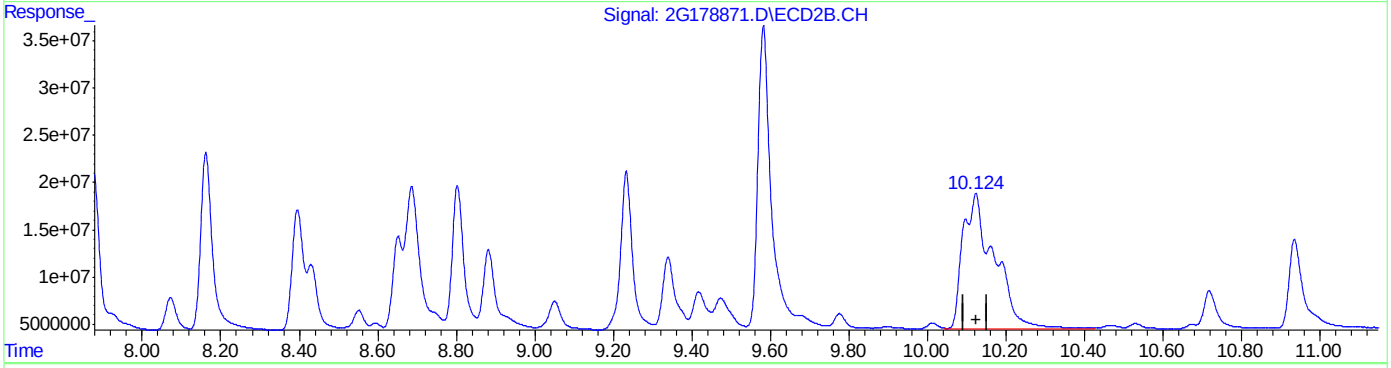
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178871.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:21 pm
Operator : tianweir
Sample : ic4640-250
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 4  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:28:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.857min 196.665PPB m
response 129049900

(40) AR1260-E #2
10.124min 242.572PPB m
response 802414285

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178872.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:38 pm
Operator : tianweir
Sample : ic4640-500
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:31:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.062 | 3.480 | 75360357 | 524.5E6 | 17.664 | 17.026 |
| | Spiked Amount 40.000 | | | Recovery | = | 44.16% | 42.56% |
| 51) | S Decachlor... | 10.392 | 11.780 | 86827816 | 555.6E6 | 19.071 | 21.517 |
| | Spiked Amount 40.000 | | | Recovery | = | 47.68% | 53.79% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.459 | 4.115 | 43914538 | 254.6E6 | 487.302 | 477.152 |
| 32) | AR1016-B | 3.873 | 4.655 | 83929212 | 516.9E6 | 499.562 | 436.455 |
| 33) | AR1016-C | 4.442 | 5.269 | 178.8E6 | 1148.3E6 | 443.178 | 439.579 |
| 34) | AR1016-D | 4.615 | 5.458 | 69456407 | 478.2E6 | 465.728 | 454.528 |
| 35) | AR1016-E | 5.130 | 6.104 | 72801190 | 345.1E6 | 471.637 | 442.135 |
| 36) | AR1260-A | 7.523 | 8.684 | 169.9E6 | 1126.2E6 | 388.610 | 464.765m |
| 37) | AR1260-B | 7.680 | 8.803 | 97204386 | 622.4E6 | 321.549 | 468.918 # |
| 38) | AR1260-C | 8.021 | 9.234 | 101.5E6 | 708.7E6 | 385.153 | 457.870 |
| 39) | AR1260-D | 8.455 | 9.582 | 275.2E6 | 1530.1E6 | 367.580 | 458.183 |
| 40) | AR1260-E | 8.855f | 10.123 | 264.5E6 | 1597.8E6 | 403.070m | 483.006m |

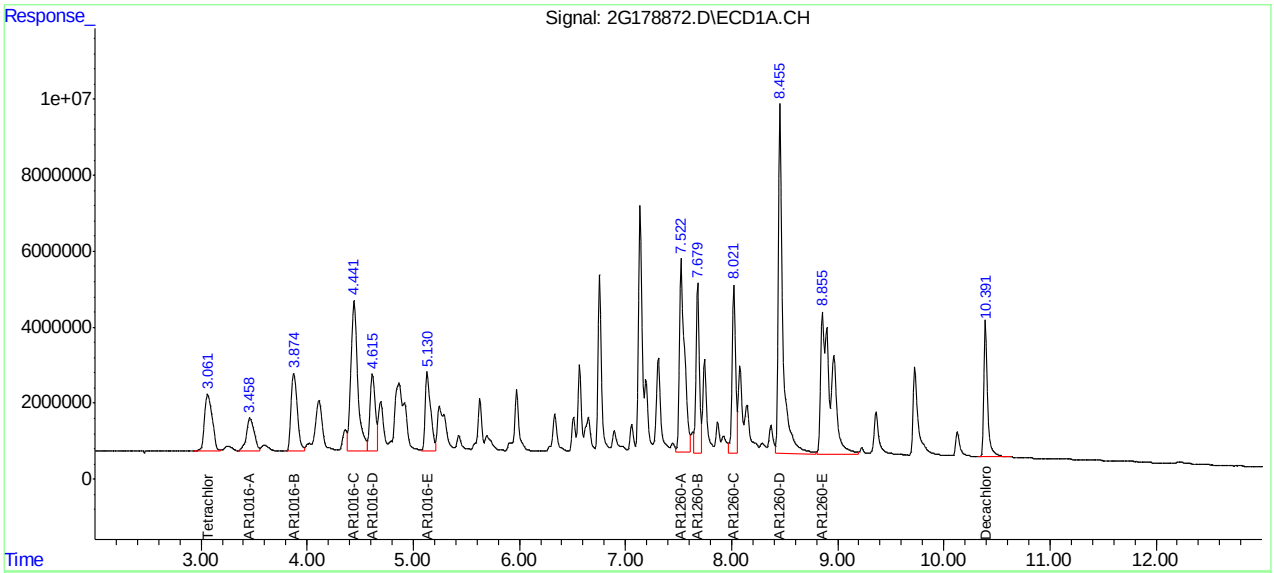
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

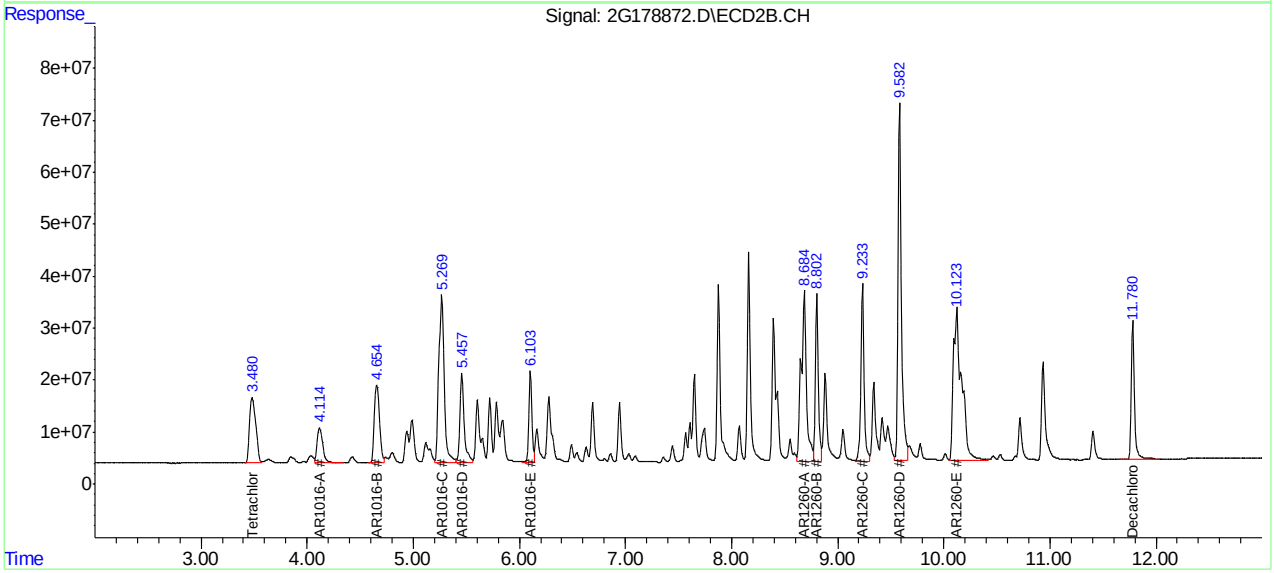
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178872.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:38 pm
Operator : tianweir
Sample : ic4640-500
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:31:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-IC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178872.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 13:38 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

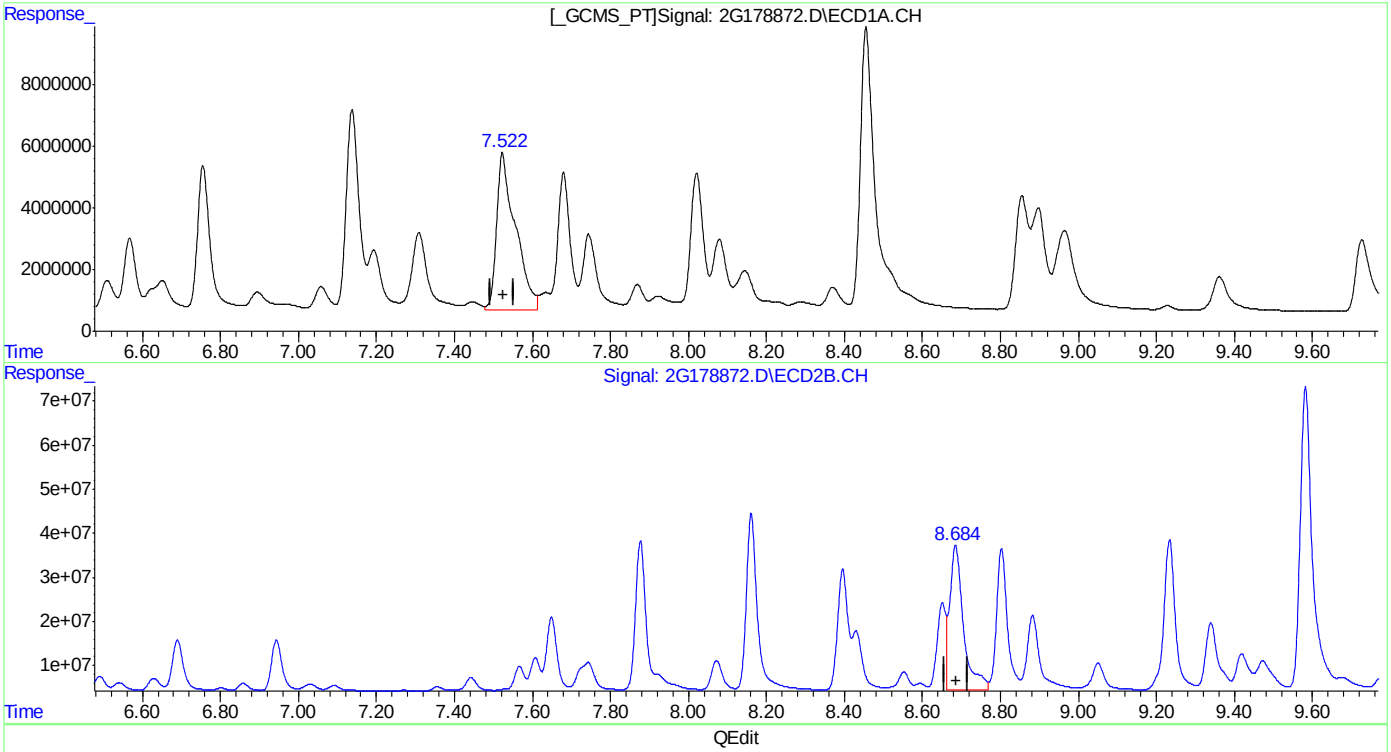
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.68 | Split peak |
| AR1260-E | | 1 | 8.85 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178872.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:38 pm
Operator : tianweir
Sample : ic4640-500
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 5  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:30:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(36) AR1260-A
7.523min 388.610PPB
response 169893586

(36) AR1260-A #2
8.685min 335.103PPB
response 811986920

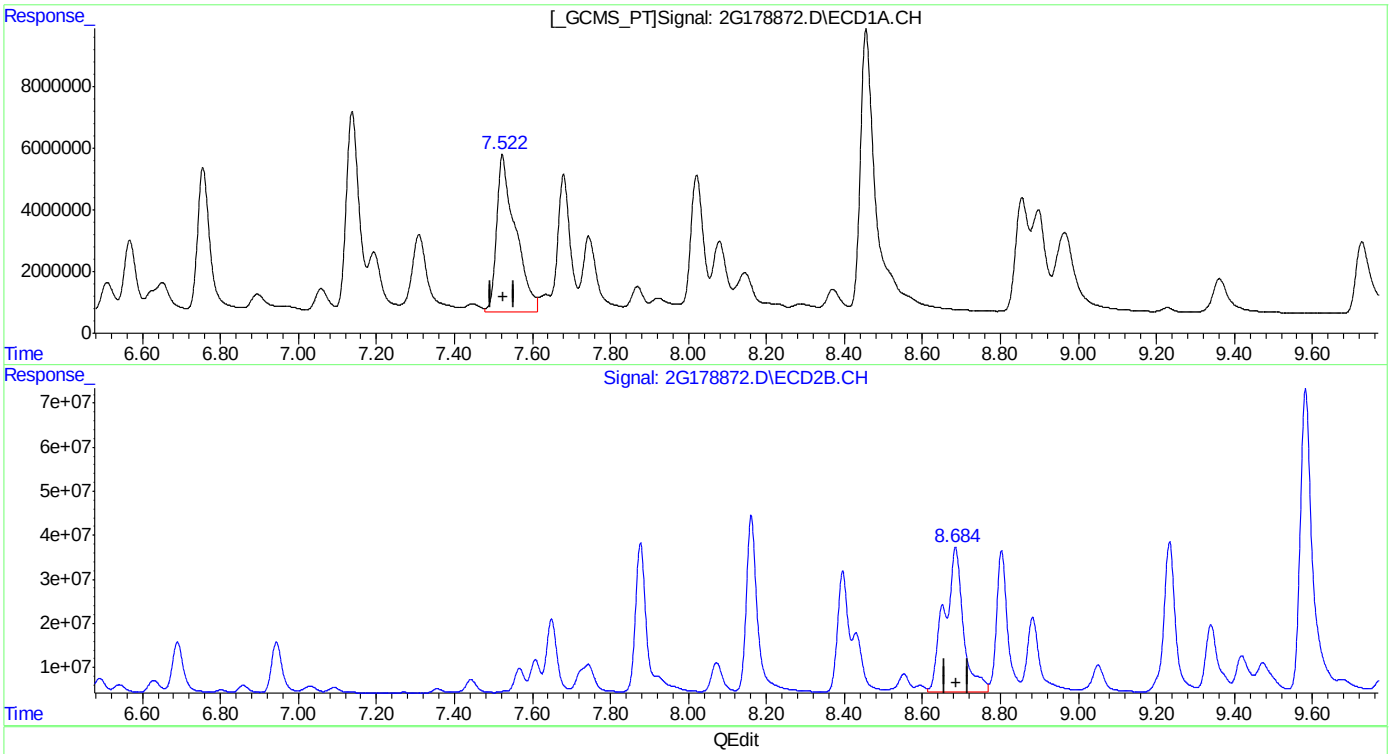
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:31:14 2019 RPT1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178872.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:38 pm
Operator : tianweir
Sample : ic4640-500
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 5  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:30:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(36) AR1260-A
7.523min 388.610PPB
response 169893586

(36) AR1260-A #2
8.684min 464.765PPB m
response 1126171432

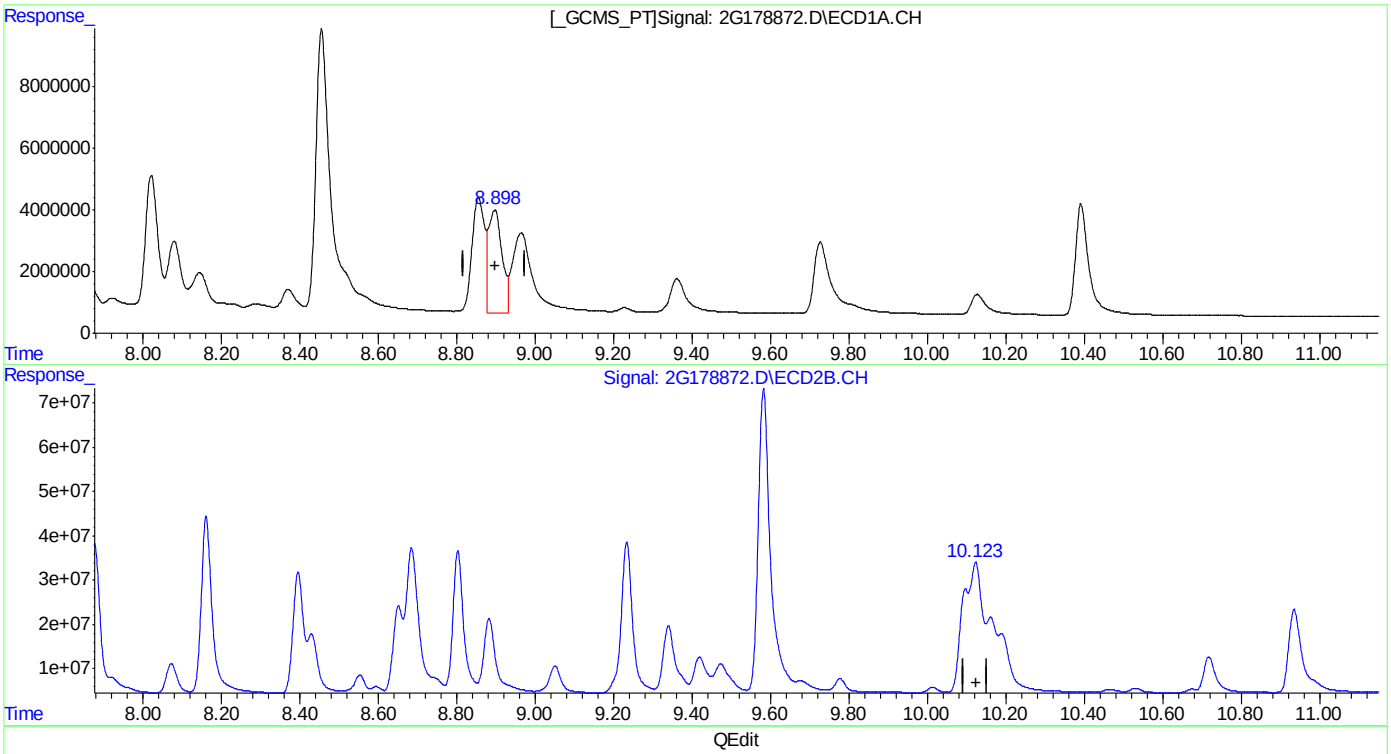
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178872.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:38 pm
Operator : tianweir
Sample : ic4640-500
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 5  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:30:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.897min 122.305PPB
response 80255026

(40) AR1260-E #2
10.123min 297.640PPB
response 984576905

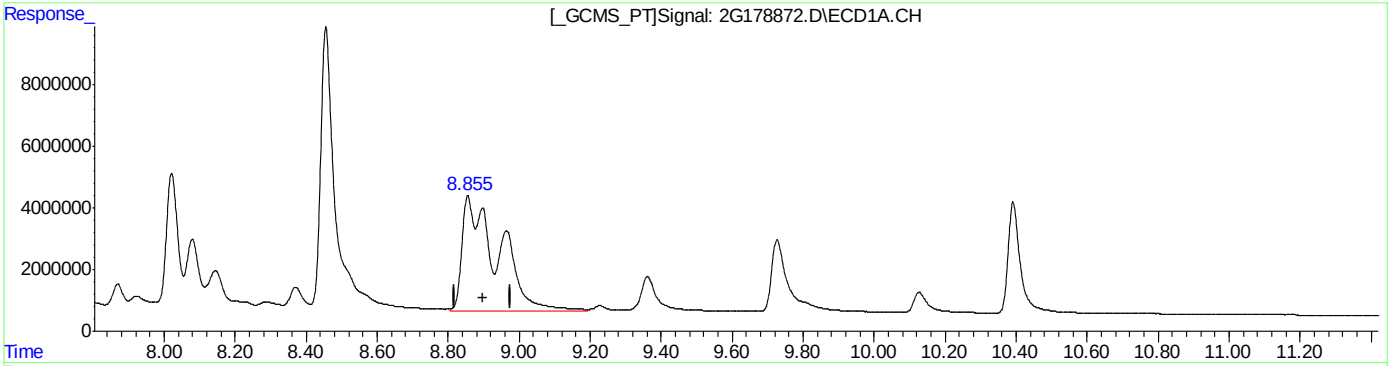
(+) = Expected Retention Time

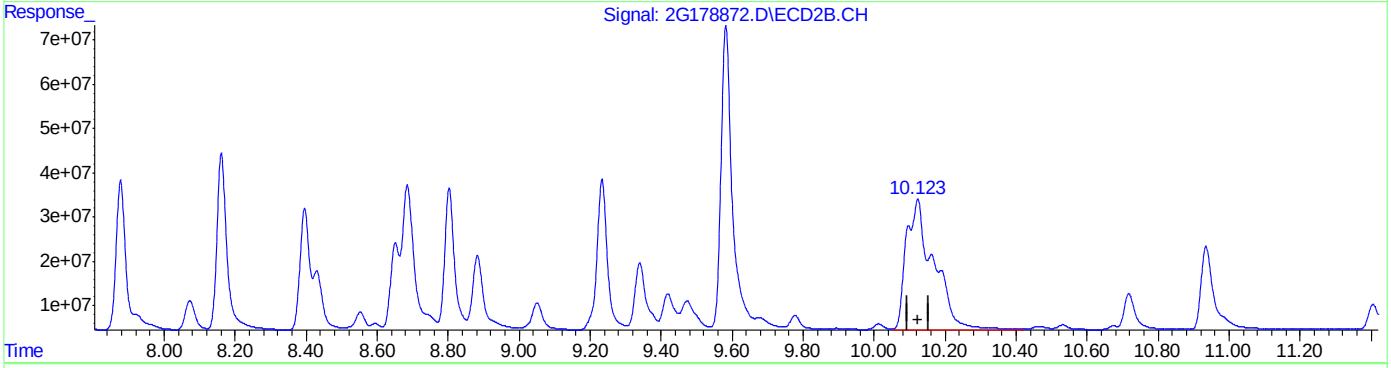
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178872.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:38 pm
Operator : tianweir
Sample : ic4640-500
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 5  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:30:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.855min 403.070PPB m
response 264490270

(40) AR1260-E #2
10.123min 483.006PPB m
response 1597755956

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178873.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:55 pm
Operator : tianweir
Sample : icc4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:35:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.064 | 3.480 | 158.1E6 | 1086.0E6 | 37.054 | 35.258 |
| | Spiked Amount 40.000 | | | Recovery | = | 92.64% | 88.15% |
| 51) S | Decachlor... | 10.392 | 11.779 | 173.9E6 | 1104.2E6 | 38.190 | 42.764 |
| | Spiked Amount 40.000 | | | Recovery | = | 95.47% | 106.91% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.460 | 4.115 | 87378477 | 496.2E6 | 969.604 | 929.796 |
| 32) | AR1016-B | 3.873 | 4.656 | 165.2E6 | 1028.1E6 | 983.206 | 868.123 |
| 33) | AR1016-C | 4.440 | 5.268 | 372.4E6 | 2351.8E6 | 923.163 | 900.239 |
| 34) | AR1016-D | 4.612 | 5.456 | 139.5E6 | 953.5E6 | 935.505 | 906.276 |
| 35) | AR1016-E | 5.130 | 6.104 | 145.7E6 | 696.8E6 | 943.582 | 892.898 |
| 36) | AR1260-A | 7.522 | 8.683 | 356.0E6 | 2310.4E6 | 814.418 | 953.506m |
| 37) | AR1260-B | 7.679 | 8.803 | 197.5E6 | 1260.6E6 | 653.248 | 949.820 # |
| 38) | AR1260-C | 8.021 | 9.233 | 210.1E6 | 1455.4E6 | 796.805 | 940.371 |
| 39) | AR1260-D | 8.455 | 9.579 | 572.8E6 | 3205.5E6 | 765.199 | 959.895 # |
| 40) | AR1260-E | 8.851f | 10.120 | 530.1E6 | 3249.5E6 | 807.773m | 982.346m |

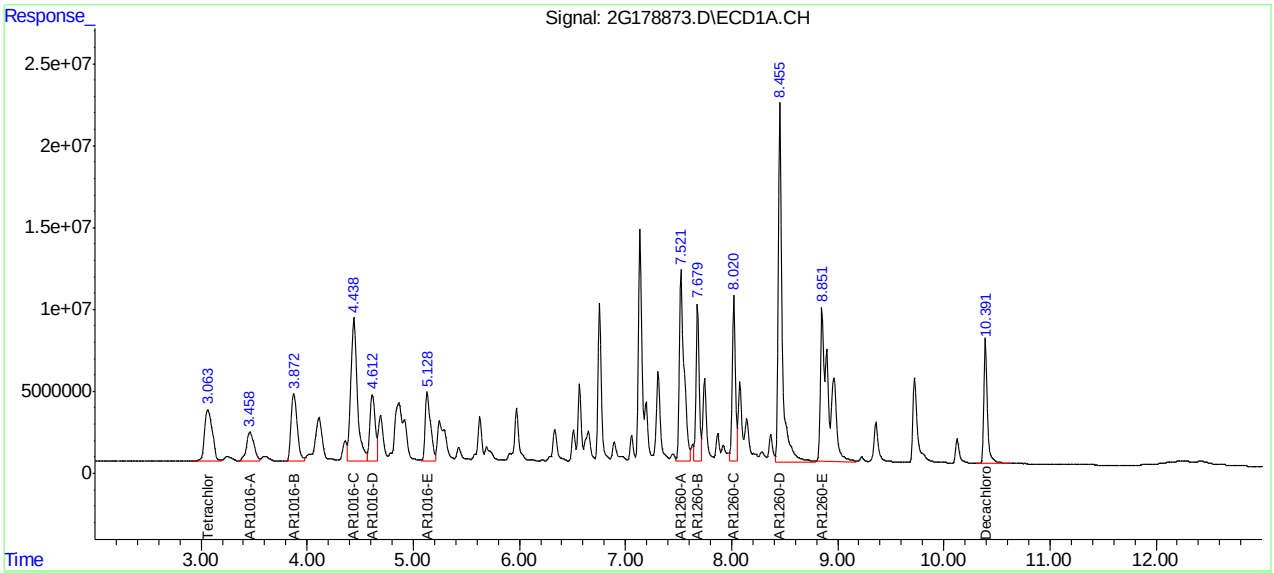
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

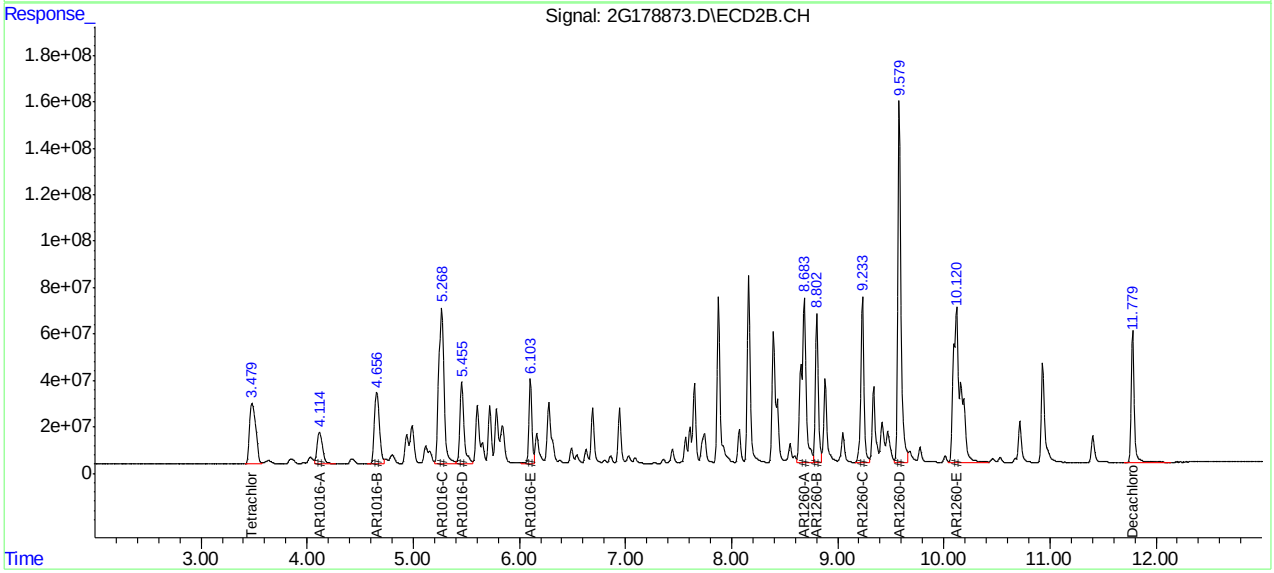
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178873.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 1:55 pm
Operator : tianweir
Sample : icc4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:35:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-ICC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178873.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 13:55 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

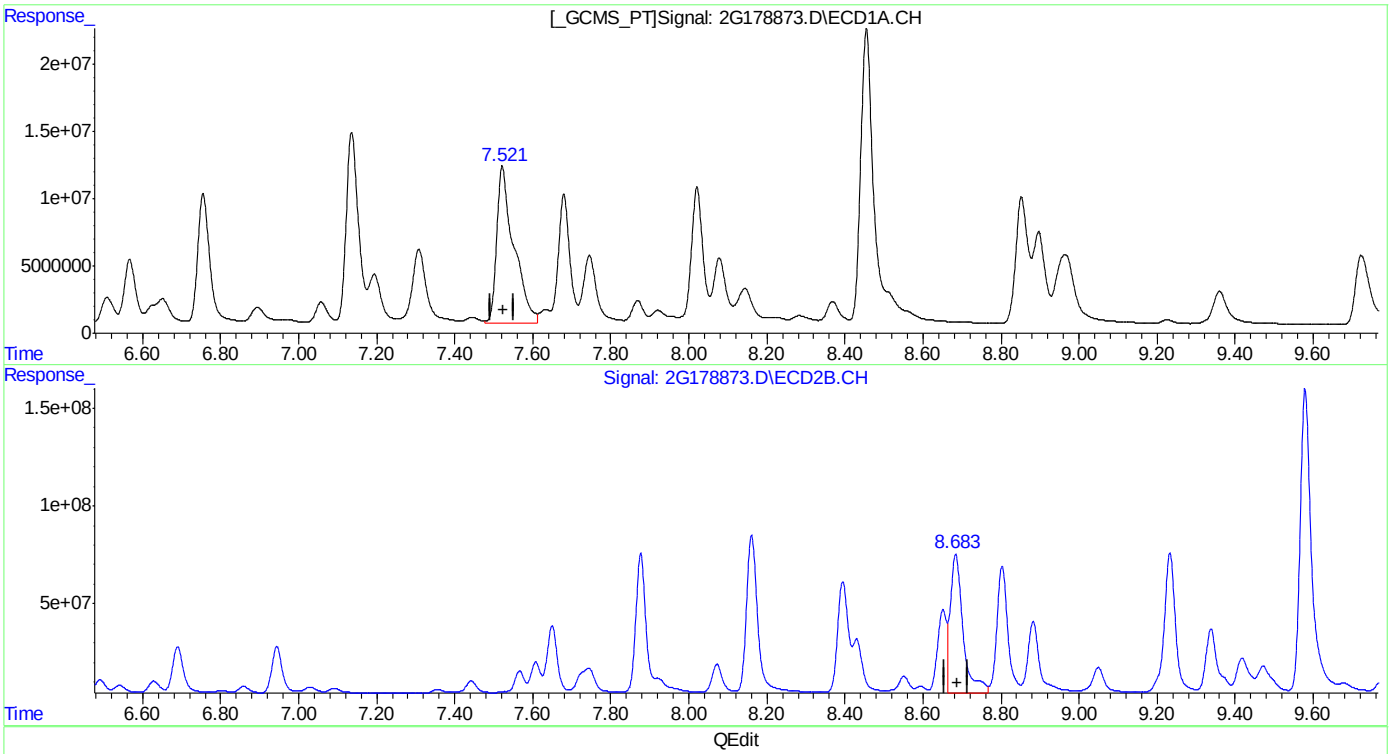
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.68 | Split peak |
| AR1260-E | | 1 | 8.85 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178873.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:55 pm
Operator : tianweir
Sample : icc4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 6  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.522min 814.418PPB
response 356049843

(36) AR1260-A #2
8.684min 678.691PPB
response 1644535300

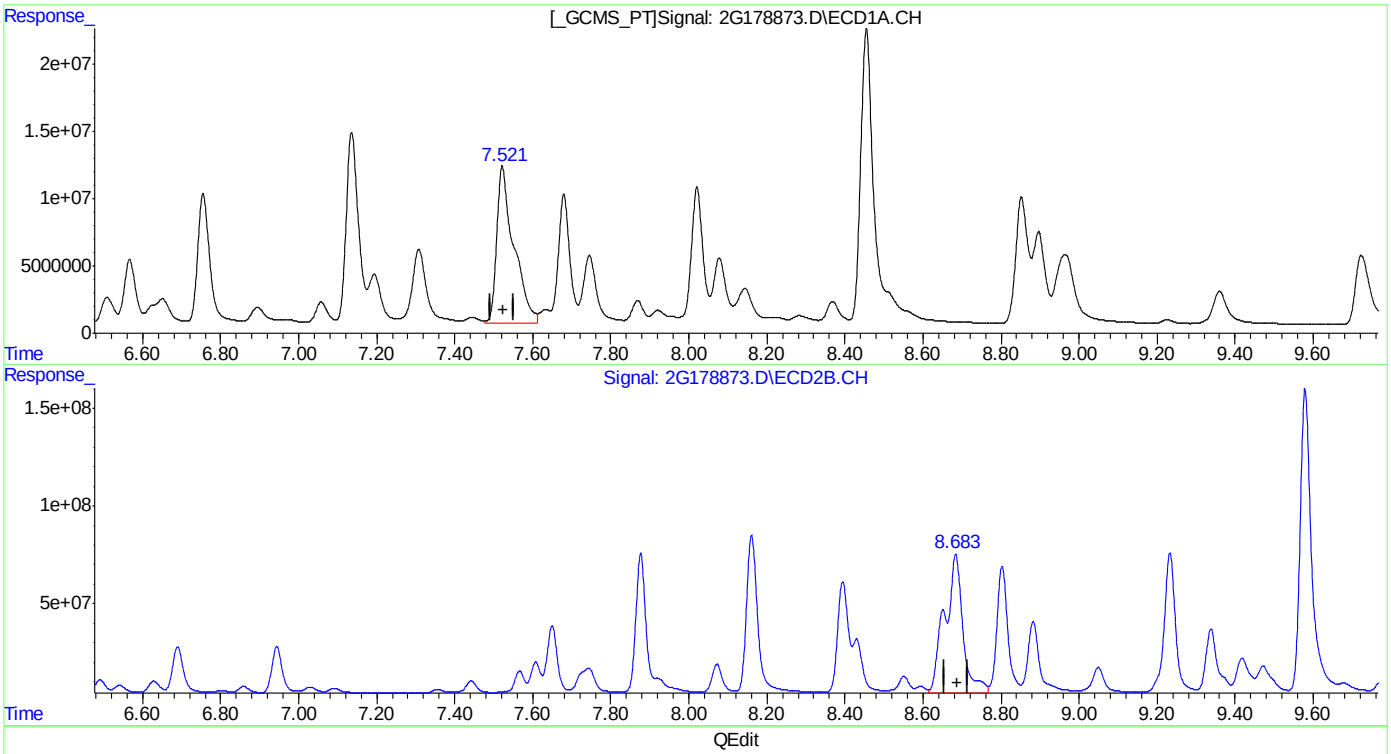
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178873.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:55 pm
Operator : tianweir
Sample : icc4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 6  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.522min 814.418PPB
response 356049843

(36) AR1260-A #2
8.683min 953.506PPB m
response 2310439573

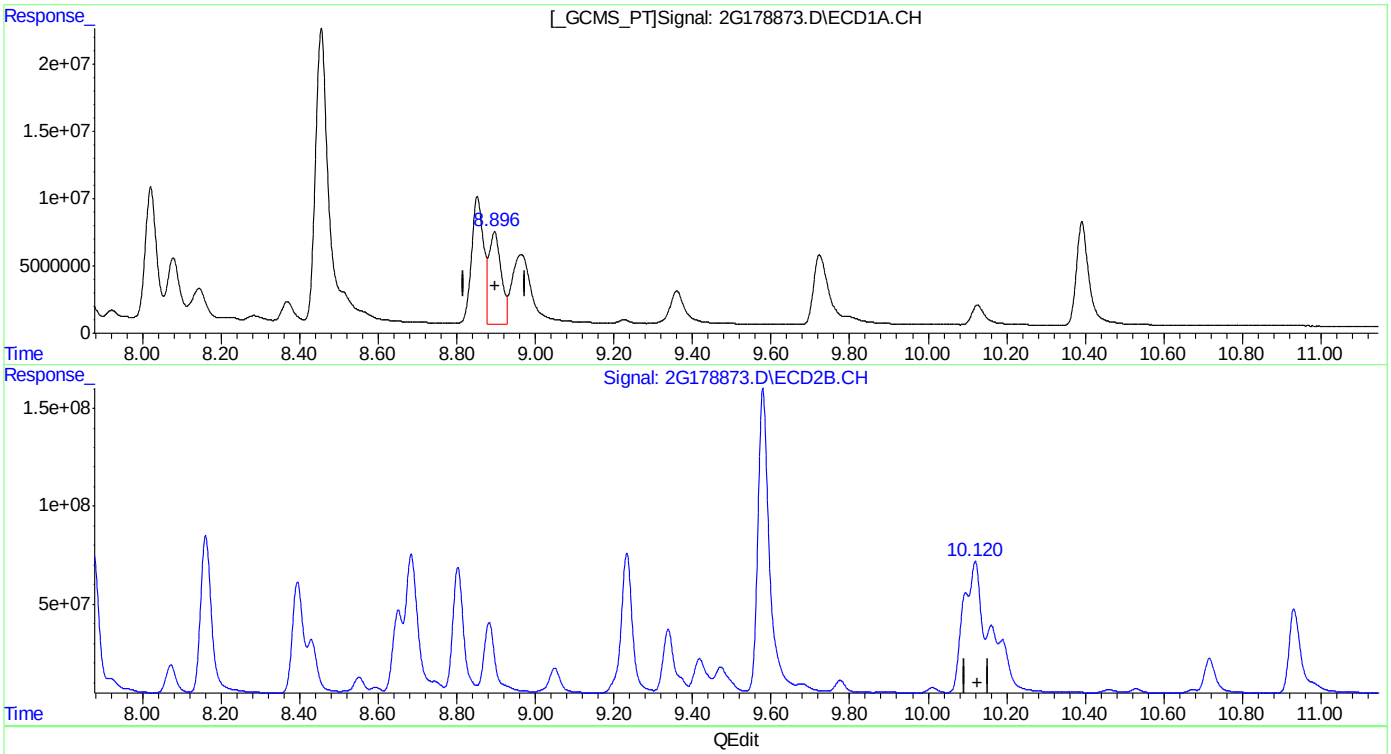
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178873.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:55 pm
Operator : tianweir
Sample : icc4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 6  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.896min 222.349PPB
response 145902968

(40) AR1260-E #2
10.120min 625.389PPB
response 2068750431

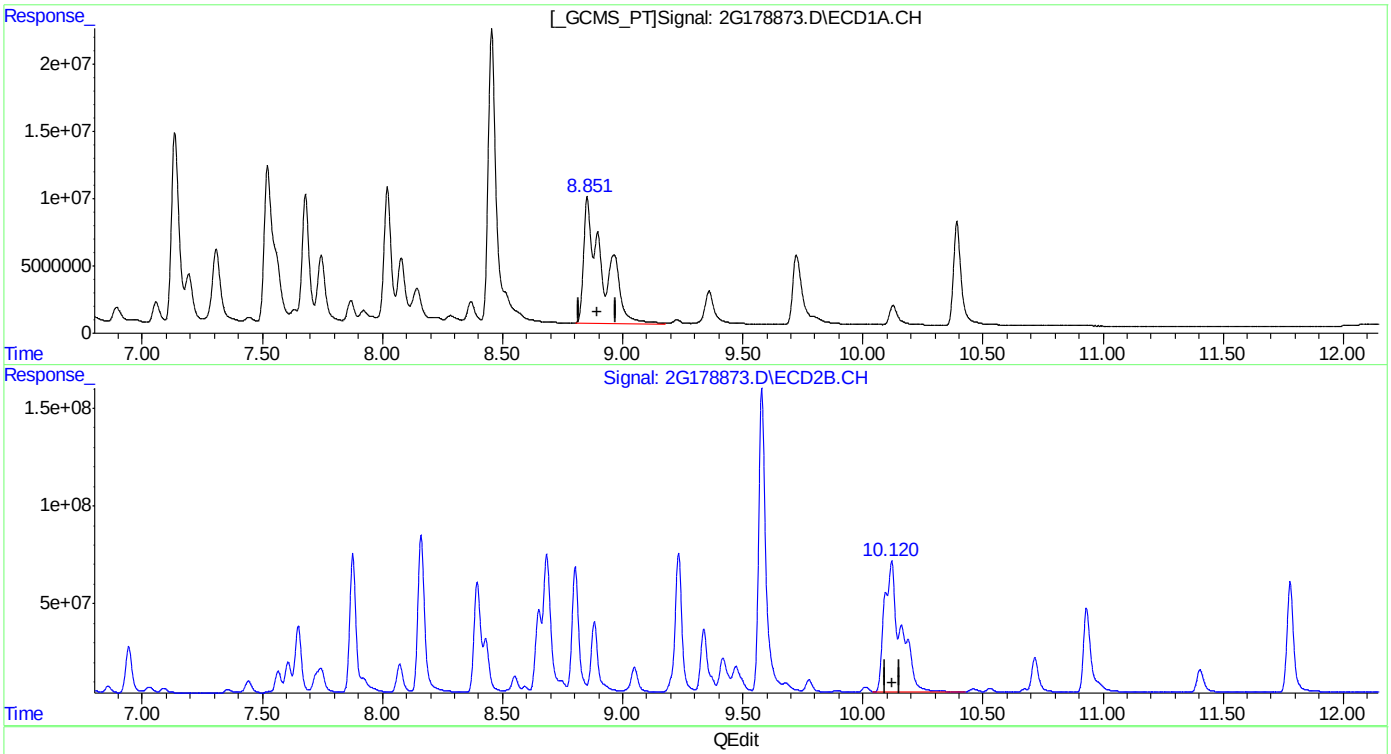
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178873.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  1:55 pm
Operator : tianweir
Sample : icc4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 6  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:34:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.851min 807.773PPB m
response 530052717

(40) AR1260-E #2
10.120min 982.346PPB m
response 3249542858

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:36:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.062 | 3.479 | 322.9E6 | 2170.0E6 | 75.696 | 70.447 |
| | Spiked Amount 40.000 | | | Recovery | = | 189.24% | 176.12% |
| 51) | S Decachlor... | 10.391 | 11.778 | 347.1E6 | 2142.2E6 | 76.233m | 82.961m |
| | Spiked Amount 40.000 | | | Recovery | = | 190.58% | 207.40% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.456 | 4.115 | 170.2E6 | 954.9E6 | 1888.292 | 1789.427 |
| 32) | AR1016-B | 3.873 | 4.657 | 324.3E6 | 1994.5E6 | 1930.176 | 1684.182 |
| 33) | AR1016-C | 4.439 | 5.268 | 762.8E6 | 4645.8E6 | 1891.157 | 1778.385 |
| 34) | AR1016-D | 4.611 | 5.457 | 278.3E6 | 1851.2E6 | 1866.424 | 1759.648 |
| 35) | AR1016-E | 5.130 | 6.104 | 292.6E6 | 1369.5E6 | 1895.370 | 1754.849 |
| 36) | AR1260-A | 7.522 | 8.684 | 737.2E6 | 4428.9E6 | 1686.289 | 1827.804m |
| 37) | AR1260-B | 7.680 | 8.803 | 400.6E6 | 2487.3E6 | 1325.241 | 1874.056 # |
| 38) | AR1260-C | 8.020 | 9.233 | 435.0E6 | 2892.0E6 | 1650.222 | 1868.546 |
| 39) | AR1260-D | 8.452 | 9.579 | 1190.3E6 | 6425.0E6 | 1589.973 | 1923.958 |
| 40) | AR1260-E | 8.850f | 10.121 | 1119.9E6 | 6455.0E6 | 1706.661m | 1951.376m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

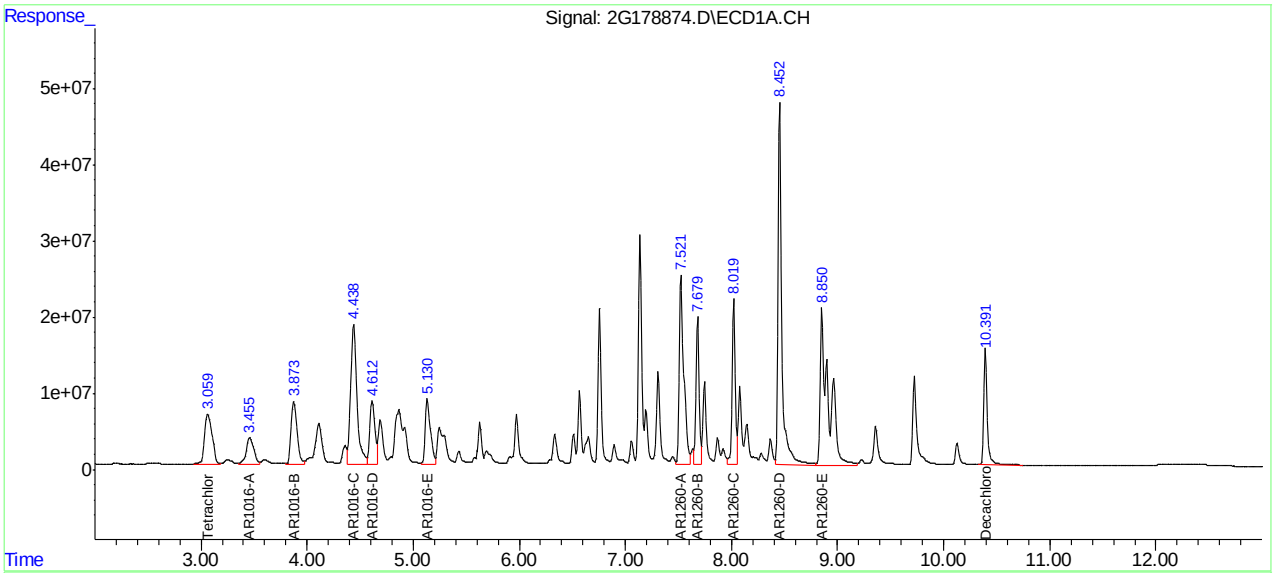
11.5.5 11

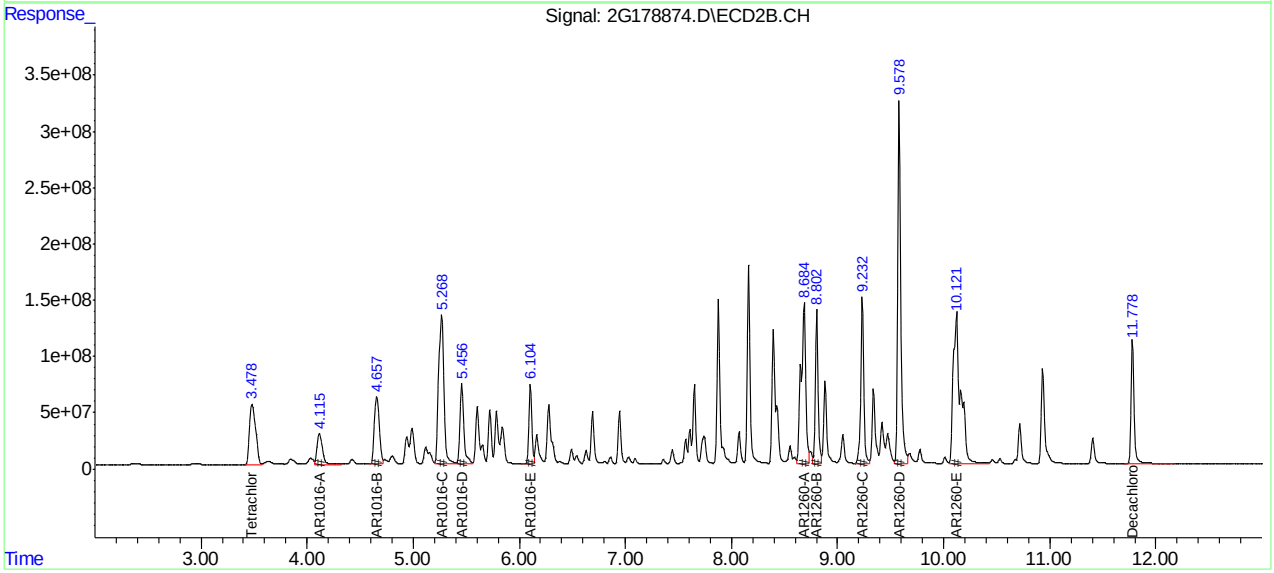
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:36:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-IC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178874.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 14:12 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

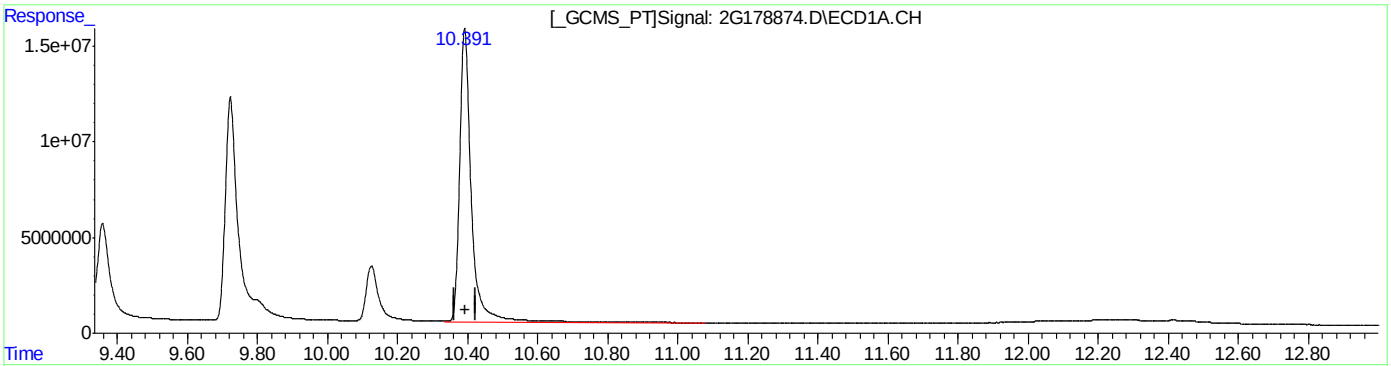
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.68 | Split peak |
| AR1260-E | | 1 | 8.85 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |
| Decachlorobiphenyl | 2051-24-3 | 1 | 10.39 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 11.78 | Poorly defined baseline |

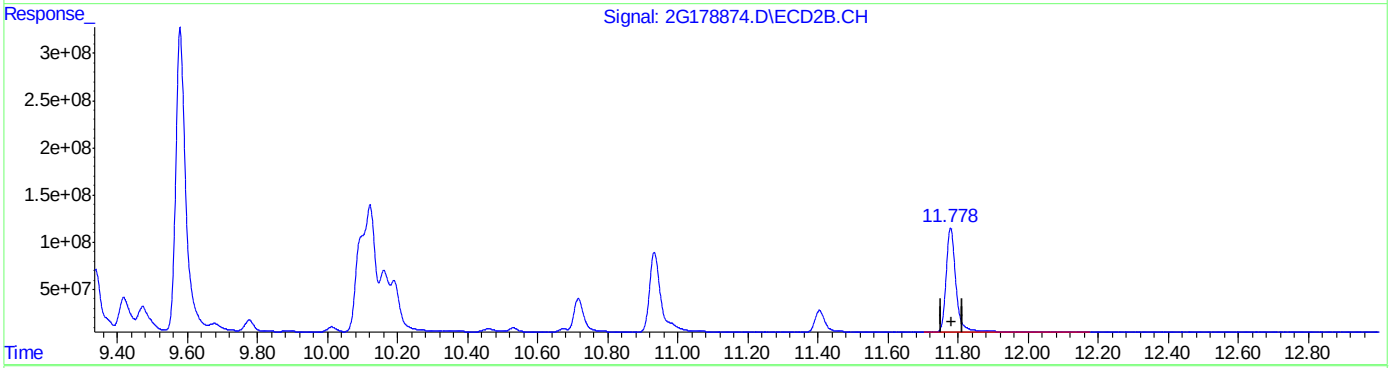
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)
10.391min 79.668ppb
response 362721641

(51) Decachlorobiphenyl #2 (S)
11.779min 83.355ppb
response 2152383369

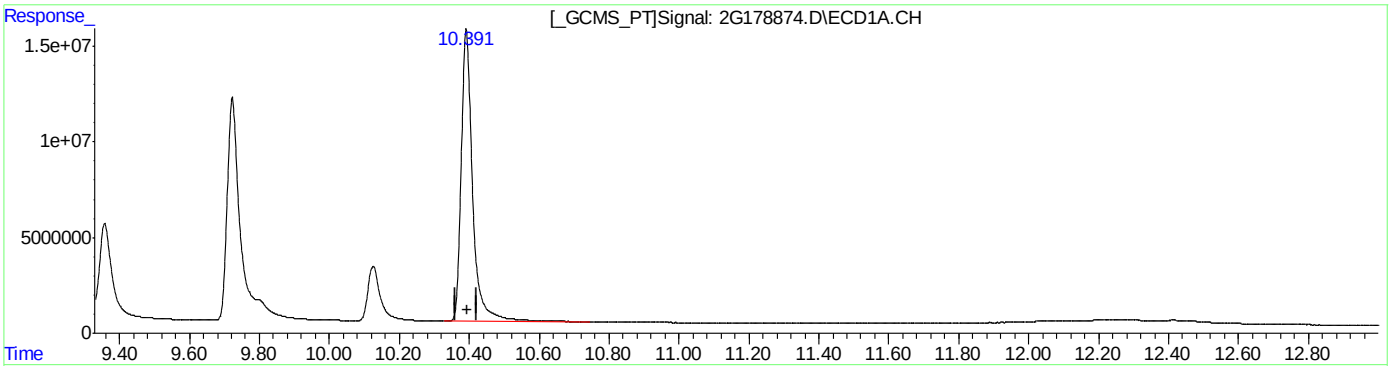
(+) = Expected Retention Time

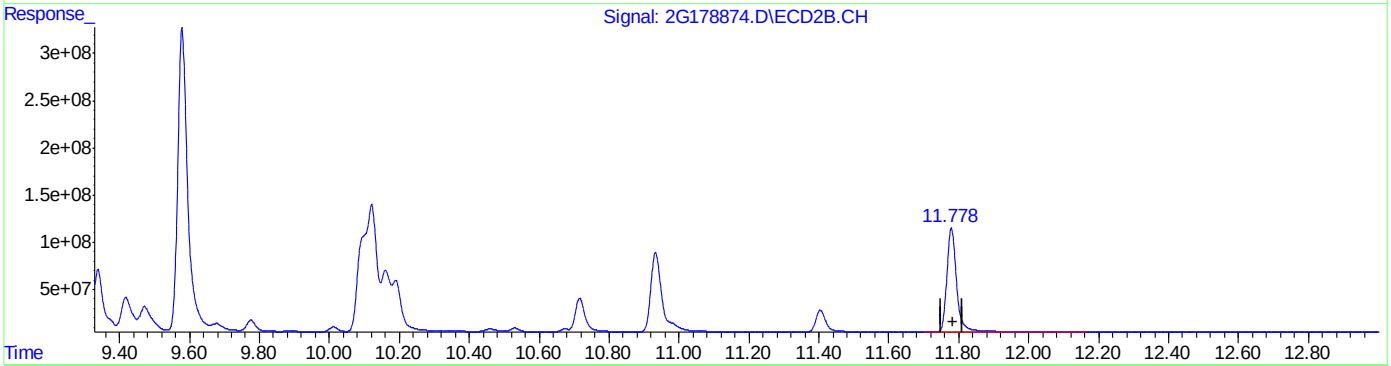
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)
10.391min 76.233ppb m
response 347080117

(51) Decachlorobiphenyl #2 (S)
11.778min 82.961ppb m
response 2142209591

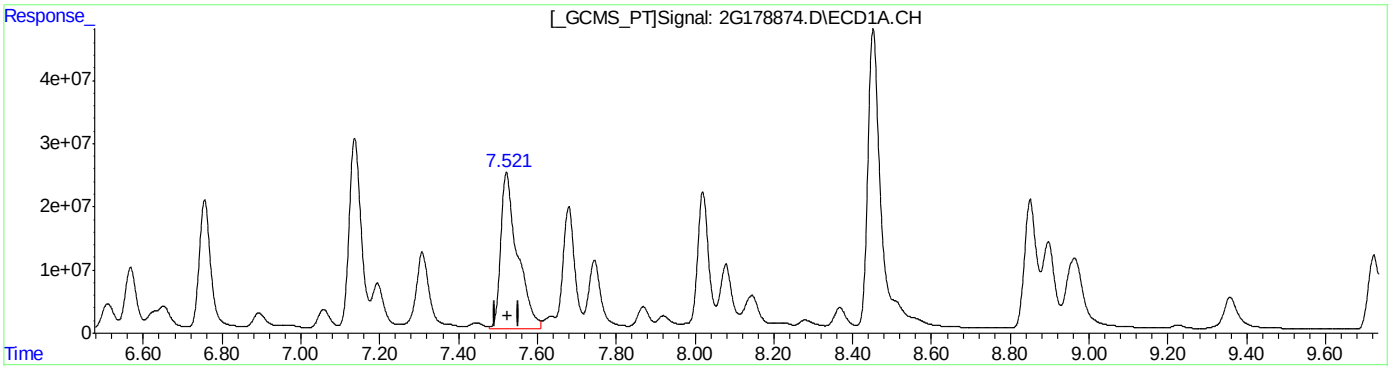
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:36:22 2019 RPT1

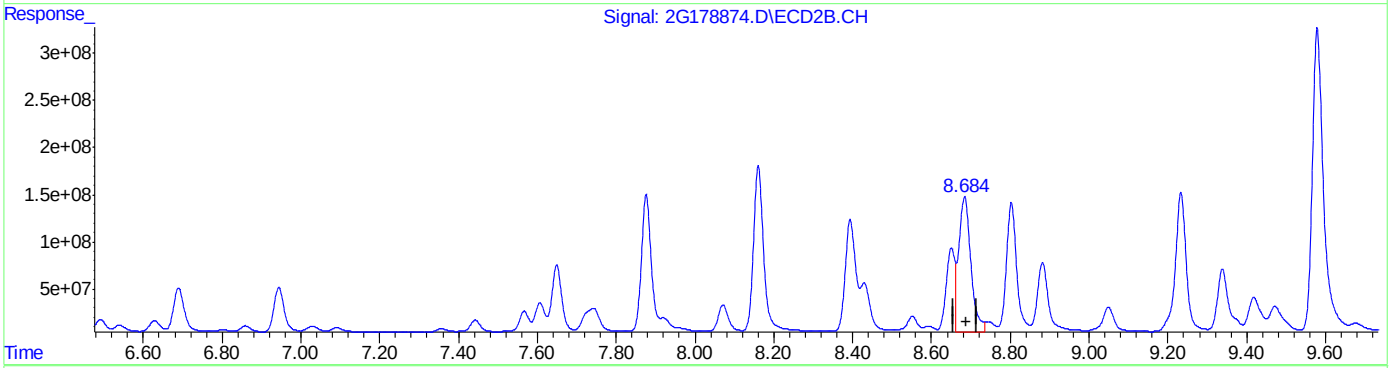
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.522min 1686.289PPB
response 737217212

(36) AR1260-A #2
8.684min 1258.758PPB
response 3050093098

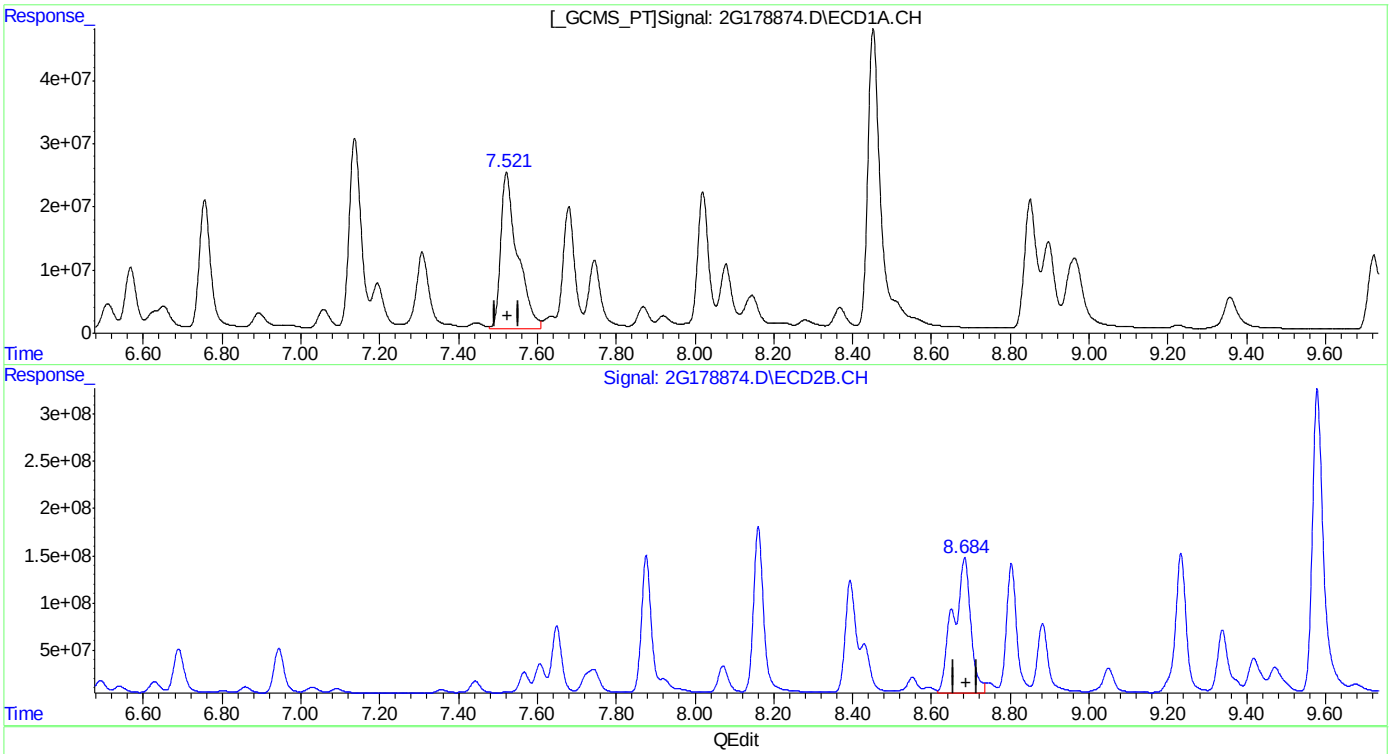
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:36:29 2019 RPT1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




(36) AR1260-A
7.522min 1686.289PPB
response 737217212

(36) AR1260-A #2
8.684min 1827.804PPB m
response 4428947062

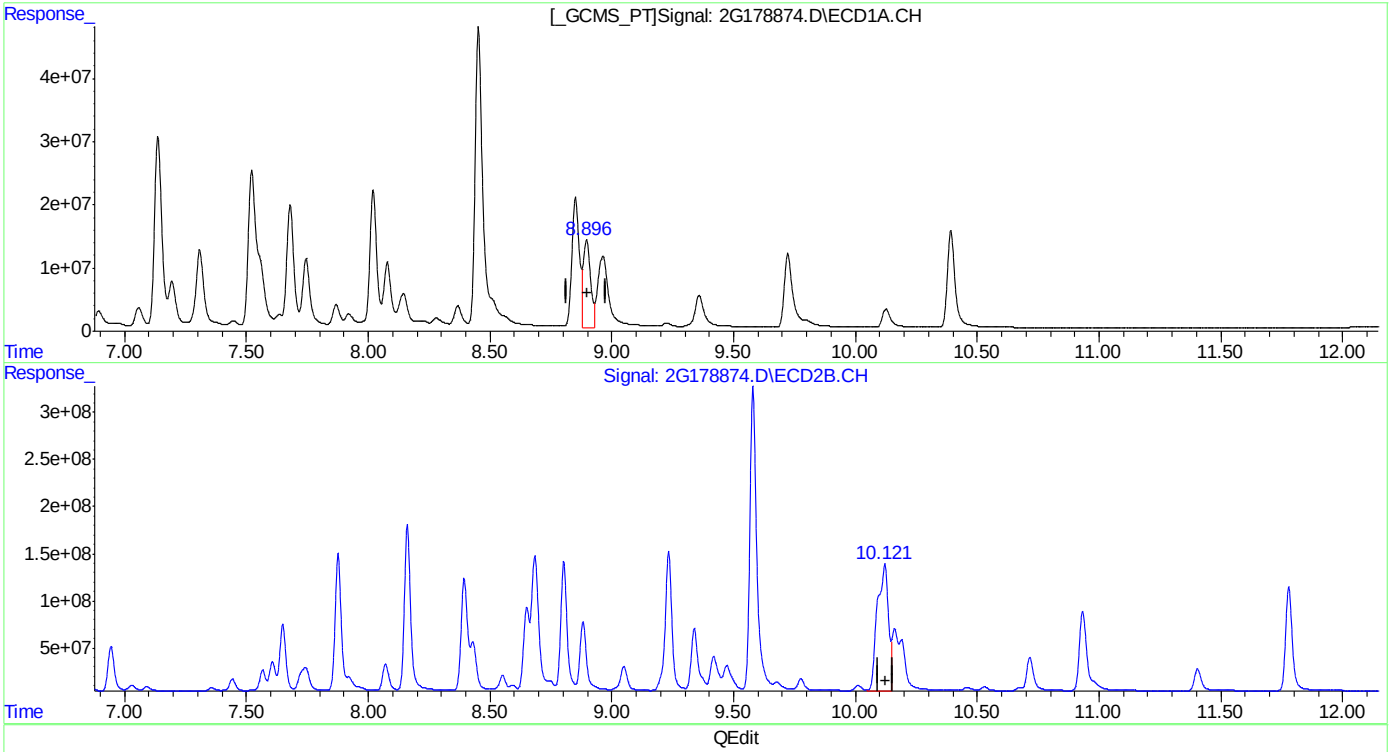
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.897min 449.832PPB
response 295175646

(40) AR1260-E #2
10.121min 1269.988PPB
response 4201046731

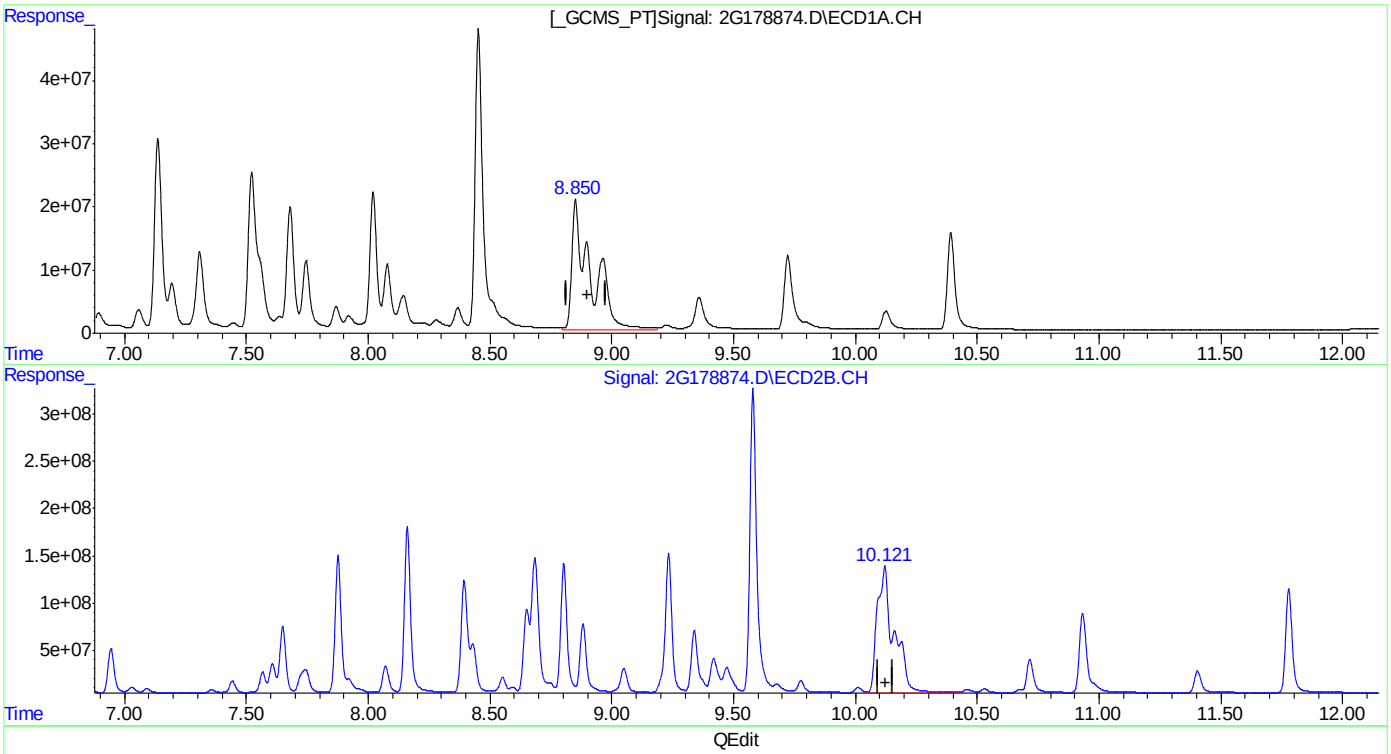
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:36:43 2019 RPT1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178874.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:12 pm
Operator : tianweir
Sample : ic4640-2000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 7  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:26:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.850min 1706.661PPB m
response 1119894415

(40) AR1260-E #2
10.121min 1951.376PPB m
response 6455037280

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178875.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 2:29 pm
Operator : tianweir
Sample : ic4640-3000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:46:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.064 | 3.479 | 493.5E6 | 3283.1E6 | 115.678 | 106.586 |
| | Spiked Amount 40.000 | | | Recovery | = | 289.19% | 266.46% |
| 51) | S Decachlor... | 10.390 | 11.778 | 520.9E6 | 3189.1E6 | 114.407 | 123.503 |
| | Spiked Amount 40.000 | | | Recovery | = | 286.02% | 308.76% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.457 | 4.113 | 246.9E6 | 1405.4E6 | 2739.519 | 2633.630 |
| 32) | AR1016-B | 3.872 | 4.658 | 477.1E6 | 2966.2E6 | 2839.774 | 2504.703 |
| 33) | AR1016-C | 4.438 | 5.267 | 1150.5E6 | 6965.9E6 | 2852.317 | 2666.515 |
| 34) | AR1016-D | 4.609 | 5.455 | 414.4E6 | 2756.2E6 | 2778.929 | 2619.834 |
| 35) | AR1016-E | 5.129 | 6.102 | 428.5E6 | 2048.9E6 | 2775.926 | 2625.273 |
| 36) | AR1260-A | 7.520 | 8.682 | 1110.9E6 | 6668.9E6 | 2540.989 | 2752.201m |
| 37) | AR1260-B | 7.678 | 8.802 | 646.6E6 | 3724.4E6 | 2138.865 | 2806.193 # |
| 38) | AR1260-C | 8.019 | 9.232 | 654.6E6 | 4349.2E6 | 2483.158 | 2810.039 |
| 39) | AR1260-D | 8.451 | 9.578 | 1759.8E6 | 9708.7E6 | 2350.690 | 2907.272 |
| 40) | AR1260-E | 8.847f | 10.119 | 1650.3E6 | 9718.8E6 | 2515.027m | 2938.008m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

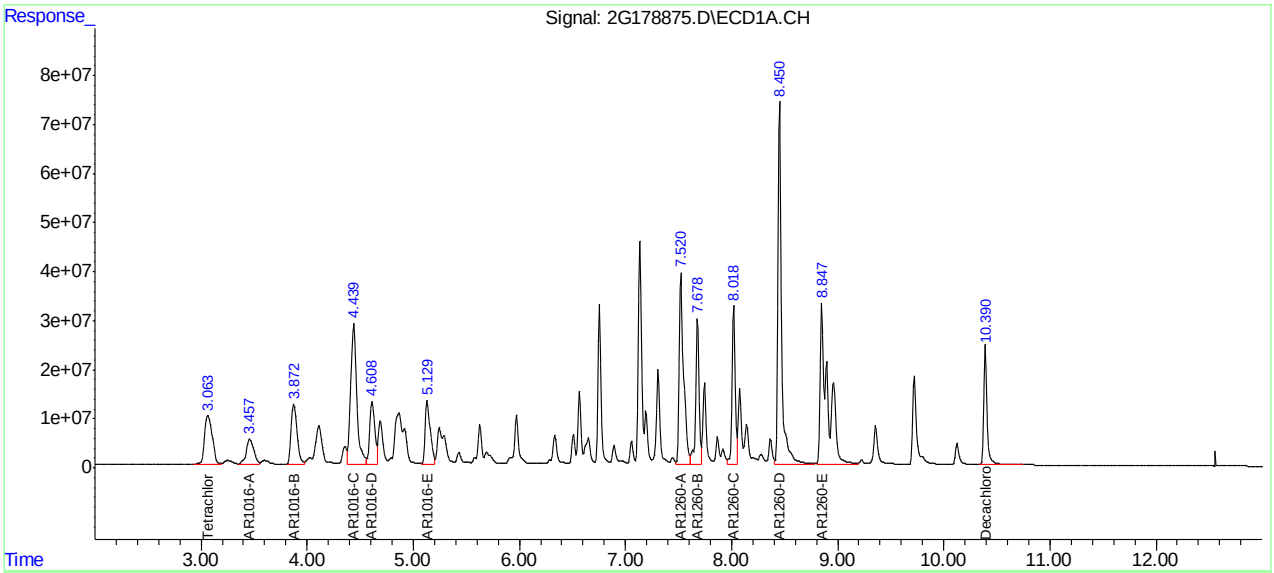
11.5.6 11

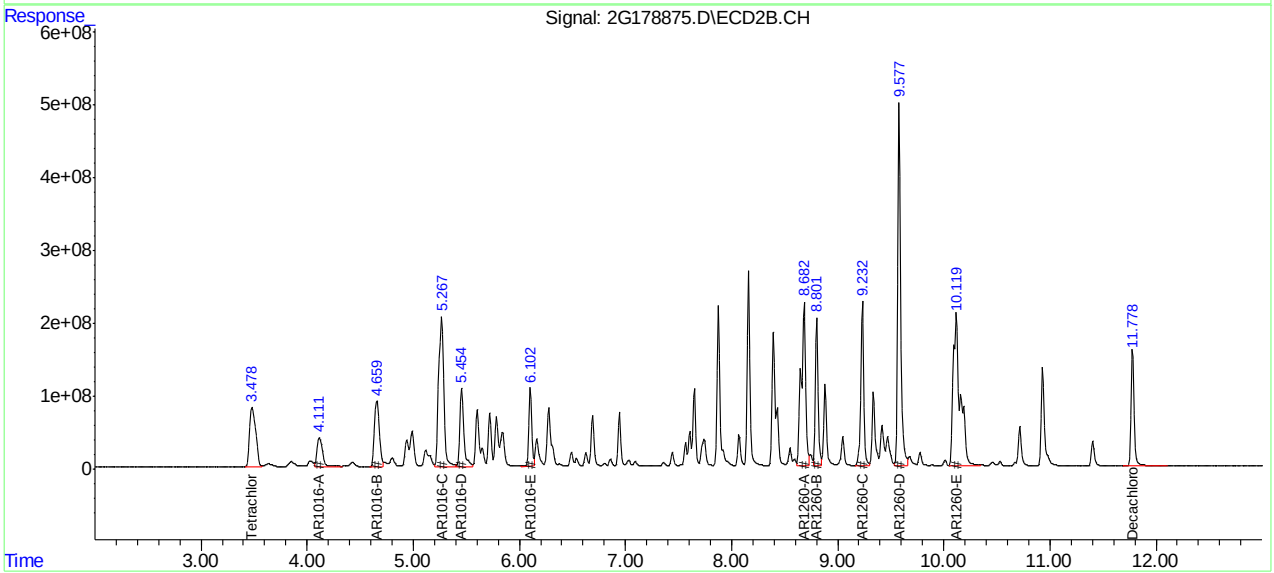
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178875.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 2:29 pm
Operator : tianweir
Sample : ic4640-3000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:46:30 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-IC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178875.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 14:29 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

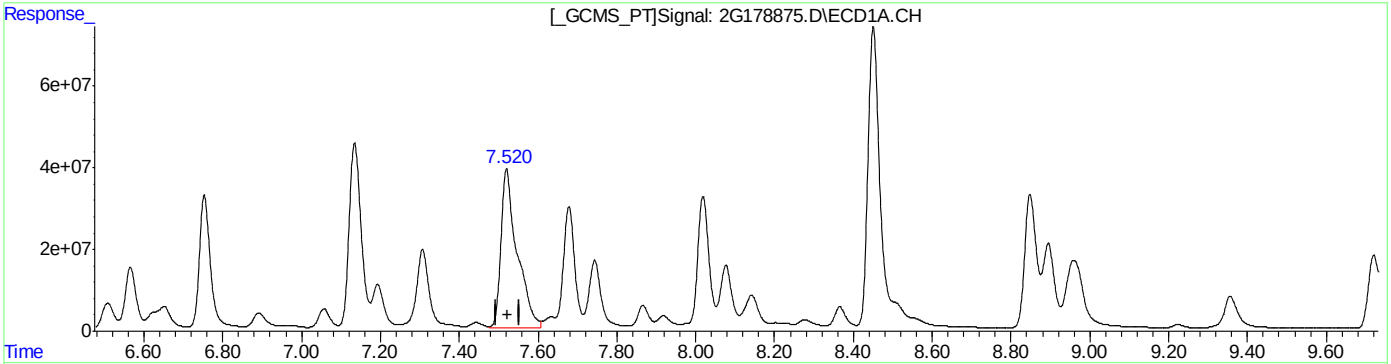
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.68 | Split peak |
| AR1260-E | | 1 | 8.85 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |

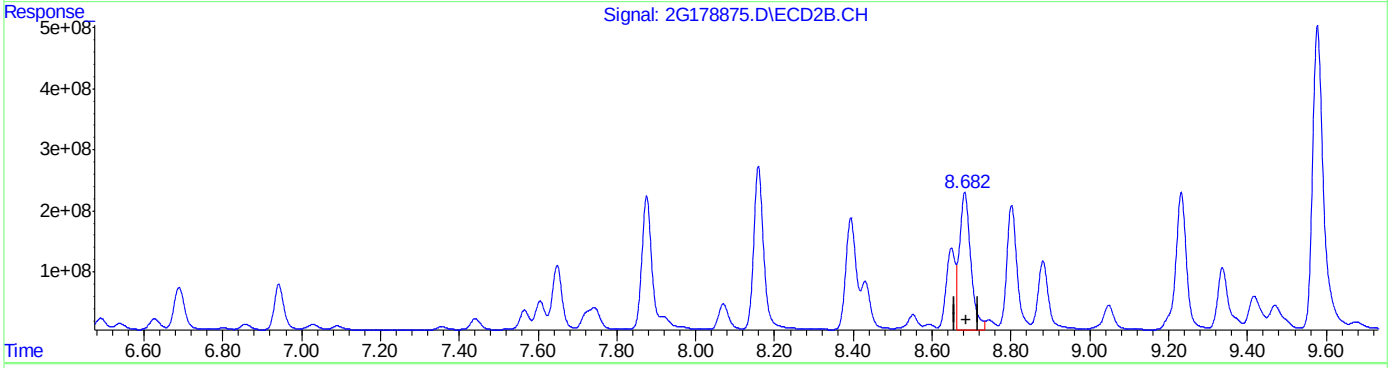
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178875.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:29 pm
Operator : tianweir
Sample : ic4640-3000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 8  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.520min 2540.989PPB
response 1110877567

(36) AR1260-A #2
8.683min 1887.498PPB
response 4573591384

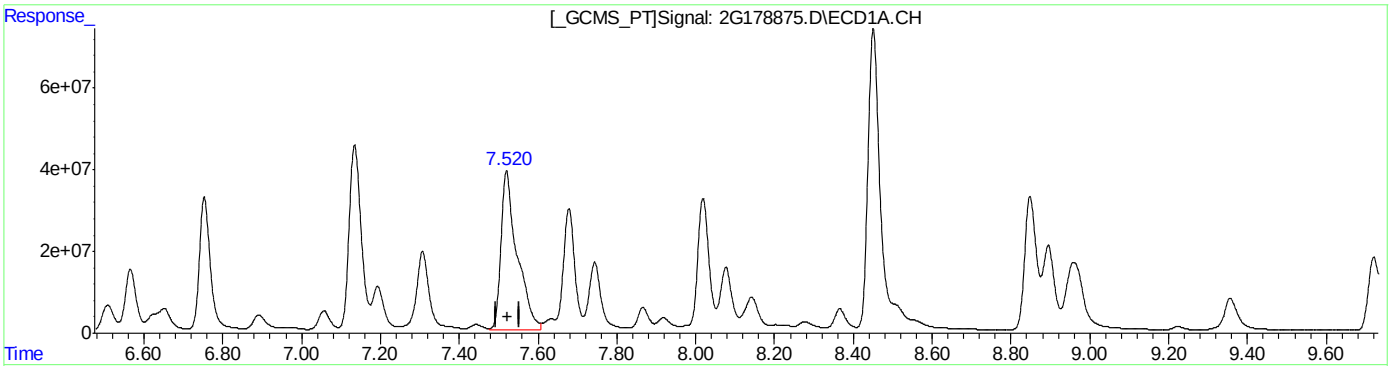
(+) = Expected Retention Time
2PCB4640.M Thu Apr 25 14:46:04 2019 RPT1

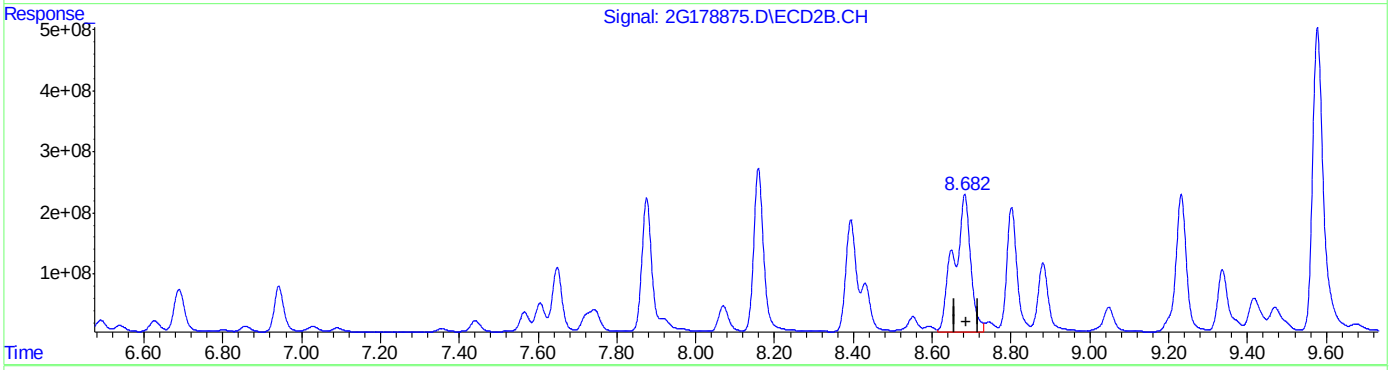
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178875.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:29 pm
Operator : tianweir
Sample : ic4640-3000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 8  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.520min 2540.989PPB
response 1110877567

(36) AR1260-A #2
8.682min 2752.201PPB m
response 6668853109

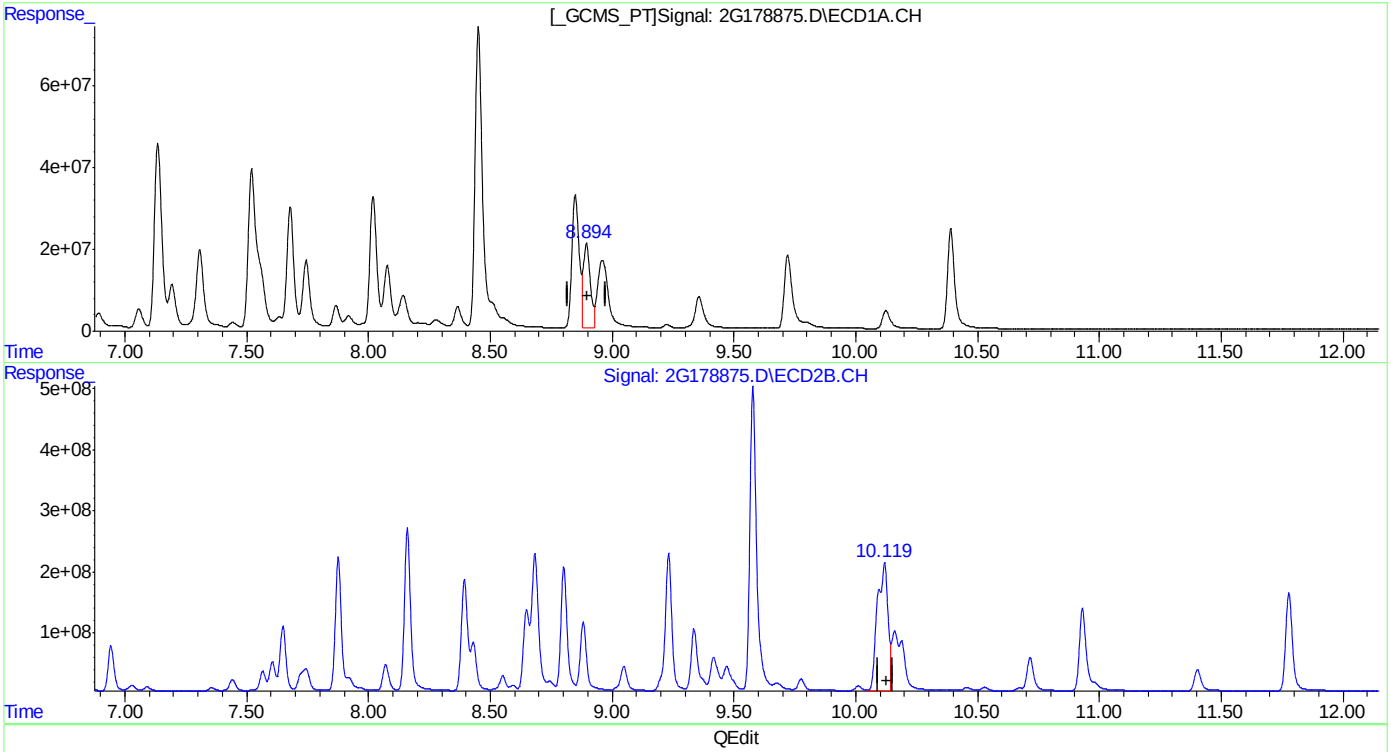
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178875.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:29 pm
Operator : tianweir
Sample : ic4640-3000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 8  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.895min 648.573PPB
response 425587142

(40) AR1260-E #2
10.119min 1936.657PPB
response 6406348275

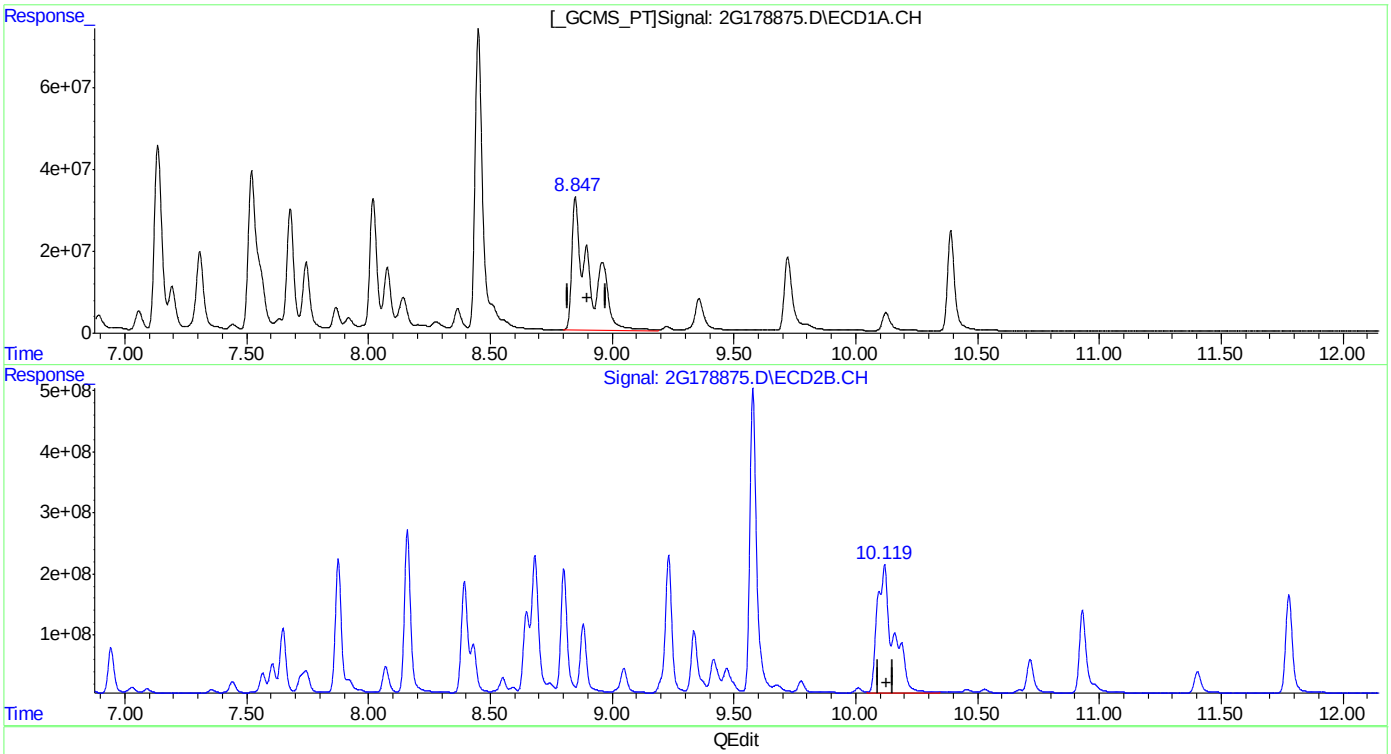
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178875.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:29 pm
Operator : tianweir
Sample : ic4640-3000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 8  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 25 14:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Wed Apr 24 11:42:25 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.847min 2515.027PPB m
response 1650335925

(40) AR1260-E #2
10.119min 2938.008PPB m
response 9718759324

(+) = Expected Retention Time

2G178876.D

Manual Integrations APPROVED
(compounds with "m" flag)
Gwendolyn Burns
04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178876.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 2:46 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:27:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 1) | S Tetrachlo... | 3.059 | 3.480 | 212.7E6 | 1377.3E6 | 54.129 | 51.031 | |
| | Spiked Amount 40.000 | | | Recovery | = | 135.32% | 127.58% | |
| 51) | S Decachlor... | 10.392 | 11.781 | 232.3E6 | 1401.3E6 | 51.819 | 48.933 | |
| | Spiked Amount 40.000 | | | Recovery | = | 129.55% | 122.33% | |
| | Target Compounds | | | | | | | |
| 2) | AR1221-A | 2.531 | 2.941 | 37690176 | 224.3E6 | 1486.104 | 1238.995 | |
| 3) | AR1221-B | 3.248 | 3.848 | 48079323 | 320.6E6 | 948.506 | 898.940 | |
| 4) | AR1221-C | 3.456 | 4.116 | 155.6E6 | 820.5E6 | 970.459 | 948.708 | |
| 5) | AR1221-D | 3.873 | 4.652 | 17287453 | 161.1E6 | 1013.283 | 906.205 | |
| 6) | AR1221-E | 4.043 | 4.736 | 12911787 | 119.1E6 | 821.270 | 1135.308 | # |
| 24) | AR1254-A | 5.626 | 6.689 | 160.7E6 | 1134.9E6 | 991.422 | 902.624 | |
| 25) | AR1254-B | 5.971 | 6.942 | 294.2E6 | 1208.8E6 | 845.800 | 878.533 | |
| 26) | AR1254-C | 6.342 | 7.441 | 160.2E6 | 987.8E6 | 901.304 | 873.245 | |
| 27) | AR1254-D | 6.506 | 7.606 | 320.4E6 | 2154.7E6 | 1000.237 | 895.199 | |
| 28) | AR1254-E | 6.890 | 7.921 | 237.4E6 | 1398.1E6 | 807.551 | 884.843 | |
| 29) | AR1254-F | 7.138 | 8.392f | 213.0E6 | 1514.6E6 | 782.474 | 844.086m | |
| 30) | AR1254-G | 7.521 | 8.685 | 299.2E6 | 1929.0E6 | 812.520 | 899.553 | |

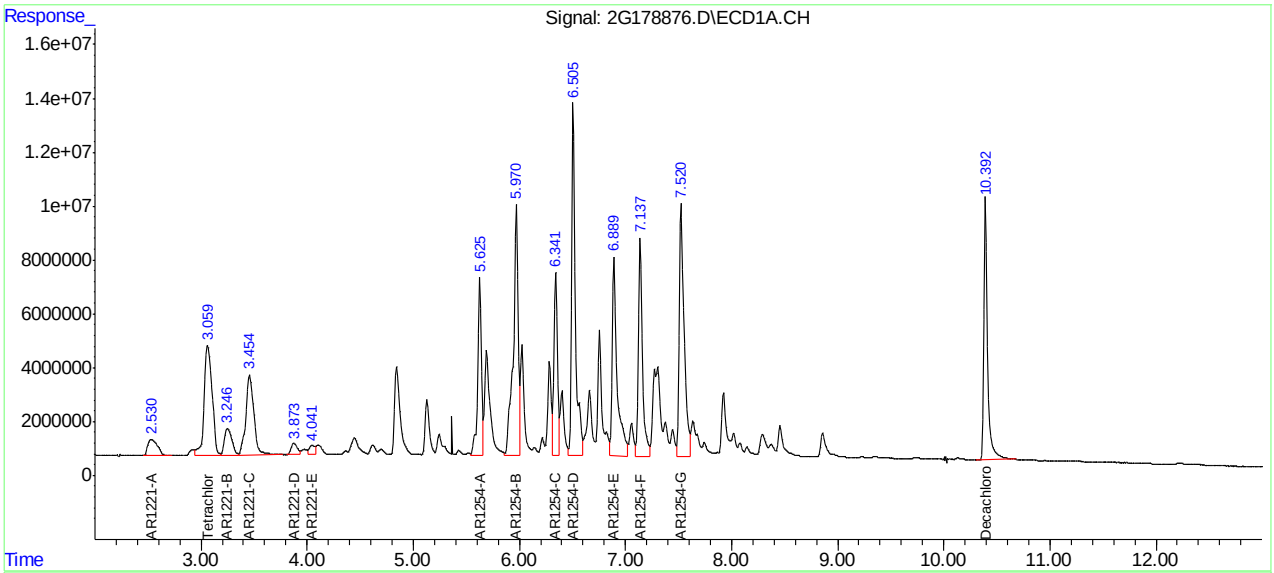
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

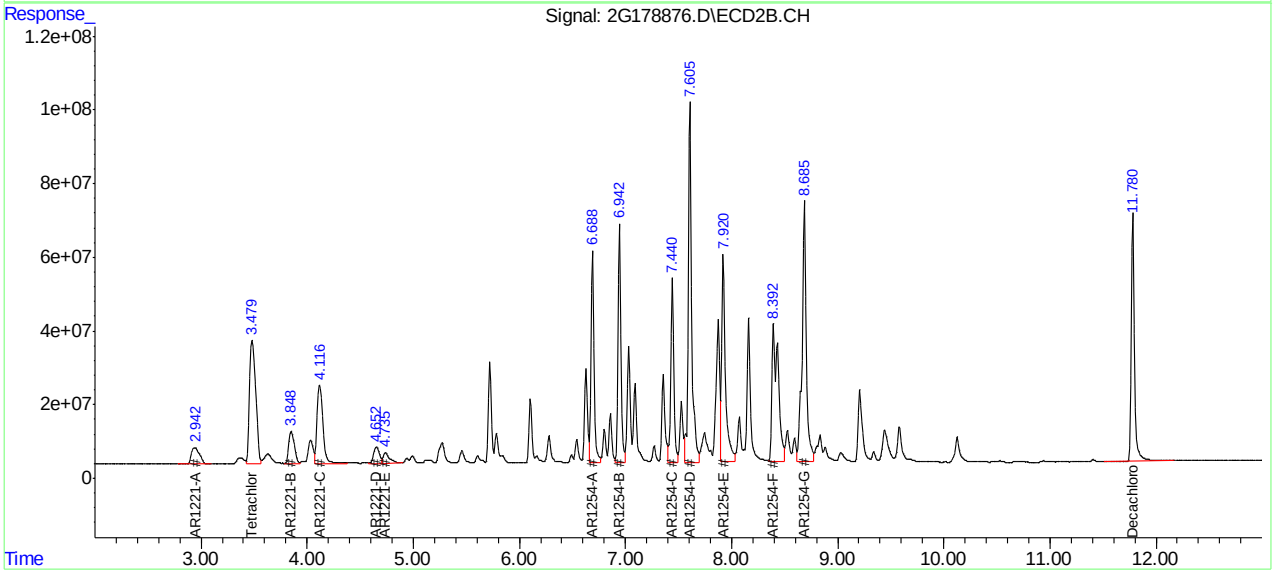
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178876.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 2:46 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:27:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-IC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178876.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 14:46 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

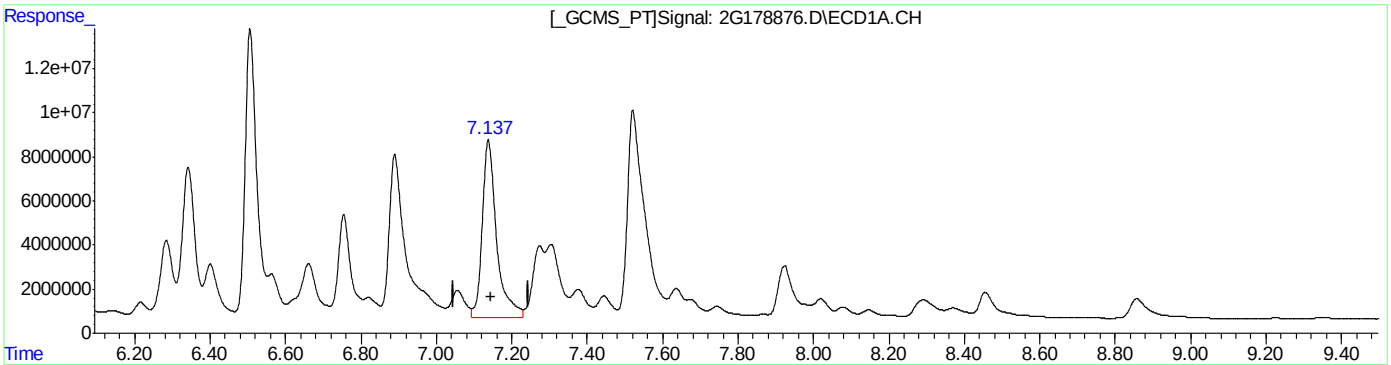
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1254-F | | 2 | 8.39 | Split peak |

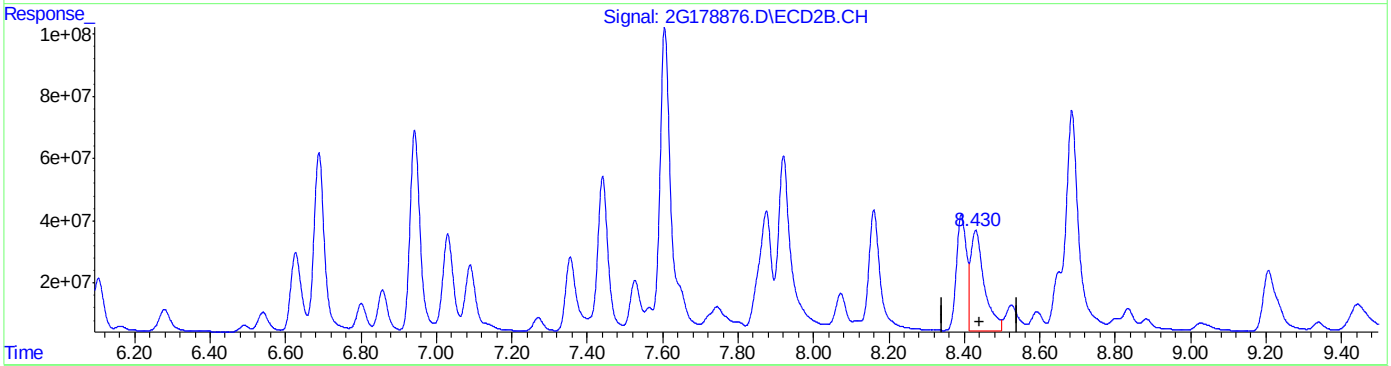
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178876.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:46 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 9  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:25:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(29) AR1254-F
7.138min 782.474PPB
response 212984322

(29) AR1254-F #2
8.430min 456.300PPB
response 818763423

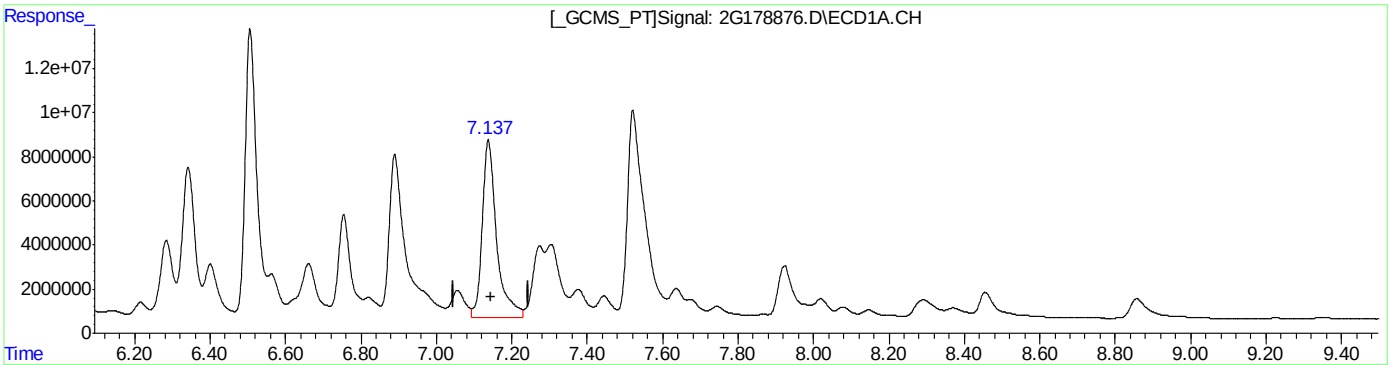
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178876.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  2:46 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 9  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:25:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(29) AR1254-F
7.138min 782.474PPB
response 212984322

(29) AR1254-F #2
8.392min 844.086PPB m
response 1514588987

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178877.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:02 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:28:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 1) | S Tetrachlo... | 3.061 | 3.480 | 189.7E6 | 1231.1E6 | 48.287 | 45.616 | |
| | Spiked Amount 40.000 | | | Recovery | = | 120.72% | 114.04% | |
| 51) | S Decachlor... | 10.392 | 11.780 | 209.7E6 | 1334.7E6 | 46.774 | 46.606 | |
| | Spiked Amount 40.000 | | | Recovery | = | 116.94% | 116.52% | |
| | Target Compounds | | | | | | | |
| 7) | AR1232-A | 3.456 | 4.114 | 117.7E6 | 659.6E6 | 934.327 | 925.649 | |
| 8) | AR1232-B | 3.874 | 4.657 | 80372307 | 514.0E6 | 938.091 | 881.459 | |
| 9) | AR1232-C | 4.442 | 5.270 | 164.1E6 | 1067.4E6 | 855.901 | 859.237 | |
| 10) | AR1232-D | 4.614 | 5.457 | 63780192 | 439.4E6 | 901.270 | 867.359 | |
| 11) | AR1232-E | 5.131 | 6.104 | 61239062 | 292.3E6 | 913.400 | 840.390 | |
| 41) | AR1262-A | 7.137 | 8.161 | 218.7E6 | 1314.1E6 | 639.495 | 898.812 | # |
| 42) | AR1262-B | 7.680 | 8.802 | 301.6E6 | 1832.7E6 | 601.066 | 897.437 | # |
| 43) | AR1262-C | 8.020 | 9.234 | 265.8E6 | 1761.6E6 | 722.491 | 898.863 | |
| 44) | AR1262-D | 8.454 | 9.581 | 665.7E6 | 3800.1E6 | 689.678 | 941.831 | # |
| 45) | AR1262-E | 8.897 | 10.096 | 701.8E6 | 4249.7E6 | 745.547m | 946.419m | # |

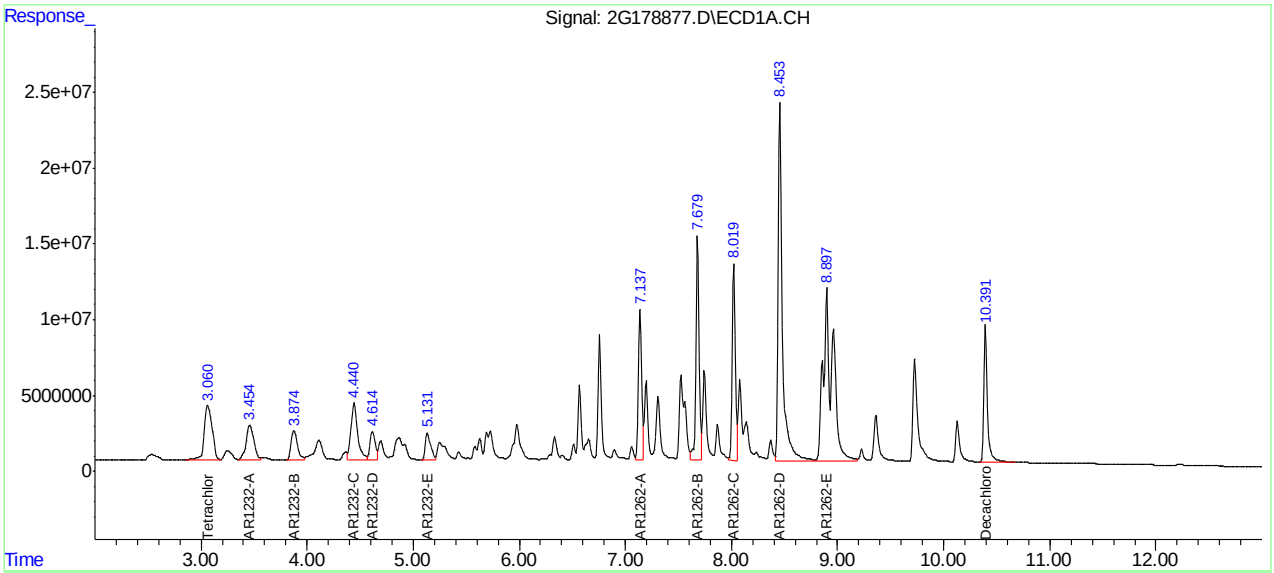
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

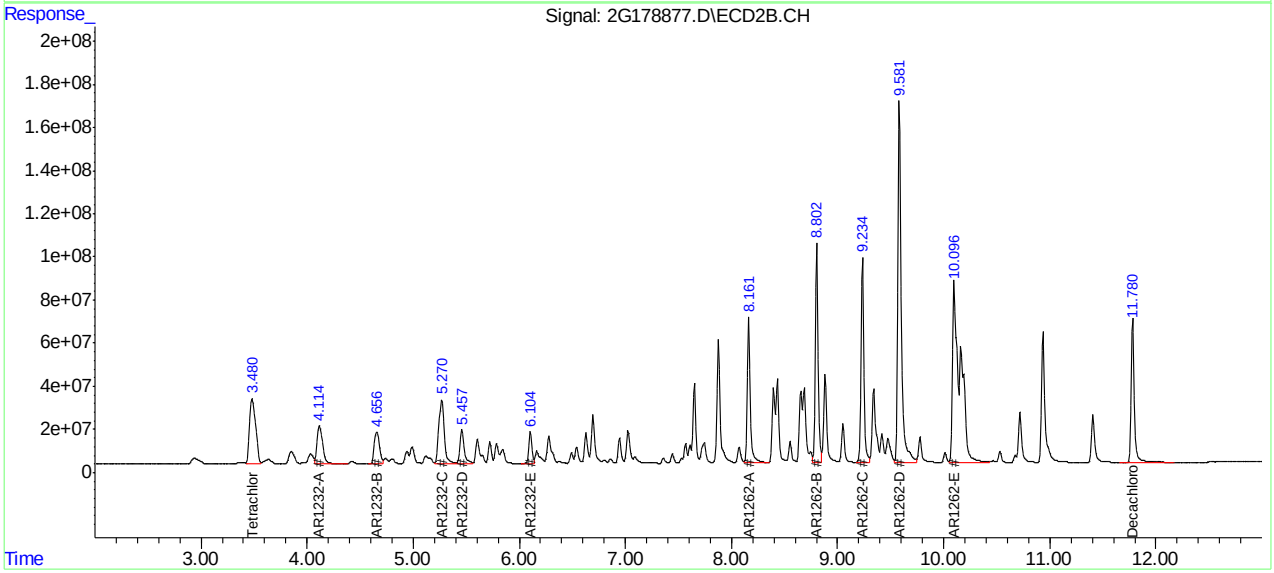
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178877.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:02 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:28:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-IC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178877.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 15:02 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

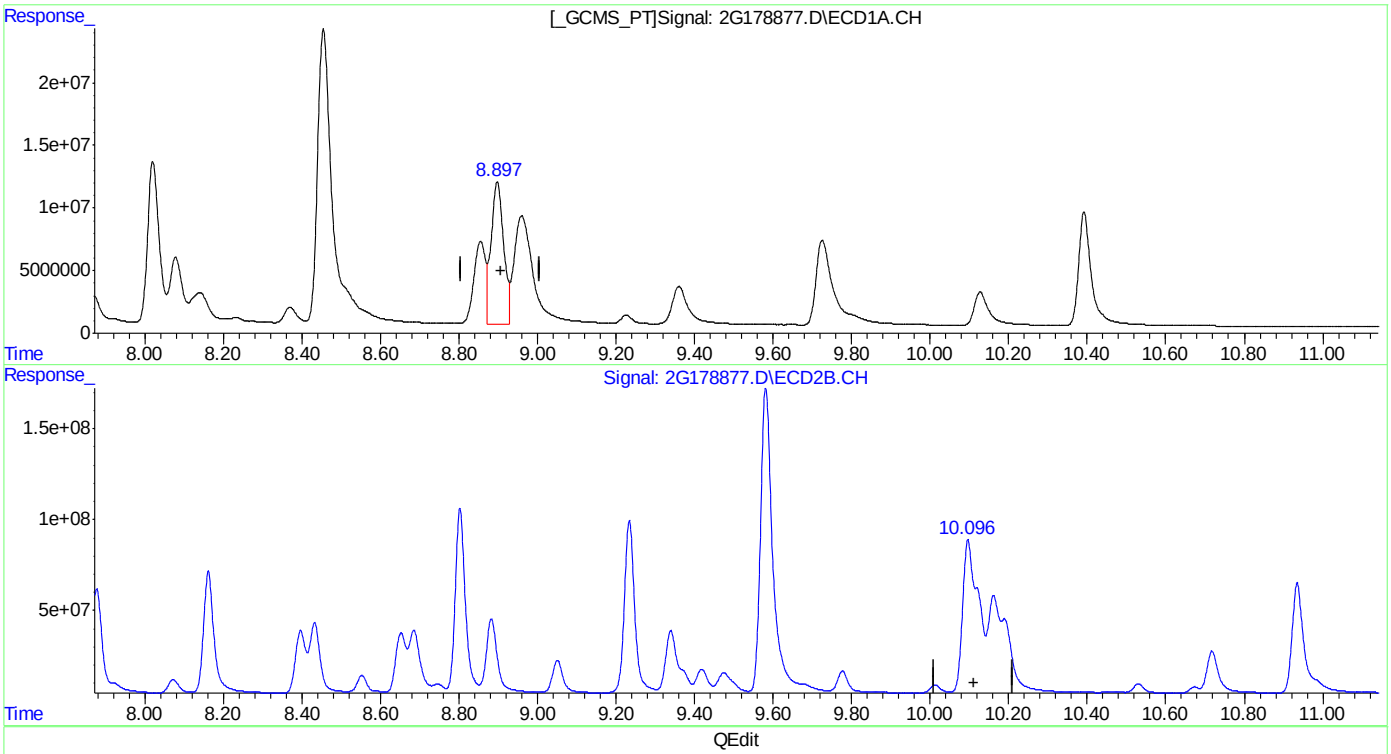
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1262-E | | 1 | 8.90 | Split peak |
| AR1262-E | | 2 | 10.10 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178877.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  3:02 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 10  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:27:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(45) AR1262-E
8.897min 270.899PPB
response 255004751

(45) AR1262-E #2
10.096min 517.048PPB
response 2321672597

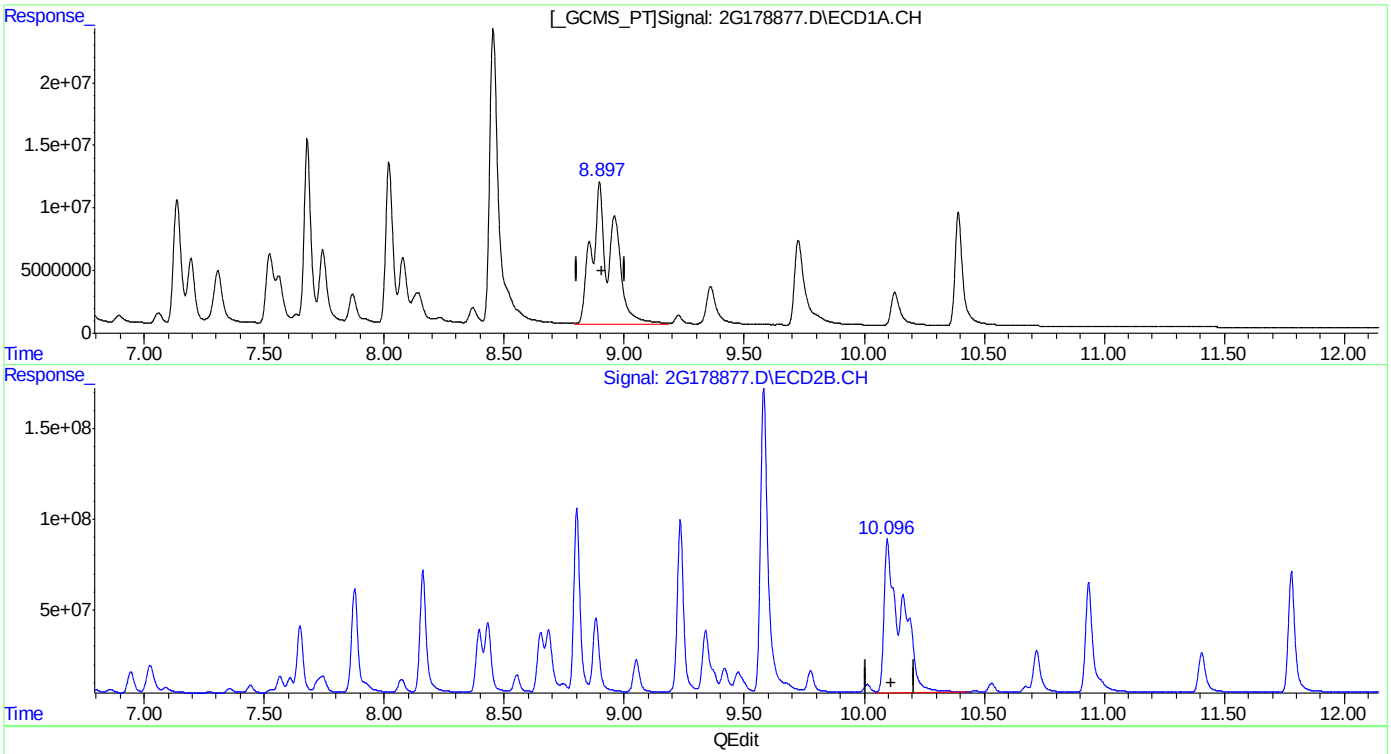
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178877.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  3:02 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 10  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:27:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(45) AR1262-E
8.897min 745.547PPB m
response 701803873

(45) AR1262-E #2
10.096min 946.419PPB m
response 4249655017

(+) = Expected Retention Time
2PCB4640.M Fri Apr 26 08:28:42 2019 RPT1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178878.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:19 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:29:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 1) | S Tetrachlo... | 3.062 | 3.478 | 206.0E6 | 1437.1E6 | 52.436 | 53.249 | |
| | Spiked Amount 40.000 | | | Recovery | = | 131.09% | 133.12% | |
| 51) | S Decachlor... | 10.389 | 11.779 | 677.0E6 | 3990.8E6 | 151.016 | 139.355 | |
| | Spiked Amount 40.000 | | | Recovery | = | 377.54% | 348.39% | |
| | Target Compounds | | | | | | | |
| 12) | AR1242-A | 3.873 | 4.655 | 130.7E6 | 823.7E6 | 967.243 | 863.347 | |
| 13) | AR1242-B | 4.442 | 5.268 | 283.8E6 | 1827.7E6 | 886.057 | 891.197 | |
| 14) | AR1242-C | 4.613 | 5.456 | 108.0E6 | 749.5E6 | 912.345 | 909.834 | |
| 15) | AR1242-D | 5.131 | 6.103 | 113.4E6 | 558.6E6 | 911.402 | 877.417 | |
| 16) | AR1242-E | 5.726 | 6.695 | 106.8E6 | 727.0E6 | 926.240 | 903.532 | |
| 46) | AR1268-A | 8.897 | 10.094 | 662.9E6 | 4270.0E6 | 619.387 | 932.885 | # |
| 47) | AR1268-B | 8.953 | 10.161 | 791.9E6 | 4651.7E6 | 788.844 | 1024.349 | # |
| 48) | AR1268-C | 9.224 | 10.529 | 585.6E6 | 3655.7E6 | 709.097 | 989.987 | # |
| 49) | AR1268-D | 9.721 | 10.932 | 250.3E6 | 1564.0E6 | 794.299 | 996.155 | # |
| 50) | AR1268-E | 10.122 | 11.403 | 2013.4E6 | 12460.9E6 | 817.641 | 1050.686 | # |

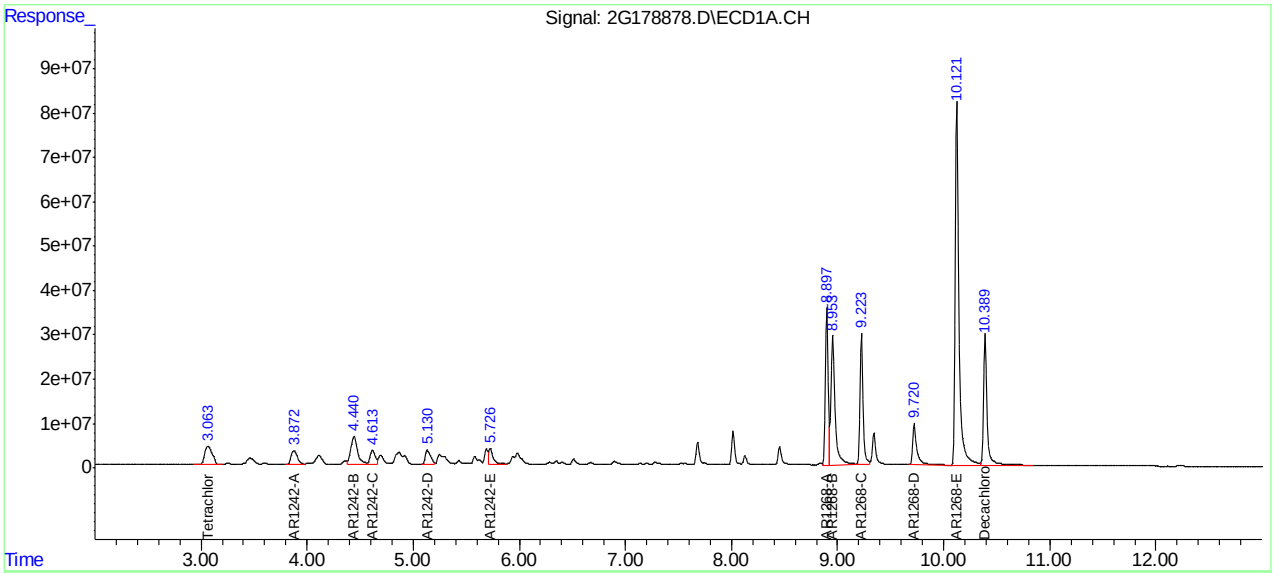
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

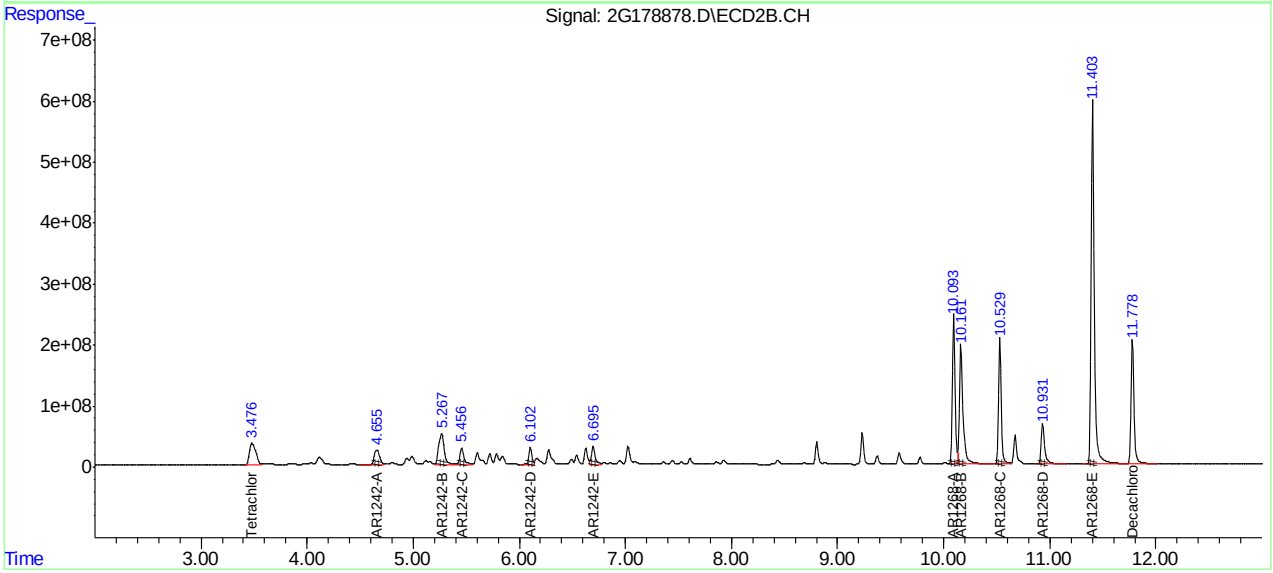
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178878.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:19 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:29:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178879.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:36 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:30:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.064 | 3.479 | 190.3E6 | 1385.2E6 | 48.442 | 51.325 |
| | Spiked Amount 40.000 | | | Recovery | = | 121.10% | 128.31% |
| 51) S | Decachlor... | 10.392 | 11.779 | 236.1E6 | 1484.3E6 | 52.660 | 51.829 |
| | Spiked Amount 40.000 | | | Recovery | = | 131.65% | 129.57% |
| | Target Compounds | | | | | | |
| 17) | AR1248-A | 3.871 | 4.654 | 70194943 | 451.3E6 | 981.998 | 882.382 |
| 18) | AR1248-B | 4.440 | 5.267 | 191.6E6 | 1200.2E6 | 872.149 | 876.201 |
| 19) | AR1248-C | 4.858 | 5.721 | 198.4E6 | 688.4E6 | 954.989 | 878.783 |
| 20) | AR1248-D | 5.129 | 6.103 | 181.8E6 | 914.9E6 | 909.864 | 880.443 |
| 21) | AR1248-E | 5.243 | 6.277 | 96053100 | 1038.5E6 | 906.872 | 896.525 |
| 22) | AR1248-F | 5.723 | 6.693 | 175.0E6 | 1293.9E6 | 889.272 | 903.709 |
| 23) | AR1248-G | 5.979 | 7.024 | 139.6E6 | 1121.4E6 | 797.331 | 841.570 |

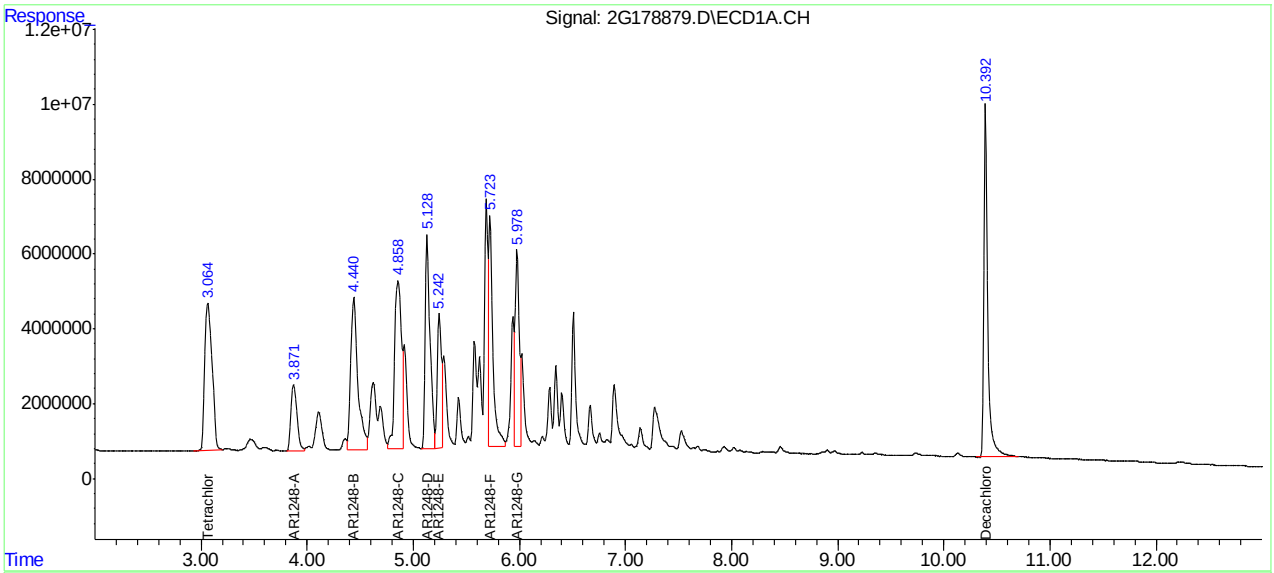
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

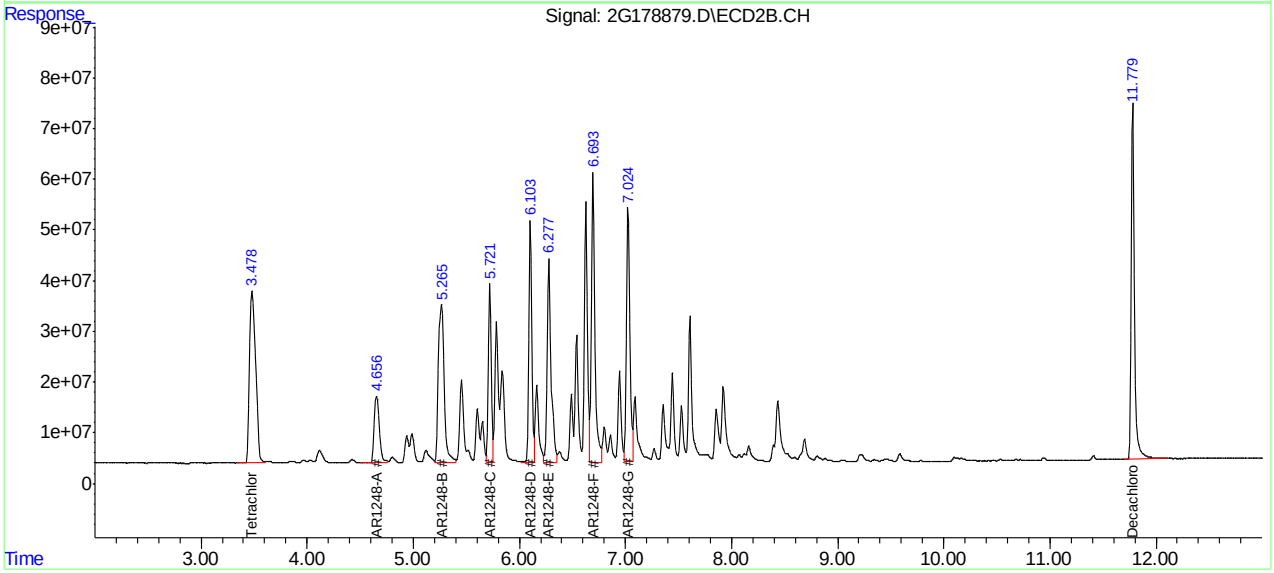
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178879.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:36 pm
Operator : tianweir
Sample : ic4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:30:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Thu Apr 25 14:47:32 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178880.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:53 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:33:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.080f | 3.495f | 152.6E6 | 1021.7E6 | 38.850 | 37.856 |
| | Spiked Amount 40.000 | | | Recovery | = | 97.13% | 94.64% |
| 51) S | Decachlor... | 10.391 | 11.779 | 181.0E6 | 1108.7E6 | 40.371 | 38.715 |
| | Spiked Amount 40.000 | | | Recovery | = | 100.93% | 96.79% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.473 | 4.126 | 86557725 | 493.2E6 | 967.534 | 961.937 |
| 32) | AR1016-B | 3.888f | 4.662 | 153.5E6 | 962.9E6 | 889.813 | 905.778 |
| 33) | AR1016-C | 4.451 | 5.277 | 346.3E6 | 2139.1E6 | 926.164 | 905.867 |
| 34) | AR1016-D | 4.622 | 5.462 | 131.6E6 | 843.5E6 | 914.405 | 870.404 |
| 35) | AR1016-E | 5.138 | 6.108 | 136.5E6 | 631.5E6 | 905.840 | 897.025 |
| 36) | AR1260-A | 7.525 | 8.685 | 332.2E6 | 2067.6E6 | 942.262 | 906.249m |
| 37) | AR1260-B | 7.682 | 8.803 | 191.6E6 | 1202.4E6 | 947.814 | 943.143 |
| 38) | AR1260-C | 8.024 | 9.233 | 208.2E6 | 1384.1E6 | 976.200 | 951.136 |
| 39) | AR1260-D | 8.455 | 9.580 | 561.1E6 | 3122.9E6 | 1003.313 | 987.076 |
| 40) | AR1260-E | 8.850 | 10.122 | 498.3E6 | 2983.2E6 | 919.660m | 911.591m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

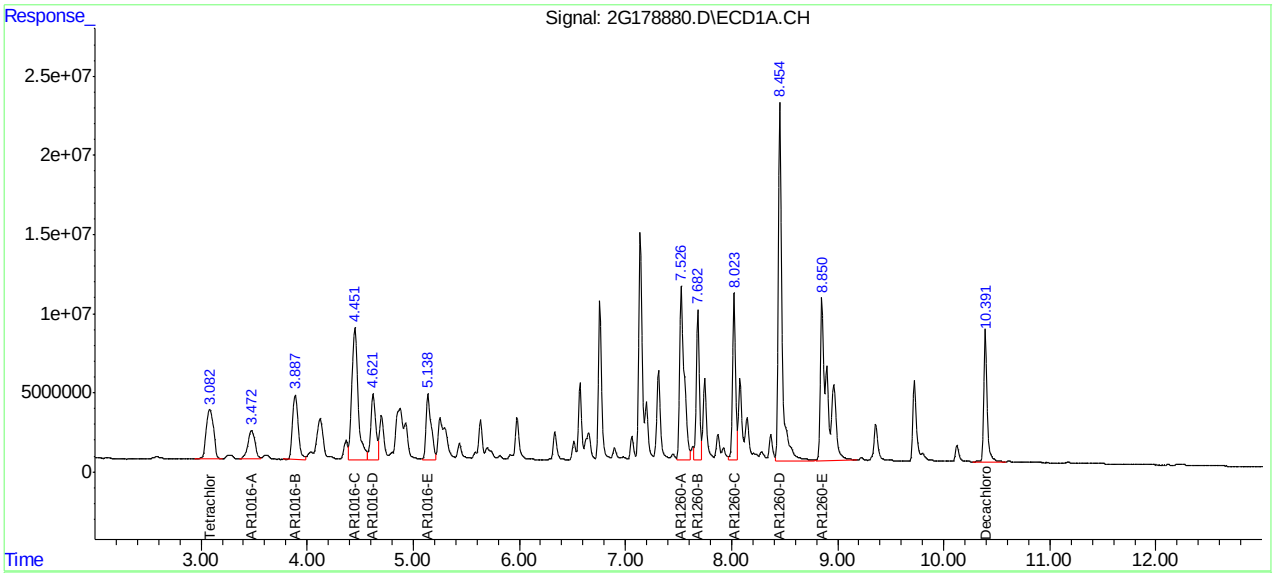
11.5.11 11

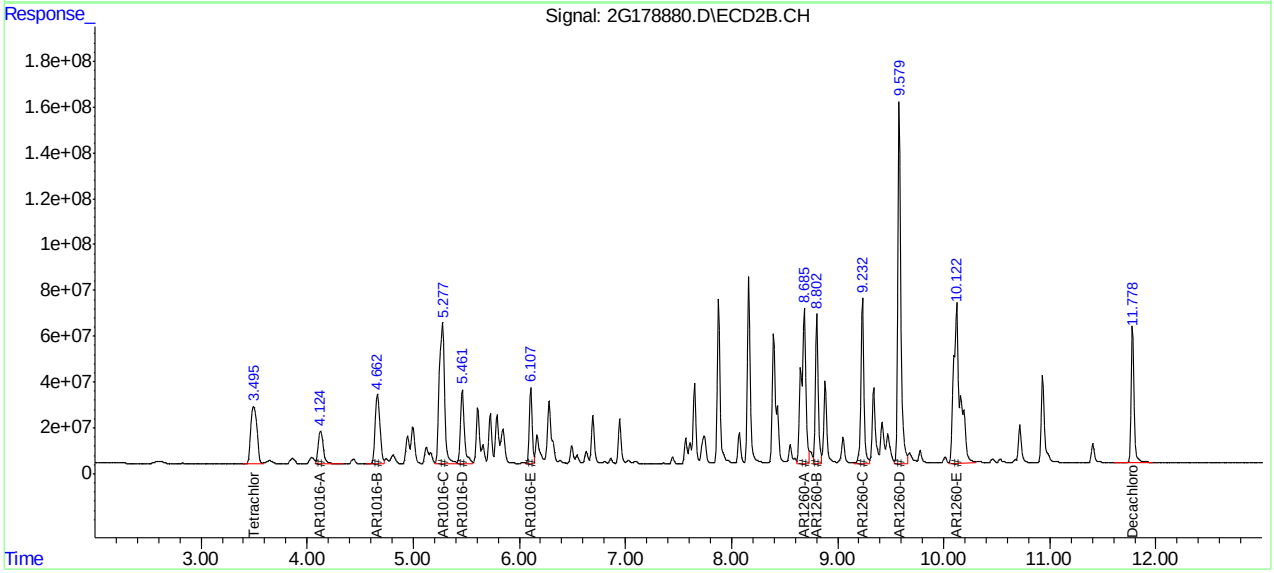
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178880.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 3:53 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:33:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-ICV4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178880.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 15:53 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

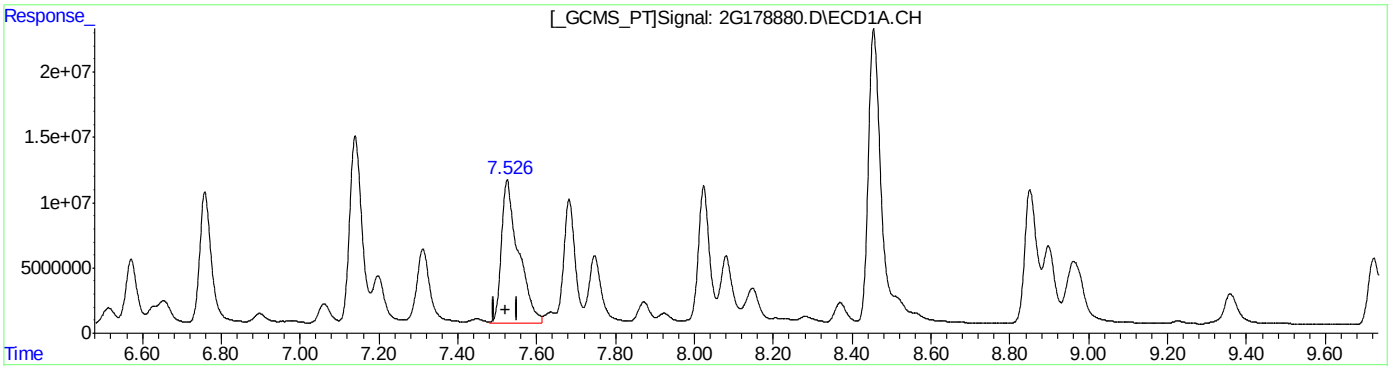
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.69 | Split peak |
| AR1260-E | | 1 | 8.85 | Split peak |
| AR1260-E | | 2 | 10.12 | Split peak |

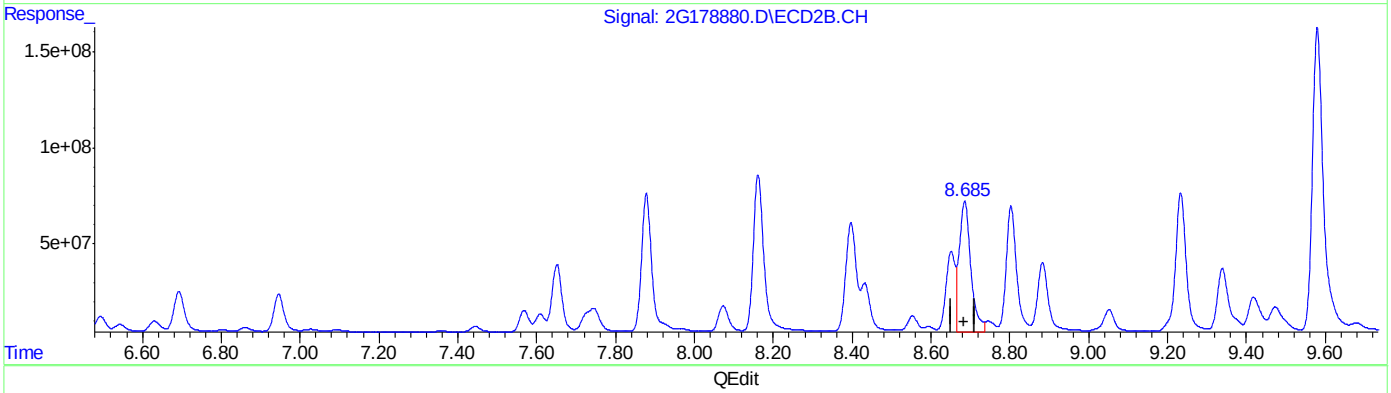
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178880.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  3:53 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 13  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:32:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.525min 942.262PPB
response 332199626

(36) AR1260-A #2
8.685min 615.197PPB
response 1403542748

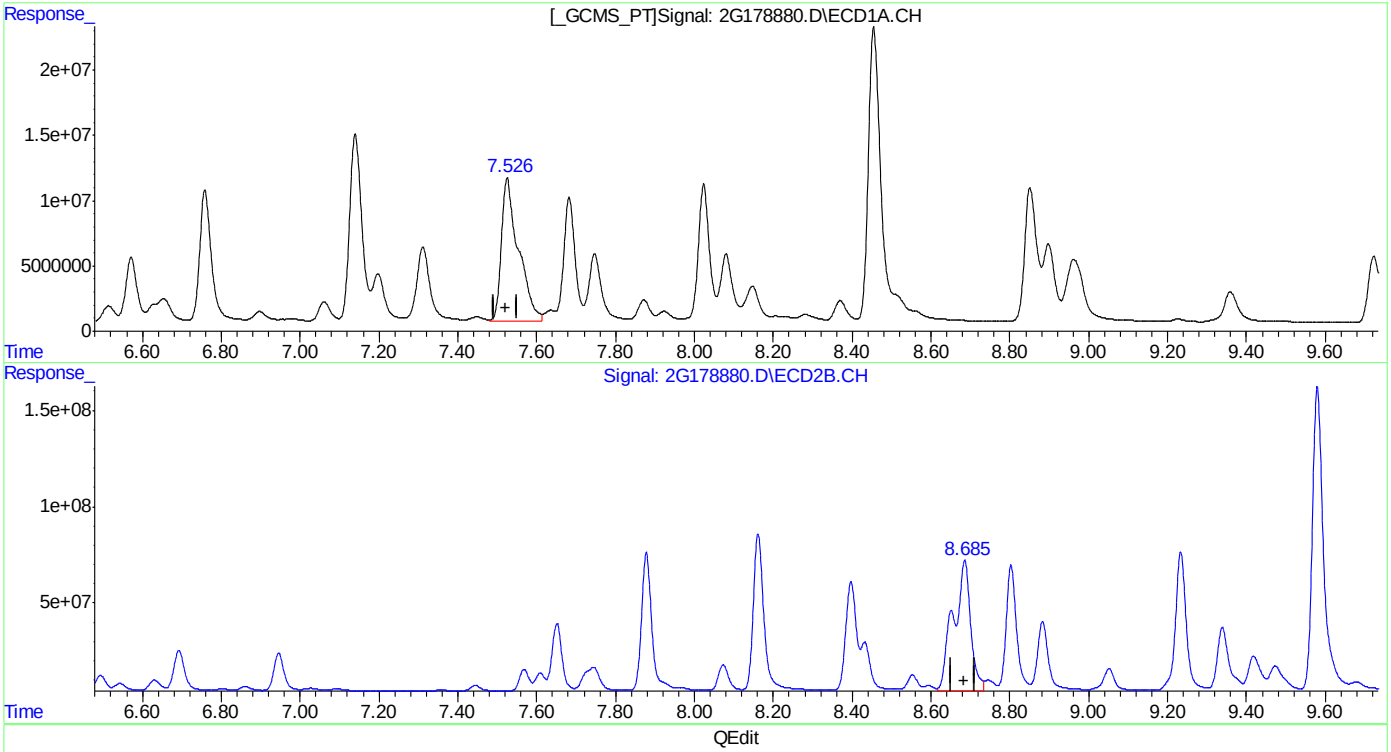
(+) = Expected Retention Time
2PCB4640.M Fri Apr 26 08:33:22 2019 RPT1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178880.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  3:53 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 13  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:32:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A
7.525min 942.262PPB
response 332199626

(36) AR1260-A #2
8.685min 906.249PPB m
response 2067564793

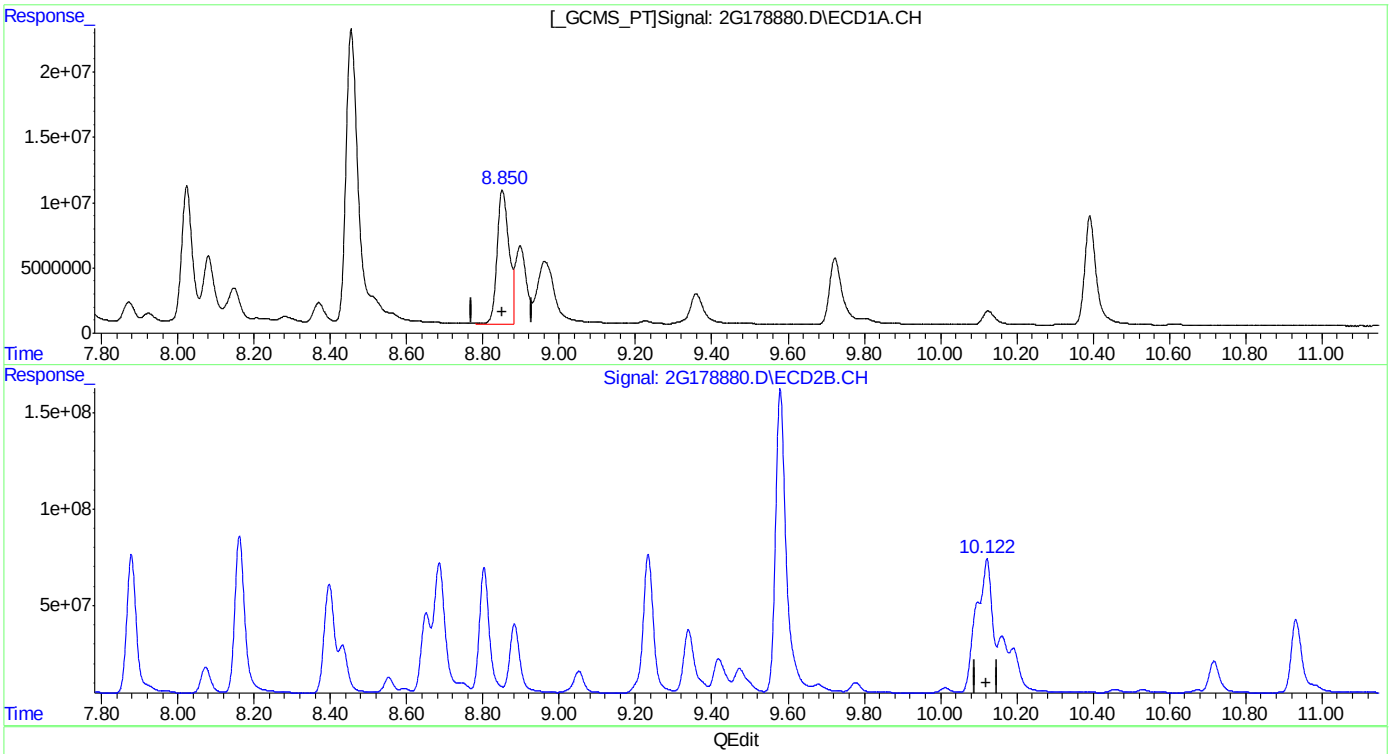
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178880.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  3:53 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 13  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:32:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.851min 405.271PPB
response 219566442

(40) AR1260-E #2
10.122min 614.914PPB
response 2012298270

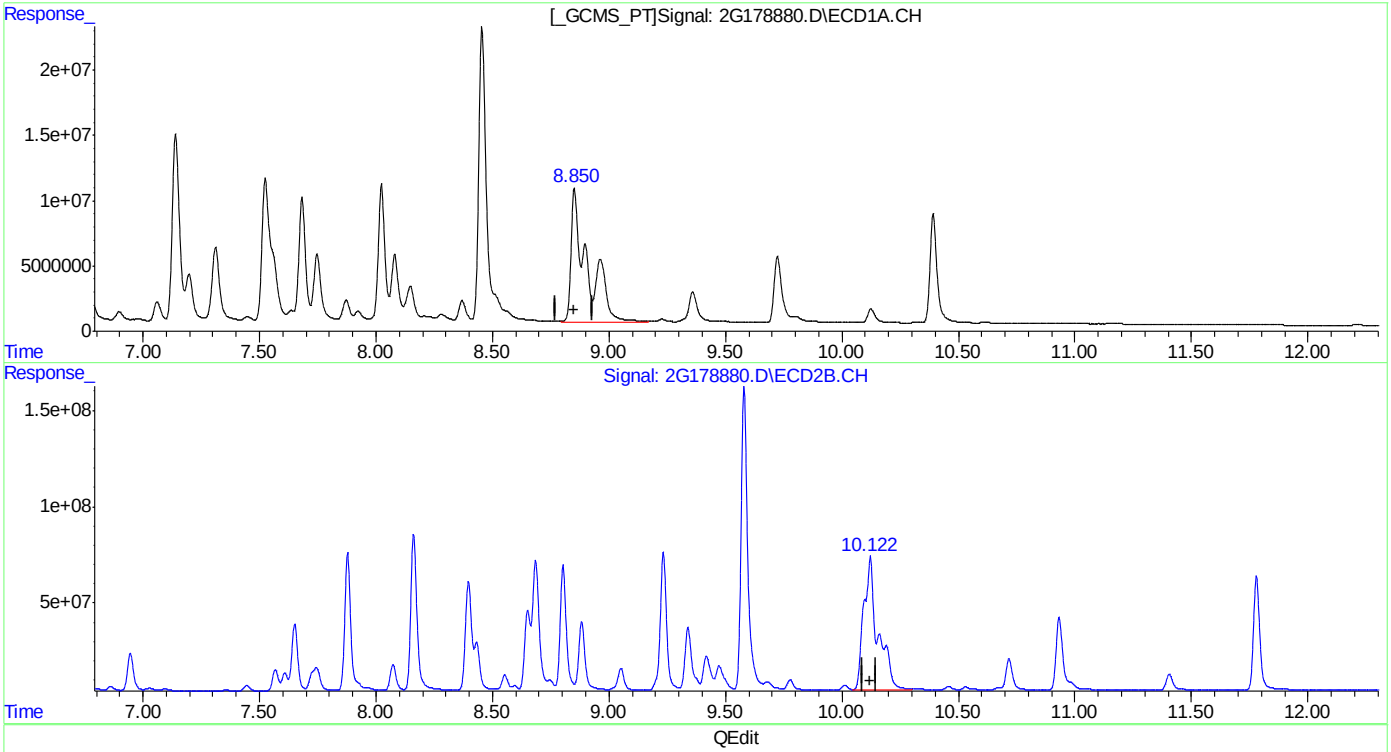
(+) = Expected Retention Time

# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178880.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  3:53 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 13  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:32:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.850min 919.660PPB m
response 498250496

(40) AR1260-E #2
10.122min 911.591PPB m
response 2983171395

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178881.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 4:10 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:36:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.062 | 3.479 | 224.6E6 | 1468.4E6 | 57.167 | 54.409 |
| | Spiked Amount 40.000 | | | Recovery | = | 142.92% | 136.02% |
| 51) | S Decachlor... | 10.391 | 11.781 | 236.9E6 | 1533.0E6 | 52.841 | 53.531 |
| | Spiked Amount 40.000 | | | Recovery | = | 132.10% | 133.83% |
| | Target Compounds | | | | | | |
| 2) | AR1221-A | 2.532 | 2.938 | 38032528 | 224.6E6 | 1009.083 | 1001.337 |
| 3) | AR1221-B | 3.248 | 3.848 | 44695582 | 298.0E6 | 929.622 | 929.456 |
| 4) | AR1221-C | 3.455 | 4.114 | 143.8E6 | 752.5E6 | 923.871 | 917.060 |
| 5) | AR1221-D | 3.875 | 4.652 | 14618675 | 136.2E6 | 845.623 | 845.306 |
| 6) | AR1221-E | 4.042 | 4.735 | 14523440 | 115.7E6 | 1124.820 | 971.609 |
| 24) | AR1254-A | 5.626 | 6.689 | 159.5E6 | 1141.6E6 | 992.080 | 1005.860 |
| 25) | AR1254-B | 5.972 | 6.943 | 287.7E6 | 1220.0E6 | 977.909 | 1009.251 |
| 26) | AR1254-C | 6.343 | 7.441 | 158.3E6 | 999.6E6 | 988.593 | 1011.987 |
| 27) | AR1254-D | 6.507 | 7.606 | 316.8E6 | 2173.8E6 | 988.565 | 1008.873 |
| 28) | AR1254-E | 6.891 | 7.921 | 232.3E6 | 1417.0E6 | 978.623 | 1013.499 |
| 29) | AR1254-F | 7.138 | 8.393 | 209.8E6 | 1520.1E6 | 985.077 | 1003.626m |
| 30) | AR1254-G | 7.525 | 8.686 | 296.2E6 | 1937.6E6 | 990.094 | 1004.434 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

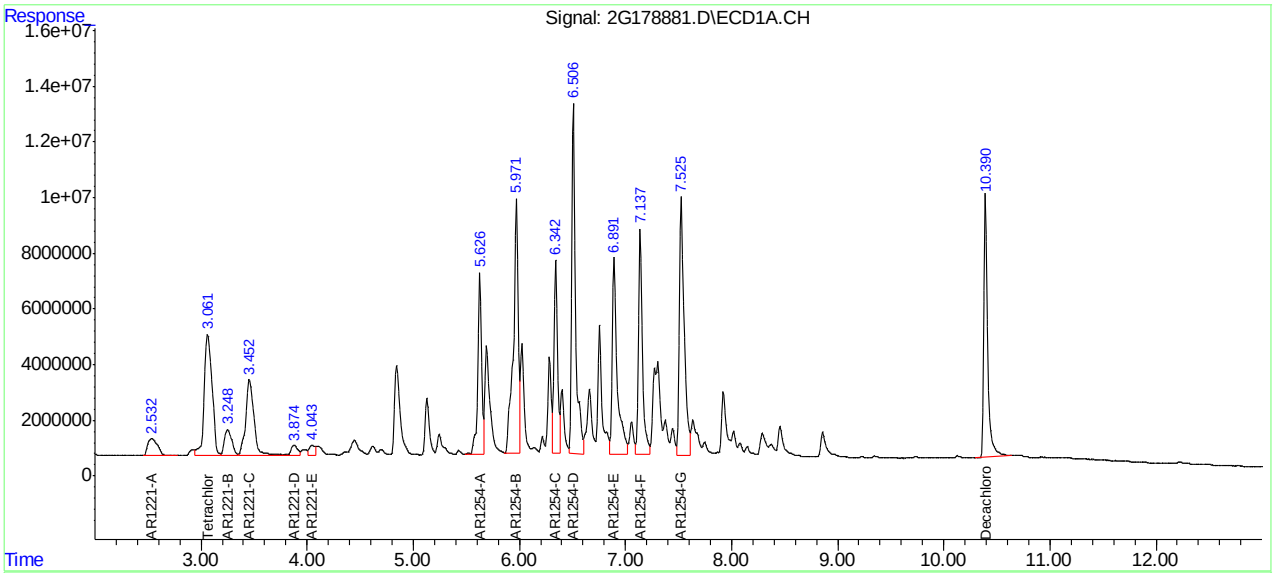
11.5.12 11

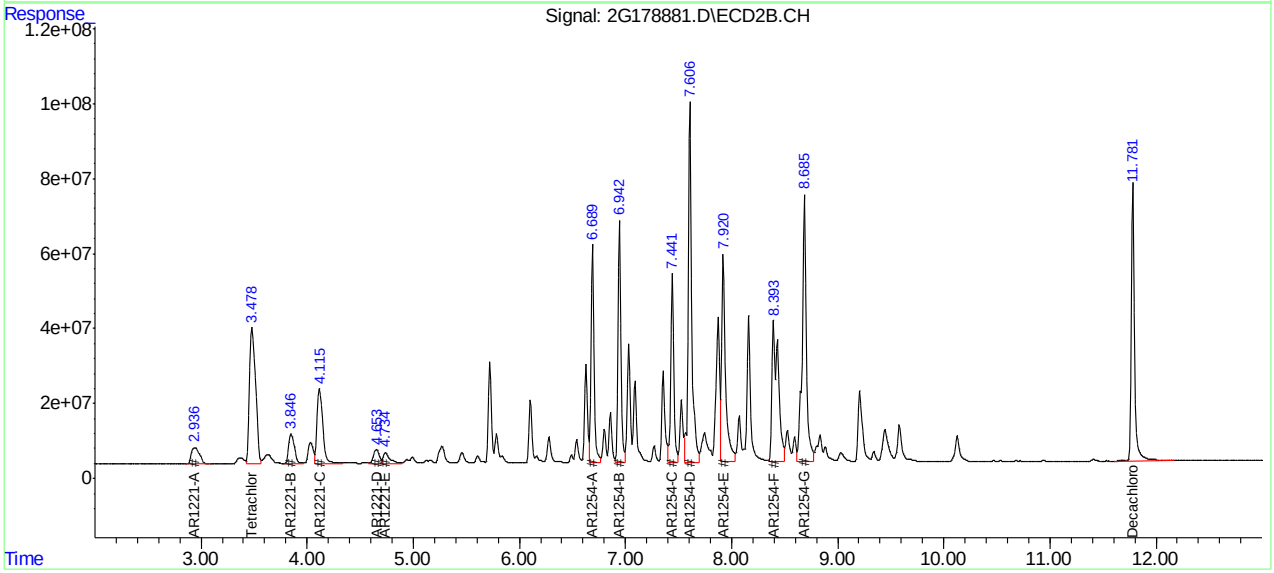
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178881.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 4:10 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:36:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-ICV4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178881.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 16:10 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

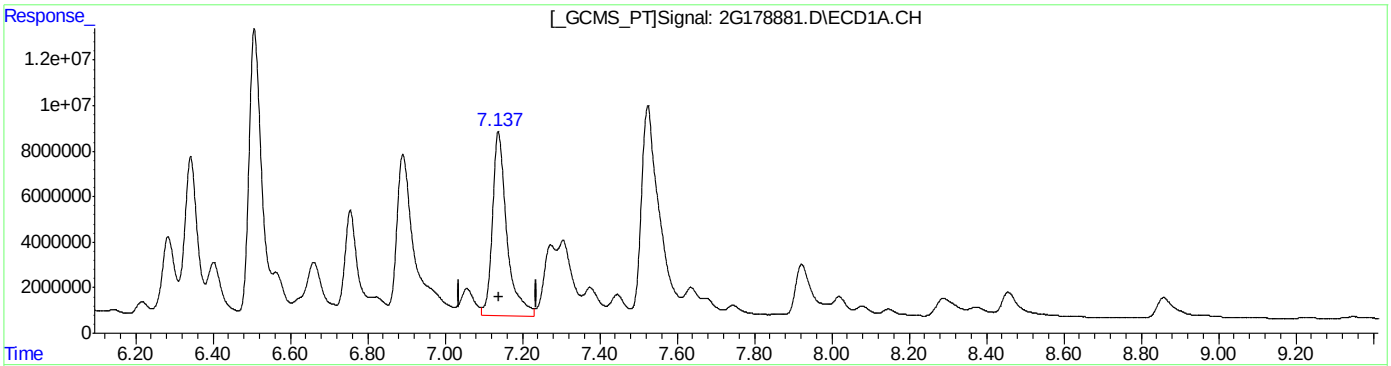
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1254-F | | 2 | 8.39 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178881.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  4:10 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 14  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:35:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(29) AR1254-F
7.138min 985.077PPB
response 209805870

(29) AR1254-F #2
8.393min 468.480PPB
response 709555404

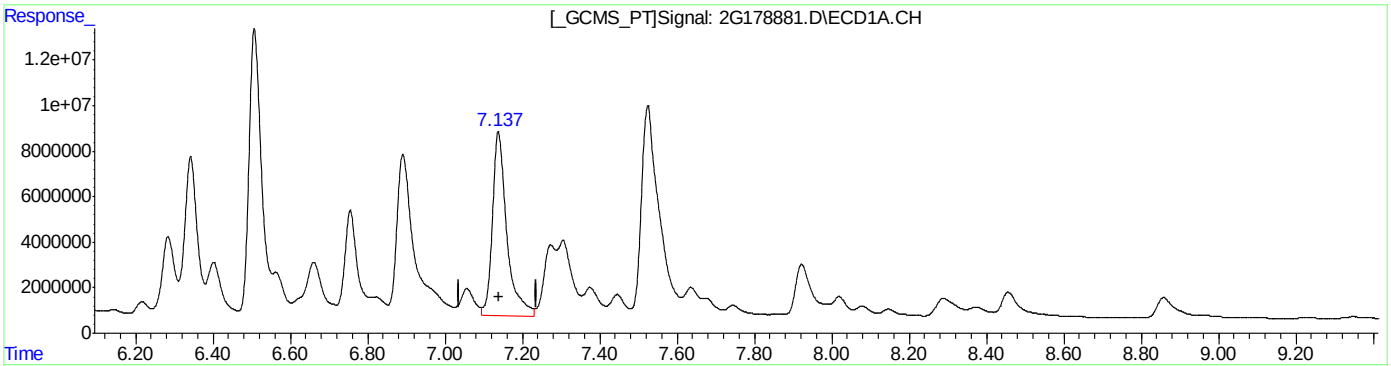
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178881.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  4:10 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 14  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:35:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(29) AR1254-F
7.138min 985.077PPB
response 209805870

(29) AR1254-F #2
8.393min 1003.626PPB m
response 1520081512

(+) = Expected Retention Time
2PCB4640.M Fri Apr 26 08:36:36 2019 RPT1









JC87535

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 04/26/19 12:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178882.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 4:27 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:37:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.064 | 3.483 | 219.0E6 | 1452.1E6 | 55.734 | 53.805 |
| | Spiked Amount 40.000 | | | Recovery | = | 139.34% | 134.51% |
| 51) S | Decachlor... | 10.392 | 11.779 | 238.8E6 | 1541.0E6 | 53.269 | 53.809 |
| | Spiked Amount 40.000 | | | Recovery | = | 133.17% | 134.52% |
| | Target Compounds | | | | | | |
| 7) | AR1232-A | 3.458 | 4.115 | 107.6E6 | 607.9E6 | 914.806 | 921.575 |
| 8) | AR1232-B | 3.875 | 4.655 | 75195332 | 477.6E6 | 935.588 | 929.059 |
| 9) | AR1232-C | 4.444 | 5.269 | 153.1E6 | 988.4E6 | 932.975 | 925.980 |
| 10) | AR1232-D | 4.615 | 5.458 | 59847807 | 411.3E6 | 938.345 | 936.034 |
| 11) | AR1232-E | 5.131 | 6.104 | 57883461 | 273.1E6 | 945.205 | 934.372 |
| 41) | AR1262-A | 7.136 | 8.161 | 218.1E6 | 1313.6E6 | 996.855 | 999.612 |
| 42) | AR1262-B | 7.679 | 8.802 | 301.4E6 | 1826.6E6 | 999.482 | 996.661 |
| 43) | AR1262-C | 8.021 | 9.232 | 265.4E6 | 1759.6E6 | 998.328 | 998.861 |
| 44) | AR1262-D | 8.454 | 9.579 | 673.1E6 | 3786.3E6 | 1011.158 | 996.363 |
| 45) | AR1262-E | 8.896 | 10.095 | 715.1E6 | 4220.5E6 | 1018.921m | 993.138m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

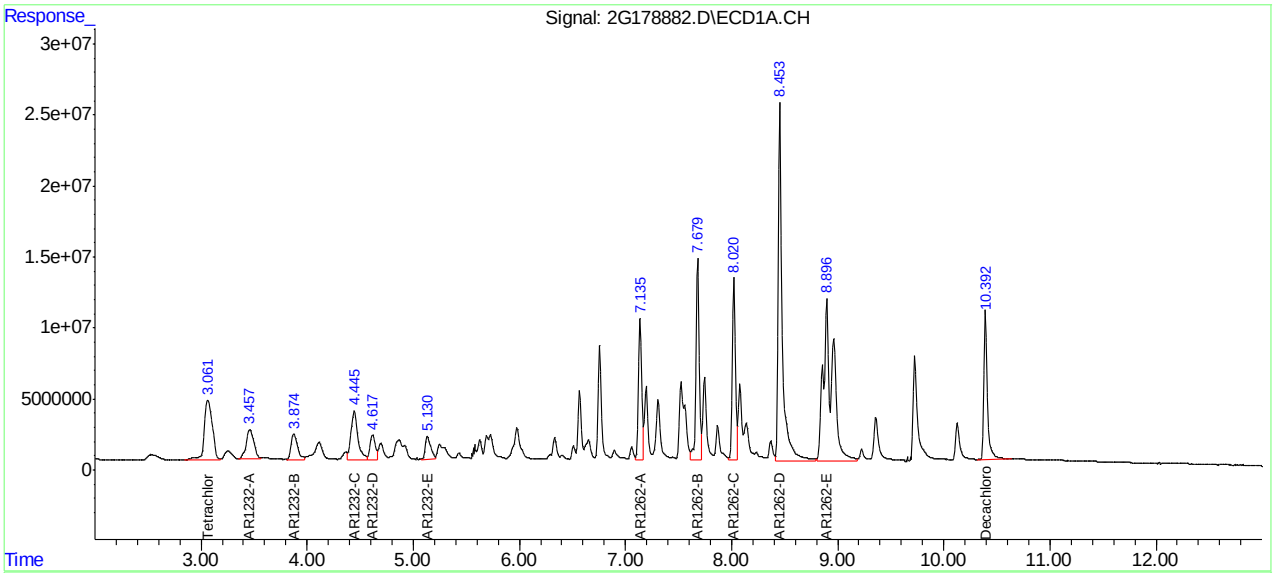
11.5.13 11

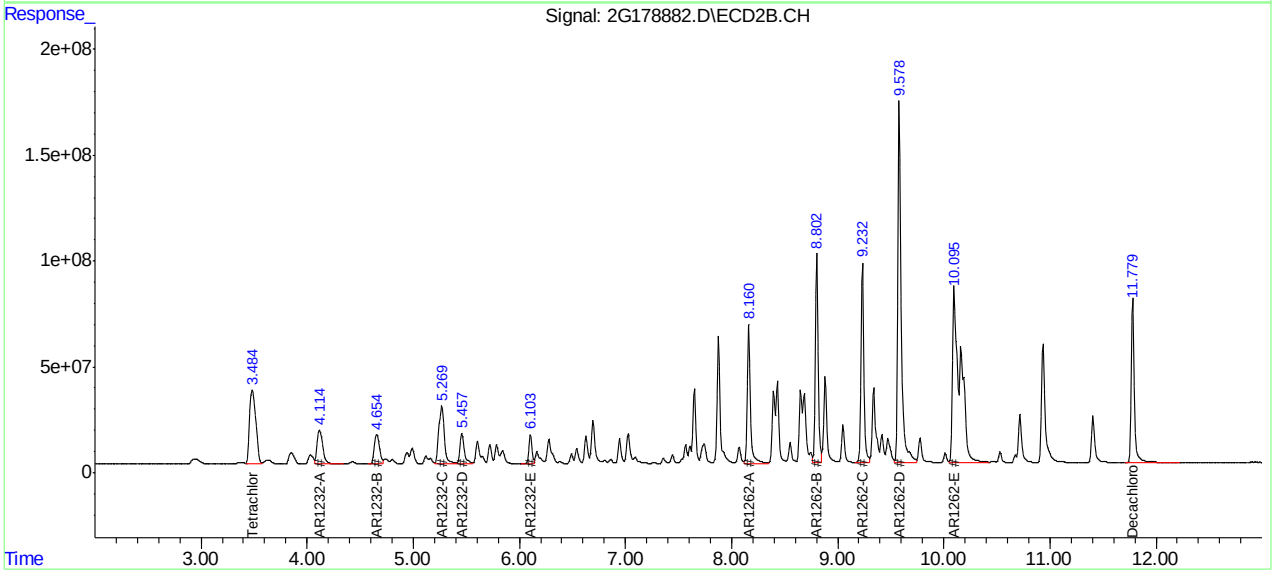
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178882.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 4:27 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:37:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)










JC87535

# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4640-ICV4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G178882.D | **Analyst approved:** | 04/26/19 09:02 Tianwei Ruan |
| **Injection Time:** | 04/25/19 16:27 | **Supervisor approved:** | 04/26/19 12:14 Gwendolyn Burns |

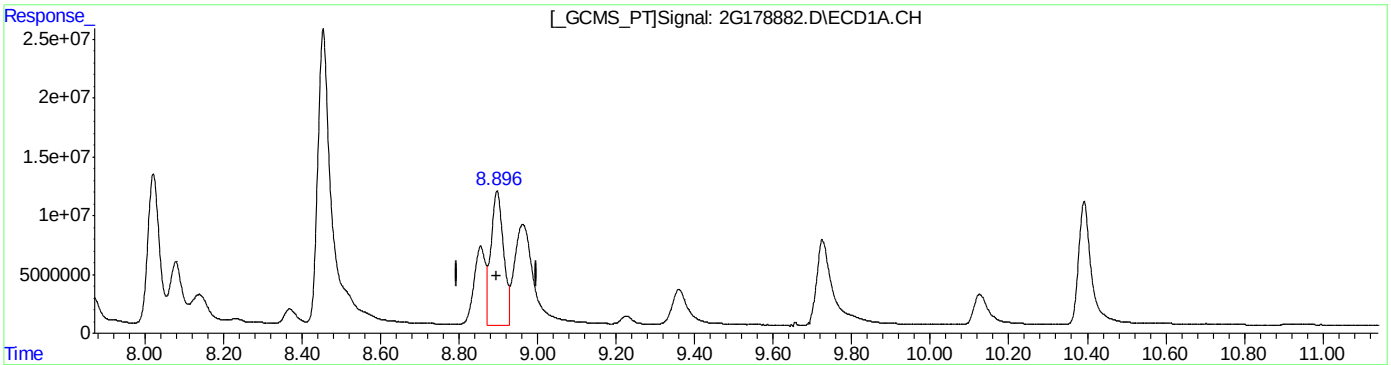
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1262-E | | 1 | 8.90 | Split peak |
| AR1262-E | | 2 | 10.10 | Split peak |

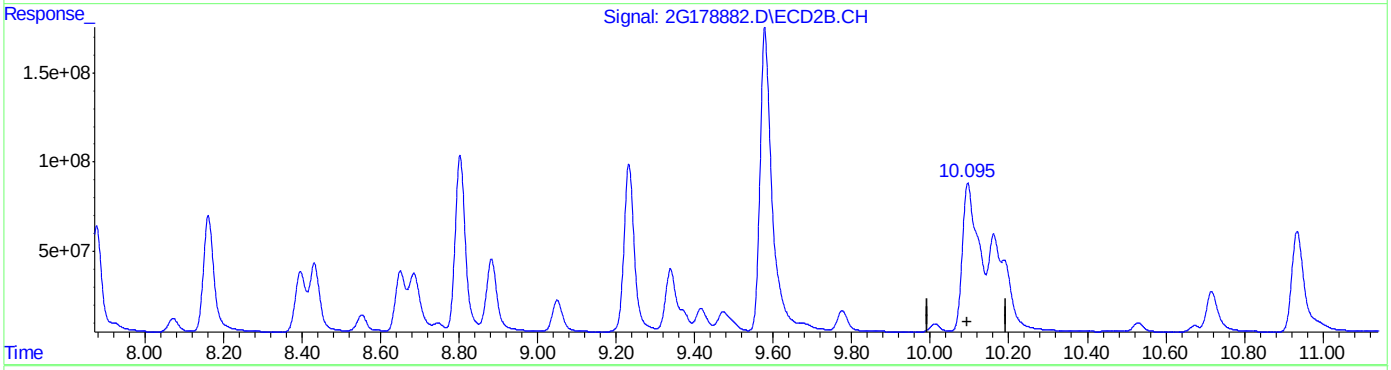
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178882.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  4:27 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 15  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:36:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(45) AR1262-E
8.897min 365.318PPB
response 256381397

(45) AR1262-E #2
10.096min 546.347PPB
response 2321787769

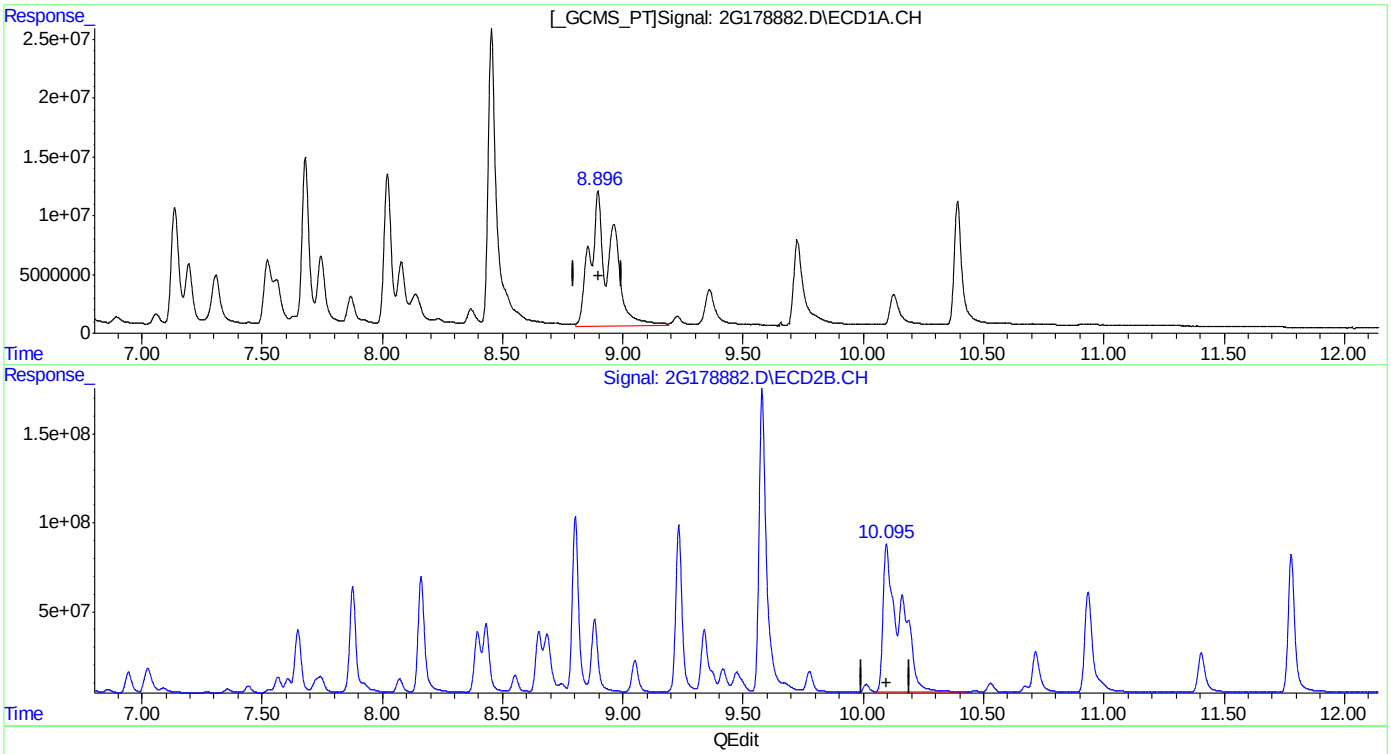
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178882.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 25 Apr 2019  4:27 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 15  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:36:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(45) AR1262-E

8.896min 1018.921PPB m

response 715082993

(45) AR1262-E #2

10.095min 993.138PPB m

response 4220495434

(+) = Expected Retention Time



11.5.13.3 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178883.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 4:44 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:38:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.064 | 3.479 | 213.2E6 | 1477.9E6 | 54.272 | 54.759 |
| | Spiked Amount 40.000 | | | Recovery | = | 135.68% | 136.90% |
| 51) S | Decachlor... | 10.389 | 11.779 | 630.3E6 | 3832.2E6 | 140.619 | 133.816 |
| | Spiked Amount 40.000 | | | Recovery | = | 351.55% | 334.54% |
| | Target Compounds | | | | | | |
| 12) | AR1242-A | 3.872 | 4.656 | 133.3E6 | 840.0E6 | 1019.829 | 1019.738 |
| 13) | AR1242-B | 4.442 | 5.269 | 290.0E6 | 1868.8E6 | 1021.944 | 1022.493 |
| 14) | AR1242-C | 4.612 | 5.457 | 110.3E6 | 771.9E6 | 1021.505 | 1029.915 |
| 15) | AR1242-D | 5.130 | 6.103 | 112.7E6 | 559.4E6 | 993.390 | 1001.406 |
| 16) | AR1242-E | 5.726 | 6.695 | 101.6E6 | 715.0E6 | 952.004 | 983.555 |
| 46) | AR1268-A | 8.898 | 10.095 | 631.9E6 | 4052.8E6 | 953.153 | 949.132 |
| 47) | AR1268-B | 8.953 | 10.162 | 745.1E6 | 4385.9E6 | 940.828 | 942.874 |
| 48) | AR1268-C | 9.225 | 10.530 | 553.1E6 | 3459.2E6 | 944.477 | 946.226 |
| 49) | AR1268-D | 9.723 | 10.933 | 234.2E6 | 1467.3E6 | 935.756 | 938.191 |
| 50) | AR1268-E | 10.123 | 11.403 | 1894.9E6 | 11764.7E6 | 941.129 | 944.129 |

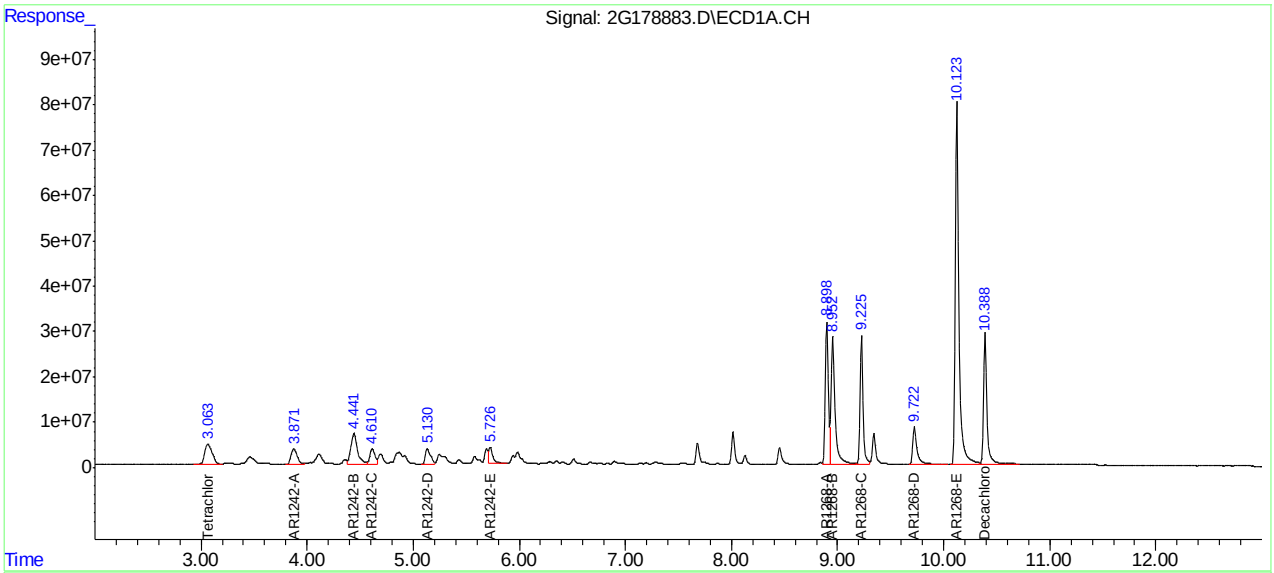
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

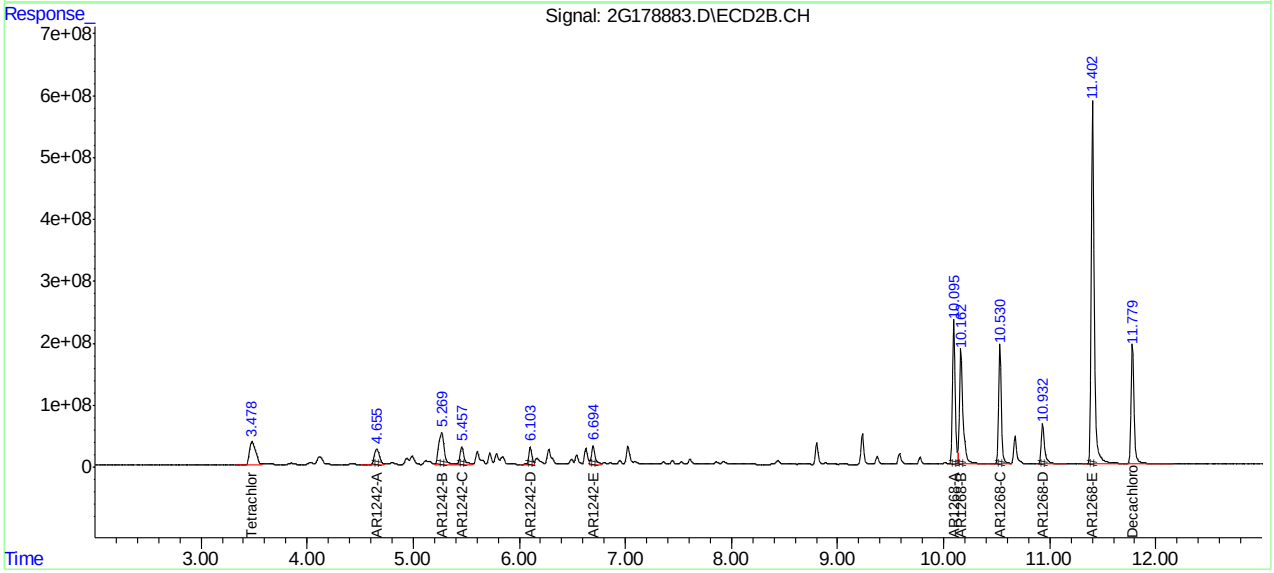
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178883.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 4:44 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 08:38:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 08:31:59 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)










JC87535

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178884.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 5:01 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 15:17:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 15:13:56 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.064 | 3.479 | 213.3E6 | 1524.6E6 | 54.292 | 56.491 |
| | Spiked Amount 40.000 | | | Recovery | = | 135.73% | 141.23% |
| 51) S | Decachlor... | 10.393 | 11.781 | 244.5E6 | 1585.1E6 | 54.550 | 55.349 |
| | Spiked Amount 40.000 | | | Recovery | = | 136.38% | 138.37% |
| | Target Compounds | | | | | | |
| 17) | AR1248-A | 3.872 | 4.653 | 65054411 | 410.9E6 | 926.768 | 910.317 |
| 18) | AR1248-B | 4.441 | 5.269 | 189.0E6 | 1158.7E6 | 986.511 | 965.447 |
| 19) | AR1248-C | 4.859 | 5.721 | 200.5E6 | 683.1E6 | 1010.540 | 992.208 |
| 20) | AR1248-D | 5.130 | 6.104 | 182.4E6 | 912.7E6 | 1002.962 | 997.630 |
| 21) | AR1248-E | 5.244 | 6.277 | 97596390 | 1063.5E6 | 1016.067 | 1024.087 |
| 22) | AR1248-F | 5.724 | 6.694 | 181.2E6 | 1347.3E6 | 1035.608 | 1041.236 |
| 23) | AR1248-G | 5.979 | 7.024 | 139.5E6 | 1184.5E6 | 999.543 | 1056.278 |

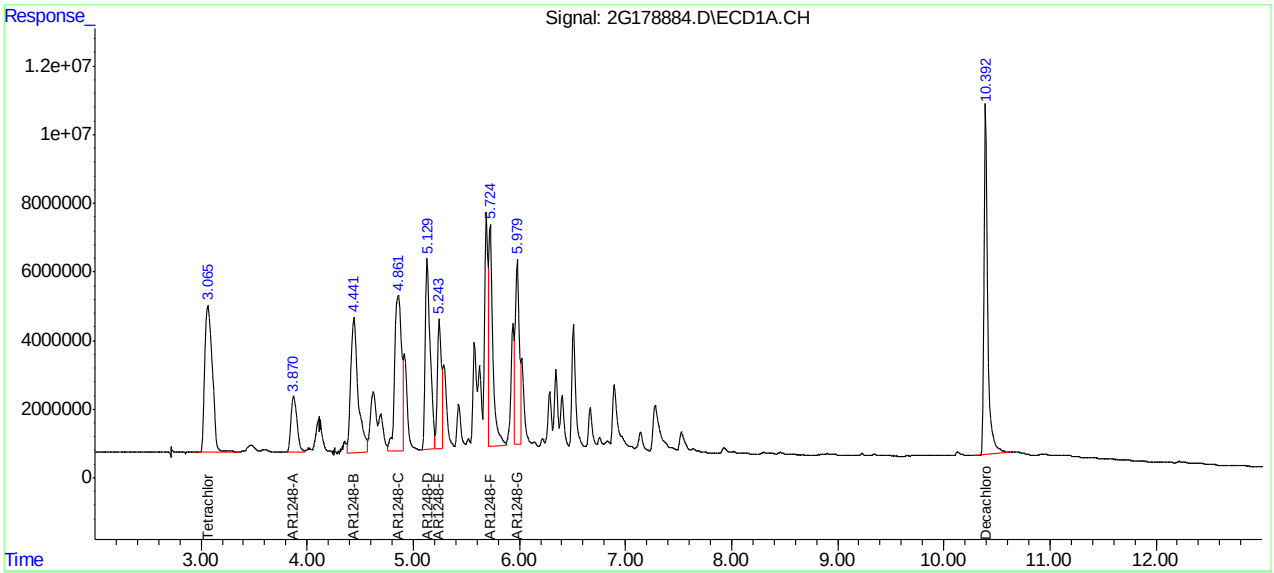
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

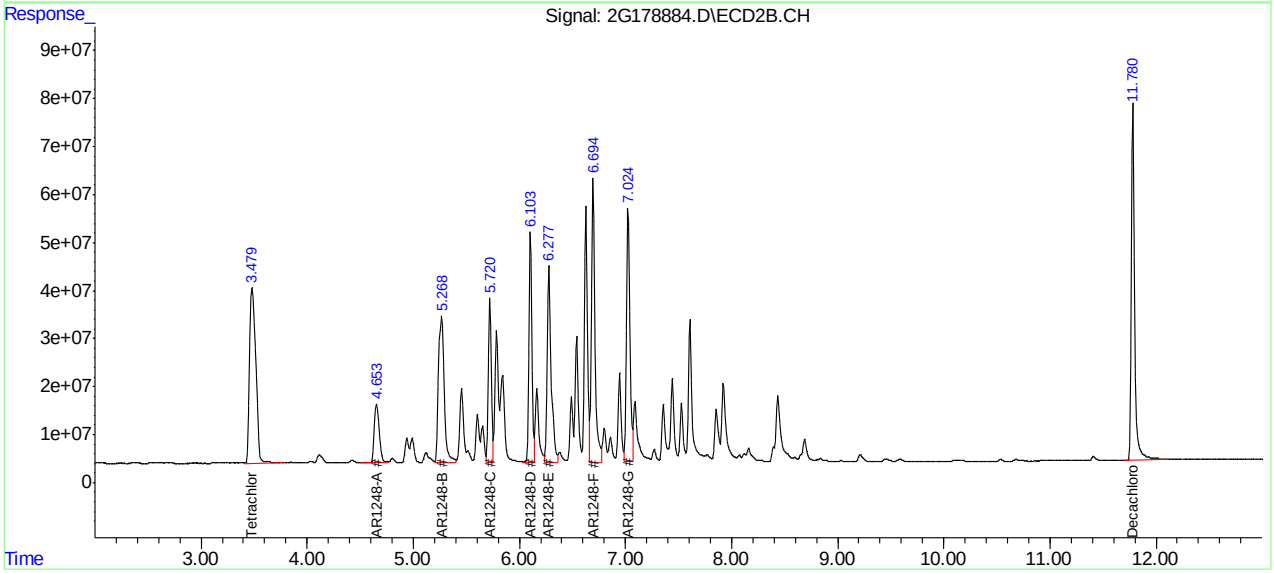
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4640\
Data File : 2G178884.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 25 Apr 2019 5:01 pm
Operator : tianweir
Sample : icv4640-1000
Misc : op19934,G2G4640,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 26 15:17:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 15:13:56 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/15/19 06:34

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:08:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.054 | 3.472 | 156.1E6 | 983.3E6 | 39.733 | 36.432 |
| | Spiked Amount 40.000 | | | Recovery | = | 99.33% | 91.08% |
| 51) S | Decachlor... | 10.384 | 11.771 | 175.2E6 | 899.3E6 | 39.079 | 31.404m |
| | Spiked Amount 40.000 | | | Recovery | = | 97.70% | 78.51% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.450 | 4.108 | 86966266 | 450.8E6 | 972.100 | 879.233 |
| 32) | AR1016-B | 3.865 | 4.649 | 165.1E6 | 956.9E6 | 957.388 | 900.131 |
| 33) | AR1016-C | 4.433 | 5.264 | 370.0E6 | 2160.0E6 | 989.597 | 914.714 |
| 34) | AR1016-D | 4.603 | 5.450 | 139.2E6 | 871.1E6 | 967.386 | 898.836 |
| 35) | AR1016-E | 5.123 | 6.097 | 145.6E6 | 645.1E6 | 966.587 | 916.333 |
| 36) | AR1260-A | 7.515 | 8.677 | 351.3E6 | 2080.1E6 | 996.437 | 911.733m |
| 37) | AR1260-B | 7.673 | 8.796 | 198.8E6 | 1153.4E6 | 983.256 | 904.744 |
| 38) | AR1260-C | 8.014 | 9.226 | 208.5E6 | 1303.5E6 | 977.565 | 895.763 |
| 39) | AR1260-D | 8.447 | 9.572 | 571.0E6 | 2847.2E6 | 1020.933 | 899.957 |
| 40) | AR1260-E | 8.845f | 10.114 | 512.3E6 | 2778.7E6 | 945.571m | 849.101m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

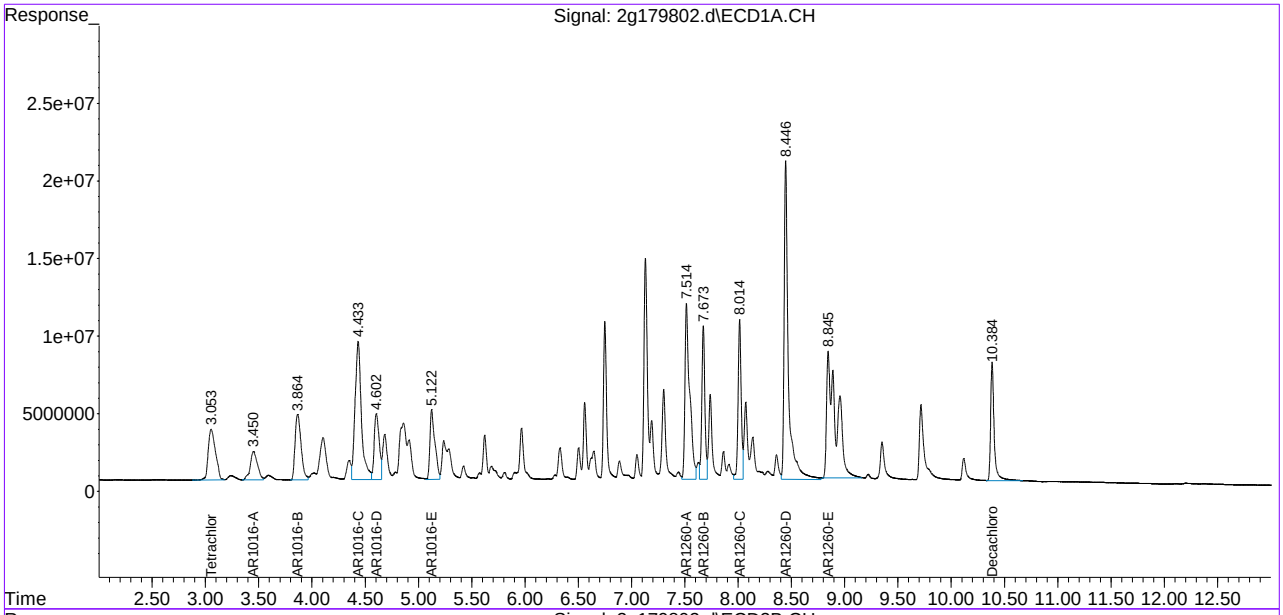
11.5.16 11

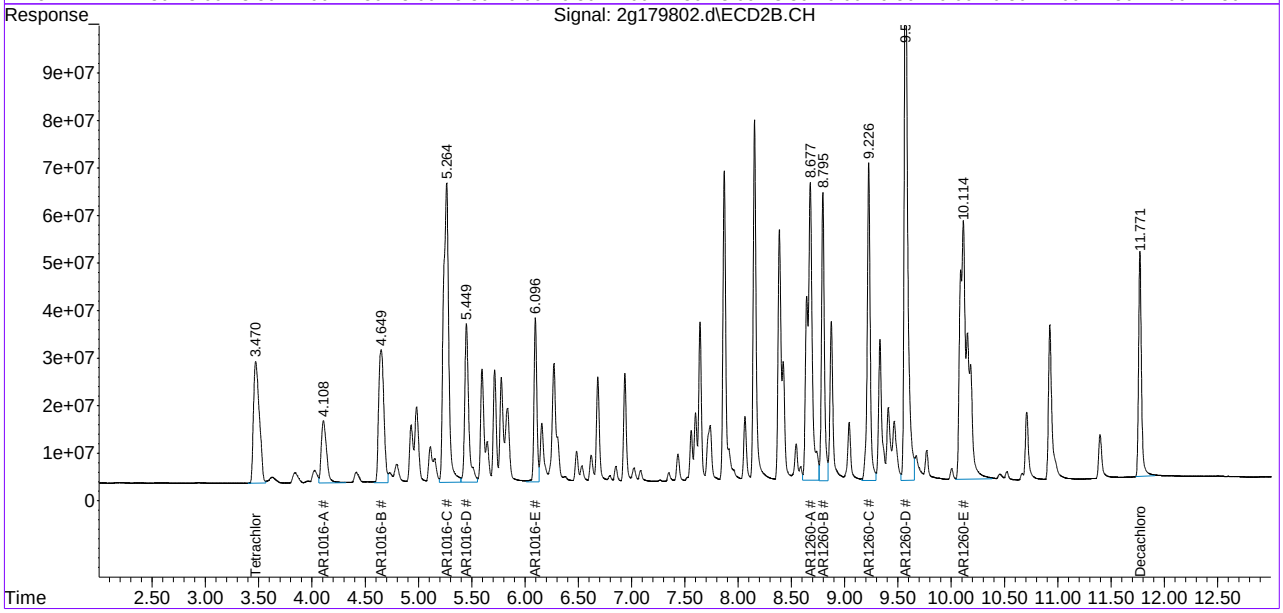
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:08:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4657-CC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G179802.D | **Analyst approved:** | 05/15/19 02:03 Sarah Cruz |
| **Injection Time:** | 05/14/19 19:48 | **Supervisor approved:** | 05/15/19 06:34 Gwendolyn Burns |

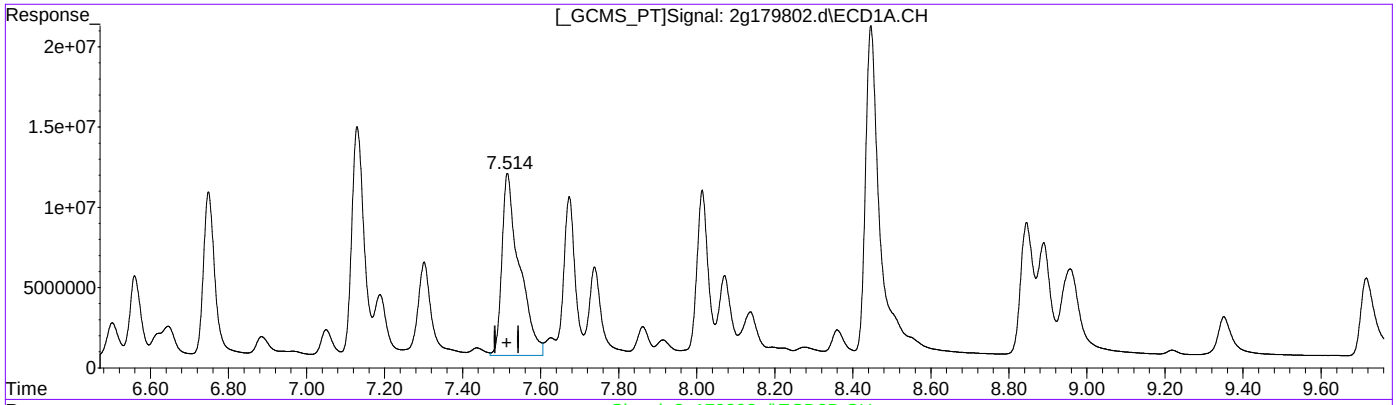
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 8.68 | Poorly defined baseline |
| AR1260-E | | 1 | 8.85 | Poorly defined baseline |
| AR1260-E | | 2 | 10.11 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 11.77 | Poorly defined baseline |

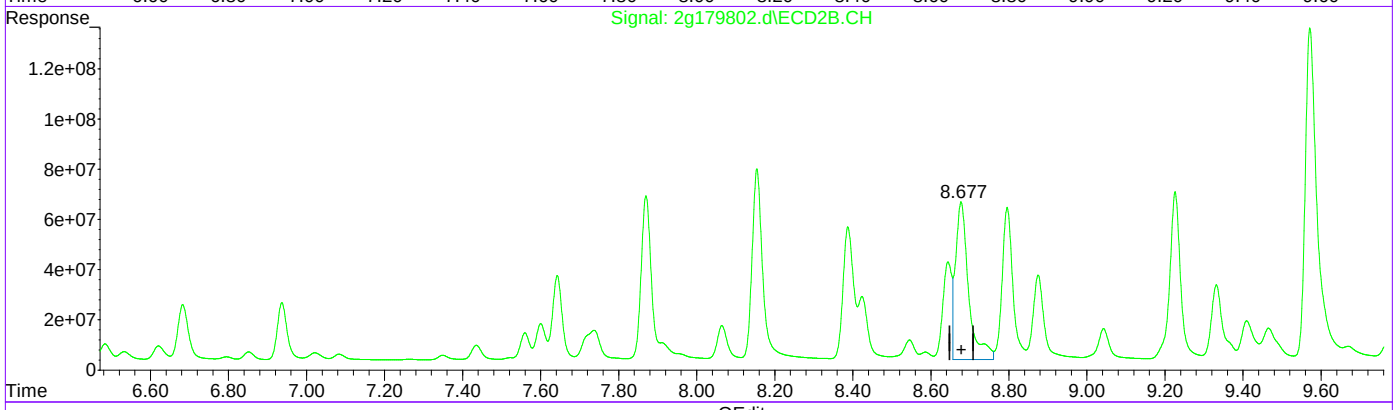
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:06:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A

7.515min 996.437 PPB

response 351299473

(36) AR1260-A #2

8.678min 647.142 PPB

response 1476424088

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:07:14 2019



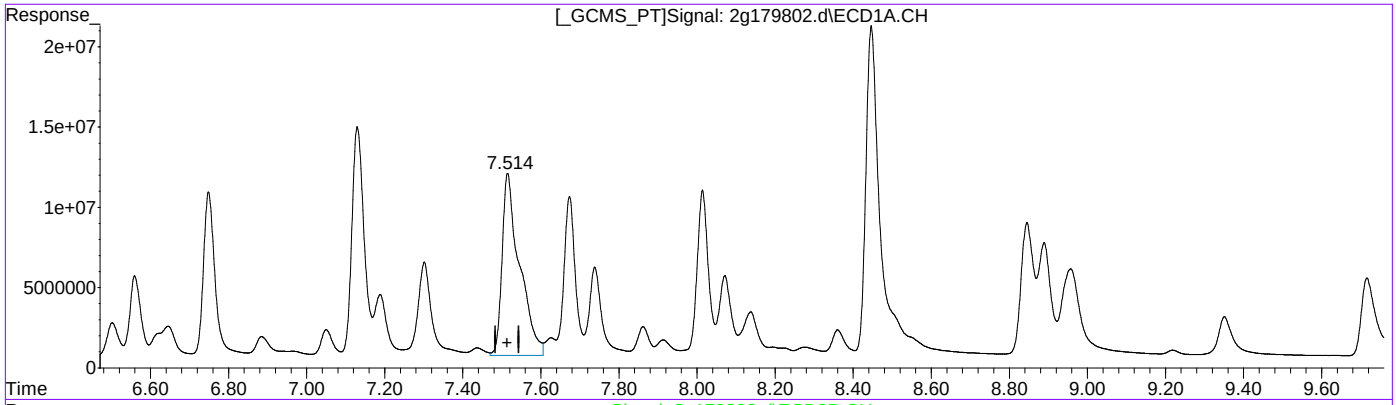
11.5.16.2

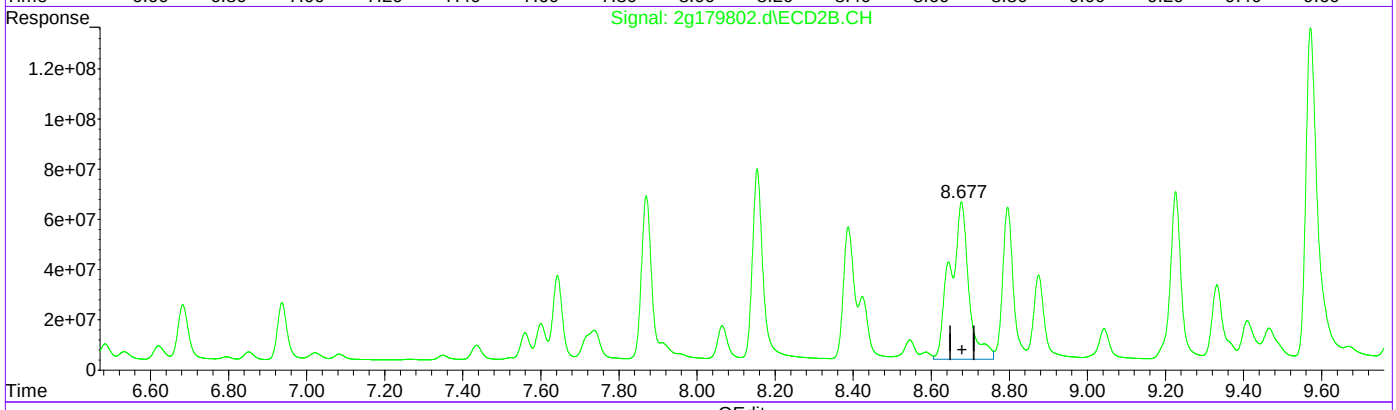
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:06:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(36) AR1260-A

7.515min 996.437 PPB

response 351299473

(36) AR1260-A #2

8.677min 911.733 PPB m

response 2080076453

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:07:45 2019



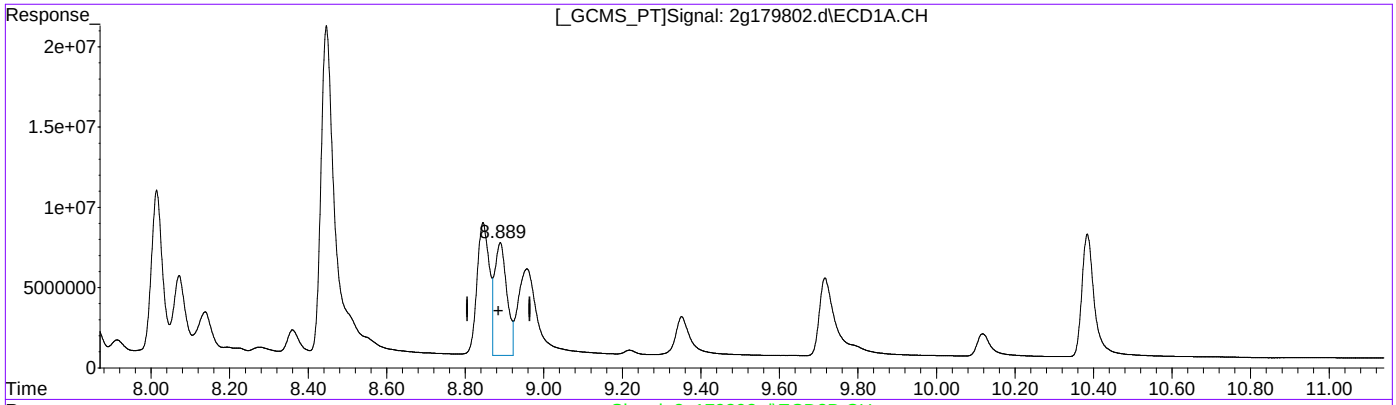
11.5.16.3

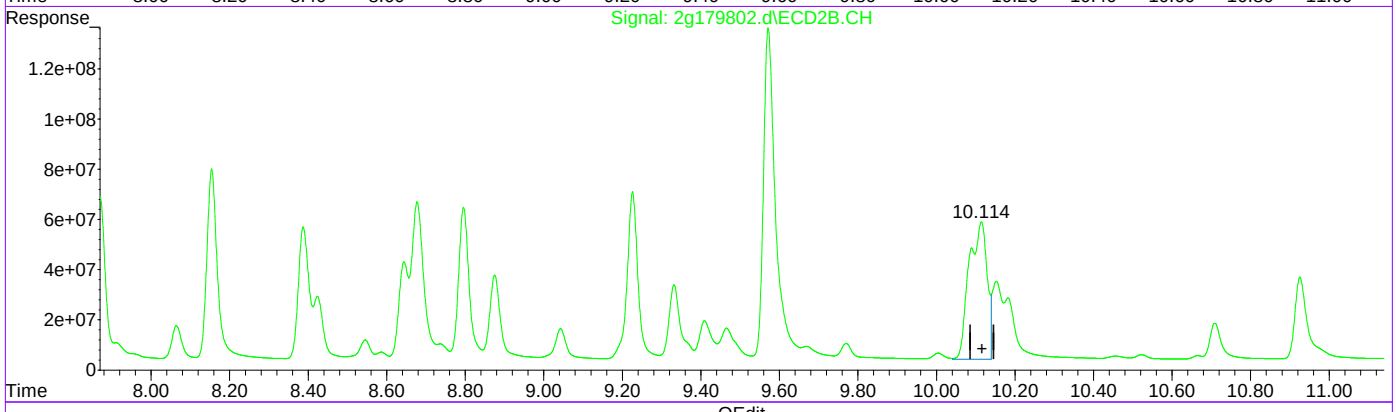
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:06:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E

8.889min 285.791 PPB

response 154835201

(40) AR1260-E #2

10.115min 528.493 PPB

response 1729486018

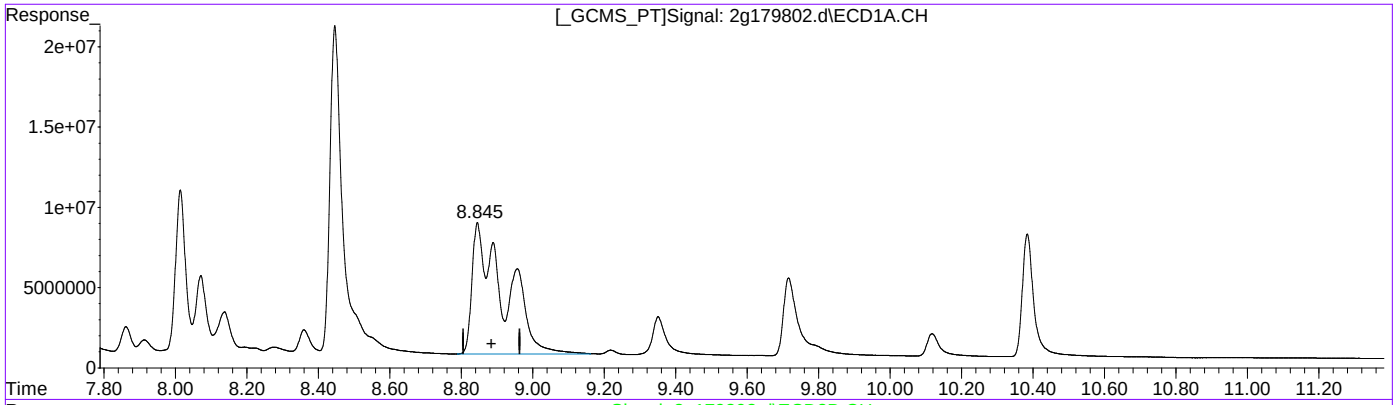
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:07:57 2019

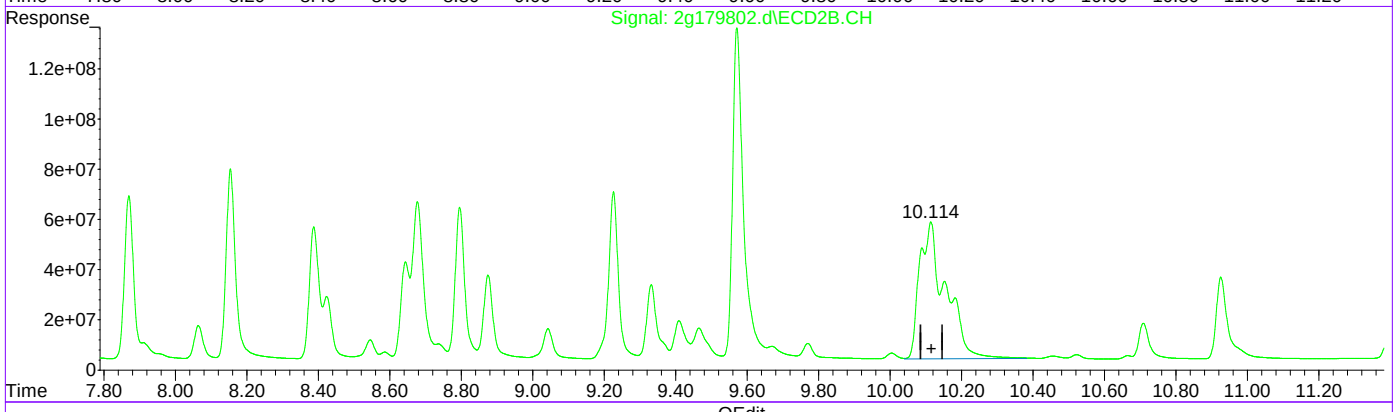
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:06:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E

8.845min 945.571 PPB m

response 512288480

(40) AR1260-E #2

10.114min 849.101 PPB m

response 2778673742

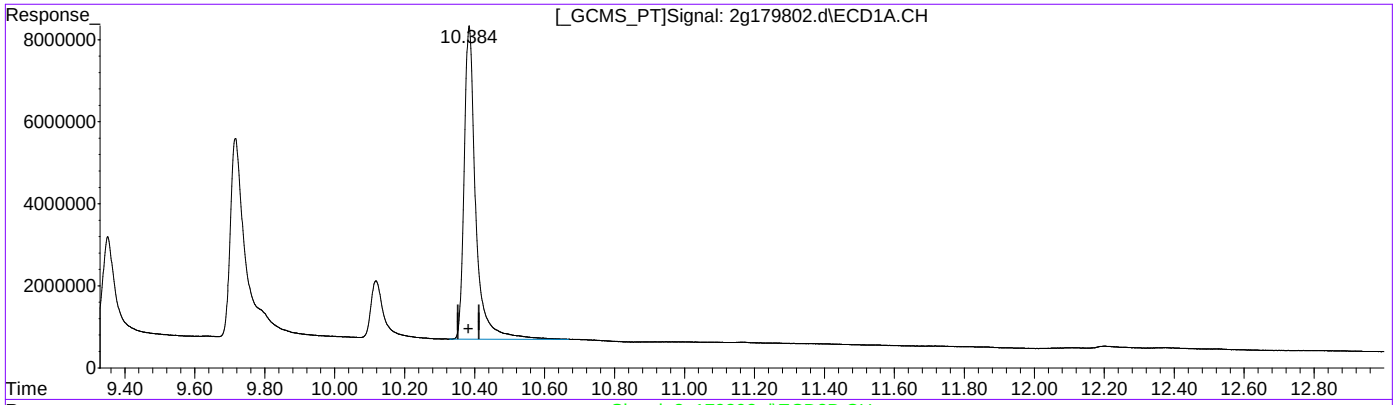
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:08:19 2019

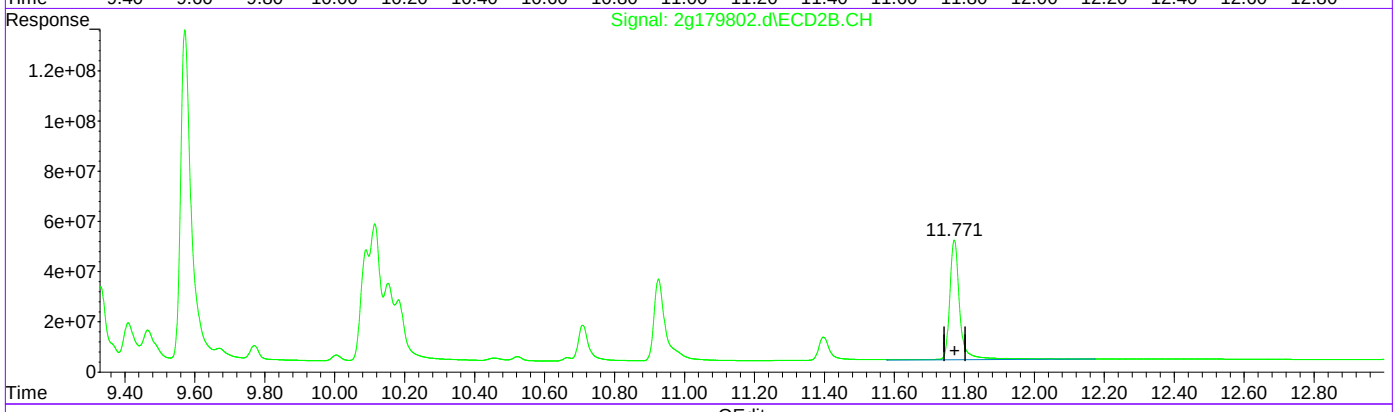
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:06:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.384min 39.079 ppb

response 175179433

(51) Decachlorobiphenyl #2 (S)

11.771min 33.671 ppb

response 964279798

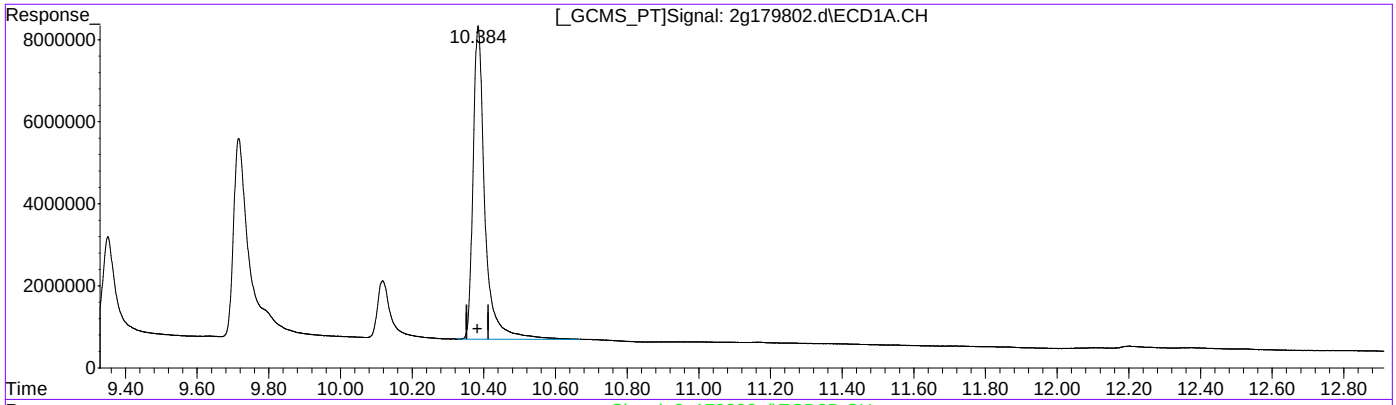
(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:08:34 2019

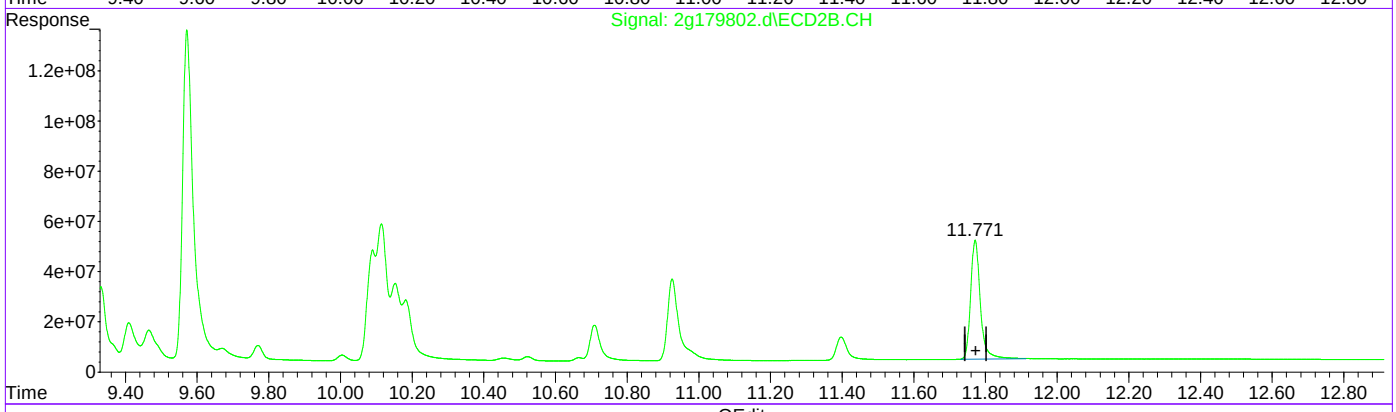
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\2g4657\
Data File : 2g179802.d
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  7:48 pm
Operator : tianweir
Sample : cc4640-1000
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 80  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 01:06:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\2pcb4640.m
Quant Title :
QLast Update : Wed May 15 01:05:41 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(51) Decachlorobiphenyl (S)

10.384min 39.079 ppb

response 175179433

(51) Decachlorobiphenyl #2 (S)

11.771min 31.404 ppb m

response 899340453

(+) = Expected Retention Time
2pcb4640.m Wed May 15 01:08:52 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/17/19 10:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4657\
Data File : 2G179812.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 11:51 pm
Operator : tianweir
Sample : cc4640-500
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 87 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 17 09:58:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 15:13:56 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.052 | 3.473 | 77897839 | 497.8E6 | 19.827 | 18.446 |
| | Spiked Amount 40.000 | | | Recovery | = | 49.57% | 46.12% |
| 51) | S Decachlor... | 10.386 | 11.773 | 87751280 | 466.5E6 | 19.576 | 16.289 |
| | Spiked Amount 40.000 | | | Recovery | = | 48.94% | 40.72% |
| | Target Compounds | | | | | | |
| 31) | AR1016-A | 3.451 | 4.107 | 45725035 | 230.6E6 | 511.110 | 449.710 |
| 32) | AR1016-B | 3.866 | 4.651 | 88554974 | 512.4E6 | 513.473 | 481.987 |
| 33) | AR1016-C | 4.436 | 5.264 | 189.3E6 | 1110.7E6 | 506.112 | 470.381 |
| 34) | AR1016-D | 4.605 | 5.451 | 73544596 | 461.5E6 | 511.202 | 476.189 |
| 35) | AR1016-E | 5.124 | 6.097 | 77587504 | 335.2E6 | 515.037 | 476.090 |
| 36) | AR1260-A | 7.517 | 8.678 | 177.7E6 | 1103.7E6 | 503.913 | 483.765 |
| 37) | AR1260-B | 7.674 | 8.796 | 102.6E6 | 607.1E6 | 507.262 | 476.175 |
| 38) | AR1260-C | 8.015 | 9.227 | 105.3E6 | 694.3E6 | 493.784 | 477.128 |
| 39) | AR1260-D | 8.448 | 9.575 | 279.7E6 | 1547.1E6 | 500.096 | 488.996 |
| 40) | AR1260-E | 8.848 | 10.115 | 268.4E6 | 1482.9E6 | 495.347m | 453.145 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

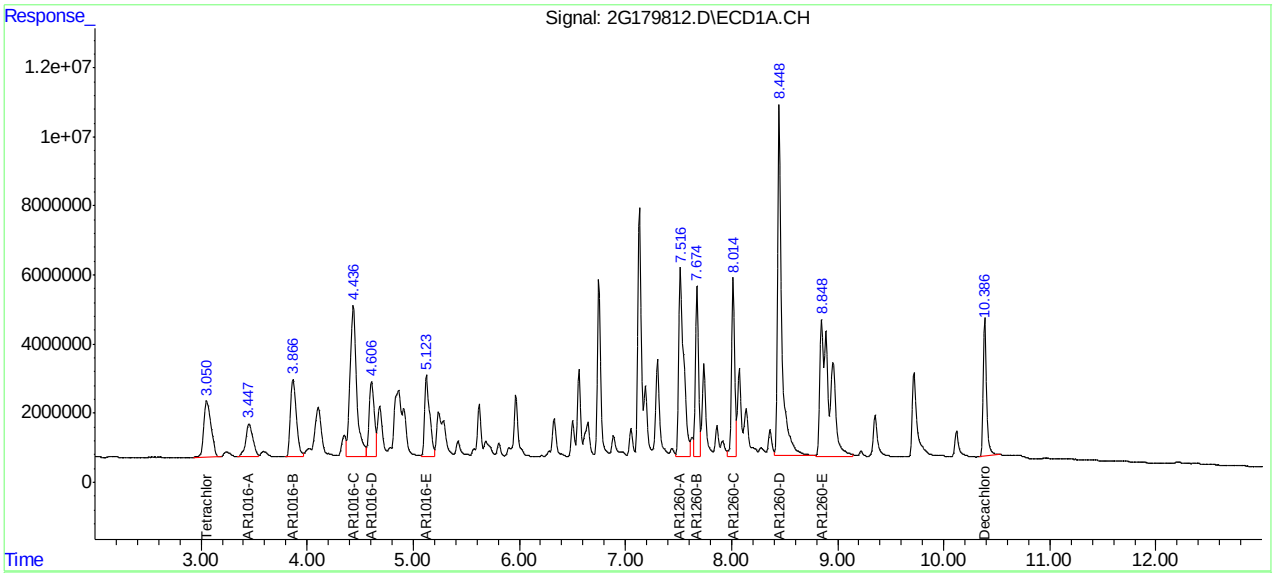
11.5.17 11

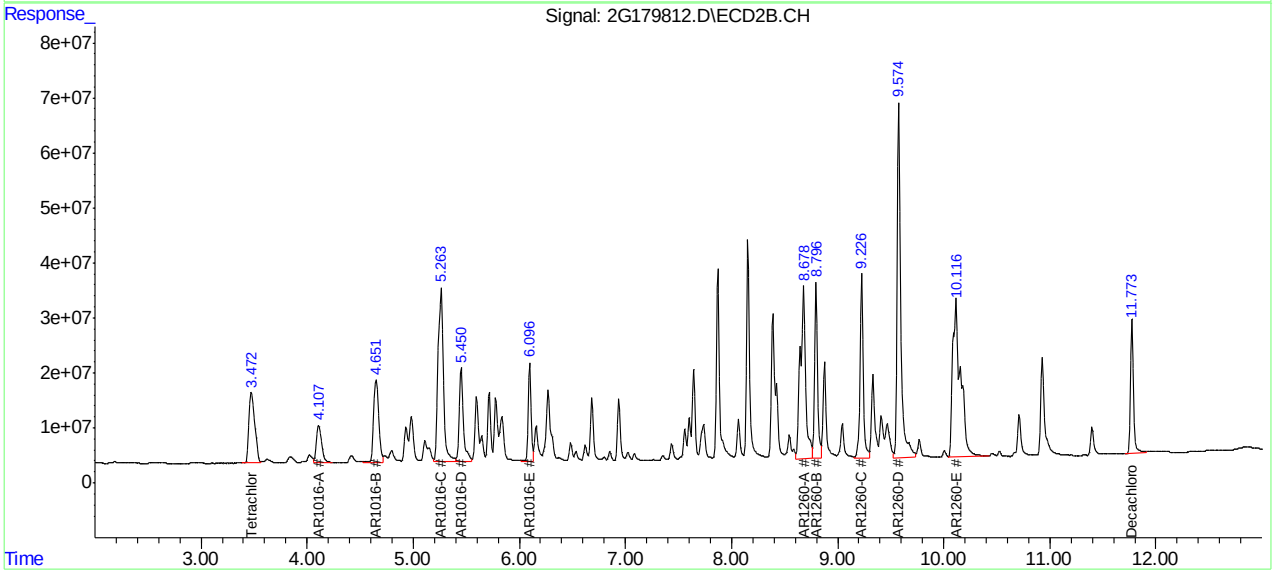
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2G4657\
Data File : 2G179812.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 May 2019 11:51 pm
Operator : tianweir
Sample : cc4640-500
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 87 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 17 09:58:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 15:13:56 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1 Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G2G4657-CC4640 | **Method:** | SW846 8082A |
| **Lab FileID:** | 2G179812.D | **Analyst approved:** | 05/17/19 09:59 Tianwei Ruan |
| **Injection Time:** | 05/14/19 23:51 | **Supervisor approved:** | 05/17/19 10:32 Gwendolyn Burns |

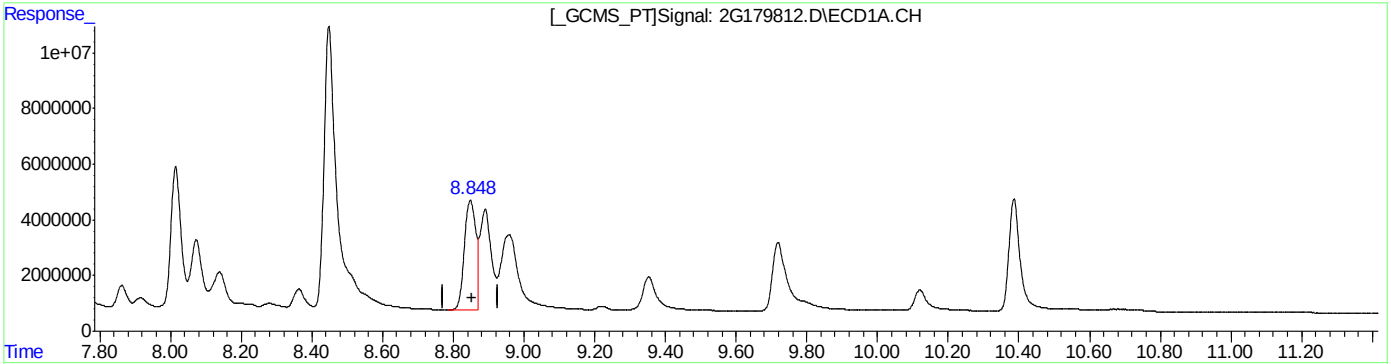
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-E | | 1 | 8.85 | Split peak |

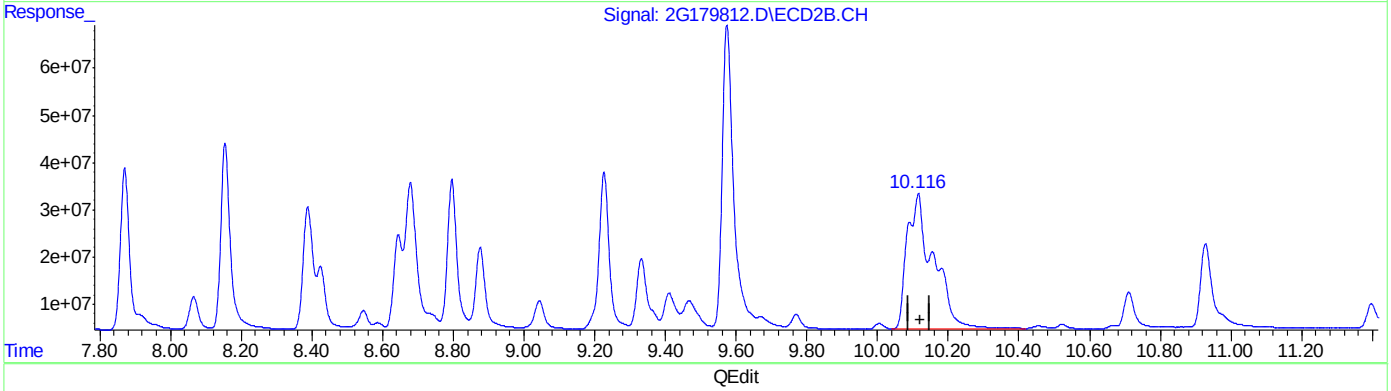
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4657\
Data File : 2G179812.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  11:51 pm
Operator : tianweir
Sample : cc4640-500
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 87  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 17 09:57:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 15:13:56 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.848min 164.681PPB
response 89220469

(40) AR1260-E #2
10.115min 453.145PPB
response 1482910904

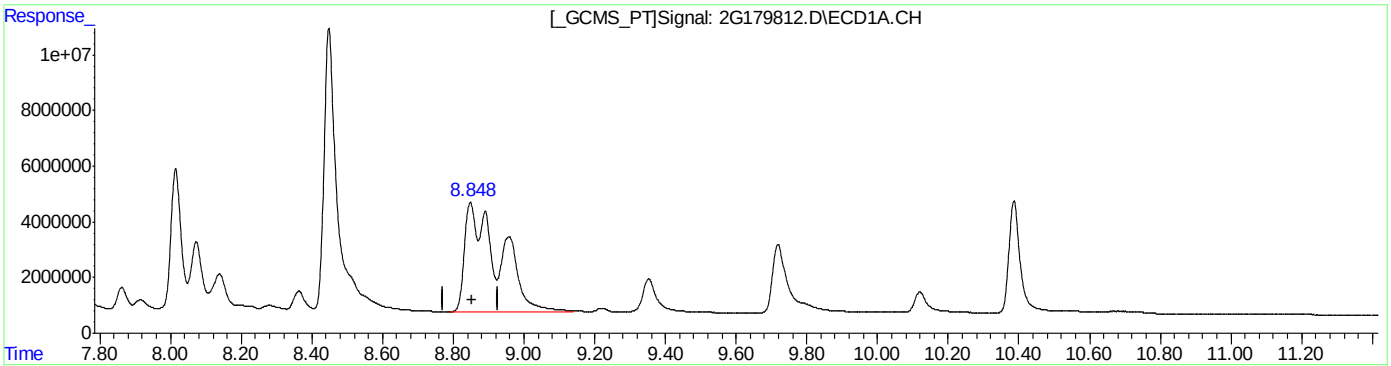
(+) = Expected Retention Time
2PCB4640.M Fri May 17 09:58:01 2019 RPT1

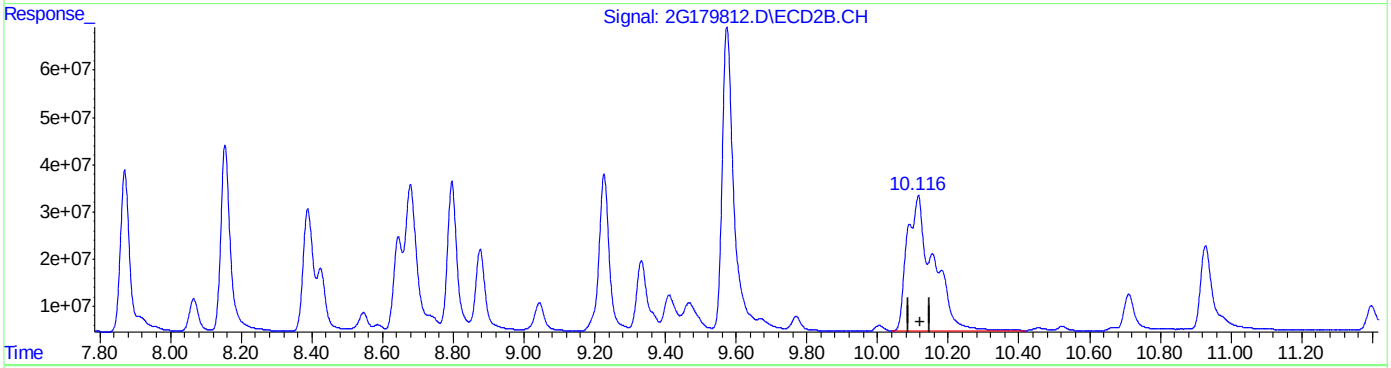
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2G4657\
Data File : 2G179812.D
Signal(s) : Signal #1: ECD1A.CH  Signal #2: ECD2B.CH
Acq On : 14 May 2019  11:51 pm
Operator : tianweir
Sample : cc4640-500
Misc : op20143,G2g4657,15.0,,,10,1
ALS Vial : 87  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 17 09:57:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\2PCB4640.M
Quant Title :
QLast Update : Fri Apr 26 15:13:56 2019
Response via : Initial Calibration
Integrator: ChemStation  6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : ZBCLP-1  Signal #2 Phase: ZBCLP-2
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)




QEdit

(40) AR1260-E
8.848min 495.347PPB m
response 268367543

(40) AR1260-E #2
10.115min 453.145PPB
response 1482910904

(+) = Expected Retention Time
2PCB4640.M Fri May 17 09:58:05 2019 RPT1

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:09:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.615 | 4.374 | 59036141 | 23792220 | 1.871 | 1.730 |
| | Spiked Amount 40.000 | | | Recovery | = | 4.68% | 4.32% |
| 51) S | Decachlor... | 19.203 | 22.641 | 48867983 | 23676898 | 1.599m | 1.607 |
| | Spiked Amount 40.000 | | | Recovery | = | 4.00% | 4.02% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.289 | 5.564 | 29011054 | 12216805 | 50.003 | 49.693 |
| 42) | AR1016-B | 5.027 | 6.609 | 54413492 | 24159309 | 47.741 | 47.360 |
| 43) | AR1016-C | 6.093 | 7.874 | 113.6E6 | 53130978 | 48.082 | 46.295 |
| 44) | AR1016-D | 6.411 | 8.255 | 48397176 | 21362914 | 48.492 | 48.348 |
| 45) | AR1016-E | 7.448 | 9.646 | 50452652 | 16701394 | 49.971 | 48.139 |
| 46) | AR1260-A | 12.622 | 15.463 | 108.9E6 | 47802940 | 45.241 | 42.651m |
| 47) | AR1260-B | 12.998 | 15.758 | 63824563 | 30326326 | 45.401 | 44.965 |
| 48) | AR1260-C | 13.751 | 16.727 | 72144963 | 28178399 | 48.708 | 42.711 |
| 49) | AR1260-D | 14.752 | 17.570 | 149.7E6 | 68927653 | 43.026 | 40.197 |
| 50) | AR1260-E | 15.630 | 18.784 | 171.9E6 | 71980954 | 44.841m | 41.193m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

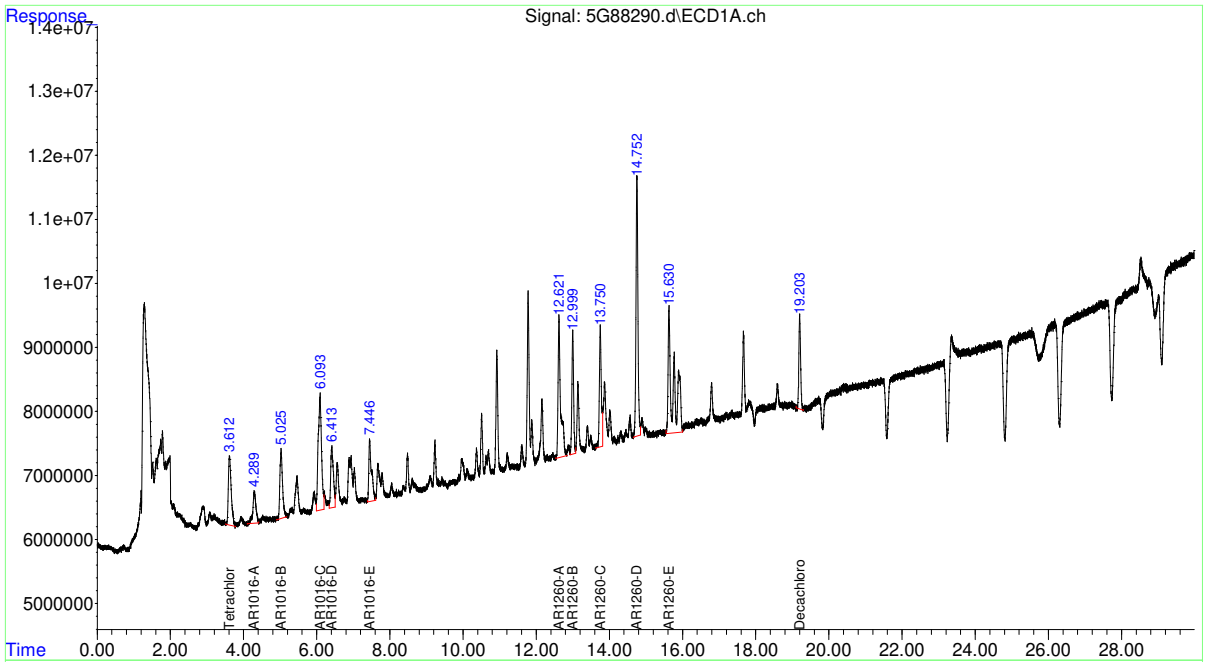
11.5.18 11

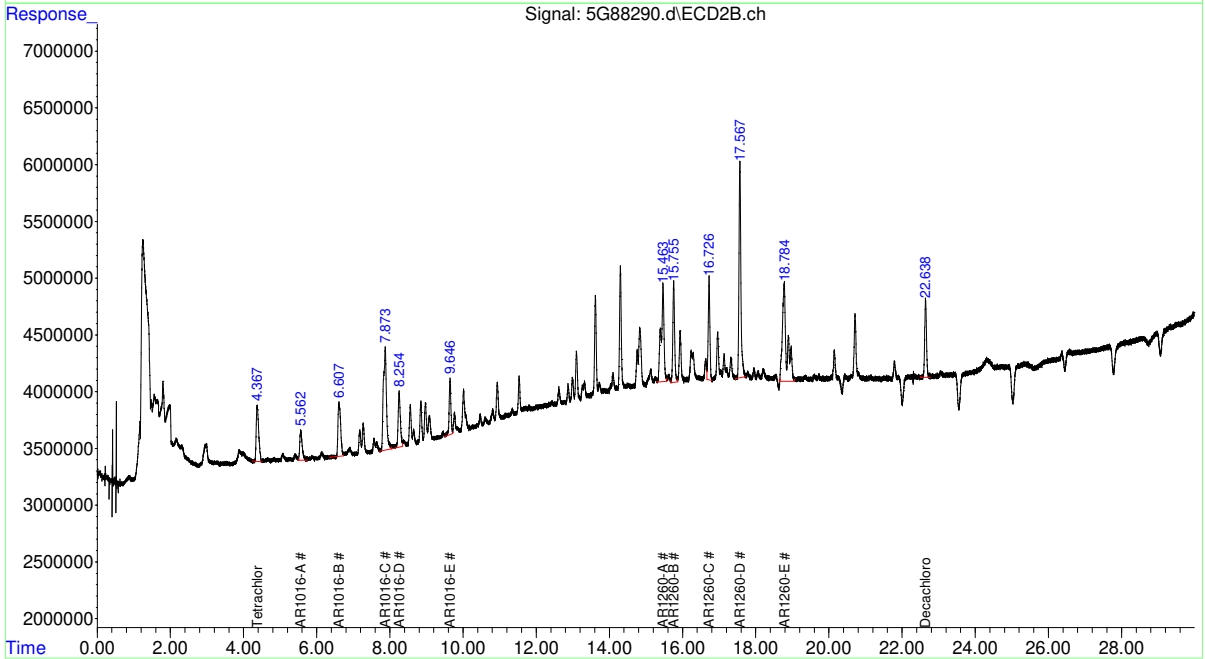
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:09:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um










SGS JC87535

# Manual Integration Approval Summary



**Sample Number:** G5G2127-IC2127
**Lab FileID:** 5G88290.D
**Injection Time:** 05/07/19 12:34
**Method:** SW846 8082A
**Analyst approved:** 05/08/19 08:57 Tianwei Ruan
**Supervisor approved:** 05/08/19 15:53 Gwendolyn Burns

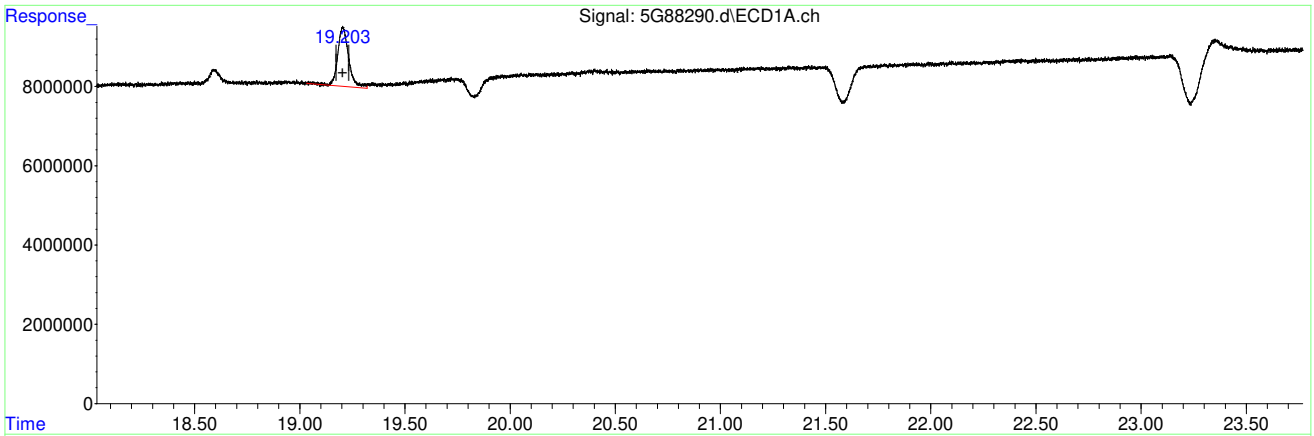
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 15.46 | Split peak |
| AR1260-E | | 1 | 15.63 | Split peak |
| AR1260-E | | 2 | 18.78 | Split peak |
| Decachlorobiphenyl | 2051-24-3 | 1 | 19.20 | Poorly defined baseline |

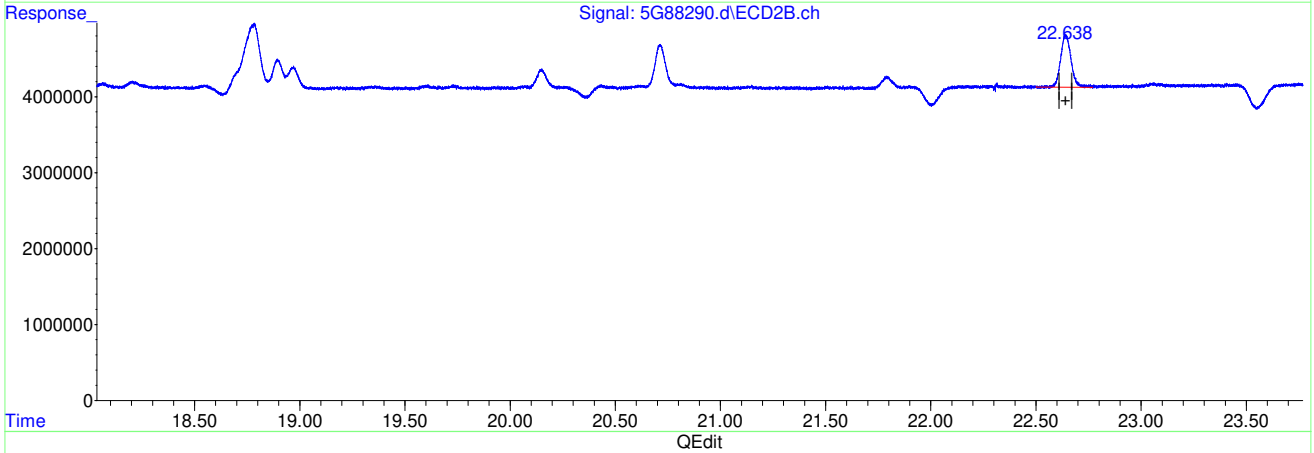
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:08:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(51) Decachlorobiphenyl (S)

19.204min 1.772 ppb

response 54166069

(51) Decachlorobiphenyl #2 (S)

22.641min 1.607 ppb

response 23676898

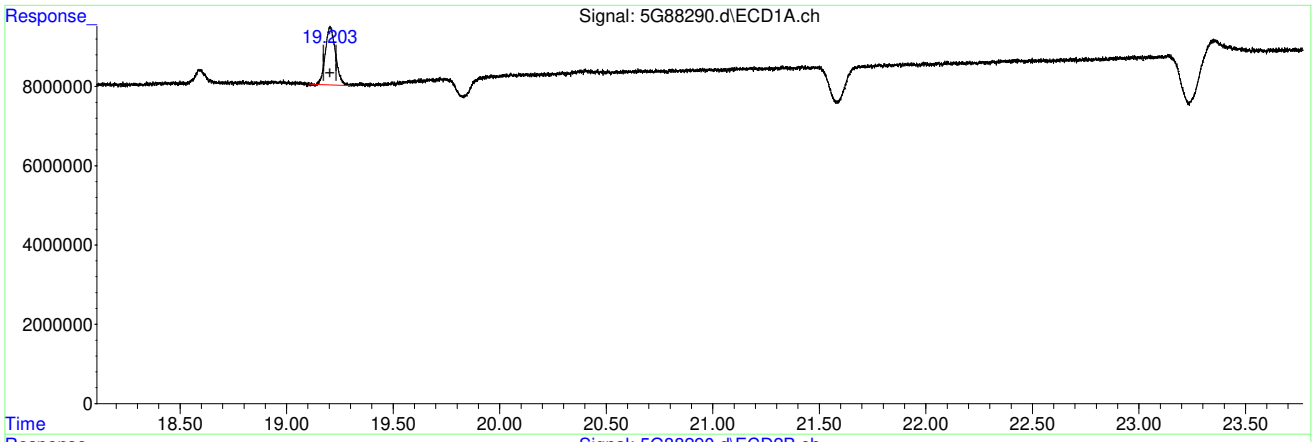
(+) = Expected Retention Time

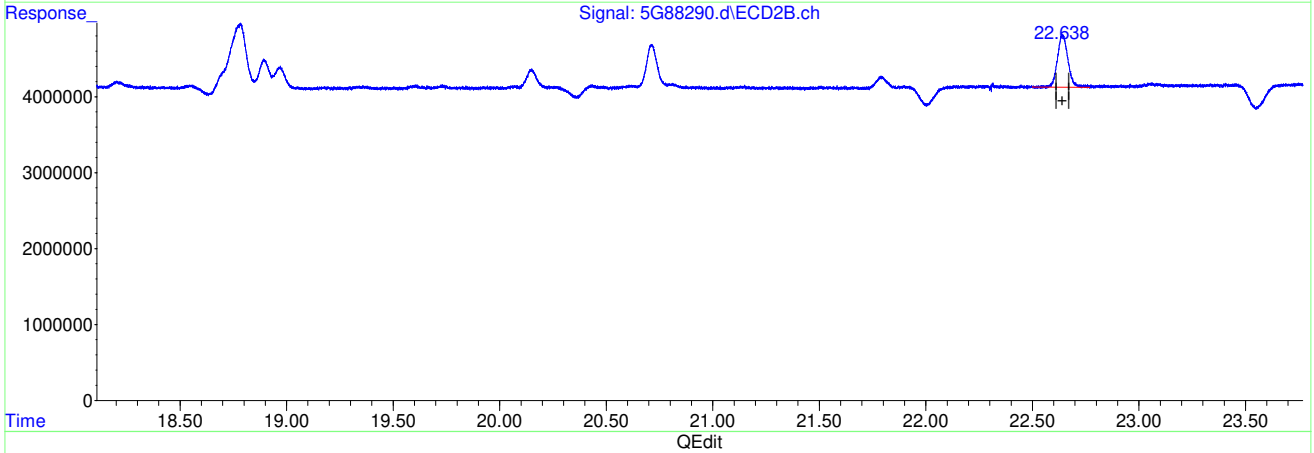
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:08:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(51) Decachlorobiphenyl (S)

19.203min 1.599 ppb m

response 48867983

(51) Decachlorobiphenyl #2 (S)

22.641min 1.607 ppb

response 23676898

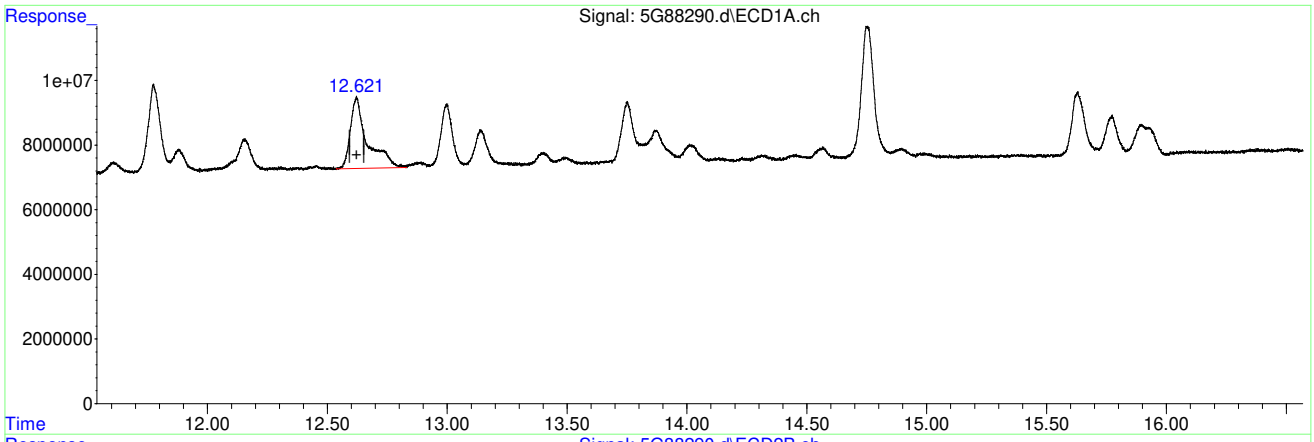
(+) = Expected Retention Time

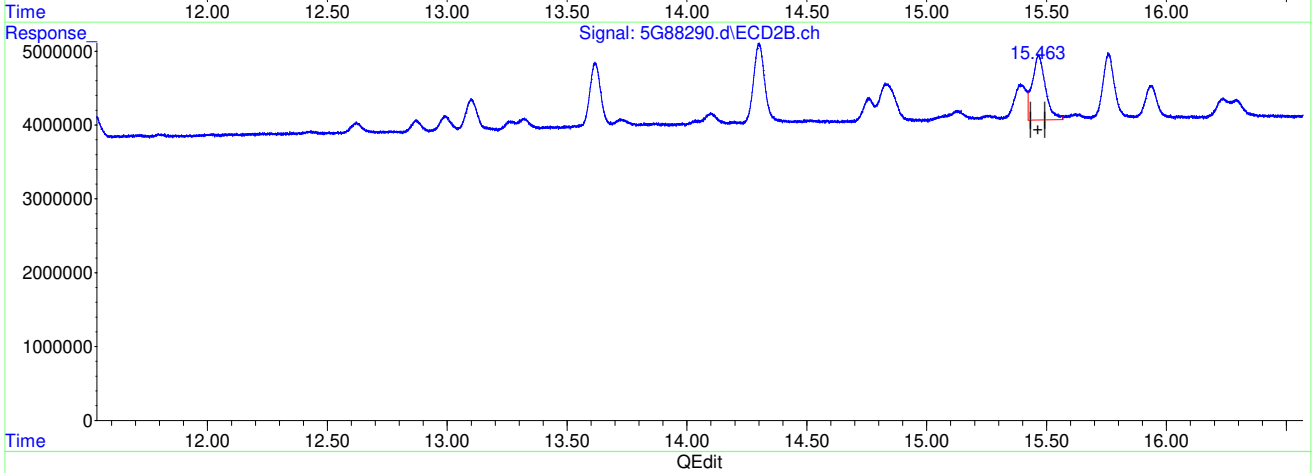
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:08:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.622min 45.241 PPB

response 108912426

(46) AR1260-A #2

15.466min 30.048 PPB

response 33676915

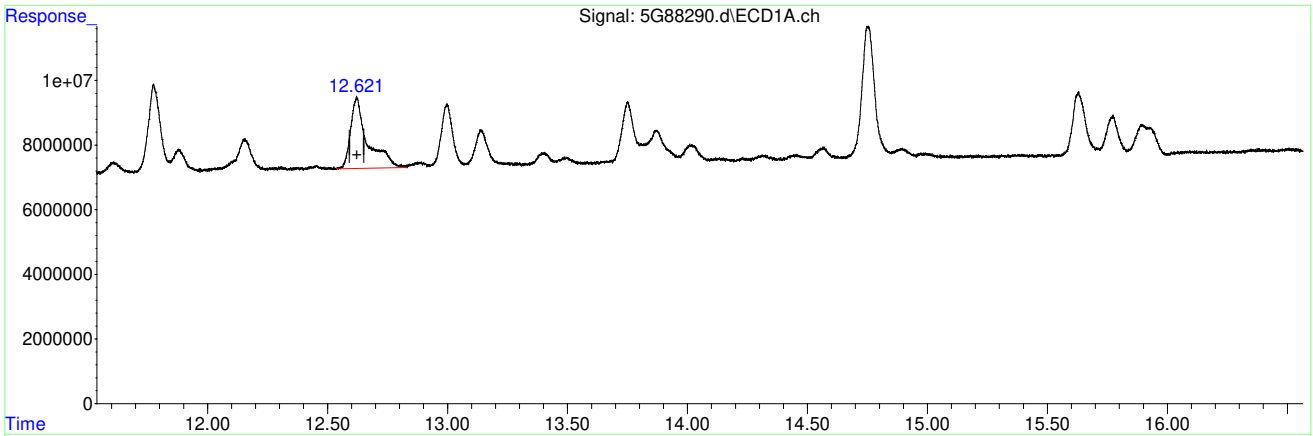
(+) = Expected Retention Time

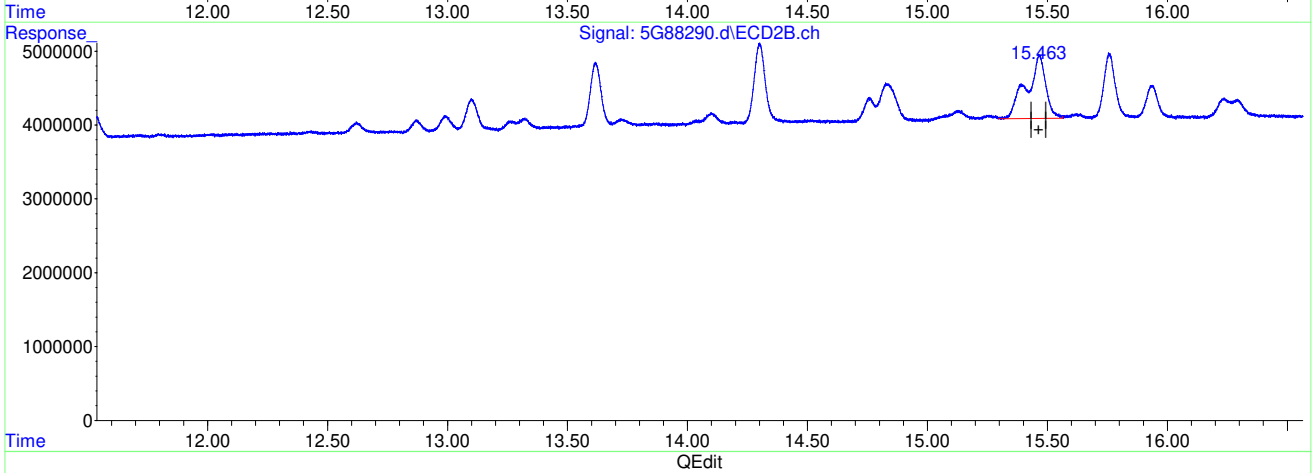
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:08:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.622min 45.241 PPB

response 108912426

(46) AR1260-A #2

15.463min 42.651 PPB m

response 47802940

(+) = Expected Retention Time

5PCB2127.M Tue May 07 15:09:23 2019 Page: 1

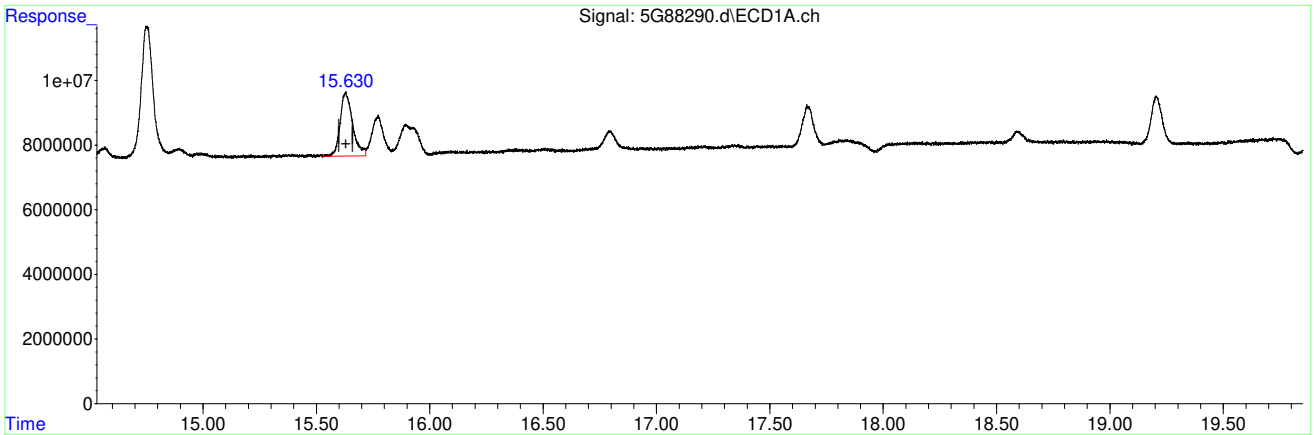
11.5.18.5 11

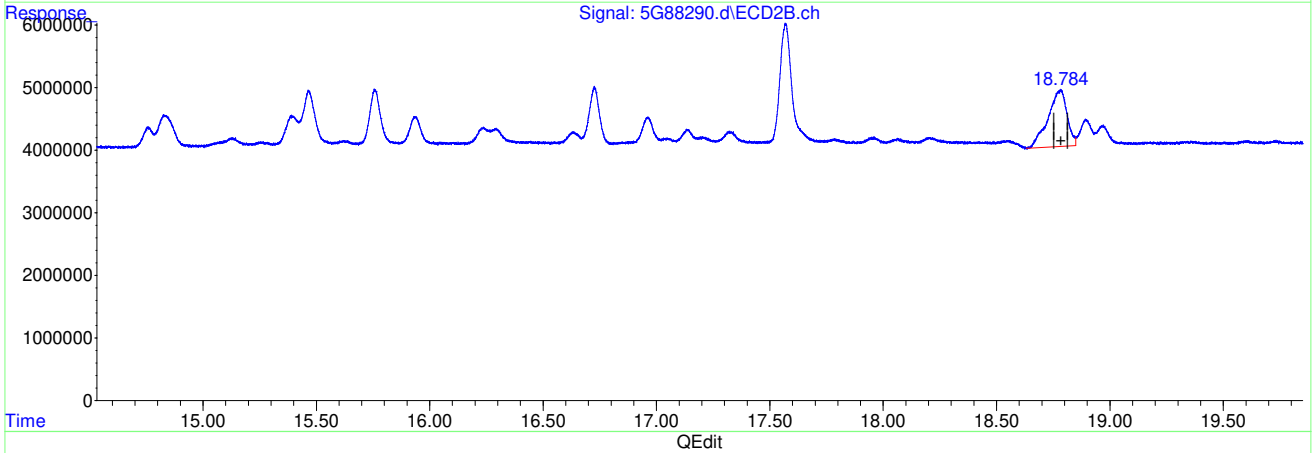
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:08:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.629min 19.693 PPB

response 75485749

(50) AR1260-E #2

18.783min 30.161 PPB

response 52703195

(+) = Expected Retention Time

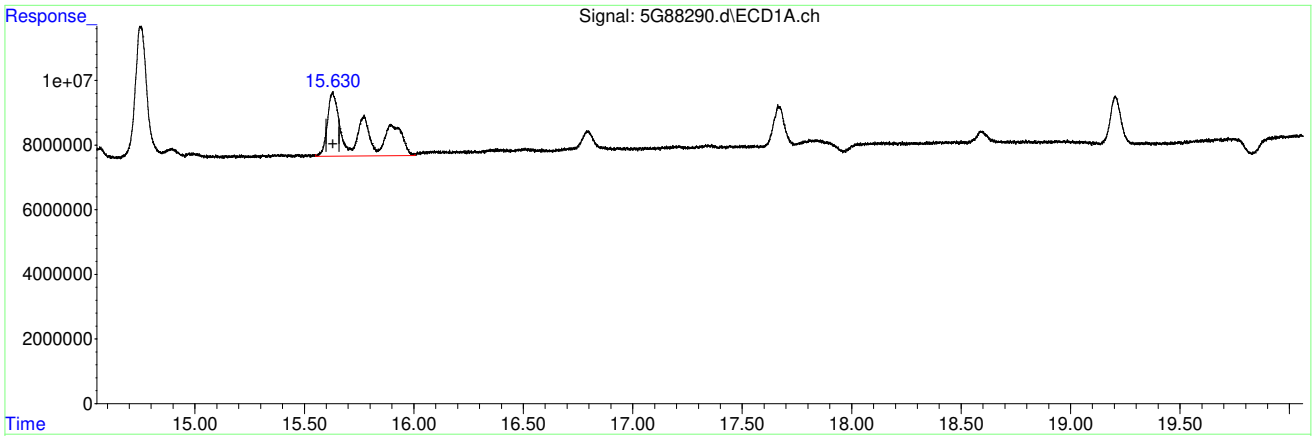
5PCB2127.M Tue May 07 15:09:27 2019 Page: 1

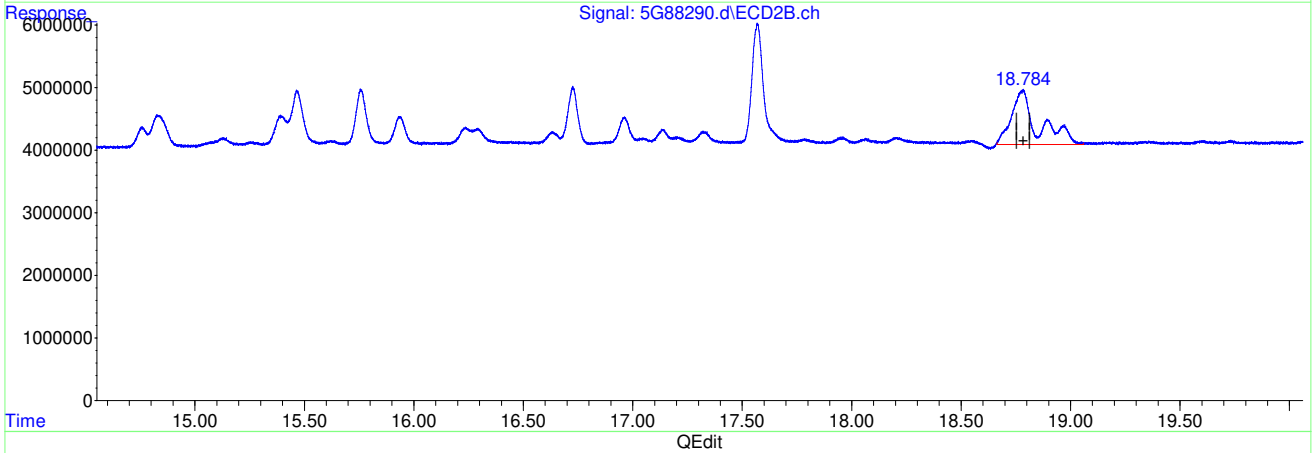
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88290.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 12:34 pm
Operator : tianweir
Sample : ic2127-50
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:08:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.630min 44.841 PPB m

response 171880230

(50) AR1260-E #2

18.784min 41.193 PPB m

response 71980954

(+) = Expected Retention Time

5PCB2127.M Tue May 07 15:09:37 2019 Page: 1





JC87535

11.5.18.7 11

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88291.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:06 pm
Operator : tianweir
Sample : ic2127-250
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:10:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.613 | 4.373 | 285.9E6 | 117.0E6 | 9.060 | 8.508 |
| | Spiked Amount 40.000 | | | Recovery | = | 22.65% | 21.27% |
| 51) | S Decachlor... | 19.205 | 22.641 | 231.6E6 | 113.6E6 | 7.577 | 7.710 |
| | Spiked Amount 40.000 | | | Recovery | = | 18.94% | 19.28% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.292 | 5.562 | 140.4E6 | 55025174 | 242.069 | 223.820 |
| 42) | AR1016-B | 5.024 | 6.606 | 258.2E6 | 115.9E6 | 226.531 | 227.254 |
| 43) | AR1016-C | 6.090 | 7.873 | 529.3E6 | 252.8E6 | 223.988 | 220.270 |
| 44) | AR1016-D | 6.406 | 8.253 | 221.6E6 | 95843436 | 222.076 | 216.909 |
| 45) | AR1016-E | 7.448 | 9.645 | 222.3E6 | 75475389 | 220.163 | 217.547 |
| 46) | AR1260-A | 12.619 | 15.465 | 521.0E6 | 238.6E6 | 216.438m | 212.901m |
| 47) | AR1260-B | 12.994 | 15.756 | 308.8E6 | 144.6E6 | 219.635 | 214.389 |
| 48) | AR1260-C | 13.747 | 16.725 | 313.9E6 | 141.0E6 | 211.913 | 213.757 |
| 49) | AR1260-D | 14.751 | 17.565 | 742.7E6 | 351.0E6 | 213.487 | 204.701 |
| 50) | AR1260-E | 15.630 | 18.779 | 824.3E6 | 345.7E6 | 215.038m | 197.837m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

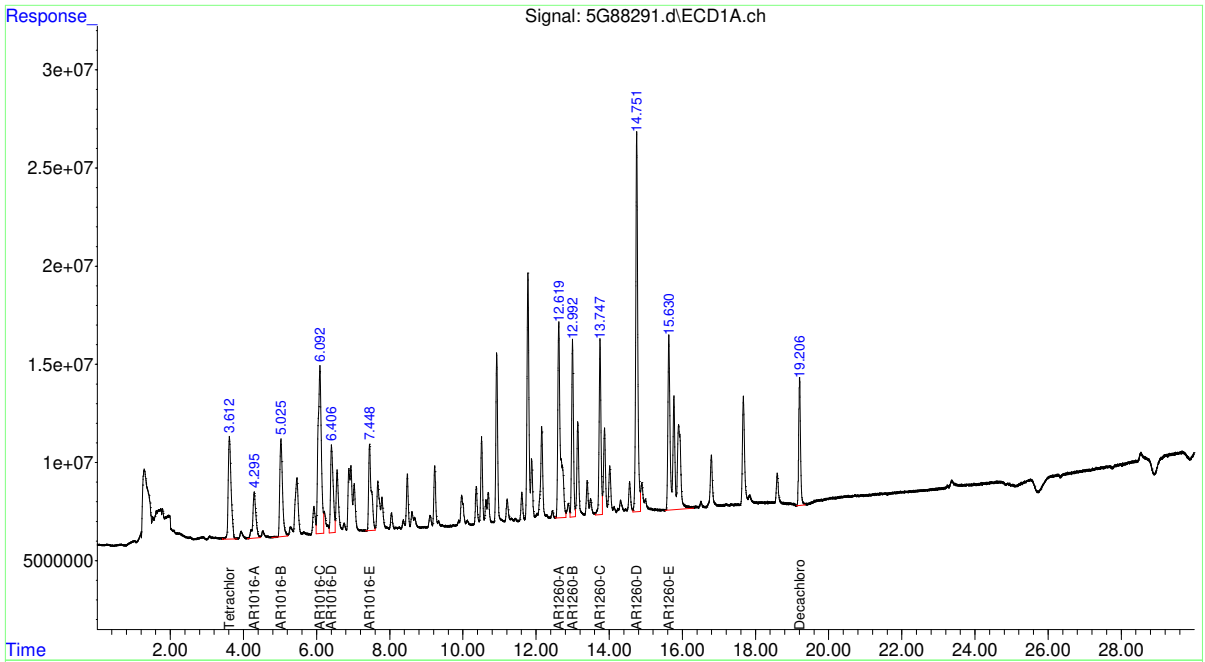
11.5.19 11

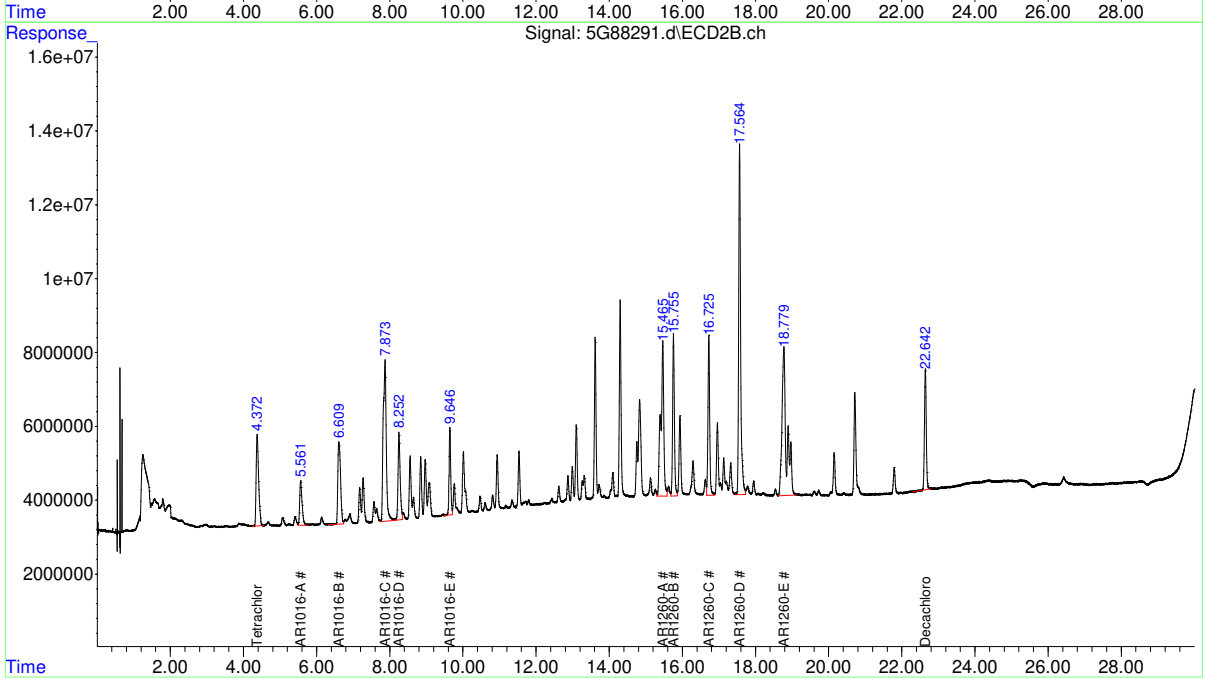
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88291.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:06 pm
Operator : tianweir
Sample : ic2127-250
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:10:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um












JC87535

# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88291.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 13:06 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

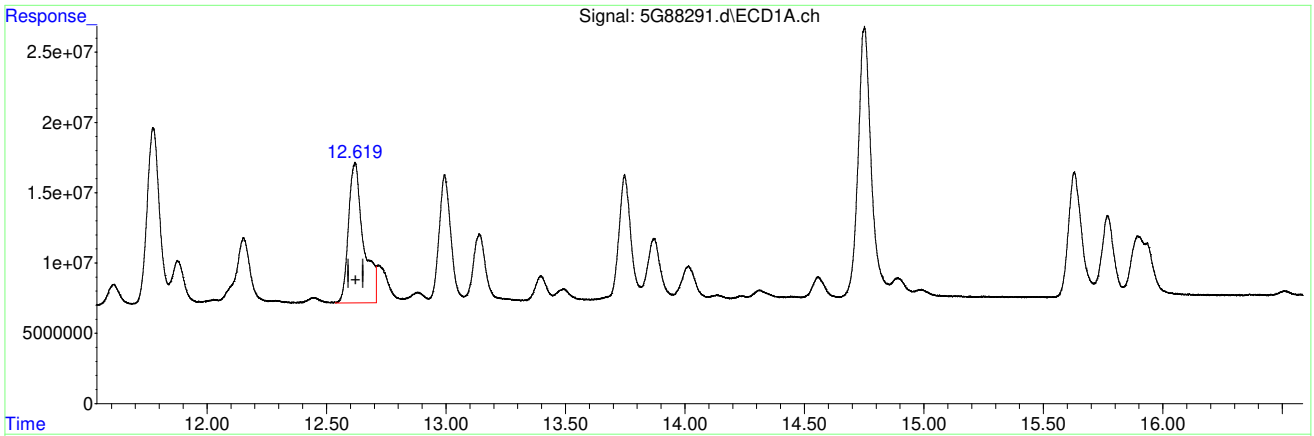
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 1 | 12.62 | Split peak |
| AR1260-A | | 2 | 15.47 | Split peak |
| AR1260-E | | 1 | 15.63 | Split peak |
| AR1260-E | | 2 | 18.78 | Split peak |

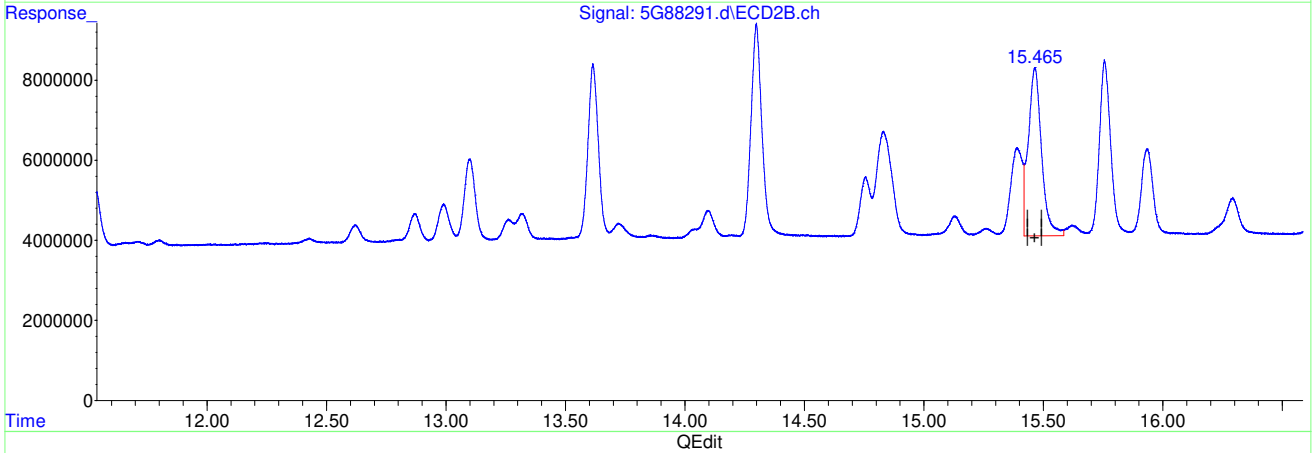
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88291.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:06 pm
Operator : tianweir
Sample : ic2127-250
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:09:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.619min 180.789 PPB

response 435224815

(46) AR1260-A #2

15.464min 144.626 PPB

response 162093777

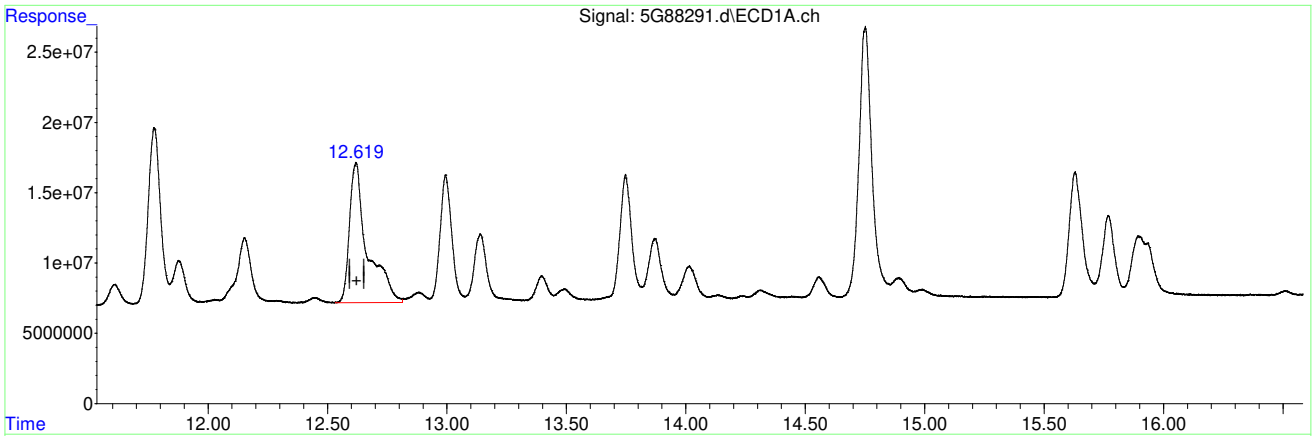
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88291.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:06 pm
Operator : tianweir
Sample : ic2127-250
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:09:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.619min 216.438 PPB m

response 521043461

(46) AR1260-A #2

15.465min 212.901 PPB m

response 238614892

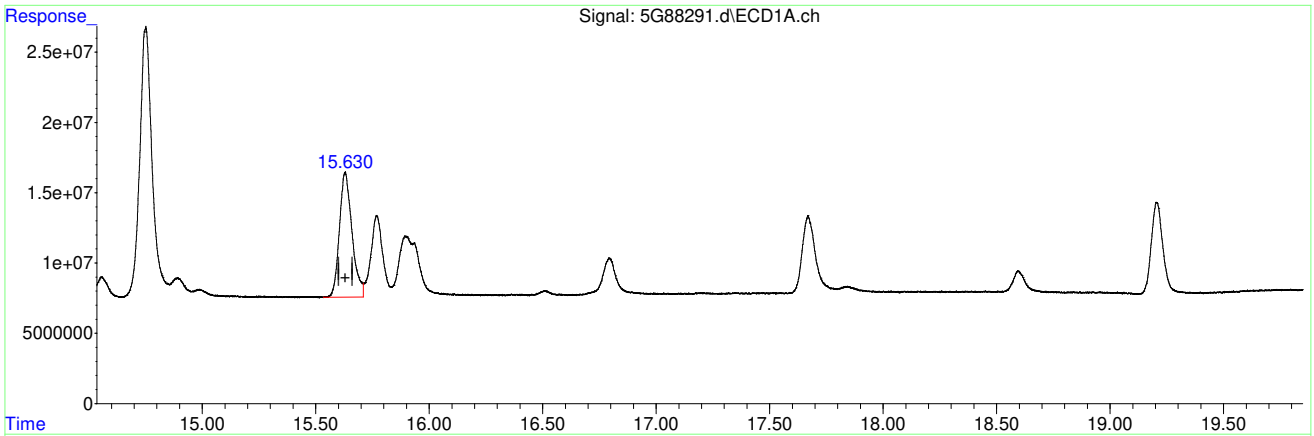
(+) = Expected Retention Time

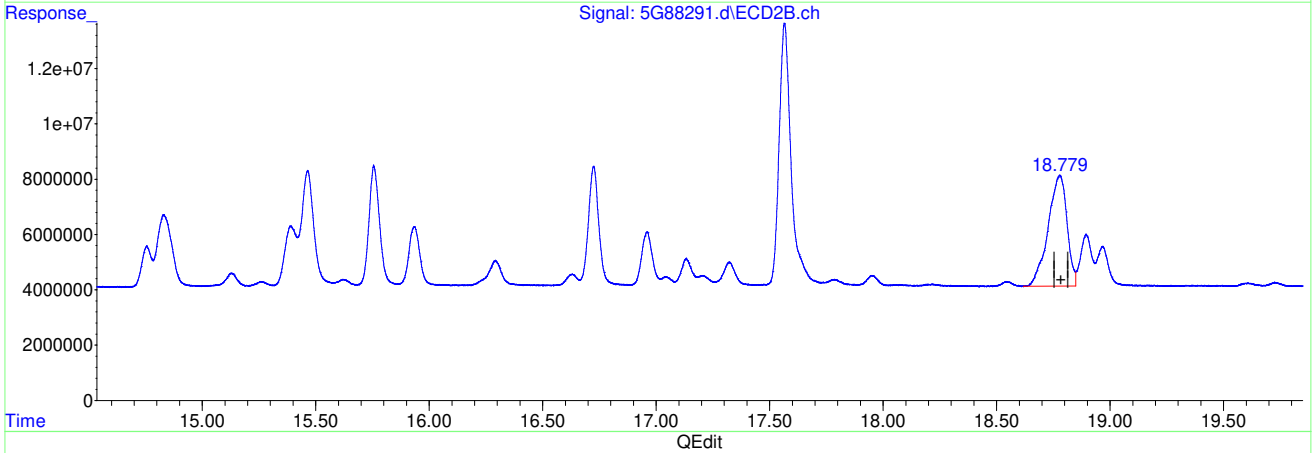
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88291.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:06 pm
Operator : tianweir
Sample : ic2127-250
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:09:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.629min 89.162 PPB

response 341764167

(50) AR1260-E #2

18.778min 132.621 PPB

response 231741544

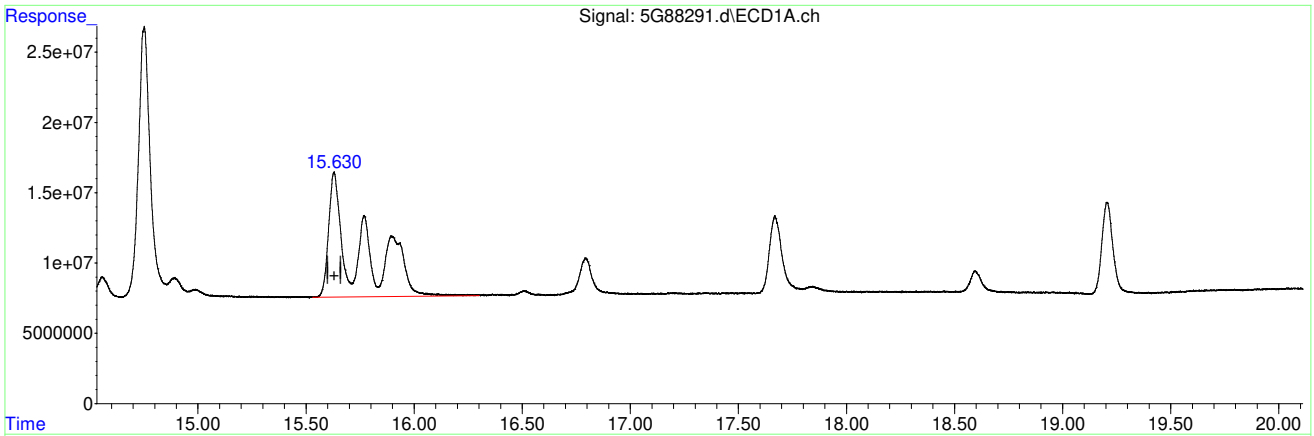
(+) = Expected Retention Time

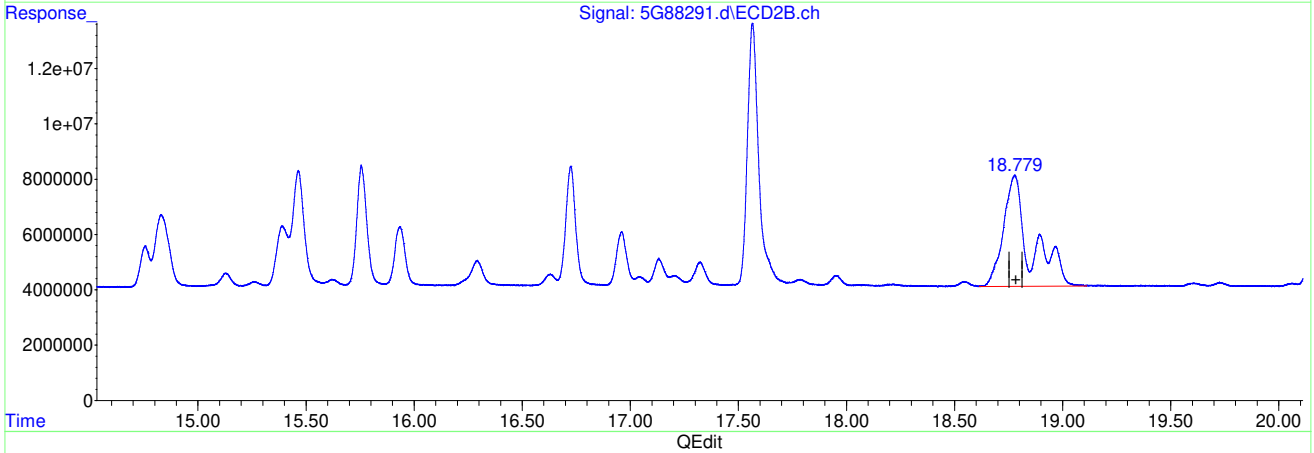
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88291.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:06 pm
Operator : tianweir
Sample : ic2127-250
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 15:09:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.630min 215.038 PPB m

response 824257243

(50) AR1260-E #2

18.779min 197.837 PPB m

response 345700689

(+) = Expected Retention Time

5PCB2127.M Tue May 07 15:10:34 2019 Page: 1



11.5.19.5
11

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:33:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.612 | 4.374 | 576.7E6 | 243.6E6 | 18.275 | 17.720 |
| | Spiked Amount 40.000 | | | Recovery | = | 45.69% | 44.30% |
| 51) | S Decachlor... | 19.204 | 22.639 | 505.3E6 | 235.7E6 | 16.529m | 15.995m |
| | Spiked Amount 40.000 | | | Recovery | = | 41.32% | 39.99% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.289 | 5.561 | 260.7E6 | 110.9E6 | 449.282 | 450.981 |
| 42) | AR1016-B | 5.025 | 6.608 | 517.3E6 | 230.6E6 | 453.898 | 451.979 |
| 43) | AR1016-C | 6.090 | 7.871 | 1061.7E6 | 510.5E6 | 449.261 | 444.798 |
| 44) | AR1016-D | 6.406 | 8.252 | 452.5E6 | 191.8E6 | 453.402 | 434.063 |
| 45) | AR1016-E | 7.447 | 9.646 | 460.2E6 | 152.8E6 | 455.773 | 440.468 |
| 46) | AR1260-A | 12.614 | 15.462 | 1048.3E6 | 478.0E6 | 435.461m | 426.521m |
| 47) | AR1260-B | 12.994 | 15.756 | 616.6E6 | 287.8E6 | 438.619 | 426.710 |
| 48) | AR1260-C | 13.749 | 16.722 | 624.5E6 | 282.3E6 | 421.626 | 427.872 |
| 49) | AR1260-D | 14.749 | 17.564 | 1488.3E6 | 723.9E6 | 427.788 | 422.189 |
| 50) | AR1260-E | 15.629 | 18.780 | 1641.0E6 | 721.3E6 | 428.118m | 412.793m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

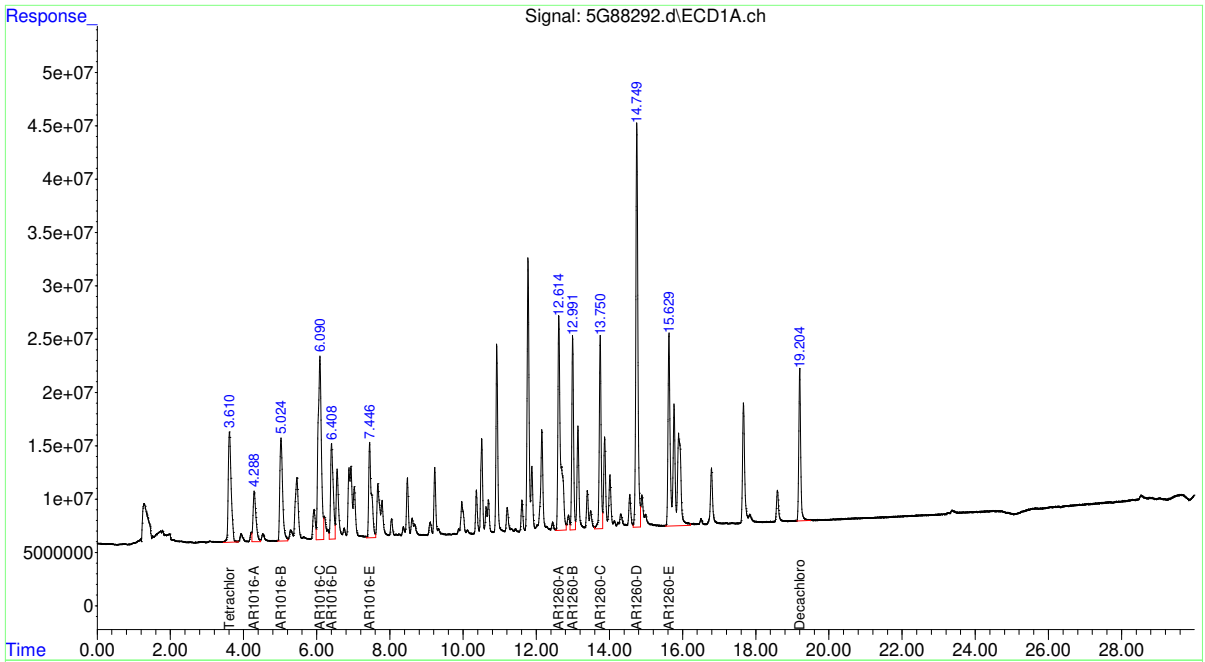
11.5.20 11

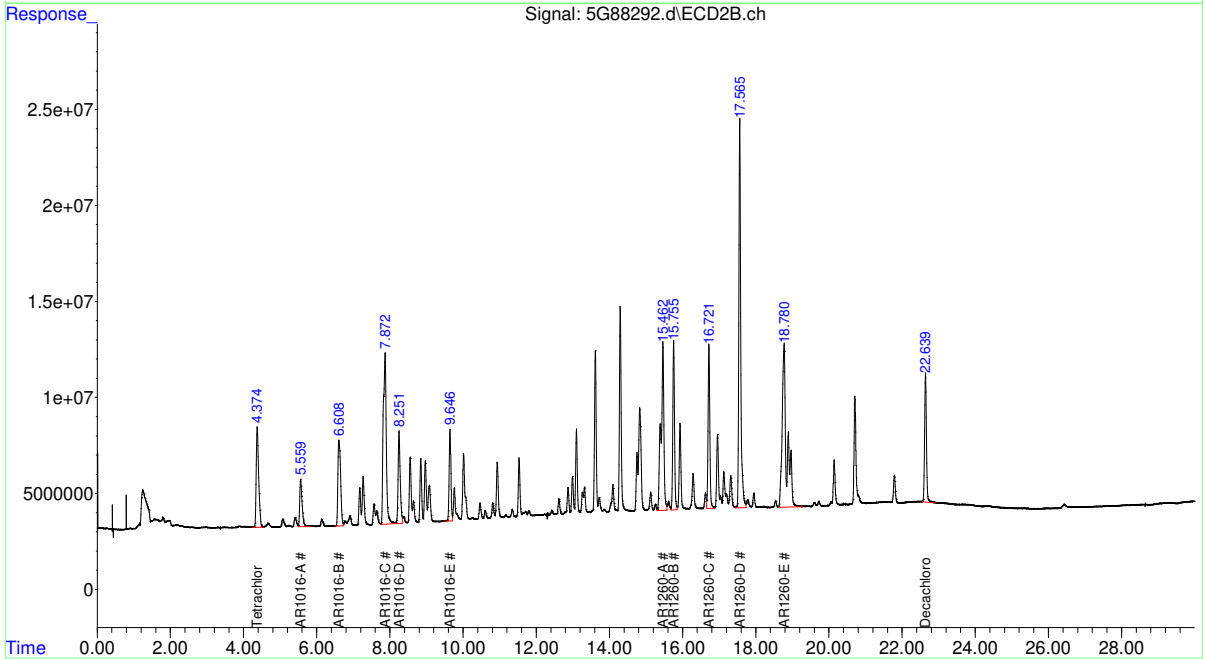
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:33:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um












JC87535

# Manual Integration Approval Summary



**Sample Number:** G5G2127-IC2127
**Lab FileID:** 5G88292.D
**Injection Time:** 05/07/19 13:38
**Method:** SW846 8082A
**Analyst approved:** 05/08/19 08:57 Tianwei Ruan
**Supervisor approved:** 05/08/19 15:53 Gwendolyn Burns

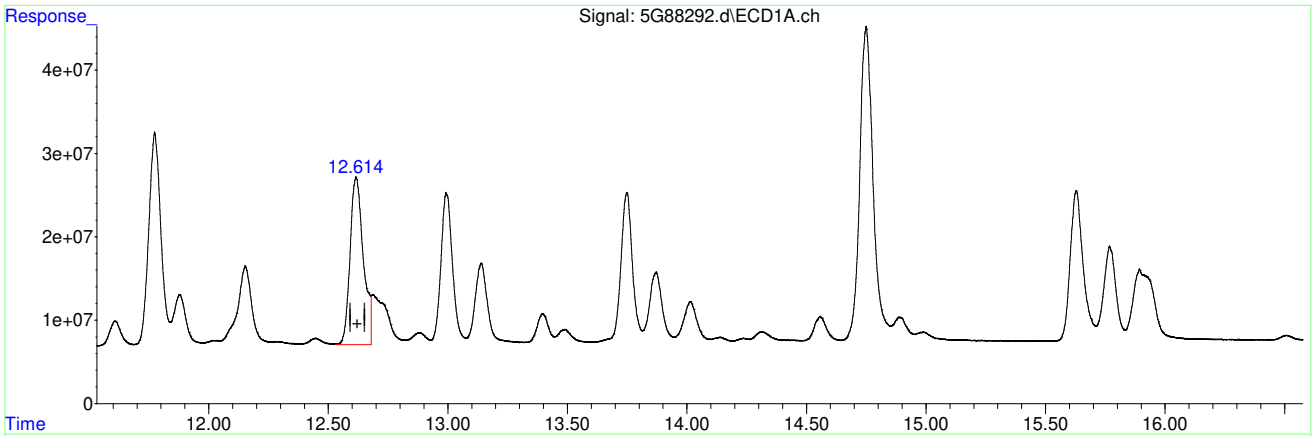
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 1 | 12.61 | Split peak |
| AR1260-A | | 2 | 15.46 | Split peak |
| AR1260-E | | 1 | 15.63 | Split peak |
| AR1260-E | | 2 | 18.78 | Split peak |
| Decachlorobiphenyl | 2051-24-3 | 1 | 19.20 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 22.64 | Poorly defined baseline |

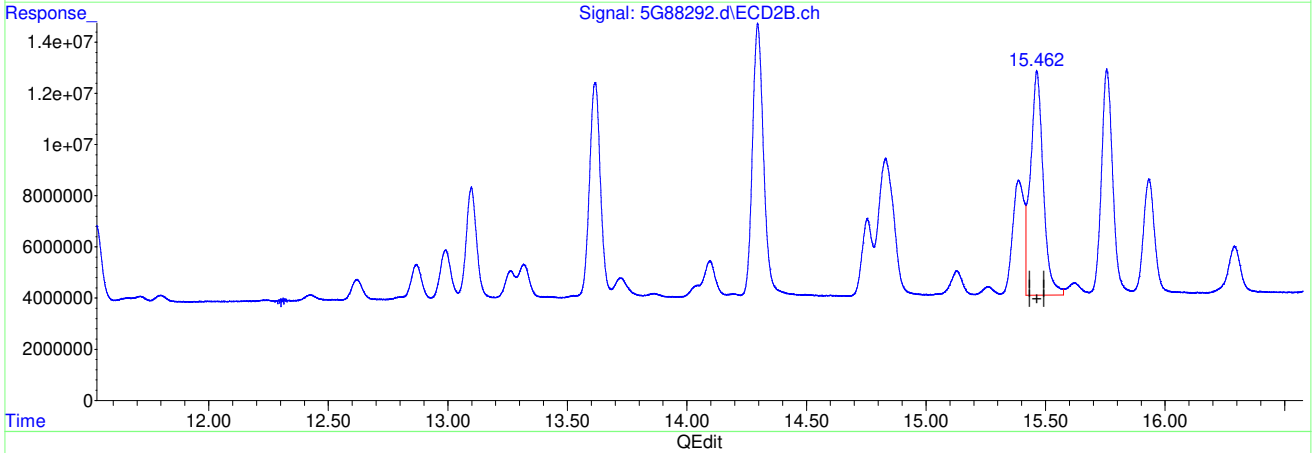
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:31:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.616min 322.022 PPB

response 775222650

(46) AR1260-A #2

15.463min 291.080 PPB

response 326237121

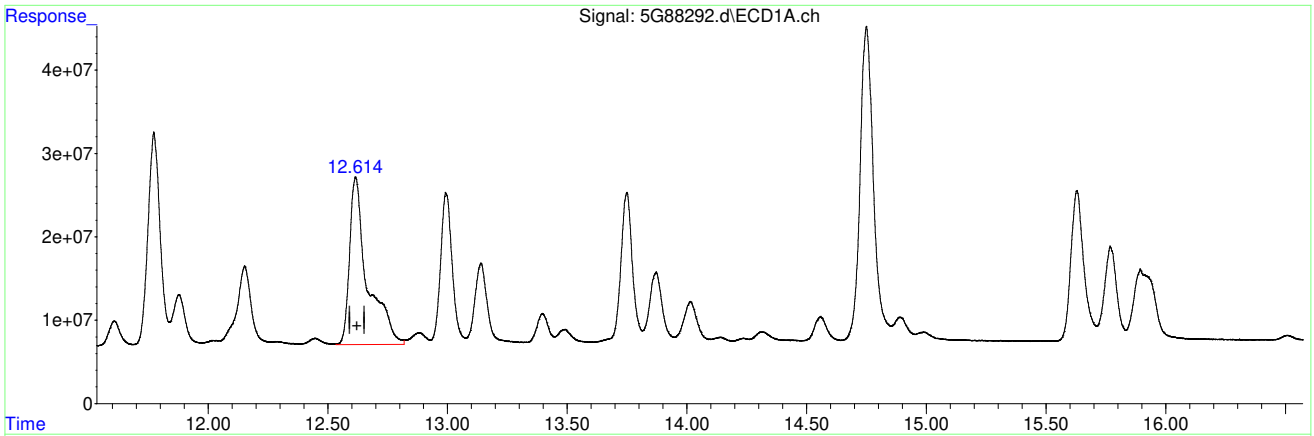
(+) = Expected Retention Time

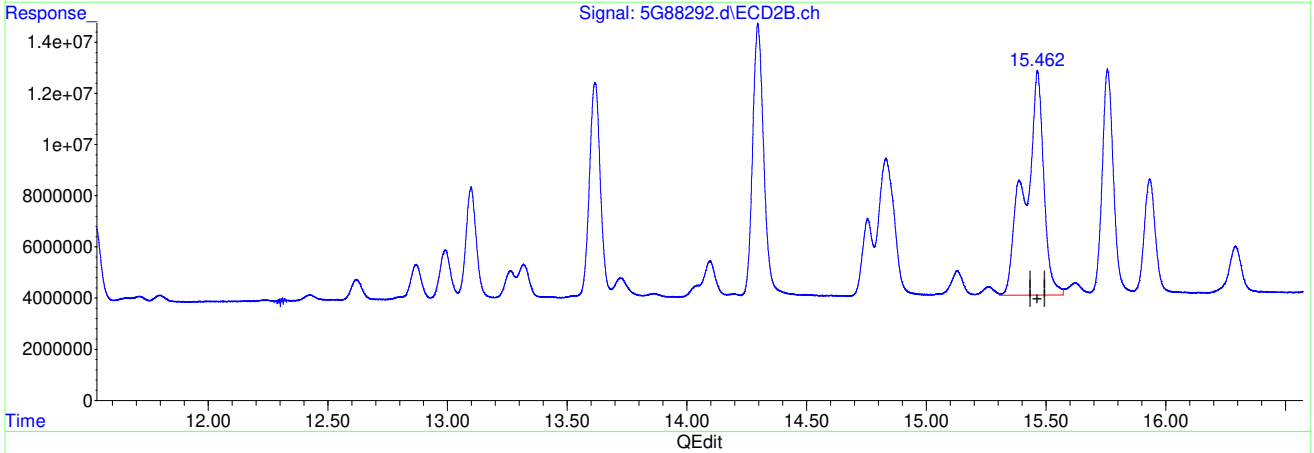
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:31:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.614min 435.461 PPB m

response 1048310241

(46) AR1260-A #2

15.462min 426.521 PPB m

response 478036756

(+) = Expected Retention Time

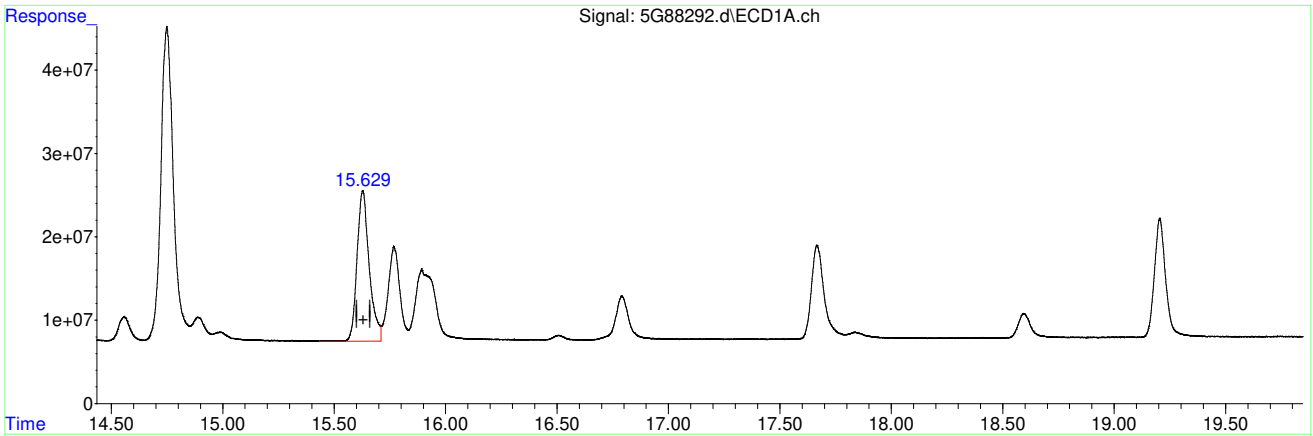
5PCB2127.M Wed May 08 08:31:42 2019 Page: 1

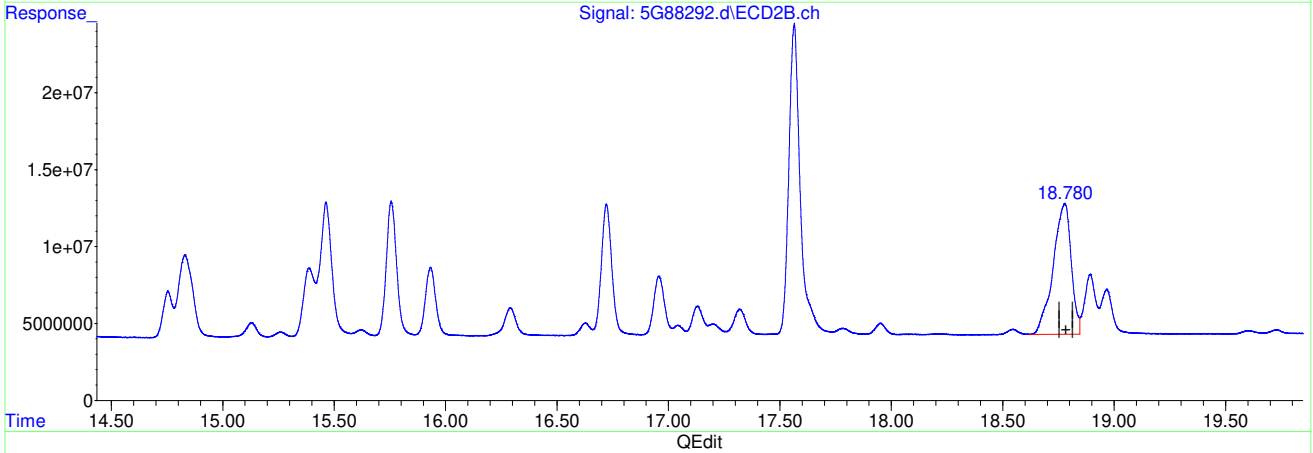
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:31:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.628min 179.429 PPB

response 687766905

(50) AR1260-E #2

18.779min 273.456 PPB

response 477837895

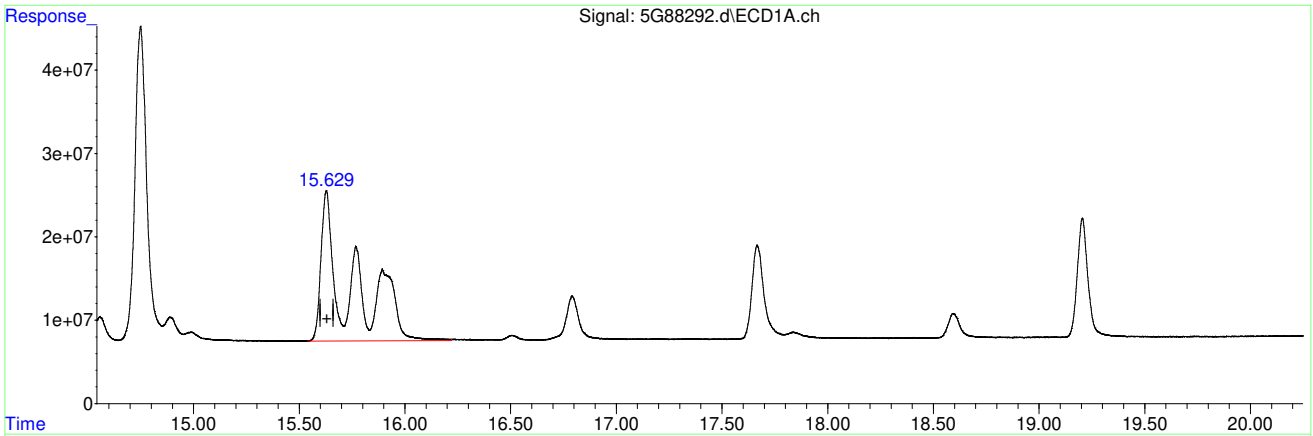
(+) = Expected Retention Time

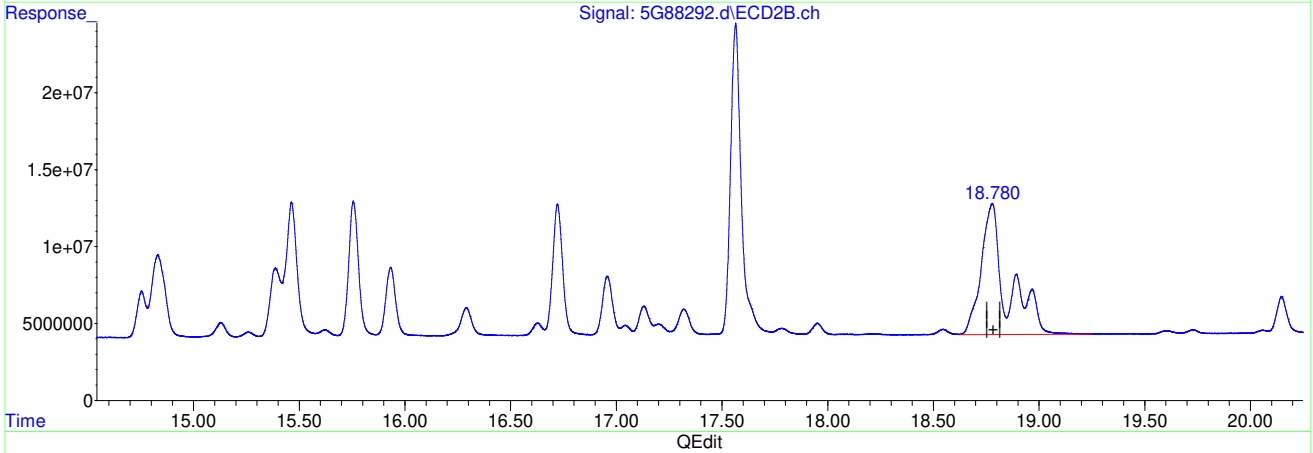
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:31:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.629min 428.118 PPB m

response 1641012466

(50) AR1260-E #2

18.780min 412.793 PPB m

response 721314782

(+) = Expected Retention Time

5PCB2127.M Wed May 08 08:31:54 2019 Page: 1





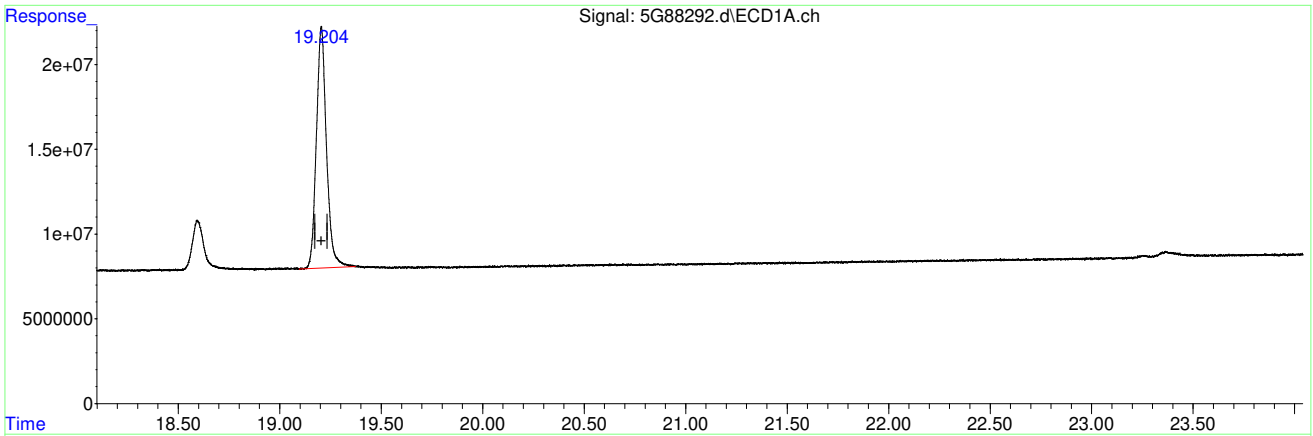
JC87535

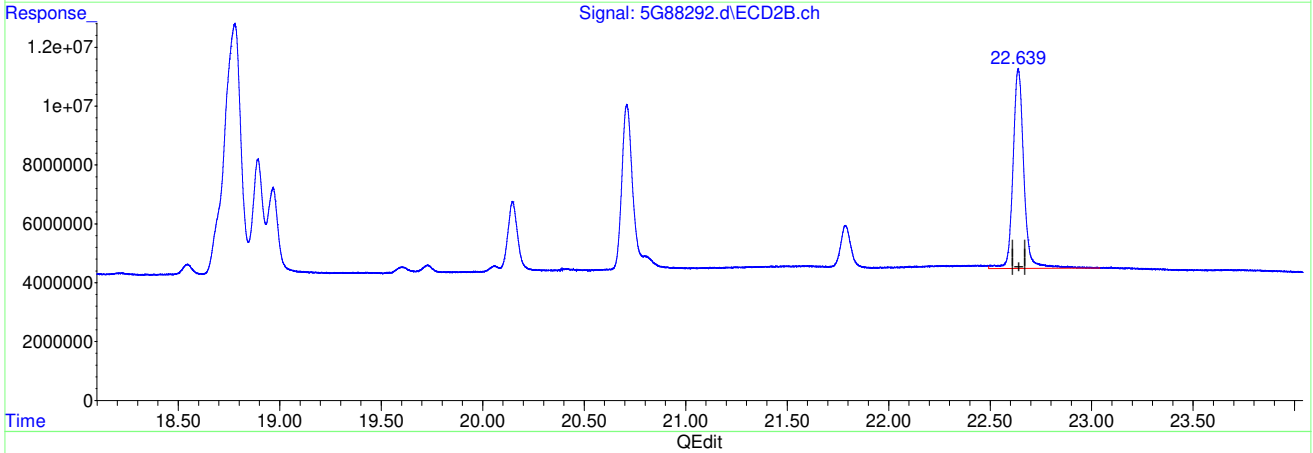
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:31:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(51) Decachlorobiphenyl (S)

19.205min 16.169 ppb

response 494259235

(51) Decachlorobiphenyl #2 (S)

22.639min 16.974 ppb

response 250127798

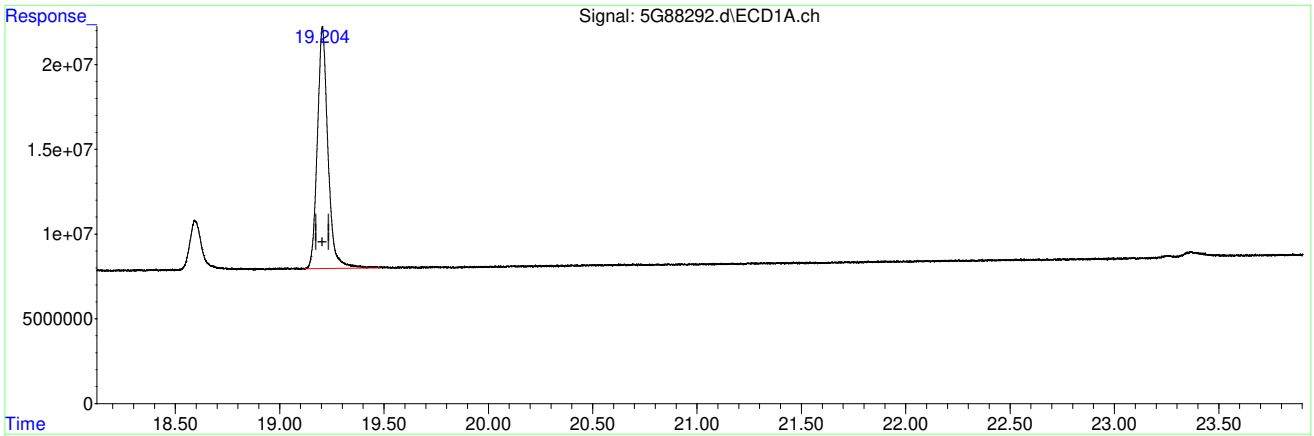
(+) = Expected Retention Time

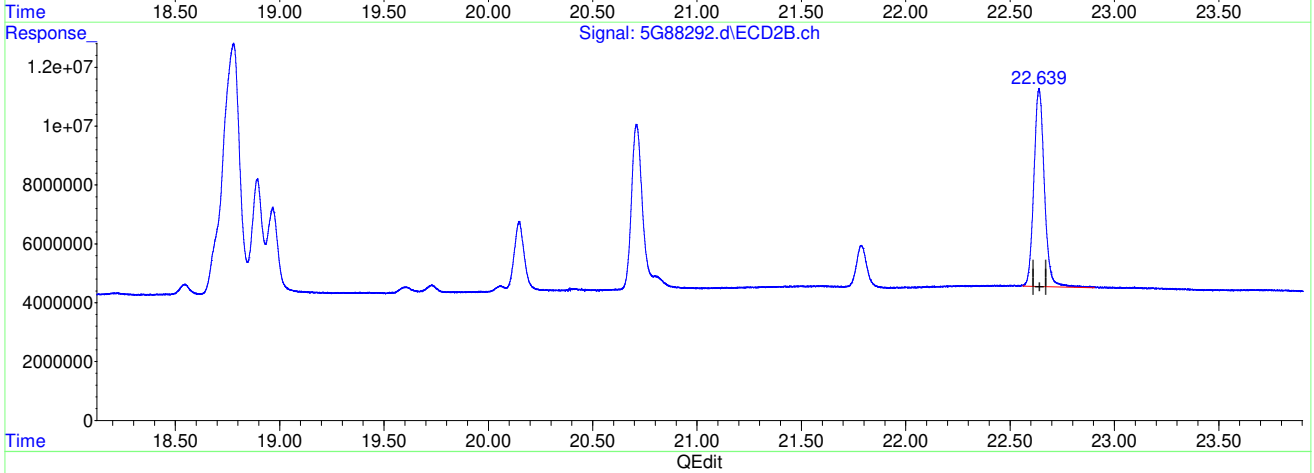
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88292.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 1:38 pm
Operator : tianweir
Sample : ic2127-500
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:31:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(51) Decachlorobiphenyl (S)

19.204min 16.529 ppb m

response 505273753

(51) Decachlorobiphenyl #2 (S)

22.639min 15.995 ppb m

response 235708251

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:33:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.611 | 4.371 | 1144.1E6 | 502.3E6 | 36.253 | 36.531 |
| | Spiked Amount 40.000 | | | Recovery | = | 90.63% | 91.33% |
| 51) | S Decachlor... | 19.201f | 22.640 | 1014.5E6 | 483.5E6 | 33.186m | 32.808m |
| | Spiked Amount 40.000 | | | Recovery | = | 82.97% | 82.02% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.290 | 5.559 | 507.7E6 | 220.5E6 | 875.051 | 896.797 |
| 42) | AR1016-B | 5.022 | 6.606 | 1003.3E6 | 458.4E6 | 880.241 | 898.635 |
| 43) | AR1016-C | 6.086 | 7.870 | 2094.7E6 | 1037.9E6 | 886.369 | 904.390 |
| 44) | AR1016-D | 6.404 | 8.250 | 877.2E6 | 391.5E6 | 878.942 | 885.991 |
| 45) | AR1016-E | 7.447 | 9.643 | 887.0E6 | 308.1E6 | 878.537m | 888.038 |
| 46) | AR1260-A | 12.615f | 15.460 | 2087.5E6 | 1000.1E6 | 867.134m | 892.367m |
| 47) | AR1260-B | 12.992f | 15.754 | 1220.5E6 | 597.8E6 | 868.158 | 886.385 |
| 48) | AR1260-C | 13.746f | 16.720 | 1246.5E6 | 586.8E6 | 841.577 | 889.422 |
| 49) | AR1260-D | 14.745f | 17.561 | 2996.5E6 | 1503.8E6 | 861.307 | 877.008 |
| 50) | AR1260-E | 15.622f | 18.772 | 3273.8E6 | 1468.6E6 | 854.079m | 840.455m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

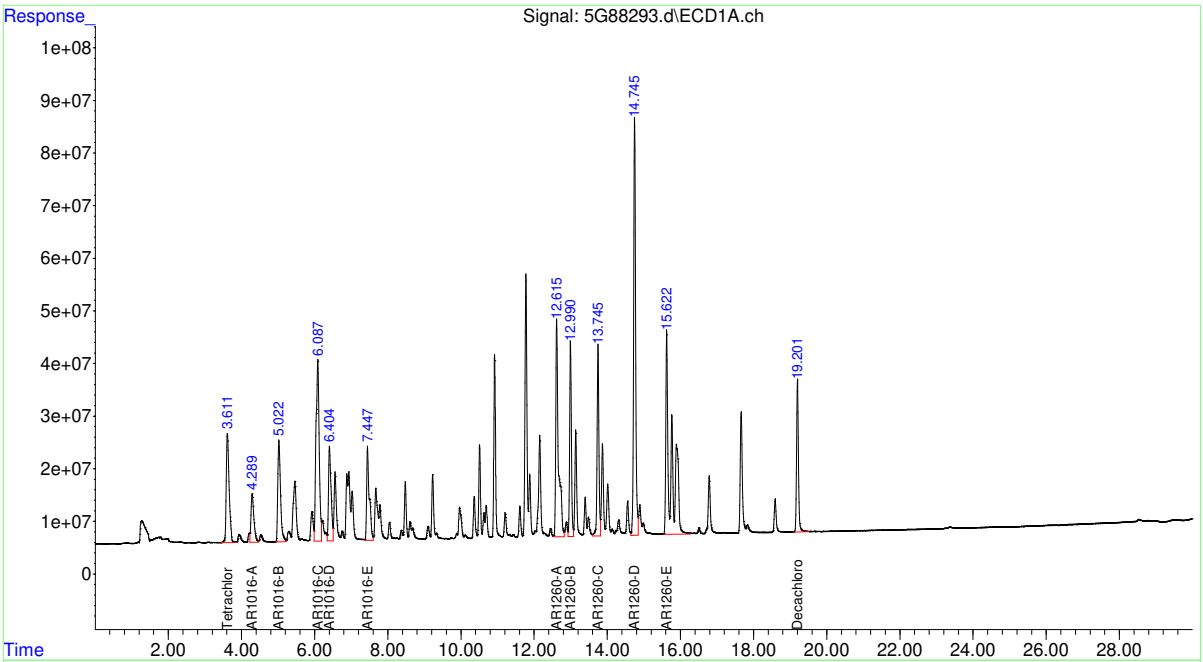
11.5.21
11

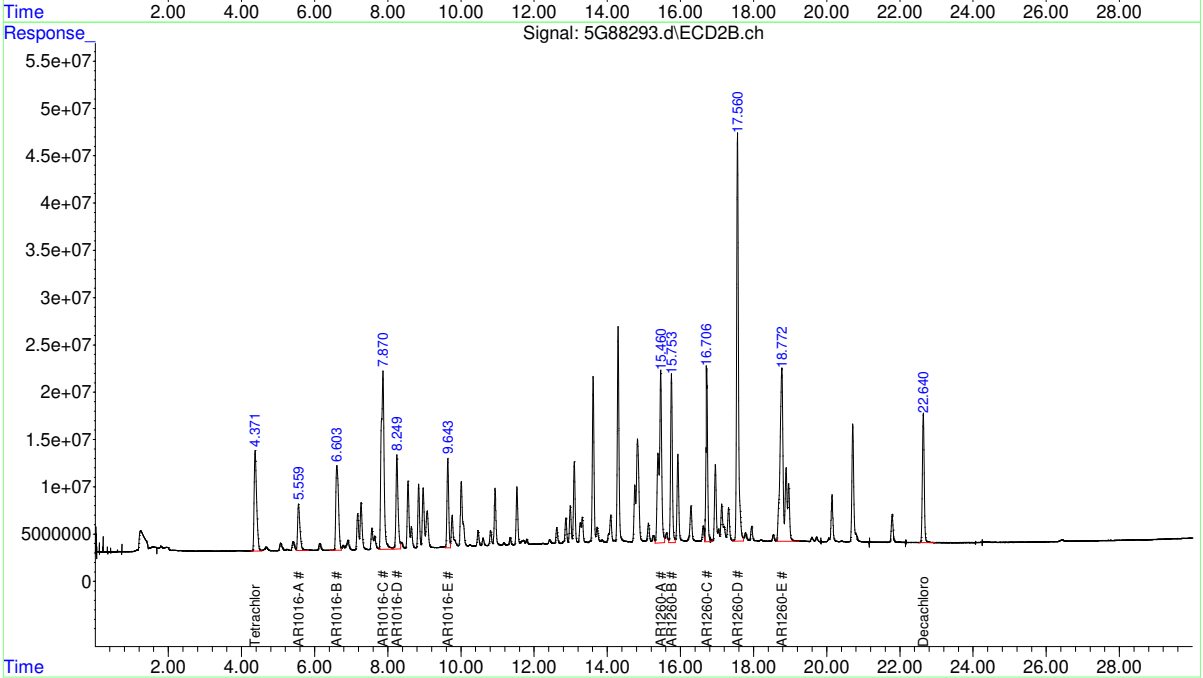
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:33:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um










JC87535

11.5.21 11

# Manual Integration Approval Summary



**Sample Number:** G5G2127-ICC2127 **Method:** SW846 8082A
**Lab FileID:** 5G88293.D **Analyst approved:** 05/08/19 08:57 Tianwei Ruan
**Injection Time:** 05/07/19 14:10 **Supervisor approved:** 05/08/19 15:53 Gwendolyn Burns

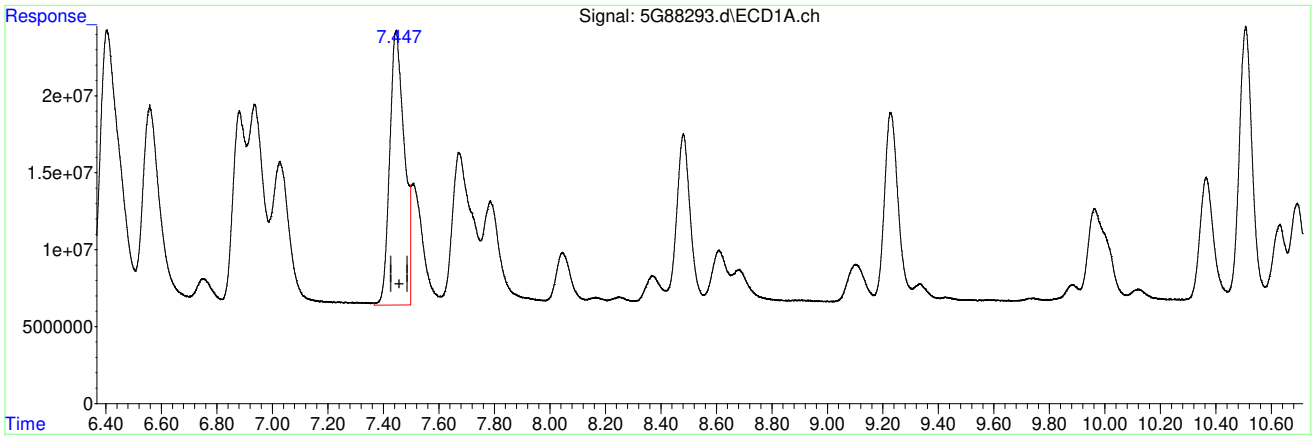
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1016-E | | 1 | 7.45 | Split peak |
| AR1260-A | | 1 | 12.61 | Split peak |
| AR1260-A | | 2 | 15.46 | Split peak |
| AR1260-E | | 1 | 15.62 | Split peak |
| AR1260-E | | 2 | 18.77 | Split peak |
| Decachlorobiphenyl | 2051-24-3 | 1 | 19.20 | Poorly defined baseline |
| Decachlorobiphenyl | 2051-24-3 | 2 | 22.64 | Poorly defined baseline |

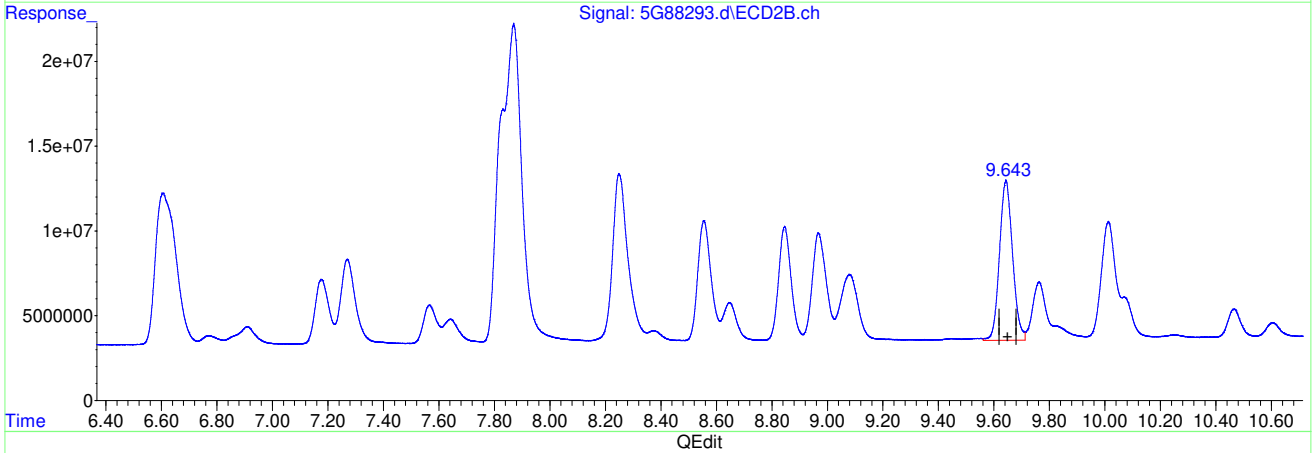
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.446min 646.125 PPB

response 652351252

(45) AR1016-E #2

9.643min 888.038 PPB

response 308093567

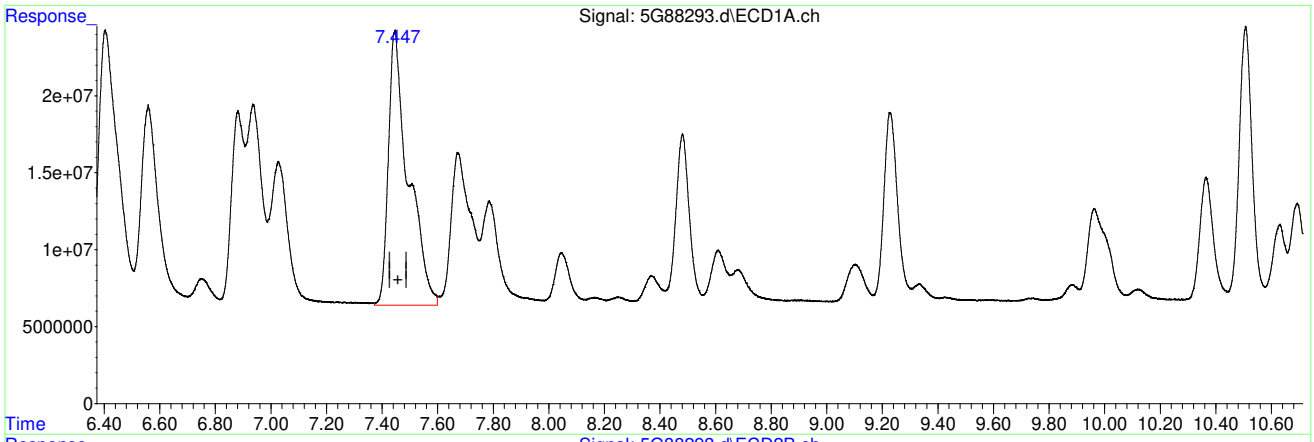
(+) = Expected Retention Time

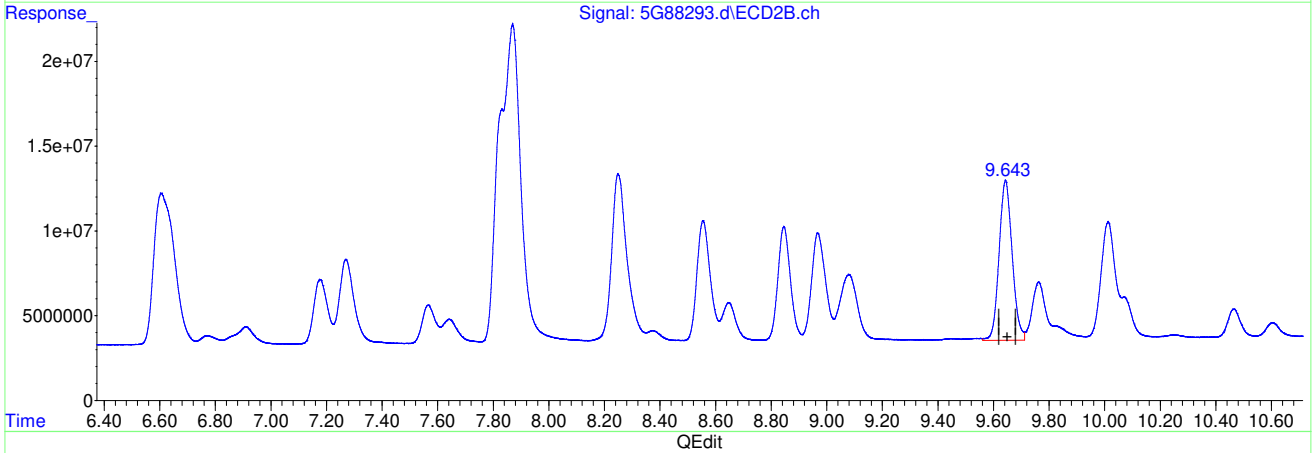
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.447min 878.537 PPB m

response 887002664

(45) AR1016-E #2

9.643min 888.038 PPB

response 308093567

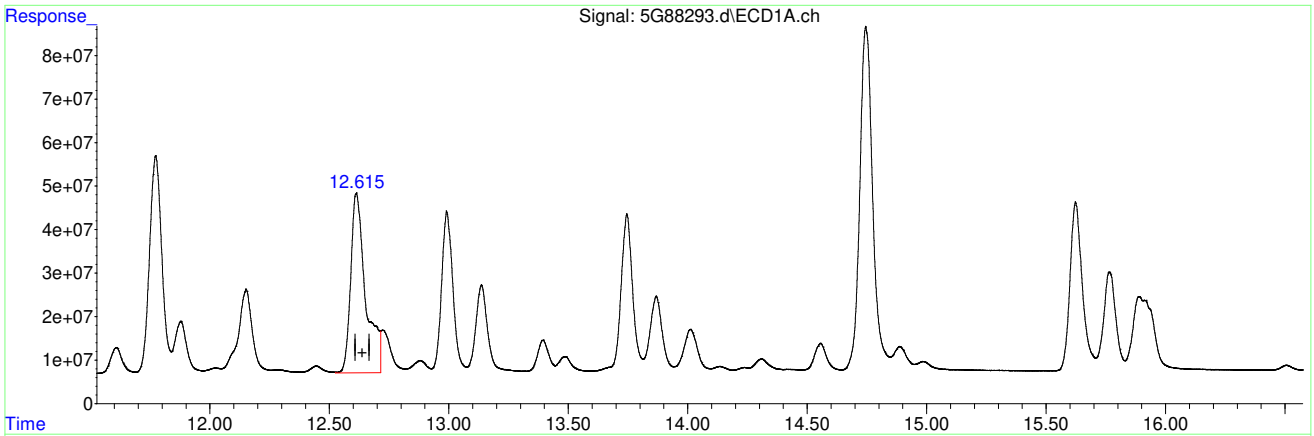
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.613min 746.696 PPB

response 1797563727

(46) AR1260-A #2

15.460min 601.410 PPB

response 674048893

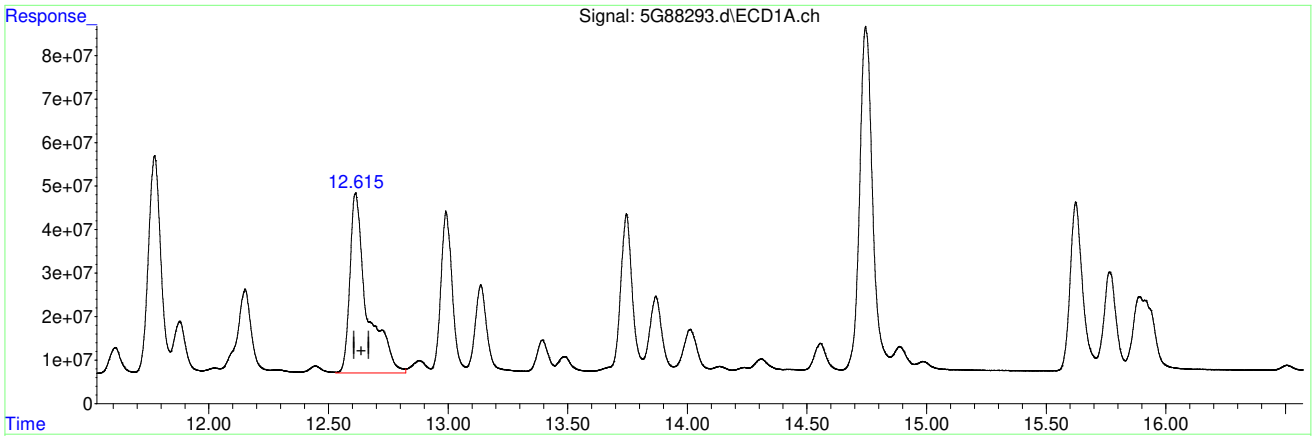
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.615min 867.134 PPB m

response 2087501615

(46) AR1260-A #2

15.460min 892.367 PPB m

response 1000147707

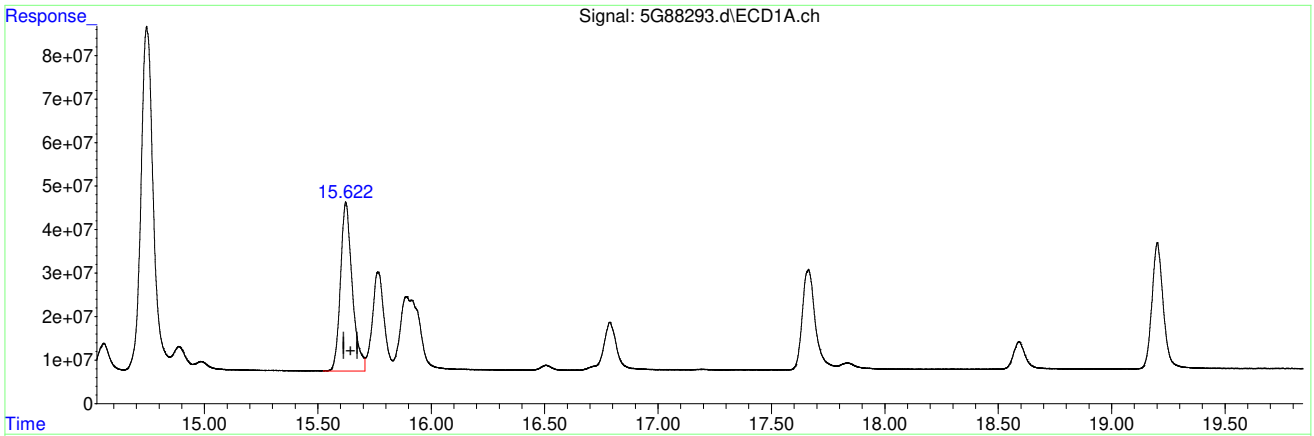
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(50) AR1260-E

15.624min 365.345 PPB

response 1400397581

(50) AR1260-E #2

18.774min 569.861 PPB

response 995774749

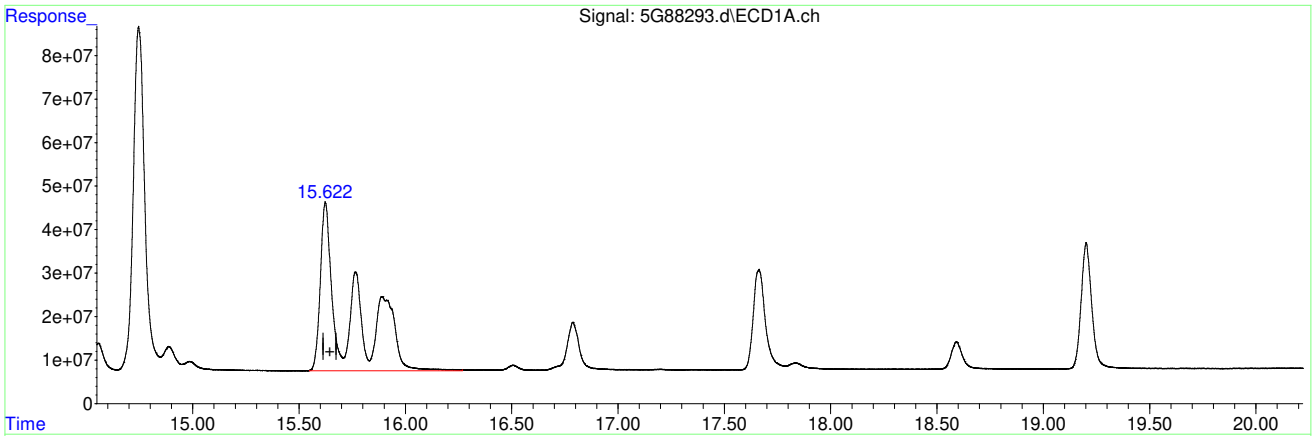
(+) = Expected Retention Time

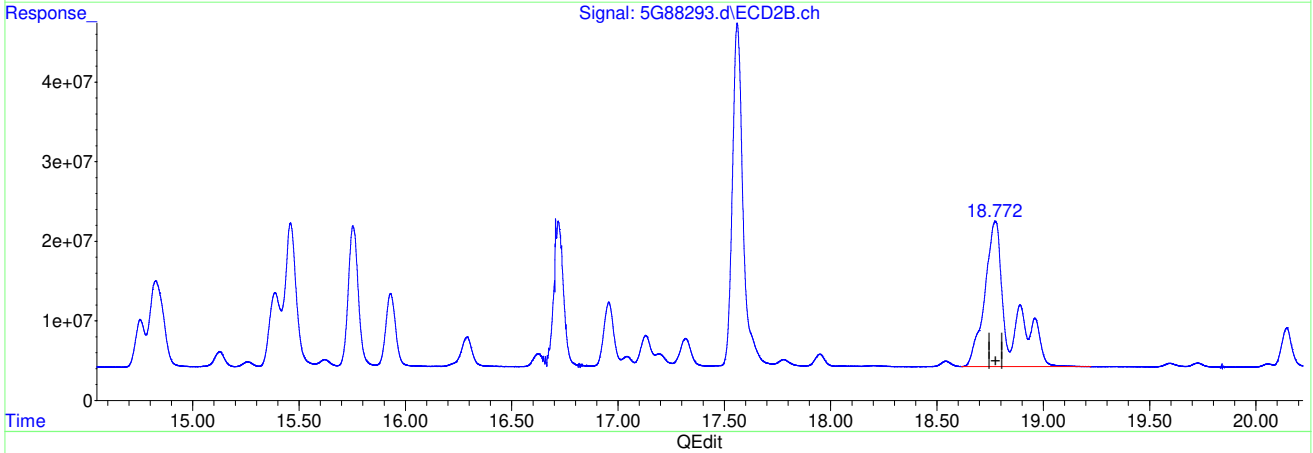
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.622min 854.079 PPB m

response 3273754989

(50) AR1260-E #2

18.772min 840.455 PPB m

response 1468611003

(+) = Expected Retention Time

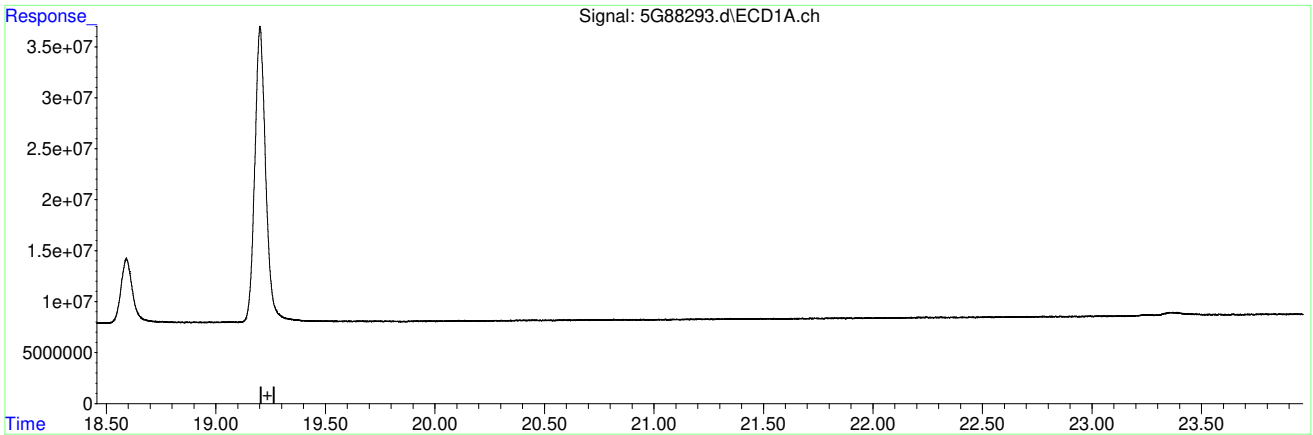
5PCB2127.M Wed May 08 08:33:16 2019 Page: 1

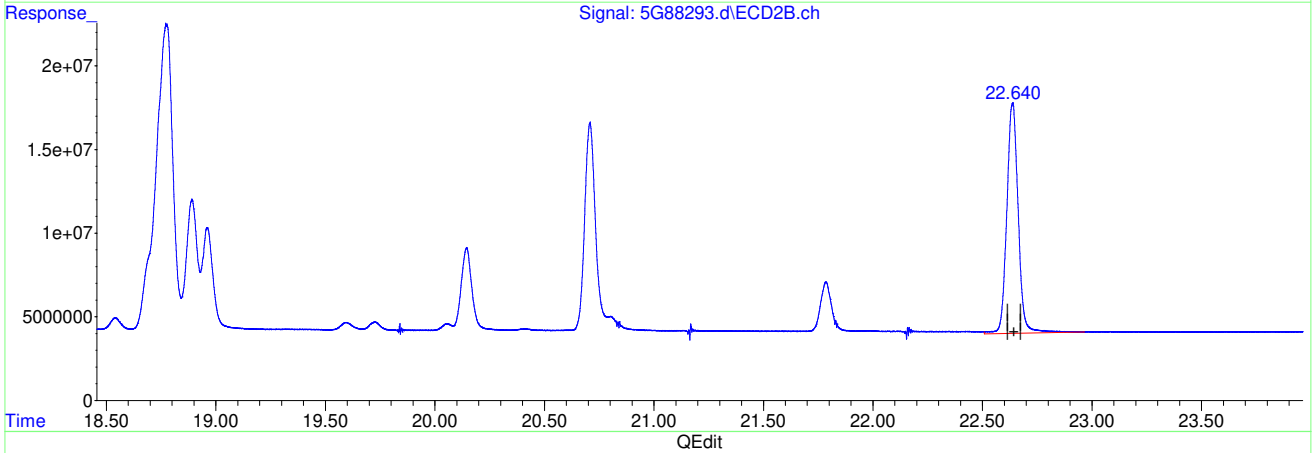
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(51) Decachlorobiphenyl (S)

0.000min 0.000 ppb

response 0

(51) Decachlorobiphenyl #2 (S)

22.637min 33.831 ppb

response 498534952

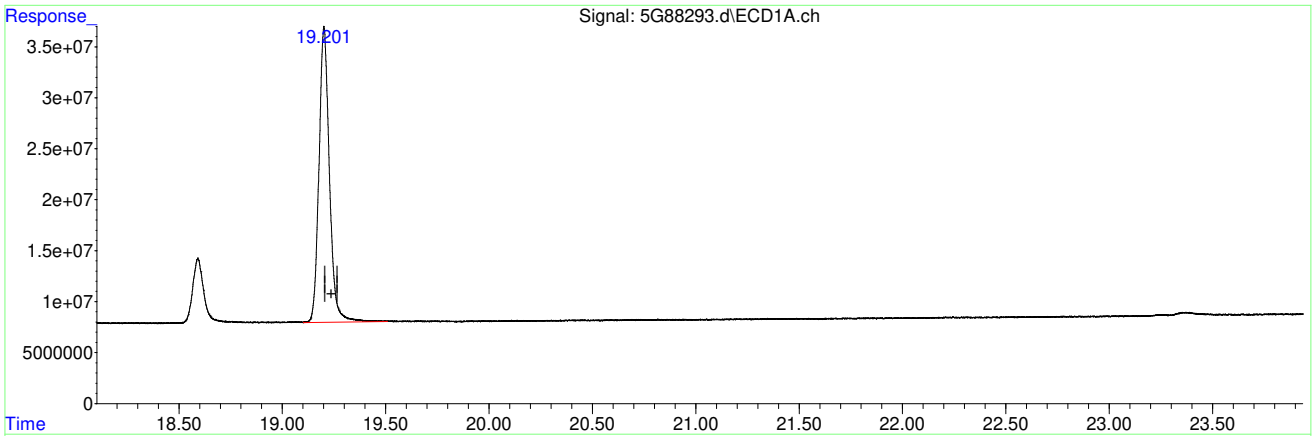
(+) = Expected Retention Time

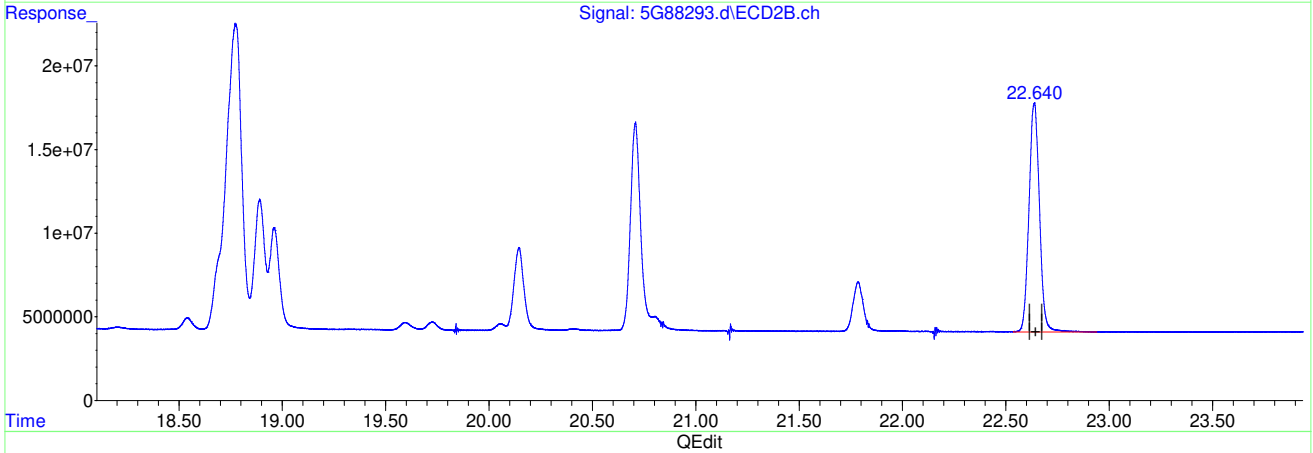
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88293.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:10 pm
Operator : tianweir
Sample : icc2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 07 14:41:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue Apr 09 09:30:37 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(51) Decachlorobiphenyl (S)

19.201min 33.186 ppb m

response 1014468001

(51) Decachlorobiphenyl #2 (S)

22.640min 32.808 ppb m

response 483467874

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88294.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:43 pm
Operator : tianweir
Sample : ic2127-2000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:34:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.612 | 4.373 | 2260.1E6 | 1033.5E6 | 71.619 | 75.163 |
| | Spiked Amount 40.000 | | | Recovery | = | 179.05% | 187.91% |
| 51) | S Decachlor... | 19.201 | 22.639 | 2029.6E6 | 1006.5E6 | 66.393 | 68.304 |
| | Spiked Amount 40.000 | | | Recovery | = | 165.98% | 170.76% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.290 | 5.559 | 991.7E6 | 436.3E6 | 1709.218 | 1774.748 |
| 42) | AR1016-B | 5.022 | 6.607 | 1955.7E6 | 915.3E6 | 1715.864 | 1794.266 |
| 43) | AR1016-C | 6.085 | 7.869 | 4105.9E6 | 2105.5E6 | 1737.374 | 1834.591 |
| 44) | AR1016-D | 6.403 | 8.250 | 1706.9E6 | 785.7E6 | 1710.219 | 1778.052 |
| 45) | AR1016-E | 7.446 | 9.644 | 1728.0E6 | 613.1E6 | 1711.469 | 1767.104 |
| 46) | AR1260-A | 12.615 | 15.462 | 4114.7E6 | 2054.0E6 | 1709.226 | 1832.676m |
| 47) | AR1260-B | 12.993 | 15.755 | 2400.0E6 | 1233.2E6 | 1707.234 | 1828.540 |
| 48) | AR1260-C | 13.744 | 16.721 | 2442.4E6 | 1223.3E6 | 1648.950 | 1854.137 |
| 49) | AR1260-D | 14.744 | 17.562 | 5992.7E6 | 3184.8E6 | 1722.543 | 1857.286 |
| 50) | AR1260-E | 15.623 | 18.778 | 6507.6E6 | 3060.8E6 | 1697.746m | 1751.631m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

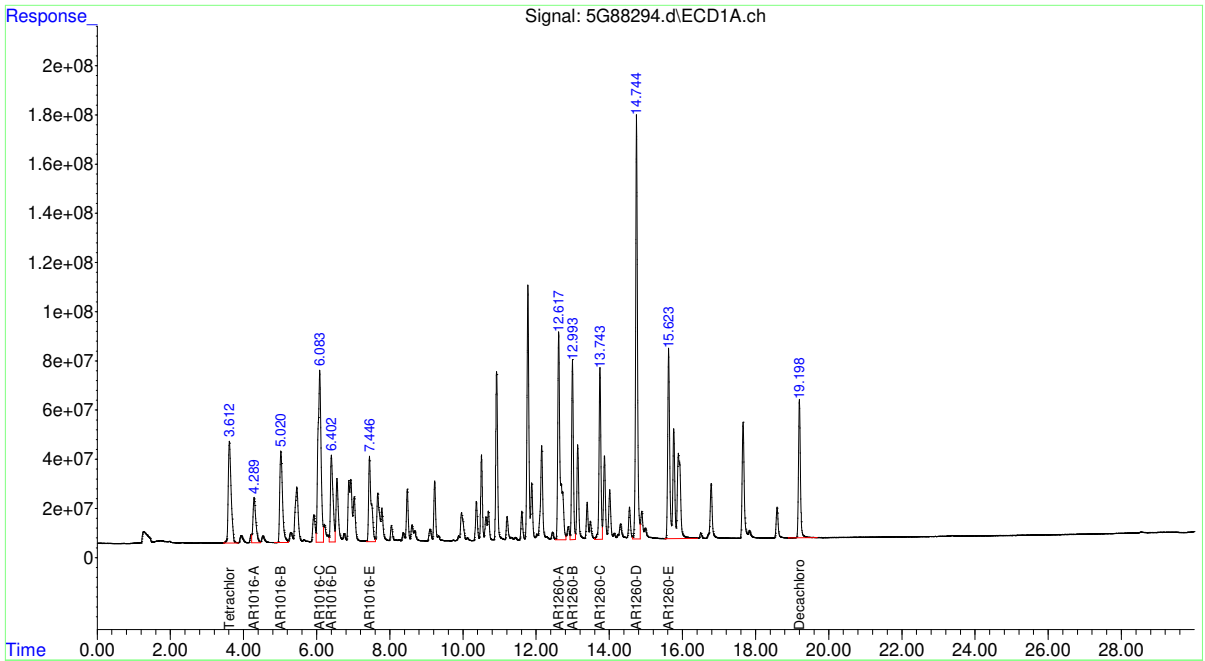
11.5.22 11

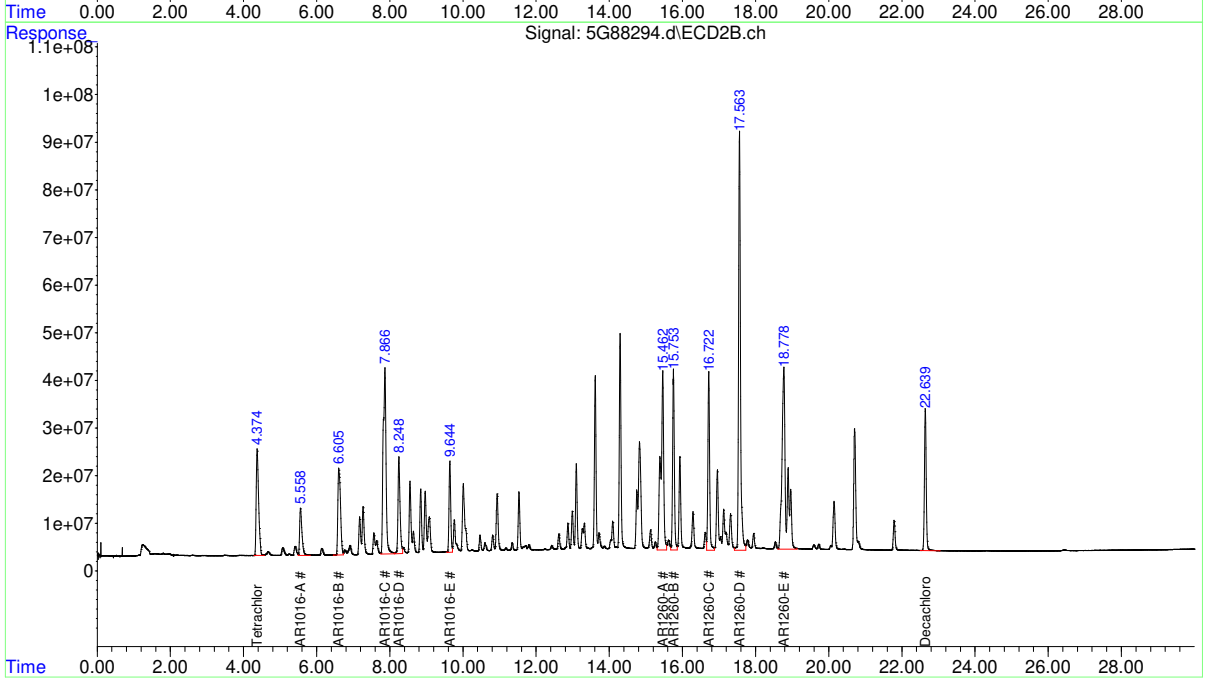
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88294.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:43 pm
Operator : tianweir
Sample : ic2127-2000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:34:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88294.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 14:43 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

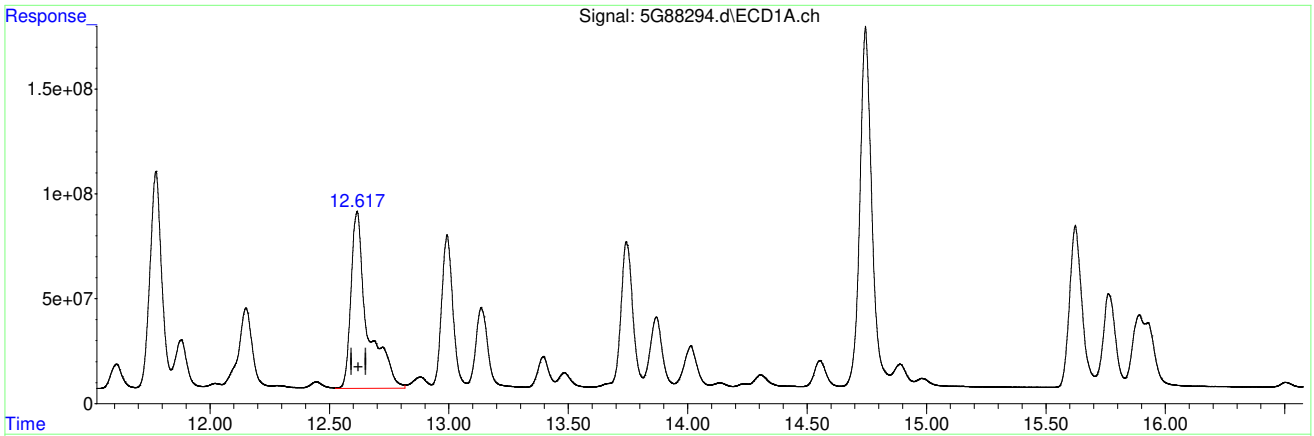
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 15.46 | Split peak |
| AR1260-E | | 1 | 15.62 | Split peak |
| AR1260-E | | 2 | 18.78 | Split peak |

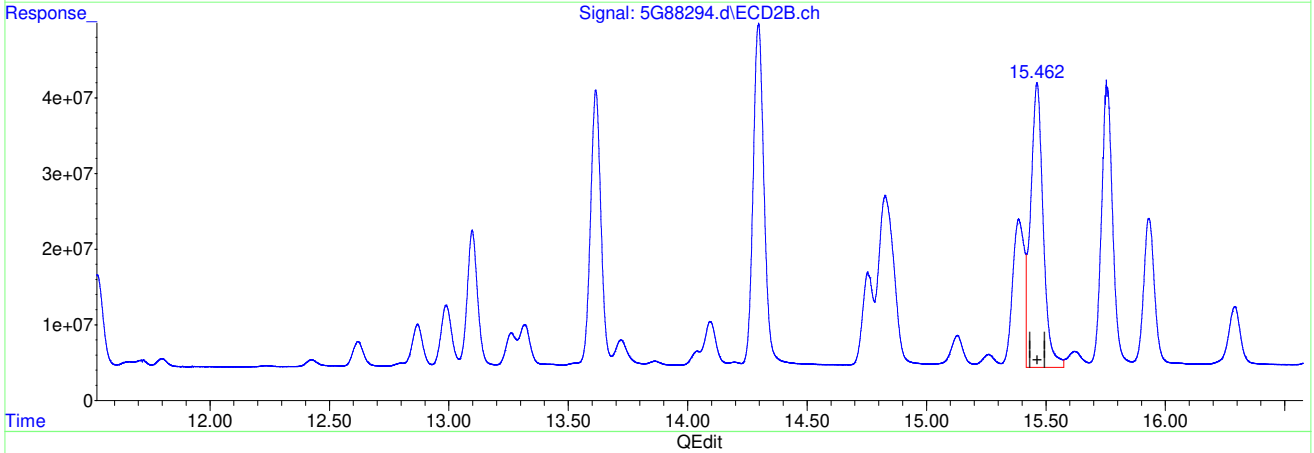
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88294.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:43 pm
Operator : tianweir
Sample : ic2127-2000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:34:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.615min 1709.226 PPB

response 4114718586

(46) AR1260-A #2

15.462min 1235.509 PPB

response 1384733764

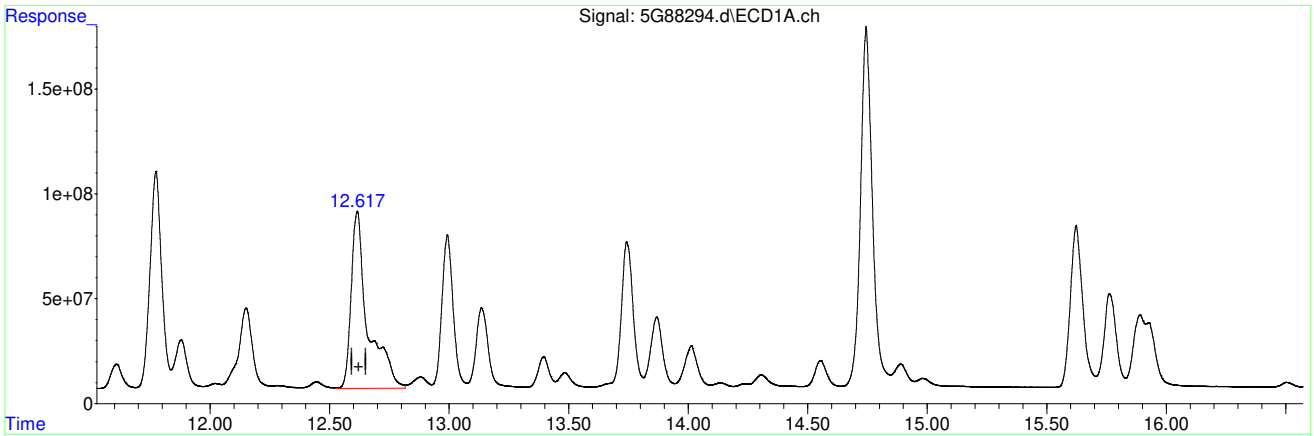
(+) = Expected Retention Time

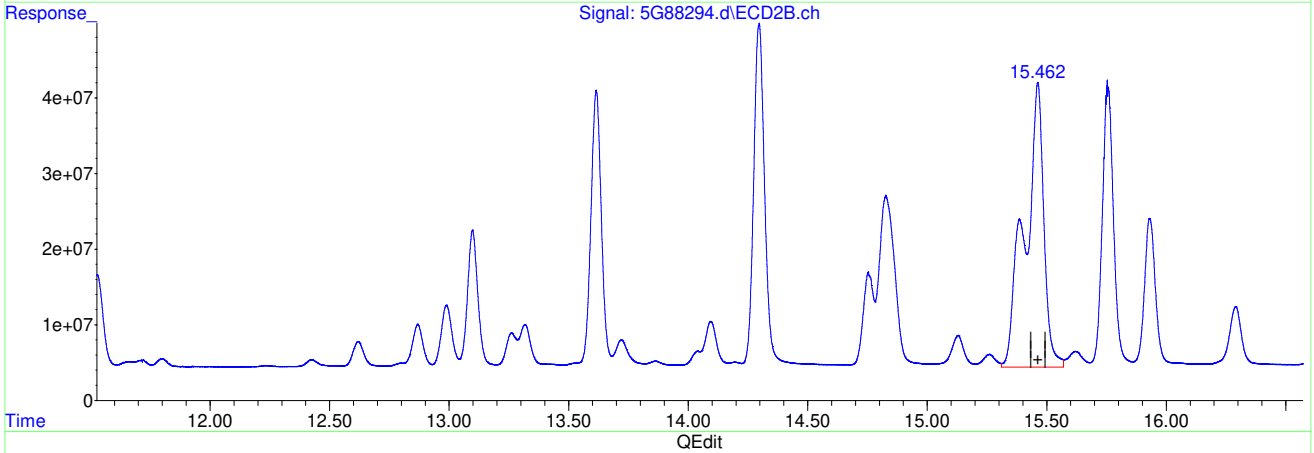
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88294.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:43 pm
Operator : tianweir
Sample : ic2127-2000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:34:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.615min 1709.226 PPB

response 4114718586

(46) AR1260-A #2

15.462min 1832.676 PPB m

response 2054027316

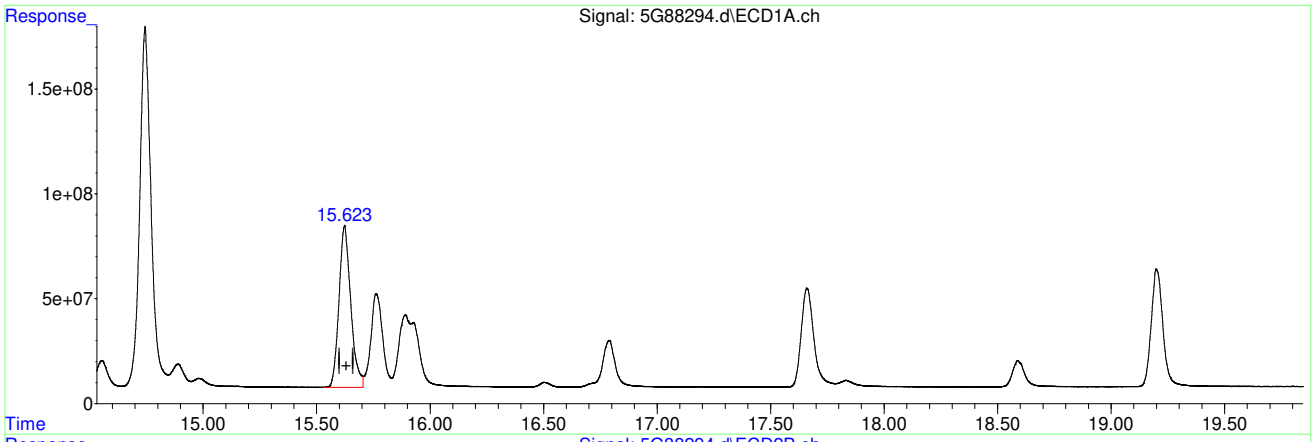
(+) = Expected Retention Time

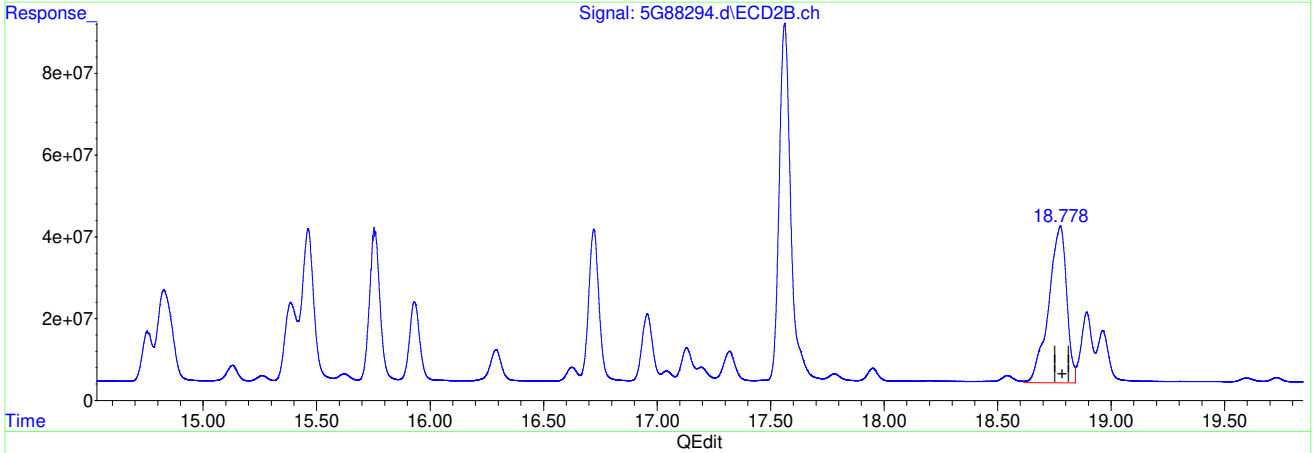
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88294.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:43 pm
Operator : tianweir
Sample : ic2127-2000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:34:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.623min 724.989 PPB

response 2778943747

(50) AR1260-E #2

18.776min 1207.947 PPB

response 2110767266

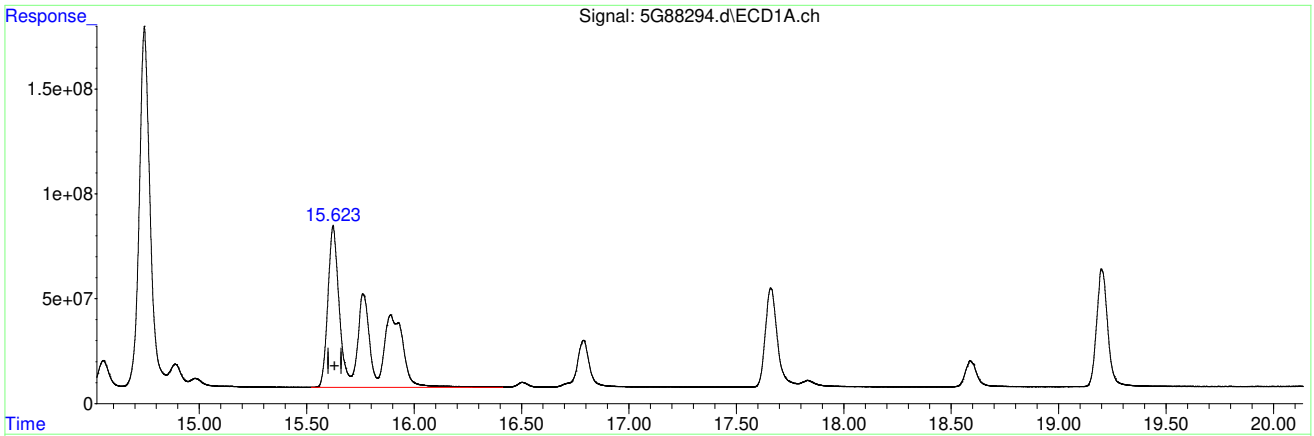
(+) = Expected Retention Time

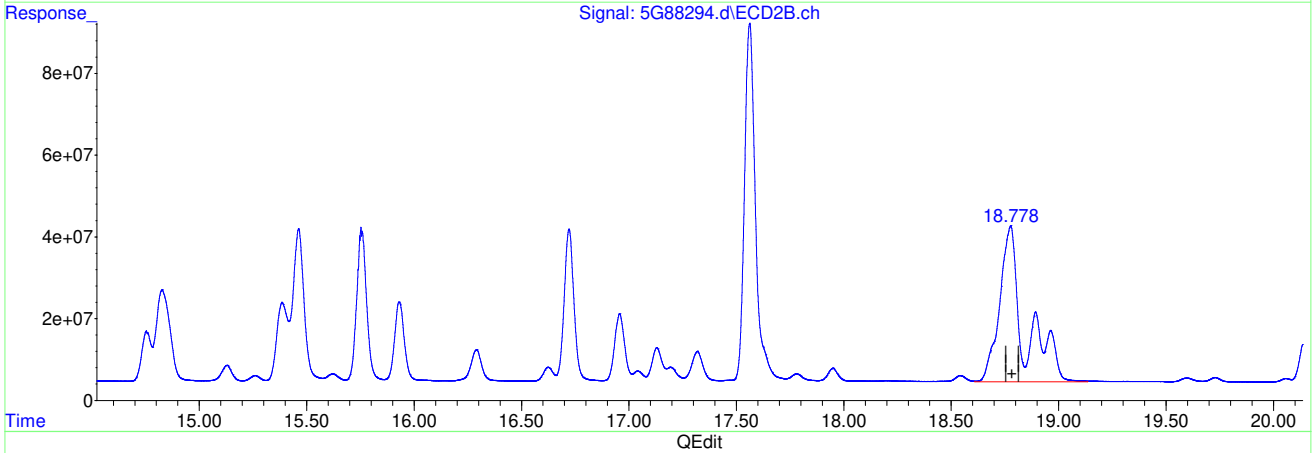
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88294.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 2:43 pm
Operator : tianweir
Sample : ic2127-2000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:34:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.623min 1697.746 PPB m

response 6507601458

(50) AR1260-E #2

18.778min 1751.631 PPB m

response 3060800314

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88295.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:15 pm
Operator : tianweir
Sample : ic2127-3000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:35:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.615 | 4.373 | 3364.7E6 | 1586.2E6 | 106.620 | 115.364 |
| | Spiked Amount 40.000 | | | Recovery | = | 266.55% | 288.41% |
| 51) | S Decachlor... | 19.201 | 22.641 | 3072.9E6 | 1546.7E6 | 100.524 | 104.957 |
| | Spiked Amount 40.000 | | | Recovery | = | 251.31% | 262.39% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.289 | 5.559 | 1476.1E6 | 653.4E6 | 2544.177 | 2657.703 |
| 42) | AR1016-B | 5.023 | 6.603 | 2892.3E6 | 1386.1E6 | 2537.632 | 2717.177 |
| 43) | AR1016-C | 6.085 | 7.867 | 6141.4E6 | 3241.5E6 | 2598.702 | 2824.432 |
| 44) | AR1016-D | 6.402 | 8.250 | 2534.6E6 | 1213.9E6 | 2539.541 | 2747.217 |
| 45) | AR1016-E | 7.447 | 9.644 | 2566.8E6 | 956.3E6 | 2542.309 | 2756.305 |
| 46) | AR1260-A | 12.614 | 15.463 | 6163.3E6 | 3105.9E6 | 2560.172 | 2771.165m |
| 47) | AR1260-B | 12.992 | 15.756 | 3591.0E6 | 1831.0E6 | 2554.434 | 2714.823 |
| 48) | AR1260-C | 13.745 | 16.723 | 3661.5E6 | 1801.7E6 | 2472.016 | 2730.981 |
| 49) | AR1260-D | 14.747 | 17.564 | 9041.7E6 | 4775.4E6 | 2598.968 | 2784.913 |
| 50) | AR1260-E | 15.623 | 18.777 | 9771.1E6 | 4694.7E6 | 2549.146m | 2686.682m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

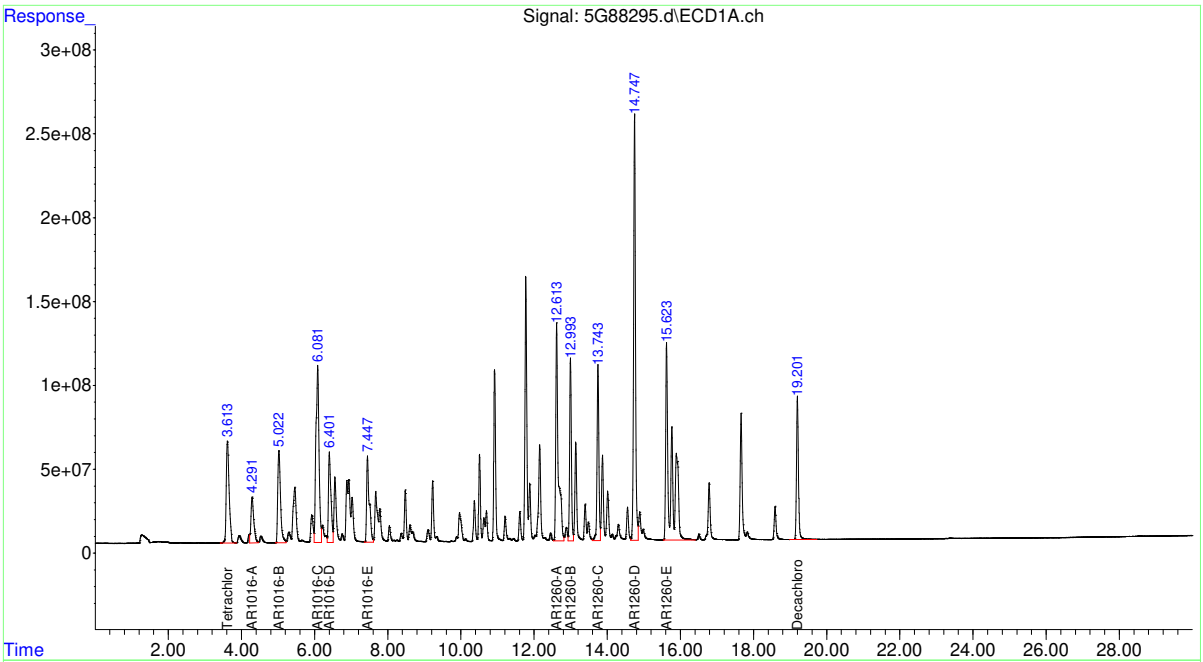
11.5.23 11

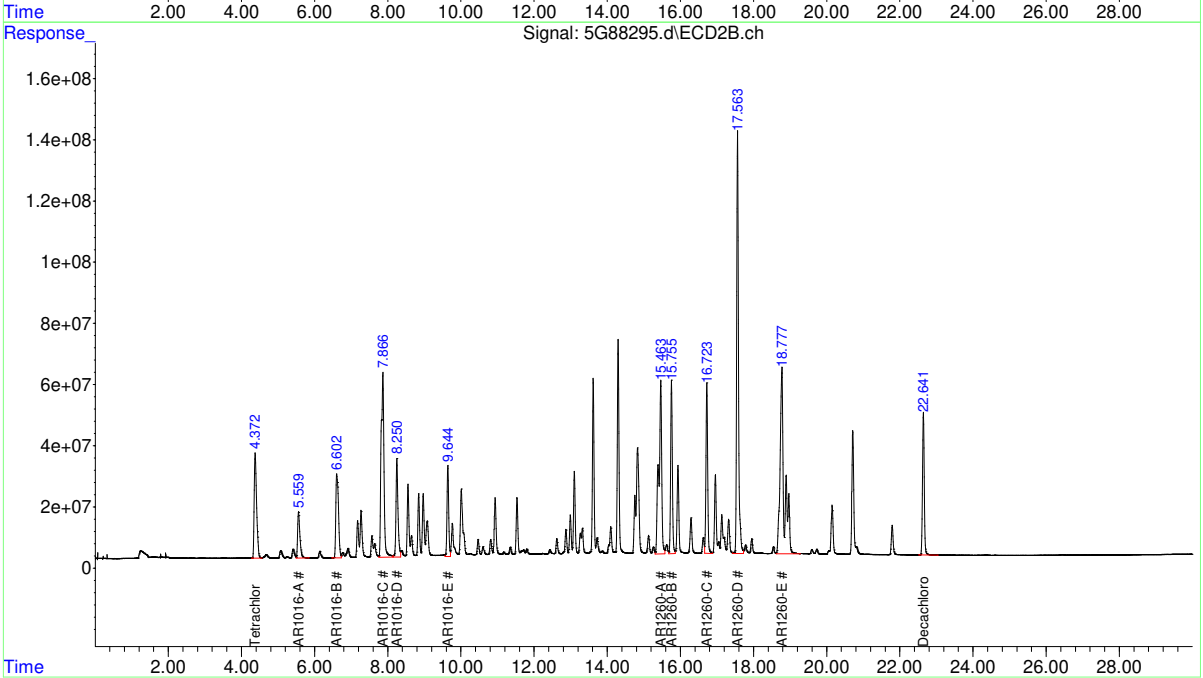
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88295.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:15 pm
Operator : tianweir
Sample : ic2127-3000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:35:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88295.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 15:15 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

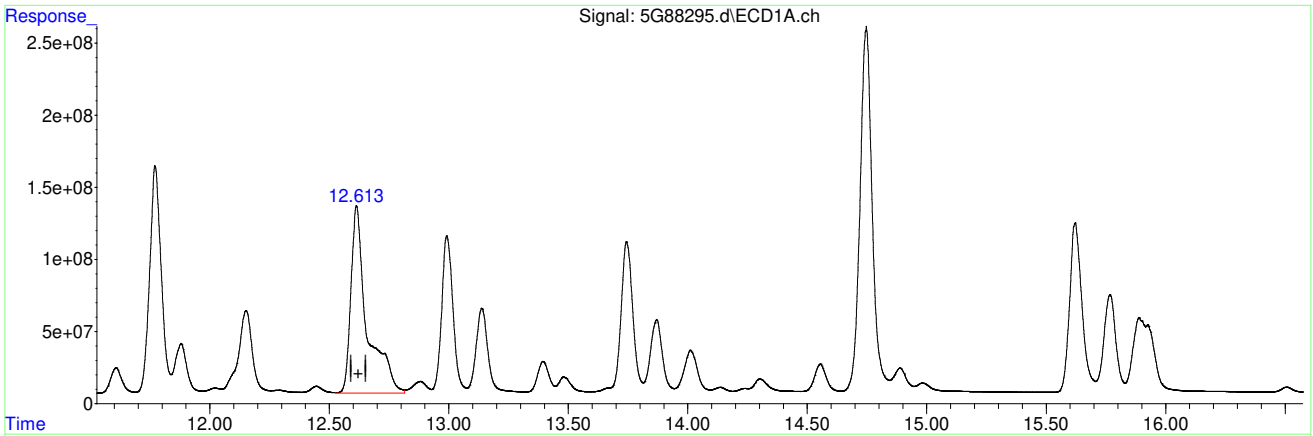
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1260-A | | 2 | 15.46 | Split peak |
| AR1260-E | | 1 | 15.62 | Split peak |
| AR1260-E | | 2 | 18.78 | Split peak |

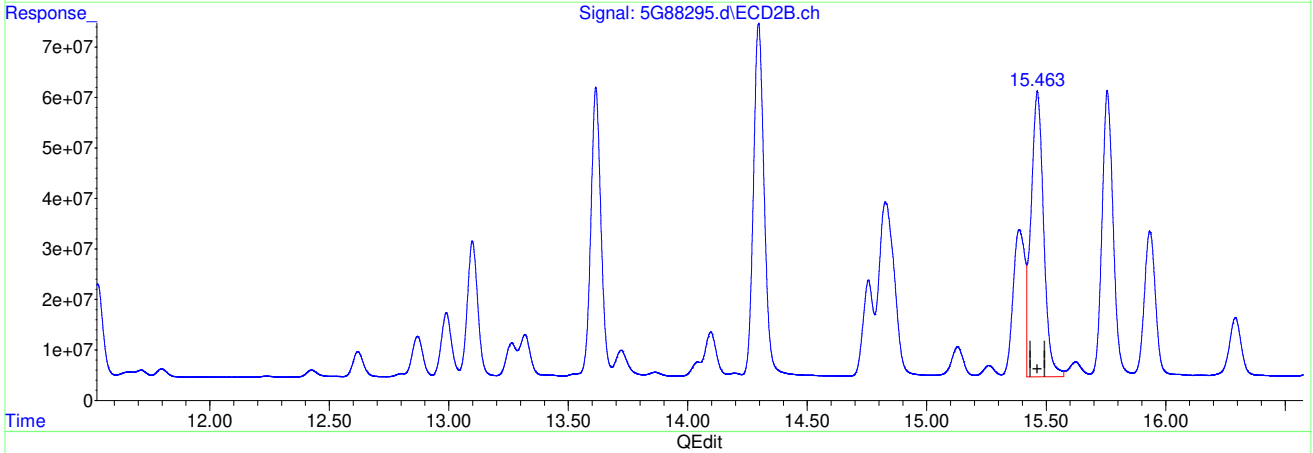
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88295.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:15 pm
Operator : tianweir
Sample : ic2127-3000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:35:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.614min 2560.172 PPB

response 6163251850

(46) AR1260-A #2

15.463min 1856.355 PPB

response 2080566572

(+) = Expected Retention Time

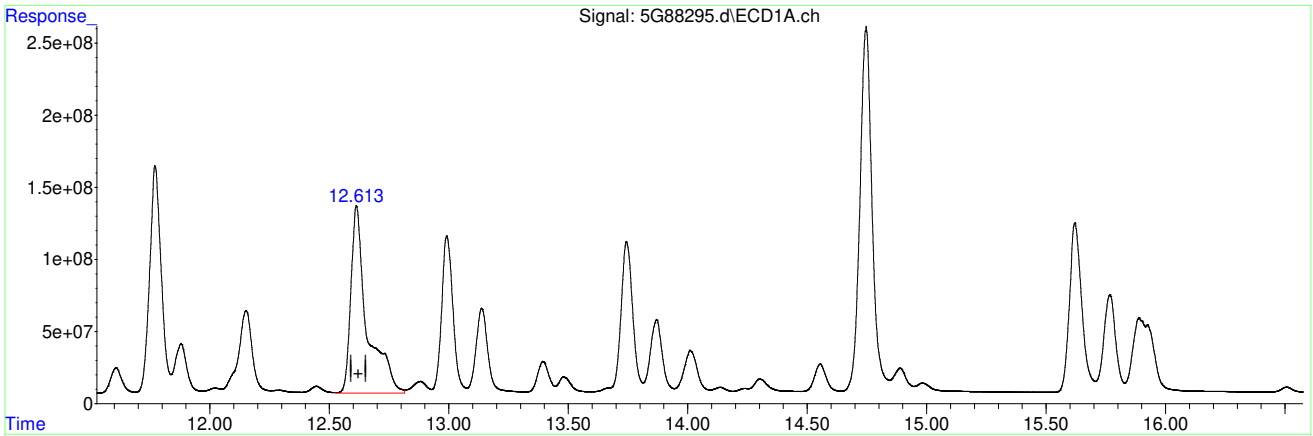
5PCB2127.M Wed May 08 08:35:33 2019 Page: 1

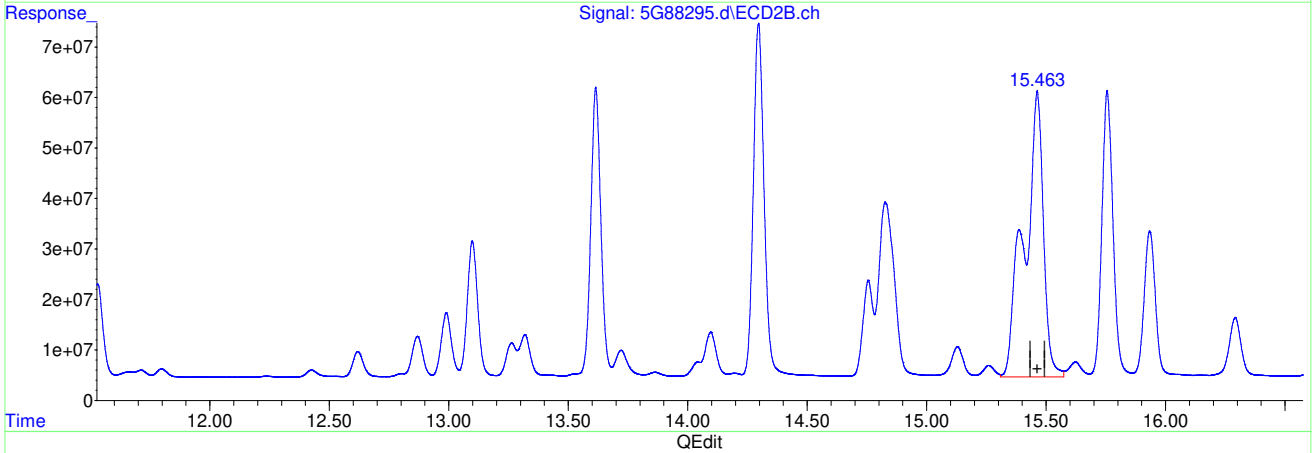
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88295.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:15 pm
Operator : tianweir
Sample : ic2127-3000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:35:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.614min 2560.172 PPB

response 6163251850

(46) AR1260-A #2

15.463min 2771.165 PPB m

response 3105867174

(+) = Expected Retention Time

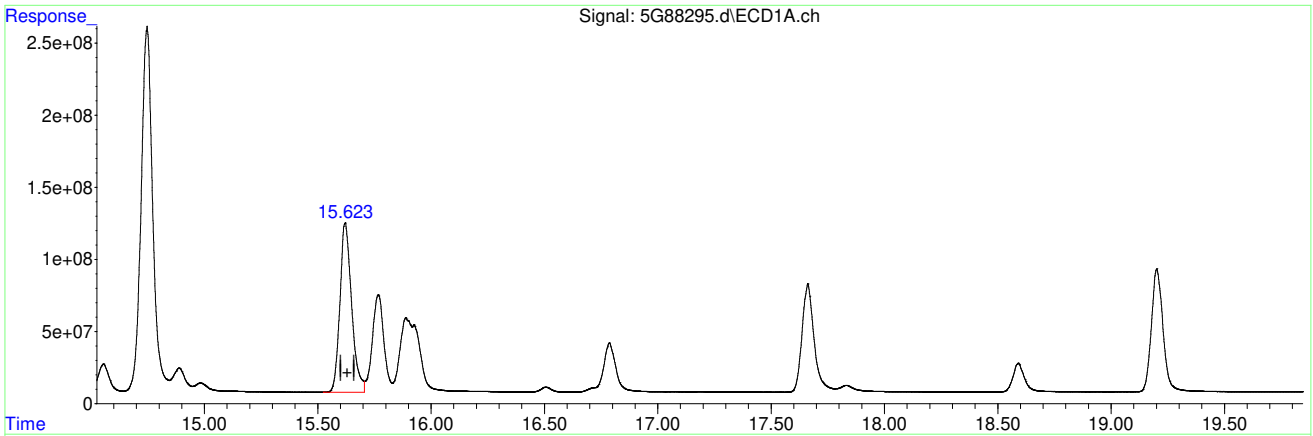
5PCB2127.M Wed May 08 08:35:37 2019 Page: 1

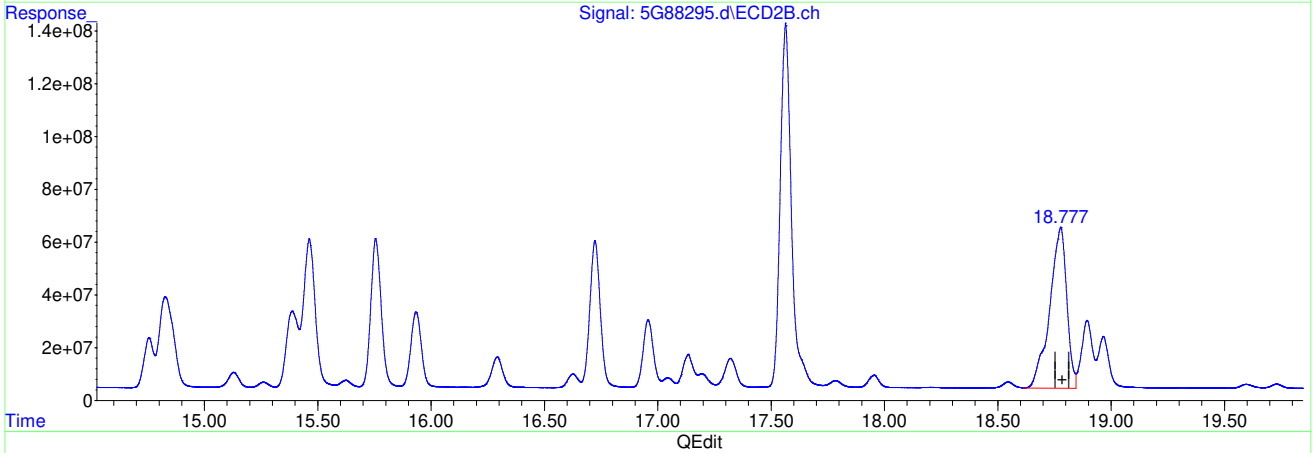
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88295.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:15 pm
Operator : tianweir
Sample : ic2127-3000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:35:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.621min 1100.883 PPB

response 4219775403

(50) AR1260-E #2

18.778min 1827.140 PPB

response 3192744427

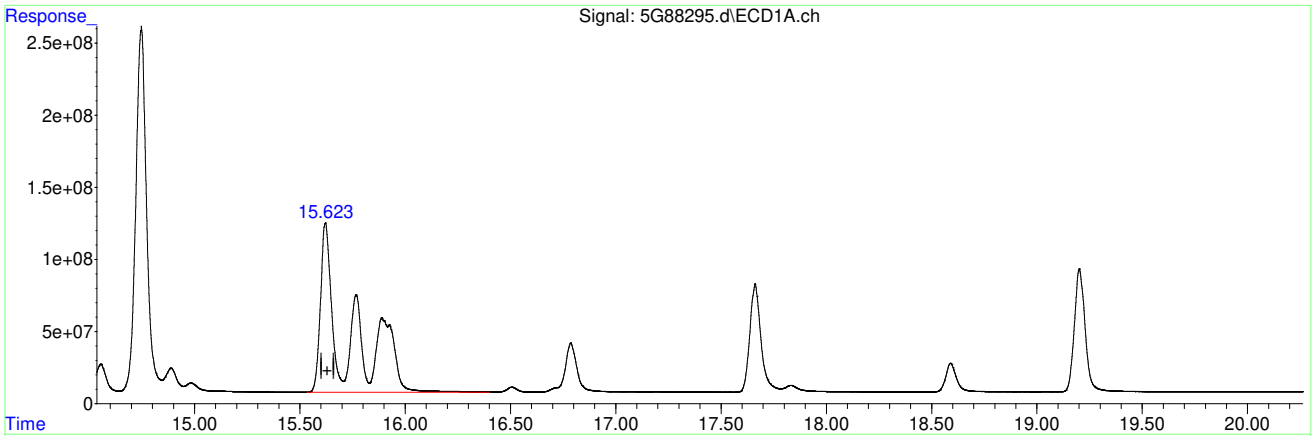
(+) = Expected Retention Time

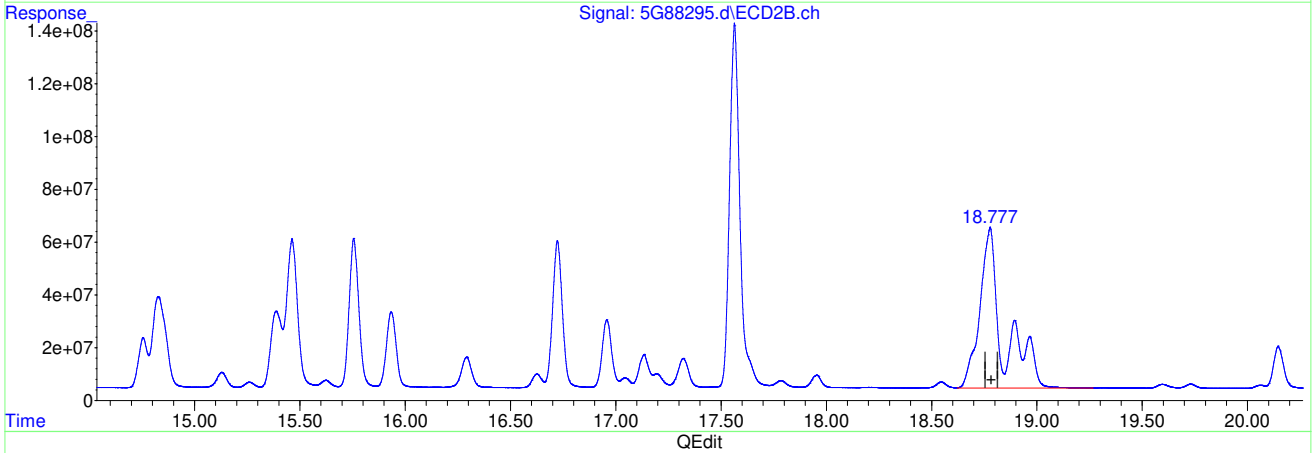
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88295.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:15 pm
Operator : tianweir
Sample : ic2127-3000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:35:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Tue May 07 15:08:52 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.623min 2549.146 PPB m

response 9771087526

(50) AR1260-E #2

18.777min 2686.682 PPB m

response 4694708501

(+) = Expected Retention Time

5PCB2127.M Wed May 08 08:35:51 2019 Page: 1

5G88296.D

Manual Integrations APPROVED (compounds with "m" flag)

Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:39:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 1) | S Tetrachlo... | 3.613 | 4.372 | 1415.7E6 | 603.9E6 | 47.551 | 47.052 | |
| | Spiked Amount 40.000 | | | Recovery | = | 118.88% | 117.63% | |
| 51) | S Decachlor... | 19.206 | 22.643 | 1277.0E6 | 615.2E6 | 49.190 | 48.675 | |
| | Spiked Amount 40.000 | | | Recovery | = | 122.97% | 121.69% | |
| | Target Compounds | | | | | | | |
| 2) | AR1221-A | 2.806 | 3.487 | 217.1E6 | 100.4E6 | 1000.000 | 1000.000 | |
| 3) | AR1221-B | 3.935 | 5.070 | 318.9E6 | 144.5E6 | 1000.000 | 1000.000 | |
| 4) | AR1221-C | 4.287 | 5.560 | 849.7E6 | 364.8E6 | 1000.000 | 1000.000 | |
| 5) | AR1221-D | 5.027 | 6.604 | 154.9E6 | 70441314 | 1510.232m | 1000.000 | # |
| 6) | AR1221-E | 5.319 | 6.770 | 95719645 | 35536011 | 964.741 | 1000.000 | |
| 24) | AR1254-A | 8.480 | 10.933 | 886.6E6 | 530.2E6 | 1000.000 | 1000.000 | |
| 25) | AR1254-B | 9.229 | 11.531 | 1183.6E6 | 560.7E6 | 1000.000 | 1000.000 | |
| 26) | AR1254-C | 10.006 | 12.620 | 981.7E6 | 450.8E6 | 1000.000 | 1000.000 | |
| 27) | AR1254-D | 10.363 | 12.990 | 1665.9E6 | 836.1E6 | 1000.000 | 1000.000 | |
| 28) | AR1254-E | 11.205 | 13.719 | 1469.0E6 | 646.3E6 | 1000.000 | 1000.000 | |
| 29) | AR1254-F | 11.770 | 14.848 | 1233.4E6 | 711.7E6 | 1000.000 | 1443.861m | # |
| 30) | AR1254-G | 12.618 | 15.462 | 1778.0E6 | 860.1E6 | 1000.000 | 1212.189m | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

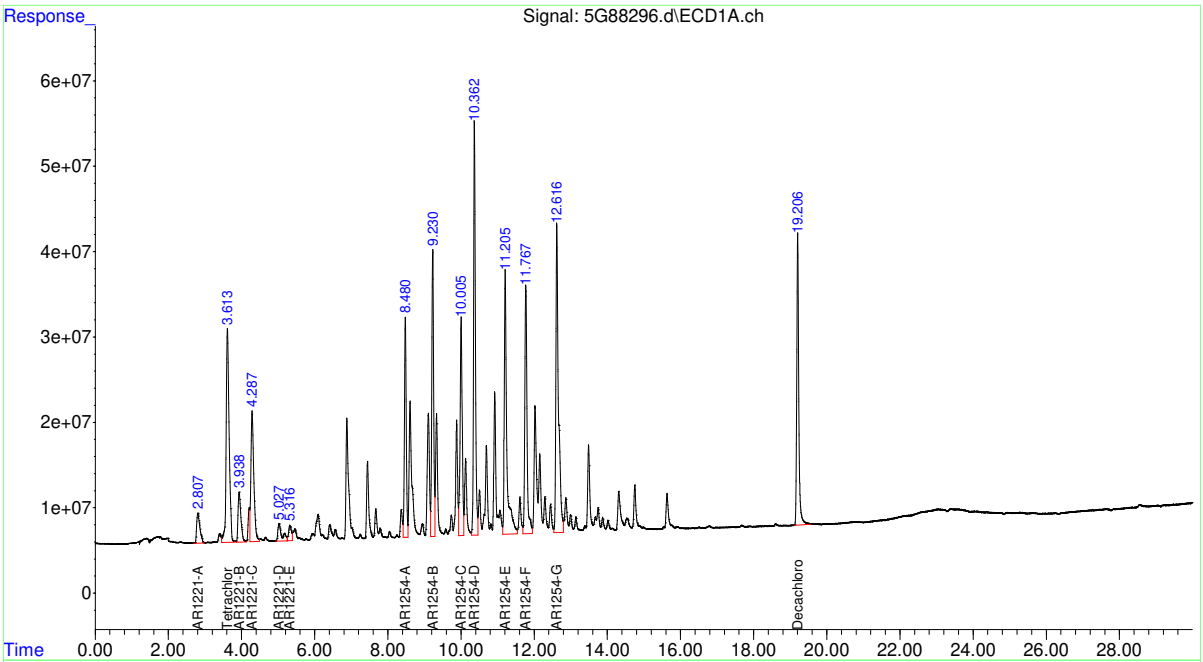
11.5.24 11

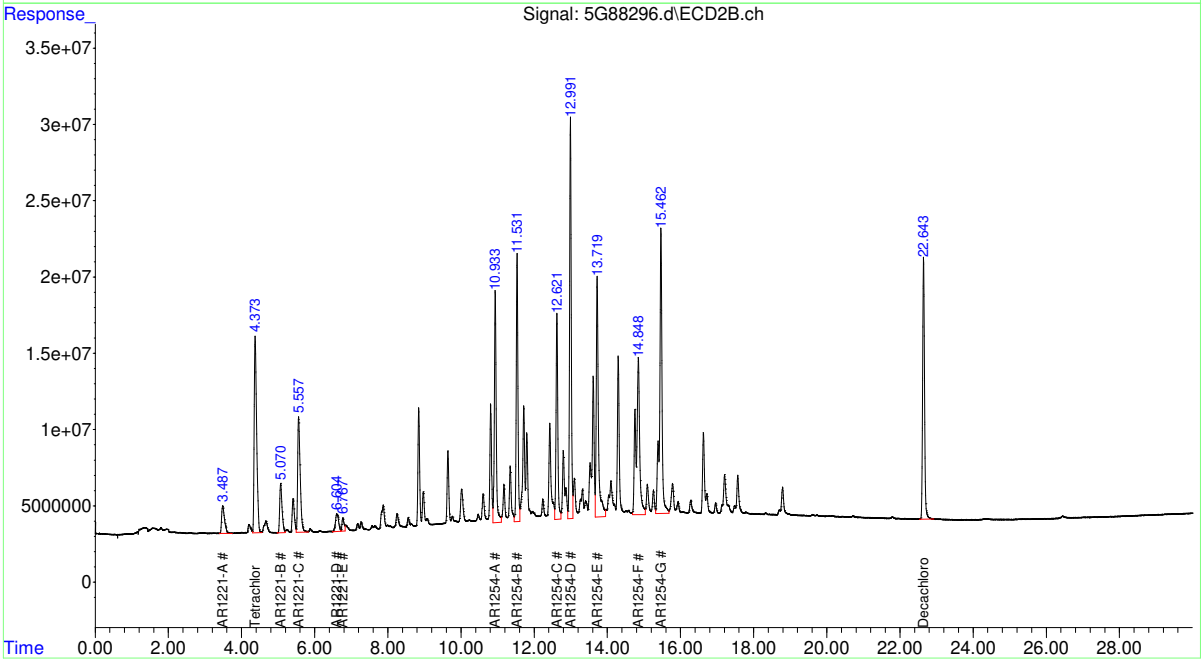
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:39:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88296.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 15:47 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

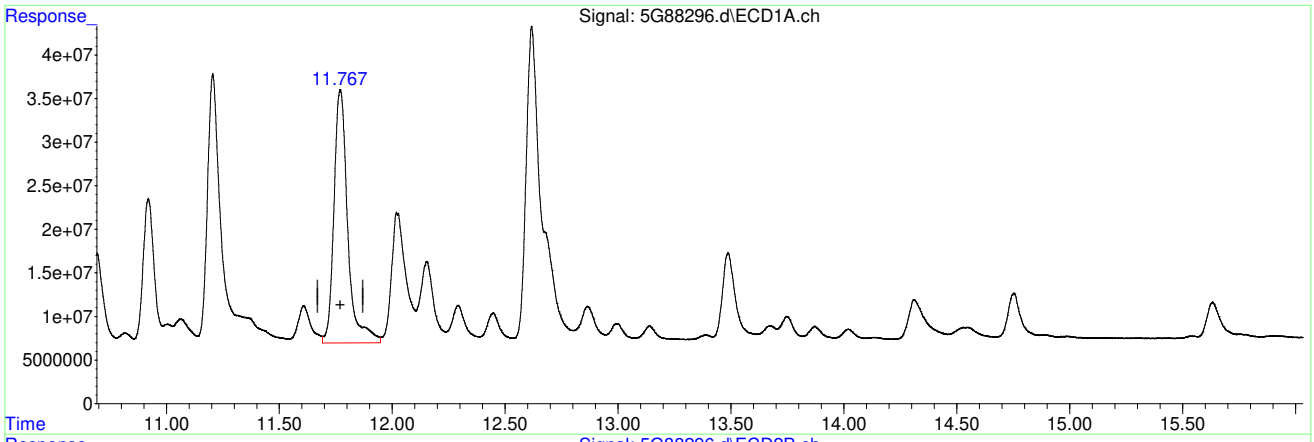
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1221-D | | 1 | 5.03 | Split peak |
| AR1254-F | | 2 | 14.85 | Split peak |
| Ar1254-G | | 2 | 15.46 | Split peak |

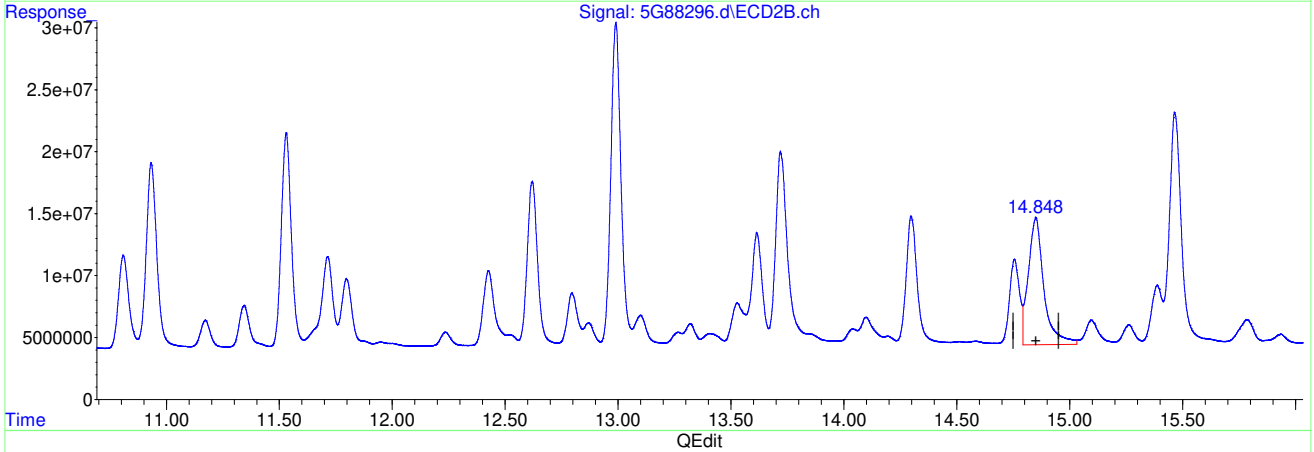
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:37:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(29) AR1254-F

11.770min 1000.000 PPB

response 1233434258

(29) AR1254-F #2

14.850min 1000.000 PPB

response 492947982

(+) = Expected Retention Time

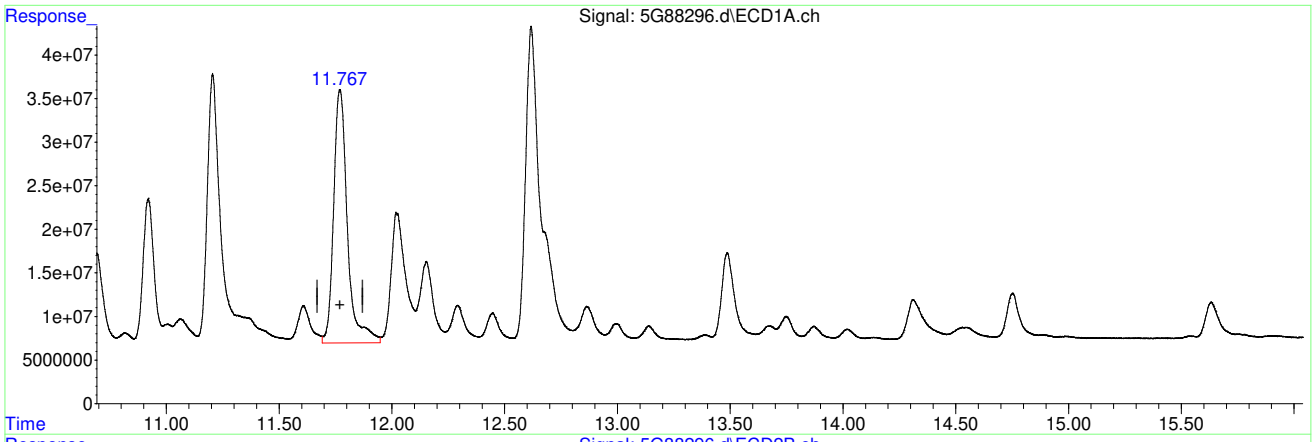
5PCB2127.M Wed May 08 08:38:22 2019 Page: 1

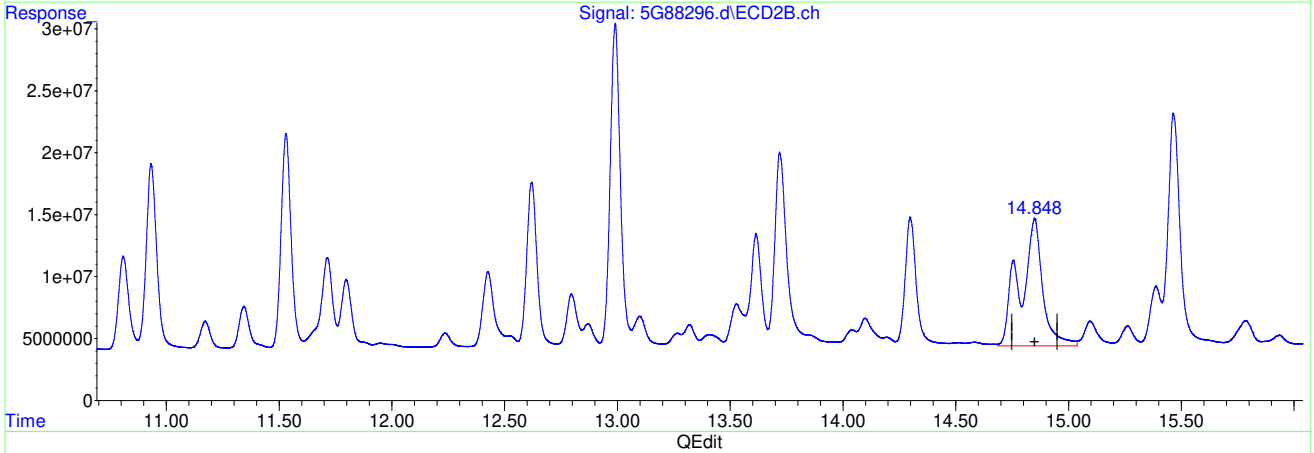
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:37:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(29) AR1254-F

11.770min 1000.000 PPB

response 1233434258

(29) AR1254-F #2

14.848min 1443.861 PPB m

response 711748293

(+) = Expected Retention Time

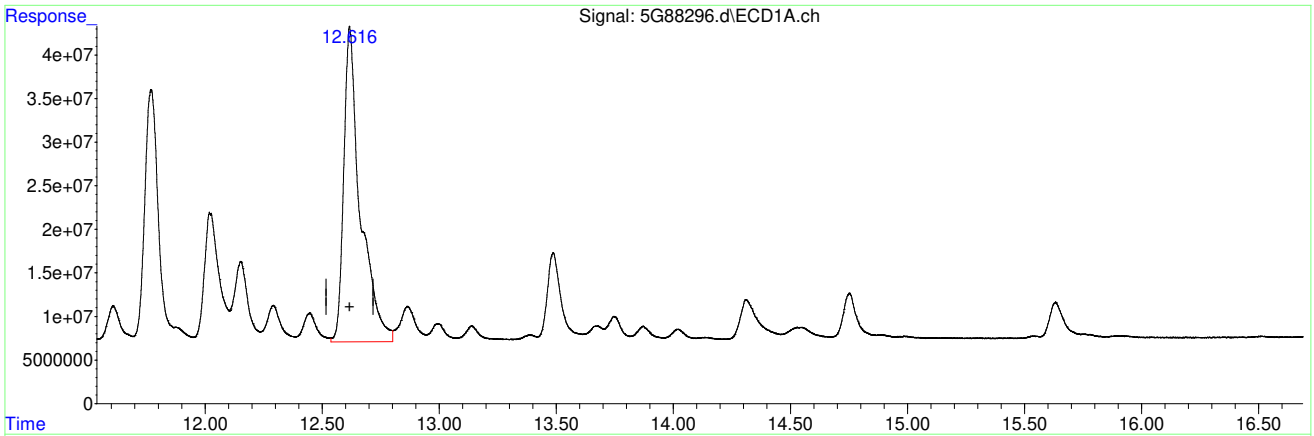
5PCB2127.M Wed May 08 08:38:26 2019 Page: 1

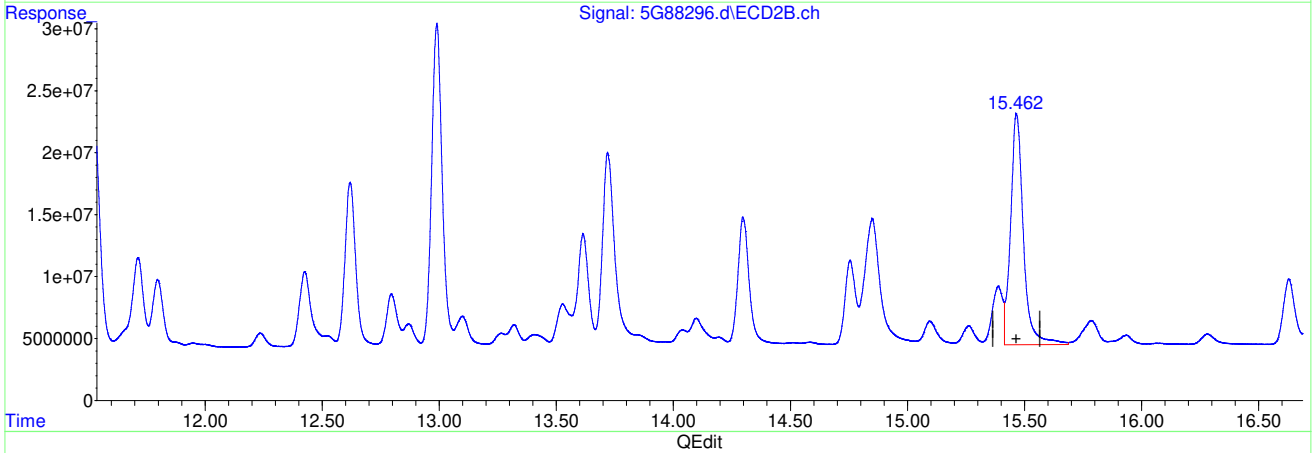
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:37:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(30) AR1254-G

12.618min 1000.000 PPB

response 1777966909

(30) AR1254-G #2

15.465min 1000.000 PPB

response 709532842

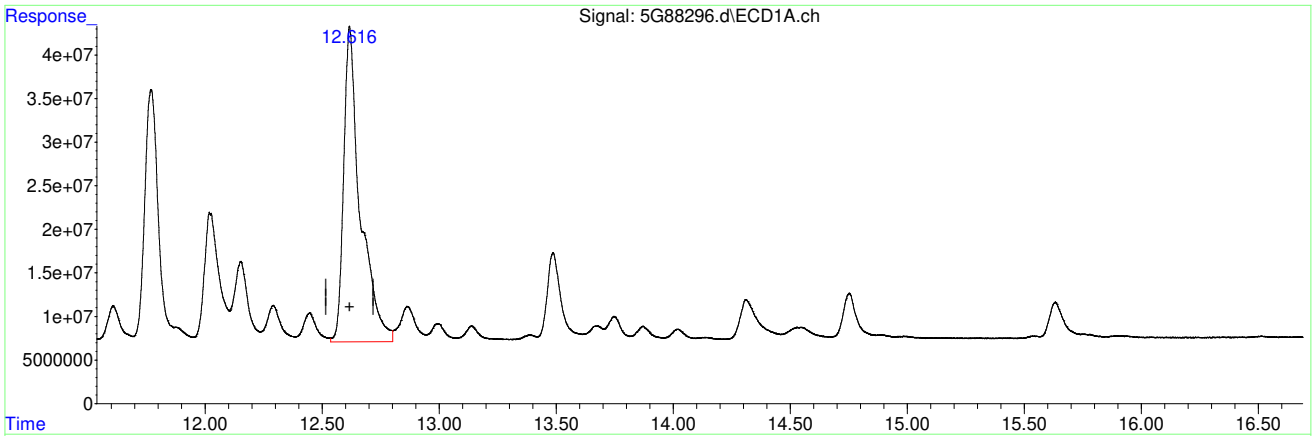
(+) = Expected Retention Time

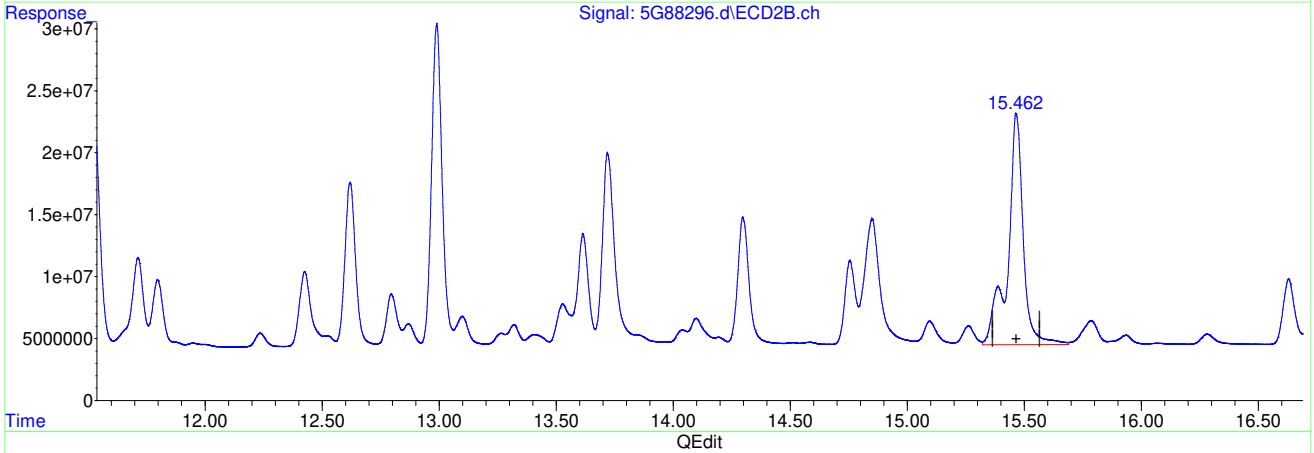
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:37:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(30) AR1254-G

12.618min 1000.000 PPB

response 1777966909

(30) AR1254-G #2

15.462min 1212.189 PPB m

response 860087649

(+) = Expected Retention Time

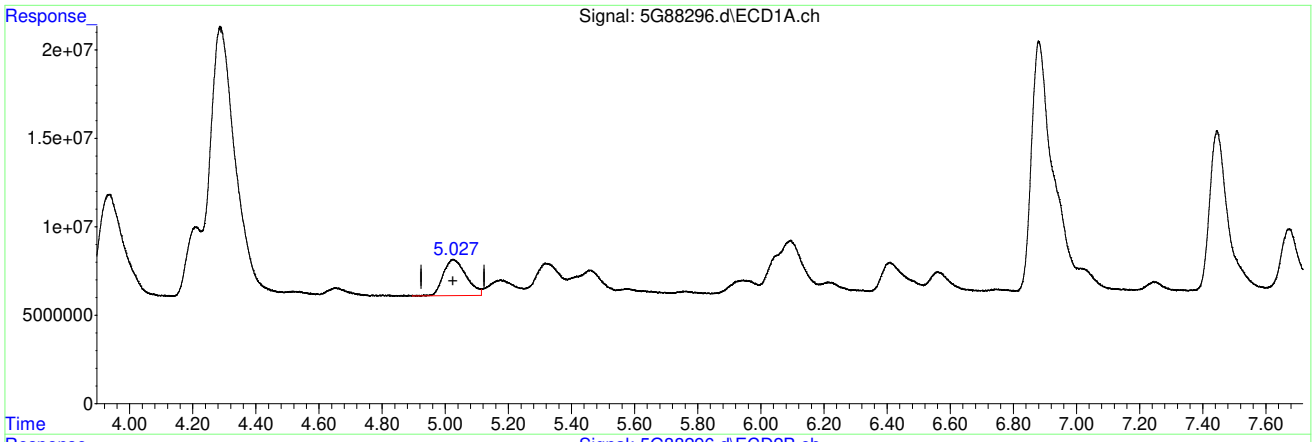
5PCB2127.M Wed May 08 08:38:33 2019 Page: 1

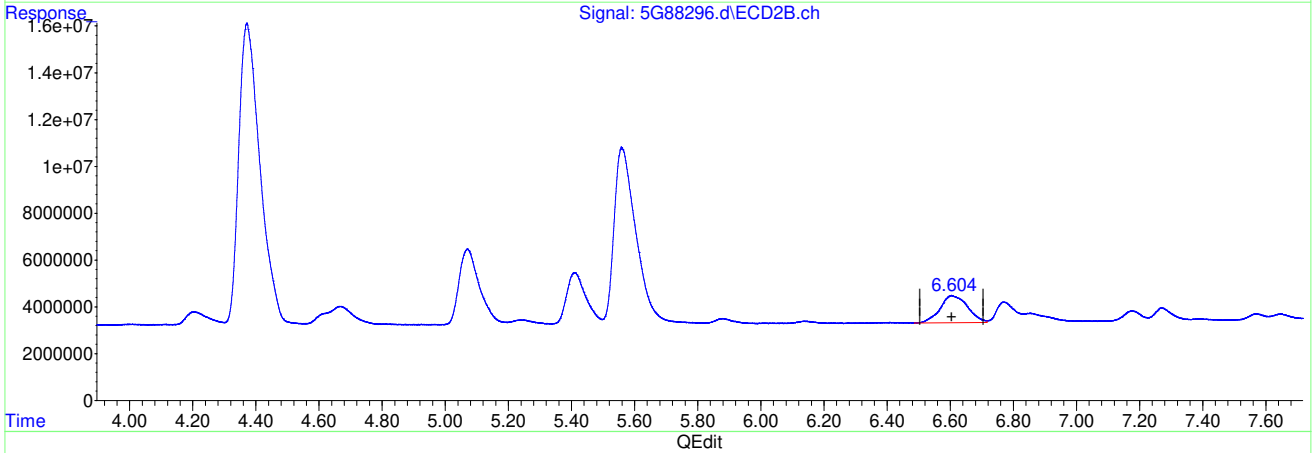
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:38:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(5) AR1221-D

5.024min 1000.000 PPB

response 102565322

(5) AR1221-D #2

6.604min 1000.000 PPB

response 70441314

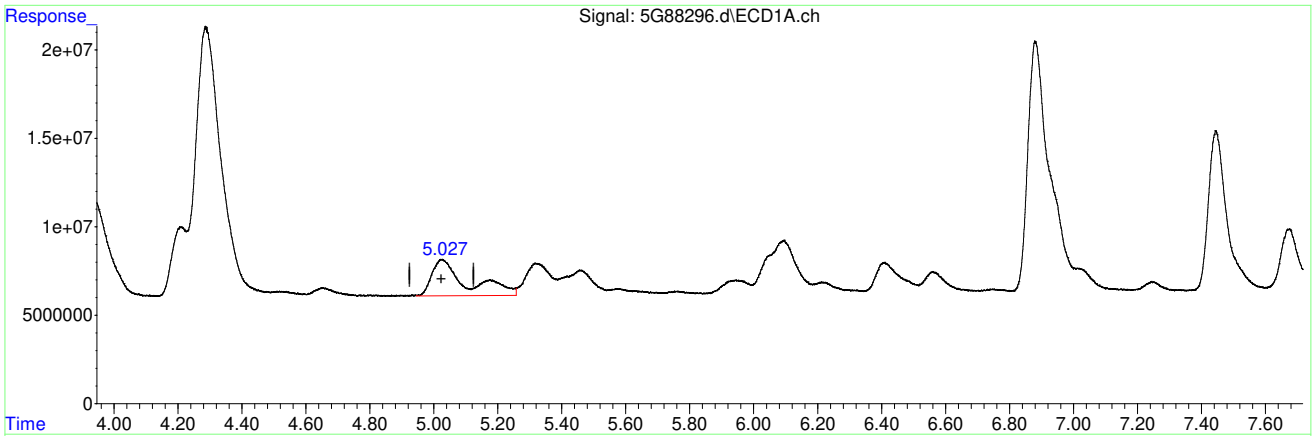
(+) = Expected Retention Time

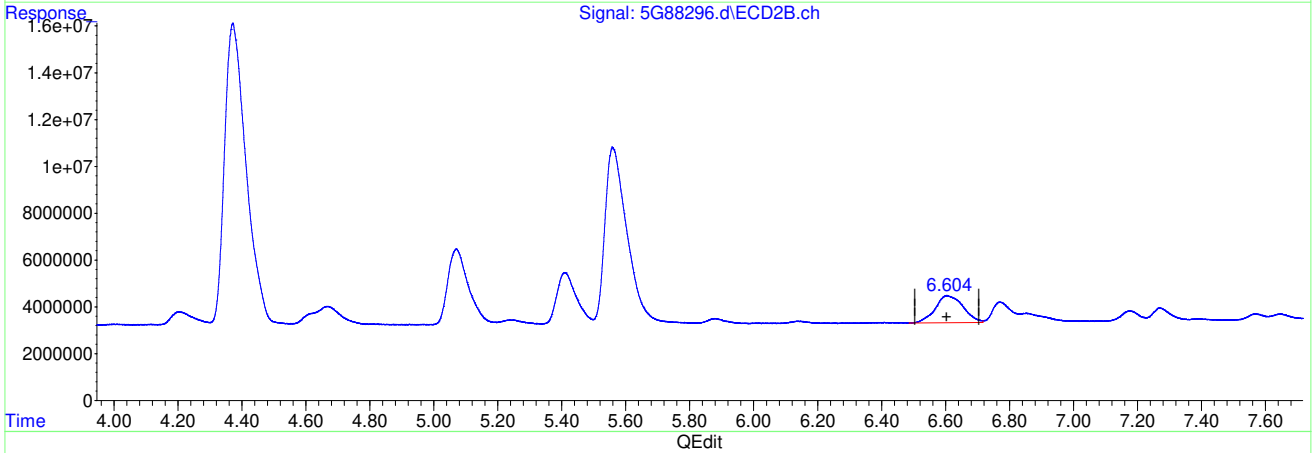
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88296.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 3:47 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:38:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:37:50 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(5) AR1221-D

5.027min 1510.232 PPB m

response 154897396

(5) AR1221-D #2

6.604min 1000.000 PPB

response 70441314

(+) = Expected Retention Time

5PCB2127.M Wed May 08 08:39:24 2019 Page: 1

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:43:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.613 | 4.374 | 1268.0E6 | 543.8E6 | 42.590 | 42.366 |
| | Spiked Amount 40.000 | | | Recovery | = | 106.48% | 105.92% |
| 51) | S Decachlor... | 19.199 | 22.640 | 1161.1E6 | 566.2E6 | 44.728 | 44.793 |
| | Spiked Amount 40.000 | | | Recovery | = | 111.82% | 111.98% |
| | Target Compounds | | | | | | |
| 7) | AR1232-A | 4.287 | 5.560 | 663.1E6 | 283.8E6 | 894.649 | 906.138 |
| 8) | AR1232-B | 5.459 | 6.605 | 338.5E6 | 223.7E6 | 893.981 | 880.035 |
| 9) | AR1232-C | 6.090 | 7.872 | 963.3E6 | 466.7E6 | 880.751 | 876.436 |
| 10) | AR1232-D | 6.406 | 8.253 | 407.3E6 | 180.4E6 | 884.651 | 860.558 |
| 11) | AR1232-E | 7.448 | 9.643 | 380.7E6 | 131.8E6 | 868.145m | 883.199 |
| 31) | AR1262-A | 11.772 | 14.296 | 1409.6E6 | 624.2E6 | 924.570 | 953.666m |
| 32) | AR1262-B | 12.991 | 15.755 | 1962.9E6 | 988.3E6 | 943.873 | 990.924 |
| 33) | AR1262-C | 13.743 | 16.723 | 1697.5E6 | 858.5E6 | 929.194 | 976.888 |
| 34) | AR1262-D | 14.748 | 17.563 | 3793.0E6 | 1917.1E6 | 925.147 | 953.550 |
| 35) | AR1262-E | 15.764 | 18.748 | 4706.8E6 | 2173.6E6 | 919.528m | 921.878m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

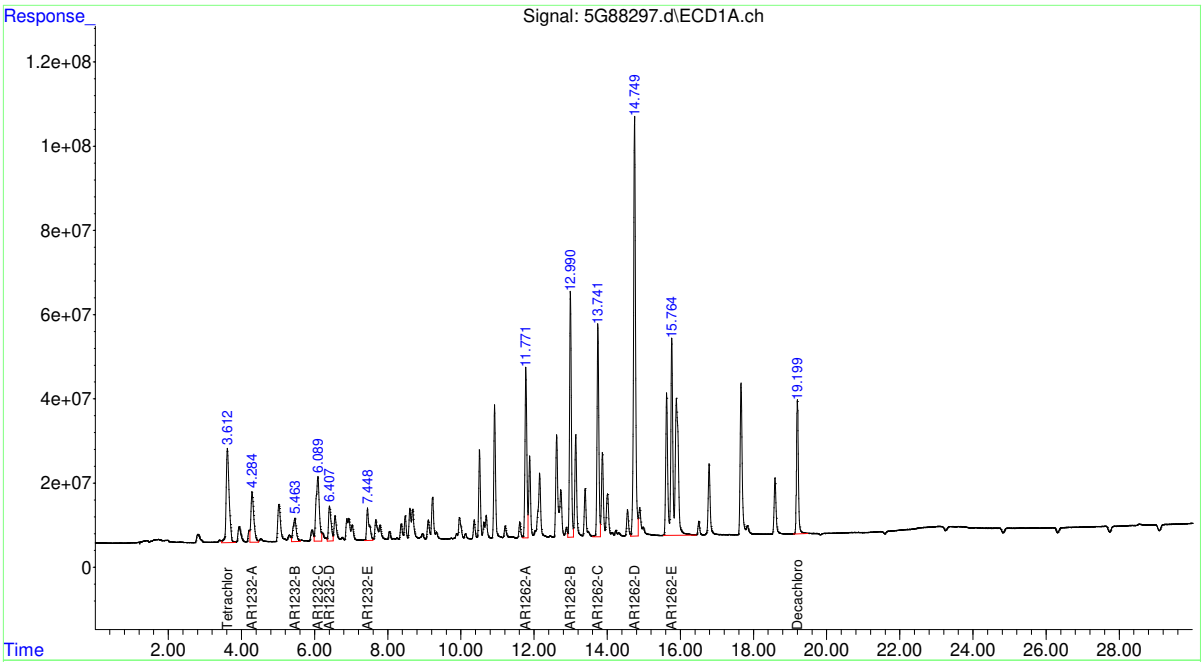
11.5.25 11

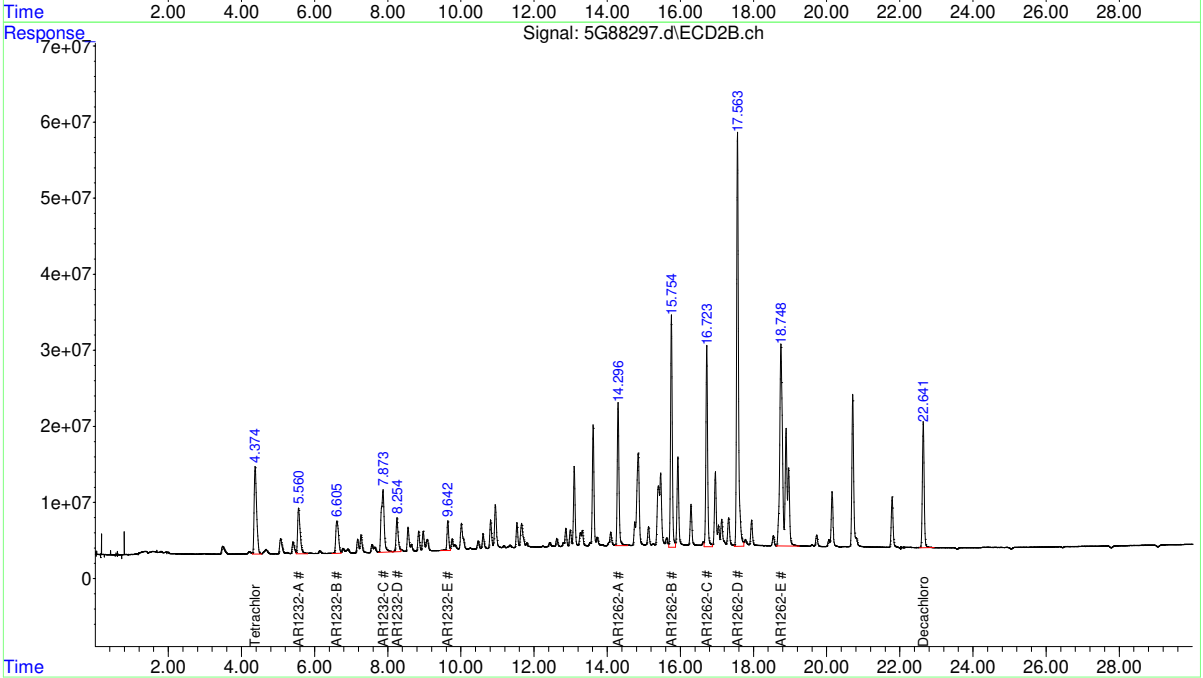
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:43:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um










JC87535

11.5.25 11

# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88297.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 16:19 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

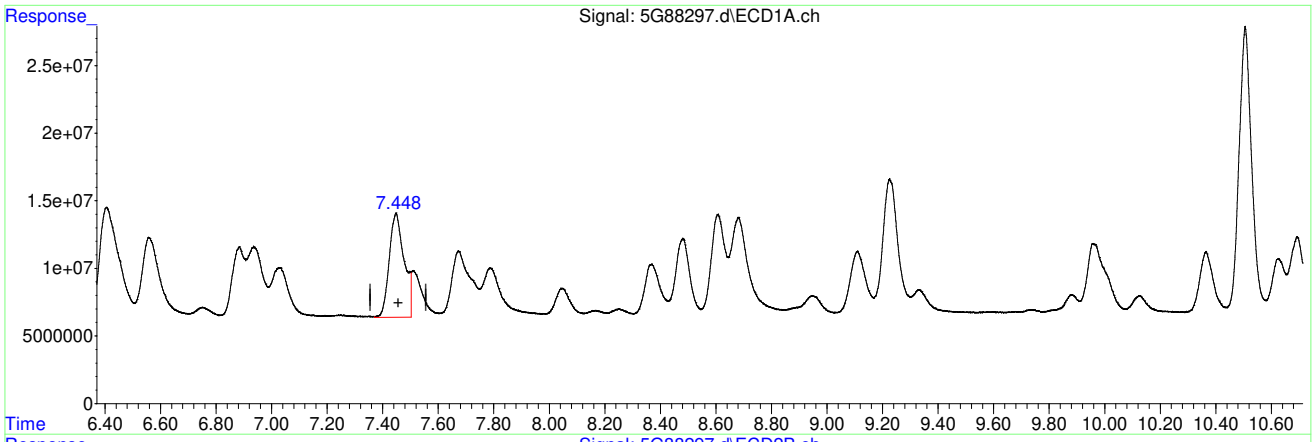
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1232-E | | 1 | 7.45 | Split peak |
| AR1262-A | | 2 | 14.30 | Split peak |
| AR1262-E | | 1 | 15.76 | Split peak |
| AR1262-E | | 2 | 18.75 | Split peak |

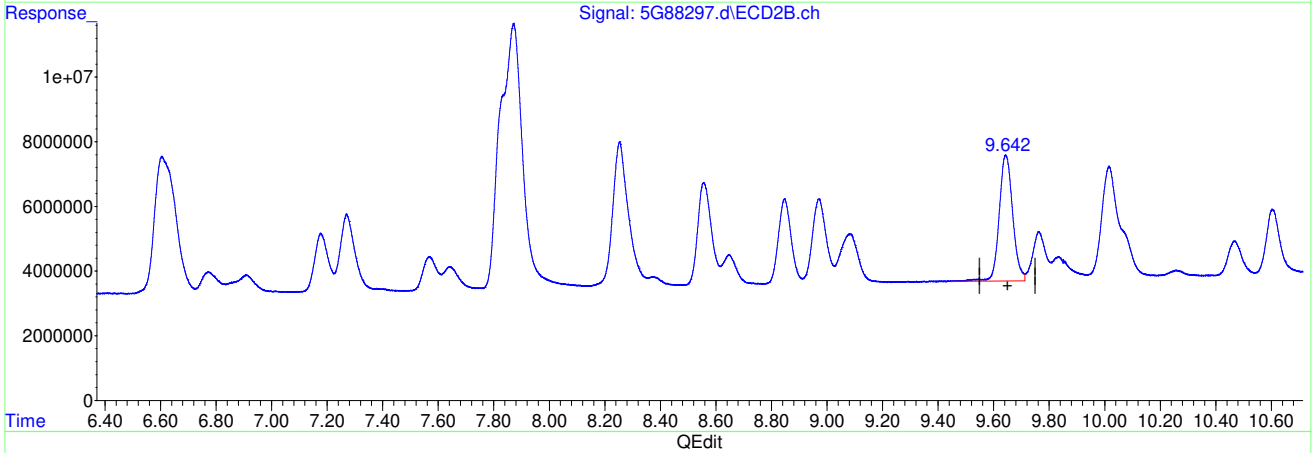
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:40:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(11) AR1232-E

7.448min 654.873 PPB

response 287179350

(11) AR1232-E #2

9.643min 883.199 PPB

response 131823615

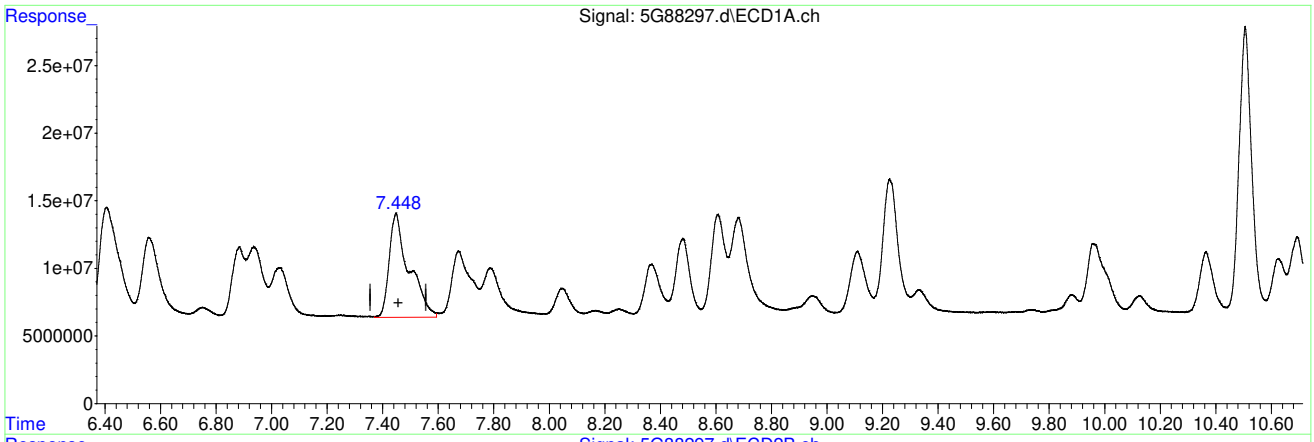
(+) = Expected Retention Time

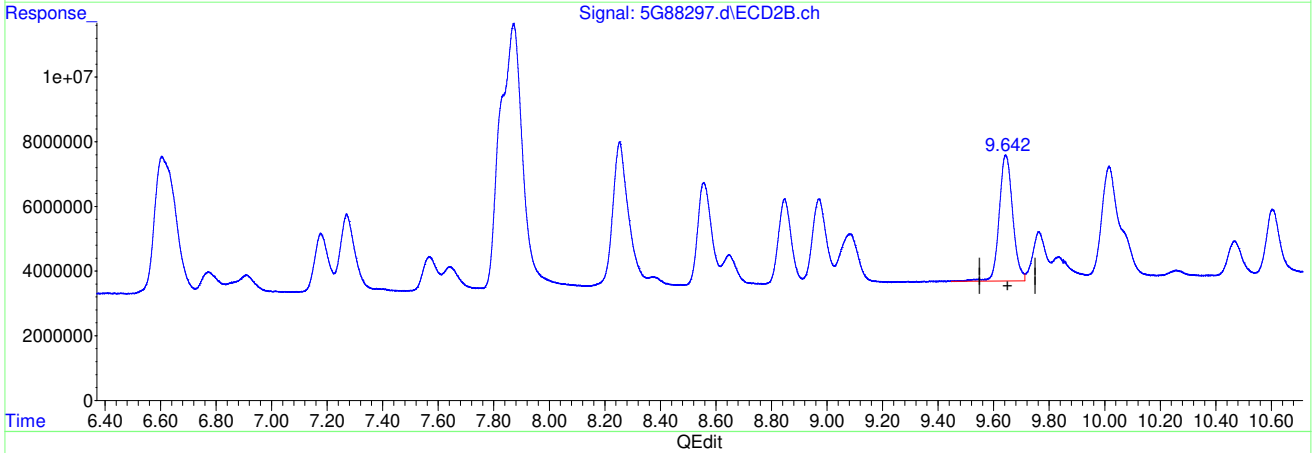
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:40:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(11) AR1232-E

7.448min 868.145 PPB m

response 380704530

(11) AR1232-E #2

9.643min 883.199 PPB

response 131823615

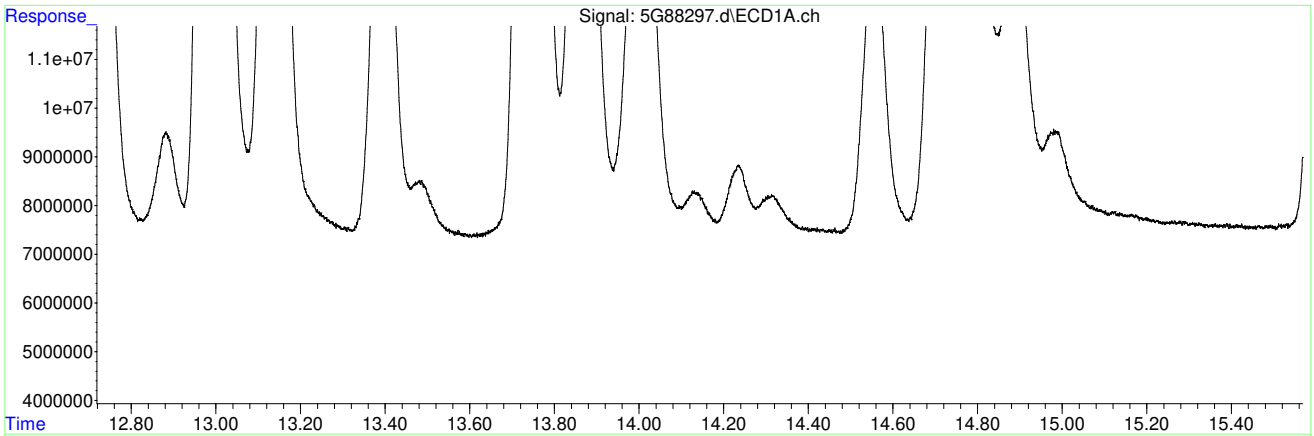
(+) = Expected Retention Time

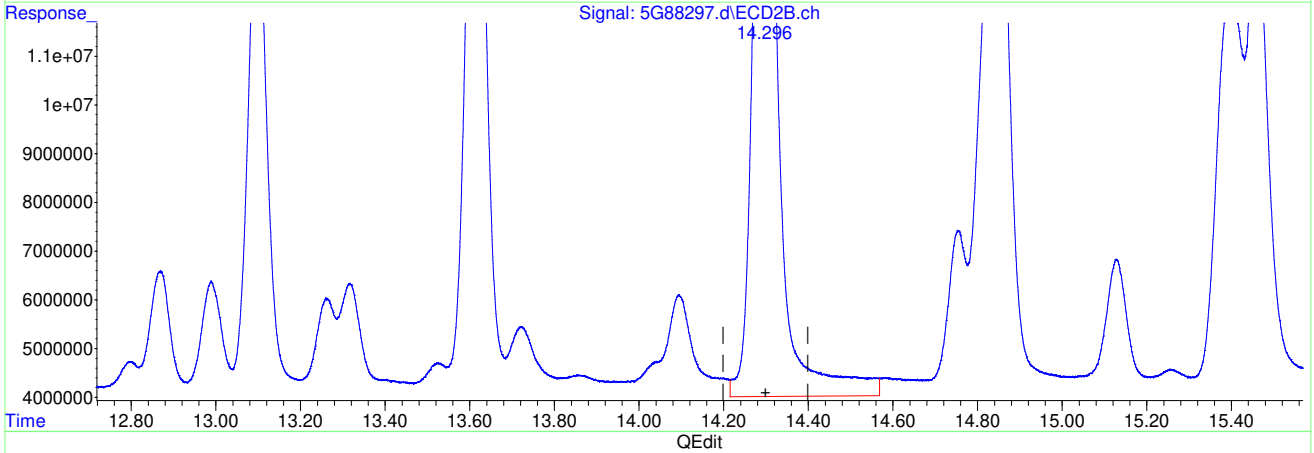
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:40:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(31) AR1262-A

11.772min 924.570 PPB

response 1409643211

(31) AR1262-A #2

14.296min 1054.264 PPB

response 690048496

(+) = Expected Retention Time

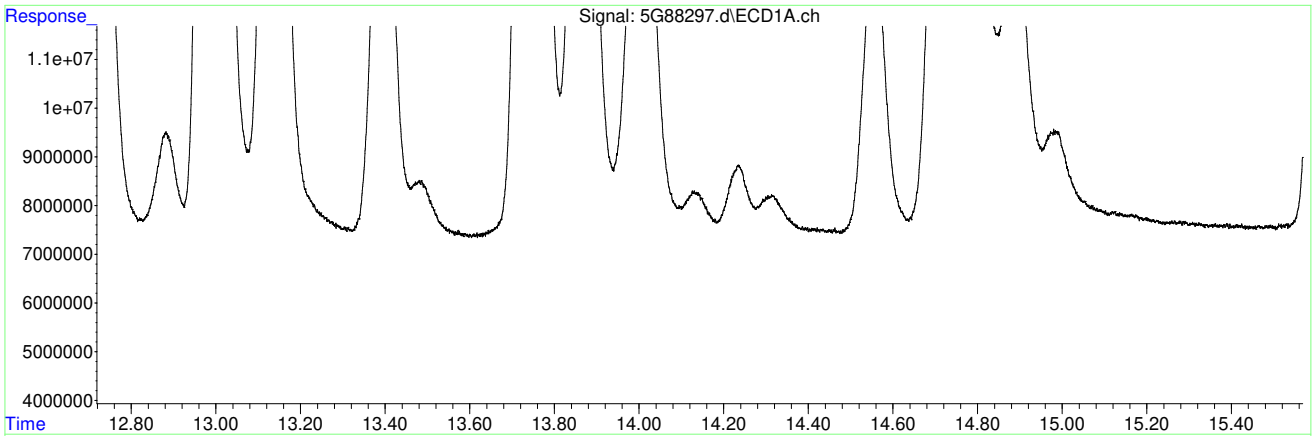
5PCB2127.M Wed May 08 08:42:42 2019 Page: 1

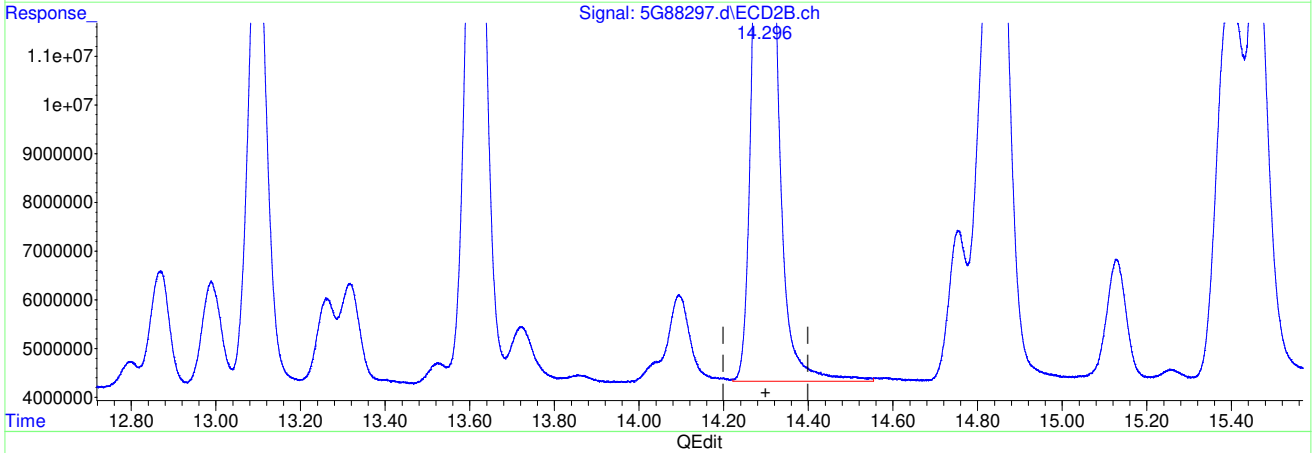
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:40:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(31) AR1262-A

11.772min 924.570 PPB

response 1409643211

(31) AR1262-A #2

14.296min 953.666 PPB m

response 624204320

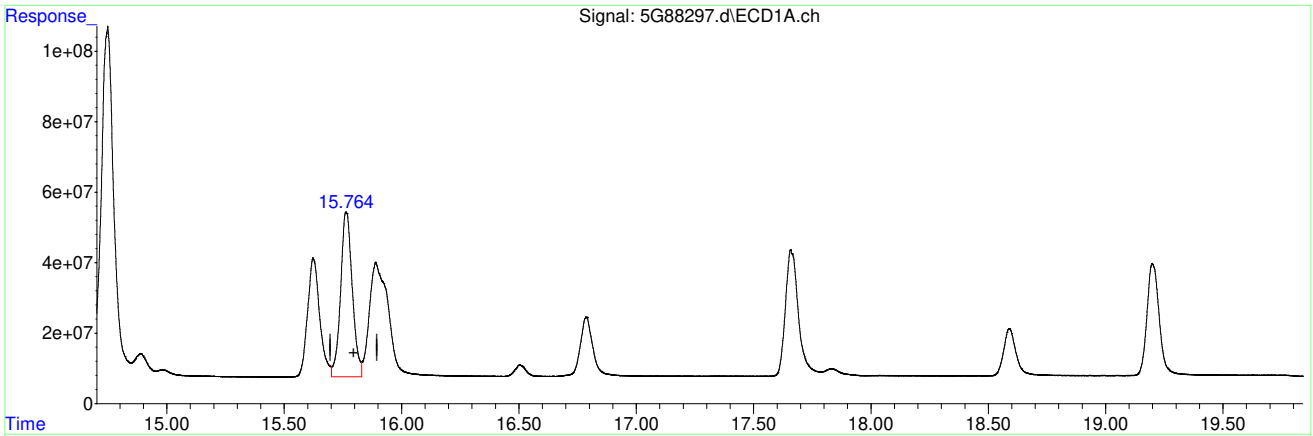
(+) = Expected Retention Time

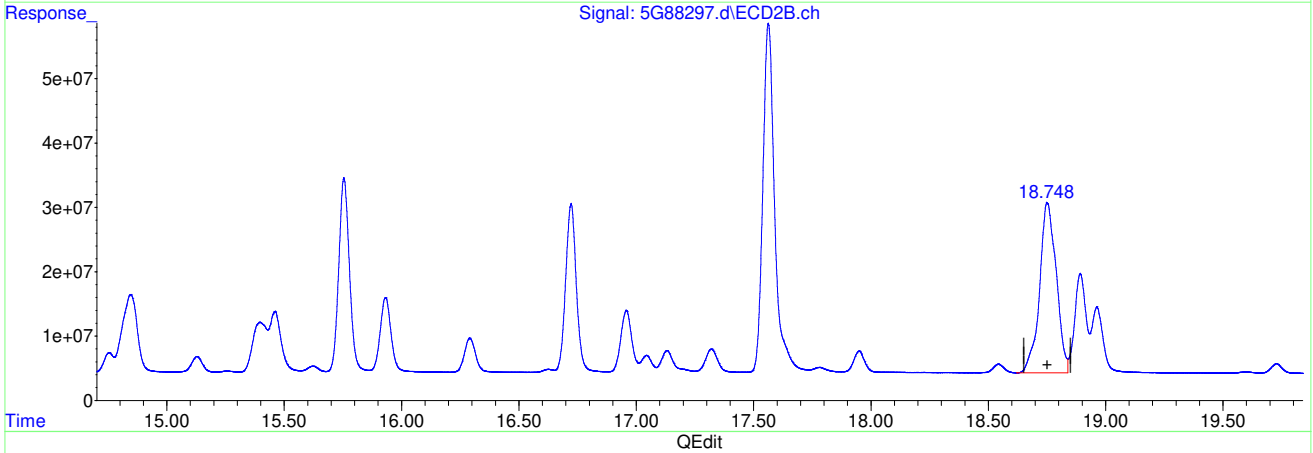
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:40:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(35) AR1262-E

15.764min 316.799 PPB

response 1621613455

(35) AR1262-E #2

18.751min 555.408 PPB

response 1309532916

(+) = Expected Retention Time

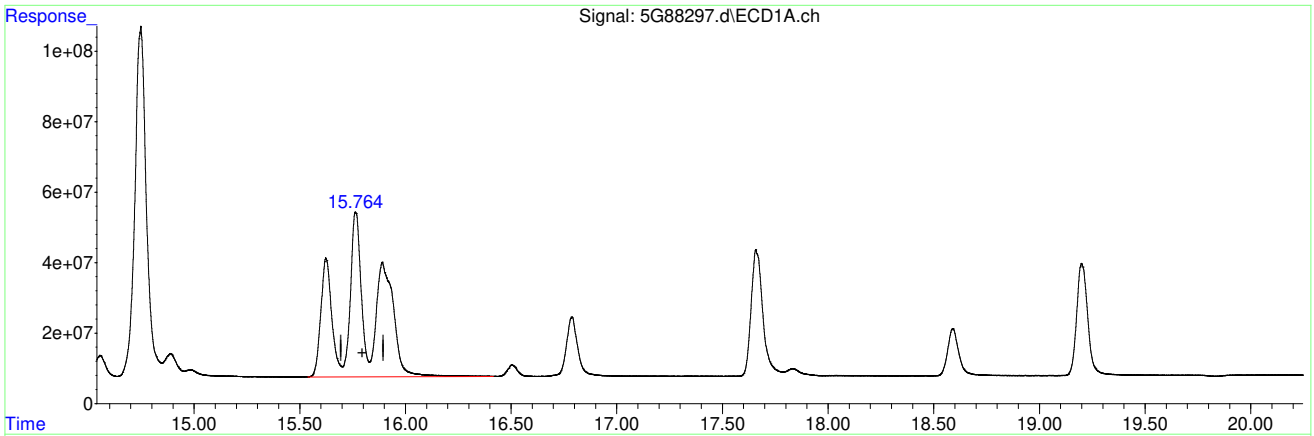
5PCB2127.M Wed May 08 08:42:51 2019 Page: 1

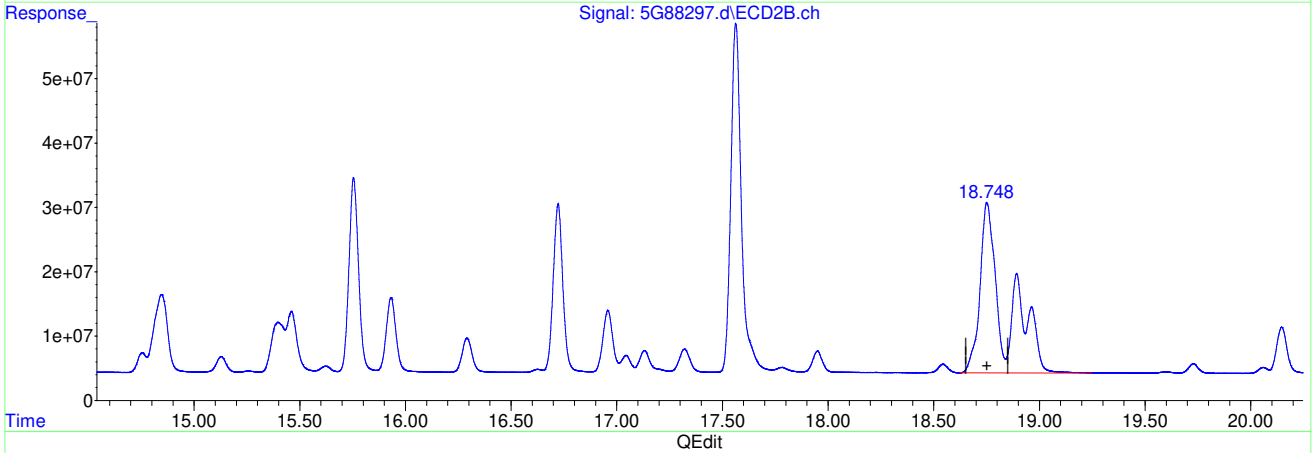
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88297.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:19 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:40:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:40:05 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(35) AR1262-E

15.764min 919.528 PPB m

response 4706832697

(35) AR1262-E #2

18.748min 921.878 PPB m

response 2173588890

(+) = Expected Retention Time

5PCB2127.M Wed May 08 08:43:02 2019 Page: 1

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88298.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:52 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:43:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.614 | 4.373 | 1634.8E6 | 748.0E6 | 56.072 | 59.441 |
| | Spiked Amount 40.000 | | | Recovery | = | 140.18% | 148.60% |
| 51) | S Decachlor... | 19.197 | 22.638 | 3555.2E6 | 1976.7E6 | 139.544 | 158.964 |
| | Spiked Amount 40.000 | | | Recovery | = | 348.86% | 397.41% |
| | Target Compounds | | | | | | |
| 12) | AR1242-A | 5.022 | 6.607 | 877.8E6 | 403.7E6 | 978.257 | 1024.265 |
| 13) | AR1242-B | 6.088 | 7.870 | 1807.2E6 | 897.8E6 | 1001.195 | 1027.154 |
| 14) | AR1242-C | 6.404 | 8.251 | 758.2E6 | 342.3E6 | 1004.347 | 1008.690 |
| 15) | AR1242-D | 7.444 | 9.644 | 767.0E6 | 263.7E6 | 984.004m | 981.715 |
| 16) | AR1242-E | 8.678 | 10.944 | 661.0E6 | 324.0E6 | 983.620 | 965.834 |
| 36) | AR1268-A | 15.760 | 18.742 | 4599.6E6 | 2342.4E6 | 905.941 | 949.523 |
| 37) | AR1268-B | 15.883 | 18.890 | 4700.4E6 | 2266.5E6 | 933.698 | 923.137 |
| 38) | AR1268-C | 16.503 | 19.727 | 3981.2E6 | 2008.9E6 | 924.085 | 940.834 |
| 39) | AR1268-D | 17.657 | 20.707 | 1618.6E6 | 788.5E6 | 884.305 | 880.665 |
| 40) | AR1268-E | 18.585 | 21.782 | 11747.6E6 | 6364.5E6 | 864.846 | 933.844 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

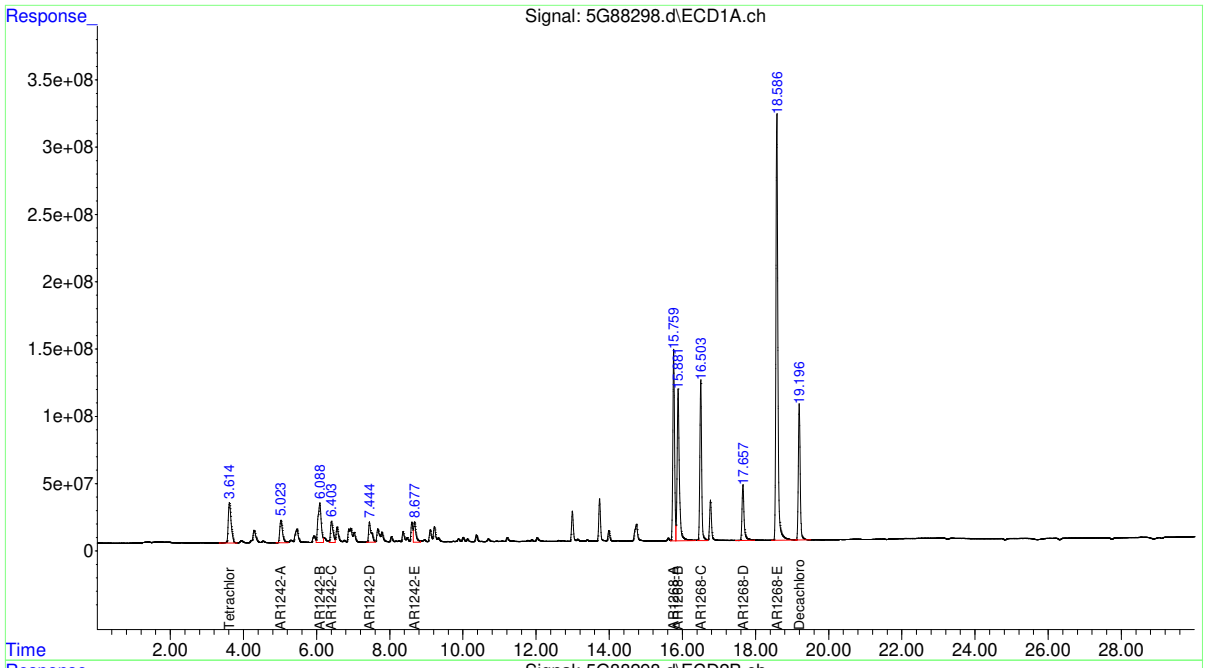
11.5.26 11

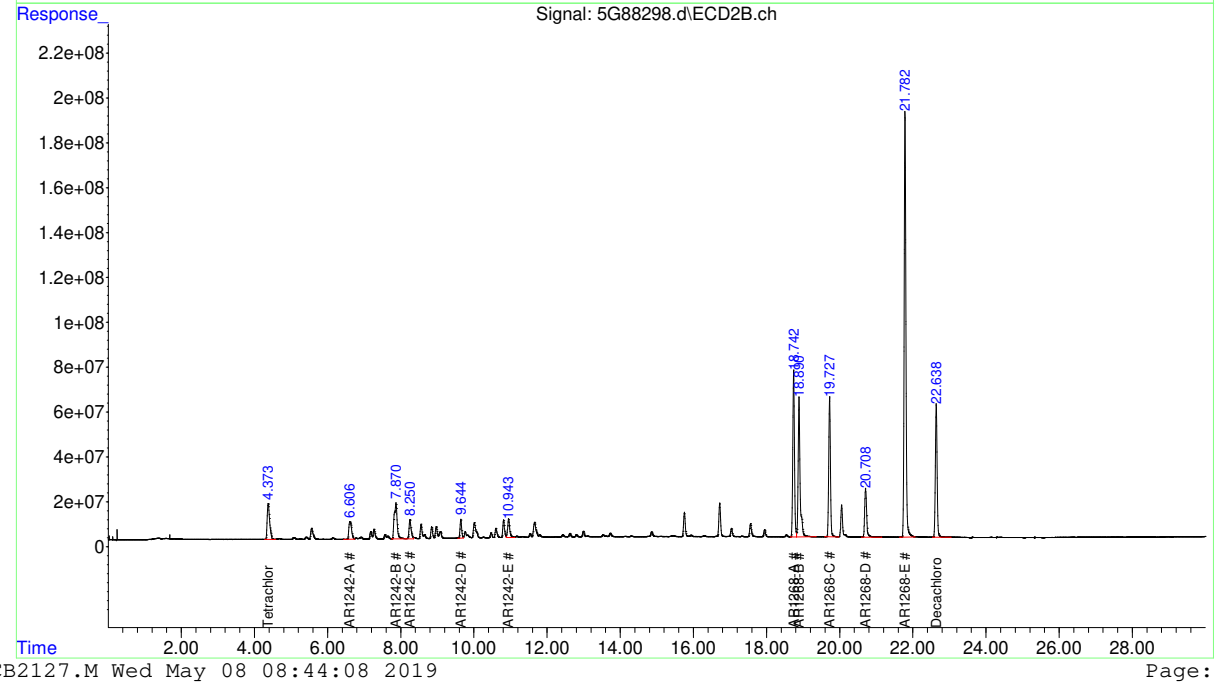
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88298.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:52 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:43:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88298.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 16:52 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

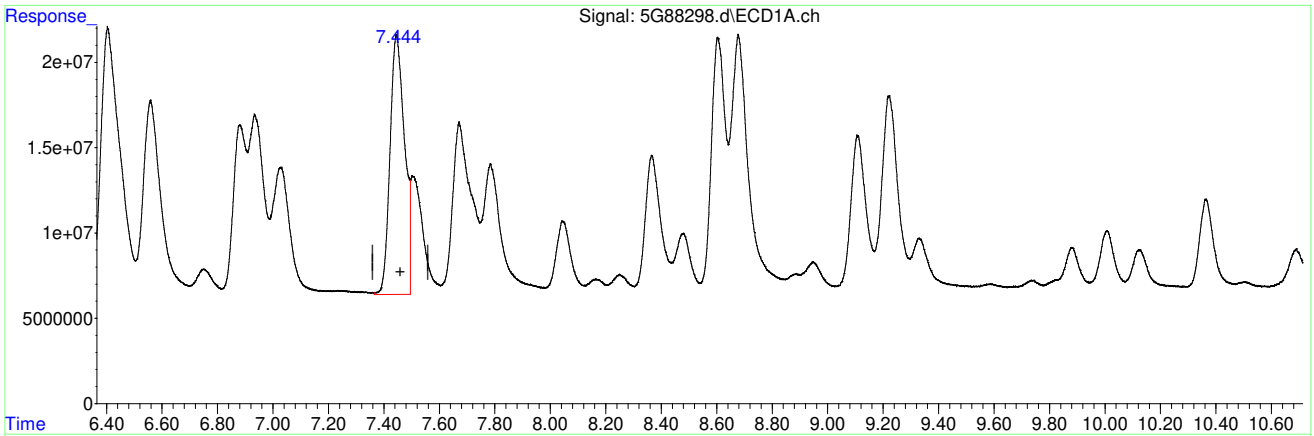
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1242-D | | 1 | 7.44 | Split peak |

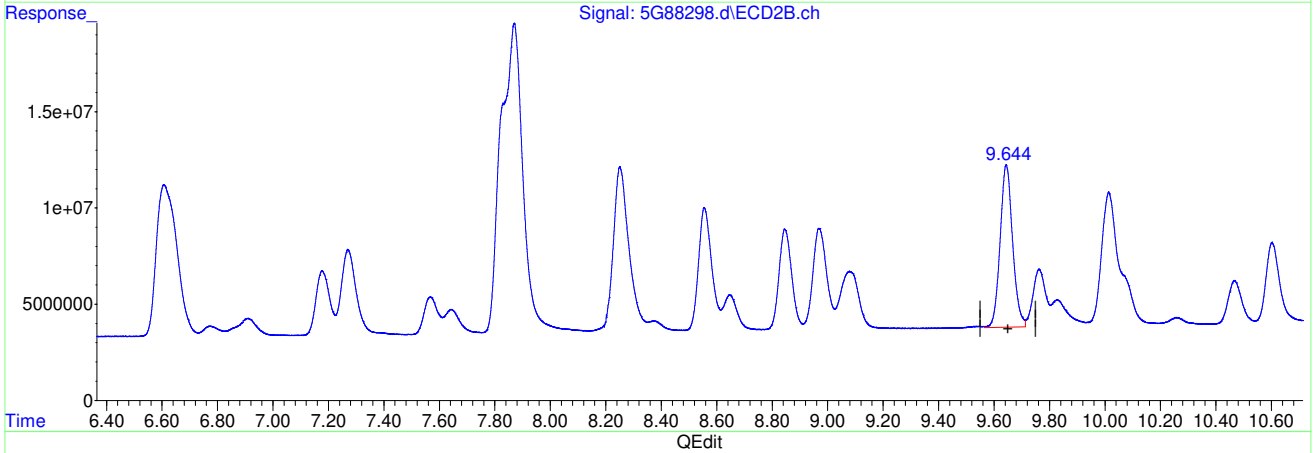
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88298.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:52 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:43:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(15) AR1242-D

7.445min 709.699 PPB

response 553169795

(15) AR1242-D #2

9.644min 981.715 PPB

response 263651194

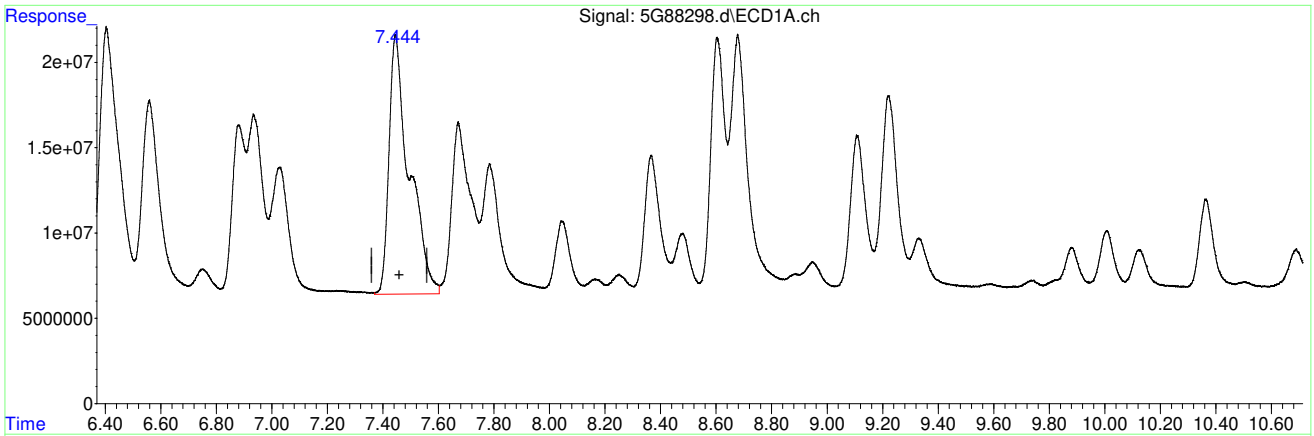
(+) = Expected Retention Time

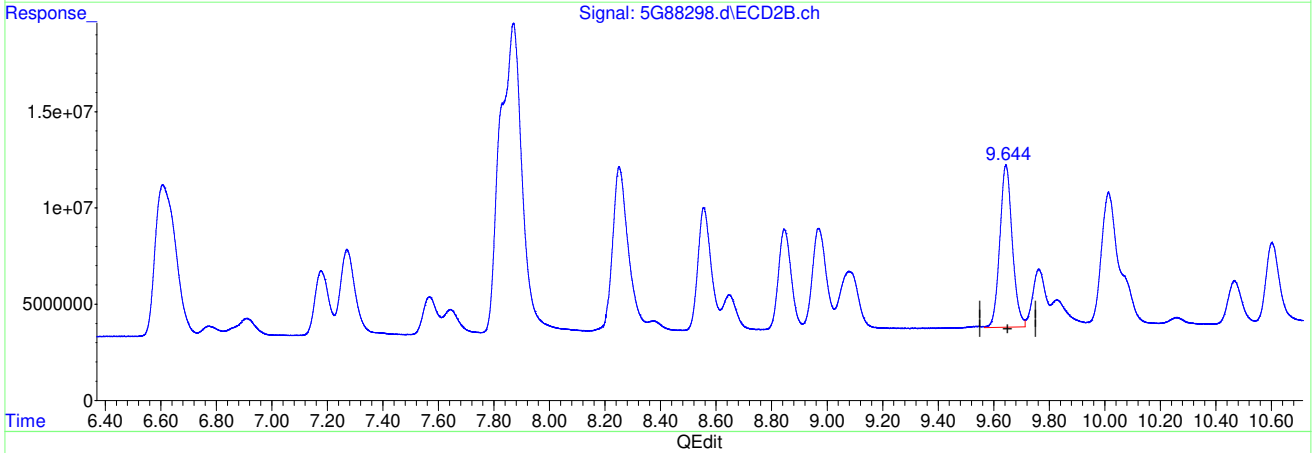
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88298.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 4:52 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:43:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(15) AR1242-D

7.444min 984.004 PPB m

response 766974279

(15) AR1242-D #2

9.644min 981.715 PPB

response 263651194

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88299.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:24 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:45:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.614 | 4.373 | 1284.4E6 | 585.1E6 | 44.053 | 46.493 |
| | Spiked Amount 40.000 | | | Recovery | = | 110.13% | 116.23% |
| 51) | S Decachlor... | 19.204 | 22.641 | 1197.4E6 | 597.3E6 | 47.000 | 48.037 |
| | Spiked Amount 40.000 | | | Recovery | = | 117.50% | 120.09% |
| | Target Compounds | | | | | | |
| 17) | AR1248-A | 5.020 | 6.604 | 428.1E6 | 193.5E6 | 922.930 | 905.670 |
| 18) | AR1248-B | 6.085 | 7.867 | 1078.5E6 | 541.0E6 | 913.923 | 930.894m |
| 19) | AR1248-C | 6.879 | 8.846 | 1123.0E6 | 302.7E6 | 898.308m | 928.562 |
| 20) | AR1248-D | 7.445 | 9.644 | 1132.3E6 | 413.3E6 | 919.006 | 941.528 |
| 21) | AR1248-E | 7.672 | 10.013 | 669.3E6 | 468.7E6 | 910.356 | 960.005 |
| 22) | AR1248-F | 8.674 | 10.942 | 1019.4E6 | 554.4E6 | 949.293 | 936.718 |
| 23) | AR1248-G | 9.223 | 11.652 | 810.5E6 | 504.0E6 | 891.619 | 899.234 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

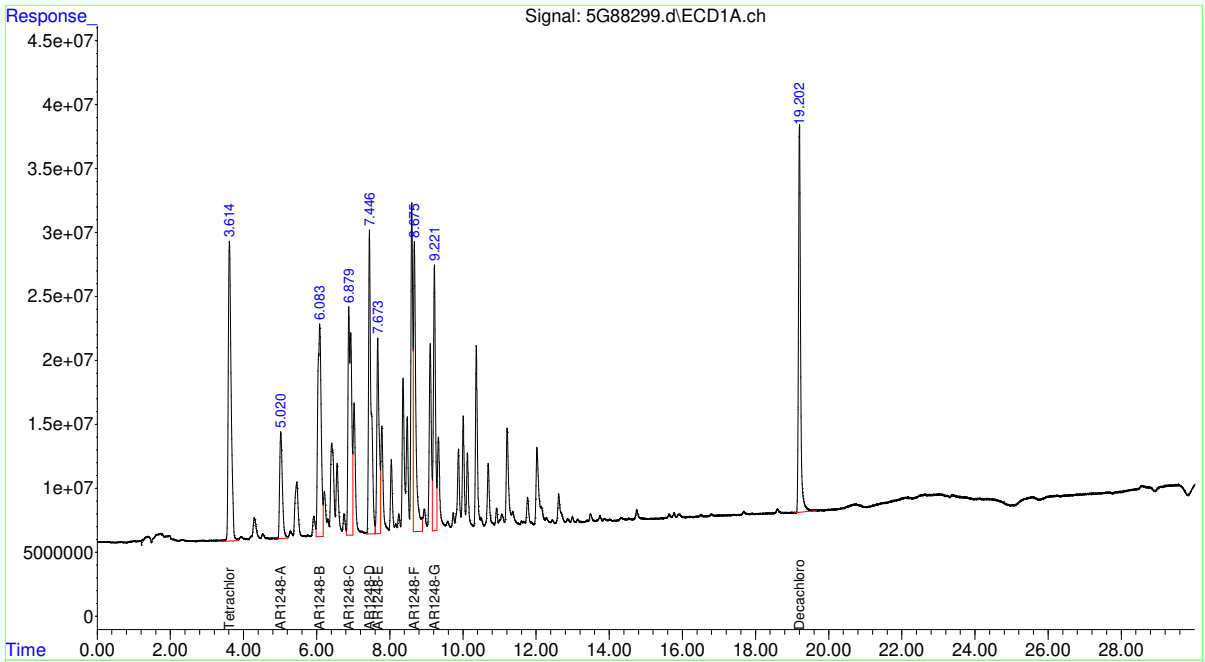
11.5.27 11

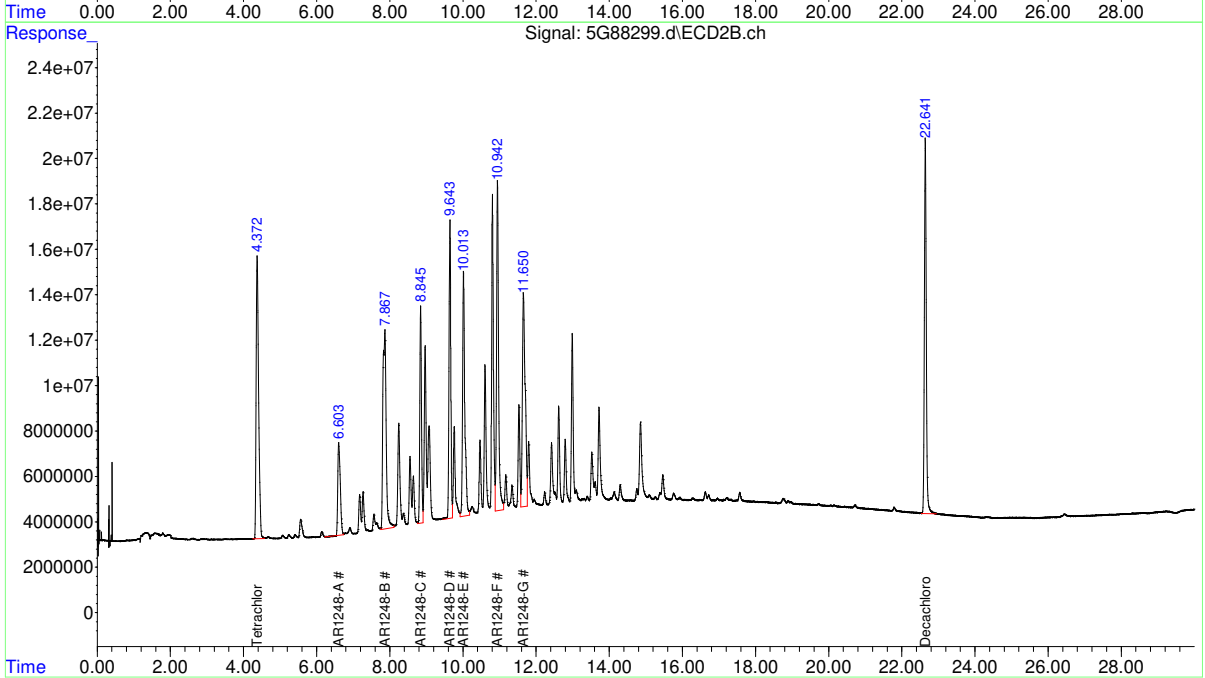
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88299.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:24 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:45:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-IC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88299.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 17:24 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

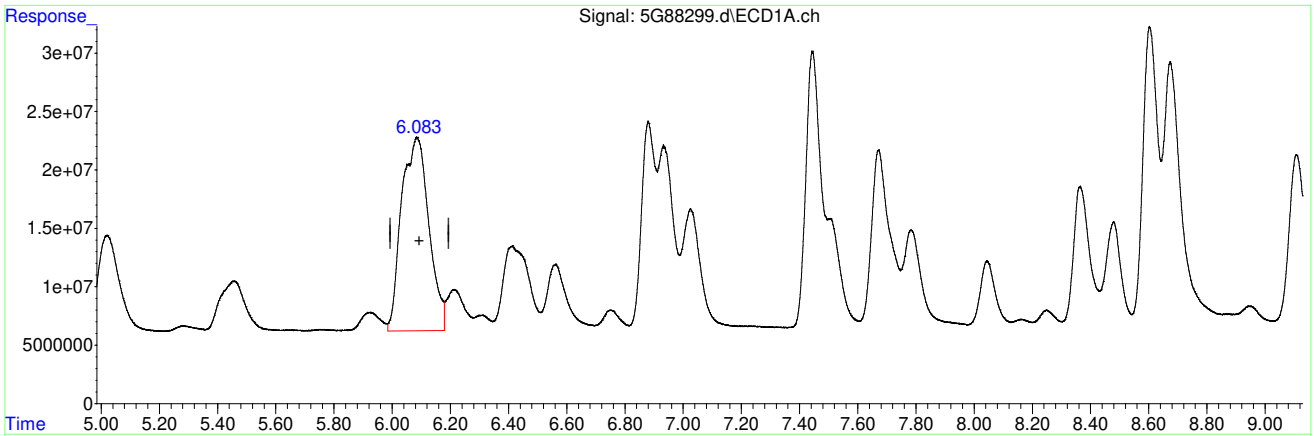
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1248-C | | 1 | 6.88 | Split peak |
| AR1248-B | | 2 | 7.87 | Split peak |

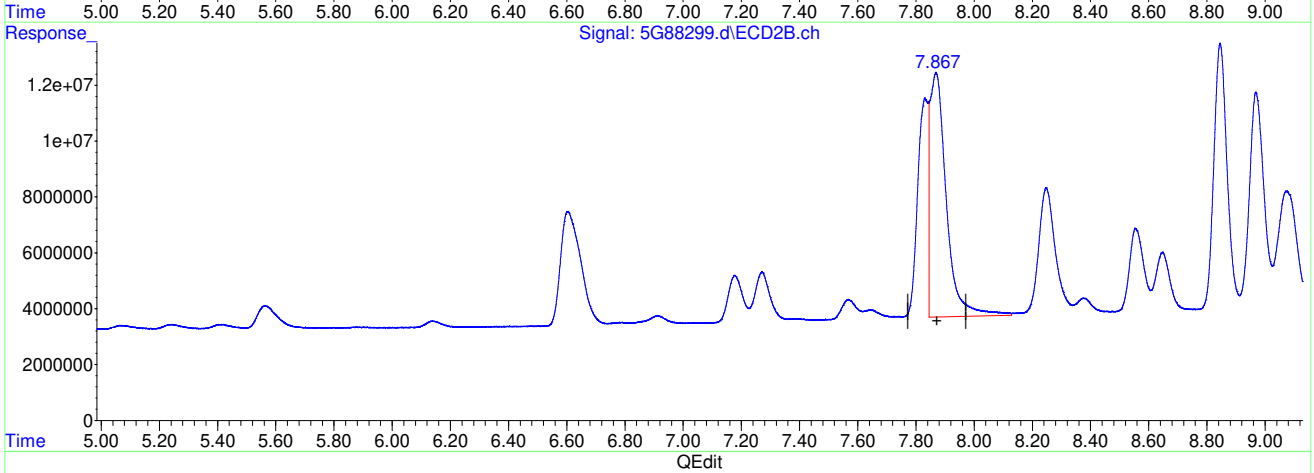
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88299.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:24 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:44:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(18) AR1248-B

6.085min 913.923 PPB

response 1078470149

(18) AR1248-B #2

7.869min 584.455 PPB

response 339639546

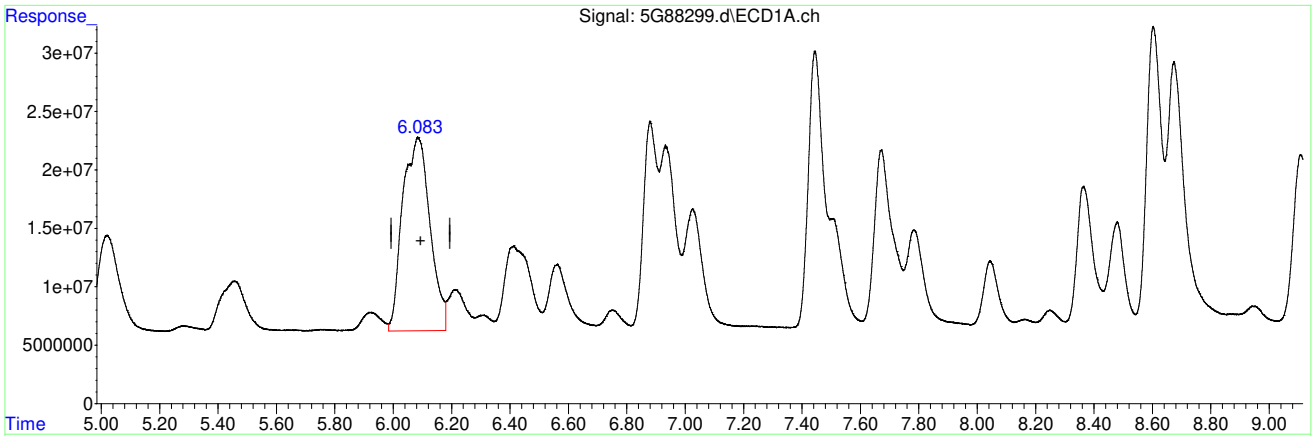
(+) = Expected Retention Time

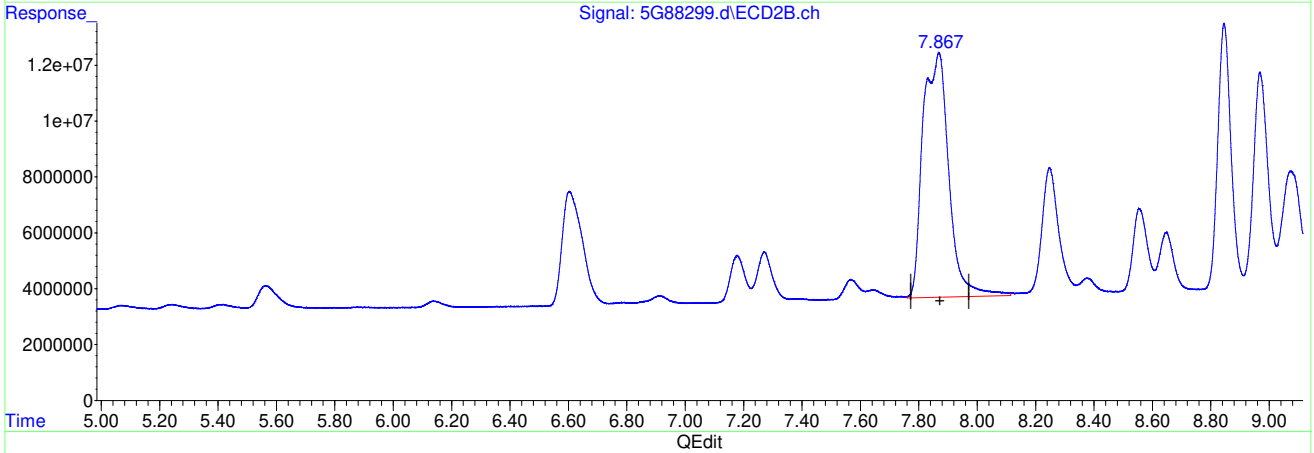
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88299.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:24 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:44:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(18) AR1248-B

6.085min 913.923 PPB

response 1078470149

(18) AR1248-B #2

7.867min 930.894 PPB m

response 540962763

(+) = Expected Retention Time

5PCB2127.M Wed May 08 08:44:59 2019 Page: 1





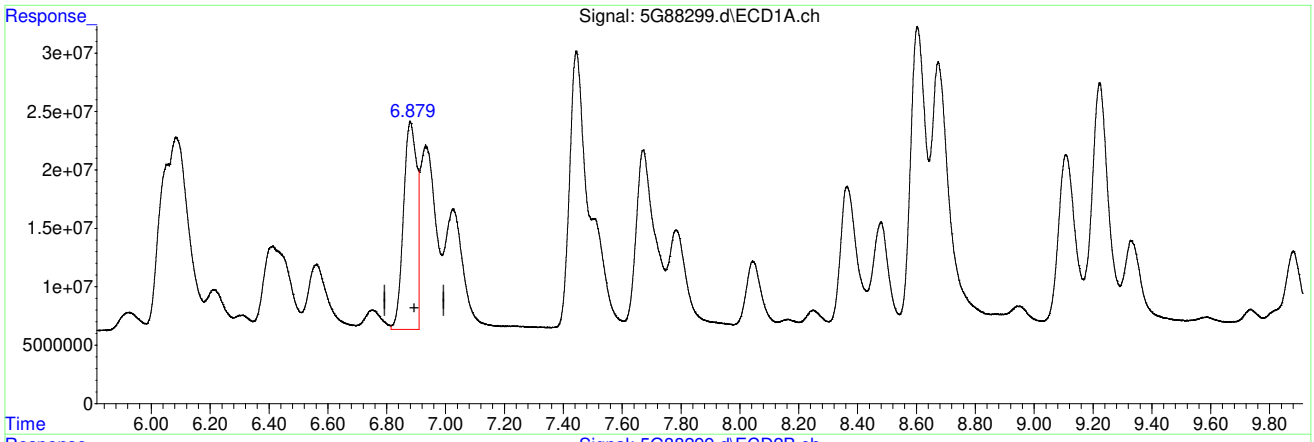
JC87535

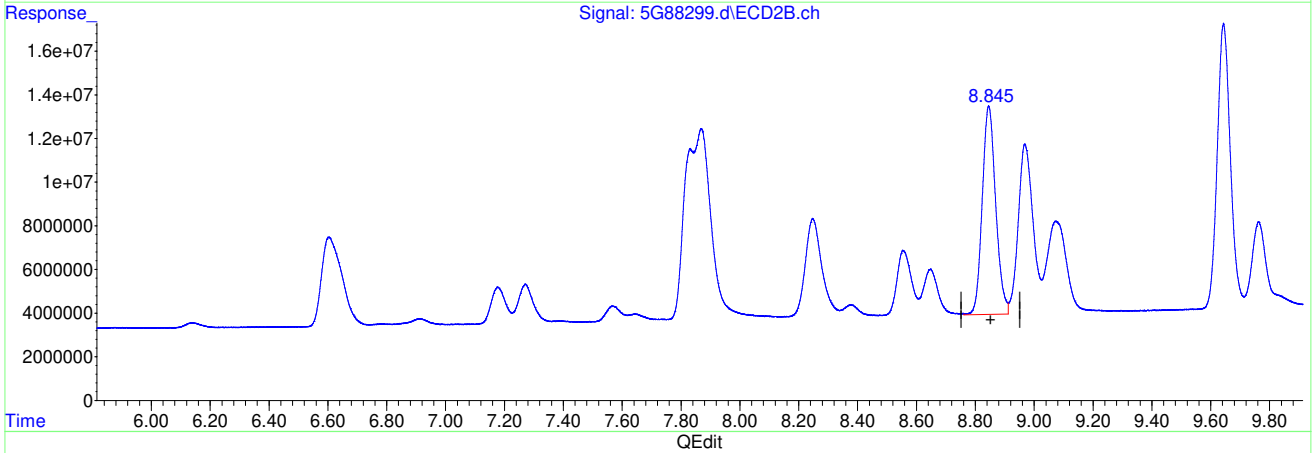
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88299.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:24 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:44:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(19) AR1248-C

6.881min 453.474 PPB

response 566923718

(19) AR1248-C #2

8.846min 928.562 PPB

response 302678141

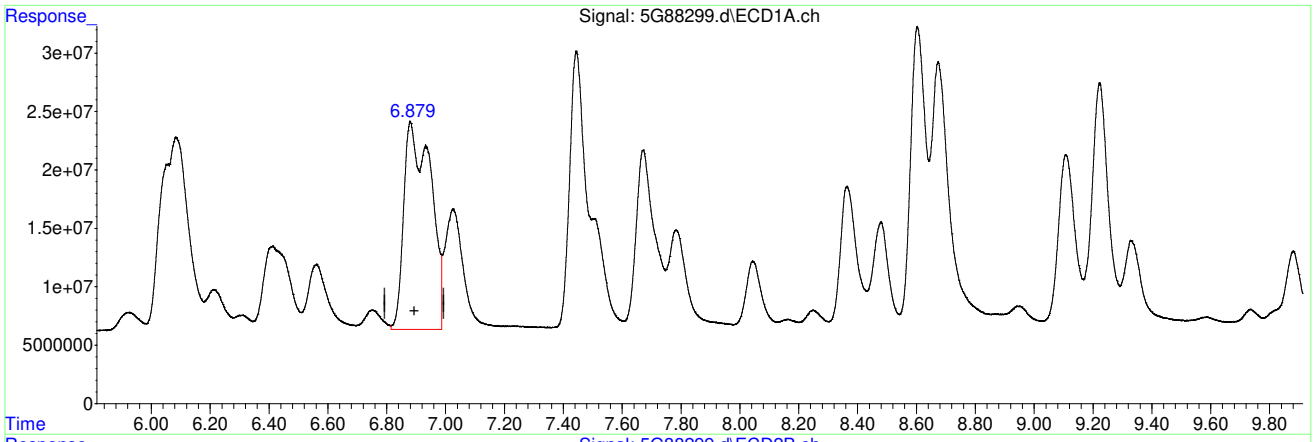
(+) = Expected Retention Time

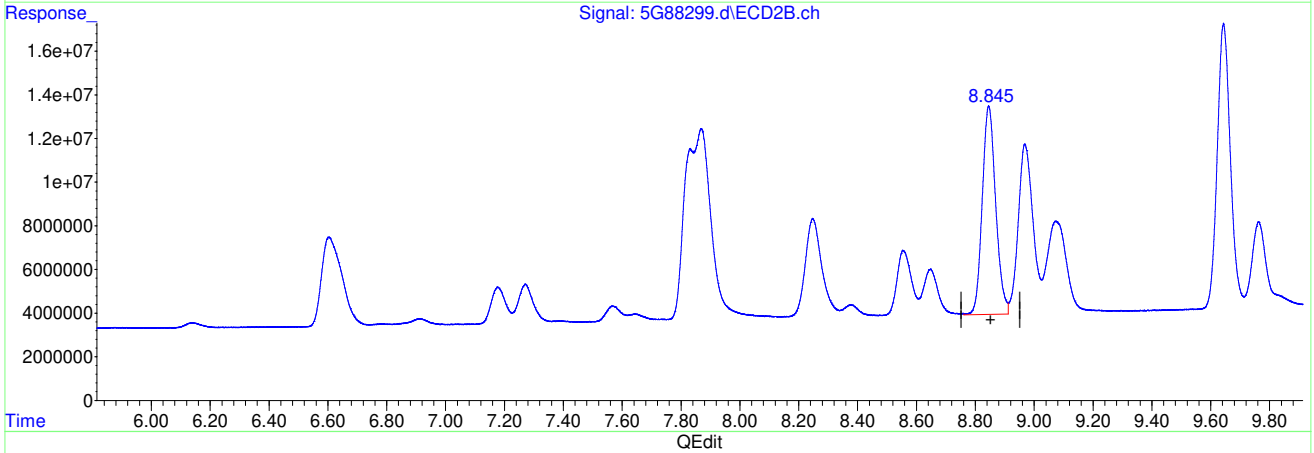
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88299.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:24 pm
Operator : tianweir
Sample : ic2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:44:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:43:19 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(19) AR1248-C

6.879min 898.308 PPB m

response 1123045071

(19) AR1248-C #2

8.846min 928.562 PPB

response 302678141

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.615 | 4.376 | 1259.4E6 | 561.2E6 | 43.975 | 45.219 |
| | Spiked Amount 40.000 | | | Recovery | = | 109.94% | 113.05% |
| 51) | S Decachlor... | 19.199 | 22.638 | 1162.6E6 | 576.3E6 | 46.753 | 47.664 |
| | Spiked Amount 40.000 | | | Recovery | = | 116.88% | 119.16% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.292 | 5.562 | 525.2E6 | 233.8E6 | 997.535 | 1044.645 |
| 42) | AR1016-B | 5.028 | 6.609 | 1058.3E6 | 487.5E6 | 1040.750 | 1049.748 |
| 43) | AR1016-C | 6.088 | 7.869 | 2185.9E6 | 1104.4E6 | 1032.025 | 1057.561 |
| 44) | AR1016-D | 6.405 | 8.251 | 918.0E6 | 413.8E6 | 1032.452 | 1041.834 |
| 45) | AR1016-E | 7.446 | 9.644 | 909.5E6 | 324.5E6 | 1005.917m | 1038.440 |
| 46) | AR1260-A | 12.613 | 15.461 | 2223.9E6 | 1067.8E6 | 1062.497m | 1080.601m |
| 47) | AR1260-B | 12.990 | 15.755 | 1308.1E6 | 638.0E6 | 1066.038 | 1067.703 |
| 48) | AR1260-C | 13.744 | 16.720 | 1308.5E6 | 639.2E6 | 1028.162 | 1098.571 |
| 49) | AR1260-D | 14.742 | 17.562 | 3125.7E6 | 1632.7E6 | 1044.933 | 1098.409 |
| 50) | AR1260-E | 15.624 | 18.775 | 3332.2E6 | 1574.8E6 | 1009.703m | 1070.193m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

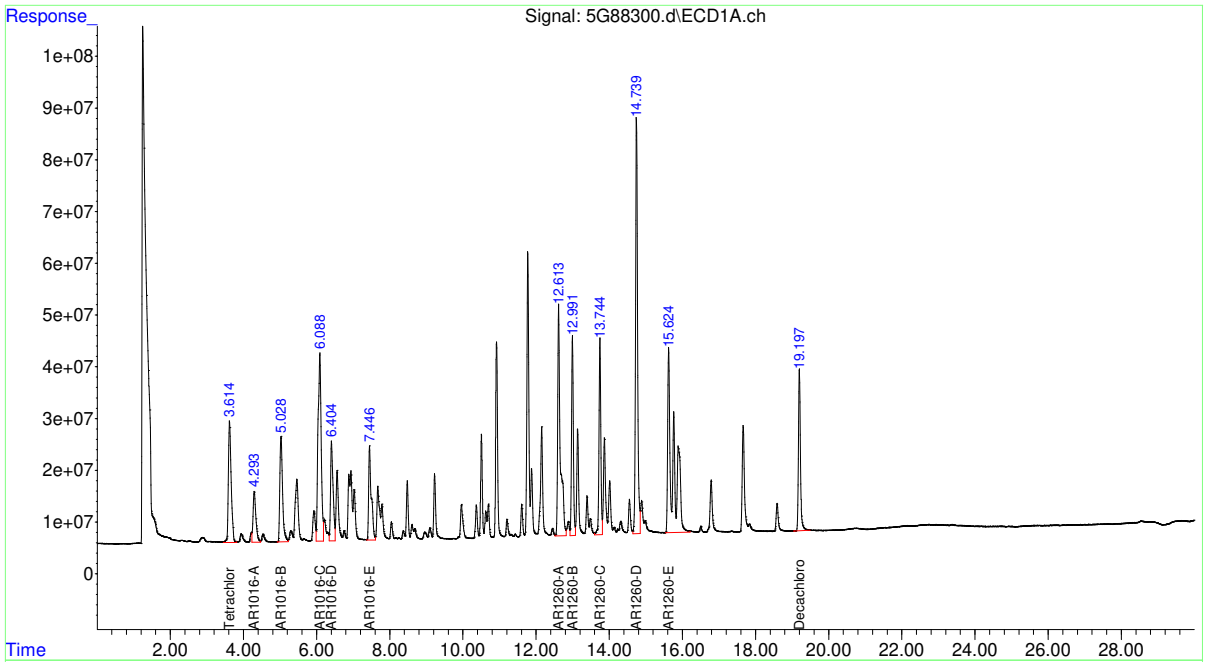
11.5.28 11

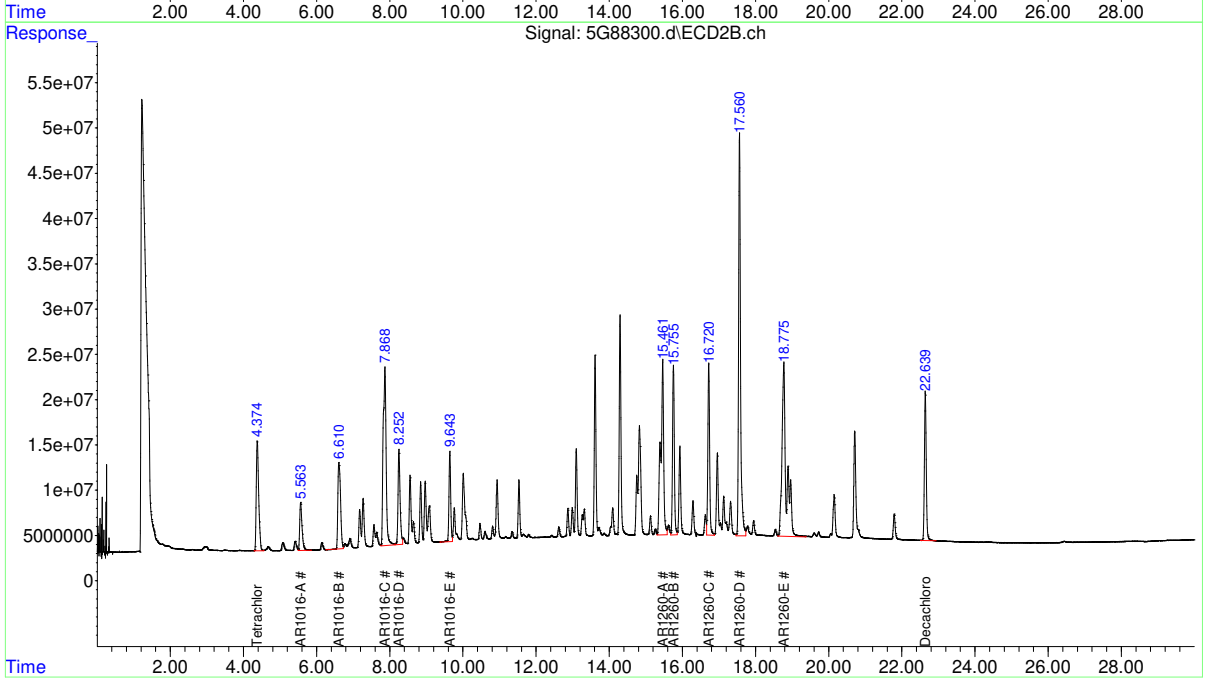
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um










JC87535

# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-ICV2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88300.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 17:56 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

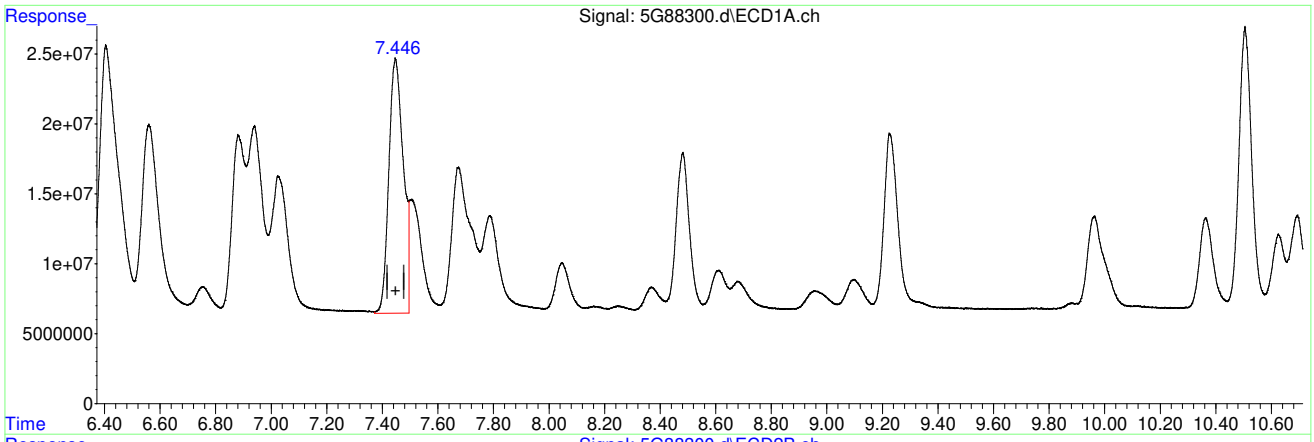
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1016-E | | 1 | 7.45 | Split peak |
| AR1260-A | | 1 | 12.61 | Split peak |
| AR1260-A | | 2 | 15.46 | Split peak |
| AR1260-E | | 1 | 15.62 | Split peak |
| AR1260-E | | 2 | 18.77 | Split peak |

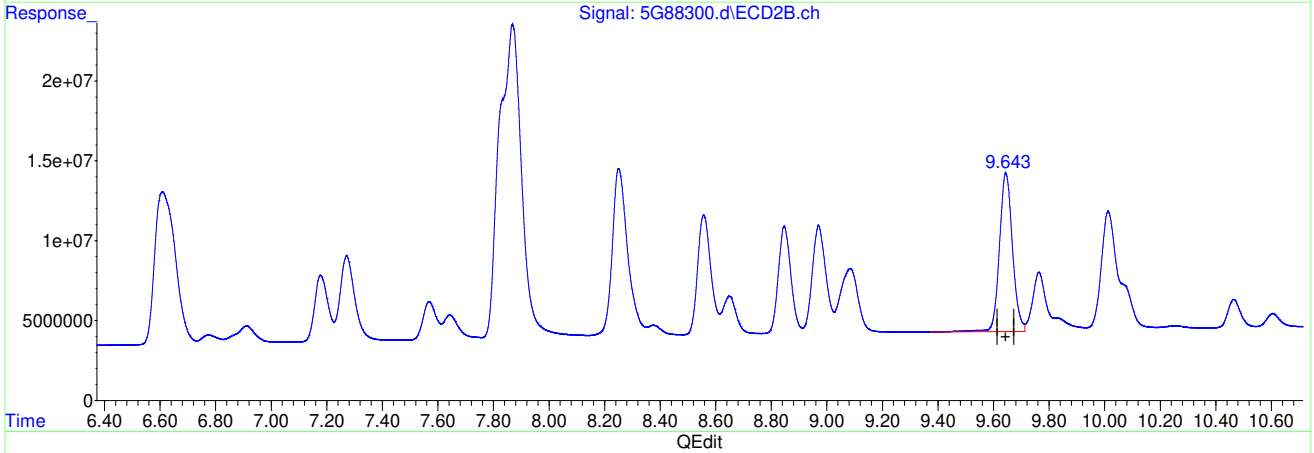
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:46:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.447min 726.528 PPB

response 656915681

(45) AR1016-E #2

9.644min 1038.440 PPB

response 324503058

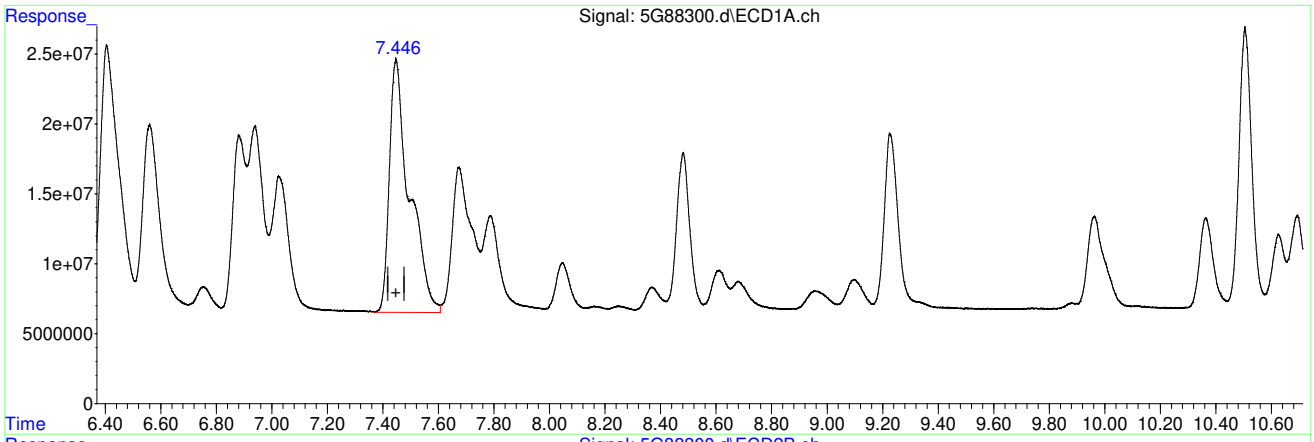
(+) = Expected Retention Time

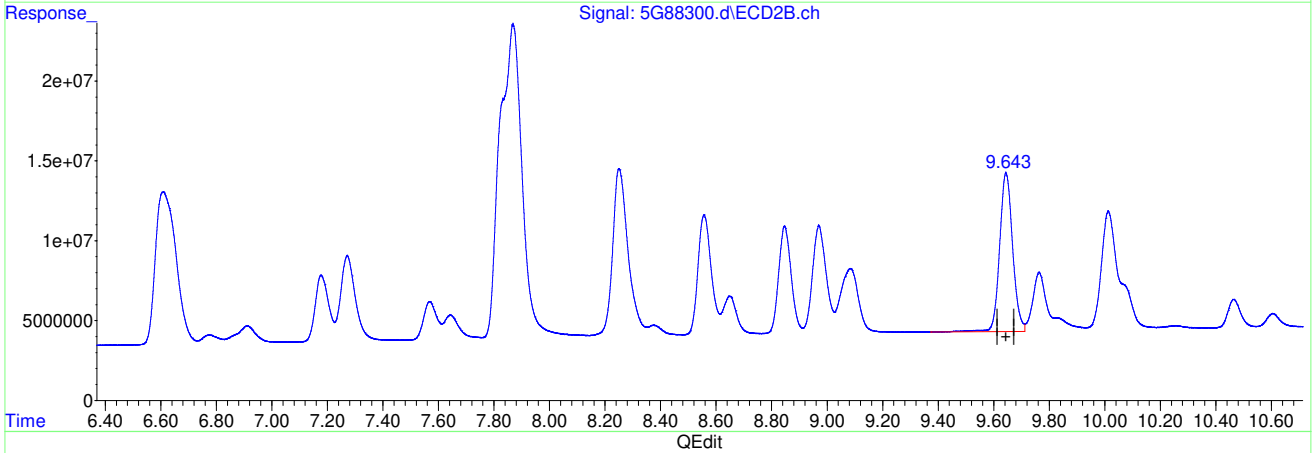
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:46:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.446min 1005.917 PPB m

response 909535094

(45) AR1016-E #2

9.644min 1038.440 PPB

response 324503058

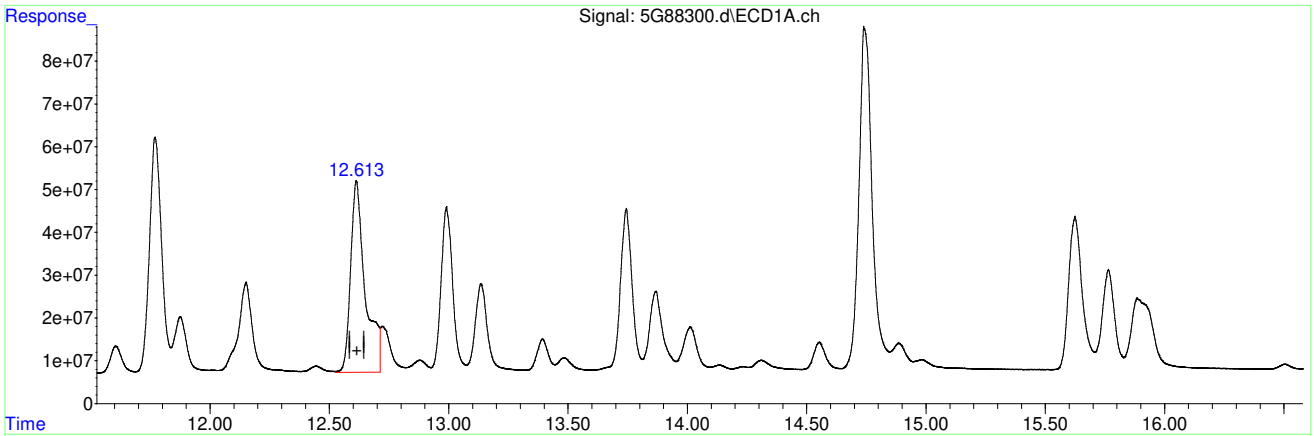
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:46:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.613min 909.963 PPB

response 1904600426

(46) AR1260-A #2

15.462min 723.373 PPB

response 714818024

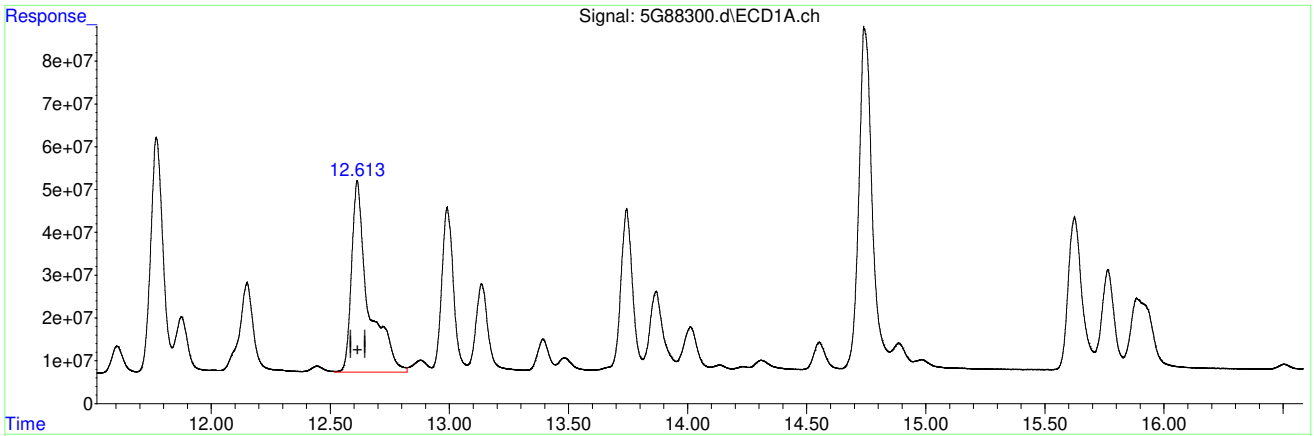
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:46:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.613min 1062.497 PPB m

response 2223864079

(46) AR1260-A #2

15.461min 1080.601 PPB m

response 1067821451

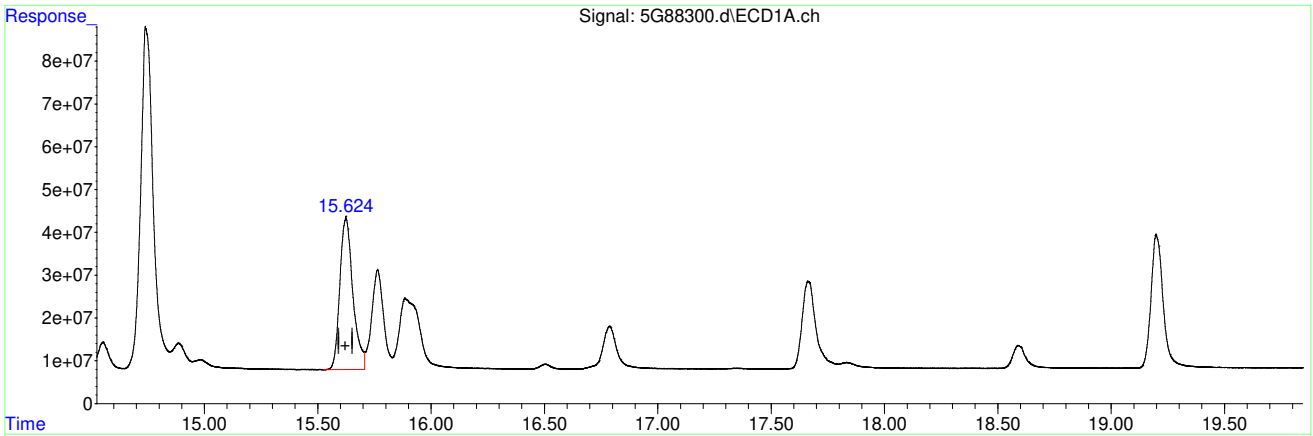
(+) = Expected Retention Time

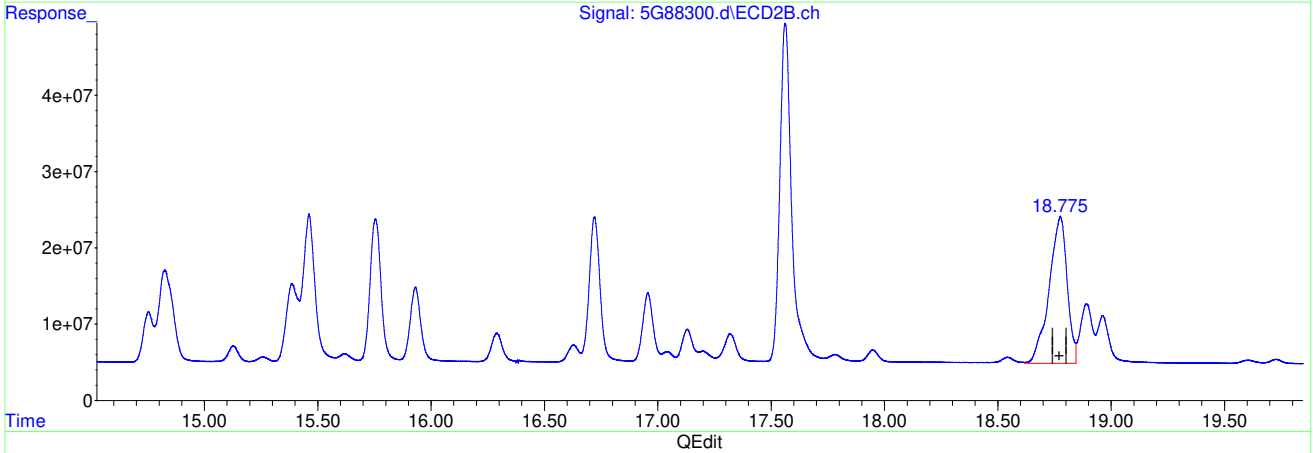
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:46:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.624min 430.480 PPB

response 1420672371

(50) AR1260-E #2

18.776min 720.426 PPB

response 1060102482

(+) = Expected Retention Time

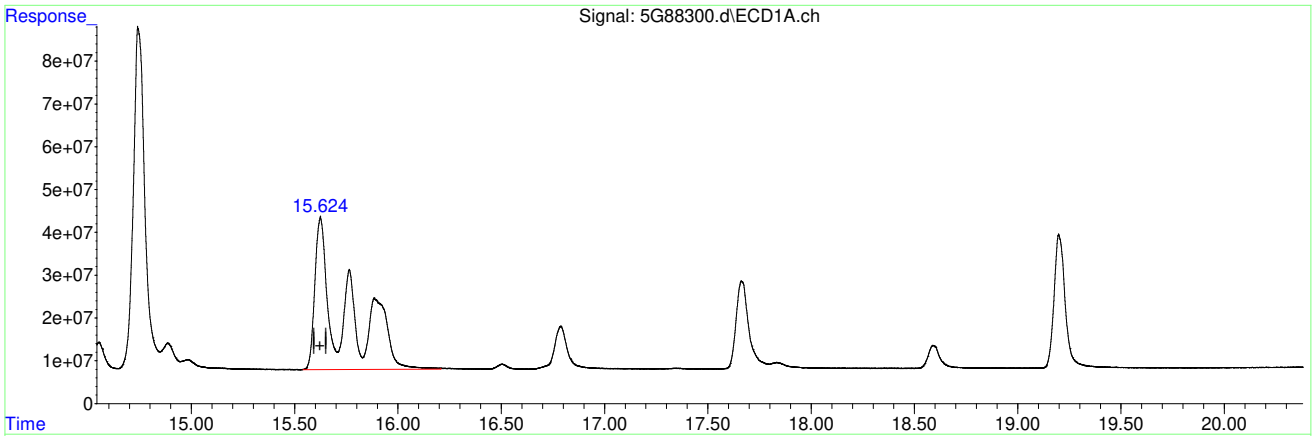
5PCB2127.M Wed May 08 08:47:04 2019 Page: 1

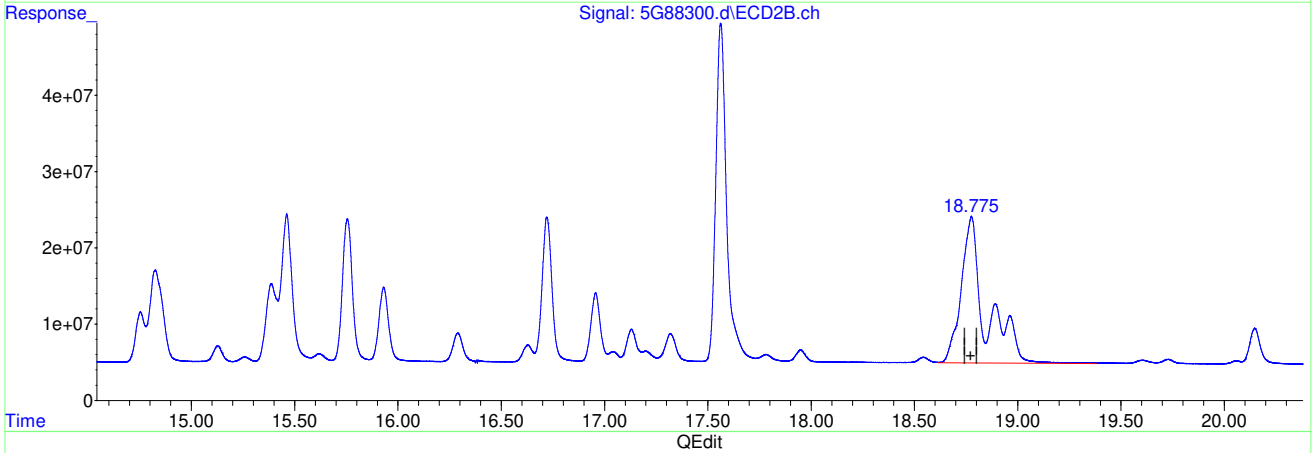
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88300.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 5:56 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:46:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.624min 1009.703 PPB m

response 3332227713

(50) AR1260-E #2

18.775min 1070.193 PPB m

response 1574782872

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:48:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 1) | S Tetrachlo... | 3.615 | 4.373 | 1551.2E6 | 676.6E6 | 54.164 | 54.516 | |
| | Spiked Amount 40.000 | | | Recovery | = | 135.41% | 136.29% | |
| 51) | S Decachlor... | 19.204 | 22.640 | 1374.8E6 | 684.7E6 | 55.286 | 56.634 | |
| | Spiked Amount 40.000 | | | Recovery | = | 138.22% | 141.59% | |
| | Target Compounds | | | | | | | |
| 2) | AR1221-A | 2.807 | 3.485 | 237.4E6 | 99940534 | 1093.866 | 995.255 | |
| 3) | AR1221-B | 3.935 | 5.069 | 305.7E6 | 135.8E6 | 958.410 | 939.821 | |
| 4) | AR1221-C | 4.289 | 5.562 | 785.7E6 | 332.4E6 | 924.657 | 911.269 | |
| 5) | AR1221-D | 5.027 | 6.604 | 131.6E6 | 58880268 | 849.465m | 835.877 | |
| 6) | AR1221-E | 5.314 | 6.771 | 83323972 | 42374214 | 870.500 | 1192.430 | # |
| 24) | AR1254-A | 8.479 | 10.931 | 898.8E6 | 526.1E6 | 1013.660 | 992.348 | |
| 25) | AR1254-B | 9.227 | 11.528 | 1186.2E6 | 551.8E6 | 1002.186 | 983.990 | |
| 26) | AR1254-C | 10.004 | 12.617 | 977.1E6 | 426.5E6 | 995.283 | 946.169 | |
| 27) | AR1254-D | 10.363 | 12.986 | 1672.7E6 | 827.3E6 | 1004.082 | 989.527 | |
| 28) | AR1254-E | 11.205 | 13.719 | 1449.1E6 | 607.0E6 | 986.419 | 939.107 | |
| 29) | AR1254-F | 11.768 | 14.846 | 1254.3E6 | 700.8E6 | 1016.904 | 984.610m | |
| 30) | AR1254-G | 12.615 | 15.465 | 1803.5E6 | 889.7E6 | 1014.338 | 1034.424m | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

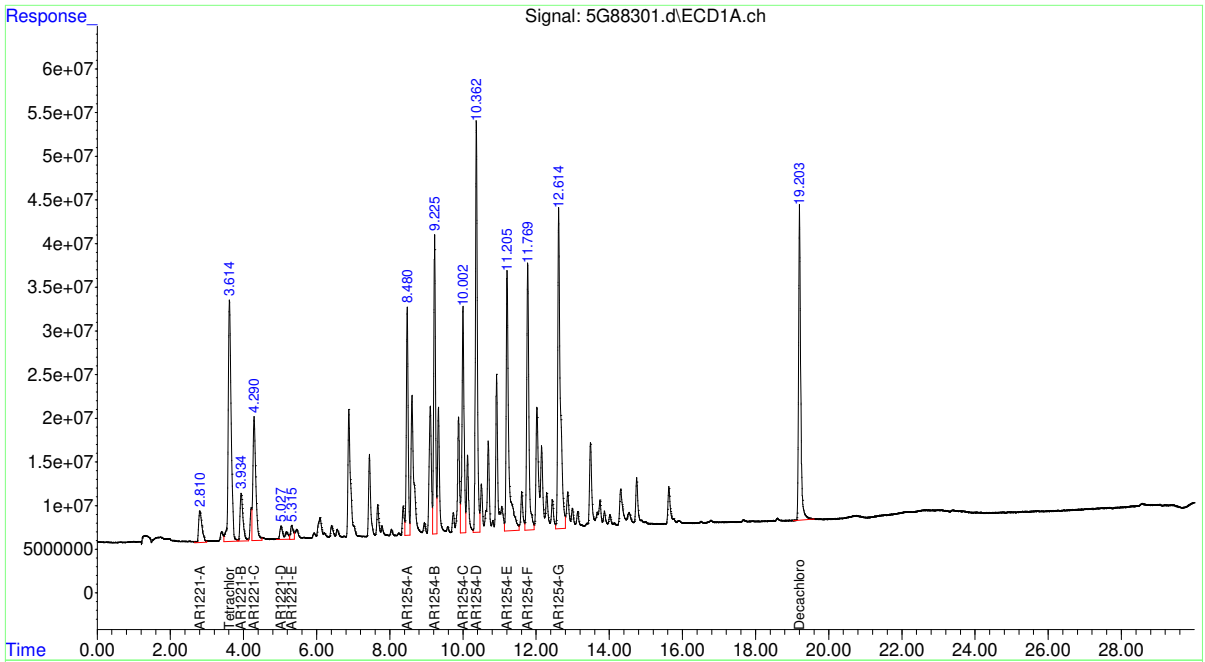
11.5.29 11

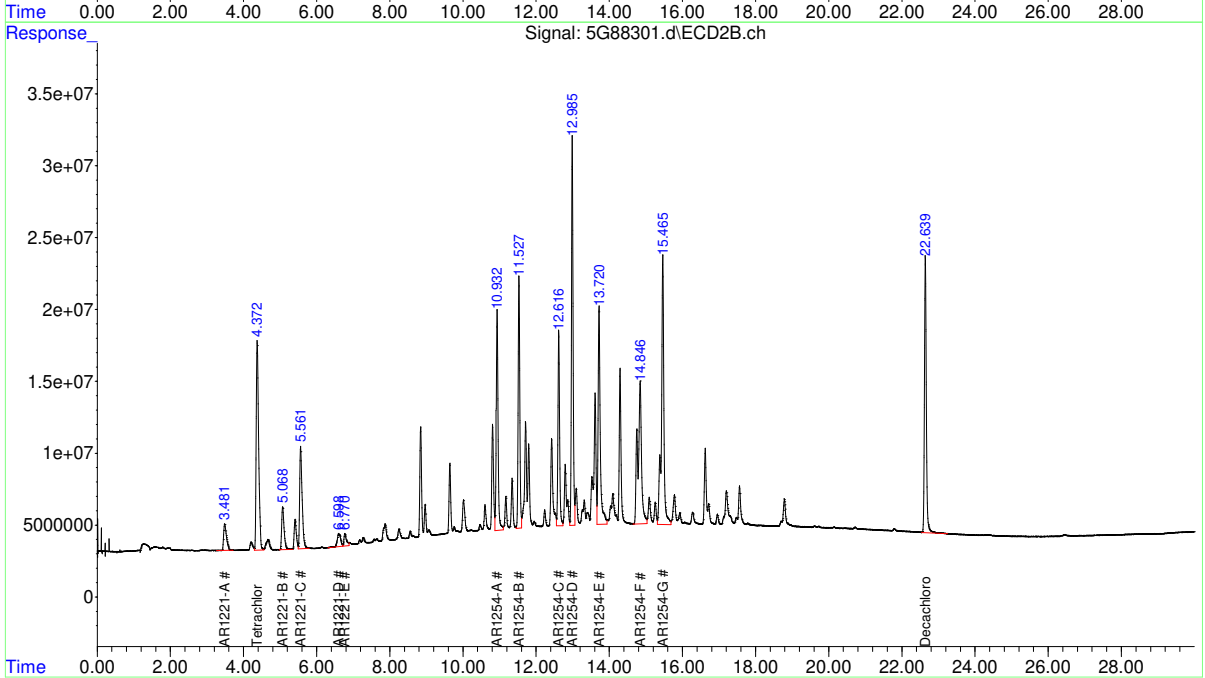
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:48:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-ICV2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88301.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 18:28 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

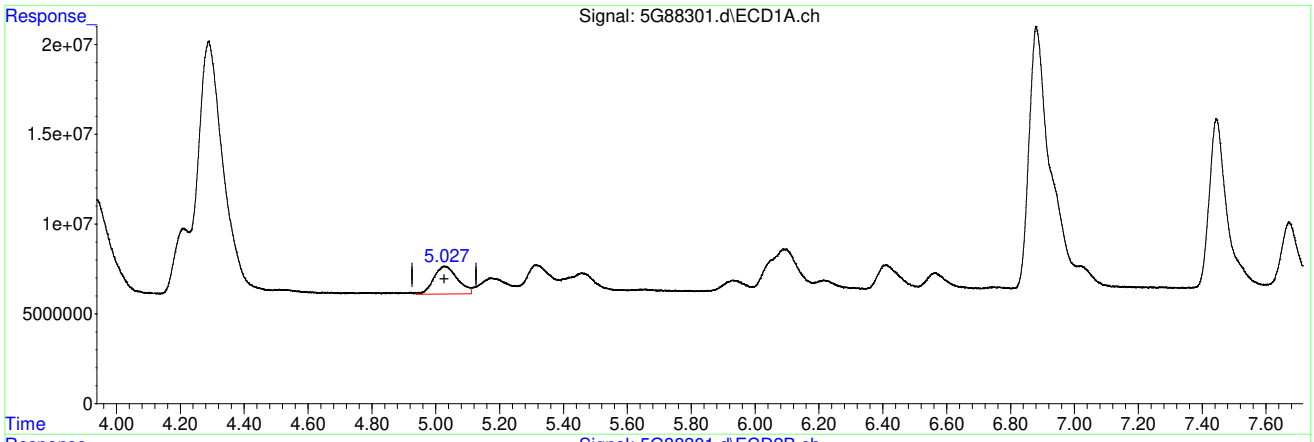
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1221-D | | 1 | 5.03 | Split peak |
| AR1254-F | | 2 | 14.85 | Split peak |
| Ar1254-G | | 2 | 15.46 | Split peak |

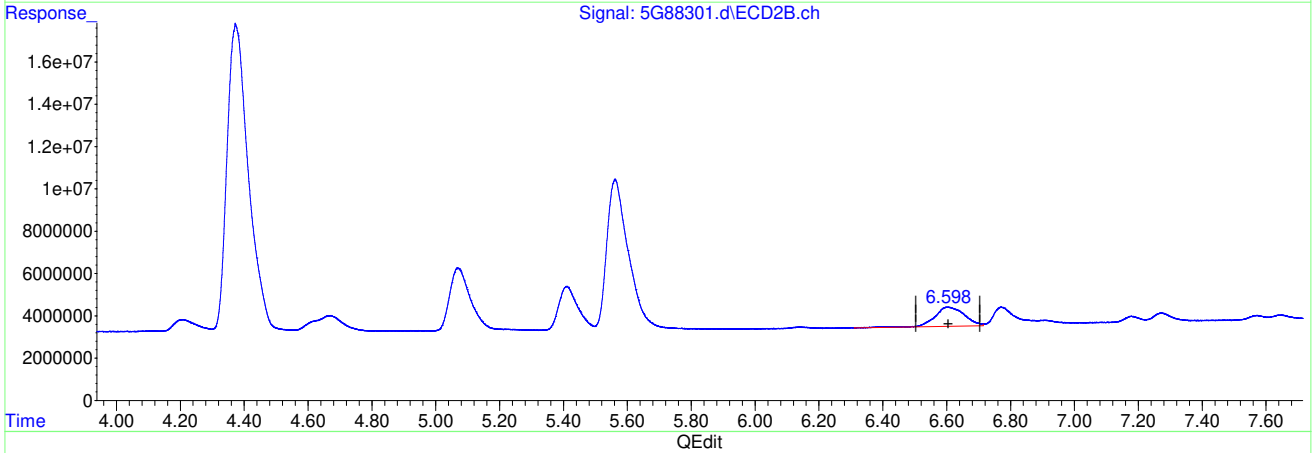
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(5) AR1221-D

5.027min 519.308 PPB

response 80439427

(5) AR1221-D #2

6.604min 835.877 PPB

response 58880268

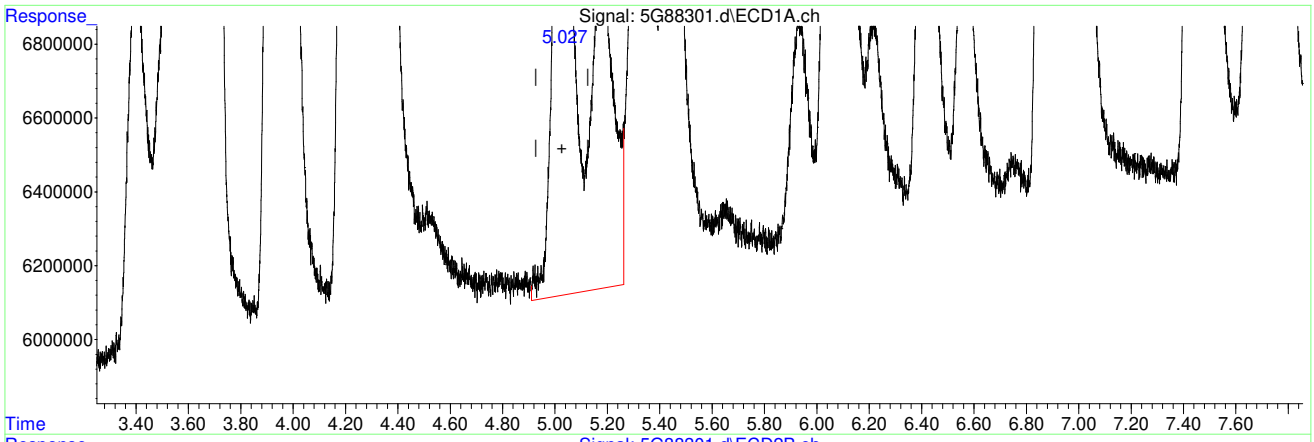
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(5) AR1221-D

5.027min 849.465 PPB m

response 131579886

(5) AR1221-D #2

6.604min 835.877 PPB

response 58880268

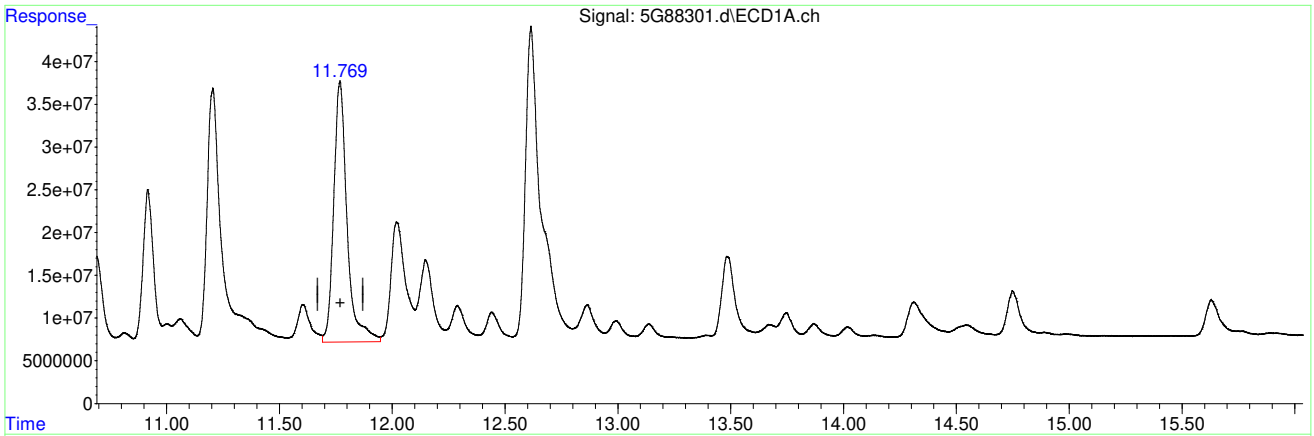
(+) = Expected Retention Time

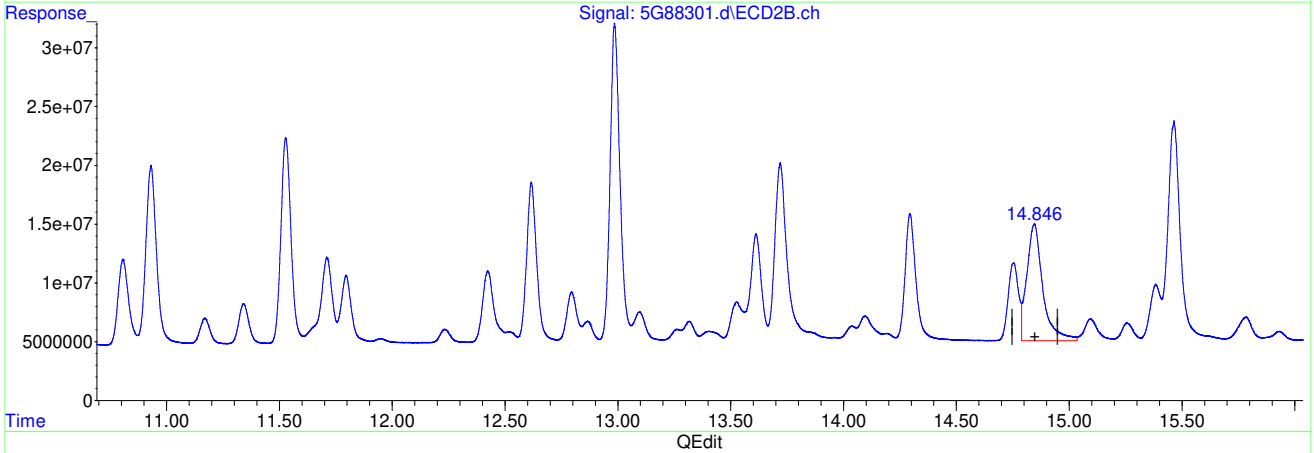
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(29) AR1254-F

11.768min 1016.904 PPB

response 1254284825

(29) AR1254-F #2

14.846min 686.858 PPB

response 488869794

(+) = Expected Retention Time

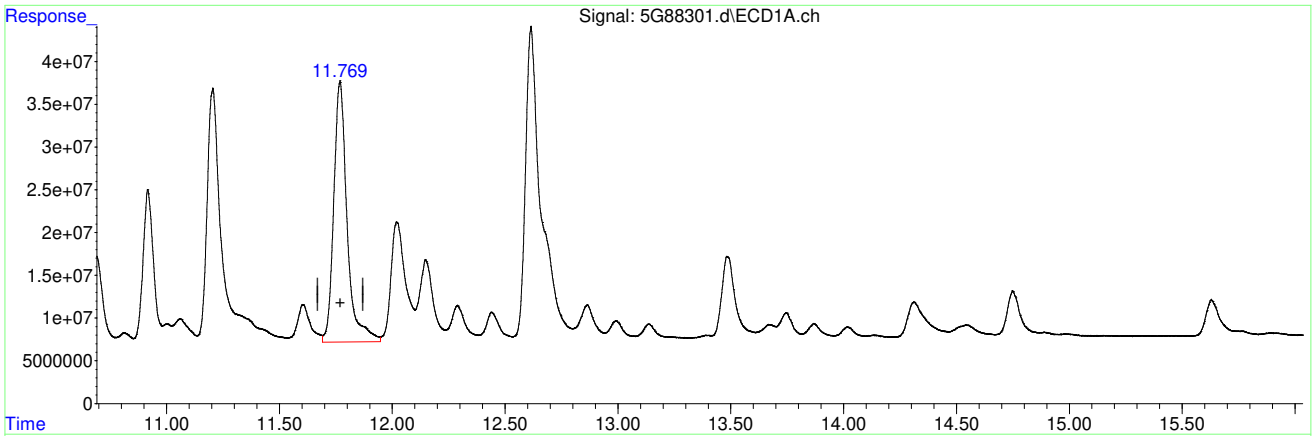
5PCB2127.M Wed May 08 08:48:17 2019 Page: 1

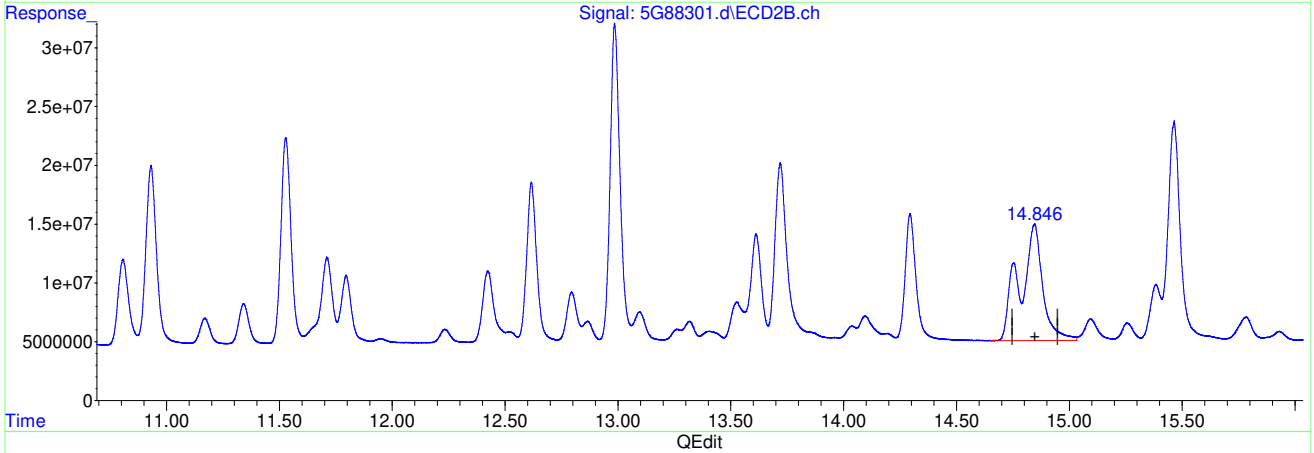
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(29) AR1254-F

11.768min 1016.904 PPB

response 1254284825

(29) AR1254-F #2

14.846min 984.610 PPB m

response 700794652

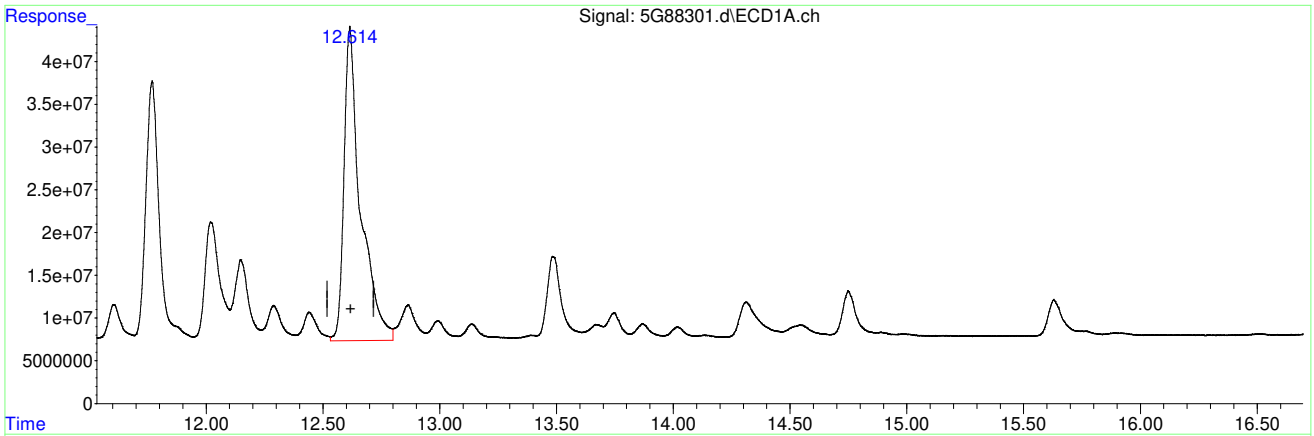
(+) = Expected Retention Time

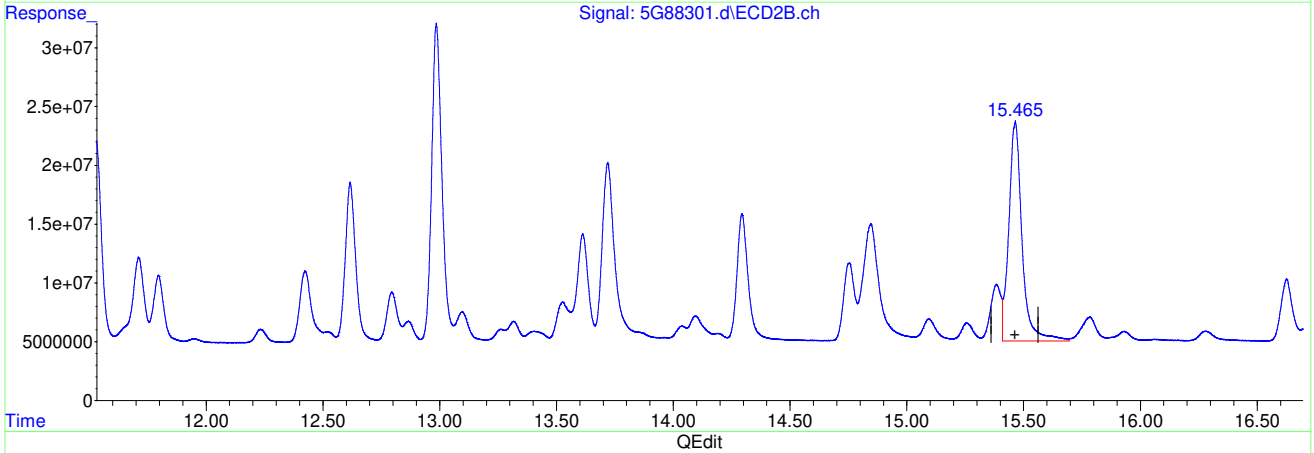
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(30) AR1254-G

12.615min 1014.338 PPB

response 1803459910

(30) AR1254-G #2

15.464min 851.143 PPB

response 732057394

(+) = Expected Retention Time

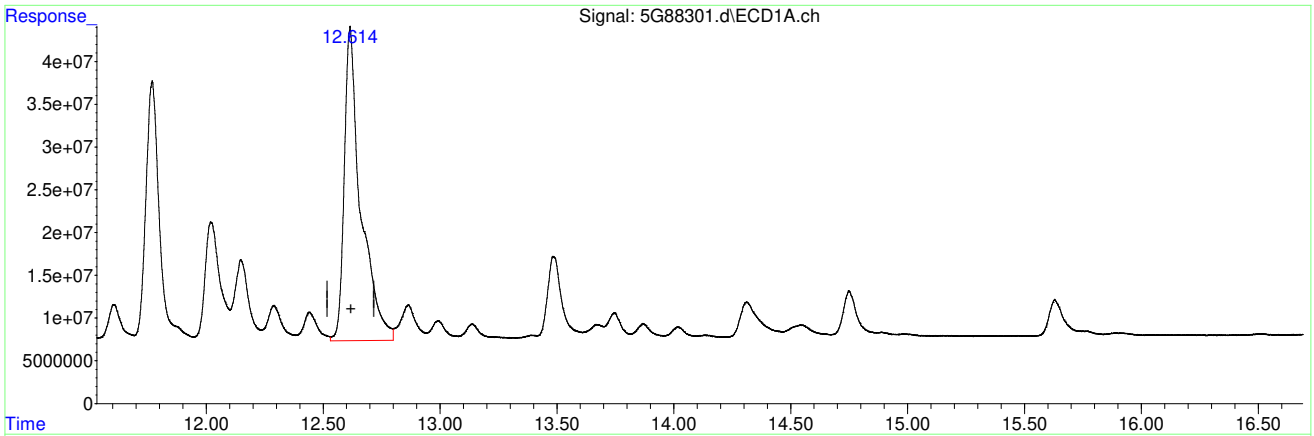
5PCB2127.M Wed May 08 08:48:24 2019 Page: 1

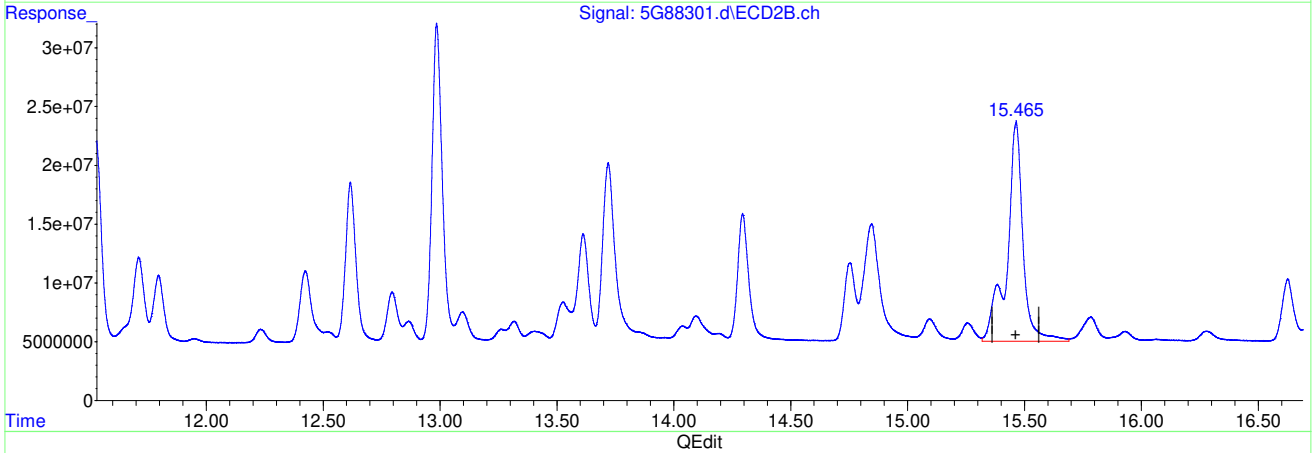
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88301.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 6:28 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:47:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




(30) AR1254-G

12.615min 1014.338 PPB

response 1803459910

(30) AR1254-G #2

15.465min 1034.424 PPB m

response 889695069

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88302.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:01 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:49:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.616 | 4.377 | 1444.7E6 | 634.1E6 | 50.446 | 51.088 |
| | Spiked Amount 40.000 | | | Recovery | = | 126.11% | 127.72% |
| 51) | S Decachlor... | 19.201 | 22.638 | 1307.1E6 | 640.6E6 | 52.564 | 52.981 |
| | Spiked Amount 40.000 | | | Recovery | = | 131.41% | 132.45% |
| | Target Compounds | | | | | | |
| 7) | AR1232-A | 4.292 | 5.562 | 664.7E6 | 291.5E6 | 1002.324 | 1026.967 |
| 8) | AR1232-B | 5.462 | 6.606 | 344.7E6 | 232.8E6 | 1018.230 | 1040.395 |
| 9) | AR1232-C | 6.092 | 7.873 | 978.3E6 | 490.5E6 | 1015.478 | 1051.071 |
| 10) | AR1232-D | 6.408 | 8.254 | 413.1E6 | 191.7E6 | 1014.339 | 1062.304 |
| 11) | AR1232-E | 7.447 | 9.644 | 379.8E6 | 128.6E6 | 997.717m | 975.780m |
| 31) | AR1262-A | 11.774 | 14.295 | 1341.3E6 | 661.6E6 | 951.502 | 1059.883 |
| 32) | AR1262-B | 12.993 | 15.754 | 1877.0E6 | 963.4E6 | 956.253 | 974.801 |
| 33) | AR1262-C | 13.744 | 16.719 | 1626.9E6 | 855.1E6 | 958.442 | 996.006 |
| 34) | AR1262-D | 14.745 | 17.562 | 3615.1E6 | 1886.0E6 | 953.084 | 983.767 |
| 35) | AR1262-E | 15.766 | 18.747 | 4624.9E6 | 2132.2E6 | 982.587m | 980.936m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

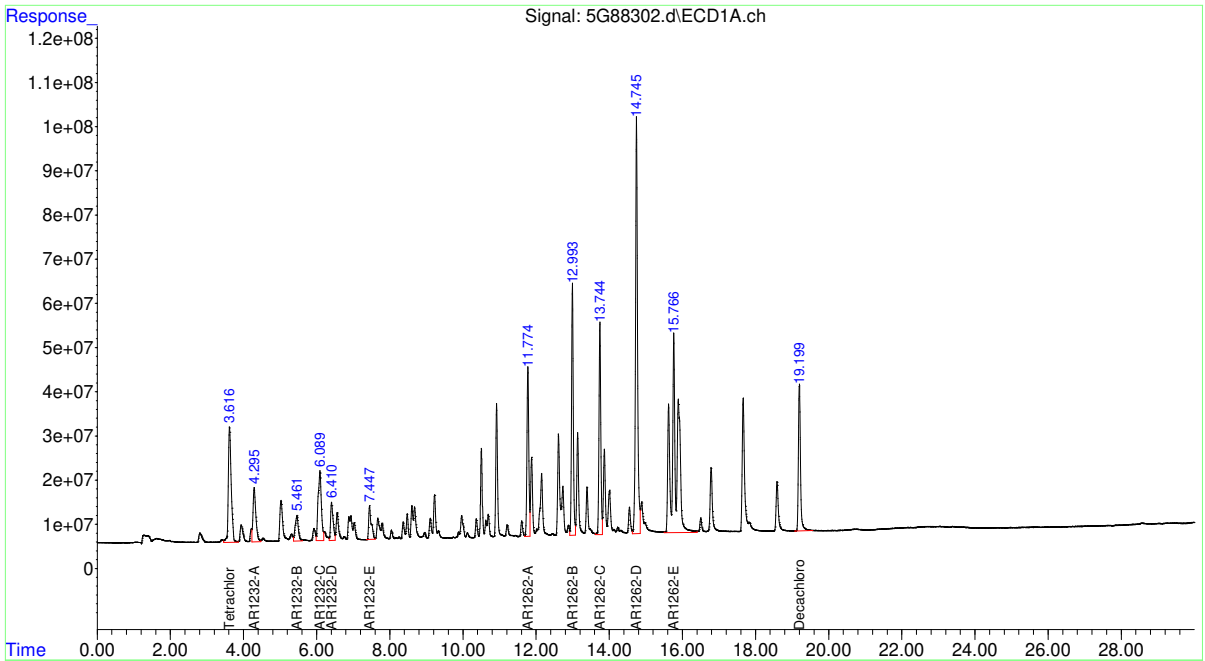
11.5.30 11

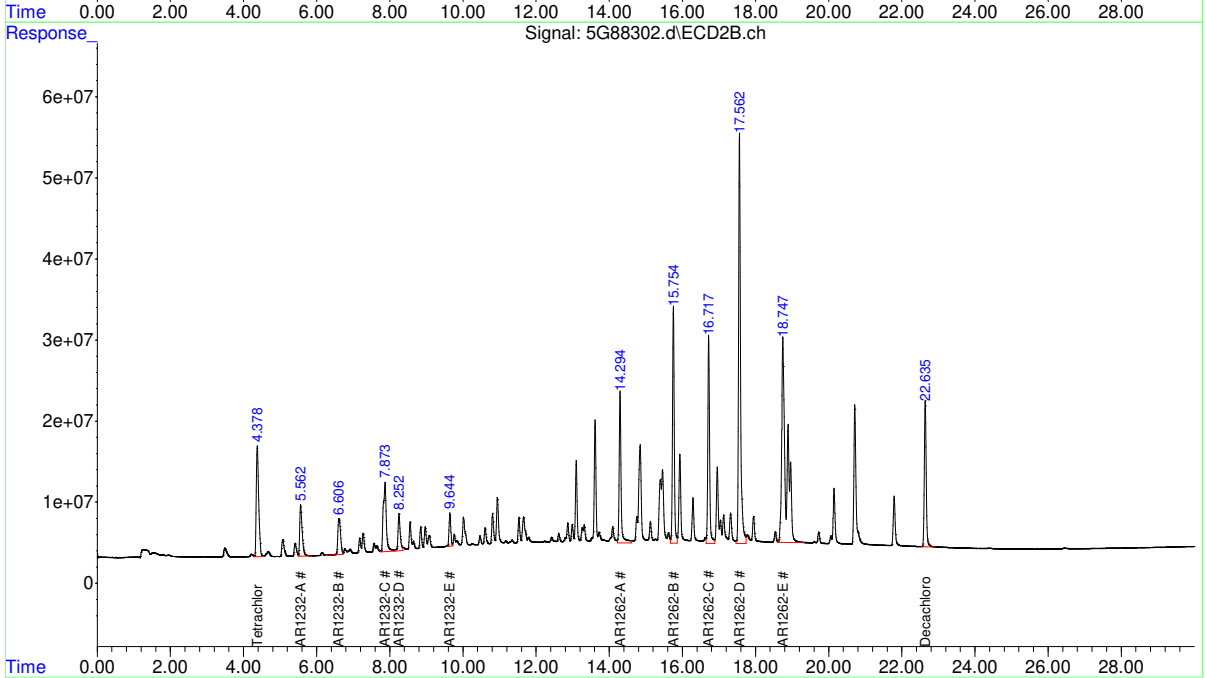
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88302.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:01 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:49:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-ICV2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88302.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 19:01 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

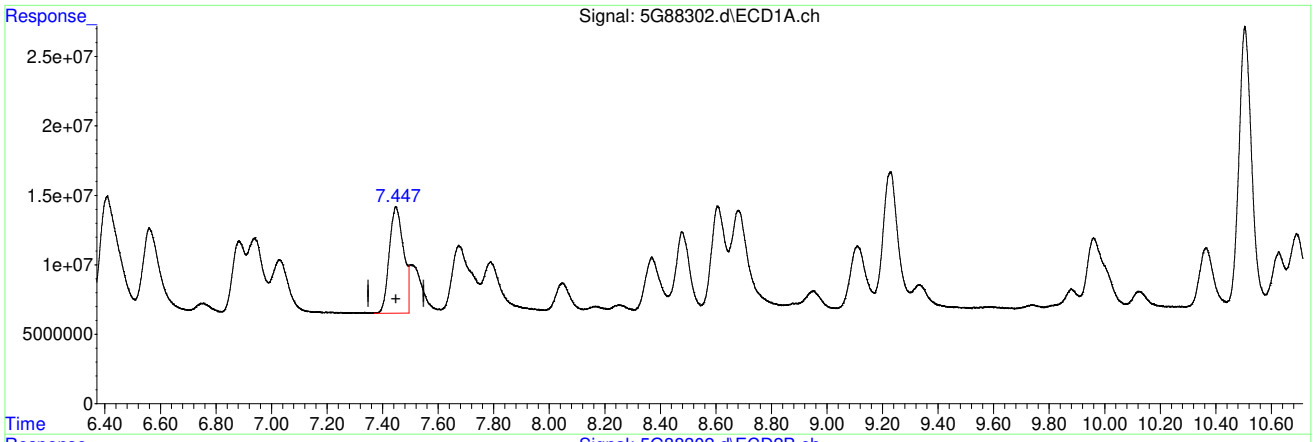
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1232-E | | 1 | 7.45 | Split peak |
| AR1232-E | | 2 | 9.64 | Split peak |
| AR1262-E | | 1 | 15.77 | Split peak |
| AR1262-E | | 2 | 18.75 | Split peak |

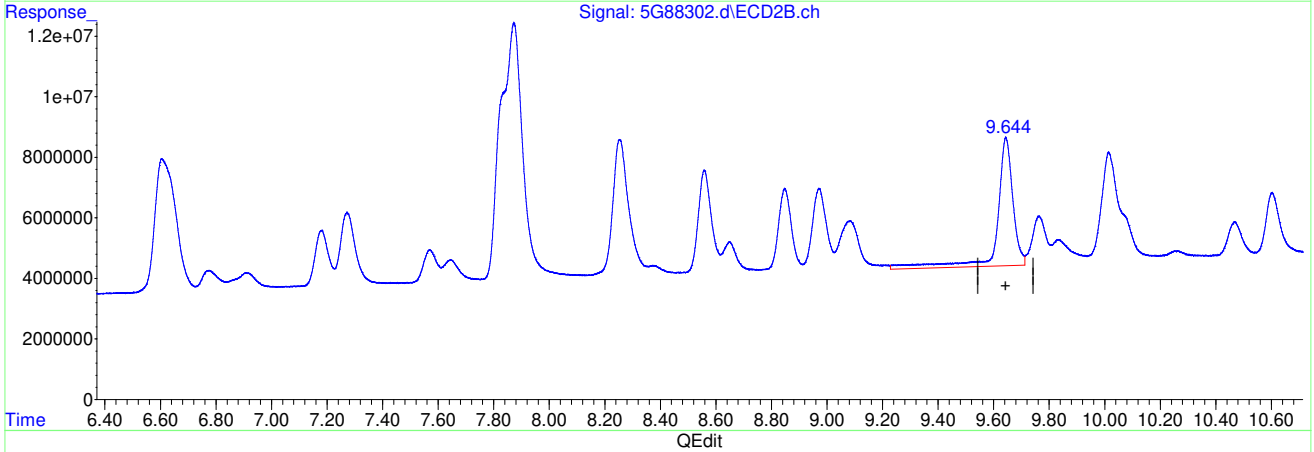
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88302.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:01 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:48:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(11) AR1232-E

7.448min 721.492 PPB

response 274675164

(11) AR1232-E #2

9.644min 1268.333 PPB

response 167196298

(+) = Expected Retention Time

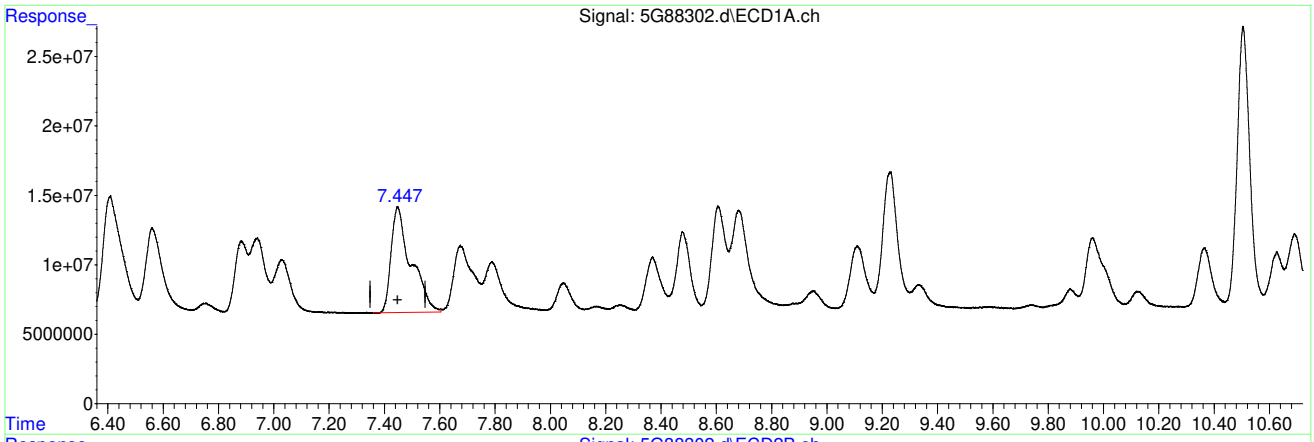
5PCB2127.M Wed May 08 08:49:06 2019 Page: 1

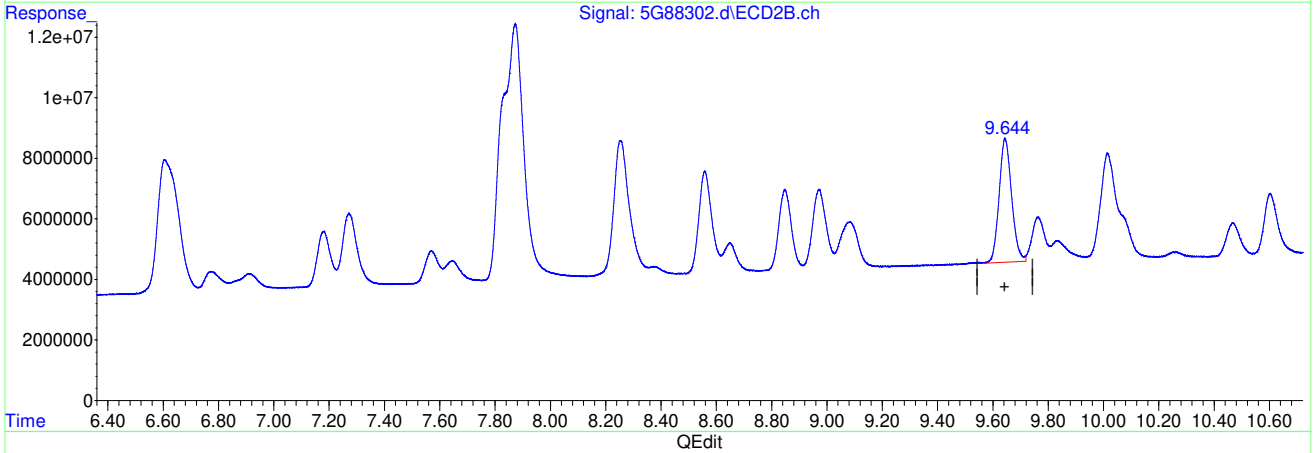
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88302.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:01 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:48:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(11) AR1232-E

7.447min 997.717 PPB m

response 379835342

(11) AR1232-E #2

9.644min 975.780 PPB m

response 128630798

(+) = Expected Retention Time

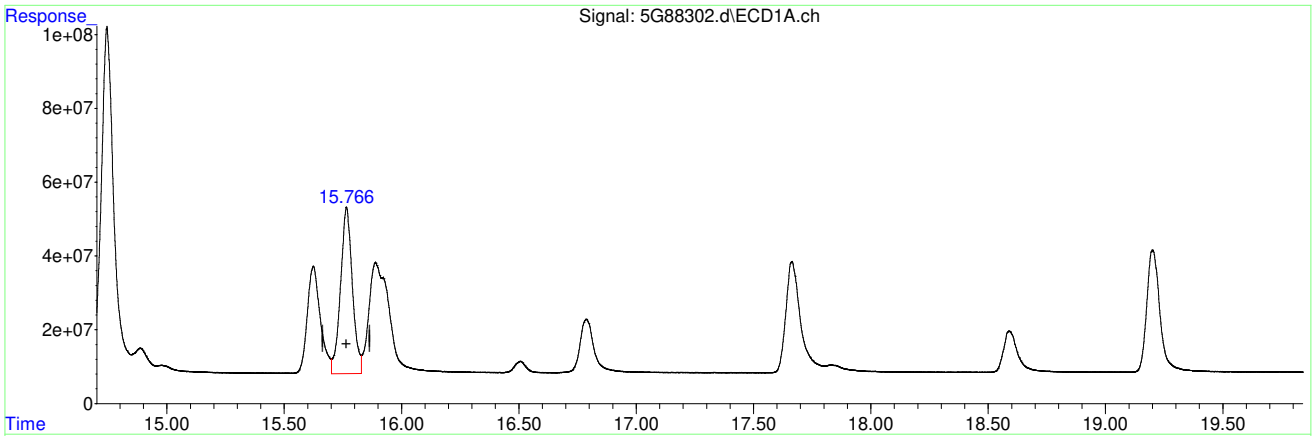
5PCB2127.M Wed May 08 08:49:15 2019 Page: 1

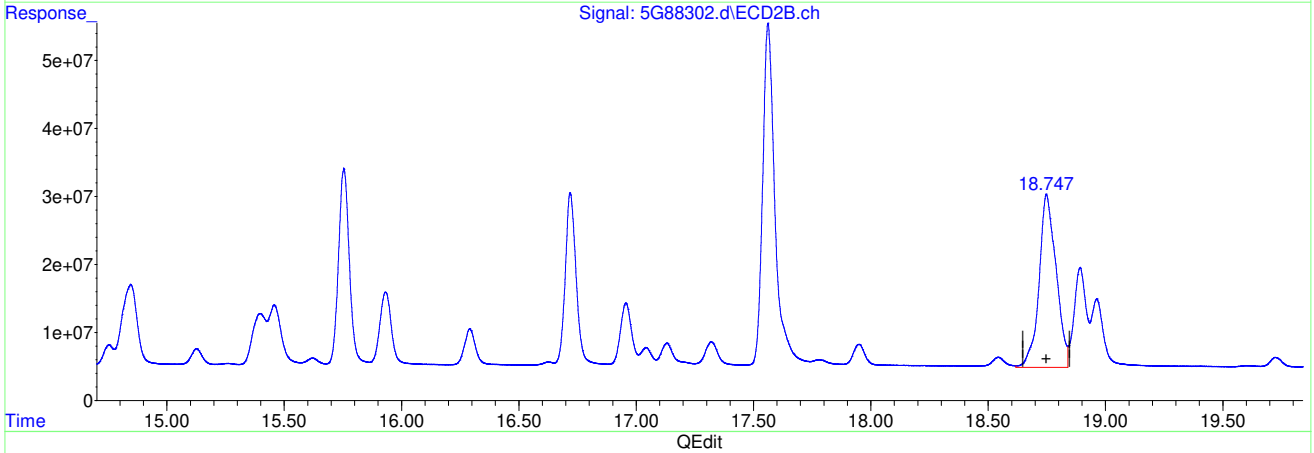
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88302.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:01 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:48:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(35) AR1262-E

15.766min 337.212 PPB

response 1587198869

(35) AR1262-E #2

18.748min 592.192 PPB

response 1287181125

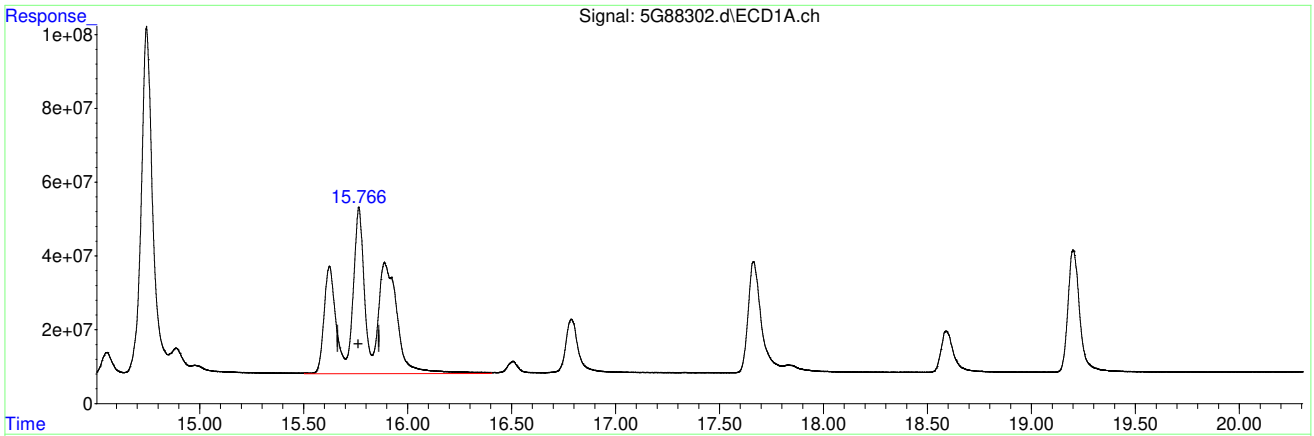
(+) = Expected Retention Time

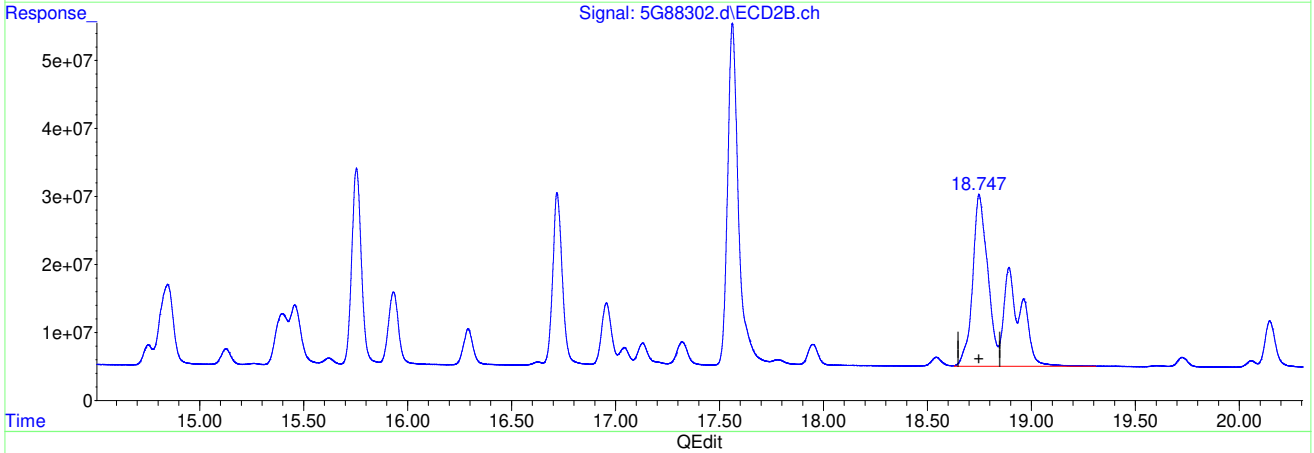
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88302.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:01 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:48:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(35) AR1262-E

15.766min 982.587 PPB m

response 4624874330

(35) AR1262-E #2

18.747min 980.936 PPB m

response 2132150807

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88303.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:33 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:50:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.615 | 4.374 | 1392.2E6 | 625.6E6 | 48.613 | 50.401 |
| | Spiked Amount 40.000 | | | Recovery | = | 121.53% | 126.00% |
| 51) | S Decachlor... | 19.200 | 22.638 | 3586.3E6 | 1807.7E6 | 144.222 | 149.511 |
| | Spiked Amount 40.000 | | | Recovery | = | 360.56% | 373.78% |
| | Target Compounds | | | | | | |
| 12) | AR1242-A | 5.023 | 6.605 | 855.4E6 | 406.6E6 | 974.434 | 1007.368 |
| 13) | AR1242-B | 6.088 | 7.870 | 1755.4E6 | 916.0E6 | 971.345 | 1020.280 |
| 14) | AR1242-C | 6.406 | 8.251 | 735.4E6 | 363.8E6 | 969.925 | 1062.802 |
| 15) | AR1242-D | 7.447 | 9.643 | 743.3E6 | 255.8E6 | 969.167 | 970.396m |
| 16) | AR1242-E | 8.678 | 10.943 | 621.8E6 | 369.6E6 | 940.687 | 1140.767 |
| 36) | AR1268-A | 15.763 | 18.743 | 4421.6E6 | 2301.2E6 | 961.306 | 982.428 |
| 37) | AR1268-B | 15.882 | 18.892 | 4642.3E6 | 2259.0E6 | 987.631 | 996.718 |
| 38) | AR1268-C | 16.503 | 19.726 | 3877.4E6 | 1968.3E6 | 973.910 | 979.771 |
| 39) | AR1268-D | 17.661 | 20.710 | 1587.2E6 | 749.5E6 | 980.567 | 950.541 |
| 40) | AR1268-E | 18.587 | 21.784 | 11788.1E6 | 6277.8E6 | 1003.447 | 986.383 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

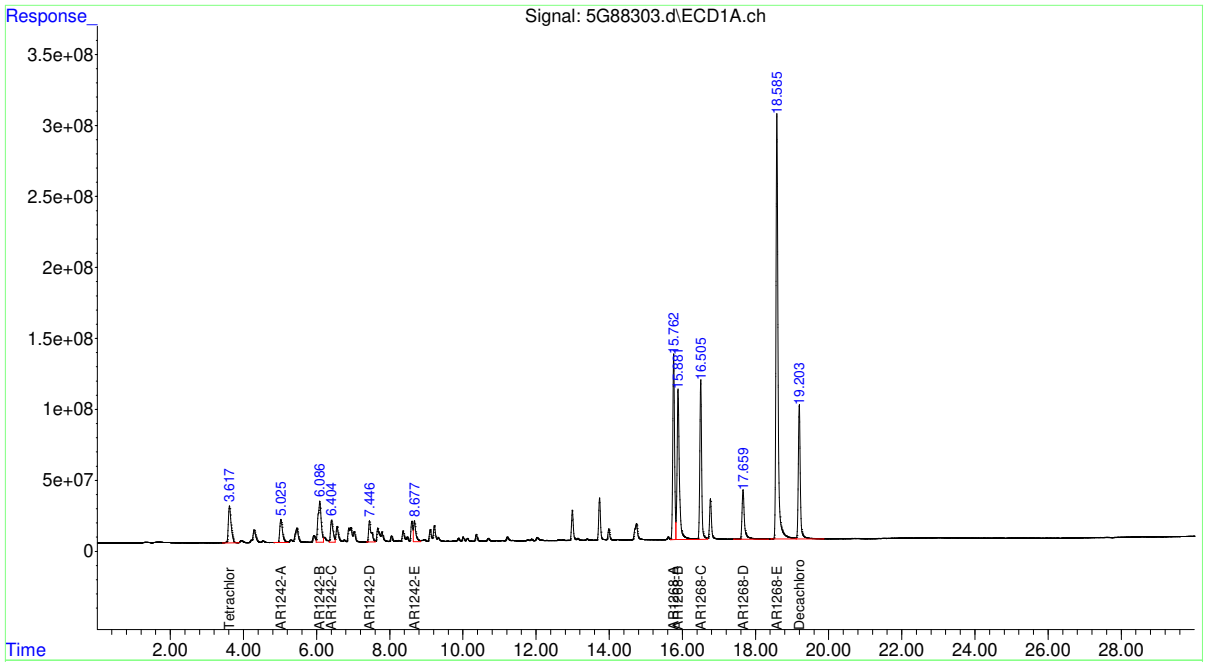
11.5.31 11

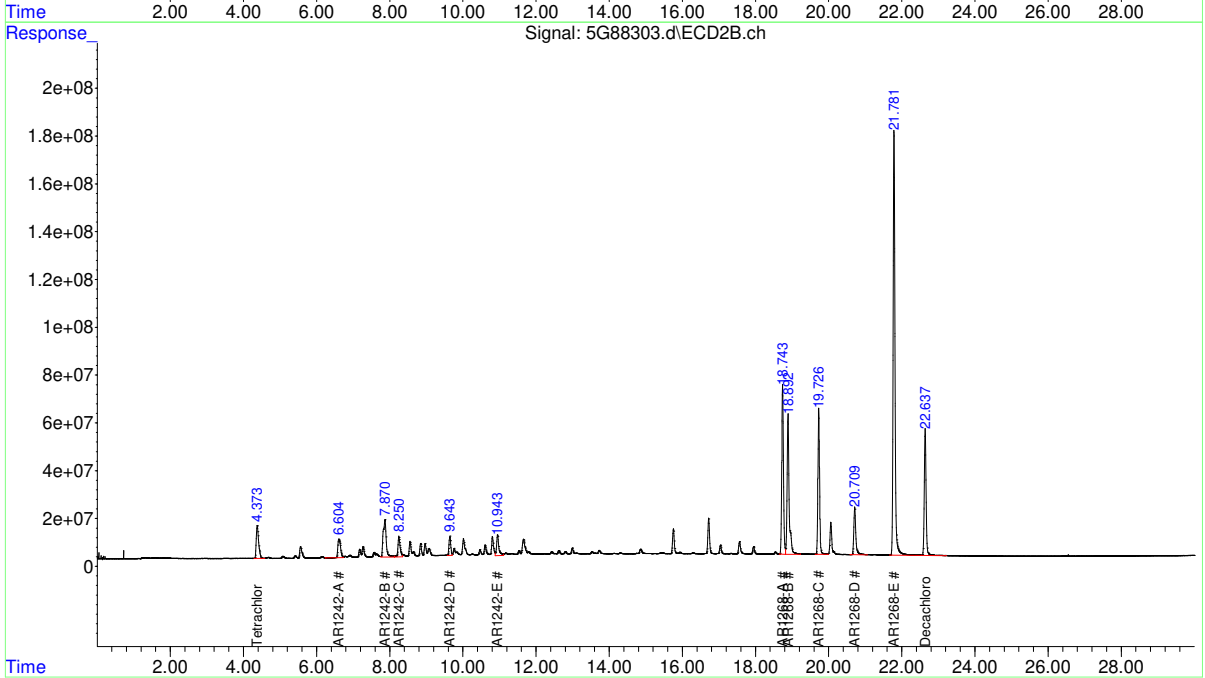
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88303.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:33 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:50:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um










JC87535

# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-ICV2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88303.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 19:33 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

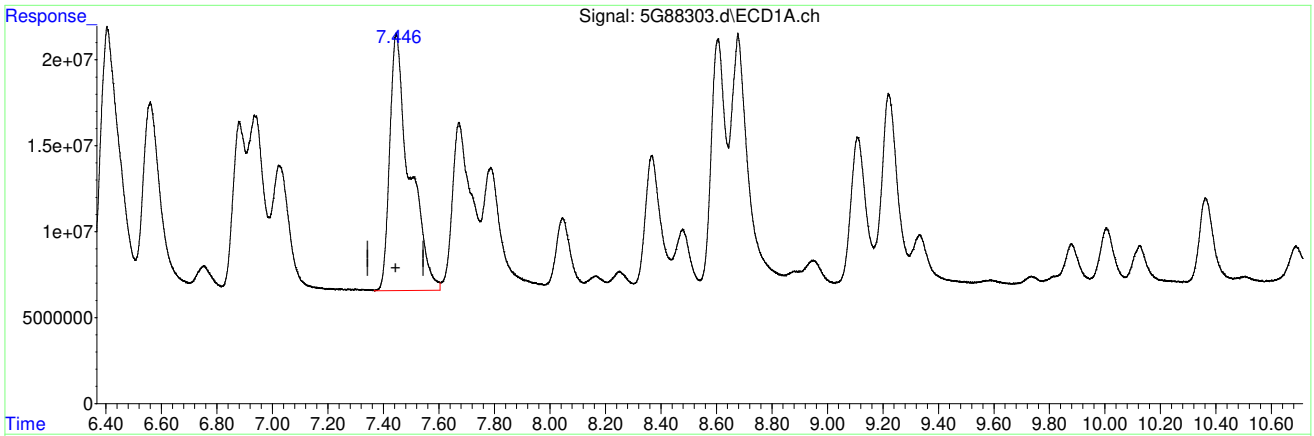
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1242-D | | 2 | 9.64 | Split peak |

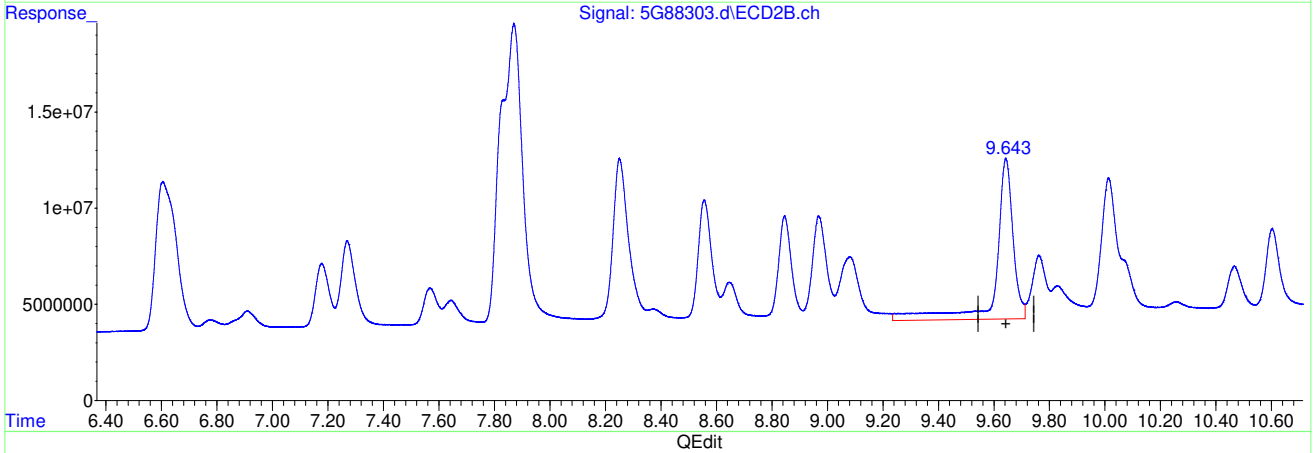
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88303.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:33 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:49:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(15) AR1242-D

7.447min 969.167 PPB

response 743326432

(15) AR1242-D #2

9.643min 1375.498 PPB

response 362651654

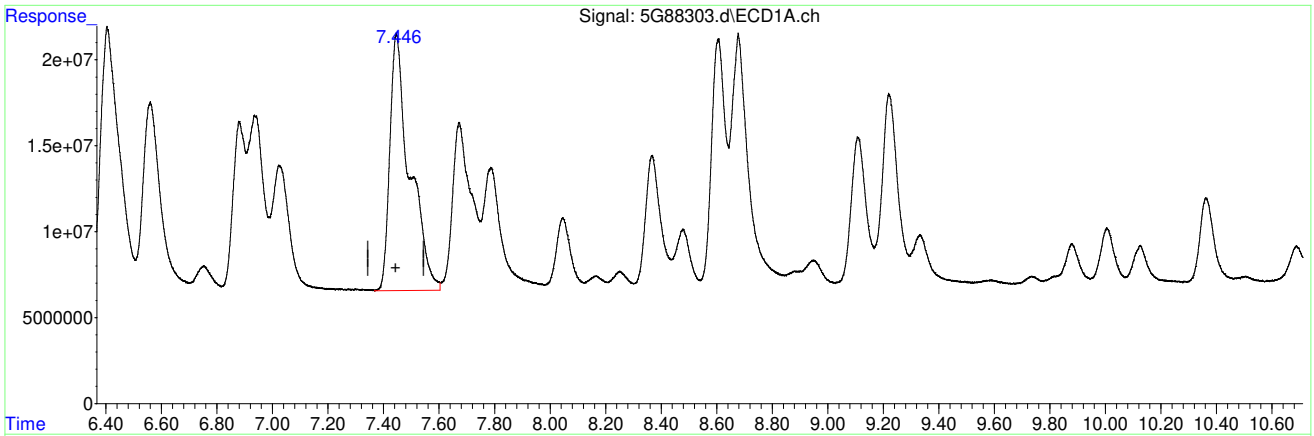
(+) = Expected Retention Time

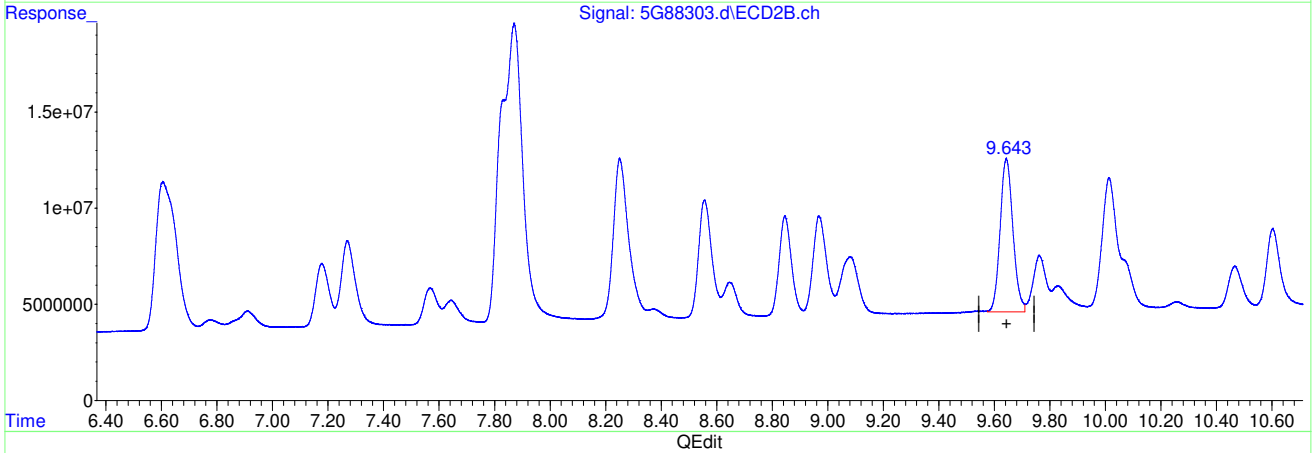
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88303.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 7:33 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:49:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(15) AR1242-D

7.447min 969.167 PPB

response 743326432

(15) AR1242-D #2

9.643min 970.396 PPB m

response 255846133

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/08/19 15:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:52:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) | S Tetrachlo... | 3.615 | 4.374 | 1374.7E6 | 635.9E6 | 48.001 | 51.235 |
| | Spiked Amount 40.000 | | | Recovery | = | 120.00% | 128.09% |
| 51) | S Decachlor... | 19.201 | 22.638 | 1315.8E6 | 644.6E6 | 52.915 | 53.315 |
| | Spiked Amount 40.000 | | | Recovery | = | 132.29% | 133.29% |
| | Target Compounds | | | | | | |
| 17) | AR1248-A | 5.020 | 6.603 | 393.0E6 | 183.2E6 | 918.210 | 946.927 |
| 18) | AR1248-B | 6.087 | 7.870 | 1049.4E6 | 518.5E6 | 973.054 | 958.413m |
| 19) | AR1248-C | 6.881 | 8.847 | 1164.6E6 | 315.3E6 | 1037.036m | 1041.699 |
| 20) | AR1248-D | 7.446 | 9.643 | 1175.0E6 | 435.0E6 | 1037.655 | 1052.527m |
| 21) | AR1248-E | 7.673 | 10.013 | 718.2E6 | 509.0E6 | 1073.088 | 1085.887 |
| 22) | AR1248-F | 8.677 | 10.942 | 1095.2E6 | 598.4E6 | 1074.329 | 1079.433 |
| 23) | AR1248-G | 9.223 | 11.655 | 851.4E6 | 545.4E6 | 1050.515 | 1082.141 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

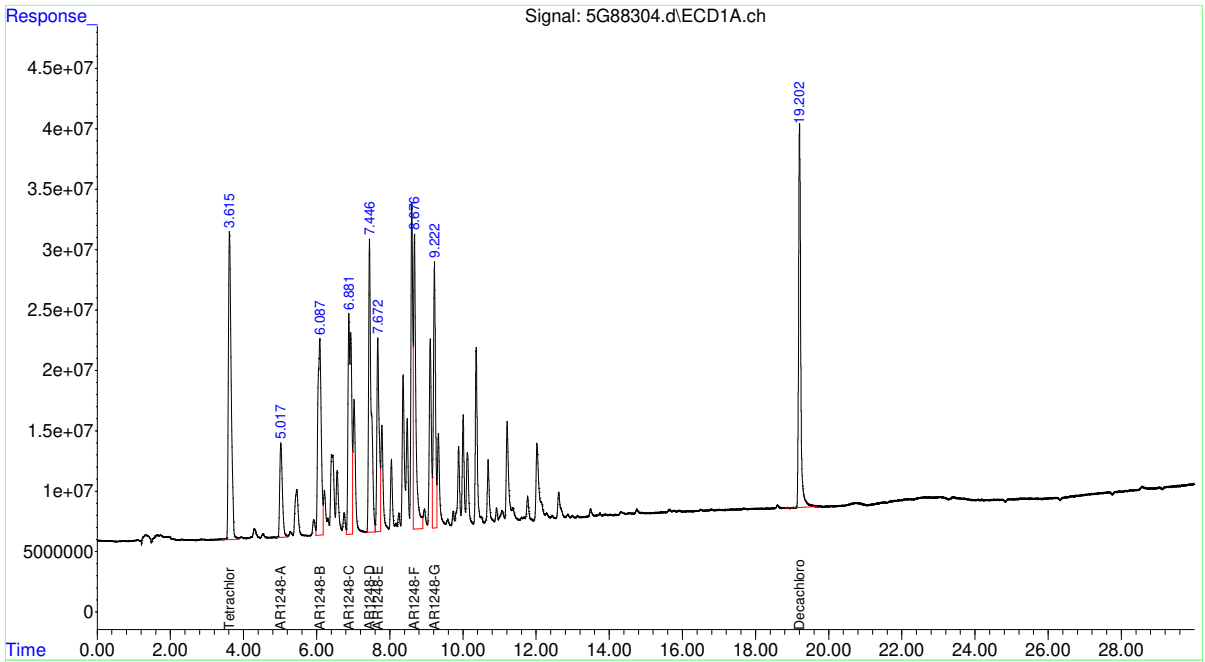
11.5.32 11

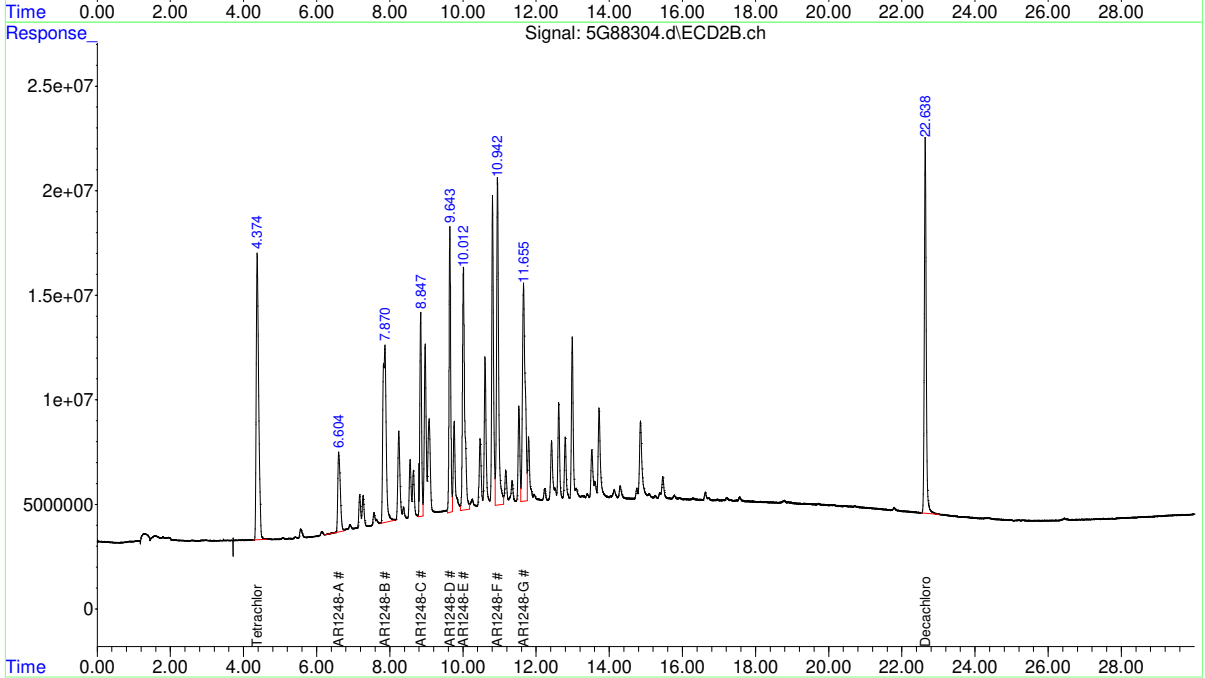
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:52:02 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um












SGS JC87535

# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2127-ICV2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88304.D | **Analyst approved:** | 05/08/19 08:57 Tianwei Ruan |
| **Injection Time:** | 05/07/19 20:05 | **Supervisor approved:** | 05/08/19 15:53 Gwendolyn Burns |

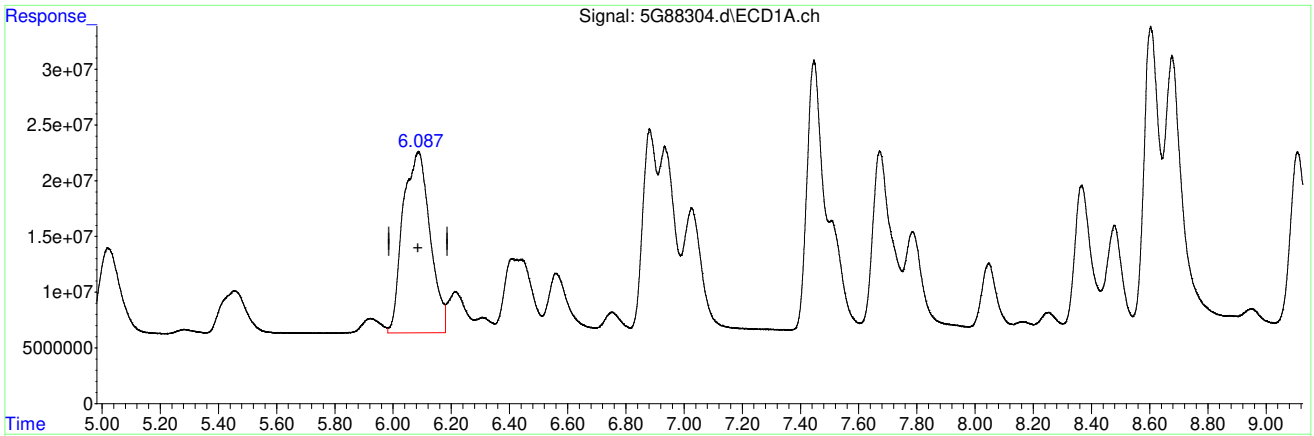
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1248-C | | 1 | 6.88 | Split peak |
| AR1248-B | | 2 | 7.87 | Split peak |
| AR1248-D | | 2 | 9.64 | Split peak |

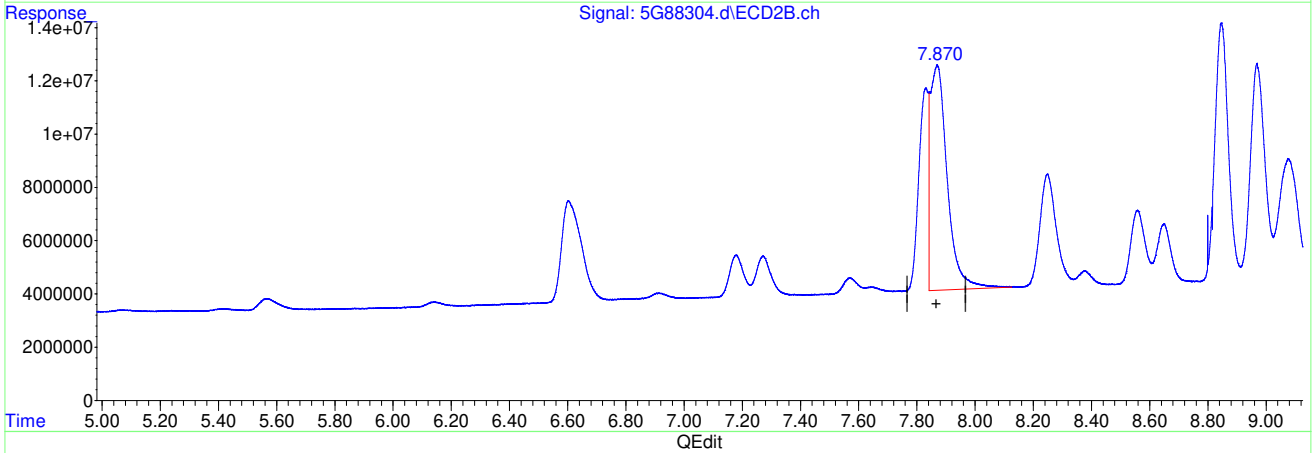
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:51:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(18) AR1248-B

6.087min 973.054 PPB

response 1049410085

(18) AR1248-B #2

7.870min 631.713 PPB

response 341733200

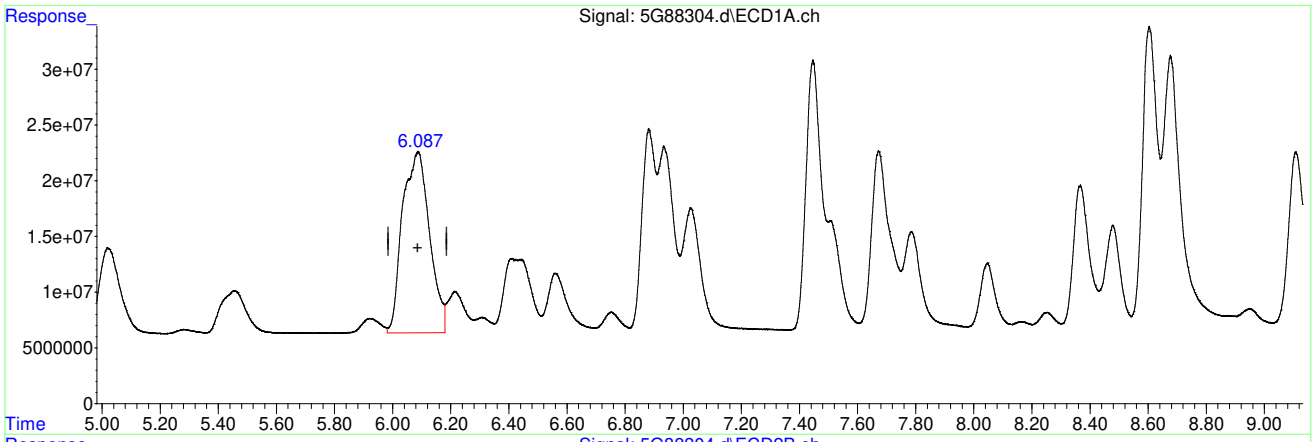
(+) = Expected Retention Time

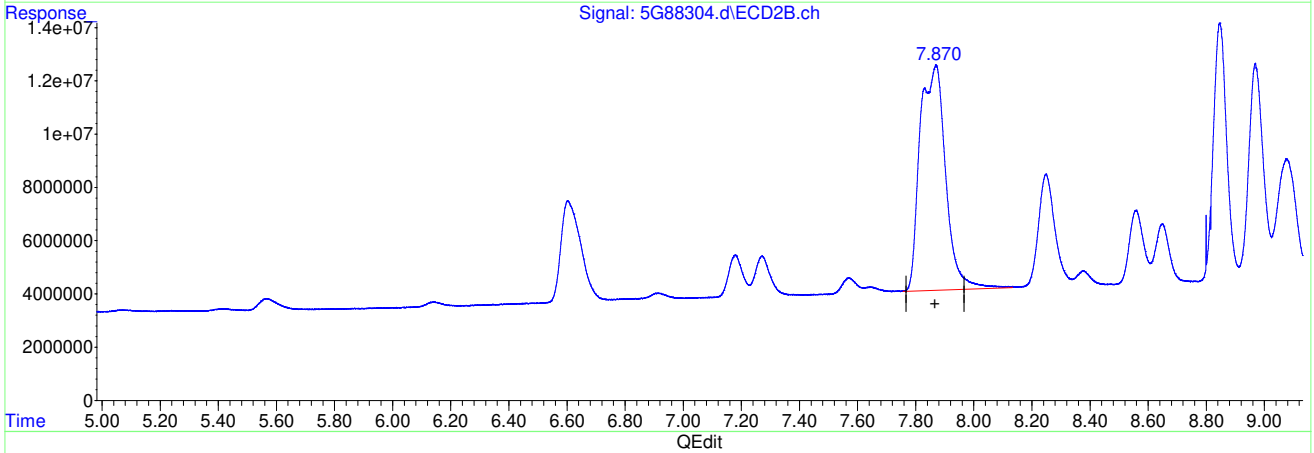
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:51:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um




QEdit

(18) AR1248-B

6.087min 973.054 PPB

response 1049410085

(18) AR1248-B #2

7.870min 958.413 PPB m

response 518465842

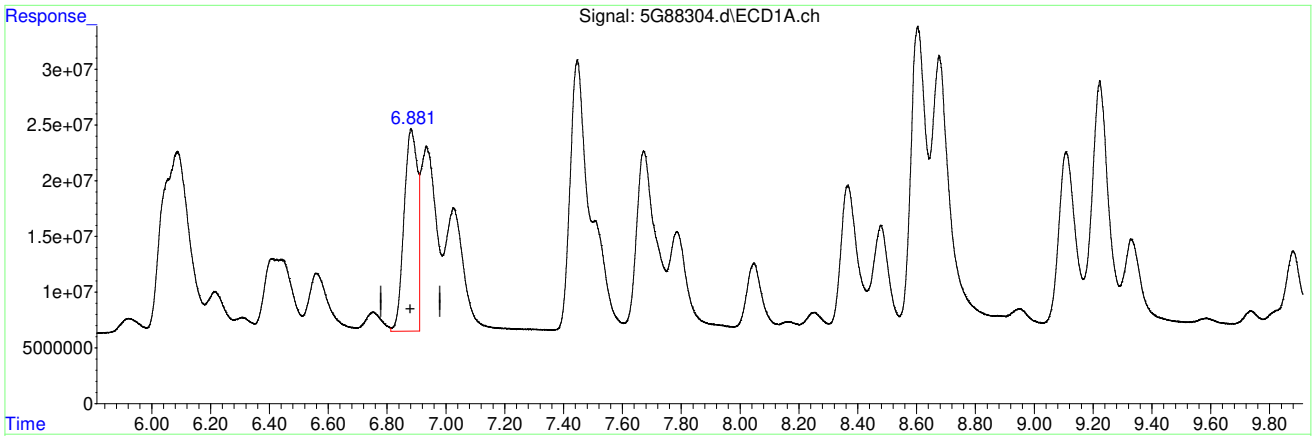
(+) = Expected Retention Time

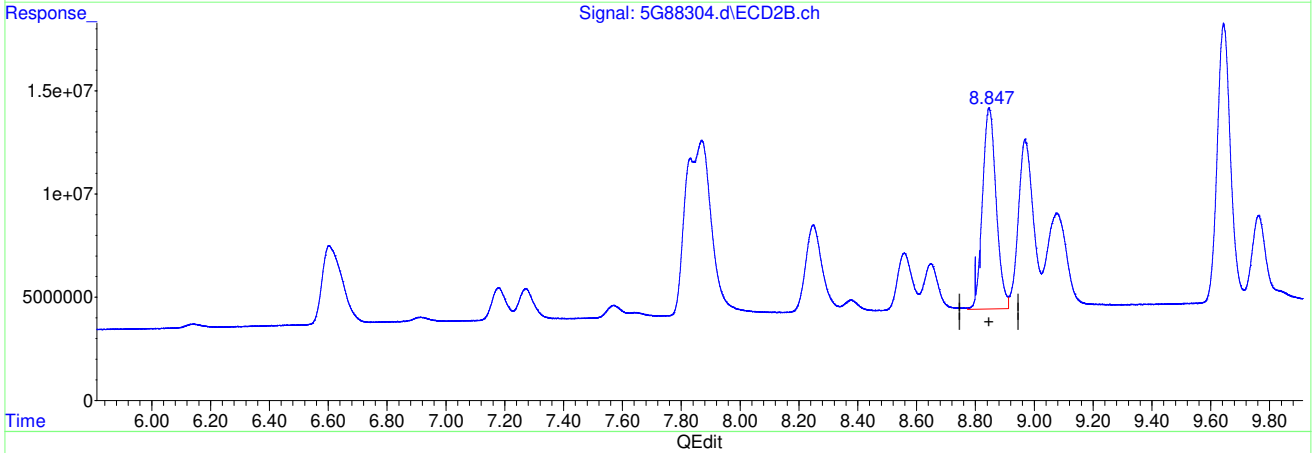
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:51:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(19) AR1248-C

6.883min 516.176 PPB

response 579689017

(19) AR1248-C #2

8.847min 1041.699 PPB

response 315299384

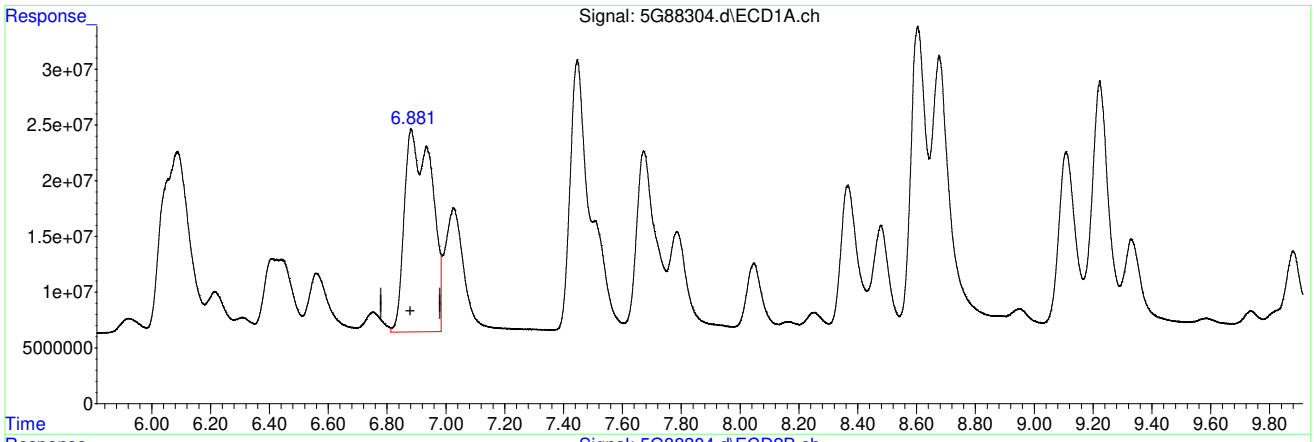
(+) = Expected Retention Time

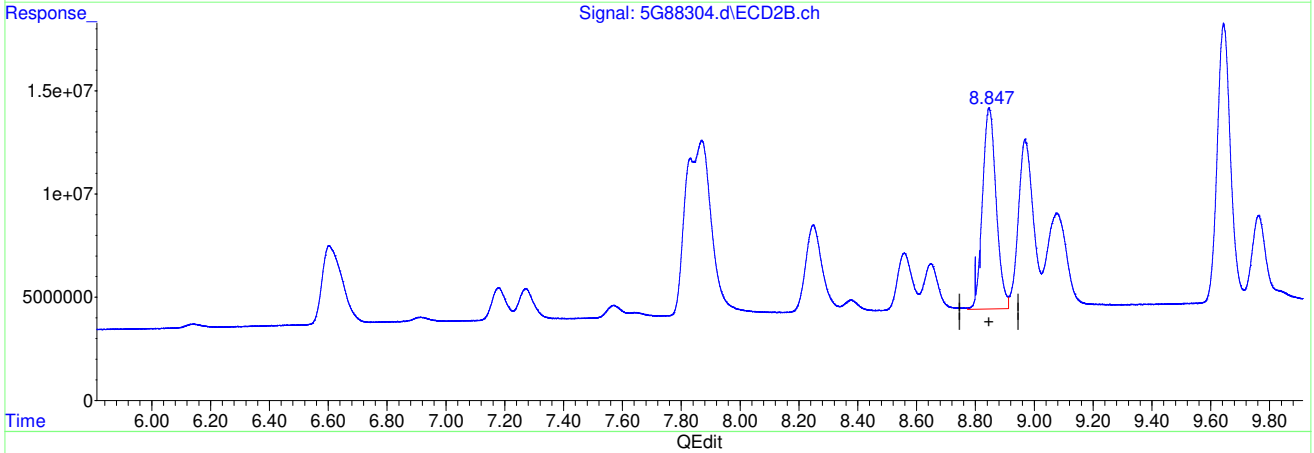
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:51:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(19) AR1248-C

6.881min 1037.036 PPB m

response 1164638189

(19) AR1248-C #2

8.847min 1041.699 PPB

response 315299384

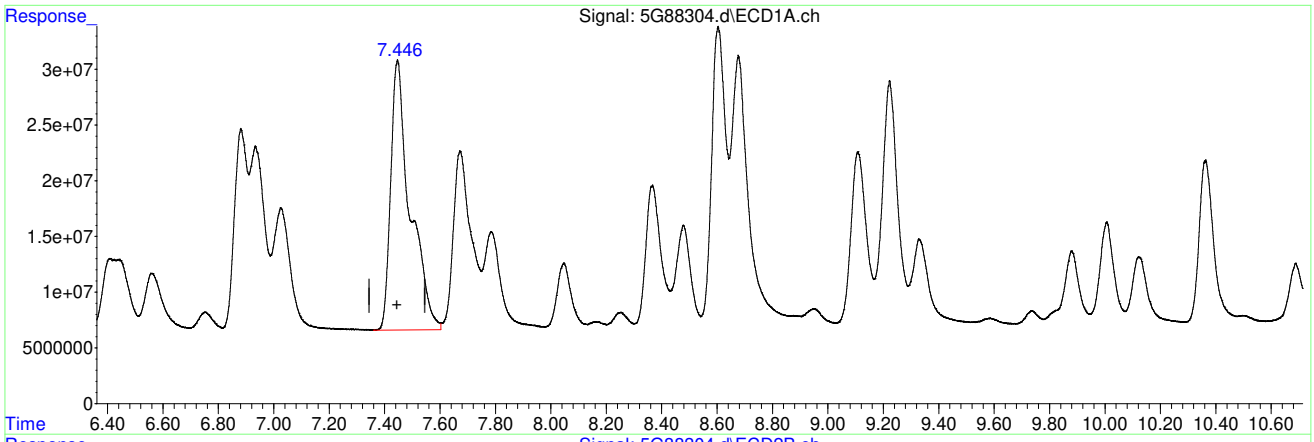
(+) = Expected Retention Time

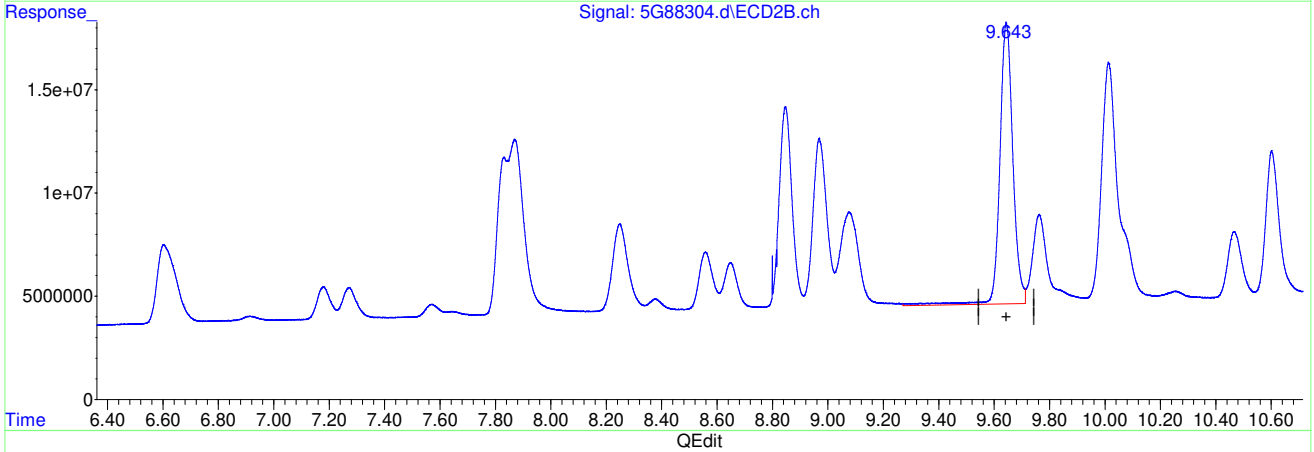
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:51:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(20) AR1248-D

7.446min 1037.655 PPB

response 1174987486

(20) AR1248-D #2

9.644min 1085.643 PPB

response 448655258

(+) = Expected Retention Time

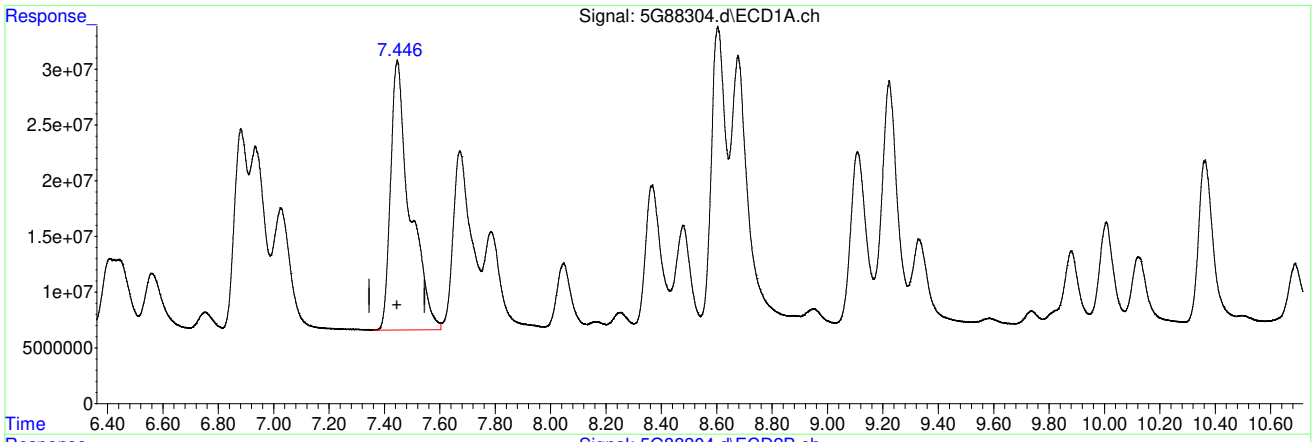
5PCB2127.M Wed May 08 08:52:00 2019 Page: 1

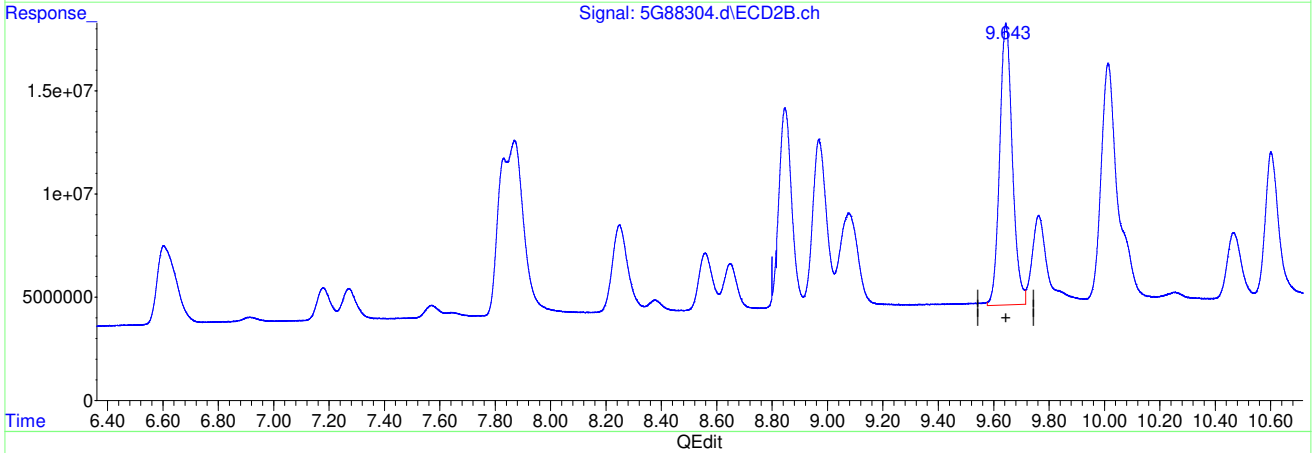
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2127\
Data File : 5G88304.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 7 May 2019 8:05 pm
Operator : tianweir
Sample : icv2127-1000
Misc : op20179,g5g2127,15.0,,,10,1
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 08 08:51:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 08 08:45:48 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(20) AR1248-D

7.446min 1037.655 PPB

response 1174987486

(20) AR1248-D #2

9.643min 1052.527 PPB m

response 434969640

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns
05/15/19 14:51

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op17615,G5g2132,1000,,,10,1
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:27:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.607 | 4.382 | 1190.5E6 | 556.0E6 | 41.567 | 44.800 |
| | Spiked Amount 40.000 | | | Recovery | = | 103.92% | 112.00% |
| 51) S | Decachlor... | 19.109 | 22.610 | 926.6E6 | 493.2E6 | 37.262 | 40.788 |
| | Spiked Amount 40.000 | | | Recovery | = | 93.16% | 101.97% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.281 | 5.567 | 521.1E6 | 240.7E6 | 989.799 | 1075.491 |
| 42) | AR1016-B | 5.000 | 6.607 | 1046.9E6 | 511.3E6 | 1029.598 | 1101.063 |
| 43) | AR1016-C | 6.061 | 7.873 | 2064.9E6 | 1128.9E6 | 974.900 | 1080.962 |
| 44) | AR1016-D | 6.375 | 8.252 | 895.9E6 | 427.0E6 | 1007.548 | 1074.984 |
| 45) | AR1016-E | 7.403f | 9.638 | 899.8E6 | 332.0E6 | 995.105m | 1062.431 |
| 46) | AR1260-A | 12.540 | 15.446 | 1955.2E6 | 972.3E6 | 934.161m | 983.899m |
| 47) | AR1260-B | 12.915 | 15.736 | 1211.5E6 | 615.7E6 | 987.352 | 1030.448 |
| 48) | AR1260-C | 13.664 | 16.699 | 1159.4E6 | 605.0E6 | 911.054 | 1039.829 |
| 49) | AR1260-D | 14.667 | 17.542 | 2631.7E6 | 1466.4E6 | 879.768 | 986.543 |
| 50) | AR1260-E | 15.545 | 18.748 | 2998.9E6 | 1477.5E6 | 908.707m | 1004.113m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

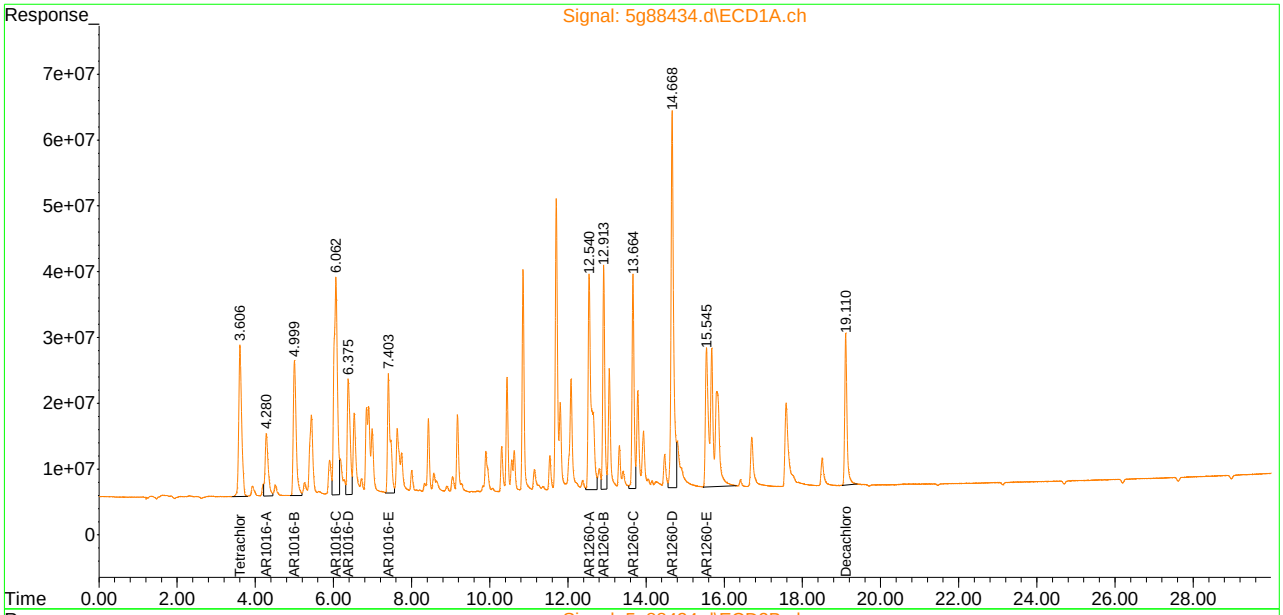
11.5.33 11

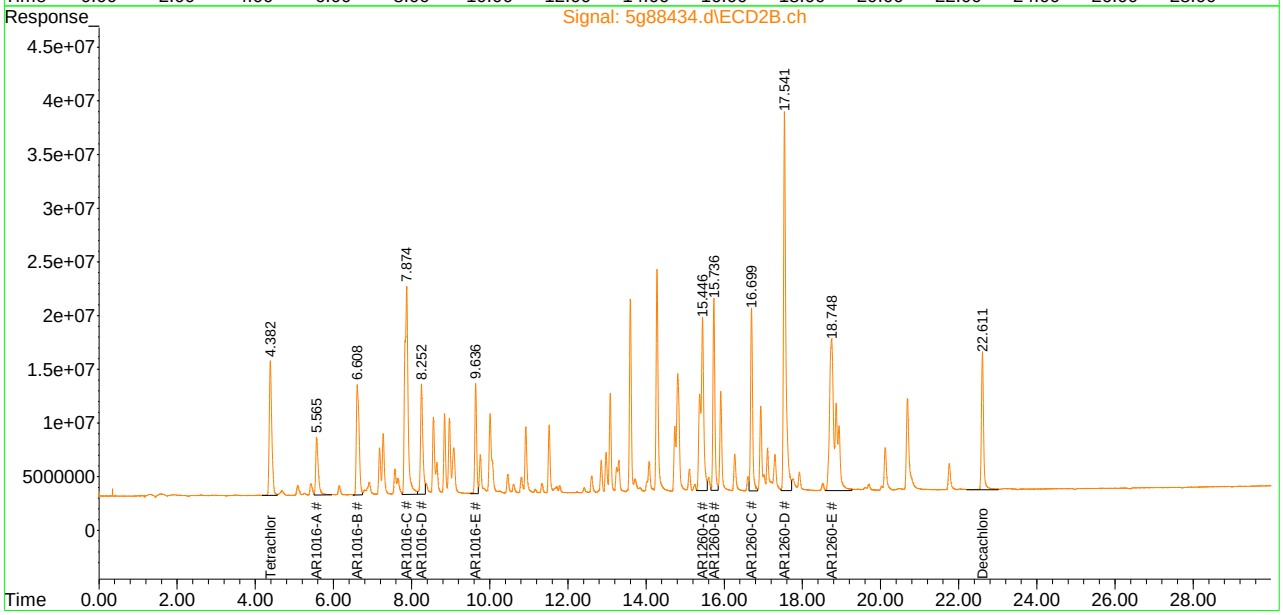
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op17615,G5g2132,1000,,,10,1
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:27:49 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



**Sample Number:** G5G2132-CC2127
**Lab FileID:** 5G88434.D
**Injection Time:** 05/14/19 09:16
**Method:** SW846 8082A
**Analyst approved:** 05/15/19 14:14 Syra Marie Pacheco
**Supervisor approved:** 05/15/19 14:51 Gwendolyn Burns

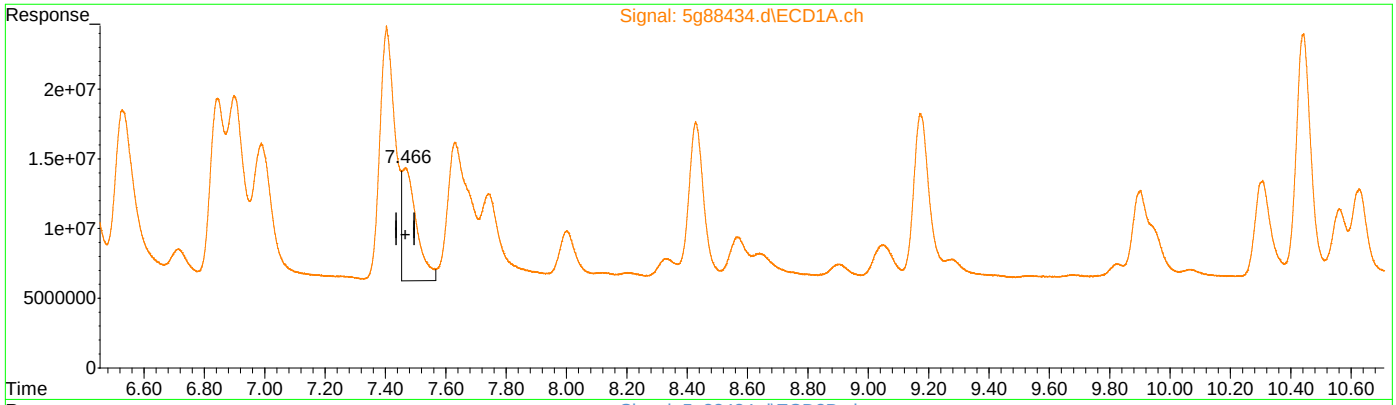
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1016-E | | 1 | 7.40 | Poorly defined baseline |
| AR1260-A | | 1 | 12.54 | Poorly defined baseline |
| AR1260-A | | 2 | 15.45 | Poorly defined baseline |
| AR1260-E | | 1 | 15.55 | Poorly defined baseline |
| AR1260-E | | 2 | 18.75 | Poorly defined baseline |

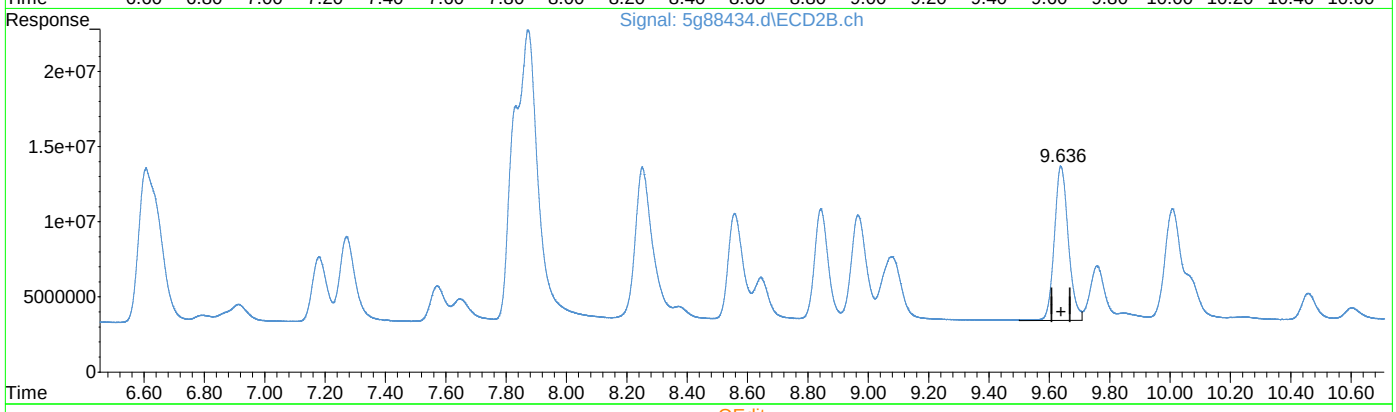
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op176154,G5g2132,1000,,,10,1
ALS Vial : 31  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:20:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.466min 298.698 PPB

response 270078464

(45) AR1016-E #2

9.638min 1062.431 PPB

response 331999826

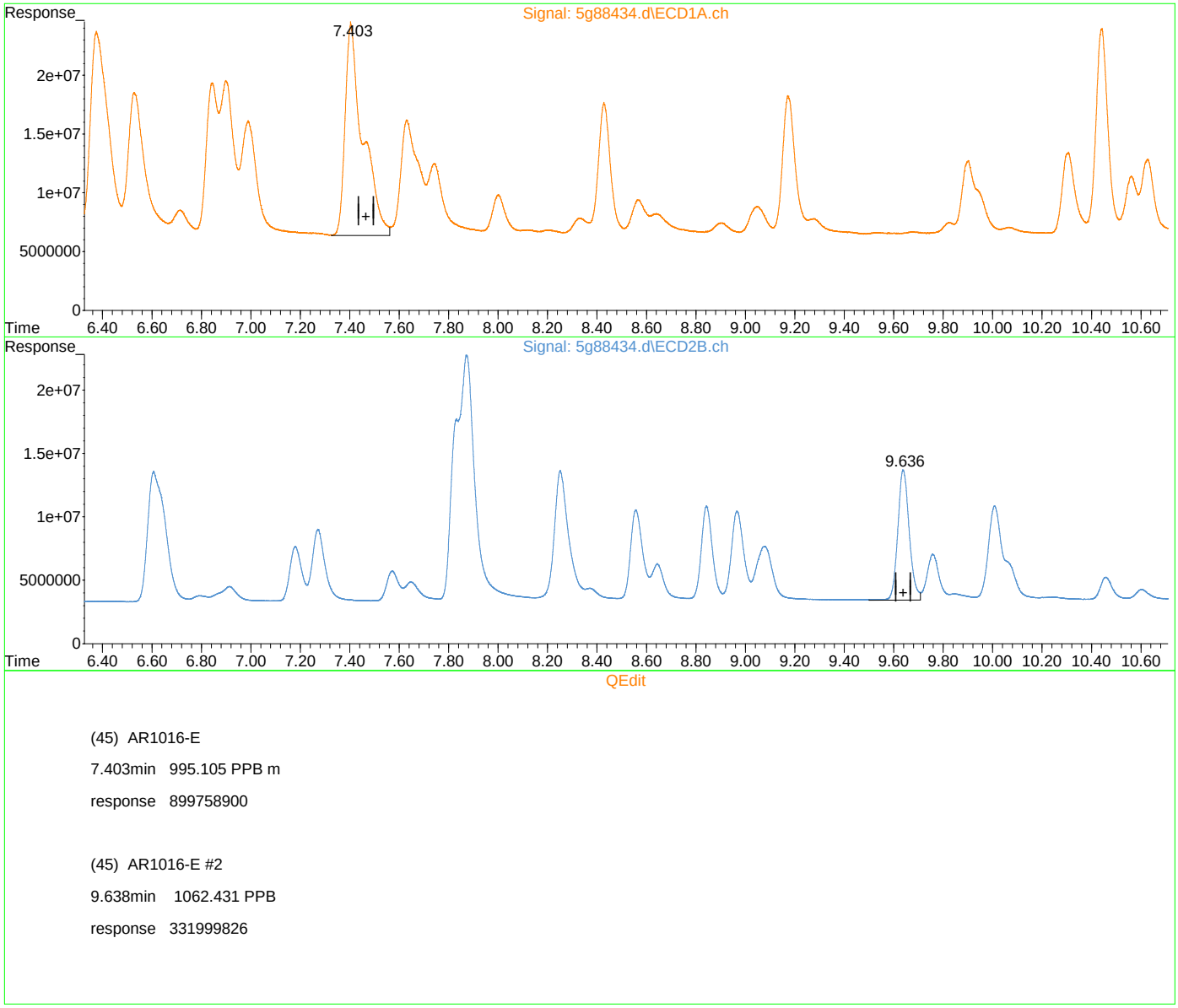
(+) = Expected Retention Time
5PCB2127.M Wed May 15 12:26:03 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op176154,G5g2132,1000,,,10,1
ALS Vial : 31  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:20:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(45) AR1016-E

7.403min 995.105 PPB m

response 899758900

(45) AR1016-E #2

9.638min 1062.431 PPB

response 331999826

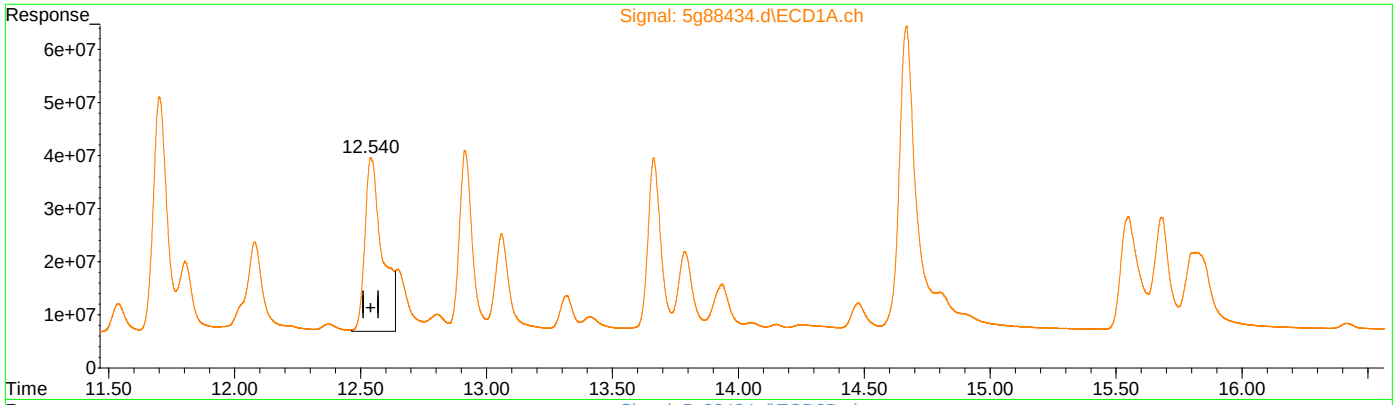
(+) = Expected Retention Time
5PCB2127.M Wed May 15 12:26:20 2019

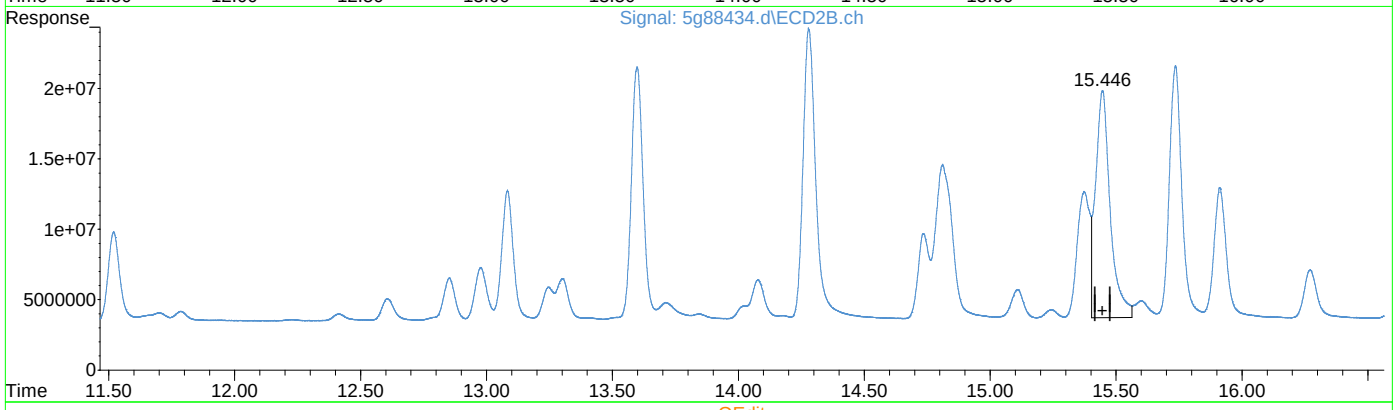
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op176154,G5g2132,1000,,,10,1
ALS Vial : 31  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:20:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.541min 745.757 PPB

response 1560908462

(46) AR1260-A #2

15.446min 664.458 PPB

response 656599862

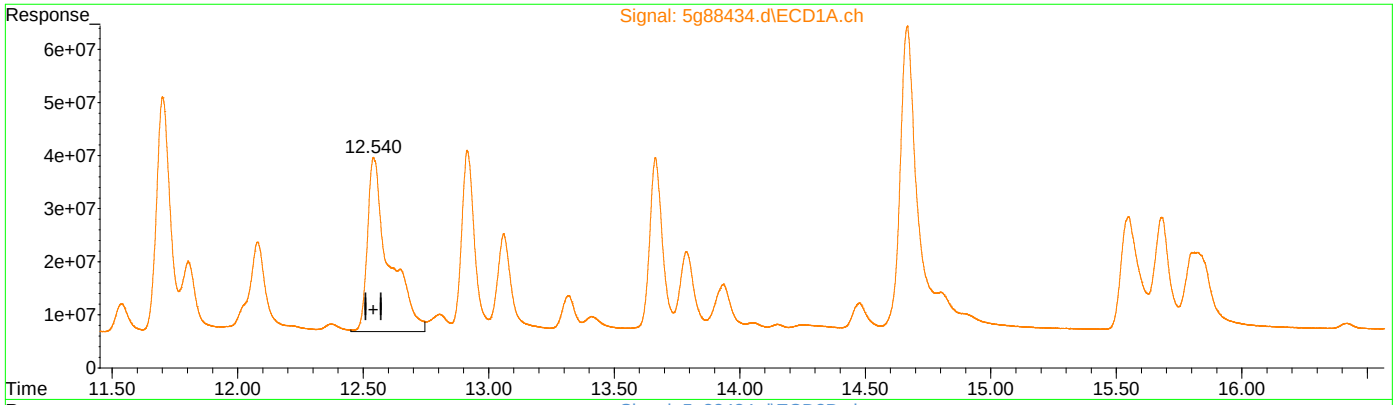
(+) = Expected Retention Time
5PCB2127.M Wed May 15 12:26:43 2019

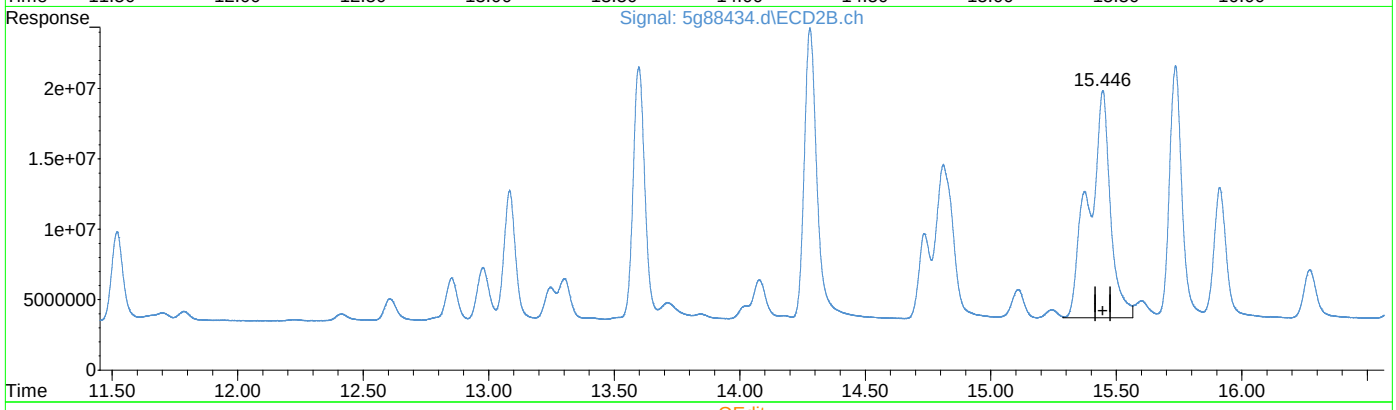
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op176154,G5g2132,1000,,,10,1
ALS Vial : 31  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:20:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.540min 934.161 PPB m

response 1955249984

(46) AR1260-A #2

15.446min 983.899 PPB m

response 972263329

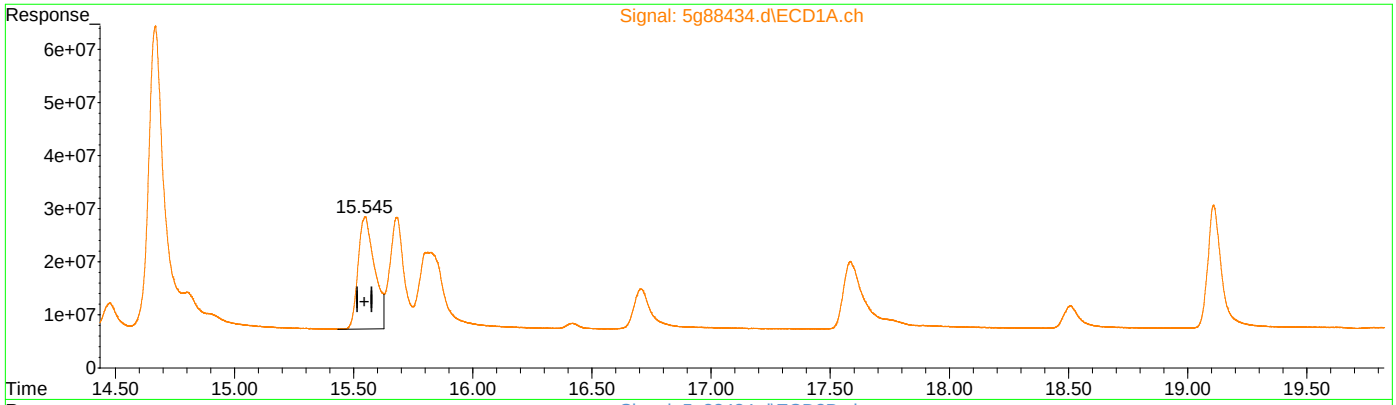
(+) = Expected Retention Time
5PCB2127.M Wed May 15 12:27:21 2019

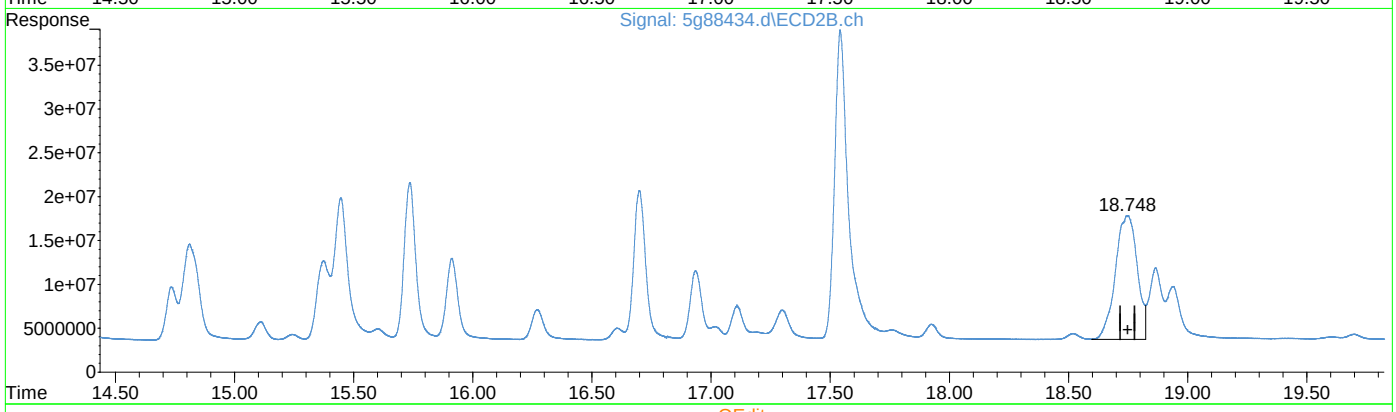
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op176154,G5g2132,1000,,,10,1
ALS Vial : 31  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:20:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.548min 310.295 PPB

response 1024037305

(50) AR1260-E #2

18.749min 612.344 PPB

response 901060992

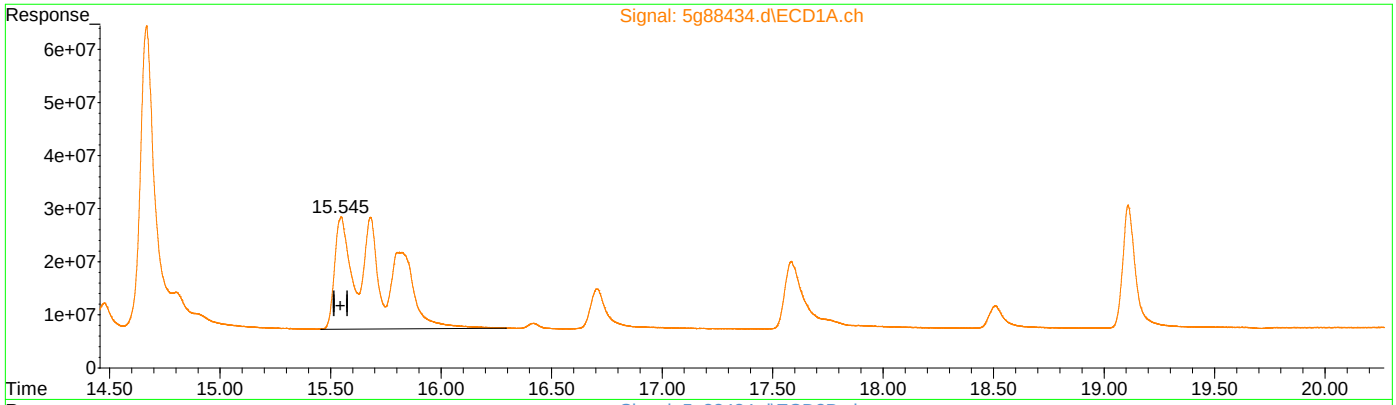
(+) = Expected Retention Time
5PCB2127.M Wed May 15 12:27:33 2019

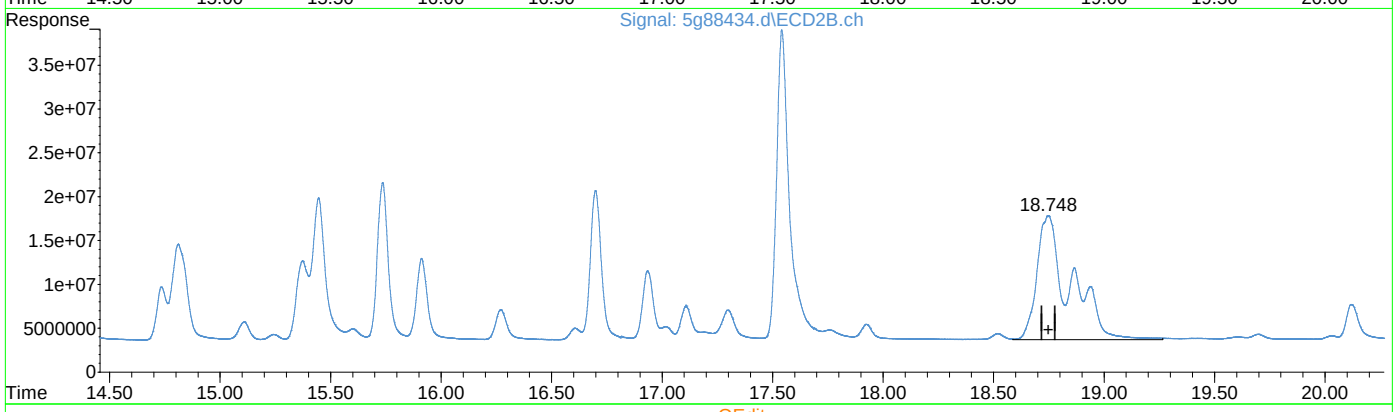
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88434.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  9:16 am
Operator : tianweir
Sample : cc2127-1000
Misc : op176154,G5g2132,1000,,,10,1
ALS Vial : 31  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:20:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2127.M
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.545min 908.707 PPB m

response 2998919836

(50) AR1260-E #2

18.748min 1004.113 PPB m

response 1477546533

(+) = Expected Retention Time
5PCB2127.M Wed May 15 12:27:57 2019

Manual Integrations APPROVED (compounds with "m" flag)
Gwendolyn Burns 05/15/19 14:51

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ppb | ppb |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 1) S | Tetrachlo... | 3.601 | 4.374 | 580.8E6 | 256.0E6 | 20.281 | 20.624 |
| | Spiked Amount 40.000 | | | Recovery | = | 50.70% | 51.56% |
| 51) S | Decachlor... | 19.102 | 22.603 | 515.4E6 | 243.3E6 | 20.727 | 20.122 |
| | Spiked Amount 40.000 | | | Recovery | = | 51.82% | 50.31% |
| | Target Compounds | | | | | | |
| 41) | AR1016-A | 4.273 | 5.559 | 256.6E6 | 113.2E6 | 487.407 | 506.013 |
| 42) | AR1016-B | 4.996 | 6.599 | 513.7E6 | 242.0E6 | 505.240 | 521.238 |
| 43) | AR1016-C | 6.055 | 7.864 | 1050.1E6 | 531.7E6 | 495.784 | 509.120m |
| 44) | AR1016-D | 6.369 | 8.242 | 450.9E6 | 203.5E6 | 507.078 | 512.240 |
| 45) | AR1016-E | 7.400f | 9.632 | 448.9E6 | 159.0E6 | 496.523m | 508.705 |
| 46) | AR1260-A | 12.536 | 15.437 | 1046.3E6 | 507.7E6 | 499.868 | 513.766m |
| 47) | AR1260-B | 12.910 | 15.730 | 617.4E6 | 306.8E6 | 503.177 | 513.353 |
| 48) | AR1260-C | 13.662 | 16.696 | 614.8E6 | 297.9E6 | 483.076 | 511.925 |
| 49) | AR1260-D | 14.659 | 17.536 | 1476.0E6 | 761.8E6 | 493.441 | 512.537 |
| 50) | AR1260-E | 15.533 | 18.744 | 1647.8E6 | 754.2E6 | 499.313m | 512.554m |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

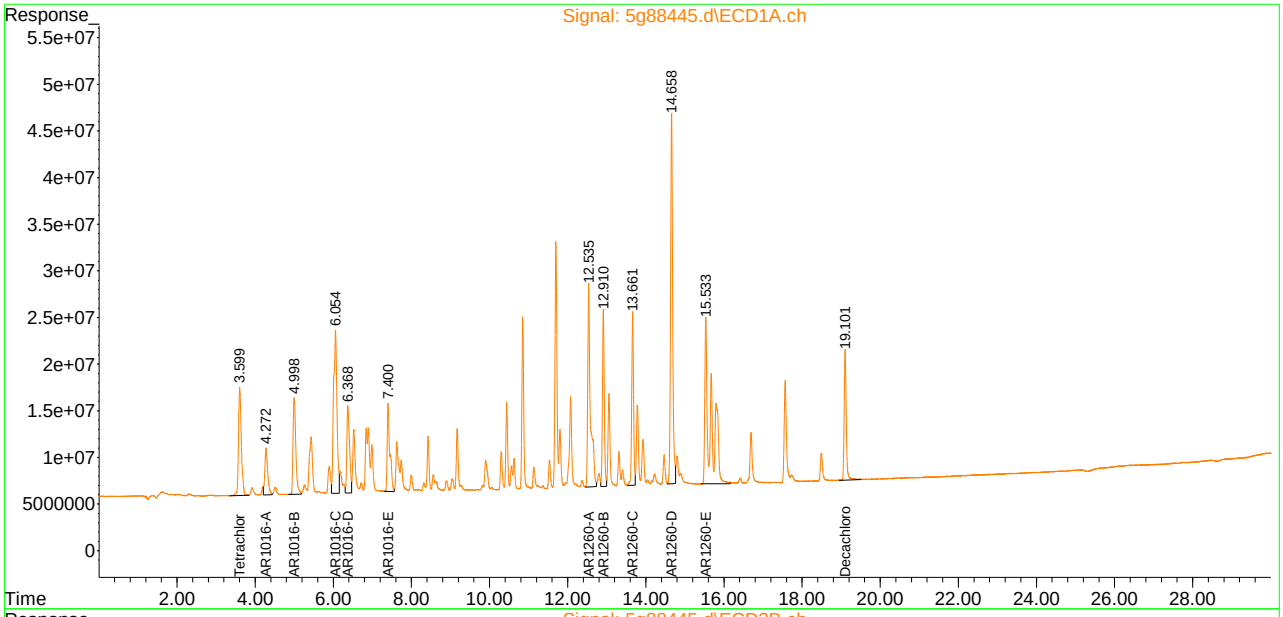
11.5.34 11

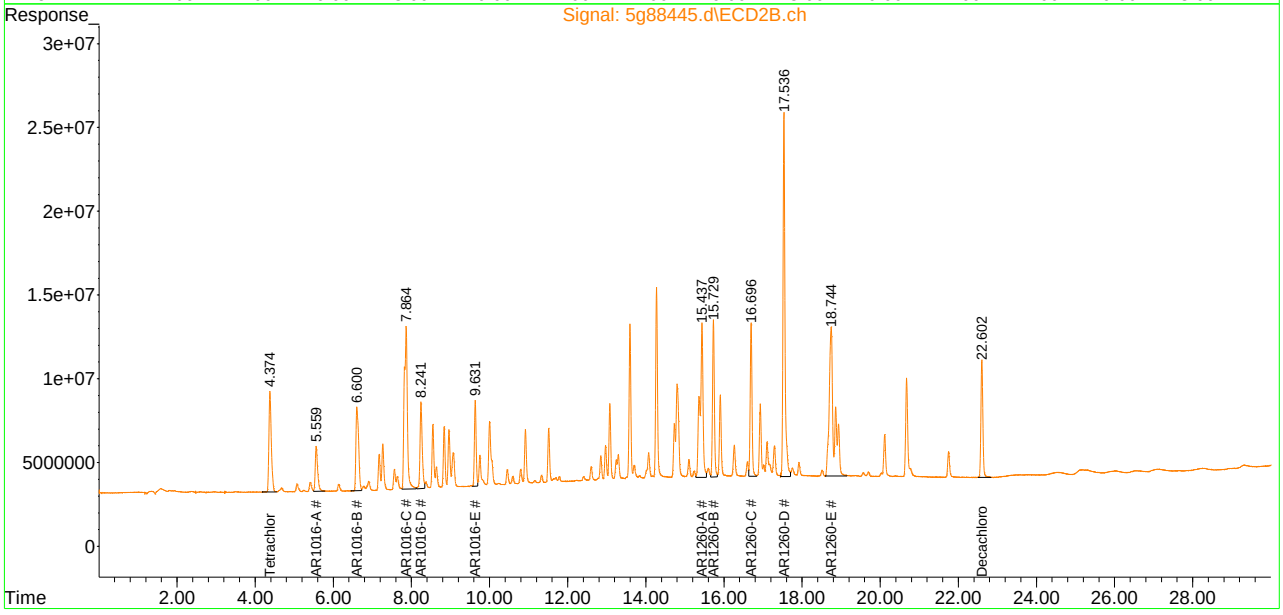
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch
Acq On : 14 May 2019 3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:57:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | G5G2132-CC2127 | **Method:** | SW846 8082A |
| **Lab FileID:** | 5G88445.D | **Analyst approved:** | 05/15/19 14:14 Syra Marie Pacheco |
| **Injection Time:** | 05/14/19 15:15 | **Supervisor approved:** | 05/15/19 14:51 Gwendolyn Burns |

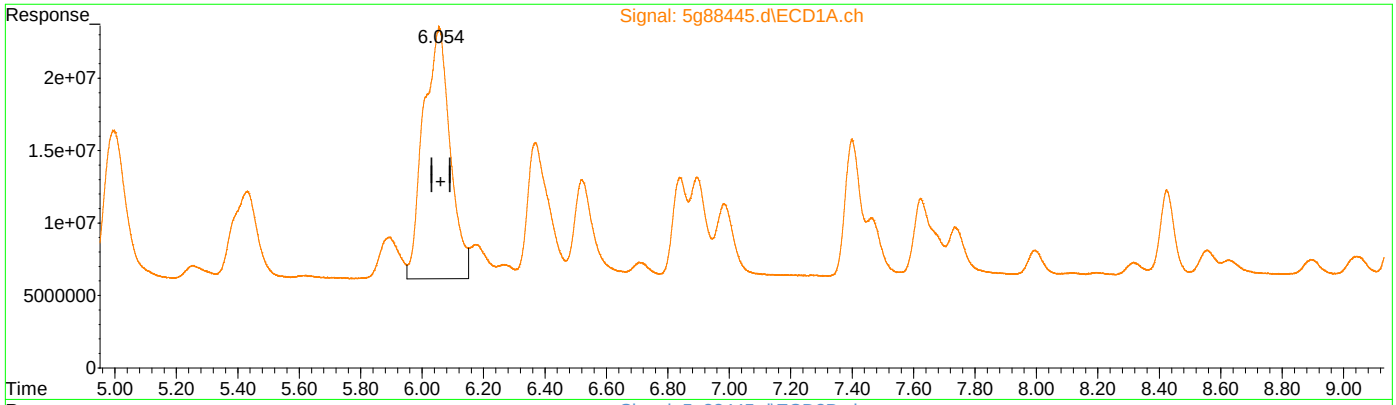
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| AR1016-E | | 1 | 7.40 | Poorly defined baseline |
| AR1016-C | | 2 | 7.86 | Poorly defined baseline |
| AR1260-A | | 2 | 15.44 | Poorly defined baseline |
| AR1260-E | | 1 | 15.53 | Poorly defined baseline |
| AR1260-E | | 2 | 18.74 | Poorly defined baseline |

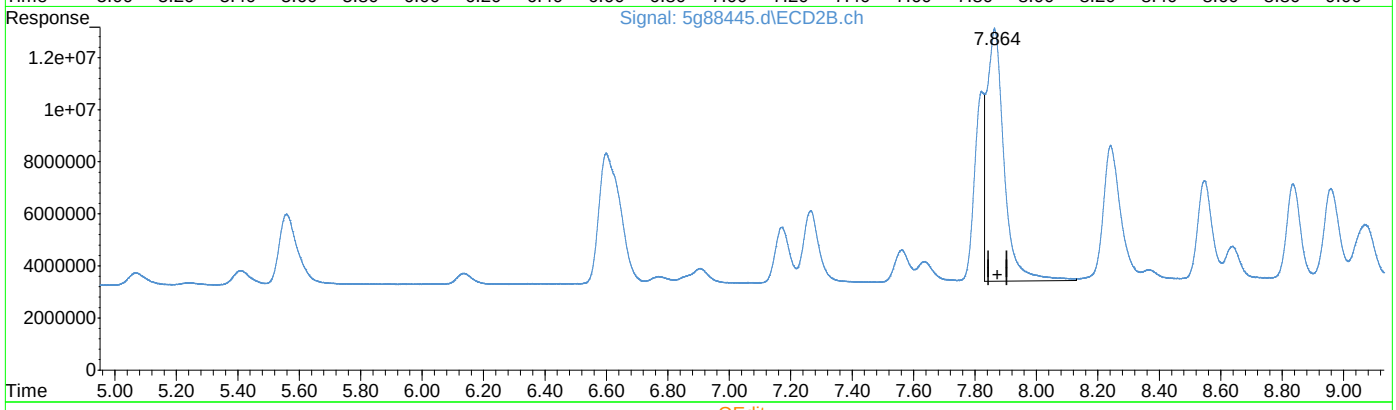
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.055min 495.784 PPB

response 1050090557

(43) AR1016-C #2

7.864min 361.985 PPB

response 378028774

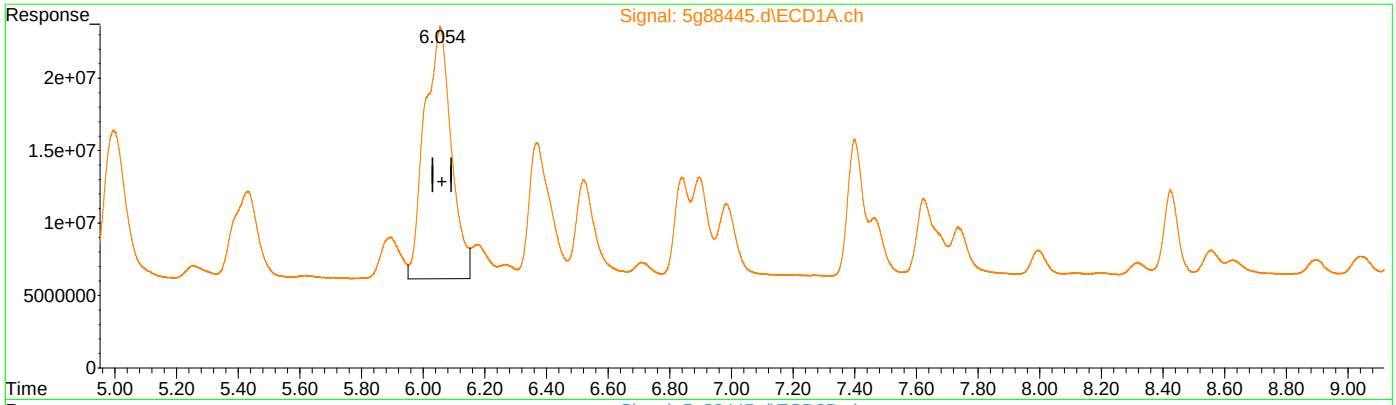
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:55:41 2019

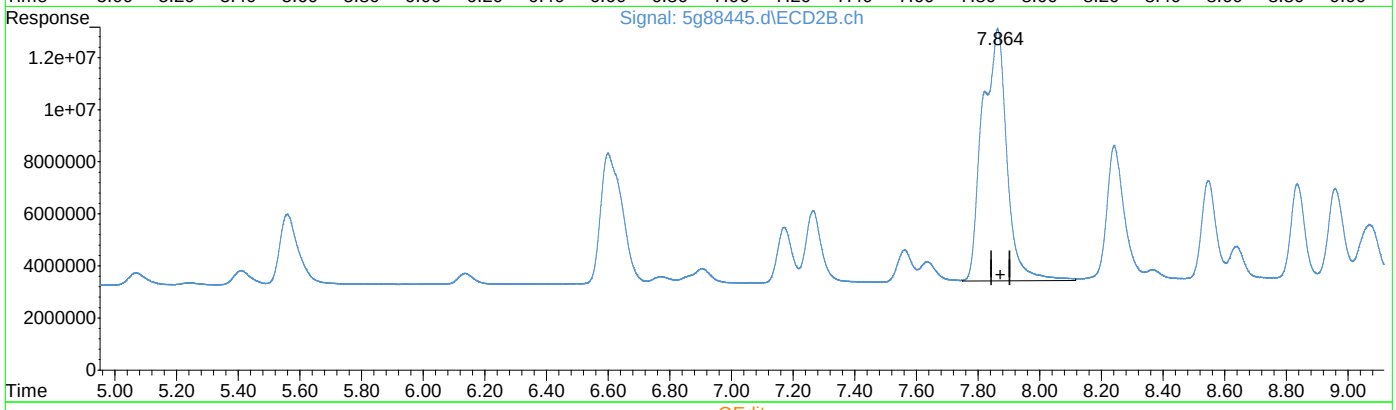
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(43) AR1016-C

6.055min 495.784 PPB

response 1050090557

(43) AR1016-C #2

7.864min 509.120 PPB m

response 531685904

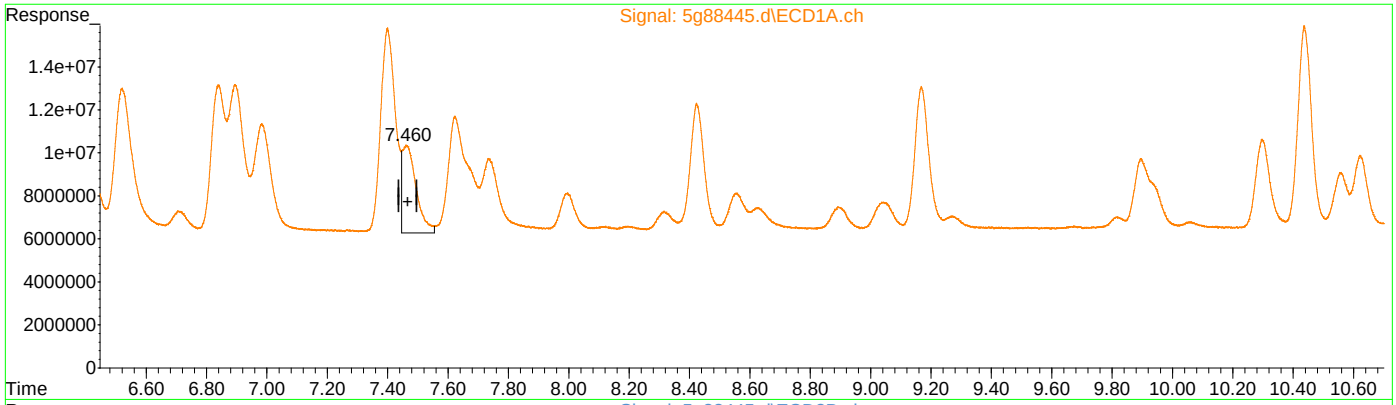
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:56:00 2019

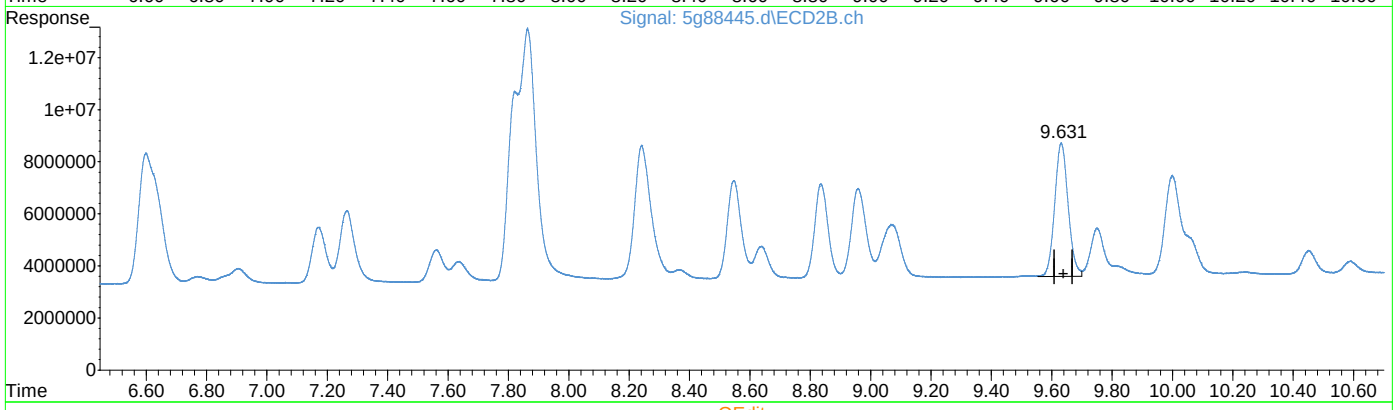
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.463min 144.250 PPB

response 130428437

(45) AR1016-E #2

9.632min 508.705 PPB

response 158965598

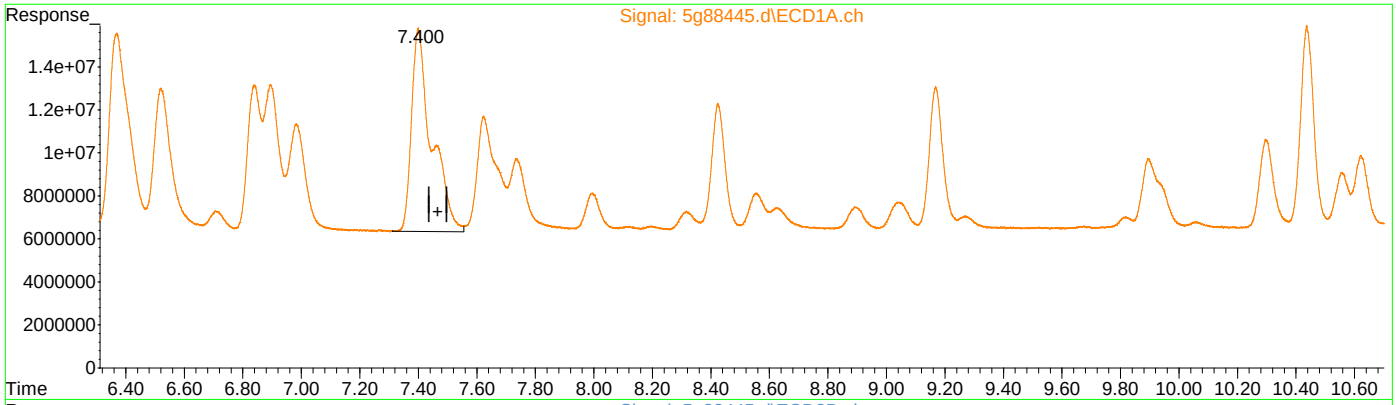
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:56:10 2019

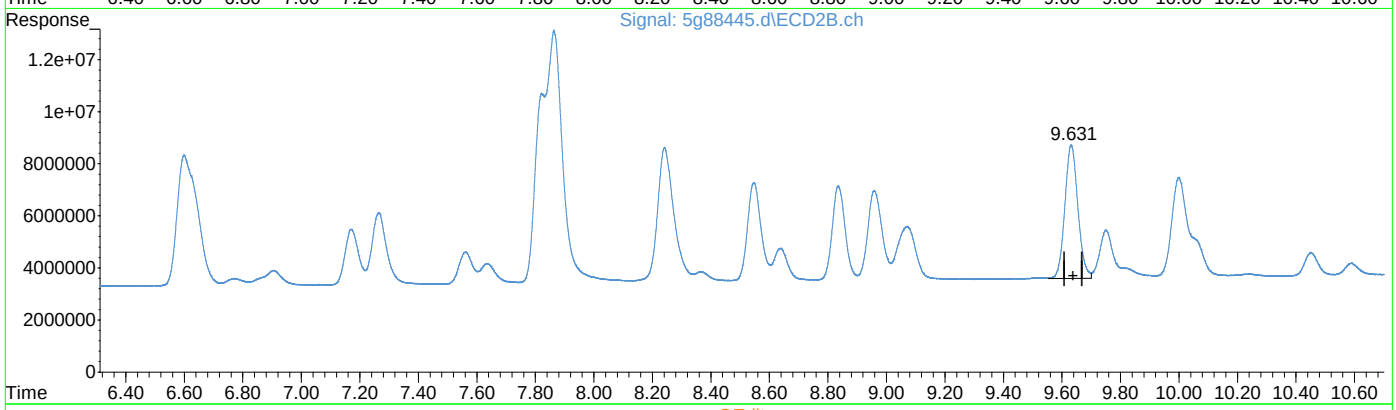
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(45) AR1016-E

7.400min 496.523 PPB m

response 448948195

(45) AR1016-E #2

9.632min 508.705 PPB

response 158965598

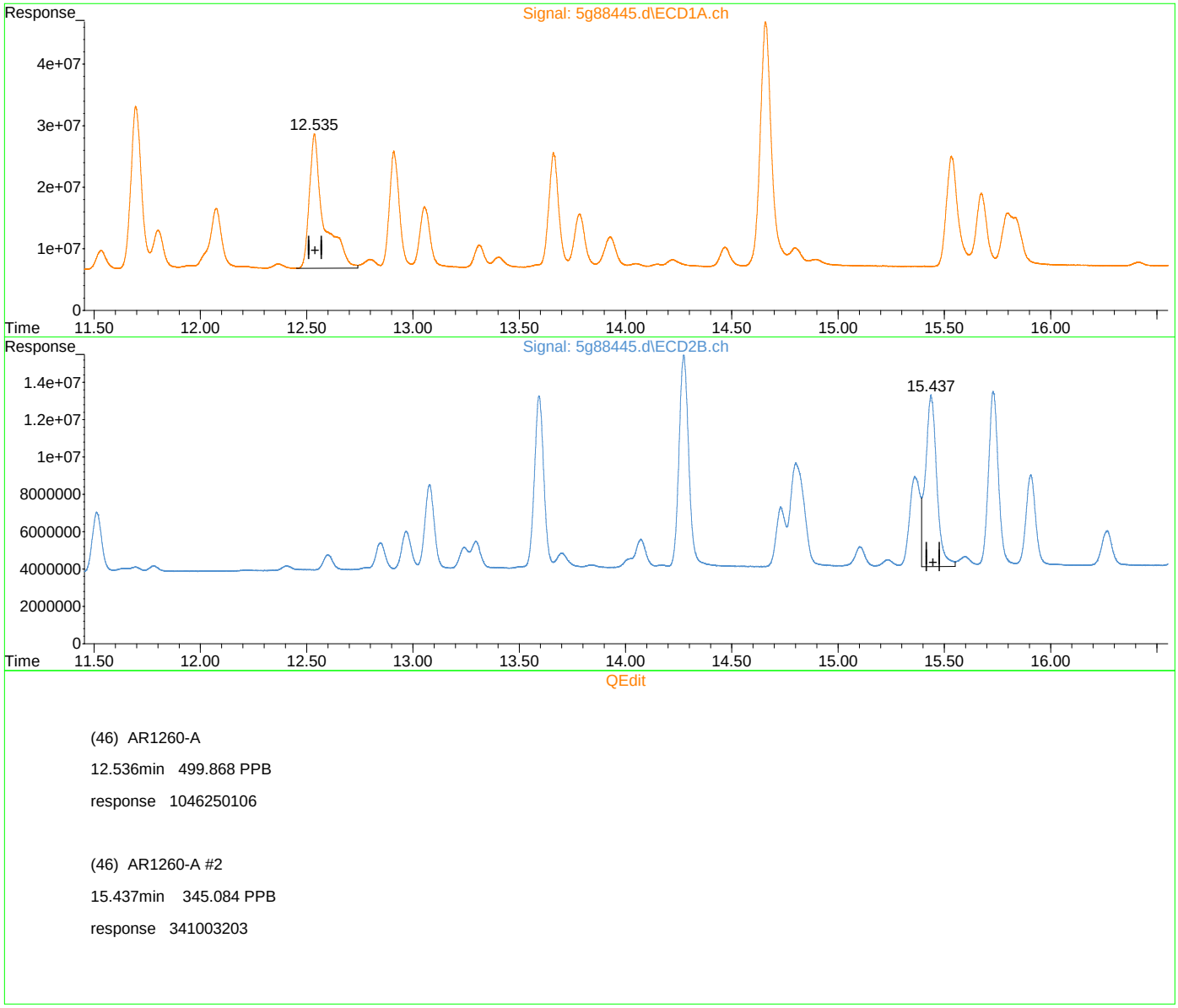
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:56:25 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(46) AR1260-A

12.536min 499.868 PPB

response 1046250106

(46) AR1260-A #2

15.437min 345.084 PPB

response 341003203

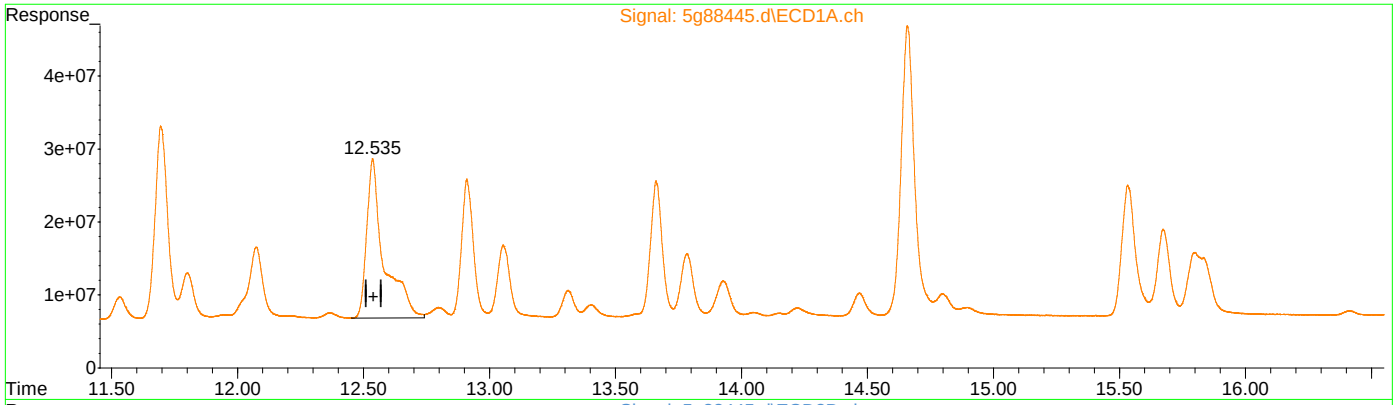
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:56:41 2019

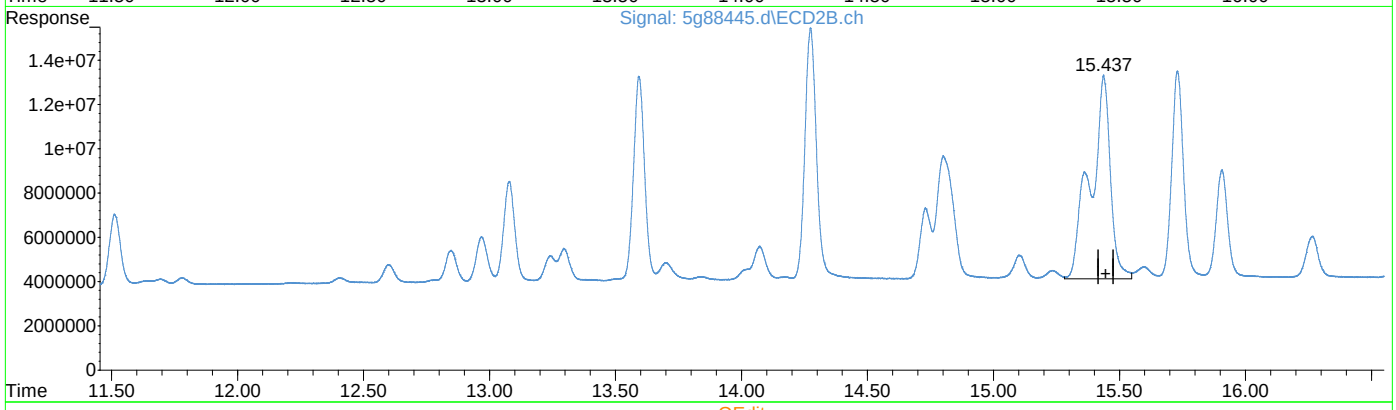
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(46) AR1260-A

12.536min 499.868 PPB

response 1046250106

(46) AR1260-A #2

15.437min 513.766 PPB m

response 507689822

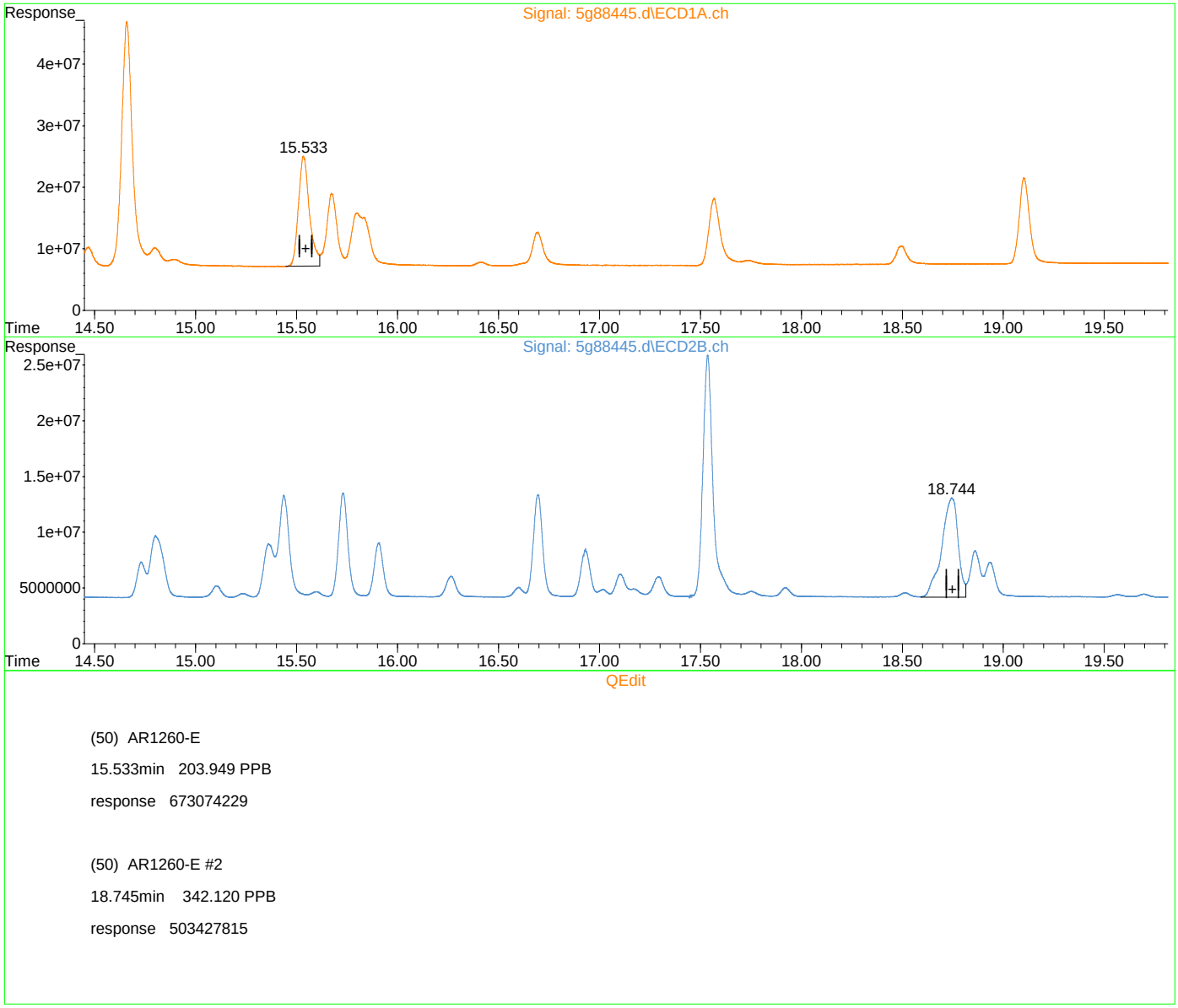
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:57:03 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




(50) AR1260-E

15.533min 203.949 PPB

response 673074229

(50) AR1260-E #2

18.745min 342.120 PPB

response 503427815

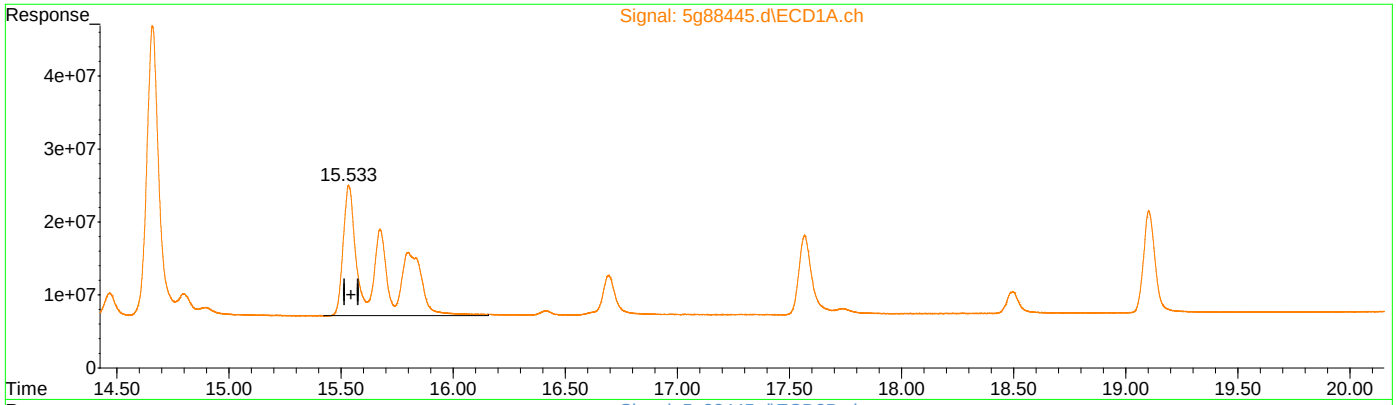
(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:57:15 2019

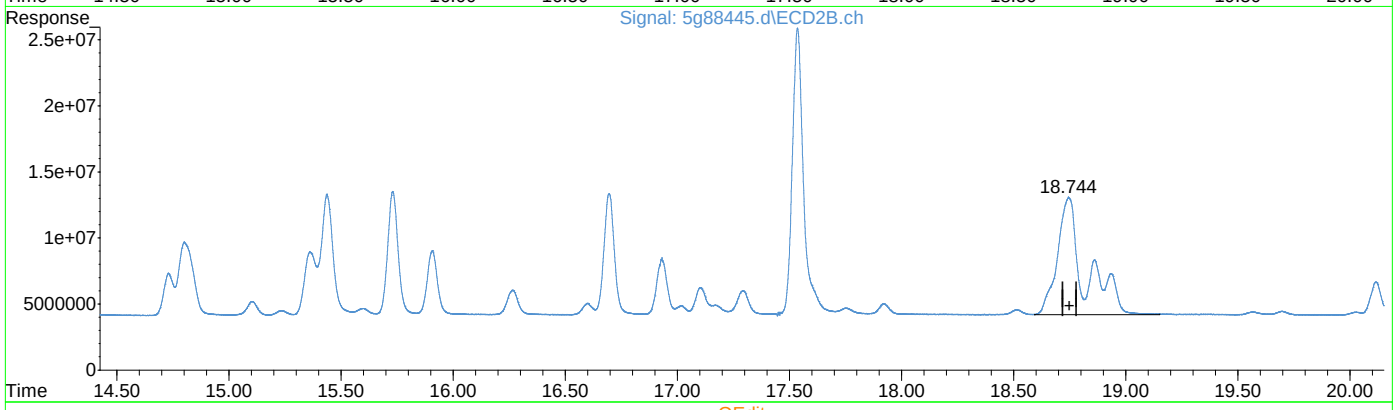
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\syrap\g5g2132\
Data File : 5g88445.d
Signal(s) : Signal #1: ECD1A.ch  Signal #2: ECD2B.ch
Acq On : 14 May 2019  3:15 pm
Operator : summerk
Sample : cc2127-500
Misc : op20312,g5g2132,15.0,,,10,1
ALS Vial : 40  Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: May 15 12:49:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\5pcb2127.m
Quant Title :
QLast Update : Wed May 15 12:18:45 2019
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : RTX-CLP1  Signal #2 Phase: RTX-CLP2
Signal #1 Info : 30mx.32mmx.50um  Signal #2 Info : 30mx.32mmx.25um




QEdit

(50) AR1260-E

15.533min 499.313 PPB m

response 1647836248

(50) AR1260-E #2

18.744min 512.554 PPB m

response 754220725

(+) = Expected Retention Time
5pcb2127.m Wed May 15 12:57:33 2019

# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G2G4640

Print Analyst Name: Summer Roth

Date: 4/25/19

Analyst Signature: SR

Columns: CBCPL/CBCLPII

Method 8082

Initial Cal. Method 2ICB4640

Injection Volume: 1.0 ul

Date Archived:

Standard Data

| | Lot # | Description | Conc. |
|---|---|---|---|
| SV | 18-2484-95 | AR1248 | 1000ppb |
| SV | 18-2534-88A | AR1016/1260 | 500ppb |
| | 88B | | 250ppb |
| | 88C | | 500ppb |
| | 88D | | 1000ppb |
| | 88E | | 2000ppb |
| | 88F | | 3000ppb |

Standard Data

| | Lot # | Description | Conc. |
|---|---|---|---|
| SV | 19-3781-088 | AR1016/1260 | 500ppb |
| | 088 | ↓ | 1000ppb |
| SV | 18-2534-26 | 18 | 20ppb |
| SV | 18-2484-88 | AR1221/1254 | 1000ppb |
| | 89 | AR1232/1262 | ↓ |
| | 90 | AR1242/1268 | ↓ |
| | 19068 | Hexane (Baker) | — |

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: Date: 4/26/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 261788869 | IB | | | | 2 | | | | | |
| | 870 | IC4640-50 | | | | 3 | | | | | |
| | 871 | -250 | | | | 4 | | | | | |
| | 872 | -500 | | | | 5 | | | | | |
| | 873 | IC4640-1000 | | | | 6 | | | | | |
| | 874 | IC4640-2000 | | | | 7 | | | | | |
| | 875 | -3000 | | | | 8 | | | | | |
| | 876 | IC4640-1000 | | | | 9 | | | | | |
| | 877 | -1000 | | | | 10 | | | | | |
| | 878 | -1000 | | | | 11 | | | | | |
| | 879 | -1000 | | | | 12 | | | | | |
| | 880 | ICV4640-1000 | | | | 13 | | | | | SV18-2484-81@1000ppb |
| | 881 | -1000 | | | | 14 | | | | | SV18-2584-92@1000ppb |
| | 882 | 1000 | | | | 15 | | | | | 93@1000ppb |
| | 883 | -1000 | | | | 16 | | | | | 94@1000ppb |
| | 884 | -1000 | | | | 17 | | | | | 91@1000ppb |
| | 885 | Pest Mix | | | | 18 | | | | | 20@50ppb |

MTX = Matrix, Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate. TR4/26

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

189

11.6.1 11

# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G2G4657

Print Analyst Name: Tianwei Zhen

Date: 5/14/19

Analyst Signature:

Columns: ZB-CLP1 / ZB-CLP2

Method 8082

Initial Cal. Method 2PCB4640

Injection Volume: 1.0uL

Date Archived:

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| 19258105A | AR1016/1260 | 500ppb |
| 058 | ↓ | 1000ppb |
| 23 | IB | 200ppb |
| | | |
| | | |
| | | |
| (9068) | hexane(tube) | — |

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: Date: 5/16/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2G179765 | CC4640-1000 | | | | 1 | | | | OK | |
| | 766 | IB | | | | 2 | | | | OK | |
| | 767 | OP20366-MB1 | 20366 | 8082 wipe | | 53 | | | | OK | |
| | 768 | -BS1 | | | | 54 | | | | OK | |
| | 769 | -BSD | | | | 55 | | | | OK | |
| | 770 | JC87976-1 | | | | 56 | | | | OK | |
| | 771 | -2 | | | | 57 | | | | OK | |
| | 772 | JC87270-4 | 20352 | 8081 | W | 58 | 10 | | | OK | |
| | 773 | hexane | | | | 100 | | | | NOT run | cut from Sequence |
| | 774 | CC4640-500 | | | | 59 | | | | ↓ | ↓ |
| | 775 | IB | | | | 2 | | | | | |
| | 776 | OP20376-MB | 20376 | 8082 | W | 60 | | | | OK | |
| | 777 | -BS | | | | 61 | | | | OK | |
| | 778 | -BSD | | | | 62 | | | | OK | |
| | 779 | CC4640-500 | | | | 59 | | | | OK | |
| | 780 | IB | | | | 2 | | | | OK | |
| | 781 | JC88041-1 | | | | 63 | | | | OK | |
| | 782 | -2 | | | | 64 | | | | OK | |
| | 783 | JC88042-1 | | | | 65 | | | | OK | |

MTX = Matrix . Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.
Sample volume/weight refer to extraction log.
All strikeouts must be initialed, dated, and reason applied if not transcription error

87

Form: OR016-09
Rev. Date: 5/25/17

11.6.2 11

SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G2G4657

Print Analyst Name: TianweiRuan

Analyst Signature: TR

Date: 5/14/19

Columns: ZBCLP1/ZBCLP2

Method 8082

Initial Cal. Method 2PCB1640

Injection Volume: 1.0N/

Date Archived:

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| 5/19-2581-05A | AR1016/1260 | 500ppb |
| 05B | ↓ | 1000ppb |
| 23 | IB | 20ppb |
| | | |
| | | |
| | | |
| 190683 | hexane (Fisher) | — |

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 5/16/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2G179784 | Jc88043-1 | 20376 | 8082 | W | 66 | | | | | |
| | 785 | cc4640-1000 | | | | 1 | | | | | |
| | 786 | IB | | | | 2 | | | | | |
| | 787 | QQ20362-MB | 20362 | 8082 TR 5/14 | W | 67 | | | | | |
| | 788 | -BS | | | | 68 | | | | | |
| | 789 | -BSD | | | | 69 | | | | | |
| | 790 | TD38678-1 | | | | 70 | | | | | ER w/ 48 ICAL |
| | 791 | cc4640-500 | | | | 71 | | | | | |
| | 792 | IB | | | | 2 | | | | | |
| | 793 | Jc89736-1 | 20362 | 608 | W | 72 | | | | | |
| | 794 | Jc89748-1 | | | | 73 | | | | | |
| | 795 | Jc87743-1 | | | | 74 | | | | | |
| | 796 | Jc87744-1 | | | | 75 | | | | | |
| | 797 | Jc87824-1 | | | | 76 | | | | | |
| | 798 | -2 | | | | 77 | | | | | |
| | 799 | Jc87951-3 | | | | 78 | | | | | |
| | 800 | hexane | | | | 79 | | | | NOTRUN | cut from Sequence |
| | 800/801 | hexane | | | | 100 | | | | | |
| | 802 | cc4640-1000 | | | | 80 | | | | | |

MTX = Matrix. Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

89

Form: OR016-09

Rev. Date: 5/25/17

11.6.2 11

# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G2G4657

Print Analyst Name: Tianwei Ruan

Date: 5/14/19 ~~5/15/19~~ TR 5/14

Analyst Signature: TR

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| SV 19-2581-05A | AR1016/1260 | 500ppb |
| 05B | ↓ | 1000ppb |
| 23 | 18 | 20ppb |
| | | |
| | | |
| | | |
| 190683 | hexane (Fisher) | — |

Columns: 7BCLPI/7BCLPII

Method 8082

Initial Cal. Method 2PCB4640

Injection Volume: 1.0 uL

Date Archived:

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 5/16/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 29179803 | 1B | | | | 2 | | | | OK | |
| | 804 | OP20312-MB1 | 20312 | 8082 | S | 81 | | | | OK | HAD TBA |
| | 805 | 851 | | | | 82 | | | | OK | ↓ |
| | 806 | JC87535-B | | | | 83 | | | | OK | |
| | 807 | -14 | | | | 84 | | | | OK | |
| | 808 | -15 | | | | 85 | | | | OK | |
| | 809 | JC87951-5 | 20362 | 8082 | W | 86 | | | | OK | |
| | 810/811 | hexane | | | | 100 | | | | OK | |
| | 812 | CC4640-500 | | | | 87 | | | | OK | |
| | 813 | 1B | | | | 2 | | | | OK | |

MTX = Matrix . Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate. TR 5/15

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

91

11.6.2

11

# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G5G2127

Date: 5/7/19

Print Analyst Name: LianweiRuan

Analyst Signature: LR

Columns: ZB-CLP1/ZB-CLP2

Method 8082

Initial Cal. Method 5PCB2127

Injection Volume: 1.0uL

Date Archived:

**Standard Data**

| | Lot # | Description | Conc. |
|---|---|---|---|
| SV | 19-2581-08 | AR1221/1254 | 1000ppb |
| | 09 | AR1232/1262 | ↓ |
| | 22 | AR1242/1268 | ↓ |
| | 11 | AR1248 | ↓ |
| SV | 18-2534-88A | Pest Mix | 50ppb |
| | | | |
| | | | |

**Standard Data**

| Lot # | Description | Conc. |
|---|---|---|
| 18-2534-88A | AR1016/1260 | 50ppb |
| 88B | ↓ | 250ppb |
| 88C | ↓ | 500ppb |
| 88D | ↓ | 1000ppb |
| 88E | ↓ | 2000ppb |
| 88F | ↓ | 3000ppb |
| 26 | 1B | 20ppb |

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: LR

Date: 5/8/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | G5G88289 | 1B | | | | 2 | | | | On | |
| | 290 | IC2127-50 | | 1st Source | | 3 | | | | On | |
| | 291 | -250 | | ↓ | | 4 | | | | On | |
| | 292 | -500 | | ↓ | | 5 | | | | On | |
| | 293 | IC2127-1000 | | ↓ | | 6 | | | | On | |
| | 294 | IC2127-2000 | | ↓ | | 7 | | | | On | |
| | 295 | -3000 | | ↓ | | 8 | | | | On | |
| | 296 | IC2127-1000 | 1221/1254 | ↓ | | 9 | | | | On | |
| | 297 | -1000 | 1232/1260 | ↓ | | 10 | | | | On | |
| | 298 | -1000 | 1242/1268 | ↓ | | 11 | | | | On | |
| | 299 | -1000 | 1248 | ↓ | | 12 | | | | On | |
| | 300 | ICV2127-1000 | 1016/1260 | 2nd Source | | 13 | | | | On | |
| | 301 | -1000 | 1221/1254 | ↓ | | 14 | | | | On | SV19-2584-84 @1000ppb |
| | 302 | -1000 | 1232/1260 | ↓ | | 15 | | | | On | SV19-2581-12 @1000ppb |
| | 303 | -1000 | 1242/1268 | ↓ | | 16 | | | | On | SV19-2581-13 @1000ppb |
| | 304 | -1000 | 1248 | ↓ | | 17 | | | | On | SV19-2581-14 @1000ppb |
| | 305 | Pest Mix | | | | 18 | | | | On | SV19-2581-15 @1000ppb |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

MTX = Matrix. Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.
Sample volume/weight refer to extraction log.
All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09
Rev. Date: 5/25/17

# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G5G2132

Print Analyst Name: Summer Kloth

Date: 5/14/19

Analyst Signature: SK

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| SV19.2581.05A | AR1016/1260 | 500ppb |
| .05B | ↓ | 1000 ppb |
| .23 | IB | 20 ppb |
| 190683 | Hexane (fishing) | — |
| | | |
| | | |
| | | |

Columns: 7BUDI / 7BUDII

Method 8082

Initial Cal. Method 5PCB2127

Injection Volume: 1.0 ml

Date Archived:

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 5/16/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SG88434 | CC2127-1000 | | | | 31 | | | / | OK | |
| | 435 | IB | | | | 2 | | | / | OW | |
| | 436 | OP20312-MB1 | 20312 | 8082 | S | 32 | | | / | OK | |
| | 437 | -BS1 | | | | 33 | | | / | OK | |
| | 438 | JC87704-1 | | | | 34 | | | / | OK | |
| | 439 | OP20312-MS | | | | 35 | | | / | OK | |
| | 440 | -MSD | | | | 36 | | | / | OK | |
| | 441 | JC87535-13 | | | | 37 | | | | NOT USING | Need TBA |
| | 442 | -14 | | | | 38 | | | | ↓ | ↓ |
| | 443 | -15 | | | | 39 | | | | | |
| | 444 | Hexane | | | | 1 | | | | OW | |
| | 445 | CC2127-500 | | | | 40 | | | / | OK | |
| | 446 | IB | | | | 2 | | | / | OW | |
| | 447 | JC87704-2 | 20312 | 8082 | S | 41 | | | / | OK | |
| | 448 | -3 | | | | 42 | | | / | OK | |
| | 449 | -4 | | | | 43 | | | / | OK | |
| | 450 | JC87718-1 | | | | 44 | | | / | OK | |
| | 451 | -2 | | | | 45 | | | / | OK | |
| | 452 | -3 | | | | 46 | | | / | OK | |

MTX = Matrix . Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

197

11.6.4 11

# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G5G2132

Print Analyst Name: Summer Roth

Date: 5/14/19

Analyst Signature: SR

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Standard Data

| Lot # | Description | Conc. |
|---|---|---|
| SV19.2581.05A | AR1016/1260 | 500ppb |
| .05B | ↓ | 1000ppb |
| .23 | IB | 20ppb |
| 190683 | Hexane (fish) | — |
| | | |
| | | |
| | | |

Columns: ZBCLPI/ZBCLPII

Method 8082

Initial Cal. Method 5PCB2127

Injection Volume: 1.0ul

Date Archived:

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 5/16/19

| R | Data File | Sample ID | Ext. Batch | Test | MTX | ALS # | Dilution | IS | SU | Status (Data) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | G88453 | TC87718-4 | 20312 | 8082 | S | 47 | | | ✓ | OK | |
| | 454/455 | Hexane | | | | 1 | | | | OK | |
| | 456 | Hexane | | | | 1 | | | | OK | |
| | 457 | CC2127-1000 | | | | 48 | | | ✓ | OK | |
| | 458 | IB | | | | 2 | | | ✓ | OK | |
| | 459 | TC87718-5 | 20312 | 8082 | S | 49 | | | ✓ | OK | |
| | 460 | TC87747-1 | | | | 50 | | | ✓ | OK | |
| | 461 | -2 | | | | 51 | | | ✓ | OK | |
| | 462 | -3 | | | | 52 | | | ✓ | OK | |
| | 463 | -4 | | | | 53 | | | ✓ | OK | |
| | 464 | TC87764-1 | | | | 54 | | | ✓ | OK | |
| | 465/~~466~~ SR 5/14 | TC87754-1 | | | | 55 | | | ✓ | OK | |
| | 467 | Hexane | | | | 1 | | | | OK | |
| | 468 | Hexane | | | | 1 | | | | OK | |
| | 469 | CC2127-500 | | | | 56 | | | ✓ | OK | |
| | 470 | IB | | | | 2 | | | ✓ | OK | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

MTX = Matrix . Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.
Sample volume/weight refer to extraction log.
All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09
Rev. Date: 5/25/17

199

11.6.4 11

LOGBOOK ID: 9-2396

# Pest / PCB Extraction Log - Soils

Extract Method (CHECK OFF "√" /DO NOT CIRCLE):
Microwave SW3546 √ Sonication SW3550C _____
Waste Dilution SW3580A _____ Soxhlet SW3540 _____

Date Started: 5/14/19 Time Started: 0300
Date Finished: 5.14.19 Time Finished: 0900

| BATCH # GC OP20312 | RACK# PCB-15 |
|---|---|
| Weighed by: | LT |
| Extracted by: | LT |
| Concentrated by: | LT |
| Final Vol. Top-up: | LT |
| Vialed by: | MT |
| Supervisor Review: | 5/16/19 |

| Equipment/ Range | ID | Observed Temp (°C) | Correction Factor (°C) | Corrected Temp (°C) | Pressure/ Flowrate |
|---|---|---|---|---|---|
| Buchi (65-71°C) | 1,4 | 65 | – | – | OK |
| Buchi Chiller | B4,B1 | 10.1,10.1 | – | – | OK |
| Waterbath (70-80°C) | | | | | |
| Waterbath Chiller (GPM) | | | | | |
| NEVAP (32-38°C, LPM) | | | | | |
| Balance | B38 | N/A | N/A | N/A | N/A |

| SURROGATE | LOT # | CONC (ppb) | AMT (mL) |
|---|---|---|---|
| PPCB | 197336-105 | 400 | 1.0 |
| PPCB LL | | | |
| WITNESS SIGN: BJ | | SPIKE SIGN: LT | |

| MATRIX SPIKE | LOT # | CONC | AMT (mL) |
|---|---|---|---|
| PEST | | | |
| PEST LL | | | |
| PCB | 19-2336-37 | 2 | 1.0 |
| PCB LL | | | |
| WITNESS SIGN: BJ | | SPIKE SIGN: LT | |

| SOLVENT | LOT # | BRAND | AMT (mL) |
|---|---|---|---|
| 2:1 HEXANE/ ACETONE | 190683 / 174411 | Fisher | 30 |
| 1:1 METH CHLOR/ ACETONE | | | |
| HEXANE | | | |

| REAGENT | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| HYDROMATRIX | 6435092 | 4-24-19A | AGILENT |
| SODIUM SULFATE | 178454 | 3-6-19A | FISHER |
| FILTER PAPER | 1681776 | | FISHER |
| FLORISIL | | | |
| 1:1 SULFURIC ACID | 2806558 | | RICCA |
| COPPER | 192336-125 | | MERCK |
| PERMANG(KMnO4) | | | |
| HYDROXYLAMINE | | | |

| MATRIX | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| SAND | B+AGU1030H | 3.5.19 | FISHER |

**Special Client Spike Instructions**

| QC ID# for Special Spike | Amt to Spike | Spike ID | Lot # | Conc. | Amt. Spiked |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

WITNESS SIGN: SPIKE SIGN:
Manager/Supervisor/Team Lead Approval:

**SPECIAL PROCESSING INSTRUCTIONS**

Rx Reason:

Spiking:

Weights/Volumes:

Required MS/MSD:

Final Volume:

Other:

| | Sample # | Analysis Type | Sample Bottle # | Sample Description | Sample Wet Wt (g) Oil (g) Liq (mL) | Decant Y | Decant N | Sonicator ID | Microwave ID | Final Extract Color | Final Extract Vol (mL) | Extract Cleanup H2SO4 | Florisil | Cu | KMnO4 | GPC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | PCB | | SAND | 15.0 | | | | 12 | CLEAR | 100 | / | | / | | | |
| | BS1 | | | SAND | 13.6 | | | | 12 | CLEAR | 100 | / | | / | | | |
| | JC87704-1 MS | | 1 | CLAY | 15.8 | | / | | 12 | BROWN | 100 | / | | / | | | |
| | MSD | | 1 | CLAY | 15.7 | | / | | 12 | BROWN | 100 | / | | / | | | |
| | BS | | | | | | | | | | | | | | | | |
| | MS | | | | | | | | | | | | | | | | |
| | MSD | | | | | | | | | | | | | | | | |
| 1 | JC87535-13 | PCB | 1 | CLAY | 15.0 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 2 | -14 | | 1 | CLAY | 15.2 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 3 | -15 | | 1 | CLAY | 16.9 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 4 | JC87704-1 | | 1 | CLAY | 15.8 | | / | | 12 | BROWN | 100 | / | | / | | | |
| 5 | -2 | | 1 | CLAY | 16.6 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 6 | -3 | | 1 | CLAY | 15.4 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 7 | -4 | | 1 | CLAY | 15.2 | | / | | 12 | CLEAR | 100 | / | | / | | | |
| 8 | JC87718-1 | | 1 | CLAY | 16.4 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 9 | -2 | | 1 | CLAY | 16.6 | | / | | 12 | CLEAR | 100 | / | | / | | | |
| 10 | -3 | | 1 | CLAY | 15.8 | | / | | 12 | CLEAR | 100 | / | | / | | | |
| 11 | -4 | | 1 | CLAY | 16.4 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 12 | -5 | | 1 | CLAY | 15.7 | | / | | 12 | CLEAR | 100 | / | | / | | | |
| 13 | JC87747-1 | | 1 | CLAY | 16.0 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 14 | -2 | | 1 | CLAY | 15.6 | | / | | 12 | BROWN | 100 | / | | / | | | |
| 15 | -3 | | 1 | CLAY | 15.4 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 16 | -4 | | 1 | CLAY | 15.6 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 17 | JC87754-1 | | 2 | CLAY | 15.0 | | / | | 12 | YELLOW | 100 | / | | / | | | |
| 18 | JC87764-1 | | 1 | CLAY | 15.0 | | / | | 12 | BROWN | 100 | / | | / | | | |
| 19 | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | |

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:

SGS
Form: OP018A-09
Rev Date: 8/2/17

11

## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:01 | MA46664-STD1 | 1 | | B=1.0315e-004, C=-5.0740e-002, Rho=0.998135 |
| 12:02 | MA46664-STD2 | 1 | | STDB |
| 12:03 | MA46664-STD3 | 1 | | STDC |
| 12:05 | MA46664-STD4 | 1 | | STDD |
| 12:07 | MA46664-STD5 | 1 | | STDE |
| 12:09 | MA46664-STD6 | 1 | | STDF |
| 12:13 | MA46664-STD7 | 1 | | STDD |
| 12:15 | MA46664-ICV1 | 1 | | |
| 12:17 | MA46664-ICB1 | 1 | | |
| 12:19 | MA46664-CCV1 | 1 | | |
| 12:20 | MA46664-CCB1 | 1 | | |
| 12:22 | MA46664-CRI1 | 1 | | |
| 12:25 | MP14857-MB1 | 1 | | |
| 12:26 | MP14857-B1 | 1 | | |
| 12:27 | MP14857-S1 | 1 | | |
| 12:29 | MP14857-S2 | 1 | | |
| 12:31 | JC87325-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 12:34 | ZZZZZZ | 1 | | |
| 12:35 | ZZZZZZ | 1 | | |
| 12:36 | ZZZZZZ | 1 | | |
| 12:38 | MA46664-CCV2 | 1 | | |
| 12:40 | MA46664-CCB2 | 1 | | |
| 12:42 | ZZZZZZ | 1 | | |
| 12:43 | ZZZZZZ | 1 | | |
| 12:45 | ZZZZZZ | 1 | | |
| 12:46 | ZZZZZZ | 1 | | |
| 12:48 | ZZZZZZ | 1 | | |
| 12:50 | ZZZZZZ | 1 | | |
| 12:51 | ZZZZZZ | 1 | | |
| 12:53 | ZZZZZZ | 1 | | |
| 12:55 | ZZZZZZ | 1 | | |
| 12:56 | MA46664-CCV3 | 1 | | |
| 12:58 | MA46664-CCB3 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:00 | ZZZZZZ | 1 | | |
| 13:01 | ZZZZZZ | 1 | | |
| 13:03 | ZZZZZZ | 1 | | |
| 13:04 | ZZZZZZ | 1 | | |
| 13:06 | ZZZZZZ | 1 | | |
| 13:08 | ZZZZZZ | 1 | | |
| 13:09 | ZZZZZZ | 1 | | |
| 13:11 | MP14858-MB1 | 1 | | |
| 13:12 | MP14858-B1 | 1 | | |
| 13:13 | MA46664-CCV4 | 1 | | |
| 13:15 | MA46664-CCB4 | 1 | | |
| 13:17 | MP14858-S1 | 1 | | |
| 13:19 | MP14858-S2 | 1 | | |
| 13:21 | JC87450-16 | 1 | | (sample used for QC only; not part of login JC87535) |
| 13:23 | ZZZZZZ | 1 | | |
| 13:24 | ZZZZZZ | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:27 | ZZZZZZ | 1 | | |
| 13:28 | ZZZZZZ | 1 | | |
| 13:30 | ZZZZZZ | 1 | | |
| 13:31 | MA46664-CCV5 | 1 | | |
| 13:32 | MA46664-CCB5 | 1 | | |
| 13:35 | ZZZZZZ | 1 | | |
| 13:36 | ZZZZZZ | 1 | | |
| 13:37 | ZZZZZZ | 1 | | |
| 13:39 | ZZZZZZ | 1 | | |
| 13:40 | ZZZZZZ | 1 | | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:43 | ZZZZZZ | 1 | | |
| 13:44 | ZZZZZZ | 1 | | |
| 13:46 | ZZZZZZ | 1 | | |
| 13:47 | MA46664-CCV6 | 1 | | |
| 13:48 | MA46664-CCB6 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV Date Analyzed: 05/07/19 Methods: SW846 7471B
Analyst: LL Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:50 | ZZZZZZ | 1 | | |
| 13:52 | ZZZZZZ | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:55 | ZZZZZZ | 1 | | |
| 13:57 | MP14859-MB1 | 1 | | |
| 13:59 | MP14859-B1 | 1 | | |
| 14:00 | MP14859-S1 | 1 | | |
| 14:02 | MP14859-S2 | 1 | | |
| 14:04 | JC87535-7 | 1 | | |
| 14:06 | MA46664-CCV7 | 1 | | |
| 14:08 | MA46664-CCB7 | 1 | | |
| 14:10 | JC87535-1 | 1 | | |
| 14:11 | JC87535-2 | 1 | | |
| 14:13 | JC87535-3 | 1 | | |
| 14:15 | JC87535-4 | 1 | | |
| 14:17 | JC87535-5 | 1 | | |
| 14:20 | JC87535-6 | 1 | | |
| 14:22 | JC87535-8 | 1 | | |
| 14:23 | JC87535-9 | 1 | | |
| 14:26 | JC87535-10 | 1 | | |
| 14:28 | MA46664-CCV8 | 1 | | |
| 14:30 | MA46664-CCB8 | 1 | | |
| 14:32 | ZZZZZZ | 1 | | |
| 14:34 | ZZZZZZ | 1 | | |
| 14:36 | ZZZZZZ | 1 | | |
| 14:38 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:42 | ZZZZZZ | 1 | | |
| 14:44 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:47 | ZZZZZZ | 1 | | |
| 14:48 | ZZZZZZ | 1 | | |
| 14:58 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:35 | MA46664-CCV9 | 1 | | |
| 15:36 | MA46664-CCB9 | 1 | | |
| 15:38 | JC87535-11 | 1 | | |
| 15:39 | JC87535-12 | 1 | | |
| 15:41 | ZZZZZZ | 1 | | |
| 15:44 | ZZZZZZ | 1 | | |
| 15:46 | ZZZZZZ | 1 | | |
| 15:48 | ZZZZZZ | 1 | | |
| 15:49 | ZZZZZZ | 1 | | |
| 15:51 | ZZZZZZ | 1 | | |
| 15:52 | ZZZZZZ | 1 | | |
| 15:54 | MA46664-CCV10 | 1 | | |
| 15:55 | MA46664-CCB10 | 1 | | |
| 15:57 | ZZZZZZ | 1 | | |
| 15:59 | JC87535-3 | 5 | | |
| 16:01 | JC87535-4 | 1 | | Confirmation |
| 16:03 | JC87535-8 | 2 | | |
| 16:05 | JC87535-10 | 2 | | |
| 16:08 | JC87535-3 | 5 | | confirmation |
| 16:10 | JC87535-8 | 2 | | confirmation |
| 16:12 | JC87535-10 | 5 | | confirmation |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 16:14 | ZZZZZZ | 1 | | |
| 16:17 | MA46664-CCV11 | 1 | | |
| 16:18 | MA46664-CCB11 | 1 | | |
| 16:20 | ZZZZZZ | 1 | | |
| 16:23 | MA46664-CRI2 | 1 | | |
| 16:25 | MA46664-CCV12 | 1 | | |
| 16:26 | MA46664-CCB12 | 1 | | |
| ----------> | Last reportable CCB for job JC87535 | | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg | |
|---|---|---|---|---|
| 12:15 | MA46664-ICV1 | 1 | X | |
| 12:17 | MA46664-ICB1 | 1 | X | |
| 12:19 | MA46664-CCV1 | 1 | X | |
| 12:20 | MA46664-CCB1 | 1 | X | |
| 12:22 | MA46664-CRI1 | 1 | X | |
| 12:25 | MP14857-MB1 | 1 | X | |
| 12:26 | MP14857-B1 | 1 | X | |
| 12:27 | MP14857-S1 | 1 | X | |
| 12:29 | MP14857-S2 | 1 | X | |
| 12:31 | JC87325-1 | 1 | X | (a) |
| 12:34 | ZZZZZZ | 1 | | |
| 12:35 | ZZZZZZ | 1 | | |
| 12:36 | ZZZZZZ | 1 | | |
| 12:38 | MA46664-CCV2 | 1 | X | |
| 12:40 | MA46664-CCB2 | 1 | X | |
| 12:42 | ZZZZZZ | 1 | | |
| 12:43 | ZZZZZZ | 1 | | |
| 12:45 | ZZZZZZ | 1 | | |
| 12:46 | ZZZZZZ | 1 | | |
| 12:48 | ZZZZZZ | 1 | | |
| 12:50 | ZZZZZZ | 1 | | |
| 12:51 | ZZZZZZ | 1 | | |
| 12:53 | ZZZZZZ | 1 | | |
| 12:55 | ZZZZZZ | 1 | | |
| 12:56 | MA46664-CCV3 | 1 | X | |
| 12:58 | MA46664-CCB3 | 1 | X | |
| 13:00 | ZZZZZZ | 1 | | |
| 13:01 | ZZZZZZ | 1 | | |
| 13:03 | ZZZZZZ | 1 | | |
| 13:04 | ZZZZZZ | 1 | | |
| 13:06 | ZZZZZZ | 1 | | |
| 13:08 | ZZZZZZ | 1 | | |
| 13:09 | ZZZZZZ | 1 | | |
| | | Element: | Hg | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg | |
|---|---|---|---|---|
| 13:11 | MP14858-MB1 | 1 | X | |
| 13:12 | MP14858-B1 | 1 | X | |
| 13:13 | MA46664-CCV4 | 1 | X | |
| 13:15 | MA46664-CCB4 | 1 | X | |
| 13:17 | MP14858-S1 | 1 | X | |
| 13:19 | MP14858-S2 | 1 | X | |
| 13:21 | JC87450-16 | 1 | X | (a) |
| 13:23 | ZZZZZZ | 1 | | |
| 13:24 | ZZZZZZ | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:27 | ZZZZZZ | 1 | | |
| 13:28 | ZZZZZZ | 1 | | |
| 13:30 | ZZZZZZ | 1 | | |
| 13:31 | MA46664-CCV5 | 1 | X | |
| 13:32 | MA46664-CCB5 | 1 | X | |
| 13:35 | ZZZZZZ | 1 | | |
| 13:36 | ZZZZZZ | 1 | | |
| 13:37 | ZZZZZZ | 1 | | |
| 13:39 | ZZZZZZ | 1 | | |
| 13:40 | ZZZZZZ | 1 | | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:43 | ZZZZZZ | 1 | | |
| 13:44 | ZZZZZZ | 1 | | |
| 13:46 | ZZZZZZ | 1 | | |
| 13:47 | MA46664-CCV6 | 1 | X | |
| 13:48 | MA46664-CCB6 | 1 | X | |
| 13:50 | ZZZZZZ | 1 | | |
| 13:52 | ZZZZZZ | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:55 | ZZZZZZ | 1 | | |
| 13:57 | MP14859-MB1 | 1 | X | |
| 13:59 | MP14859-B1 | 1 | X | |
| 14:00 | MP14859-S1 | 1 | X | |
| | | Element: | Hg | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 14:02 | MP14859-S2 | 1 | X |
| 14:04 | JC87535-7 | 1 | X |
| 14:06 | MA46664-CCV7 | 1 | X |
| 14:08 | MA46664-CCB7 | 1 | X |
| 14:10 | JC87535-1 | 1 | X |
| 14:11 | JC87535-2 | 1 | X |
| 14:13 | JC87535-3 | 1 | |
| 14:15 | JC87535-4 | 1 | X |
| 14:17 | JC87535-5 | 1 | X |
| 14:20 | JC87535-6 | 1 | X |
| 14:22 | JC87535-8 | 1 | |
| 14:23 | JC87535-9 | 1 | X |
| 14:26 | JC87535-10 | 1 | |
| 14:28 | MA46664-CCV8 | 1 | X |
| 14:30 | MA46664-CCB8 | 1 | X |
| 14:32 | ZZZZZZ | 1 | |
| 14:34 | ZZZZZZ | 1 | |
| 14:36 | ZZZZZZ | 1 | |
| 14:38 | ZZZZZZ | 1 | |
| 14:40 | ZZZZZZ | 1 | |
| 14:42 | ZZZZZZ | 1 | |
| 14:44 | ZZZZZZ | 1 | |
| 14:45 | ZZZZZZ | 1 | |
| 14:47 | ZZZZZZ | 1 | |
| 14:48 | ZZZZZZ | 1 | |
| 14:58 | ZZZZZZ | 1 | |
| 15:35 | MA46664-CCV9 | 1 | X |
| 15:36 | MA46664-CCB9 | 1 | X |
| 15:38 | JC87535-11 | 1 | X |
| 15:39 | JC87535-12 | 1 | X |
| 15:41 | ZZZZZZ | 1 | |
| 15:44 | ZZZZZZ | 1 | |
| 15:46 | ZZZZZZ | 1 | |
| | | Element: | Hg |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
Analyst: LL  Run ID: MA46664
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 15:48 | ZZZZZZ | 1 | |
| 15:49 | ZZZZZZ | 1 | |
| 15:51 | ZZZZZZ | 1 | |
| 15:52 | ZZZZZZ | 1 | |
| 15:54 | MA46664-CCV10 | 1 | X |
| 15:55 | MA46664-CCB10 | 1 | X |
| 15:57 | ZZZZZZ | 1 | |
| 15:59 | JC87535-3 | 5 | X |
| 16:01 | JC87535-4 | 1 | |
| 16:03 | JC87535-8 | 2 | |
| 16:05 | JC87535-10 | 2 | X |
| 16:08 | JC87535-3 | 5 | |
| 16:10 | JC87535-8 | 2 | confirmation |
| 16:12 | JC87535-10 | 5 | |
| 16:14 | ZZZZZZ | 1 | |
| 16:17 | MA46664-CCV11 | 1 | X |
| 16:18 | MA46664-CCB11 | 1 | X |
| 16:20 | ZZZZZZ | 1 | |
| 16:23 | MA46664-CRI2 | 1 | X |
| 16:25 | MA46664-CCV12 | 1 | X |
| 16:26 | MA46664-CCB12 | 1 | X |

(a) Sample used for QC only; not part of login JC87535.

Element: Hg

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46664  Units: ug/l

| Time: | | | 12:17 | | 12:20 | | 12:40 | | 12:58 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .032 | -0.0710 | <0.20 | -0.0720 | <0.20 | -0.0508 | <0.20 | -0.0500 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46664  Units: ug/l

| Time: | | | 13:15 | | 13:32 | | 13:48 | | 14:08 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .032 | -0.0531 | <0.20 | -0.0438 | <0.20 | -0.0540 | <0.20 | -0.0578 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46664  Units: ug/l

| Time: | | | 14:30 | | 15:36 | | 15:55 | | 16:18 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | | CCB10 | | CCB11 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .032 | -0.0677 | <0.20 | -0.0356 | <0.20 | -0.0346 | <0.20 | -0.0463 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46664  Units: ug/l

| | | | | |
|---|---|---|---|---|
| Time: | | | 16:26 | |
| Sample ID: | | | CCB12 | |
| Metal | RL | IDL | raw | final |
| Mercury | 0.20 | .032 | -0.0508 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46664  Units: ug/l

| Time: | | 12:15 | | | 12:19 | | | 12:38 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 3 | 3.19 | 106.3 | 2.5 | 2.49 | 99.6 | 2.5 | 2.47 | 98.8 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46664  Units: ug/l

| Time: | | 12:56 | | | 13:13 | | | 13:31 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.43 | 97.2 | 2.5 | 2.47 | 98.8 | 2.5 | 2.37 | 94.8 |

(*) Outside of QC limits
(anr) Analyte not requested

12.1.3
12

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46664  Units: ug/l

| Time: | | 13:47 | | | 14:06 | | | 14:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.52 | 100.8 | 2.5 | 2.56 | 102.4 | 2.5 | 2.47 | 98.8 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46664  Units: ug/l

| Time: | | 15:35 | | | 15:54 | | | 16:17 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | | CCV | CCV11 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.44 | 97.6 | 2.5 | 2.31 | 92.4 | 2.5 | 2.30 | 92.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46664  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 16:25 | |
| Sample ID: | CCV | CCV12 | |
| Metal | True | Results | % Rec |
| Mercury | 2.5 | 2.33 | 93.2 |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H7050719S1.CSV  Date Analyzed: 05/07/19  Methods: SW846 7471B
QC Limits: 70 to 130 % Recovery  Run ID: MA46664  Units: ug/l

| Time: | | | 12:22 | | 16:23 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Mercury | 0.20 | | 0.173 | 86.5 | 0.178 | 89.0 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:50 | MA46680-STD1 | 1 | | STDA |
| 15:55 | MA46680-STD2 | 1 | | STDB |
| 16:00 | ZZZZZZ | 1 | | |
| 16:05 | ZZZZZZ | 1 | | |
| 16:10 | MA46680-ICV1 | 1 | | |
| 16:16 | MA46680-ICB1 | 1 | | |
| 16:22 | MA46680-ICCV1 | 1 | | |
| 16:31 | MA46680-CCB1 | 1 | | |
| 16:36 | MA46680-CRID1 | 1 | | |
| 16:41 | MA46680-CRI1 | 1 | | |
| 16:46 | MA46680-ICSA1 | 1 | | |
| 16:51 | MA46680-ICSAB1 | 1 | | |
| 16:56 | MA46680-HSTD1 | 1 | | |
| 17:02 | MA46680-HSTD2 | 1 | | |
| 17:07 | ZZZZZZ | 1 | | |
| 17:12 | ZZZZZZ | 1 | | |
| 17:18 | ZZZZZZ | 1 | | |
| 17:23 | MA46680-CCV1 | 1 | | |
| 17:28 | MA46680-CCB2 | 1 | | |
| 17:33 | MP14865-MB1 | 1 | | |
| 17:38 | MP14865-B1 | 1 | | |
| 17:43 | MP14865-S1 | 1 | | Need PS for Sb and Pb |
| 17:48 | MP14865-S2 | 1 | | Need PS for Sb and Pb |
| 17:53 | JC87654-4A | 1 | | (sample used for QC only; not part of login JC87535) |
| 17:58 | MP14865-SD1 | 5 | | |
| 18:03 | ZZZZZZ | 1 | | |
| 18:08 | ZZZZZZ | 1 | | |
| 18:13 | MA46680-CCV2 | 1 | | |
| 18:18 | MA46680-CCB3 | 1 | | |
| 18:23 | MP14866-MB1 | 1 | | |
| 18:28 | MP14866-B1 | 1 | | |
| 18:33 | ZZZZZZ | 1 | | |
| 18:39 | JC87535-1 | 1 | | FE=420ppm |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:44 | JC87535-2 | 1 | | |
| 18:49 | JC87535-3 | 1 | | Fe=220ppm |
| 18:54 | JC87535-4 | 1 | | FE=332ppm |
| 18:59 | JC87535-5 | 1 | | |
| 19:04 | JC87535-6 | 1 | | |
| 19:09 | MA46680-CCV3 | 1 | | |
| 19:14 | MA46680-CCB4 | 1 | | |
| 19:20 | JC87535-7 | 1 | | |
| 19:25 | JC87535-8 | 1 | | |
| 19:30 | JC87535-9 | 1 | | Ca=400ppm |
| 19:35 | JC87535-10 | 1 | | |
| 19:40 | JC87535-11 | 1 | | Tl hit. |
| 19:45 | JC87535-12 | 1 | | |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 19:50 | ZZZZZZ | 1 | | |
| 19:55 | ZZZZZZ | 1 | | |
| 20:00 | ZZZZZZ | 1 | | |
| 20:05 | MA46680-CCV4 | 1 | | |
| 20:10 | MA46680-CCB5 | 1 | | |
| ----------> | Last reportable CCB for job JC87535 | | | |
| 20:16 | ZZZZZZ | 1 | | |
| 20:21 | ZZZZZZ | 1 | | |
| 20:26 | ZZZZZZ | 1 | | |
| 20:32 | ZZZZZZ | 1 | | |
| 20:37 | ZZZZZZ | 1 | | |
| 20:42 | ZZZZZZ | 1 | | |
| 20:47 | ZZZZZZ | 1 | | |
| 20:52 | ZZZZZZ | 1 | | |
| 20:57 | ZZZZZZ | 1 | | |
| 21:03 | ZZZZZZ | 1 | | |
| 21:08 | ZZZZZZ | 1 | | |
| 21:13 | ZZZZZZ | 1 | | |
| 21:18 | ZZZZZZ | 1 | | |
| 21:24 | MA46680-CCV5 | 1 | | |
| 21:29 | MA46680-CCB6 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 21:34 | ZZZZZZ | 1 | | |
| 21:39 | MP14867-MB1 | 1 | | |
| 21:44 | MP14867-B1 | 1 | | |
| 21:49 | MP14867-S1 | 1 | | |
| 21:54 | MP14867-S2 | 1 | | |
| 21:59 | JC87617-3 | 1 | | (sample used for QC only; not part of login JC87535) |
| 22:04 | MP14867-SD1 | 5 | | |
| 22:09 | ZZZZZZ | 1 | | |
| 22:14 | ZZZZZZ | 1 | | |
| 22:19 | MA46680-CCV6 | 1 | | |
| 22:24 | MA46680-CCB7 | 1 | | |
| 22:29 | ZZZZZZ | 1 | | |
| 22:34 | ZZZZZZ | 1 | | |
| 22:40 | ZZZZZZ | 1 | | |
| 22:45 | ZZZZZZ | 1 | | |
| 22:50 | ZZZZZZ | 1 | | |
| 22:55 | ZZZZZZ | 1 | | |
| 23:00 | ZZZZZZ | 1 | | |
| 23:05 | ZZZZZZ | 1 | | |
| 23:10 | ZZZZZZ | 1 | | |
| 23:15 | MA46680-CCV7 | 1 | | |
| 23:20 | MA46680-CCB8 | 1 | | |
| 23:25 | ZZZZZZ | 1 | | |
| 23:30 | ZZZZZZ | 1 | | |
| 23:35 | ZZZZZZ | 1 | | |
| 23:40 | ZZZZZZ | 1 | | |
| 23:45 | ZZZZZZ | 1 | | |
| 23:51 | ZZZZZZ | 1 | | |
| 23:56 | ZZZZZZ | 1 | | |
| 00:01 | ZZZZZZ | 1 | | |
| 00:06 | ZZZZZZ | 5 | | |
| 00:11 | MA46680-CCV8 | 1 | | |
| 00:16 | MA46680-CCB9 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 00:21 | ZZZZZZ | 5 | | |
| 00:26 | MP14803-S1 | 100 | | |
| 00:31 | MP14803-S2 | 100 | | |
| 00:36 | JC87210-1 | 100 | | (sample used for QC only; not part of login JC87535) |
| 00:41 | MP14803-SD1 | 500 | | |
| 00:47 | ZZZZZZ | 3 | | |
| 00:52 | ZZZZZZ | 1 | | |
| 00:57 | ZZZZZZ | 3 | | |
| 01:02 | ZZZZZZ | 3 | | |
| 01:07 | MA46680-CCV9 | 1 | | |
| 01:12 | MA46680-CCB10 | 1 | | |
| 01:17 | MP14845-MB1 | 1 | | |
| 01:23 | MP14845-B1 | 1 | | |
| 01:28 | MP14845-S1 | 1 | | Needs PS for SB |
| 01:33 | MP14845-S2 | 1 | | Needs PS for SB |
| 01:38 | JC87364-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 01:43 | MP14845-SD1 | 5 | | |
| 01:48 | ZZZZZZ | 1 | | |
| 01:53 | ZZZZZZ | 1 | | |
| 01:58 | ZZZZZZ | 1 | | |
| 02:03 | ZZZZZZ | 1 | | |
| 02:08 | MA46680-CCV10 | 1 | | |
| 02:13 | MA46680-CCB11 | 1 | | |
| 02:18 | ZZZZZZ | 1 | | |
| 02:24 | ZZZZZZ | 1 | | |
| 02:29 | ZZZZZZ | 1 | | |
| 02:34 | ZZZZZZ | 1 | | |
| 02:39 | ZZZZZZ | 1 | | |
| 02:44 | ZZZZZZ | 1 | | |
| 02:49 | ZZZZZZ | 1 | | |
| 02:54 | ZZZZZZ | 1 | | |
| 02:59 | ZZZZZZ | 1 | | |
| 03:04 | MA46680-CCV11 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 03:09 | MA46680-CCB12 | 1 | | |
| 03:14 | ZZZZZZ | 1 | | |
| 03:19 | ZZZZZZ | 1 | | |
| 03:24 | MP14836-MB1 | 1 | | |
| 03:29 | MP14836-B1 | 1 | | |
| 03:34 | MP14836-S1 | 1 | | |
| 03:39 | MP14836-S2 | 1 | | |
| 03:44 | JC87448-10 | 1 | | (sample used for QC only; not part of login JC87535) |
| 03:49 | MP14836-SD1 | 5 | | |
| 03:54 | ZZZZZZ | 1 | | |
| 03:59 | ZZZZZZ | 1 | | |
| 04:04 | MA46680-CCV12 | 1 | | |
| 04:09 | MA46680-CCB13 | 1 | | |
| 04:15 | ZZZZZZ | 1 | | |
| 04:20 | ZZZZZZ | 1 | | |
| 04:25 | ZZZZZZ | 1 | | |
| 04:30 | ZZZZZZ | 1 | | |
| 04:35 | ZZZZZZ | 1 | | |
| 04:40 | ZZZZZZ | 1 | | |
| 04:45 | ZZZZZZ | 1 | | |
| 04:51 | ZZZZZZ | 1 | | |
| 04:56 | ZZZZZZ | 1 | | |
| 05:01 | ZZZZZZ | 1 | | |
| 05:06 | MA46680-CCV13 | 1 | | |
| 05:11 | MA46680-CCB14 | 1 | | |
| 05:16 | ZZZZZZ | 1 | | |
| 05:21 | ZZZZZZ | 1 | | |
| 05:26 | MP14849-MB1 | 1 | | |
| 05:32 | MP14849-B1 | 1 | | |
| 05:37 | MP14849-S1 | 1 | | %sol |
| 05:42 | MP14849-S2 | 1 | | %sol |
| 05:47 | JC87511-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 05:52 | MP14849-SD1 | 5 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 05:57 | ZZZZZZ | 1 | | |
| 06:01 | MA46680-CCV14 | 1 | | |
| 06:06 | MA46680-CCB15 | 1 | | |
| 06:12 | ZZZZZZ | 1 | | |
| 06:17 | ZZZZZZ | 1 | | |
| 06:22 | ZZZZZZ | 1 | | |
| 06:27 | ZZZZZZ | 1 | | |
| 06:32 | ZZZZZZ | 1 | | |
| 06:37 | ZZZZZZ | 1 | | |
| 06:42 | ZZZZZZ | 1 | | |
| 06:47 | ZZZZZZ | 1 | | |
| 06:52 | ZZZZZZ | 1 | | |
| 06:57 | MA46680-CCV15 | 1 | | |
| 07:02 | MA46680-CCB16 | 1 | | |
| 07:07 | ZZZZZZ | 1 | | |
| 07:12 | ZZZZZZ | 1 | | |
| 07:17 | ZZZZZZ | 1 | | |
| 07:22 | ZZZZZZ | 1 | | |
| 07:27 | ZZZZZZ | 1 | | |
| 07:32 | ZZZZZZ | 1 | | |
| 07:37 | ZZZZZZ | 1 | | |
| 07:42 | ZZZZZZ | 1 | | |
| 07:47 | ZZZZZZ | 1 | | |
| 07:52 | MA46680-CCV16 | 1 | | |
| 07:57 | MA46680-CCB17 | 1 | | |
| 08:02 | ZZZZZZ | 1 | | |
| 08:07 | ZZZZZZ | 1 | | |
| 08:12 | ZZZZZZ | 1 | | |
| 08:18 | ZZZZZZ | 1 | | |
| 08:23 | ZZZZZZ | 1 | | |
| 08:28 | ZZZZZZ | 1 | | |
| 08:33 | ZZZZZZ | 1 | | |
| 08:38 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 08:43 | ZZZZZZ | 2 | | |
| 08:48 | MA46680-CCV17 | 1 | | |
| 08:53 | MA46680-CCB18 | 1 | | |
| 09:00 | ZZZZZZ | 1 | | |
| 10:37 | ZZZZZZ | 1 | | |
| 10:41 | MA46680-CCV18 | 1 | | |
| 10:47 | MA46680-CCB19 | 1 | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 16:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 16:10 | MA46680-ICV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:16 | MA46680-ICB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:22 | MA46680-ICCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:31 | MA46680-CCB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:36 | MA46680-CRID1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:41 | MA46680-CRI1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:46 | MA46680-ICSA1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:51 | MA46680-ICSAB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:56 | MA46680-HSTD1 | 1 | | X | X | X | X | X | | X | X | X | | X | | X | X | | X | X | | X | X | X | |
| 17:02 | MA46680-HSTD2 | 1 | X | | | | | X | | | | X | | | X | | | X | | | X | | | | |
| 17:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:23 | MA46680-CCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:28 | MA46680-CCB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:33 | MP14865-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:38 | MP14865-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:43 | MP14865-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:48 | MP14865-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:53 | JC87654-4A | 1 | | X | | | | | X | | | | | | | | X | | | | | X | X | | (a) |
| 17:58 | MP14865-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:13 | MA46680-CCV2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:18 | MA46680-CCB3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:23 | MP14866-MB1 | 1 | | X | | | | | X | | | | | | | | X | | | | | X | X | | |
| 18:28 | MP14866-B1 | 1 | | X | | | | | X | | | | | | | | X | | | | | X | X | | |
| 18:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:39 | JC87535-1 | 1 | X | | X | X | X | | X | X | X | | | | X | | X | X | | | X | | X | X | |
| 18:44 | JC87535-2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:49 | JC87535-3 | 1 | X | X | X | X | X | X | X | X | X | | | | X | | X | X | | | X | | X | X | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:54 | JC87535-4 | 1 | X | | X | X | X | X | X | X | X | | | | X | | X | X | | | X | | X | X |
| 18:59 | JC87535-5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:04 | JC87535-6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:09 | MA46680-CCV3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:14 | MA46680-CCB4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:20 | JC87535-7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:25 | JC87535-8 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:30 | JC87535-9 | 1 | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:35 | JC87535-10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:40 | JC87535-11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X |
| 19:45 | JC87535-12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:05 | MA46680-CCV4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:10 | MA46680-CCB5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:24 | MA46680-CCV5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 21:29 | MA46680-CCB6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 21:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:39 | MP14867-MB1 | 1 | | | | | | | | X | | X | X | X | | | X | | | | | | | X |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21:44 | MP14867-B1 | 1 | | | | | | | | X | | X | X | X | | | X | | | | | | | X | |
| 21:49 | MP14867-S1 | 1 | | | | | | | | X | | X | X | X | | | X | | | | | | | X | |
| 21:54 | MP14867-S2 | 1 | | | | | | | | X | | X | X | X | | | X | | | | | | | X | |
| 21:59 | JC87617-3 | 1 | | | | | | | | | | | | X | | | | | | | | | | | (a) |
| 22:04 | MP14867-SD1 | 5 | | | | | | | | X | | X | X | X | | | X | | | | | | | X | |
| 22:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:19 | MA46680-CCV6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:24 | MA46680-CCB7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:15 | MA46680-CCV7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:20 | MA46680-CCB8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:51 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:06 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:11 | MA46680-CCV8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 00:16 | MA46680-CCB9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 00:21 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:26 | MP14803-S1 | 100 | | | | | | | | X | | | | | | | | | | X | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:31 | MP14803-S2 | 100 | | | | | | | | X | | | | | | | | | | X | | | | | |
| 00:36 | JC87210-1 | 100 | | | | | | | | X | | | | | | | | | | X | | | | | (a) |
| 00:41 | MP14803-SD1 | 500 | | | | | | | | X | | | | | | | | | | X | | | | | |
| 00:47 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:57 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:02 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:07 | MA46680-CCV9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:12 | MA46680-CCB10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:17 | MP14845-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:23 | MP14845-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:28 | MP14845-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:33 | MP14845-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:38 | JC87364-1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | (a) |
| 01:43 | MP14845-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:48 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:08 | MA46680-CCV10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 02:13 | MA46680-CCB11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 02:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:24 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:49 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:54 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:04 | MA46680-CCV11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:09 | MA46680-CCB12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 03:19 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:24 | MP14836-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:29 | MP14836-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:34 | MP14836-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:39 | MP14836-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:44 | JC87448-10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | (a) |
| 03:49 | MP14836-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:54 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:04 | MA46680-CCV12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 04:09 | MA46680-CCB13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 04:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:51 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:06 | MA46680-CCV13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 05:11 | MA46680-CCB14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 05:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:26 | MP14849-MB1 | 1 | | | X | | | | | | | | | | | | | | | | | | | | |
| 05:32 | MP14849-B1 | 1 | | | X | | | | | | | | | | | | | | | | | | | | |
| 05:37 | MP14849-S1 | 1 | | | X | | | | | | | | | | | | | | | | | | | | |
| 05:42 | MP14849-S2 | 1 | | | X | | | | | | | | | | | | | | | | | | | | |
| 05:47 | JC87511-1 | 1 | | | X | | | | | | | | | | | | | | | | | | | | (a) |
| 05:52 | MP14849-SD1 | 5 | | | X | | | | | | | | | | | | | | | | | | | | |
| 05:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:01 | MA46680-CCV14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06:06 | MA46680-CCB15 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 06:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:57 | MA46680-CCV15 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 07:02 | MA46680-CCB16 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 07:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:52 | MA46680-CCV16 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 07:57 | MA46680-CCB17 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 08:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:38 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:43 | ZZZZZZ | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:48 | MA46680-CCV17 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:53 | MA46680-CCB18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 09:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 10:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 10:41 | MA46680-CCV18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 10:47 | MA46680-CCB19 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

(a) Sample used for QC only; not part of login JC87535.

Element: Al Sb As Ba Be Cd Ca Cr Co Cu Fe Pb Mg Mn Ni K Se Ag Na Tl V Zn

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 15:50 | MA46680-STD1 | 6065 R | 84503 R | 9148 R | 12544 R |
| 15:55 | MA46680-STD2 | 5891 | 82101 | 9210 | 11996 |
| 16:00 | ZZZZZZ | 5944 | 82900 | 9171 | 12088 |
| 16:05 | ZZZZZZ | 6091 | 85150 | 9349 | 12608 |
| 16:10 | MA46680-ICV1 | 5977 | 83299 | 9267 | 12141 |
| 16:16 | MA46680-ICB1 | 6188 | 85645 | 9366 | 12766 |
| 16:22 | MA46680-ICCV1 | 5984 | 83138 | 9257 | 12142 |
| 16:31 | MA46680-CCB1 | 6303 | 85711 | 9429 | 12991 |
| 16:36 | MA46680-CRID1 | 6293 | 86915 | 9450 | 12960 |
| 16:41 | MA46680-CRI1 | 6225 | 86326 | 9367 | 12769 |
| 16:46 | MA46680-ICSA1 | 5740 | 78968 | 9289 | 11602 |
| 16:51 | MA46680-ICSAB1 | 5773 | 79142 | 9083 | 11662 |
| 16:56 | MA46680-HSTD1 | 6076 | 86412 | 9630 | 12877 |
| 17:02 | MA46680-HSTD2 | 5839 | 81583 | 9178 | 11715 |
| 17:07 | ZZZZZZ | 6256 | 86951 | 9414 | 13162 |
| 17:12 | ZZZZZZ | 6183 | 86513 | 9446 | 12991 |
| 17:18 | ZZZZZZ | 6302 | 87001 | 9179 | 12936 |
| 17:23 | MA46680-CCV1 | 6128 | 83986 | 9280 | 12361 |
| 17:28 | MA46680-CCB2 | 6323 | 87049 | 9442 | 12982 |
| 17:33 | MP14865-MB1 | 6327 | 87544 | 9464 | 12982 |
| 17:38 | MP14865-B1 | 6234 | 86388 | 9569 | 12642 |
| 17:43 | MP14865-S1 | 6437 | 88876 | 10220 | 12692 |
| 17:48 | MP14865-S2 | 6431 | 88450 | 9906 | 12697 |
| 17:53 | JC87654-4A | 6545 | 90690 | 10092 | 12992 |
| 17:58 | MP14865-SD1 | 6438 | 89833 | 9641 | 13127 |
| 18:03 | ZZZZZZ | 6525 | 90651 | 10133 | 12940 |
| 18:08 | ZZZZZZ | 6619 | 92026 | 10127 | 13025 |
| 18:13 | MA46680-CCV2 | 6233 | 86532 | 9455 | 12652 |
| 18:18 | MA46680-CCB3 | 6466 | 90369 | 9662 | 13395 |
| 18:23 | MP14866-MB1 | 6421 | 90775 | 9781 | 13310 |
| 18:28 | MP14866-B1 | 6323 | 88860 | 9686 | 12916 |
| 18:33 | ZZZZZZ | 6376 | 89870 | 9750 | 13172 |
| 18:39 | JC87535-1 | 6257 | 88270 | 9892 | 13204 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 18:44 | JC87535-2 | 6293 | 89969 | 9962 | 12749 |
| 18:49 | JC87535-3 | 6203 | 88545 | 9792 | 12957 |
| 18:54 | JC87535-4 | 7070 | 99528 | 11240 | 13263 |
| 18:59 | JC87535-5 | 6563 | 91863 | 10286 | 12727 |
| 19:04 | JC87535-6 | 6645 | 92818 | 10337 | 12704 |
| 19:09 | MA46680-CCV3 | 6137 | 86274 | 9434 | 12462 |
| 19:14 | MA46680-CCB4 | 6331 | 88427 | 9420 | 13092 |
| 19:20 | JC87535-7 | 6439 | 90028 | 9843 | 13036 |
| 19:25 | JC87535-8 | No results reported for the elements associated with this internal standard. | | | |
| 19:30 | JC87535-9 | 6239 | 86850 | 9841 | 12183 |
| 19:35 | JC87535-10 | 6552 | 91938 | 10242 | 12891 |
| 19:40 | JC87535-11 | 6508 | 91994 | 9983 | 13247 |
| 19:45 | JC87535-12 | 6664 | 92695 | 10287 | 13041 |
| 19:50 | ZZZZZZ | 6798 | 95843 | 10482 | 13188 |
| 19:55 | ZZZZZZ | 6657 | 94768 | 10467 | 12844 |
| 20:00 | ZZZZZZ | 6817 | 95702 | 10428 | 13070 |
| 20:05 | MA46680-CCV4 | 6277 | 87621 | 9553 | 12767 |
| 20:10 | MA46680-CCB5 | 6364 | 89794 | 9513 | 13209 |
| 20:16 | ZZZZZZ | 12910 ! | 165460 ! | 13538 ! | 26472 ! |
| 20:21 | ZZZZZZ | 6294 | 88467 | 9351 | 13061 |
| 20:26 | ZZZZZZ | 6360 | 90132 | 9615 | 13174 |
| 20:32 | ZZZZZZ | 6327 | 89137 | 9402 | 13175 |
| 20:37 | ZZZZZZ | 6346 | 88978 | 9455 | 13180 |
| 20:42 | ZZZZZZ | 6354 | 89449 | 9439 | 13179 |
| 20:47 | ZZZZZZ | 6385 | 89988 | 9494 | 13226 |
| 20:52 | ZZZZZZ | 6390 | 89848 | 9522 | 13333 |
| 20:57 | ZZZZZZ | 6434 | 90139 | 9543 | 13380 |
| 21:03 | ZZZZZZ | 6393 | 85871 | 9741 | 12618 |
| 21:08 | ZZZZZZ | 5991 | 85243 | 9202 | 12159 |
| 21:13 | ZZZZZZ | 6355 | 89661 | 9485 | 13248 |
| 21:18 | ZZZZZZ | 6346 | 89519 | 9597 | 13220 |
| 21:24 | MA46680-CCV5 | 6234 | 87151 | 9447 | 12757 |
| 21:29 | MA46680-CCB6 | 6400 | 90592 | 9600 | 13325 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 21:34 | ZZZZZZ | 6767 | 95439 | 10450 | 13174 |
| 21:39 | MP14867-MB1 | 6432 | 90725 | 9728 | 13347 |
| 21:44 | MP14867-B1 | 6367 | 89233 | 9747 | 13036 |
| 21:49 | MP14867-S1 | 6286 | 89359 | 9747 | 12815 |
| 21:54 | MP14867-S2 | 6279 | 89294 | 9740 | 12811 |
| 21:59 | JC87617-3 | 6299 | 88963 | 9556 | 12939 |
| 22:04 | MP14867-SD1 | 6405 | 90654 | 9642 | 13280 |
| 22:09 | ZZZZZZ | 6102 | 85432 | 9135 | 12125 |
| 22:14 | ZZZZZZ | 6396 | 90067 | 9603 | 13123 |
| 22:19 | MA46680-CCV6 | 6106 | 86037 | 9325 | 12491 |
| 22:24 | MA46680-CCB7 | 6378 | 89957 | 9475 | 13249 |
| 22:29 | ZZZZZZ | 6270 | 89844 | 9621 | 12879 |
| 22:34 | ZZZZZZ | 6273 | 88595 | 9742 | 12772 |
| 22:40 | ZZZZZZ | 6283 | 89562 | 9626 | 12803 |
| 22:45 | ZZZZZZ | 6268 | 89527 | 9525 | 12784 |
| 22:50 | ZZZZZZ | 6365 | 90860 | 9578 | 13210 |
| 22:55 | ZZZZZZ | 6414 | 91646 | 9758 | 13277 |
| 23:00 | ZZZZZZ | 6343 | 90588 | 9662 | 13122 |
| 23:05 | ZZZZZZ | 6424 | 91097 | 9716 | 13228 |
| 23:10 | ZZZZZZ | 6409 | 90265 | 9583 | 13273 |
| 23:15 | MA46680-CCV7 | 6171 | 86847 | 9323 | 12629 |
| 23:20 | MA46680-CCB8 | 6344 | 89436 | 9364 | 13205 |
| 23:25 | ZZZZZZ | 6393 | 90376 | 9625 | 13215 |
| 23:30 | ZZZZZZ | 6456 | 91302 | 9517 | 13403 |
| 23:35 | ZZZZZZ | 6360 | 90134 | 9554 | 13230 |
| 23:40 | ZZZZZZ | 6403 | 90362 | 9470 | 13267 |
| 23:45 | ZZZZZZ | 6343 | 90096 | 9469 | 13151 |
| 23:51 | ZZZZZZ | 6346 | 89677 | 9524 | 13149 |
| 23:56 | ZZZZZZ | 6354 | 89499 | 9538 | 13161 |
| 00:01 | ZZZZZZ | 6320 | 89657 | 9503 | 13142 |
| 00:06 | ZZZZZZ | 6348 | 89459 | 9461 | 13212 |
| 00:11 | MA46680-CCV8 | 6154 | 86557 | 9271 | 12574 |
| 00:16 | MA46680-CCB9 | 6367 | 89562 | 9462 | 13246 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 00:21 | ZZZZZZ | 6353 | 90520 | 9449 | 13117 |
| 00:26 | MP14803-S1 | 6365 | 89832 | 9507 | 13283 |
| 00:31 | MP14803-S2 | 6341 | 89182 | 9438 | 13243 |
| 00:36 | JC87210-1 | 6358 | 89524 | 9439 | 13278 |
| 00:41 | MP14803-SD1 | 6354 | 89477 | 9408 | 13238 |
| 00:47 | ZZZZZZ | 6174 | 90162 | 9644 | 13865 |
| 00:52 | ZZZZZZ | 6420 | 88279 | 9561 | 13343 |
| 00:57 | ZZZZZZ | 6292 | 88432 | 9438 | 12861 |
| 01:02 | ZZZZZZ | 6305 | 90616 | 9578 | 12962 |
| 01:07 | MA46680-CCV9 | 6166 | 86922 | 9313 | 12594 |
| 01:12 | MA46680-CCB10 | 6359 | 89523 | 9457 | 13210 |
| 01:17 | MP14845-MB1 | 6486 | 91890 | 9736 | 13424 |
| 01:23 | MP14845-B1 | 6297 | 88962 | 9560 | 12936 |
| 01:28 | MP14845-S1 | 6443 | 91064 | 9850 | 12819 |
| 01:33 | MP14845-S2 | 6423 | 90729 | 9854 | 12802 |
| 01:38 | JC87364-1 | 6522 | 91252 | 9904 | 12978 |
| 01:43 | MP14845-SD1 | 6443 | 90661 | 9541 | 13172 |
| 01:48 | ZZZZZZ | 6587 | 92157 | 9999 | 13115 |
| 01:53 | ZZZZZZ | 6532 | 91732 | 9950 | 13095 |
| 01:58 | ZZZZZZ | 6564 | 91952 | 9875 | 13364 |
| 02:03 | ZZZZZZ | 6499 | 91367 | 9739 | 13088 |
| 02:08 | MA46680-CCV10 | 6195 | 86729 | 9236 | 12646 |
| 02:13 | MA46680-CCB11 | 6334 | 89235 | 9331 | 13190 |
| 02:18 | ZZZZZZ | 6515 | 90904 | 9768 | 13037 |
| 02:24 | ZZZZZZ | 6529 | 92201 | 9903 | 13052 |
| 02:29 | ZZZZZZ | 6459 | 90770 | 9673 | 13187 |
| 02:34 | ZZZZZZ | 6545 | 91541 | 9640 | 13203 |
| 02:39 | ZZZZZZ | 6499 | 91195 | 9708 | 13219 |
| 02:44 | ZZZZZZ | 6586 | 92008 | 9905 | 13198 |
| 02:49 | ZZZZZZ | 6511 | 91452 | 9719 | 13197 |
| 02:54 | ZZZZZZ | 6387 | 89776 | 9603 | 13225 |
| 02:59 | ZZZZZZ | 6551 | 91111 | 9662 | 13464 |
| 03:04 | MA46680-CCV11 | 6256 | 87663 | 9376 | 12770 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 03:09 | MA46680-CCB12 | 6414 | 90684 | 9552 | 13322 |
| 03:14 | ZZZZZZ | 6360 | 89743 | 9735 | 13716 |
| 03:19 | ZZZZZZ | 6472 | 91149 | 9693 | 13362 |
| 03:24 | MP14836-MB1 | 6401 | 90659 | 9462 | 13308 |
| 03:29 | MP14836-B1 | 6260 | 90065 | 9528 | 12845 |
| 03:34 | MP14836-S1 | 6254 | 88638 | 9464 | 12790 |
| 03:39 | MP14836-S2 | 6265 | 89142 | 9542 | 12803 |
| 03:44 | JC87448-10 | 6313 | 89813 | 9438 | 13035 |
| 03:49 | MP14836-SD1 | 6408 | 89855 | 9456 | 13319 |
| 03:54 | ZZZZZZ | 6270 | 88478 | 9369 | 12765 |
| 03:59 | ZZZZZZ | 6246 | 87716 | 9324 | 12612 |
| 04:04 | MA46680-CCV12 | 6226 | 87748 | 9409 | 12712 |
| 04:09 | MA46680-CCB13 | 6447 | 91082 | 9543 | 13409 |
| 04:15 | ZZZZZZ | 6168 | 87052 | 9450 | 12381 |
| 04:20 | ZZZZZZ | 6309 | 89589 | 9500 | 12918 |
| 04:25 | ZZZZZZ | 6356 | 90226 | 9494 | 13048 |
| 04:30 | ZZZZZZ | 6398 | 90726 | 9566 | 13277 |
| 04:35 | ZZZZZZ | 6339 | 90298 | 9508 | 13130 |
| 04:40 | ZZZZZZ | 6410 | 91007 | 9647 | 13361 |
| 04:45 | ZZZZZZ | 6414 | 91073 | 9648 | 13147 |
| 04:51 | ZZZZZZ | 6342 | 90402 | 9531 | 13138 |
| 04:56 | ZZZZZZ | 5878 | 83953 | 9252 | 11704 |
| 05:01 | ZZZZZZ | 5890 | 83802 | 9147 | 11706 |
| 05:06 | MA46680-CCV13 | 6211 | 87597 | 9315 | 12725 |
| 05:11 | MA46680-CCB14 | 6436 | 91317 | 9460 | 13422 |
| 05:16 | ZZZZZZ | 6071 | 86439 | 9415 | 12173 |
| 05:21 | ZZZZZZ | 6066 | 85763 | 9341 | 12182 |
| 05:26 | MP14849-MB1 | 6402 | 91850 | 9565 | 13343 |
| 05:32 | MP14849-B1 | 6324 | 90426 | 9548 | 13027 |
| 05:37 | MP14849-S1 | 6661 | 93762 | 10206 | 12935 |
| 05:42 | MP14849-S2 | 6579 | 93722 | 10096 | 12821 |
| 05:47 | JC87511-1 | 6764 | 94467 | 10224 | 13187 |
| 05:52 | MP14849-SD1 | 6470 | 91248 | 9586 | 13243 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP Date Analyzed: 05/08/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 05:57 | ZZZZZZ | 6487 | 89731 | 9870 | 13220 |
| 06:01 | MA46680-CCV14 | 6189 | 88167 | 9279 | 12716 |
| 06:06 | MA46680-CCB15 | 6377 | 90618 | 9395 | 13344 |
| 06:12 | ZZZZZZ | 6732 | 94345 | 10358 | 13221 |
| 06:17 | ZZZZZZ | 6872 | 96654 | 10430 | 13386 |
| 06:22 | ZZZZZZ | 6752 | 95999 | 10307 | 13182 |
| 06:27 | ZZZZZZ | 6869 | 96212 | 10320 | 13225 |
| 06:32 | ZZZZZZ | 6533 | 90169 | 9914 | 13241 |
| 06:37 | ZZZZZZ | 6909 | 96482 | 10378 | 13262 |
| 06:42 | ZZZZZZ | 6549 | 90446 | 9910 | 13303 |
| 06:47 | ZZZZZZ | 7016 | 97126 | 10679 | 13265 |
| 06:52 | ZZZZZZ | 6570 | 91011 | 9967 | 13214 |
| 06:57 | MA46680-CCV15 | 6209 | 88027 | 9256 | 12723 |
| 07:02 | MA46680-CCB16 | 6427 | 91081 | 9374 | 13415 |
| 07:07 | ZZZZZZ | 6449 | 88920 | 9743 | 13081 |
| 07:12 | ZZZZZZ | 6844 | 95606 | 10270 | 13126 |
| 07:17 | ZZZZZZ | 6840 | 95180 | 10138 | 13164 |
| 07:22 | ZZZZZZ | 6530 | 90155 | 9830 | 13116 |
| 07:27 | ZZZZZZ | 6738 | 95429 | 10162 | 13088 |
| 07:32 | ZZZZZZ | 6572 | 90291 | 9779 | 13257 |
| 07:37 | ZZZZZZ | 6591 | 91693 | 9936 | 13124 |
| 07:42 | ZZZZZZ | 6717 | 94620 | 10214 | 13215 |
| 07:47 | ZZZZZZ | 6786 | 95557 | 10262 | 13185 |
| 07:52 | MA46680-CCV16 | 6160 | 87398 | 9244 | 12621 |
| 07:57 | MA46680-CCB17 | 6454 | 91665 | 9477 | 13421 |
| 08:02 | ZZZZZZ | 6490 | 92390 | 9635 | 13477 |
| 08:07 | ZZZZZZ | 6440 | 92497 | 9683 | 13417 |
| 08:12 | ZZZZZZ | 6475 | 91840 | 9549 | 13486 |
| 08:18 | ZZZZZZ | 6521 | 92252 | 9574 | 13544 |
| 08:23 | ZZZZZZ | 6447 | 91755 | 9548 | 13405 |
| 08:28 | ZZZZZZ | 6453 | 92679 | 9686 | 13453 |
| 08:33 | ZZZZZZ | 6408 | 91237 | 9354 | 13357 |
| 08:38 | ZZZZZZ | 6241 | 89430 | 9326 | 12845 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46680
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 08:43 | ZZZZZZ | 6091 | 85982 | 8929 | 12288 |
| 08:48 | MA46680-CCV17 | 6183 | 87491 | 9193 | 12685 |
| 08:53 | MA46680-CCB18 | 6402 | 90583 | 9384 | 13355 |
| 09:00 | ZZZZZZ | 6385 | 90943 | 9379 | 13331 |
| 10:37 | ZZZZZZ | 6351 | 91072 | 9411 | 13291 |
| 10:41 | MA46680-CCV18 | 6084 | 86492 | 9068 | 12523 |
| 10:47 | MA46680-CCB19 | 6304 | 89682 | 9201 | 13204 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46680  Units: ug/l

| Time: / Sample ID: | | | 16:16 ICB1 | | 16:31 CCB1 | | 17:28 CCB2 | | 18:18 CCB3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | -5.50 | <200 | -1.30 | <200 | -1.80 | <200 | -4.30 | <200 |
| Antimony | 6.0 | 1.2 | 0.400 | <6.0 | -1.10 | <6.0 | 0.400 | <6.0 | -0.200 | <6.0 |
| Arsenic | 3.0 | 1.6 | 0.500 | <3.0 | -0.500 | <3.0 | 1.00 | <3.0 | 0.200 | <3.0 |
| Barium | 200 | .3 | 0.00 | <200 | 0.400 | <200 | -0.100 | <200 | -0.700 | <200 |
| Beryllium | 1.0 | .1 | -0.100 | <1.0 | 0.100 | <1.0 | 0.100 | <1.0 | 0.100 | <1.0 |
| Bismuth | 20 | 2 | | | | | | | | |
| Boron | 100 | 2 | | | | | | | | |
| Cadmium | 3.0 | .3 | 0.100 | <3.0 | 0.100 | <3.0 | -0.100 | <3.0 | 0.00 | <3.0 |
| Calcium | 5000 | 4.1 | -1.50 | <5000 | -0.700 | <5000 | -0.500 | <5000 | 0.600 | <5000 |
| Chromium | 10 | .4 | 0.300 | <10 | 0.200 | <10 | 0.200 | <10 | -0.100 | <10 |
| Cobalt | 50 | .4 | 0.100 | <50 | 0.100 | <50 | 0.00 | <50 | 0.100 | <50 |
| Copper | 10 | .3 | -0.300 | <10 | -0.400 | <10 | -0.400 | <10 | -0.300 | <10 |
| Iron | 100 | 2.3 | 1.30 | <100 | 1.80 | <100 | 5.00 | <100 | 5.80 | <100 |
| Lead | 3.0 | 2.3 | -0.300 | <3.0 | -1.10 | <3.0 | 0.100 | <3.0 | -0.400 | <3.0 |
| Lithium | 50 | 1.1 | | | | | | | | |
| Magnesium | 5000 | 33 | -1.80 | <5000 | -14.5 | <5000 | -11.8 | <5000 | 26.5 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 | 0.00 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .9 | | | | | | | | |
| Nickel | 10 | .7 | -0.300 | <10 | 0.100 | <10 | -0.300 | <10 | -0.100 | <10 |
| Phosphorus | 50 | 1.1 | | | | | | | | |
| Potassium | 10000 | 26 | 213 | <10000 | 298 | <10000 | -10.8 | <10000 | -129 | <10000 |
| Selenium | 10 | 2.2 | -0.200 | <10 | 0.100 | <10 | -0.400 | <10 | -0.100 | <10 |
| Silicon | 200 | 8.7 | | | | | | | | |
| Silver | 10 | .3 | 0.100 | <10 | 0.400 | <10 | 0.00 | <10 | 1.00 | <10 |
| Sodium | 10000 | 6 | 55.7 | <10000 | 68.9 | <10000 | 39.8 | <10000 | 33.4 | <10000 |
| Strontium | 10 | .1 | | | | | | | | |
| Sulfur | 50 | 2.1 | | | | | | | | |
| Thallium | 10 | 4.8 | 0.800 | <10 | 0.700 | <10 | 0.600 | <10 | -0.500 | <10 |
| Tin | 10 | 1.6 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.4 | | | | | | | | |
| Vanadium | 50 | .3 | 0.100 | <50 | 0.300 | <50 | 0.00 | <50 | 0.200 | <50 |
| Zinc | 20 | .3 | -0.200 | <20 | -0.100 | <20 | -0.100 | <20 | -0.100 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46680  Units: ug/l

| Time: / Sample ID: | | | 16:16 ICB1 | | 16:31 CCB1 | | 17:28 CCB2 | | 18:18 CCB3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46680  Units: ug/l

| Time: / Sample ID: | | | 19:14 CCB4 | | 20:10 CCB5 | |
|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final |
| Aluminum | 200 | 8.4 | -7.40 | <200 | -12.5 | <200 |
| Antimony | 6.0 | 1.2 | 0.00 | <6.0 | 0.00 | <6.0 |
| Arsenic | 3.0 | 1.6 | 0.400 | <3.0 | 0.600 | <3.0 |
| Barium | 200 | .3 | -0.700 | <200 | -0.400 | <200 |
| Beryllium | 1.0 | .1 | 0.100 | <1.0 | 0.100 | <1.0 |
| Bismuth | 20 | 2 | | | | |
| Boron | 100 | 2 | | | | |
| Cadmium | 3.0 | .3 | -0.200 | <3.0 | 0.100 | <3.0 |
| Calcium | 5000 | 4.1 | -1.60 | <5000 | -1.80 | <5000 |
| Chromium | 10 | .4 | -0.100 | <10 | 0.200 | <10 |
| Cobalt | 50 | .4 | 0.00 | <50 | 0.200 | <50 |
| Copper | 10 | .3 | 0.00 | <10 | 0.500 | <10 |
| Iron | 100 | 2.3 | -1.10 | <100 | -0.600 | <100 |
| Lead | 3.0 | 2.3 | 0.600 | <3.0 | -0.100 | <3.0 |
| Lithium | 50 | 1.1 | | | | |
| Magnesium | 5000 | 33 | -15.6 | <5000 | -10.0 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .9 | | | | |
| Nickel | 10 | .7 | -0.500 | <10 | 0.200 | <10 |
| Phosphorus | 50 | 1.1 | | | | |
| Potassium | 10000 | 26 | -122 | <10000 | -91.3 | <10000 |
| Selenium | 10 | 2.2 | 0.400 | <10 | -1.80 | <10 |
| Silicon | 200 | 8.7 | | | | |
| Silver | 10 | .3 | 0.500 | <10 | 0.800 | <10 |
| Sodium | 10000 | 6 | 21.1 | <10000 | 61.7 | <10000 |
| Strontium | 10 | .1 | | | | |
| Sulfur | 50 | 2.1 | | | | |
| Thallium | 10 | 4.8 | 0.900 | <10 | 0.300 | <10 |
| Tin | 10 | 1.6 | | | | |
| Titanium | 10 | .5 | | | | |
| Tungsten | 50 | 1.4 | | | | |
| Vanadium | 50 | .3 | 0.00 | <50 | 0.00 | <50 |
| Zinc | 20 | .3 | -0.100 | <20 | -0.100 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46680  Units: ug/l

| Time: | | | 19:14 | | 20:10 | |
|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | |
| Metal | RL | IDL | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | 16:22 | |
|---|---|---|---|
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Aluminum | 40000 | 39800 | 99.5 |
| Antimony | 2000 | 1960 | 98.0 |
| Arsenic | 2000 | 1960 | 98.0 |
| Barium | 2000 | 2000 | 100.0 |
| Beryllium | 2000 | 2020 | 101.0 |
| Bismuth | | | |
| Boron | | | |
| Cadmium | 2000 | 1980 | 99.0 |
| Calcium | 40000 | 40200 | 100.5 |
| Chromium | 2000 | 2010 | 100.5 |
| Cobalt | 2000 | 2000 | 100.0 |
| Copper | 2000 | 1980 | 99.0 |
| Iron | 40000 | 40300 | 100.8 |
| Lead | 2000 | 2010 | 100.5 |
| Lithium | | | |
| Magnesium | 40000 | 40300 | 100.8 |
| Manganese | 2000 | 2040 | 102.0 |
| Molybdenum | | | |
| Nickel | 2000 | 2030 | 101.5 |
| Phosphorus | | | |
| Potassium | 40000 | 39700 | 99.3 |
| Selenium | 2000 | 1980 | 99.0 |
| Silicon | | | |
| Silver | 250 | 246 | 98.4 |
| Sodium | 40000 | 40100 | 100.3 |
| Strontium | | | |
| Sulfur | | | |
| Thallium | 2000 | 2050 | 102.5 |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | 2000 | 2000 | 100.0 |
| Zinc | 2000 | 2020 | 101.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits:  to  % Recovery  Run ID: MA46680  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 16:22 | |
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Zirconium | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | 16:10 | | | 17:23 | | | 18:13 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 39700 | 99.3 | 40000 | 38900 | 97.3 | 40000 | 38900 | 97.3 |
| Antimony | 2000 | 1930 | 96.5 | 2000 | 1900 | 95.0 | 2000 | 1920 | 96.0 |
| Arsenic | 2000 | 1950 | 97.5 | 2000 | 1920 | 96.0 | 2000 | 1940 | 97.0 |
| Barium | 2000 | 2000 | 100.0 | 2000 | 1950 | 97.5 | 2000 | 1950 | 97.5 |
| Beryllium | 2000 | 2010 | 100.5 | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 1980 | 99.0 | 2000 | 1940 | 97.0 | 2000 | 1940 | 97.0 |
| Calcium | 40000 | 39500 | 98.8 | 40000 | 39500 | 98.8 | 40000 | 39500 | 98.8 |
| Chromium | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 |
| Cobalt | 2000 | 2030 | 101.5 | 2000 | 1980 | 99.0 | 2000 | 1980 | 99.0 |
| Copper | 2000 | 1960 | 98.0 | 2000 | 1950 | 97.5 | 2000 | 1920 | 96.0 |
| Iron | 40000 | 40200 | 100.5 | 40000 | 39600 | 99.0 | 40000 | 39700 | 99.3 |
| Lead | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 40100 | 100.3 | 40000 | 39600 | 99.0 | 40000 | 39900 | 99.8 |
| Manganese | 2000 | 2030 | 101.5 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Molybdenum | | | | | | | | | |
| Nickel | 2000 | 2020 | 101.0 | 2000 | 1980 | 99.0 | 2000 | 2010 | 100.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 39300 | 98.3 | 40000 | 38500 | 96.3 | 40000 | 38100 | 95.3 |
| Selenium | 2000 | 1960 | 98.0 | 2000 | 1940 | 97.0 | 2000 | 1950 | 97.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 245 | 98.0 | 250 | 241 | 96.4 | 250 | 239 | 95.6 |
| Sodium | 40000 | 40000 | 100.0 | 40000 | 39000 | 97.5 | 40000 | 39200 | 98.0 |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | 2000 | 2020 | 101.0 | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 | 2000 | 1960 | 98.0 |
| Zinc | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | 16:10 | | | 17:23 | | | 18:13 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | 19:09 | | | 20:05 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 38600 | 96.5 | 40000 | 39000 | 97.5 |
| Antimony | 2000 | 1910 | 95.5 | 2000 | 1930 | 96.5 |
| Arsenic | 2000 | 1910 | 95.5 | 2000 | 1930 | 96.5 |
| Barium | 2000 | 1930 | 96.5 | 2000 | 1940 | 97.0 |
| Beryllium | 2000 | 1950 | 97.5 | 2000 | 1990 | 99.5 |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 2000 | 1930 | 96.5 | 2000 | 1930 | 96.5 |
| Calcium | 40000 | 38600 | 96.5 | 40000 | 39400 | 98.5 |
| Chromium | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 |
| Cobalt | 2000 | 1960 | 98.0 | 2000 | 1970 | 98.5 |
| Copper | 2000 | 1900 | 95.0 | 2000 | 1910 | 95.5 |
| Iron | 40000 | 39000 | 97.5 | 40000 | 39300 | 98.3 |
| Lead | 2000 | 1960 | 98.0 | 2000 | 1980 | 99.0 |
| Lithium | | | | | | |
| Magnesium | 40000 | 38600 | 96.5 | 40000 | 39500 | 98.8 |
| Manganese | 2000 | 1990 | 99.5 | 2000 | 2000 | 100.0 |
| Molybdenum | | | | | | |
| Nickel | 2000 | 1980 | 99.0 | 2000 | 2010 | 100.5 |
| Phosphorus | | | | | | |
| Potassium | 40000 | 37500 | 93.8 | 40000 | 37400 | 93.5 |
| Selenium | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 |
| Silicon | | | | | | |
| Silver | 250 | 235 | 94.0 | 250 | 236 | 94.4 |
| Sodium | 40000 | 38900 | 97.3 | 40000 | 39300 | 98.3 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 2000 | 1920 | 96.0 | 2000 | 1940 | 97.0 |
| Zinc | 2000 | 1960 | 98.0 | 2000 | 1980 | 99.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46680  Units: ug/l

| | | | | | | |
|---|---|---|---|---|---|---|
| Time: | | 19:09 | | | 20:05 | |
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | 16:56 | | | 17:02 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | 300000 | 311000 | 103.7 |
| Antimony | 8000 | 8020 | 100.3 | | | |
| Arsenic | 8000 | 7940 | 99.3 | | | |
| Barium | 8000 | 7920 | 99.0 | | | |
| Beryllium | 8000 | 8080 | 101.0 | | | |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 8000 | 7890 | 98.6 | | | |
| Calcium | | | | 200000 | 201000 | 100.5 |
| Chromium | 8000 | 8110 | 101.4 | | | |
| Cobalt | 8000 | 8000 | 100.0 | | | |
| Copper | 8000 | 7860 | 98.3 | | | |
| Iron | | | | 200000 | 197000 | 98.5 |
| Lead | 8000 | 8100 | 101.3 | | | |
| Lithium | | | | | | |
| Magnesium | | | | 300000 | 307000 | 102.3 |
| Manganese | 8000 | 7950 | 99.4 | | | |
| Molybdenum | | | | | | |
| Nickel | 8000 | 8060 | 100.8 | | | |
| Phosphorus | | | | | | |
| Potassium | | | | 200000 | 200000 | 100.0 |
| Selenium | 8000 | 7930 | 99.1 | | | |
| Silicon | | | | | | |
| Silver | 625 | 623 | 99.7 | | | |
| Sodium | | | | 200000 | 196000 | 98.0 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 8000 | 8110 | 101.4 | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 8000 | 7910 | 98.9 | | | |
| Zinc | 8000 | 8220 | 102.8 | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | 16:56 | | | 17:02 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46680  Units: ug/l

| Time: | | | | 16:36 | | 16:41 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRID1 | | CRI1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | 96.2 | 96.2 | 199 | 99.5 |
| Antimony | 6.0 | 20 | 3.0 | 0.400U | 0.0* (a) | 5.00 | 83.3 |
| Arsenic | 8.0 | 20 | 3.0 | 3.00 | 100.0 | 8.50 | 106.3 |
| Barium | 200 | | 4.0 | 4.20 | 105.0 | 200 | 100.0 |
| Beryllium | 2.0 | | 1.0 | 1.00 | 100.0 | 2.10 | 105.0 |
| Bismuth | 20 | | | | | | |
| Boron | 100 | | 10 | | | | |
| Cadmium | 3.0 | | 1.0 | 1.00 | 100.0 | 2.90 | 96.7 |
| Calcium | 5000 | 2000 | 1000 | 1050 | 105.0 | 5220 | 104.4 |
| Chromium | 10 | | 2.0 | 2.40 | 120.0 | 10.4 | 104.0 |
| Cobalt | 50 | | 3.0 | 3.00 | 100.0 | 48.9 | 97.8 |
| Copper | 10 | | 2.0 | -0.300 | 0.0* (a) | 9.30 | 93.0 |
| Iron | 100 | 500 | | | | 110 | 110.0 |
| Lead | 3.0 | 20 | 2.5 | -0.800U | 0.0* (a) | 2.70 | 90.0 |
| Lithium | 50 | | | | | | |
| Magnesium | 5000 | 2000 | 100 | 129 | 129.0*(a | 5300 | 106.0 |
| Manganese | 15 | | 3.0 | 3.10 | 103.3 | 15.7 | 104.7 |
| Molybdenum | 20 | | | | | | |
| Nickel | 10 | | 4.0 | 4.10 | 102.5 | 10.2 | 102.0 |
| Phosphorus | 50 | | | | | | |
| Potassium | 5000 | | 2000 | 2060 | 103.0 | 5130 | 102.6 |
| Selenium | 10 | 20 | 5.0 | 3.80 | 76.0*(a) | 9.80 | 98.0 |
| Silicon | 200 | | | | | | |
| Silver | 5.0 | | 2.0 | 0.400 | 20.0*(a) | 5.10 | 102.0 |
| Sodium | 5000 | | 1000 | 1060 | 106.0 | 5160 | 103.2 |
| Strontium | 10 | | | | | | |
| Sulfur | 50 | | | | | | |
| Thallium | 10 | | 2.0 | 2.50U | 0.0* (a) | 10.6 | 106.0 |
| Tin | 10 | | | | | | |
| Titanium | 10 | | | | | | |
| Tungsten | 50 | | | | | | |
| Vanadium | 50 | | 2.0 | 2.20 | 110.0 | 50.7 | 101.4 |
| Zinc | 20 | | 10 | 10.9 | 109.0 | 20.6 | 103.0 |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46680  Units: ug/l

| Time: | | | | 16:36 | | 16:41 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRID1 | | CRI1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | | 16:46 | | 16:51 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 493000 | 98.6 | 508000 | 101.6 |
| Antimony | | 1000 | 0.300 | | 1060 | 106.0 |
| Arsenic | | 1000 | -2.20 | | 1030 | 103.0 |
| Barium | | 500 | 1.10 | | 490 | 98.0 |
| Beryllium | | 500 | -0.200 | | 492 | 98.4 |
| Bismuth | | 500 | -5.50 | | 496 | 99.2 |
| Boron | | 500 | 1.50 | | 482 | 96.4 |
| Cadmium | | 1000 | -0.200 | | 986 | 98.6 |
| Calcium | 400000 | 400000 | 374000 | 93.5 | 386000 | 96.5 |
| Chromium | | 500 | 0.600 | | 480 | 96.0 |
| Cobalt | | 500 | 0.900 | | 471 | 94.2 |
| Copper | | 500 | -3.90 | | 517 | 103.4 |
| Iron | 200000 | 200000 | 188000 | 94.0 | 194000 | 97.0 |
| Lead | | 1000 | -1.20 | | 939 | 93.9 |
| Lithium | | 500 | -3.70 | | 511 | 102.2 |
| Magnesium | 500000 | 500000 | 491000 | 98.2 | 507000 | 101.4 |
| Manganese | | 500 | -2.60 | | 503 | 100.6 |
| Molybdenum | | 500 | 3.40 | | 472 | 94.4 |
| Nickel | | 1000 | 2.90 | | 955 | 95.5 |
| Phosphorus | | 500 | 20.7 | | 539 | 107.8 |
| Potassium | | | 203 | | 75.2 | |
| Selenium | | 1000 | -1.00 | | 1020 | 102.0 |
| Silicon | | 500 | -8.90 | | 495 | 99.0 |
| Silver | | 1000 | 0.00 | | 1040 | 104.0 |
| Sodium | | | 89.7 | | 93.2 | |
| Strontium | | 500 | -0.600 | | 499 | 99.8 |
| Sulfur | | 500 | 16.7 | | 514 | 102.8 |
| Thallium | | 1000 | 0.400 | | 964 | 96.4 |
| Tin | | 500 | -3.60 | | 468 | 93.6 |
| Titanium | | 500 | 5.20 | | 493 | 98.6 |
| Tungsten | | 500 | 11.5 | | 470 | 94.0 |
| Vanadium | | 500 | 1.90 | | 491 | 98.2 |
| Zinc | | 1000 | -0.700 | | 943 | 94.3 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050819M2.ICP  Date Analyzed: 05/08/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46680  Units: ug/l

| Time: | | | 16:46 | | 16:51 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | 1.70 | | 486 | 97.2 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:17 | MA46687-STD1 | 1 | | STDA |
| 12:22 | MA46687-STD2 | 1 | | STDB |
| 12:28 | ZZZZZZ | 1 | | |
| 12:33 | ZZZZZZ | 1 | | |
| 12:38 | MA46687-ICV1 | 1 | | |
| 12:43 | MA46687-ICV2 | 1 | | |
| 12:48 | MA46687-ICB1 | 1 | | |
| 12:54 | ZZZZZZ | 1 | | |
| 13:00 | MA46687-ICCV1 | 1 | | |
| 13:07 | MA46687-CCB1 | 1 | | |
| 13:11 | MA46687-CRID1 | 1 | | |
| 13:16 | MA46687-CRI1 | 1 | | |
| 13:21 | MA46687-ICSA1 | 1 | | |
| 13:26 | MA46687-ICSAB1 | 1 | | |
| 13:31 | MA46687-HSTD1 | 1 | | |
| 13:37 | MA46687-HSTD2 | 1 | | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:48 | ZZZZZZ | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:58 | MA46687-CCV1 | 1 | | |
| 14:03 | MA46687-CCB2 | 1 | | |
| 14:08 | ZZZZZZ | 1 | | |
| 14:13 | ZZZZZZ | 2 | | |
| 14:18 | MP14840-B1 | 1 | | |
| 14:23 | MP14840-MB1 | 1 | | |
| 14:28 | MP14840-S1 | 1 | | |
| 14:33 | MP14840-S2 | 1 | | |
| 14:38 | TD38519-2B | 1 | | (sample used for QC only; not part of login JC87535) |
| 14:43 | MP14840-SD1 | 5 | | |
| 14:48 | ZZZZZZ | 1 | | |
| 14:53 | MA46687-CCV2 | 1 | | |
| 14:58 | MA46687-CCB3 | 1 | | |
| 15:04 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:09 | ZZZZZZ | 1 | | |
| 15:14 | ZZZZZZ | 1 | | |
| 15:19 | ZZZZZZ | 5 | | |
| 15:24 | MP14900-MB1 | 1 | | |
| 15:29 | MP14900-B1 | 1 | | |
| 15:34 | ZZZZZZ | 1 | | |
| 15:39 | ZZZZZZ | 1 | | |
| 15:45 | MP14865-PS1 | 1 | | |
| 15:50 | MA46687-CCV3 | 1 | | |
| 15:55 | MA46687-CCB4 | 1 | | |
| 16:00 | MP14898-MB1 | 1 | | |
| 16:05 | MP14898-B1 | 1 | | |
| 16:10 | ZZZZZZ | 1 | | |
| 16:15 | ZZZZZZ | 1 | | |
| 16:20 | ZZZZZZ | 1 | | |
| 16:26 | ZZZZZZ | 1 | | |
| 16:31 | ZZZZZZ | 1 | | |
| 16:36 | ZZZZZZ | 2 | | |
| 16:41 | ZZZZZZ | 2 | | |
| 16:46 | MA46687-CCV4 | 1 | | |
| 16:51 | MA46687-CCB5 | 1 | | |
| 16:56 | MA46687-ICSA2 | 1 | | |
| 17:01 | MA46687-ICSAB2 | 1 | | |
| 17:06 | ZZZZZZ | 5 | | |
| 17:11 | MP14898-S1 | 1 | | Need PS for Sb |
| 17:16 | MP14898-S2 | 1 | | Need PS for Sb |
| 17:21 | JC87563-7 | 1 | | (sample used for QC only; not part of login JC87535) |
| 17:26 | MP14898-SD1 | 5 | | |
| 17:31 | ZZZZZZ | 1 | | |
| 17:36 | MA46687-CCV5 | 1 | | |
| 17:41 | MA46687-CCB6 | 1 | | |
| 17:46 | JC87535-1 | 2 | | |
| 17:51 | JC87535-3 | 2 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP Date Analyzed: 05/09/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:56 | JC87535-4 | 2 | | |
| 18:01 | JC87535-9 | 3 | | |
| 18:06 | JC87535-11 | 1 | | |
| 18:11 | ZZZZZZ | 2 | | |
| 18:17 | ZZZZZZ | 2 | | |
| 18:22 | ZZZZZZ | 2 | | |
| 18:27 | ZZZZZZ | 2 | | |
| 18:32 | MA46687-CCV6 | 1 | | |
| 18:37 | MA46687-CCB7 | 1 | | |
| 18:42 | MP14863-MB1 | 1 | | |
| 18:47 | MP14863-B1 | 1 | | |
| 18:52 | MP14863-S1 | 1 | | Need PS for Sb |
| 18:57 | MP14863-S2 | 1 | | Need PS for Sb |
| 19:02 | JC87450-16 | 1 | | (sample used for QC only; not part of login JC87535) |
| 19:07 | MP14863-SD1 | 5 | | |
| 19:12 | ZZZZZZ | 1 | | |
| 19:17 | ZZZZZZ | 1 | | |
| 19:23 | ZZZZZZ | 1 | | |
| 19:28 | MA46687-CCV7 | 1 | | |
| 19:33 | MA46687-CCB8 | 1 | | |
| 19:38 | ZZZZZZ | 1 | | |
| 19:43 | ZZZZZZ | 1 | | |
| 19:48 | ZZZZZZ | 1 | | |
| 19:54 | ZZZZZZ | 1 | | |
| 19:59 | ZZZZZZ | 1 | | |
| 20:04 | ZZZZZZ | 1 | | |
| 20:09 | ZZZZZZ | 1 | | |
| 20:14 | ZZZZZZ | 1 | | |
| 20:20 | ZZZZZZ | 1 | | |
| 20:25 | ZZZZZZ | 1 | | |
| 20:30 | ZZZZZZ | 1 | | |
| 20:35 | ZZZZZZ | 1 | | |
| 20:40 | MA46687-CCV8 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:45 | MA46687-CCB9 | 1 | | |
| 20:51 | ZZZZZZ | 1 | | |
| 20:56 | ZZZZZZ | 1 | | |
| 21:01 | ZZZZZZ | 1 | | |
| 21:06 | ZZZZZZ | 1 | | |
| 21:11 | ZZZZZZ | 1 | | |
| 21:16 | ZZZZZZ | 1 | | |
| 21:21 | ZZZZZZ | 1 | | |
| 21:26 | ZZZZZZ | 1 | | |
| 21:31 | ZZZZZZ | 1 | | |
| 21:36 | ZZZZZZ | 1 | | |
| 21:41 | MA46687-CCV9 | 1 | | |
| 21:46 | MA46687-CCB10 | 1 | | |
| 21:52 | ZZZZZZ | 1 | | |
| 21:57 | ZZZZZZ | 1 | | |
| 22:02 | ZZZZZZ | 1 | | |
| 22:07 | MP14896-B1 | 1 | | |
| 22:12 | MP14896-MB1 | 1 | | |
| 22:17 | MP14896-S1 | 1 | | |
| 22:22 | MP14896-S2 | 1 | | |
| 22:27 | JC87209-3 | 1 | | (sample used for QC only; not part of login JC87535) |
| 22:32 | MP14896-SD1 | 5 | | |
| 22:37 | ZZZZZZ | 1 | | |
| 22:42 | MA46687-CCV10 | 1 | | |
| 22:47 | MA46687-CCB11 | 1 | | |
| 22:52 | MP14897-MB1 | 1 | | |
| 22:57 | MP14897-B1 | 1 | | |
| 23:02 | MP14897-S1 | 1 | | |
| 23:07 | MP14897-S2 | 1 | | |
| 23:12 | JC87209-2 | 1 | | (sample used for QC only; not part of login JC87535) |
| 23:17 | MP14897-SD1 | 5 | | |
| 23:22 | ZZZZZZ | 1 | | |
| 23:28 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:33 | ZZZZZZ | 1 | | |
| 23:38 | ZZZZZZ | 1 | | |
| 23:43 | MA46687-CCV11 | 1 | | |
| 23:48 | MA46687-CCB12 | 1 | | |
| 23:53 | ZZZZZZ | 1 | | |
| 23:58 | ZZZZZZ | 1 | | |
| 00:03 | ZZZZZZ | 1 | | |
| 00:08 | ZZZZZZ | 1 | | |
| 00:13 | ZZZZZZ | 1 | | |
| 00:18 | ZZZZZZ | 1 | | |
| 00:23 | ZZZZZZ | 1 | | |
| 00:28 | ZZZZZZ | 1 | | |
| 00:33 | ZZZZZZ | 1 | | |
| 00:38 | ZZZZZZ | 1 | | |
| 00:43 | MA46687-CCV12 | 1 | | |
| 00:48 | MA46687-CCB13 | 1 | | |
| 00:53 | ZZZZZZ | 1 | | |
| 00:58 | ZZZZZZ | 1 | | |
| 01:03 | ZZZZZZ | 1 | | |
| 01:08 | ZZZZZZ | 1 | | |
| 01:13 | MP11922-MB3 | 1 | | |
| 01:19 | MP11922-B3 | 1 | | |
| 01:24 | ZZZZZZ | 1 | | |
| 01:29 | ZZZZZZ | 1 | | |
| 01:34 | MP11919-B3 | 1 | | |
| 01:39 | MA46687-CCV13 | 1 | | |
| 01:44 | MA46687-CCB14 | 1 | | |
| 01:49 | MP14842-MB1 | 1 | | |
| 01:54 | MP14842-B1 | 1 | | |
| 01:59 | MP14842-MB2 | 1 | | |
| 02:04 | MP14842-B2 | 1 | | |
| 02:09 | MP14842-S1 | 1 | | Na=250ppm |
| 02:14 | MP14842-S2 | 1 | | Na=250ppm |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 02:20 | JC87136-10 | 1 | | (sample used for QC only; not part of login JC87535) |
| 02:25 | MP14842-SD1 | 5 | | Na=250ppm |
| 02:30 | ZZZZZZ | 1 | | |
| 02:35 | ZZZZZZ | 1 | | |
| 02:40 | MA46687-CCV14 | 1 | | |
| 02:45 | MA46687-CCB15 | 1 | | |
| 02:50 | ZZZZZZ | 1 | | |
| 02:55 | ZZZZZZ | 1 | | |
| 03:00 | ZZZZZZ | 1 | | |
| 03:06 | ZZZZZZ | 1 | | |
| 03:11 | ZZZZZZ | 1 | | |
| 03:16 | ZZZZZZ | 1 | | |
| 03:21 | ZZZZZZ | 1 | | |
| 03:26 | ZZZZZZ | 1 | | |
| 03:32 | ZZZZZZ | 1 | | |
| 03:37 | ZZZZZZ | 1 | | |
| 03:42 | MA46687-CCV15 | 1 | | |
| 03:47 | MA46687-CCB16 | 1 | | |
| 03:52 | ZZZZZZ | 1 | | |
| 03:57 | ZZZZZZ | 1 | | |
| 04:02 | ZZZZZZ | 1 | | |
| 04:08 | ZZZZZZ | 1 | | |
| 04:13 | ZZZZZZ | 1 | | |
| 04:18 | ZZZZZZ | 1 | | |
| 04:23 | ZZZZZZ | 1 | | |
| 04:28 | ZZZZZZ | 1 | | |
| 04:33 | ZZZZZZ | 1 | | |
| 04:38 | ZZZZZZ | 1 | | |
| 04:44 | MA46687-CCV16 | 1 | | |
| 04:49 | MA46687-CCB17 | 1 | | |
| 04:54 | ZZZZZZ | 1 | | |
| 04:59 | ZZZZZZ | 1 | | |
| 05:04 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP Date Analyzed: 05/09/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 05:09 | ZZZZZZ | 1 | | |
| 05:14 | ZZZZZZ | 1 | | |
| 05:19 | ZZZZZZ | 1 | | |
| 05:24 | ZZZZZZ | 1 | | |
| 05:30 | ZZZZZZ | 1 | | |
| 05:35 | MP14873-B1 | 1 | | |
| 05:40 | MP14873-MB1 | 1 | | |
| 05:45 | MA46687-CCV17 | 1 | | |
| 05:50 | MA46687-CCB18 | 1 | | |
| 05:55 | MP14873-B2 | 1 | | |
| 06:00 | MP14873-S1 | 1 | | |
| 06:05 | MP14873-S2 | 1 | | |
| 06:10 | JC87604-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 06:15 | MP14873-SD1 | 5 | | |
| 06:20 | ZZZZZZ | 1 | | |
| 06:25 | ZZZZZZ | 1 | | |
| 06:30 | MP14911-B1 | 1 | | |
| 06:35 | MP14911-MB1 | 1 | | |
| 06:40 | MA46687-CCV18 | 1 | | |
| 06:45 | MA46687-CCB19 | 1 | | |
| 06:50 | MP14911-S1 | 1 | | |
| 06:55 | MP14911-S2 | 1 | | |
| 07:00 | JC87492-3A | 1 | | (sample used for QC only; not part of login JC87535) |
| 07:05 | MP14911-SD1 | 5 | | |
| 07:11 | ZZZZZZ | 1 | | |
| 07:16 | ZZZZZZ | 1 | | |
| 07:21 | ZZZZZZ | 1 | | |
| 07:26 | ZZZZZZ | 1 | | |
| 07:31 | ZZZZZZ | 1 | | |
| 07:36 | MA46687-CCV19 | 1 | | |
| 07:41 | MA46687-CCB20 | 1 | | |
| 07:46 | ZZZZZZ | 1 | | |
| 07:51 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 07:56 | ZZZZZZ | 1 | | |
| 08:01 | ZZZZZZ | 1 | | |
| 08:06 | ZZZZZZ | 1 | | |
| 08:12 | ZZZZZZ | 1 | | |
| 08:17 | ZZZZZZ | 1 | | |
| 08:22 | ZZZZZZ | 1 | | |
| 08:27 | ZZZZZZ | 1 | | |
| 08:32 | MA46687-CCV20 | 1 | | |
| 08:37 | MA46687-CCB21 | 1 | | |
| 08:42 | ZZZZZZ | 1 | | |
| 08:47 | ZZZZZZ | 1 | | |
| 08:53 | ZZZZZZ | 1 | | |
| 08:58 | ZZZZZZ | 1 | | |
| 09:03 | ZZZZZZ | 1 | | |
| 09:08 | ZZZZZZ | 1 | | |
| 09:21 | ZZZZZZ | 3 | | |
| 09:28 | JC87535-1 | 3 | | |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 09:33 | MA46687-CCV21 | 1 | | |
| 09:38 | MA46687-CCB22 | 1 | | |
| ----------> | Last reportable CCB for job JC87535 | | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:28 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 12:33 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 12:38 | MA46687-ICV1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 12:43 | MA46687-ICV2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 12:48 | MA46687-ICB1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 12:54 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 13:00 | MA46687-ICCV1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 13:07 | MA46687-CCB1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 13:11 | MA46687-CRID1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 13:16 | MA46687-CRI1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 13:21 | MA46687-ICSA1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 13:26 | MA46687-ICSAB1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 13:31 | MA46687-HSTD1 | 1 | | X | X | | X | | X | X | X | X | X | |
| 13:37 | MA46687-HSTD2 | 1 | | | | X | | X | | | | | | |
| 13:42 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 13:48 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 13:53 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 13:58 | MA46687-CCV1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 14:03 | MA46687-CCB2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 14:08 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 14:13 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 14:18 | MP14840-B1 | 1 | | | | | | X | | | | | | |
| 14:23 | MP14840-MB1 | 1 | | | | | | X | | | | | | |
| 14:28 | MP14840-S1 | 1 | | | | | | X | | | | | | |
| 14:33 | MP14840-S2 | 1 | | | | | | X | | | | | | |
| 14:38 | TD38519-2B | 1 | | | | | | | | | | | | (a) |
| 14:43 | MP14840-SD1 | 5 | | | | | | X | | | | | | |
| 14:48 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 14:53 | MA46687-CCV2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 14:58 | MA46687-CCB3 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 15:04 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 15:09 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 15:14 | ZZZZZZ | 1 | | | | | | | | | | | | |
| | | | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution | Element: | S b | C d | C a | C u | F e | P b | M n | S e | A g | T l | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:19 | ZZZZZZ | 5 | | | | | | | | | | | | |
| 15:24 | MP14900-MB1 | 1 | | X | | | | | | | | | X | |
| 15:29 | MP14900-B1 | 1 | | X | | | | | | | | | X | |
| 15:34 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 15:39 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 15:45 | MP14865-PS1 | 1 | | X | | | | | X | | | | | |
| 15:50 | MA46687-CCV3 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 15:55 | MA46687-CCB4 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 16:00 | MP14898-MB1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 16:05 | MP14898-B1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 16:10 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 16:15 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 16:20 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 16:26 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 16:31 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 16:36 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 16:41 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 16:46 | MA46687-CCV4 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 16:51 | MA46687-CCB5 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 16:56 | MA46687-ICSA2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 17:01 | MA46687-ICSAB2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 17:06 | ZZZZZZ | 5 | | | | | | | | | | | | |
| 17:11 | MP14898-S1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 17:16 | MP14898-S2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 17:21 | JC87563-7 | 1 | | X | X | X | X | X | X | X | X | X | X | (a) |
| 17:26 | MP14898-SD1 | 5 | | X | X | X | X | X | X | X | X | X | X | |
| 17:31 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 17:36 | MA46687-CCV5 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 17:41 | MA46687-CCB6 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 17:46 | JC87535-1 | 2 | | X | X | | | | X | | | | | |
| 17:51 | JC87535-3 | 2 | | | | | X | X | X | X | X | X | X | |
| 17:56 | JC87535-4 | 2 | | X | | | X | X | X | X | X | X | X | |
| 18:01 | JC87535-9 | 3 | | | | X | | | | | | | | |
| | | | Element: | S b | C d | C a | C u | F e | P b | M n | S e | A g | T l | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:06 | JC87535-11 | 1 | | | | | | | | | | | X | |
| 18:11 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 18:17 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 18:22 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 18:27 | ZZZZZZ | 2 | | | | | | | | | | | | |
| 18:32 | MA46687-CCV6 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 18:37 | MA46687-CCB7 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 18:42 | MP14863-MB1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 18:47 | MP14863-B1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 18:52 | MP14863-S1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 18:57 | MP14863-S2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 19:02 | JC87450-16 | 1 | | X | X | X | X | X | X | X | X | X | X | (a) |
| 19:07 | MP14863-SD1 | 5 | | X | X | X | X | X | X | X | X | X | X | |
| 19:12 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:17 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:23 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:28 | MA46687-CCV7 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 19:33 | MA46687-CCB8 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 19:38 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:43 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:48 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:54 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 19:59 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:04 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:09 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:14 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:20 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:25 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:30 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:35 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 20:40 | MA46687-CCV8 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 20:45 | MA46687-CCB9 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 20:51 | ZZZZZZ | 1 | | | | | | | | | | | | |
| | | | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Element: Dilution | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:56 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:01 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:06 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:11 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:16 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:21 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:26 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:31 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:36 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:41 | MA46687-CCV9 | 1 | X | X | X | X | X | X | X | X | X | X | |
| 21:46 | MA46687-CCB10 | 1 | X | X | X | X | X | X | X | X | X | X | |
| 21:52 | ZZZZZZ | 1 | | | | | | | | | | | |
| 21:57 | ZZZZZZ | 1 | | | | | | | | | | | |
| 22:02 | ZZZZZZ | 1 | | | | | | | | | | | |
| 22:07 | MP14896-B1 | 1 | | X | | | | X | | X | X | | |
| 22:12 | MP14896-MB1 | 1 | | X | | | | X | | X | X | | |
| 22:17 | MP14896-S1 | 1 | | X | | | | X | | X | X | | |
| 22:22 | MP14896-S2 | 1 | | X | | | | X | | X | X | | |
| 22:27 | JC87209-3 | 1 | | X | | | | X | | X | X | | (a) |
| 22:32 | MP14896-SD1 | 5 | | X | | | | X | | X | X | | |
| 22:37 | ZZZZZZ | 1 | | | | | | | | | | | |
| 22:42 | MA46687-CCV10 | 1 | X | X | X | X | X | X | X | X | X | X | |
| 22:47 | MA46687-CCB11 | 1 | X | X | X | X | X | X | X | X | X | X | |
| 22:52 | MP14897-MB1 | 1 | | X | | | | X | | X | X | | |
| 22:57 | MP14897-B1 | 1 | | X | | | | X | | X | X | | |
| 23:02 | MP14897-S1 | 1 | | X | | | | X | | X | X | | |
| 23:07 | MP14897-S2 | 1 | | X | | | | X | | X | X | | |
| 23:12 | JC87209-2 | 1 | | X | | | | X | | X | X | | (a) |
| 23:17 | MP14897-SD1 | 5 | | X | | | | X | | X | X | | |
| 23:22 | ZZZZZZ | 1 | | | | | | | | | | | |
| 23:28 | ZZZZZZ | 1 | | | | | | | | | | | |
| 23:33 | ZZZZZZ | 1 | | | | | | | | | | | |
| 23:38 | ZZZZZZ | 1 | | | | | | | | | | | |
| | | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP Date Analyzed: 05/09/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23:43 | MA46687-CCV11 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 23:48 | MA46687-CCB12 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 23:53 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 23:58 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:03 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:08 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:13 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:18 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:23 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:28 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:33 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:38 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:43 | MA46687-CCV12 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 00:48 | MA46687-CCB13 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 00:53 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 00:58 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 01:03 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 01:08 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 01:13 | MP11922-MB3 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 01:19 | MP11922-B3 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 01:24 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 01:29 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 01:34 | MP11919-B3 | 1 | | | | | X | | | X | | | | |
| 01:39 | MA46687-CCV13 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 01:44 | MA46687-CCB14 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 01:49 | MP14842-MB1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 01:54 | MP14842-B1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 01:59 | MP14842-MB2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 02:04 | MP14842-B2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 02:09 | MP14842-S1 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 02:14 | MP14842-S2 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 02:20 | JC87136-10 | 1 | | X | X | X | X | X | X | X | X | X | X | (a) |
| 02:25 | MP14842-SD1 | 5 | | X | X | X | X | X | X | X | X | X | X | |
| | | | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Element: Dilution | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02:30 | ZZZZZZ | 1 | | | | | | | | | | |
| 02:35 | ZZZZZZ | 1 | | | | | | | | | | |
| 02:40 | MA46687-CCV14 | 1 | X | X | X | X | X | X | X | X | X | X |
| 02:45 | MA46687-CCB15 | 1 | X | X | X | X | X | X | X | X | X | X |
| 02:50 | ZZZZZZ | 1 | | | | | | | | | | |
| 02:55 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:00 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:06 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:11 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:16 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:21 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:26 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:32 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:37 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:42 | MA46687-CCV15 | 1 | X | X | X | X | X | X | X | X | X | X |
| 03:47 | MA46687-CCB16 | 1 | X | X | X | X | X | X | X | X | X | X |
| 03:52 | ZZZZZZ | 1 | | | | | | | | | | |
| 03:57 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:02 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:08 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:13 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:18 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:23 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:28 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:33 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:38 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:44 | MA46687-CCV16 | 1 | X | X | X | X | X | X | X | X | X | X |
| 04:49 | MA46687-CCB17 | 1 | X | X | X | X | X | X | X | X | X | X |
| 04:54 | ZZZZZZ | 1 | | | | | | | | | | |
| 04:59 | ZZZZZZ | 1 | | | | | | | | | | |
| 05:04 | ZZZZZZ | 1 | | | | | | | | | | |
| 05:09 | ZZZZZZ | 1 | | | | | | | | | | |
| 05:14 | ZZZZZZ | 1 | | | | | | | | | | |
| | | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Dilution | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05:19 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 05:24 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 05:30 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 05:35 | MP14873-B1 | 1 | | | | | X | X | X | | | | | |
| 05:40 | MP14873-MB1 | 1 | | | | | X | X | X | | | | | |
| 05:45 | MA46687-CCV17 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 05:50 | MA46687-CCB18 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 05:55 | MP14873-B2 | 1 | | | | | X | X | X | | | | | |
| 06:00 | MP14873-S1 | 1 | | | | | X | X | X | | | | | |
| 06:05 | MP14873-S2 | 1 | | | | | X | X | X | | | | | |
| 06:10 | JC87604-1 | 1 | | | | | | | | | | | | (a) |
| 06:15 | MP14873-SD1 | 5 | | | | | X | X | X | | | | | |
| 06:20 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 06:25 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 06:30 | MP14911-B1 | 1 | | | | | | | X | | | X | | |
| 06:35 | MP14911-MB1 | 1 | | | | | | | X | | | X | | |
| 06:40 | MA46687-CCV18 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 06:45 | MA46687-CCB19 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 06:50 | MP14911-S1 | 1 | | | | | | | X | | | X | | |
| 06:55 | MP14911-S2 | 1 | | | | | | | X | | | X | | |
| 07:00 | JC87492-3A | 1 | | | | | | | X | | | X | | (a) |
| 07:05 | MP14911-SD1 | 5 | | | | | | | X | | | X | | |
| 07:11 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:16 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:21 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:26 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:31 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:36 | MA46687-CCV19 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 07:41 | MA46687-CCB20 | 1 | | X | X | X | X | X | X | X | X | X | X | |
| 07:46 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:51 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 07:56 | ZZZZZZ | 1 | | | | | | | | | | | | |
| 08:01 | ZZZZZZ | 1 | | | | | | | | | | | | |
| | | | Element: | Sb | Cd | Ca | Cu | Fe | Pb | Mn | Se | Ag | Tl | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Element: Dilution | S b | C d | C a | C u | F e | P b | M n | S e | A g | T l |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 08:06 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:12 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:17 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:22 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:27 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:32 | MA46687-CCV20 | 1 | X | X | X | X | X | X | X | X | X | X |
| 08:37 | MA46687-CCB21 | 1 | X | X | X | X | X | X | X | X | X | X |
| 08:42 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:47 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:53 | ZZZZZZ | 1 | | | | | | | | | | |
| 08:58 | ZZZZZZ | 1 | | | | | | | | | | |
| 09:03 | ZZZZZZ | 1 | | | | | | | | | | |
| 09:08 | ZZZZZZ | 1 | | | | | | | | | | |
| 09:21 | ZZZZZZ | 3 | | | | | | | | | | |
| 09:28 | JC87535-1 | 3 | | | | X | X | | X | X | X | X |
| 09:33 | MA46687-CCV21 | 1 | X | X | X | X | X | X | X | X | X | X |
| 09:38 | MA46687-CCB22 | 1 | X | X | X | X | X | X | X | X | X | X |

(a) Sample used for QC only; not part of login JC87535.

| Element: | S b | C d | C a | C u | F e | P b | M n | S e | A g | T l |
|---|---|---|---|---|---|---|---|---|---|---|

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP Date Analyzed: 05/09/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 12:17 | MA46687-STD1 | 6083 R | 86432 R | 8986 R | 12845 R |
| 12:22 | MA46687-STD2 | 5748 | 82142 | 8756 | 11981 |
| 12:28 | ZZZZZZ | 5909 | 84212 | 8995 | 12260 |
| 12:33 | ZZZZZZ | 6084 | 86273 | 9005 | 12854 |
| 12:38 | MA46687-ICV1 | 5919 | 83316 | 8873 | 12256 |
| 12:43 | MA46687-ICV2 | 5932 | 83807 | 8926 | 12279 |
| 12:48 | MA46687-ICB1 | 6094 | 86769 | 9007 | 12868 |
| 12:54 | ZZZZZZ | 6085 | 85739 | 8927 | 12802 |
| 13:00 | MA46687-ICCV1 | 5912 | 84172 | 8911 | 12219 |
| 13:07 | MA46687-CCB1 | 6147 | 87298 | 9066 | 12918 |
| 13:11 | MA46687-CRID1 | 6109 | 86706 | 9075 | 12827 |
| 13:16 | MA46687-CRI1 | 6114 | 87095 | 9092 | 12749 |
| 13:21 | MA46687-ICSA1 | 5542 | 78588 | 8625 | 11428 |
| 13:26 | MA46687-ICSAB1 | 5450 | 77734 | 8555 | 11277 |
| 13:31 | MA46687-HSTD1 | 5909 | 85265 | 9093 | 12793 |
| 13:37 | MA46687-HSTD2 | 5558 | 78597 | 8568 | 11411 |
| 13:42 | ZZZZZZ | 6002 | 84654 | 8740 | 12943 |
| 13:48 | ZZZZZZ | 5930 | 86098 | 8925 | 12840 |
| 13:53 | ZZZZZZ | 6078 | 86062 | 8845 | 12826 |
| 13:58 | MA46687-CCV1 | 5919 | 83643 | 8878 | 12288 |
| 14:03 | MA46687-CCB2 | 6083 | 86526 | 8893 | 12875 |
| 14:08 | ZZZZZZ | 6152 | 88152 | 9133 | 12995 |
| 14:13 | ZZZZZZ | 6077 | 85484 | 9029 | 13037 |
| 14:18 | MP14840-B1 | 6034 | 86075 | 9105 | 12583 |
| 14:23 | MP14840-MB1 | 6204 | 88526 | 9148 | 13055 |
| 14:28 | MP14840-S1 | 6275 | 87952 | 9597 | 12368 |
| 14:33 | MP14840-S2 | 6260 | 88044 | 9662 | 12344 |
| 14:38 | TD38519-2B | 6428 | 89496 | 9763 | 12553 |
| 14:43 | MP14840-SD1 | 6223 | 87463 | 9069 | 12743 |
| 14:48 | ZZZZZZ | 6239 | 88350 | 9078 | 13142 |
| 14:53 | MA46687-CCV2 | 5886 | 83481 | 8826 | 12214 |
| 14:58 | MA46687-CCB3 | 6123 | 86759 | 8882 | 12922 |
| 15:04 | ZZZZZZ | 6076 | 87017 | 8965 | 12807 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP Date Analyzed: 05/09/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 15:09 | ZZZZZZ | 6115 | 86989 | 9010 | 12859 |
| 15:14 | ZZZZZZ | 6144 | 86859 | 9000 | 12931 |
| 15:19 | ZZZZZZ | 5935 | 83953 | 8664 | 12297 |
| 15:24 | MP14900-MB1 | 6057 | 86025 | 8869 | 12777 |
| 15:29 | MP14900-B1 | 5967 | 84646 | 8883 | 12440 |
| 15:34 | ZZZZZZ | 6117 | 86860 | 8971 | 12943 |
| 15:39 | ZZZZZZ | 6095 | 87319 | 9069 | 12920 |
| 15:45 | MP14865-PS1 | 6092 | 86982 | 9321 | 12461 |
| 15:50 | MA46687-CCV3 | 5893 | 83561 | 8783 | 12289 |
| 15:55 | MA46687-CCB4 | 6128 | 86562 | 8908 | 12982 |
| 16:00 | MP14898-MB1 | 6098 | 86560 | 8941 | 12926 |
| 16:05 | MP14898-B1 | 5984 | 86048 | 9013 | 12489 |
| 16:10 | ZZZZZZ | 5866 | 84786 | 9104 | 11613 |
| 16:15 | ZZZZZZ | 5877 | 84826 | 9106 | 11904 |
| 16:20 | ZZZZZZ | 5858 | 84923 | 9158 | 11894 |
| 16:26 | ZZZZZZ | 5450 | 79369 | 8534 | 10858 |
| 16:31 | ZZZZZZ | 6189 | 87566 | 9343 | 12325 |
| 16:36 | ZZZZZZ | 5898 | 83875 | 8843 | 12047 |
| 16:41 | ZZZZZZ | 5898 | 83861 | 8850 | 12062 |
| 16:46 | MA46687-CCV4 | 5905 | 83294 | 8777 | 12246 |
| 16:51 | MA46687-CCB5 | 6062 | 86327 | 8755 | 12779 |
| 16:56 | MA46687-ICSA2 | 5474 | 77947 | 8431 | 11338 |
| 17:01 | MA46687-ICSAB2 | 5519 | 78216 | 8574 | 11442 |
| 17:06 | ZZZZZZ | 5838 | 83156 | 8790 | 11931 |
| 17:11 | MP14898-S1 | 6072 | 86618 | 9129 | 12398 |
| 17:16 | MP14898-S2 | 6089 | 86832 | 9175 | 12421 |
| 17:21 | JC87563-7 | 6247 | 87817 | 9192 | 12707 |
| 17:26 | MP14898-SD1 | 6148 | 84107 | 8849 | 12730 |
| 17:31 | ZZZZZZ | 6118 | 86567 | 9033 | 12449 |
| 17:36 | MA46687-CCV5 | 5891 | 84124 | 8640 | 12175 |
| 17:41 | MA46687-CCB6 | 6061 | 85607 | 8653 | 12739 |
| 17:46 | JC87535-1 | 6120 | 85925 | 8950 | 12925 |
| 17:51 | JC87535-3 | 6016 | 85571 | 8884 | 12698 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 17:56 | JC87535-4 | 6484 | 92086 | 9632 | 12885 |
| 18:01 | JC87535-9 | 5952 | 83928 | 8767 | 12134 |
| 18:06 | JC87535-11 | 6131 | 87154 | 9021 | 12666 |
| 18:11 | ZZZZZZ | 6197 | 87056 | 9128 | 12512 |
| 18:17 | ZZZZZZ | 6184 | 87105 | 9104 | 12400 |
| 18:22 | ZZZZZZ | 6249 | 87802 | 9191 | 12474 |
| 18:27 | ZZZZZZ | 6193 | 86817 | 9059 | 12483 |
| 18:32 | MA46687-CCV6 | 5838 | 82583 | 8602 | 12047 |
| 18:37 | MA46687-CCB7 | 6048 | 85398 | 8656 | 12700 |
| 18:42 | MP14863-MB1 | 6090 | 86525 | 8840 | 12781 |
| 18:47 | MP14863-B1 | 6014 | 84853 | 8761 | 12430 |
| 18:52 | MP14863-S1 | 6079 | 85893 | 9110 | 12309 |
| 18:57 | MP14863-S2 | 6100 | 86968 | 9190 | 12341 |
| 19:02 | JC87450-16 | 6224 | 87977 | 9178 | 12615 |
| 19:07 | MP14863-SD1 | 6166 | 86988 | 8940 | 12722 |
| 19:12 | ZZZZZZ | 6243 | 88121 | 9166 | 12676 |
| 19:17 | ZZZZZZ | 6253 | 88408 | 9146 | 12626 |
| 19:23 | ZZZZZZ | 6224 | 88373 | 9239 | 12659 |
| 19:28 | MA46687-CCV7 | 5897 | 83550 | 8667 | 12194 |
| 19:33 | MA46687-CCB8 | 5961 | 85170 | 8722 | 12574 |
| 19:38 | ZZZZZZ | 5990 | 85095 | 8749 | 12617 |
| 19:43 | ZZZZZZ | 6025 | 85512 | 8710 | 12680 |
| 19:48 | ZZZZZZ | 6037 | 85683 | 8695 | 12812 |
| 19:54 | ZZZZZZ | 6048 | 85214 | 8581 | 12758 |
| 19:59 | ZZZZZZ | 6043 | 85587 | 8677 | 12689 |
| 20:04 | ZZZZZZ | 6028 | 84526 | 8597 | 12768 |
| 20:09 | ZZZZZZ | 5994 | 84924 | 8568 | 12612 |
| 20:14 | ZZZZZZ | 6026 | 85257 | 8638 | 12659 |
| 20:20 | ZZZZZZ | 6067 | 85535 | 8595 | 12689 |
| 20:25 | ZZZZZZ | 6022 | 85391 | 8629 | 12605 |
| 20:30 | ZZZZZZ | 5684 | 80853 | 8332 | 11627 |
| 20:35 | ZZZZZZ | 6067 | 81170 | 8860 | 12082 |
| 20:40 | MA46687-CCV8 | 5891 | 83488 | 8567 | 12132 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 20:45 | MA46687-CCB9 | 6025 | 84644 | 8572 | 12639 |
| 20:51 | ZZZZZZ | 6171 | 89189 | 9086 | 12413 |
| 20:56 | ZZZZZZ | 6138 | 86126 | 8946 | 12557 |
| 21:01 | ZZZZZZ | 6215 | 86075 | 9078 | 12442 |
| 21:06 | ZZZZZZ | 6156 | 86470 | 9086 | 12468 |
| 21:11 | ZZZZZZ | 6296 | 87464 | 9298 | 12469 |
| 21:16 | ZZZZZZ | 6188 | 87099 | 9127 | 12613 |
| 21:21 | ZZZZZZ | 6007 | 85348 | 8794 | 12282 |
| 21:26 | ZZZZZZ | 6134 | 86250 | 8964 | 12389 |
| 21:31 | ZZZZZZ | 6171 | 86837 | 9084 | 12367 |
| 21:36 | ZZZZZZ | 6146 | 86312 | 9107 | 12445 |
| 21:41 | MA46687-CCV9 | 5816 | 82281 | 8525 | 11955 |
| 21:46 | MA46687-CCB10 | 6005 | 84838 | 8677 | 12556 |
| 21:52 | ZZZZZZ | 6083 | 85392 | 8928 | 12438 |
| 21:57 | ZZZZZZ | 6124 | 86141 | 8918 | 12465 |
| 22:02 | ZZZZZZ | 6211 | 87674 | 9123 | 12521 |
| 22:07 | MP14896-B1 | 5970 | 84218 | 8694 | 12294 |
| 22:12 | MP14896-MB1 | 6101 | 85846 | 8879 | 12733 |
| 22:17 | MP14896-S1 | 5943 | 85331 | 8874 | 12643 |
| 22:22 | MP14896-S2 | 5949 | 86046 | 9041 | 12598 |
| 22:27 | JC87209-3 | 6131 | 88116 | 9120 | 13061 |
| 22:32 | MP14896-SD1 | 6118 | 88096 | 8986 | 12826 |
| 22:37 | ZZZZZZ | 5738 | 82280 | 8478 | 12196 |
| 22:42 | MA46687-CCV10 | 5909 | 83560 | 8702 | 12130 |
| 22:47 | MA46687-CCB11 | 6137 | 86637 | 8796 | 12831 |
| 22:52 | MP14897-MB1 | 6086 | 88081 | 9033 | 12727 |
| 22:57 | MP14897-B1 | 6003 | 85178 | 8772 | 12385 |
| 23:02 | MP14897-S1 | 6032 | 84820 | 8974 | 12379 |
| 23:07 | MP14897-S2 | 6032 | 85390 | 9006 | 12378 |
| 23:12 | JC87209-2 | 6196 | 88040 | 9035 | 12984 |
| 23:17 | MP14897-SD1 | 6085 | 86193 | 8745 | 12696 |
| 23:22 | ZZZZZZ | 6169 | 87806 | 9084 | 12929 |
| 23:28 | ZZZZZZ | 6142 | 86832 | 8984 | 12737 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 23:33 | ZZZZZZ | 6115 | 86316 | 8948 | 12696 |
| 23:38 | ZZZZZZ | 6111 | 86620 | 8906 | 12679 |
| 23:43 | MA46687-CCV11 | 5956 | 83360 | 8685 | 12222 |
| 23:48 | MA46687-CCB12 | 6076 | 85238 | 8667 | 12694 |
| 23:53 | ZZZZZZ | 6088 | 85867 | 8859 | 12617 |
| 23:58 | ZZZZZZ | 6121 | 86174 | 8912 | 12671 |
| 00:03 | ZZZZZZ | 6101 | 86929 | 8997 | 12627 |
| 00:08 | ZZZZZZ | 6130 | 86592 | 8942 | 12686 |
| 00:13 | ZZZZZZ | 6137 | 87290 | 9013 | 12683 |
| 00:18 | ZZZZZZ | 6076 | 86079 | 8923 | 12578 |
| 00:23 | ZZZZZZ | 6146 | 86513 | 8996 | 12671 |
| 00:28 | ZZZZZZ | 6101 | 87129 | 9013 | 12652 |
| 00:33 | ZZZZZZ | 6113 | 86245 | 8989 | 12636 |
| 00:38 | ZZZZZZ | 6444 | 89131 | 9607 | 12734 |
| 00:43 | MA46687-CCV12 | 5944 | 83769 | 8722 | 12193 |
| 00:48 | MA46687-CCB13 | 6085 | 85669 | 8672 | 12723 |
| 00:53 | ZZZZZZ | 6138 | 85361 | 9087 | 12478 |
| 00:58 | ZZZZZZ | 6188 | 85725 | 9401 | 11976 |
| 01:03 | ZZZZZZ | 6266 | 87154 | 9392 | 12138 |
| 01:08 | ZZZZZZ | 6098 | 86172 | 8893 | 12624 |
| 01:13 | MP11922-MB3 | 6093 | 85647 | 8710 | 12707 |
| 01:19 | MP11922-B3 | 6000 | 85018 | 8953 | 12340 |
| 01:24 | ZZZZZZ | 6138 | 86968 | 8950 | 12774 |
| 01:29 | ZZZZZZ | 6044 | 84764 | 8691 | 12612 |
| 01:34 | MP11919-B3 | 5973 | 84778 | 8850 | 12291 |
| 01:39 | MA46687-CCV13 | 5896 | 83049 | 8654 | 12082 |
| 01:44 | MA46687-CCB14 | 6076 | 85633 | 8722 | 12676 |
| 01:49 | MP14842-MB1 | 6017 | 86266 | 8872 | 12545 |
| 01:54 | MP14842-B1 | 6007 | 85544 | 8906 | 12335 |
| 01:59 | MP14842-MB2 | 6119 | 85763 | 8890 | 12775 |
| 02:04 | MP14842-B2 | 5943 | 83576 | 8728 | 12214 |
| 02:09 | MP14842-S1 | 5758 | 81819 | 8667 | 11527 |
| 02:14 | MP14842-S2 | 5708 | 81855 | 8762 | 11446 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 02:20 | JC87136-10 | 5783 | 82501 | 8661 | 11515 |
| 02:25 | MP14842-SD1 | 5997 | 84166 | 8732 | 12214 |
| 02:30 | ZZZZZZ | 5875 | 83631 | 8853 | 11927 |
| 02:35 | ZZZZZZ | 5910 | 83501 | 8754 | 11942 |
| 02:40 | MA46687-CCV14 | 5926 | 83013 | 8666 | 12094 |
| 02:45 | MA46687-CCB15 | 6123 | 85583 | 8762 | 12725 |
| 02:50 | ZZZZZZ | 5830 | 82808 | 8628 | 11819 |
| 02:55 | ZZZZZZ | 6114 | 86466 | 8901 | 12701 |
| 03:00 | ZZZZZZ | 5869 | 83034 | 8685 | 11785 |
| 03:06 | ZZZZZZ | 5731 | 81272 | 8556 | 11412 |
| 03:11 | ZZZZZZ | 5526 | 79935 | 8466 | 11074 |
| 03:16 | ZZZZZZ | 5963 | 84665 | 8790 | 12141 |
| 03:21 | ZZZZZZ | 5762 | 82315 | 8649 | 11496 |
| 03:26 | ZZZZZZ | 5940 | 84267 | 8679 | 12043 |
| 03:32 | ZZZZZZ | 5920 | 83728 | 8676 | 11965 |
| 03:37 | ZZZZZZ | 5812 | 83565 | 8526 | 11794 |
| 03:42 | MA46687-CCV15 | 5964 | 84184 | 8745 | 12185 |
| 03:47 | MA46687-CCB16 | 6042 | 85558 | 8673 | 12582 |
| 03:52 | ZZZZZZ | 5809 | 82948 | 8658 | 11558 |
| 03:57 | ZZZZZZ | 5852 | 83335 | 8707 | 11759 |
| 04:02 | ZZZZZZ | 5739 | 81458 | 8563 | 11409 |
| 04:08 | ZZZZZZ | 5559 | 80093 | 8320 | 11155 |
| 04:13 | ZZZZZZ | 5962 | 85423 | 8829 | 12141 |
| 04:18 | ZZZZZZ | 5842 | 83210 | 8702 | 11649 |
| 04:23 | ZZZZZZ | 6132 | 86274 | 8847 | 12541 |
| 04:28 | ZZZZZZ | 6245 | 87420 | 9090 | 12471 |
| 04:33 | ZZZZZZ | 6195 | 87150 | 8931 | 12600 |
| 04:38 | ZZZZZZ | 6157 | 86714 | 9114 | 12254 |
| 04:44 | MA46687-CCV16 | 5911 | 83332 | 8648 | 12095 |
| 04:49 | MA46687-CCB17 | 6113 | 86331 | 8685 | 12725 |
| 04:54 | ZZZZZZ | 6136 | 86386 | 9066 | 12401 |
| 04:59 | ZZZZZZ | 6231 | 87429 | 9057 | 12393 |
| 05:04 | ZZZZZZ | 6160 | 86652 | 8985 | 12392 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 05:09 | ZZZZZZ | 6191 | 86521 | 8969 | 12425 |
| 05:14 | ZZZZZZ | 6128 | 86380 | 9017 | 12370 |
| 05:19 | ZZZZZZ | 6117 | 85956 | 9010 | 12390 |
| 05:24 | ZZZZZZ | 6325 | 88403 | 9354 | 12587 |
| 05:30 | ZZZZZZ | 6112 | 86485 | 9050 | 12290 |
| 05:35 | MP14873-B1 | 5934 | 84035 | 8730 | 12165 |
| 05:40 | MP14873-MB1 | 6185 | 88037 | 8950 | 12833 |
| 05:45 | MA46687-CCV17 | 5873 | 82695 | 8633 | 12010 |
| 05:50 | MA46687-CCB18 | 6136 | 86673 | 8766 | 12754 |
| 05:55 | MP14873-B2 | 5937 | 85034 | 8762 | 12178 |
| 06:00 | MP14873-S1 | 5885 | 83753 | 8650 | 12004 |
| 06:05 | MP14873-S2 | 5925 | 84176 | 8669 | 12066 |
| 06:10 | JC87604-1 | 5983 | 84573 | 8693 | 12253 |
| 06:15 | MP14873-SD1 | 6132 | 87049 | 8797 | 12691 |
| 06:20 | ZZZZZZ | 6009 | 85165 | 8666 | 12328 |
| 06:25 | ZZZZZZ | 5963 | 84360 | 8557 | 12200 |
| 06:30 | MP14911-B1 | 6011 | 84658 | 8776 | 12275 |
| 06:35 | MP14911-MB1 | 6133 | 86810 | 8824 | 12704 |
| 06:40 | MA46687-CCV18 | 5873 | 82533 | 8479 | 11977 |
| 06:45 | MA46687-CCB19 | 6033 | 84689 | 8475 | 12504 |
| 06:50 | MP14911-S1 | 5953 | 83725 | 8683 | 12151 |
| 06:55 | MP14911-S2 | 5931 | 83549 | 8717 | 12087 |
| 07:00 | JC87492-3A | 6044 | 84898 | 8624 | 12467 |
| 07:05 | MP14911-SD1 | 5962 | 84892 | 8639 | 12363 |
| 07:11 | ZZZZZZ | 6106 | 85741 | 8821 | 12466 |
| 07:16 | ZZZZZZ | 6086 | 86215 | 8708 | 12400 |
| 07:21 | ZZZZZZ | 6143 | 86519 | 8804 | 12485 |
| 07:26 | ZZZZZZ | 6024 | 84754 | 8650 | 12303 |
| 07:31 | ZZZZZZ | 6002 | 84484 | 8643 | 12244 |
| 07:36 | MA46687-CCV19 | 5863 | 82227 | 8442 | 11927 |
| 07:41 | MA46687-CCB20 | 6075 | 85197 | 8569 | 12582 |
| 07:46 | ZZZZZZ | 6007 | 84812 | 8685 | 12255 |
| 07:51 | ZZZZZZ | 6005 | 84729 | 8660 | 12249 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46687
Parameters: Sb,Cd,Ca,Cu,Fe,Pb,Mn,Se,Ag,Tl

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 07:56 | ZZZZZZ | 6038 | 85742 | 8770 | 12371 |
| 08:01 | ZZZZZZ | 6066 | 86024 | 8814 | 12397 |
| 08:06 | ZZZZZZ | 6028 | 84999 | 8654 | 12355 |
| 08:12 | ZZZZZZ | 5993 | 84568 | 8805 | 12285 |
| 08:17 | ZZZZZZ | 6072 | 84839 | 8734 | 12408 |
| 08:22 | ZZZZZZ | 6018 | 84500 | 8664 | 12298 |
| 08:27 | ZZZZZZ | 6021 | 84969 | 8671 | 12306 |
| 08:32 | MA46687-CCV20 | 5895 | 82765 | 8532 | 12000 |
| 08:37 | MA46687-CCB21 | 6109 | 85755 | 8687 | 12643 |
| 08:42 | ZZZZZZ | 5935 | 84155 | 8642 | 12033 |
| 08:47 | ZZZZZZ | 6135 | 87177 | 8807 | 12693 |
| 08:53 | ZZZZZZ | 5909 | 83821 | 8649 | 11946 |
| 08:58 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 09:03 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 09:08 | ZZZZZZ | 5770 | 82534 | 8588 | 11645 |
| 09:21 | ZZZZZZ | 6078 | 85694 | 8806 | 12640 |
| 09:28 | JC87535-1 | 6079 | 85090 | 8673 | 12602 |
| 09:33 | MA46687-CCV21 | 5906 | 83097 | 8621 | 11997 |
| 09:38 | MA46687-CCB22 | 6046 | 85063 | 8555 | 12549 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 12:48 | | 13:07 | | 14:03 | | 14:58 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | anr | | | | | | | |
| Antimony | 6.0 | 1.2 | -0.300 | <6.0 | 0.800 | <6.0 | 0.800 | <6.0 | 0.700 | <6.0 |
| Arsenic | 3.0 | 1.6 | anr | | | | | | | |
| Barium | 200 | .3 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 2 | anr | | | | | | | |
| Boron | 100 | 2 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | 0.00 | <3.0 | 0.00 | <3.0 | 0.00 | <3.0 | 0.200 | <3.0 |
| Calcium | 5000 | 4.1 | 3.20 | <5000 | 3.40 | <5000 | 4.00 | <5000 | 2.40 | <5000 |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .4 | anr | | | | | | | |
| Copper | 10 | .3 | 0.00 | <10 | -0.100 | <10 | 0.100 | <10 | 0.100 | <10 |
| Iron | 100 | 2.3 | -1.30 | <100 | -0.100 | <100 | -1.50 | <100 | 4.40 | <100 |
| Lead | 3.0 | 2.3 | 0.00 | <3.0 | 0.200 | <3.0 | -0.300 | <3.0 | 0.100 | <3.0 |
| Lithium | 50 | 1.1 | anr | | | | | | | |
| Magnesium | 5000 | 33 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 | 0.100 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | anr | | | | | | | |
| Phosphorus | 50 | 1.1 | anr | | | | | | | |
| Potassium | 10000 | 26 | anr | | | | | | | |
| Selenium | 10 | 2.2 | 1.70 | <10 | 0.700 | <10 | 1.60 | <10 | 0.500 | <10 |
| Silicon | 200 | 8.7 | anr | | | | | | | |
| Silver | 10 | .3 | -0.100 | <10 | -0.300 | <10 | -0.200 | <10 | 0.00 | <10 |
| Sodium | 10000 | 6 | anr | | | | | | | |
| Strontium | 10 | .1 | anr | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | 0.500 | <10 | 0.100 | <10 | 1.20 | <10 | 1.20 | <10 |
| Tin | 10 | 1.6 | anr | | | | | | | |
| Titanium | 10 | .5 | anr | | | | | | | |
| Tungsten | 50 | 1.4 | anr | | | | | | | |
| Vanadium | 50 | .3 | anr | | | | | | | |
| Zinc | 20 | .3 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 12:48 | | 13:07 | | 14:03 | | 14:58 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: / Sample ID: | | | 15:55 CCB4 | | 16:51 CCB5 | | 17:41 CCB6 | | 18:37 CCB7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | anr | | | | | | | |
| Antimony | 6.0 | 1.2 | -0.300 | <6.0 | 0.400 | <6.0 | 1.10 | <6.0 | -0.400 | <6.0 |
| Arsenic | 3.0 | 1.6 | anr | | | | | | | |
| Barium | 200 | .3 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 2 | anr | | | | | | | |
| Boron | 100 | 2 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | -0.100 | <3.0 | 0.00 | <3.0 | -0.200 | <3.0 | 0.00 | <3.0 |
| Calcium | 5000 | 4.1 | 5.70 | <5000 | 2.20 | <5000 | -1.70 | <5000 | -1.30 | <5000 |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .4 | anr | | | | | | | |
| Copper | 10 | .3 | -0.100 | <10 | 0.100 | <10 | -0.500 | <10 | -0.500 | <10 |
| Iron | 100 | 2.3 | -1.30 | <100 | -1.30 | <100 | -2.00 | <100 | 2.90 | <100 |
| Lead | 3.0 | 2.3 | 0.600 | <3.0 | 0.300 | <3.0 | 0.200 | <3.0 | 0.500 | <3.0 |
| Lithium | 50 | 1.1 | anr | | | | | | | |
| Magnesium | 5000 | 33 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 | 0.100 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | anr | | | | | | | |
| Phosphorus | 50 | 1.1 | anr | | | | | | | |
| Potassium | 10000 | 26 | anr | | | | | | | |
| Selenium | 10 | 2.2 | 0.700 | <10 | 0.600 | <10 | 1.00 | <10 | -0.400 | <10 |
| Silicon | 200 | 8.7 | anr | | | | | | | |
| Silver | 10 | .3 | -0.300 | <10 | -0.100 | <10 | -0.500 | <10 | -0.800 | <10 |
| Sodium | 10000 | 6 | anr | | | | | | | |
| Strontium | 10 | .1 | anr | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | 0.900 | <10 | -0.300 | <10 | 1.70 | <10 | 0.700 | <10 |
| Tin | 10 | 1.6 | anr | | | | | | | |
| Titanium | 10 | .5 | anr | | | | | | | |
| Tungsten | 50 | 1.4 | anr | | | | | | | |
| Vanadium | 50 | .3 | anr | | | | | | | |
| Zinc | 20 | .3 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 15:55 | | 16:51 | | 17:41 | | 18:37 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: / Sample ID: | | | 19:33 CCB8 | | 20:45 CCB9 | | 21:46 CCB10 | | 22:47 CCB11 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | anr | | | | | | | |
| Antimony | 6.0 | 1.2 | 0.800 | <6.0 | 0.700 | <6.0 | 1.30 | <6.0 | 1.10 | <6.0 |
| Arsenic | 3.0 | 1.6 | anr | | | | | | | |
| Barium | 200 | .3 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 2 | anr | | | | | | | |
| Boron | 100 | 2 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | 0.100 | <3.0 | -0.100 | <3.0 | 0.100 | <3.0 | 0.100 | <3.0 |
| Calcium | 5000 | 4.1 | 3.70 | <5000 | -0.100 | <5000 | 1.50 | <5000 | -0.100 | <5000 |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .4 | anr | | | | | | | |
| Copper | 10 | .3 | -0.300 | <10 | -0.500 | <10 | -0.300 | <10 | -0.300 | <10 |
| Iron | 100 | 2.3 | 4.70 | <100 | -0.500 | <100 | 0.600 | <100 | -0.900 | <100 |
| Lead | 3.0 | 2.3 | 0.00 | <3.0 | 0.600 | <3.0 | -0.200 | <3.0 | -0.100 | <3.0 |
| Lithium | 50 | 1.1 | anr | | | | | | | |
| Magnesium | 5000 | 33 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.100 | <15 | 0.00 | <15 | 0.100 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | anr | | | | | | | |
| Phosphorus | 50 | 1.1 | anr | | | | | | | |
| Potassium | 10000 | 26 | anr | | | | | | | |
| Selenium | 10 | 2.2 | 1.30 | <10 | -0.600 | <10 | 0.900 | <10 | 2.00 | <10 |
| Silicon | 200 | 8.7 | anr | | | | | | | |
| Silver | 10 | .3 | -0.300 | <10 | -0.900 | <10 | -1.10 | <10 | -0.900 | <10 |
| Sodium | 10000 | 6 | anr | | | | | | | |
| Strontium | 10 | .1 | anr | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | 0.100 | <10 | 1.50 | <10 | 0.800 | <10 | 1.00 | <10 |
| Tin | 10 | 1.6 | anr | | | | | | | |
| Titanium | 10 | .5 | anr | | | | | | | |
| Tungsten | 50 | 1.4 | anr | | | | | | | |
| Vanadium | 50 | .3 | anr | | | | | | | |
| Zinc | 20 | .3 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 19:33 | | 20:45 | | 21:46 | | 22:47 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | | CCB10 | | CCB11 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: / Sample ID: | | | 23:48 CCB12 | | 00:48 CCB13 | | 01:44 CCB14 | | 02:45 CCB15 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | anr | | | | | | | |
| Antimony | 6.0 | 1.2 | 0.100 | <6.0 | 1.20 | <6.0 | 0.400 | <6.0 | 0.400 | <6.0 |
| Arsenic | 3.0 | 1.6 | anr | | | | | | | |
| Barium | 200 | .3 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 2 | anr | | | | | | | |
| Boron | 100 | 2 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | -0.100 | <3.0 | 0.100 | <3.0 | 0.00 | <3.0 | 0.00 | <3.0 |
| Calcium | 5000 | 4.1 | -2.10 | <5000 | -0.300 | <5000 | 0.300 | <5000 | -1.40 | <5000 |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .4 | anr | | | | | | | |
| Copper | 10 | .3 | -0.200 | <10 | -0.200 | <10 | -0.400 | <10 | -0.300 | <10 |
| Iron | 100 | 2.3 | 1.90 | <100 | -1.40 | <100 | 1.60 | <100 | 1.40 | <100 |
| Lead | 3.0 | 2.3 | 0.300 | <3.0 | 0.200 | <3.0 | -0.100 | <3.0 | -0.100 | <3.0 |
| Lithium | 50 | 1.1 | anr | | | | | | | |
| Magnesium | 5000 | 33 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.100 | <15 | 0.00 | <15 | 0.100 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | anr | | | | | | | |
| Phosphorus | 50 | 1.1 | anr | | | | | | | |
| Potassium | 10000 | 26 | anr | | | | | | | |
| Selenium | 10 | 2.2 | 0.800 | <10 | 0.800 | <10 | 1.40 | <10 | 0.600 | <10 |
| Silicon | 200 | 8.7 | anr | | | | | | | |
| Silver | 10 | .3 | -0.900 | <10 | -0.600 | <10 | -0.800 | <10 | -1.20 | <10 |
| Sodium | 10000 | 6 | anr | | | | | | | |
| Strontium | 10 | .1 | anr | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | 0.300 | <10 | 0.200 | <10 | 0.700 | <10 | 1.70 | <10 |
| Tin | 10 | 1.6 | anr | | | | | | | |
| Titanium | 10 | .5 | anr | | | | | | | |
| Tungsten | 50 | 1.4 | anr | | | | | | | |
| Vanadium | 50 | .3 | anr | | | | | | | |
| Zinc | 20 | .3 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 23:48 | | 00:48 | | 01:44 | | 02:45 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB12 | | CCB13 | | CCB14 | | CCB15 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: / Sample ID: | | | 03:47 CCB16 | | 04:49 CCB17 | | 05:50 CCB18 | | 06:45 CCB19 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | anr | | | | | | | |
| Antimony | 6.0 | 1.2 | 1.60 | <6.0 | 1.20 | <6.0 | 0.100 | <6.0 | 0.400 | <6.0 |
| Arsenic | 3.0 | 1.6 | anr | | | | | | | |
| Barium | 200 | .3 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 2 | anr | | | | | | | |
| Boron | 100 | 2 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | 0.00 | <3.0 | 0.00 | <3.0 | 0.00 | <3.0 | 0.100 | <3.0 |
| Calcium | 5000 | 4.1 | -0.700 | <5000 | 0.900 | <5000 | -1.60 | <5000 | 0.500 | <5000 |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .4 | anr | | | | | | | |
| Copper | 10 | .3 | -0.300 | <10 | -0.600 | <10 | -0.500 | <10 | -0.100 | <10 |
| Iron | 100 | 2.3 | 6.40 | <100 | 2.50 | <100 | 1.00 | <100 | 4.80 | <100 |
| Lead | 3.0 | 2.3 | 0.200 | <3.0 | -0.100 | <3.0 | -0.200 | <3.0 | 0.400 | <3.0 |
| Lithium | 50 | 1.1 | anr | | | | | | | |
| Magnesium | 5000 | 33 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.00 | <15 | 0.100 | <15 | 0.100 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | anr | | | | | | | |
| Phosphorus | 50 | 1.1 | anr | | | | | | | |
| Potassium | 10000 | 26 | anr | | | | | | | |
| Selenium | 10 | 2.2 | -1.00 | <10 | 0.200 | <10 | 1.70 | <10 | 1.90 | <10 |
| Silicon | 200 | 8.7 | anr | | | | | | | |
| Silver | 10 | .3 | -1.20 | <10 | -1.40 | <10 | -1.00 | <10 | -1.00 | <10 |
| Sodium | 10000 | 6 | anr | | | | | | | |
| Strontium | 10 | .1 | anr | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | 0.800 | <10 | 0.100 | <10 | 1.00 | <10 | 1.00 | <10 |
| Tin | 10 | 1.6 | anr | | | | | | | |
| Titanium | 10 | .5 | anr | | | | | | | |
| Tungsten | 50 | 1.4 | anr | | | | | | | |
| Vanadium | 50 | .3 | anr | | | | | | | |
| Zinc | 20 | .3 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 03:47 | | 04:49 | | 05:50 | | 06:45 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB16 | | CCB17 | | CCB18 | | CCB19 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 07:41 | | 08:37 | | 09:38 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB20 | | CCB21 | | CCB22 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | anr | | | | | |
| Antimony | 6.0 | 1.2 | -0.300 | <6.0 | 0.100 | <6.0 | 0.700 | <6.0 |
| Arsenic | 3.0 | 1.6 | anr | | | | | |
| Barium | 200 | .3 | anr | | | | | |
| Beryllium | 1.0 | .1 | anr | | | | | |
| Bismuth | 20 | 2 | anr | | | | | |
| Boron | 100 | 2 | anr | | | | | |
| Cadmium | 3.0 | .3 | 0.00 | <3.0 | -0.100 | <3.0 | 0.100 | <3.0 |
| Calcium | 5000 | 4.1 | -3.90 | <5000 | 0.100 | <5000 | -1.00 | <5000 |
| Chromium | 10 | .4 | anr | | | | | |
| Cobalt | 50 | .4 | anr | | | | | |
| Copper | 10 | .3 | -0.500 | <10 | -0.500 | <10 | -0.400 | <10 |
| Iron | 100 | 2.3 | 0.500 | <100 | 3.20 | <100 | 1.80 | <100 |
| Lead | 3.0 | 2.3 | 0.00 | <3.0 | 0.200 | <3.0 | 0.900 | <3.0 |
| Lithium | 50 | 1.1 | anr | | | | | |
| Magnesium | 5000 | 33 | anr | | | | | |
| Manganese | 15 | .1 | 0.100 | <15 | 0.100 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | |
| Nickel | 10 | .7 | anr | | | | | |
| Phosphorus | 50 | 1.1 | anr | | | | | |
| Potassium | 10000 | 26 | anr | | | | | |
| Selenium | 10 | 2.2 | 1.90 | <10 | 0.500 | <10 | 0.400 | <10 |
| Silicon | 200 | 8.7 | anr | | | | | |
| Silver | 10 | .3 | -1.30 | <10 | -1.50 | <10 | -1.20 | <10 |
| Sodium | 10000 | 6 | anr | | | | | |
| Strontium | 10 | .1 | anr | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | |
| Thallium | 10 | 4.8 | 0.700 | <10 | 0.300 | <10 | -0.300 | <10 |
| Tin | 10 | 1.6 | anr | | | | | |
| Titanium | 10 | .5 | anr | | | | | |
| Tungsten | 50 | 1.4 | anr | | | | | |
| Vanadium | 50 | .3 | anr | | | | | |
| Zinc | 20 | .3 | anr | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46687  Units: ug/l

| Time: | | | 07:41 | | 08:37 | | 09:38 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB20 | | CCB21 | | CCB22 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 13:00 | |
|---|---|---|---|
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Aluminum | anr | | |
| Antimony | 2000 | 1940 | 97.0 |
| Arsenic | anr | | |
| Barium | anr | | |
| Beryllium | anr | | |
| Bismuth | anr | | |
| Boron | anr | | |
| Cadmium | 2000 | 1950 | 97.5 |
| Calcium | 40000 | 40000 | 100.0 |
| Chromium | anr | | |
| Cobalt | anr | | |
| Copper | 2000 | 1950 | 97.5 |
| Iron | 40000 | 40300 | 100.8 |
| Lead | 2000 | 1980 | 99.0 |
| Lithium | anr | | |
| Magnesium | anr | | |
| Manganese | 2000 | 2010 | 100.5 |
| Molybdenum | anr | | |
| Nickel | anr | | |
| Phosphorus | anr | | |
| Potassium | anr | | |
| Selenium | 2000 | 1960 | 98.0 |
| Silicon | anr | | |
| Silver | 250 | 243 | 97.2 |
| Sodium | anr | | |
| Strontium | anr | | |
| Sulfur | anr | | |
| Thallium | 2000 | 2020 | 101.0 |
| Tin | anr | | |
| Titanium | anr | | |
| Tungsten | anr | | |
| Vanadium | anr | | |
| Zinc | anr | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits:  to  % Recovery  Run ID: MA46687  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 13:00 | |
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Zirconium | anr | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 12:38 | | | 12:43 | | | 13:58 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | ICV | ICV2 | | CCV | CCV1 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1920 | 96.0 | 2000 | 1940 | 97.0 | 2000 | 1950 | 97.5 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 | 2000 | 1970 | 98.5 |
| Calcium | 40000 | 39400 | 98.5 | 40000 | 40000 | 100.0 | 40000 | 40300 | 100.8 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 | 2000 | 1980 | 99.0 |
| Iron | 40000 | 40000 | 100.0 | 40000 | 40100 | 100.3 | 40000 | 39800 | 99.5 |
| Lead | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 | 2000 | 2000 | 100.0 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2030 | 101.5 | 2000 | 2020 | 101.0 | 2000 | 2050 | 102.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1950 | 97.5 | 2000 | 1960 | 98.0 | 2000 | 1980 | 99.0 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 244 | 97.6 | 250 | 244 | 97.6 | 250 | 246 | 98.4 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2010 | 100.5 | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 12:38 | | | 12:43 | | | 13:58 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | ICV | ICV2 | | CCV | CCV1 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 14:53 | | | 15:50 | | | 16:46 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV2 | | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 | 2000 | 1940 | 97.0 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 | 2000 | 1970 | 98.5 |
| Calcium | 40000 | 40500 | 101.3 | 40000 | 40300 | 100.8 | 40000 | 40000 | 100.0 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 1980 | 99.0 | 2000 | 1980 | 99.0 | 2000 | 1980 | 99.0 |
| Iron | 40000 | 40000 | 100.0 | 40000 | 39400 | 98.5 | 40000 | 39300 | 98.3 |
| Lead | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 | 2000 | 1990 | 99.5 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 247 | 98.8 | 250 | 249 | 99.6 | 250 | 248 | 99.2 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2050 | 102.5 | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 14:53 | | | 15:50 | | | 16:46 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV2 | | CCV | CCV3 | | CCV | CCV4 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 17:36 | | | 18:32 | | | 19:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV5 | | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1960 | 98.0 | 2000 | 1970 | 98.5 | 2000 | 1950 | 97.5 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 |
| Calcium | 40000 | 40400 | 101.0 | 40000 | 40500 | 101.3 | 40000 | 40000 | 100.0 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 1980 | 99.0 | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Iron | 40000 | 39900 | 99.8 | 40000 | 39900 | 99.8 | 40000 | 39300 | 98.3 |
| Lead | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 | 2000 | 1970 | 98.5 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 246 | 98.4 | 250 | 250 | 100.0 | 250 | 248 | 99.2 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2050 | 102.5 | 2000 | 2060 | 103.0 | 2000 | 2040 | 102.0 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 17:36 | | | 18:32 | | | 19:28 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV5 | | CCV | CCV6 | | CCV | CCV7 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 20:40 | | | 21:41 | | | 22:42 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV8 | | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1930 | 96.5 | 2000 | 1970 | 98.5 | 2000 | 1930 | 96.5 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1950 | 97.5 | 2000 | 2000 | 100.0 | 2000 | 1950 | 97.5 |
| Calcium | 40000 | 40000 | 100.0 | 40000 | 40100 | 100.3 | 40000 | 39000 | 97.5 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 1970 | 98.5 | 2000 | 2030 | 101.5 | 2000 | 2000 | 100.0 |
| Iron | 40000 | 39200 | 98.0 | 40000 | 39600 | 99.0 | 40000 | 38400 | 96.0 |
| Lead | 2000 | 1980 | 99.0 | 2000 | 2020 | 101.0 | 2000 | 1980 | 99.0 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 1990 | 99.5 | 2000 | 2050 | 102.5 | 2000 | 2000 | 100.0 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1950 | 97.5 | 2000 | 2000 | 100.0 | 2000 | 1950 | 97.5 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 244 | 97.6 | 250 | 249 | 99.6 | 250 | 244 | 97.6 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2030 | 101.5 | 2000 | 2070 | 103.5 | 2000 | 2040 | 102.0 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 20:40 | | | 21:41 | | | 22:42 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV8 | | CCV | CCV9 | | CCV | CCV10 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 23:43 | | | 00:43 | | | 01:39 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV11 | | CCV | CCV12 | | CCV | CCV13 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1920 | 96.0 | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1940 | 97.0 | 2000 | 1950 | 97.5 | 2000 | 1980 | 99.0 |
| Calcium | 40000 | 39300 | 98.3 | 40000 | 39100 | 97.8 | 40000 | 39400 | 98.5 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 2020 | 101.0 |
| Iron | 40000 | 38300 | 95.8 | 40000 | 38300 | 95.8 | 40000 | 38700 | 96.8 |
| Lead | 2000 | 1970 | 98.5 | 2000 | 1980 | 99.0 | 2000 | 2000 | 100.0 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2000 | 100.0 | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1940 | 97.0 | 2000 | 1960 | 98.0 | 2000 | 1980 | 99.0 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 244 | 97.6 | 250 | 244 | 97.6 | 250 | 247 | 98.8 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 | 2000 | 2060 | 103.0 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 23:43 | | | 00:43 | | | 01:39 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV11 | | CCV | CCV12 | | CCV | CCV13 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 02:40 | | | 03:42 | | | 04:44 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV14 | | CCV | CCV15 | | CCV | CCV16 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1930 | 96.5 | 2000 | 1920 | 96.0 | 2000 | 1930 | 96.5 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1960 | 98.0 | 2000 | 1940 | 97.0 | 2000 | 1960 | 98.0 |
| Calcium | 40000 | 39100 | 97.8 | 40000 | 38500 | 96.3 | 40000 | 39000 | 97.5 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 2020 | 101.0 | 2000 | 2000 | 100.0 | 2000 | 2020 | 101.0 |
| Iron | 40000 | 38100 | 95.3 | 40000 | 37300 | 93.3 | 40000 | 37500 | 93.8 |
| Lead | 2000 | 1990 | 99.5 | 2000 | 1970 | 98.5 | 2000 | 1980 | 99.0 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2000 | 100.0 | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1950 | 97.5 | 2000 | 1940 | 97.0 | 2000 | 1950 | 97.5 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 246 | 98.4 | 250 | 243 | 97.2 | 250 | 247 | 98.8 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2050 | 102.5 | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 02:40 | | | 03:42 | | | 04:44 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV14 | | CCV | CCV15 | | CCV | CCV16 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 05:45 | | | 06:40 | | | 07:36 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV17 | | CCV | CCV18 | | CCV | CCV19 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1930 | 96.5 | 2000 | 1940 | 97.0 | 2000 | 1930 | 96.5 |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Bismuth | anr | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1970 | 98.5 | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 |
| Calcium | 40000 | 38800 | 97.0 | 40000 | 39000 | 97.5 | 40000 | 38900 | 97.3 |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 |
| Iron | 40000 | 37200 | 93.0 | 40000 | 37500 | 93.8 | 40000 | 37500 | 93.8 |
| Lead | 2000 | 1990 | 99.5 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Lithium | anr | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 | 2000 | 2010 | 100.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1950 | 97.5 | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 |
| Silicon | anr | | | | | | | | |
| Silver | 250 | 246 | 98.4 | 250 | 247 | 98.8 | 250 | 247 | 98.8 |
| Sodium | anr | | | | | | | | |
| Strontium | anr | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2040 | 102.0 | 2000 | 2060 | 103.0 | 2000 | 2050 | 102.5 |
| Tin | anr | | | | | | | | |
| Titanium | anr | | | | | | | | |
| Tungsten | anr | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 05:45 | | | 06:40 | | | 07:36 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV17 | | CCV | CCV18 | | CCV | CCV19 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 08:32 | | | 09:33 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV20 | | CCV | CCV21 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | |
| Antimony | 2000 | 1940 | 97.0 | 2000 | 1920 | 96.0 |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | anr | | | | | |
| Bismuth | anr | | | | | |
| Boron | anr | | | | | |
| Cadmium | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 |
| Calcium | 40000 | 39000 | 97.5 | 40000 | 38600 | 96.5 |
| Chromium | anr | | | | | |
| Cobalt | anr | | | | | |
| Copper | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Iron | 40000 | 37300 | 93.3 | 40000 | 36800 | 92.0 |
| Lead | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 |
| Lithium | anr | | | | | |
| Magnesium | anr | | | | | |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Molybdenum | anr | | | | | |
| Nickel | anr | | | | | |
| Phosphorus | anr | | | | | |
| Potassium | anr | | | | | |
| Selenium | 2000 | 1960 | 98.0 | 2000 | 1940 | 97.0 |
| Silicon | anr | | | | | |
| Silver | 250 | 248 | 99.2 | 250 | 245 | 98.0 |
| Sodium | anr | | | | | |
| Strontium | anr | | | | | |
| Sulfur | anr | | | | | |
| Thallium | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Tin | anr | | | | | |
| Titanium | anr | | | | | |
| Tungsten | anr | | | | | |
| Vanadium | anr | | | | | |
| Zinc | anr | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46687  Units: ug/l

| | | | | | | |
|---|---|---|---|---|---|---|
| Time: | | 08:32 | | | 09:33 | |
| Sample ID: | CCV | CCV20 | | CCV | CCV21 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 13:31 | | | 13:37 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | 8000 | 8050 | 100.6 | | | |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | anr | | | | | |
| Bismuth | anr | | | | | |
| Boron | anr | | | | | |
| Cadmium | 8000 | 7880 | 98.5 | | | |
| Calcium | | | | 200000 | 202000 | 101.0 |
| Chromium | anr | | | | | |
| Cobalt | anr | | | | | |
| Copper | 8000 | 7890 | 98.6 | | | |
| Iron | | | | 200000 | 199000 | 99.5 |
| Lead | 8000 | 8090 | 101.1 | | | |
| Lithium | anr | | | | | |
| Magnesium | | | | | | |
| Manganese | 8000 | 7930 | 99.1 | | | |
| Molybdenum | anr | | | | | |
| Nickel | anr | | | | | |
| Phosphorus | anr | | | | | |
| Potassium | | | | | | |
| Selenium | 8000 | 7930 | 99.1 | | | |
| Silicon | anr | | | | | |
| Silver | 625 | 626 | 100.2 | | | |
| Sodium | | | | | | |
| Strontium | anr | | | | | |
| Sulfur | anr | | | | | |
| Thallium | 8000 | 8130 | 101.6 | | | |
| Tin | anr | | | | | |
| Titanium | anr | | | | | |
| Tungsten | anr | | | | | |
| Vanadium | anr | | | | | |
| Zinc | anr | | | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | 13:31 | | | 13:37 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46687  Units: ug/l

| Time: | | | | 13:11 | | 13:16 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRID1 | | CRI1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | anr | | | |
| Antimony | 6.0 | 20 | 3.0 | 0.500U | 0.0* (a) | 6.10 | 101.7 |
| Arsenic | 8.0 | 20 | 3.0 | anr | | | |
| Barium | 200 | | 4.0 | anr | | | |
| Beryllium | 2.0 | | 1.0 | anr | | | |
| Bismuth | 20 | | | | | | |
| Boron | 100 | | 10 | anr | | | |
| Cadmium | 3.0 | | 1.0 | 0.900 | 90.0 | 2.90 | 96.7 |
| Calcium | 5000 | 2000 | 1000 | 1040 | 104.0 | 5150 | 103.0 |
| Chromium | 10 | | 2.0 | anr | | | |
| Cobalt | 50 | | 3.0 | anr | | | |
| Copper | 10 | | 2.0 | 0.200U | 0.0* (a) | 9.50 | 95.0 |
| Iron | 100 | 500 | | | | 99.9 | 99.9 |
| Lead | 3.0 | 20 | 2.5 | 0.600U | 0.0* (a) | 3.60 | 120.0 |
| Lithium | 50 | | | | | | |
| Magnesium | 5000 | 2000 | 100 | anr | | | |
| Manganese | 15 | | 3.0 | 3.20 | 106.7 | 15.6 | 104.0 |
| Molybdenum | 20 | | | | | | |
| Nickel | 10 | | 4.0 | anr | | | |
| Phosphorus | 50 | | | | | | |
| Potassium | 5000 | | 2000 | anr | | | |
| Selenium | 10 | 20 | 5.0 | 5.80 | 116.0 | 11.8 | 118.0 |
| Silicon | 200 | | | | | | |
| Silver | 5.0 | | 2.0 | -0.200U | 0.0* (a) | 4.30 | 86.0 |
| Sodium | 5000 | | 1000 | anr | | | |
| Strontium | 10 | | | | | | |
| Sulfur | 50 | | | | | | |
| Thallium | 10 | | 2.0 | 3.60U | 0.0* (a) | 10.2 | 102.0 |
| Tin | 10 | | | | | | |
| Titanium | 10 | | | | | | |
| Tungsten | 50 | | | | | | |
| Vanadium | 50 | | 2.0 | anr | | | |
| Zinc | 20 | | 10 | anr | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46687  Units: ug/l

| Time: | | | | 13:11 | | 13:16 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRID1 | | CRI1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | | 13:21 | | 13:26 | | 16:56 | | 17:01 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 504000 | 100.8 | 510000 | 102.0 | 507000 | 101.4 | 506000 | 101.2 |
| Antimony | | 1000 | -1.80 | | 1010 | 101.0 | -1.10 | | 1010 | 101.0 |
| Arsenic | | 1000 | -2.60 | | 1030 | 103.0 | -2.90 | | 1030 | 103.0 |
| Barium | | 500 | 1.00 | | 489 | 97.8 | 1.30 | | 489 | 97.8 |
| Beryllium | | 500 | -0.300 | | 479 | 95.8 | -0.400 | | 478 | 95.6 |
| Bismuth | | 500 | -4.00 | | 503 | 100.6 | -4.90 | | 507 | 101.4 |
| Boron | | 500 | 3.60 | | 482 | 96.4 | 1.60 | | 481 | 96.2 |
| Cadmium | | 1000 | -0.300 | | 980 | 98.0 | 0.00 | | 986 | 98.6 |
| Calcium | 400000 | 400000 | 386000 | 96.5 | 377000 | 94.3 | 387000 | 96.8 | 378000 | 94.5 |
| Chromium | | 500 | 0.500 | | 473 | 94.6 | 0.300 | | 475 | 95.0 |
| Cobalt | | 500 | 0.300 | | 465 | 93.0 | 0.400 | | 465 | 93.0 |
| Copper | | 500 | -5.30 | | 508 | 101.6 | -5.40 | | 512 | 102.4 |
| Iron | 200000 | 200000 | 192000 | 96.0 | 189000 | 94.5 | 189000 | 94.5 | 184000 | 92.0 |
| Lead | | 1000 | 0.900 | | 930 | 93.0 | 1.20 | | 930 | 93.0 |
| Lithium | | 500 | -3.30 | | 511 | 102.2 | -4.20 | | 505 | 101.0 |
| Magnesium | 500000 | 500000 | 497000 | 99.4 | 489000 | 97.8 | 493000 | 98.6 | 487000 | 97.4 |
| Manganese | | 500 | -1.50 | | 493 | 98.6 | -2.00 | | 491 | 98.2 |
| Molybdenum | | 500 | 3.90 | | 470 | 94.0 | 3.60 | | 470 | 94.0 |
| Nickel | | 1000 | 2.40 | | 945 | 94.5 | 2.50 | | 945 | 94.5 |
| Phosphorus | | 500 | 21.4 | | 542 | 108.4 | 23.2 | | 543 | 108.6 |
| Potassium | | | 17.1 | | -256 | | 12.6 | | 9.60 | |
| Selenium | | 1000 | 3.00 | | 1000 | 100.0 | 2.20 | | 1000 | 100.0 |
| Silicon | | 500 | -9.30 | | 493 | 98.6 | -7.70 | | 494 | 98.8 |
| Silver | | 1000 | 3.10 | | 1030 | 103.0 | 1.60 | | 1040 | 104.0 |
| Sodium | | | 55.8 | | 52.3 | | 39.4 | | 49.7 | |
| Strontium | | 500 | -0.600 | | 498 | 99.6 | -0.500 | | 497 | 99.4 |
| Sulfur | | 500 | 12.2 | | 506 | 101.2 | 12.1 | | 508 | 101.6 |
| Thallium | | 1000 | -0.800 | | 956 | 95.6 | -1.90 | | 957 | 95.7 |
| Tin | | 500 | -2.70 | | 466 | 93.2 | -4.00 | | 467 | 93.4 |
| Titanium | | 500 | 4.90 | | 490 | 98.0 | 4.60 | | 491 | 98.2 |
| Tungsten | | 500 | 10.0 | | 467 | 93.4 | 11.7 | | 469 | 93.8 |
| Vanadium | | 500 | 1.10 | | 483 | 96.6 | 1.00 | | 485 | 97.0 |
| Zinc | | 1000 | -0.500 | | 927 | 92.7 | -0.500 | | 930 | 93.0 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF050919M1.ICP  Date Analyzed: 05/09/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46687  Units: ug/l

| Time: | | | 13:21 | | 13:26 | | 16:56 | | 17:01 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | 2.20 | | 488 | 97.6 | 1.60 | | 486 | 97.2 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP Date Analyzed: 05/10/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:40 | MA46695-STD1 | 1 | | STDA |
| 11:46 | MA46695-STD2 | 1 | | STDB |
| 11:51 | ZZZZZZ | 1 | | |
| 11:56 | ZZZZZZ | 1 | | |
| 12:01 | MA46695-ICV1 | 1 | | |
| 12:06 | MA46695-ICB1 | 1 | | |
| 12:12 | MA46695-ICCV1 | 1 | | |
| 12:22 | MA46695-CCB1 | 1 | | |
| 12:28 | MA46695-CRID1 | 1 | | |
| 12:33 | MA46695-CRI1 | 1 | | |
| 12:38 | MA46695-ICSA1 | 1 | | |
| 12:43 | MA46695-ICSAB1 | 1 | | |
| 12:48 | MA46695-HSTD1 | 1 | | |
| 12:54 | MA46695-HSTD2 | 1 | | |
| 12:59 | ZZZZZZ | 1 | | |
| 13:04 | ZZZZZZ | 1 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:15 | MA46695-CCV1 | 1 | | |
| 13:20 | MA46695-CCB2 | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:30 | ZZZZZZ | 1 | | |
| 13:35 | ZZZZZZ | 1 | | |
| 13:40 | ZZZZZZ | 1 | | |
| 13:45 | ZZZZZZ | 1 | | |
| 13:50 | ZZZZZZ | 1 | | |
| 13:55 | ZZZZZZ | 1 | | |
| 14:00 | MA46695-CCV2 | 1 | | |
| 14:05 | MA46695-CCB3 | 1 | | |
| 14:10 | MP14924-MB1 | 1 | | |
| 14:15 | MP14924-B1 | 1 | | |
| 14:20 | MP14924-S1 | 1 | | Need PS for Sb |
| 14:25 | MP14924-S2 | 1 | | Need PS for Sb |
| 14:30 | JC87843-4A | 1 | | (sample used for QC only; not part of login JC87535) |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:36 | MP14924-SD1 | 5 | | |
| 14:41 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:50 | ZZZZZZ | 1 | | |
| 14:56 | MA46695-CCV3 | 1 | | |
| 15:01 | MA46695-CCB4 | 1 | | |
| 15:06 | ZZZZZZ | 1 | | |
| 15:11 | ZZZZZZ | 1 | | |
| 15:16 | ZZZZZZ | 1 | | |
| 15:21 | MP14839-PS1 | 1 | | |
| 15:26 | ZZZZZZ | 2 | | |
| 15:31 | ZZZZZZ | 2 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:41 | MP14918-MB1 | 1 | | |
| 15:46 | MP14918-B1 | 1 | | |
| 15:51 | MA46695-CCV4 | 1 | | |
| 15:56 | MA46695-CCB5 | 1 | | |
| 16:02 | MP14926-MB1 | 1 | | |
| 16:07 | MP14926-B1 | 1 | | |
| 16:12 | ZZZZZZ | 1 | | |
| 16:17 | ZZZZZZ | 1 | | |
| 16:22 | MA46695-ICSA2 | 1 | | |
| 16:27 | MA46695-ICSAB2 | 1 | | |
| 16:32 | MA46695-CCV5 | 1 | | |
| 16:37 | MA46695-CCB6 | 1 | | |
| 16:42 | ZZZZZZ | 1 | | |
| 16:47 | ZZZZZZ | 1 | | |
| 16:53 | ZZZZZZ | 1 | | |
| 16:58 | ZZZZZZ | 1 | | |
| 17:03 | ZZZZZZ | 1 | | |
| 17:08 | ZZZZZZ | 1 | | |
| 17:14 | ZZZZZZ | 1 | | |
| 17:19 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:24 | ZZZZZZ | 1 | | |
| 17:29 | ZZZZZZ | 1 | | |
| 17:35 | ZZZZZZ | 1 | | |
| 17:40 | ZZZZZZ | 1 | | |
| 17:45 | MA46695-CCV6 | 1 | | |
| 17:50 | MA46695-CCB7 | 1 | | |
| 17:55 | MP14906-MB1 | 1 | | |
| 18:00 | MP14906-B1 | 1 | | |
| 18:06 | MP14906-S1 | 1 | | |
| 18:11 | MP14906-S2 | 1 | | |
| 18:16 | DA15555-1A | 1 | | (sample used for QC only; not part of login JC87535) |
| 18:21 | MP14906-SD1 | 5 | | |
| 18:26 | MP14918-S1 | 1 | | Need PS for Sb |
| 18:31 | MP14918-S2 | 1 | | Need PS for Sb |
| 18:36 | JC87535-8 | 1 | | |
| 18:41 | MA46695-CCV7 | 1 | | |
| 18:46 | MA46695-CCB8 | 1 | | |
| 18:52 | MP14918-SD1 | 5 | | |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 18:57 | ZZZZZZ | 1 | | |
| 19:02 | ZZZZZZ | 1 | | |
| 19:07 | ZZZZZZ | 1 | | |
| 19:12 | ZZZZZZ | 1 | | |
| 19:17 | ZZZZZZ | 1 | | |
| 19:22 | ZZZZZZ | 1 | | |
| 19:27 | ZZZZZZ | 1 | | |
| 19:32 | ZZZZZZ | 1 | | |
| 19:37 | ZZZZZZ | 1 | | |
| 19:42 | MA46695-CCV8 | 1 | | |
| 19:47 | MA46695-CCB9 | 1 | | |
| ----------> | Last reportable CCB for job JC87535 | | | |
| 19:52 | ZZZZZZ | 1 | | |
| 19:57 | ZZZZZZ | 1 | | |
| 20:03 | ZZZZZZ | 1 | | |
| 20:08 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:13 | ZZZZZZ | 1 | | |
| 20:18 | ZZZZZZ | 1 | | |
| 20:23 | ZZZZZZ | 1 | | |
| 20:28 | ZZZZZZ | 1 | | |
| 20:33 | ZZZZZZ | 1 | | |
| 20:39 | ZZZZZZ | 1 | | |
| 20:44 | MA46695-CCV9 | 1 | | |
| 20:49 | MA46695-CCB10 | 1 | | |
| 20:54 | ZZZZZZ | 5 | | |
| 20:59 | ZZZZZZ | 1 | | |
| 21:04 | ZZZZZZ | 1 | | |
| 21:10 | ZZZZZZ | 1 | | |
| 21:15 | ZZZZZZ | 1 | | |
| 21:20 | ZZZZZZ | 1 | | |
| 21:26 | ZZZZZZ | 1 | | |
| 21:31 | ZZZZZZ | 1 | | |
| 21:36 | ZZZZZZ | 1 | | |
| 21:41 | ZZZZZZ | 1 | | |
| 21:47 | MA46695-CCV10 | 1 | | |
| 21:52 | MA46695-CCB11 | 1 | | |
| 21:57 | ZZZZZZ | 1 | | |
| 22:02 | ZZZZZZ | 1 | | |
| 22:07 | ZZZZZZ | 1 | | |
| 22:12 | ZZZZZZ | 1 | | |
| 22:17 | MP14909A-B1 | 1 | | |
| 22:22 | MP14909A-MB1 | 1 | | |
| 22:27 | MP14909A-S1 | 1 | | Na=220ppm |
| 22:33 | MP14909A-S2 | 1 | | Na=220ppm |
| 22:38 | JC87783-12 | 1 | | (sample used for QC only; not part of login JC87535) |
| 22:43 | MP14909A-SD1 | 5 | | |
| 22:48 | MA46695-CCV11 | 1 | | |
| 22:53 | MA46695-CCB12 | 1 | | |
| 22:58 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP Date Analyzed: 05/10/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:03 | ZZZZZZ | 1 | | |
| 23:08 | ZZZZZZ | 1 | | |
| 23:13 | ZZZZZZ | 1 | | |
| 23:19 | ZZZZZZ | 1 | | |
| 23:24 | ZZZZZZ | 1 | | |
| 23:29 | ZZZZZZ | 1 | | |
| 23:34 | ZZZZZZ | 1 | | |
| 23:39 | ZZZZZZ | 1 | | |
| 23:44 | ZZZZZZ | 1 | | |
| 23:49 | MA46695-CCV12 | 1 | | |
| 23:54 | MA46695-CCB13 | 1 | | |
| 23:59 | ZZZZZZ | 1 | | |
| 00:05 | ZZZZZZ | 1 | | |
| 00:10 | ZZZZZZ | 1 | | |
| 00:15 | ZZZZZZ | 1 | | |
| 00:20 | MP14910-MB1 | 1 | | |
| 00:25 | MP14910-B1 | 1 | | |
| 00:30 | MP14910-S1 | 1 | | |
| 00:35 | MP14910-S2 | 1 | | |
| 00:40 | JC87728-4 | 1 | | (sample used for QC only; not part of login JC87535) |
| 00:45 | MP14910-SD1 | 5 | | |
| 00:51 | MA46695-CCV13 | 1 | | |
| 00:56 | MA46695-CCB14 | 1 | | |
| 01:01 | ZZZZZZ | 1 | | |
| 01:06 | ZZZZZZ | 1 | | |
| 01:11 | ZZZZZZ | 1 | | |
| 01:16 | ZZZZZZ | 1 | | |
| 01:22 | ZZZZZZ | 1 | | |
| 01:27 | ZZZZZZ | 1 | | |
| 01:32 | ZZZZZZ | 1 | | |
| 01:37 | ZZZZZZ | 1 | | |
| 01:42 | ZZZZZZ | 1 | | |
| 01:47 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP Date Analyzed: 05/10/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 01:52 | MA46695-CCV14 | 1 | | |
| 01:57 | MA46695-CCB15 | 1 | | |
| 02:03 | ZZZZZZ | 1 | | |
| 02:08 | ZZZZZZ | 1 | | |
| 02:13 | ZZZZZZ | 1 | | |
| 02:18 | MP14895-B1 | 1 | | Batch to reanalysis for Sb, MB neg. |
| 02:23 | MP14895-MB1 | 1 | | Batch to reanalysis for Fe, CCV out |
| 02:28 | MP14895-S1 | 1 | | |
| 02:34 | MP14895-S2 | 1 | | |
| 02:39 | JC87702-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 02:45 | MP14895-SD1 | 5 | | |
| 02:50 | ZZZZZZ | 1 | | |
| 02:55 | MA46695-CCV15 | 1 | | |
| 03:00 | MA46695-CCB16 | 1 | | |
| 03:05 | ZZZZZZ | 1 | | |
| 03:10 | ZZZZZZ | 1 | | |
| 03:16 | ZZZZZZ | 1 | | |
| 03:21 | ZZZZZZ | 1 | | |
| 03:26 | ZZZZZZ | 1 | | |
| 03:31 | ZZZZZZ | 1 | | |
| 03:36 | ZZZZZZ | 1 | | |
| 03:42 | MP14915-B1 | 1 | | CCV out |
| 03:47 | MP14915-MB1 | 1 | | Sb neg. Batch to reanalysis. |
| 03:52 | MA46695-CCV16 | 1 | | |
| 03:57 | MA46695-CCB17 | 1 | | |
| 04:02 | MP14915-S1 | 1 | | CCV out |
| 04:07 | MP14915-S2 | 1 | | CCV out |
| 04:12 | JC87713-4 | 1 | | (sample used for QC only; not part of login JC87535) |
| 04:17 | MP14915-SD1 | 5 | | CCV out |
| 04:22 | ZZZZZZ | 1 | | |
| 04:27 | ZZZZZZ | 1 | | |
| 04:33 | ZZZZZZ | 1 | | |
| 04:38 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 04:43 | MA46695-CCV17 | 1 | | |
| 04:48 | MA46695-CCB18 | 1 | | |
| 04:53 | ZZZZZZ | 1 | | |
| 04:58 | ZZZZZZ | 1 | | |
| 05:03 | ZZZZZZ | 1 | | |
| 05:09 | ZZZZZZ | 1 | | |
| 05:14 | ZZZZZZ | 1 | | |
| 05:19 | ZZZZZZ | 1 | | |
| 05:24 | MA46695-CCV18 | 1 | | |
| 05:29 | MA46695-CCB19 | 1 | | |
| 05:34 | ZZZZZZ | 1 | | |
| 05:40 | ZZZZZZ | 1 | | |
| 05:45 | ZZZZZZ | 1 | | |
| 05:50 | ZZZZZZ | 1 | | |
| 05:55 | ZZZZZZ | 1 | | |
| 06:00 | ZZZZZZ | 1 | | |
| 06:05 | ZZZZZZ | 1 | | |
| 06:10 | ZZZZZZ | 1 | | |
| 06:15 | ZZZZZZ | 1 | | |
| 06:20 | MA46695-CCV19 | 1 | | |
| 06:25 | MA46695-CCB20 | 1 | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:51 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 11:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 12:01 | MA46695-ICV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:06 | MA46695-ICB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:12 | MA46695-ICCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:22 | MA46695-CCB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:28 | MA46695-CRID1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:33 | MA46695-CRI1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:38 | MA46695-ICSA1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:43 | MA46695-ICSAB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:48 | MA46695-HSTD1 | 1 | | X | X | X | X | X | | X | X | X | | X | | X | X | | X | X | | X | X | X | |
| 12:54 | MA46695-HSTD2 | 1 | X | | | | | | X | | | | X | | X | | X | | | | X | | | | |
| 12:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:15 | MA46695-CCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:20 | MA46695-CCB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 14:00 | MA46695-CCV2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14:05 | MA46695-CCB3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14:10 | MP14924-MB1 | 1 | | X | | | | | | X | | | | X | | | X | | | | | X | X | | |
| 14:15 | MP14924-B1 | 1 | | X | | | | | | X | | | | X | | | X | | | | | X | X | | |
| 14:20 | MP14924-S1 | 1 | | X | | | | | | X | | | | X | | | X | | | | | X | X | | |
| 14:25 | MP14924-S2 | 1 | | X | | | | | | X | | | | X | | | X | | | | | X | X | | |
| 14:30 | JC87843-4A | 1 | | X | | | | | | X | | | | | | | X | | | | | X | X | | (a) |
| 14:36 | MP14924-SD1 | 5 | | X | | | | | | X | | | | X | | | X | | | | | X | X | | |
| 14:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 14:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 14:56 | MA46695-CCV3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:01 | MA46695-CCB4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:06 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 15:11 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 15:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 15:21 | MP14839-PS1 | 1 | | X | | | | | | | | | | | | | | X | | | | | | |
| 15:26 | ZZZZZZ | 2 | | | | | | | | | | | | | | | | | | | | | | |
| 15:31 | ZZZZZZ | 2 | | | | | | | | | | | | | | | | | | | | | | |
| 15:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 15:41 | MP14918-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:46 | MP14918-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:51 | MA46695-CCV4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:56 | MA46695-CCB5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:02 | MP14926-MB1 | 1 | | X | | | | | | X | | | | | | | | X | | | | X | X | |
| 16:07 | MP14926-B1 | 1 | | X | | | | | | X | | | | | | | | X | | | | X | X | |
| 16:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 16:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 16:22 | MA46695-ICSA2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:27 | MA46695-ICSAB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:32 | MA46695-CCV5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:37 | MA46695-CCB6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 16:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 16:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 16:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:19 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:24 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:45 | MA46695-CCV6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:50 | MA46695-CCB7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:55 | MP14906-MB1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:00 | MP14906-B1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:06 | MP14906-S1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:11 | MP14906-S2 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:16 | DA15555-1A | 1 | | | | | | | | | | | | | | | | | | | | | | | (a) |
| 18:21 | MP14906-SD1 | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:26 | MP14918-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:31 | MP14918-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:36 | JC87535-8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:41 | MA46695-CCV7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:46 | MA46695-CCB8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:52 | MP14918-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:42 | MA46695-CCV8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 19:47 | MA46695-CCB9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 19:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:44 | MA46695-CCV9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 20:49 | MA46695-CCB10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 20:54 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:47 | MA46695-CCV10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:52 | MA46695-CCB11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:17 | MP14909A-B1 | 1 | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | |
| 22:22 | MP14909A-MB1 | 1 | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | |
| 22:27 | MP14909A-S1 | 1 | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | X | X | |
| 22:33 | MP14909A-S2 | 1 | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | X | X | |
| 22:38 | JC87783-12 | 1 | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | (a) |
| 22:43 | MP14909A-SD1 | 5 | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | X | |
| 22:48 | MA46695-CCV11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:53 | MA46695-CCB12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:19 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:24 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:49 | MA46695-CCV12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:54 | MA46695-CCB13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 00:20 | MP14910-MB1 | 1 | | | | | | | X | X | | X | X | X | X | X | X | | | | X | | | | |
| 00:25 | MP14910-B1 | 1 | | | | | | | X | X | | X | X | X | X | X | X | | | | X | | | | |
| 00:30 | MP14910-S1 | 1 | | | | | | | X | X | | X | X | X | X | X | X | | | | X | | | | |
| 00:35 | MP14910-S2 | 1 | | | | | | | X | X | | X | X | X | X | X | X | | | | X | | | | |
| 00:40 | JC87728-4 | 1 | | | | | | | | | | | X | | | | | | | | | | | | (a) |
| 00:45 | MP14910-SD1 | 5 | | | | | | | X | X | | X | X | X | X | X | X | | | | X | | | | |
| 00:51 | MA46695-CCV13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 00:56 | MA46695-CCB14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:06 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:11 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 01:52 | MA46695-CCV14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:57 | MA46695-CCB15 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:18 | MP14895-B1 | 1 | | | | | | X | X | | X | | X | | | X | | X | X | X | | X | | X | |
| 02:23 | MP14895-MB1 | 1 | | | | | | X | X | | X | | X | | | X | | X | X | X | | X | | X | |
| 02:28 | MP14895-S1 | 1 | | | | | | X | X | | X | | | | | X | | | X | | | | | X | |
| 02:34 | MP14895-S2 | 1 | | | | | | X | X | | X | | | | | X | | | X | | | | | X | |
| 02:39 | JC87702-1 | 1 | | | | | | | X | | X | | | | | X | | | X | | | | | X | (a) |
| 02:45 | MP14895-SD1 | 5 | | | | | | X | X | | X | | | | | X | | | X | | | | | X | |
| 02:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 02:55 | MA46695-CCV15 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:00 | MA46695-CCB16 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 03:42 | MP14915-B1 | 1 | | | X | | | | X | | X | | X | | | X | | X | X | | | | | X | |
| 03:47 | MP14915-MB1 | 1 | | | X | | | | X | | X | | X | | | X | | X | X | | | | | X | |
| 03:52 | MA46695-CCV16 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:57 | MA46695-CCB17 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 04:02 | MP14915-S1 | 1 | | | X | | | | X | | X | | X | | | X | | X | X | | | | | X | |
| 04:07 | MP14915-S2 | 1 | | | X | | | | X | | X | | X | | | X | | X | X | | | | | X | |
| 04:12 | JC87713-4 | 1 | | | | | | | | | | | | X | | | | | | | | | | | (a) |
| 04:17 | MP14915-SD1 | 5 | | | X | | | | X | | X | | X | | | X | | X | X | | | | | X | |
| 04:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:38 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:43 | MA46695-CCV17 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 04:48 | MA46695-CCB18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 04:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 04:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:19 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:24 | MA46695-CCV18 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 05:29 | MA46695-CCB19 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 05:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:20 | MA46695-CCV19 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 06:25 | MA46695-CCB20 | 1 | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

(a) Sample used for QC only; not part of login JC87535.

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP Date Analyzed: 05/10/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 11:40 | MA46695-STD1 | 6172 R | 87261 R | 8717 R | 12749 R |
| 11:46 | MA46695-STD2 | 5864 | 82656 | 8687 | 11928 |
| 11:51 | ZZZZZZ | 5886 | 82751 | 8443 | 11929 |
| 11:56 | ZZZZZZ | 6069 | 84824 | 8464 | 12505 |
| 12:01 | MA46695-ICV1 | 5925 | 82854 | 8432 | 11948 |
| 12:06 | MA46695-ICB1 | 6095 | 85784 | 8501 | 12526 |
| 12:12 | MA46695-ICCV1 | 5920 | 82814 | 8456 | 11933 |
| 12:22 | MA46695-CCB1 | 6096 | 85079 | 8497 | 12533 |
| 12:28 | MA46695-CRID1 | 6123 | 85240 | 8516 | 12555 |
| 12:33 | MA46695-CRI1 | 6117 | 85431 | 8581 | 12472 |
| 12:38 | MA46695-ICSA1 | 5560 | 78184 | 8276 | 11175 |
| 12:43 | MA46695-ICSAB1 | 5520 | 76838 | 8192 | 11109 |
| 12:48 | MA46695-HSTD1 | 5986 | 84411 | 8569 | 12584 |
| 12:54 | MA46695-HSTD2 | 5666 | 79337 | 8354 | 11259 |
| 12:59 | ZZZZZZ | 6077 | 84885 | 8564 | 12741 |
| 13:04 | ZZZZZZ | 5962 | 85369 | 8571 | 12558 |
| 13:10 | ZZZZZZ | 6090 | 85372 | 8525 | 12506 |
| 13:15 | MA46695-CCV1 | 5944 | 82025 | 8481 | 11936 |
| 13:20 | MA46695-CCB2 | 6113 | 85739 | 8586 | 12521 |
| 13:25 | ZZZZZZ | 5876 | 83173 | 8789 | 11883 |
| 13:30 | ZZZZZZ | 6310 | 87699 | 9066 | 12286 |
| 13:35 | ZZZZZZ | 5942 | 83661 | 8749 | 12007 |
| 13:40 | ZZZZZZ | 5903 | 83128 | 8580 | 11944 |
| 13:45 | ZZZZZZ | 5691 | 80317 | 8503 | 11602 |
| 13:50 | ZZZZZZ | 6380 | 88950 | 9258 | 12392 |
| 13:55 | ZZZZZZ | 6195 | 86506 | 8954 | 12065 |
| 14:00 | MA46695-CCV2 | 5999 | 83434 | 8617 | 12030 |
| 14:05 | MA46695-CCB3 | 6097 | 84586 | 8507 | 12488 |
| 14:10 | MP14924-MB1 | 6139 | 86396 | 8644 | 12585 |
| 14:15 | MP14924-B1 | 6028 | 83991 | 8705 | 12161 |
| 14:20 | MP14924-S1 | 6103 | 85103 | 8853 | 12032 |
| 14:25 | MP14924-S2 | 6091 | 83047 | 8755 | 11972 |
| 14:30 | JC87843-4A | 6232 | 86088 | 8908 | 12291 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP Date Analyzed: 05/10/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 14:36 | MP14924-SD1 | 6155 | 85342 | 8552 | 12424 |
| 14:41 | ZZZZZZ | 6230 | 85754 | 8916 | 12298 |
| 14:45 | ZZZZZZ | 6222 | 86422 | 8876 | 12335 |
| 14:50 | ZZZZZZ | 6272 | 87560 | 8968 | 12291 |
| 14:56 | MA46695-CCV3 | 5973 | 83590 | 8521 | 11976 |
| 15:01 | MA46695-CCB4 | 6103 | 85560 | 8523 | 12475 |
| 15:06 | ZZZZZZ | 6218 | 86232 | 8909 | 12381 |
| 15:11 | ZZZZZZ | 6260 | 86779 | 8902 | 12302 |
| 15:16 | ZZZZZZ | 6168 | 86098 | 8763 | 12582 |
| 15:21 | MP14839-PS1 | 6114 | 84913 | 8947 | 12231 |
| 15:26 | ZZZZZZ | 6134 | 85160 | 8701 | 12406 |
| 15:31 | ZZZZZZ | 6265 | 87046 | 9039 | 12082 |
| 15:36 | ZZZZZZ | 6204 | 86716 | 8909 | 12291 |
| 15:41 | MP14918-MB1 | 6155 | 86333 | 8733 | 12556 |
| 15:46 | MP14918-B1 | 6054 | 83769 | 8484 | 12197 |
| 15:51 | MA46695-CCV4 | 5949 | 82909 | 8522 | 11921 |
| 15:56 | MA46695-CCB5 | 6108 | 85515 | 8528 | 12486 |
| 16:02 | MP14926-MB1 | 6124 | 86436 | 8687 | 12498 |
| 16:07 | MP14926-B1 | 6022 | 84169 | 8623 | 12088 |
| 16:12 | ZZZZZZ | 6079 | 86151 | 8693 | 12429 |
| 16:17 | ZZZZZZ | 6231 | 86322 | 8642 | 12848 |
| 16:22 | MA46695-ICSA2 | 5439 | 77400 | 8194 | 10911 |
| 16:27 | MA46695-ICSAB2 | 5498 | 76044 | 8131 | 11015 |
| 16:32 | MA46695-CCV5 | 5918 | 82195 | 8487 | 11847 |
| 16:37 | MA46695-CCB6 | 6042 | 83654 | 8513 | 12348 |
| 16:42 | ZZZZZZ | 6082 | 81013 | 8708 | 11762 |
| 16:47 | ZZZZZZ | 5773 | 81165 | 8305 | 11485 |
| 16:53 | ZZZZZZ | 6154 | 85354 | 8608 | 12572 |
| 16:58 | ZZZZZZ | 5987 | 84136 | 8551 | 12220 |
| 17:03 | ZZZZZZ | 5991 | 84143 | 8353 | 12229 |
| 17:08 | ZZZZZZ | 6100 | 85340 | 8622 | 12458 |
| 17:14 | ZZZZZZ | 6161 | 85739 | 8597 | 12584 |
| 17:19 | ZZZZZZ | 6157 | 85603 | 8520 | 12526 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 17:24 | ZZZZZZ | 6164 | 85389 | 8530 | 12552 |
| 17:29 | ZZZZZZ | 6142 | 86121 | 8569 | 12624 |
| 17:35 | ZZZZZZ | 6147 | 85508 | 8516 | 12568 |
| 17:40 | ZZZZZZ | 6151 | 85868 | 8598 | 12510 |
| 17:45 | MA46695-CCV6 | 5973 | 82655 | 8393 | 11934 |
| 17:50 | MA46695-CCB7 | 6145 | 85457 | 8550 | 12548 |
| 17:55 | MP14906-MB1 | 6157 | 86671 | 8728 | 12544 |
| 18:00 | MP14906-B1 | 6165 | 88339 | 8815 | 12533 |
| 18:06 | MP14906-S1 | 5779 | 80823 | 8453 | 11150 |
| 18:11 | MP14906-S2 | 5751 | 80361 | 8473 | 11097 |
| 18:16 | DA15555-1A | 5720 | 80059 | 8367 | 11049 |
| 18:21 | MP14906-SD1 | 5984 | 84077 | 8539 | 11866 |
| 18:26 | MP14918-S1 | 6164 | 86495 | 8940 | 12199 |
| 18:31 | MP14918-S2 | 6121 | 85626 | 8855 | 12133 |
| 18:36 | JC87535-8 | 6213 | 86568 | 8846 | 12382 |
| 18:41 | MA46695-CCV7 | 5943 | 83048 | 8500 | 11918 |
| 18:46 | MA46695-CCB8 | 6144 | 86350 | 8524 | 12558 |
| 18:52 | MP14918-SD1 | 6137 | 84459 | 8601 | 12442 |
| 18:57 | ZZZZZZ | 6377 | 89013 | 9205 | 12363 |
| 19:02 | ZZZZZZ | 6402 | 89802 | 9200 | 12505 |
| 19:07 | ZZZZZZ | 6415 | 89367 | 9022 | 12437 |
| 19:12 | ZZZZZZ | 6398 | 89361 | 9148 | 12338 |
| 19:17 | ZZZZZZ | 6364 | 89889 | 9157 | 12331 |
| 19:22 | ZZZZZZ | 6421 | 89852 | 9189 | 12399 |
| 19:27 | ZZZZZZ | 6373 | 89562 | 9113 | 12409 |
| 19:32 | ZZZZZZ | 6075 | 84427 | 8963 | 11540 |
| 19:37 | ZZZZZZ | 6267 | 88839 | 9210 | 12466 |
| 19:42 | MA46695-CCV8 | 5985 | 84200 | 8554 | 12070 |
| 19:47 | MA46695-CCB9 | 6109 | 86281 | 8677 | 12550 |
| 19:52 | ZZZZZZ | 6776 | 95194 | 9784 | 12362 |
| 19:57 | ZZZZZZ | 6332 | 89892 | 9201 | 12368 |
| 20:03 | ZZZZZZ | 6205 | 88076 | 9025 | 12484 |
| 20:08 | ZZZZZZ | 6173 | 87559 | 8911 | 12453 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 20:13 | ZZZZZZ | 6221 | 87836 | 9073 | 12408 |
| 20:18 | ZZZZZZ | 6041 | 85577 | 8562 | 12227 |
| 20:23 | ZZZZZZ | 6143 | 86415 | 8550 | 12623 |
| 20:28 | ZZZZZZ | 5817 | 83314 | 8694 | 11350 |
| 20:33 | ZZZZZZ | 5859 | 84010 | 8762 | 11423 |
| 20:39 | ZZZZZZ | 5860 | 83846 | 8545 | 11366 |
| 20:44 | MA46695-CCV9 | 5907 | 83386 | 8287 | 11934 |
| 20:49 | MA46695-CCB10 | 6136 | 86941 | 8524 | 12608 |
| 20:54 | ZZZZZZ | 6035 | 85287 | 8486 | 12058 |
| 20:59 | ZZZZZZ | 5871 | 83718 | 8629 | 11396 |
| 21:04 | ZZZZZZ | 5881 | 84163 | 8677 | 11344 |
| 21:10 | ZZZZZZ | 5900 | 84482 | 8759 | 11389 |
| 21:15 | ZZZZZZ | 5904 | 84150 | 8682 | 11413 |
| 21:20 | ZZZZZZ | 5860 | 83837 | 8657 | 11332 |
| 21:26 | ZZZZZZ | 5889 | 84376 | 8682 | 11348 |
| 21:31 | ZZZZZZ | 5968 | 85103 | 8824 | 11308 |
| 21:36 | ZZZZZZ | 5918 | 84408 | 8683 | 11311 |
| 21:41 | ZZZZZZ | 5818 | 84050 | 8681 | 11027 |
| 21:47 | MA46695-CCV10 | 5904 | 84259 | 8452 | 11924 |
| 21:52 | MA46695-CCB11 | 6118 | 87110 | 8487 | 12591 |
| 21:57 | ZZZZZZ | 6310 | 89447 | 9086 | 12269 |
| 22:02 | ZZZZZZ | 6229 | 88571 | 8917 | 12362 |
| 22:07 | ZZZZZZ | 6239 | 87945 | 8992 | 12320 |
| 22:12 | ZZZZZZ | 6098 | 87048 | 8852 | 12255 |
| 22:17 | MP14909A-B1 | 6023 | 86386 | 8566 | 12204 |
| 22:22 | MP14909A-MB1 | 6135 | 87692 | 8579 | 12627 |
| 22:27 | MP14909A-S1 | 5803 | 83555 | 8440 | 11593 |
| 22:33 | MP14909A-S2 | 5825 | 83210 | 8410 | 11626 |
| 22:38 | JC87783-12 | 5804 | 83420 | 8387 | 11580 |
| 22:43 | MP14909A-SD1 | 5936 | 84898 | 8352 | 12096 |
| 22:48 | MA46695-CCV11 | 5894 | 84596 | 8443 | 11927 |
| 22:53 | MA46695-CCB12 | 6086 | 87761 | 8525 | 12559 |
| 22:58 | ZZZZZZ | 5903 | 85111 | 8402 | 11891 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP Date Analyzed: 05/10/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 23:03 | ZZZZZZ | 5839 | 84947 | 8419 | 11850 |
| 23:08 | ZZZZZZ | 5959 | 85906 | 8545 | 12069 |
| 23:13 | ZZZZZZ | 6054 | 87400 | 8669 | 12289 |
| 23:19 | ZZZZZZ | 6015 | 87335 | 8651 | 12219 |
| 23:24 | ZZZZZZ | 6035 | 87264 | 8548 | 12358 |
| 23:29 | ZZZZZZ | 5830 | 83483 | 8414 | 11584 |
| 23:34 | ZZZZZZ | 5893 | 84866 | 8379 | 11780 |
| 23:39 | ZZZZZZ | 6002 | 86080 | 8542 | 12161 |
| 23:44 | ZZZZZZ | 4985 | 71972 | 7709 | 9616 |
| 23:49 | MA46695-CCV12 | 5943 | 84919 | 8333 | 12035 |
| 23:54 | MA46695-CCB13 | 6131 | 87987 | 8492 | 12646 |
| 23:59 | ZZZZZZ | 5100 | 73593 | 7773 | 9837 |
| 00:05 | ZZZZZZ | 5684 | 82132 | 8191 | 11258 |
| 00:10 | ZZZZZZ | 5681 | 81601 | 8189 | 11213 |
| 00:15 | ZZZZZZ | 6128 | 88461 | 8479 | 12634 |
| 00:20 | MP14910-MB1 | 6110 | 87737 | 8451 | 12602 |
| 00:25 | MP14910-B1 | 6043 | 86893 | 8530 | 12255 |
| 00:30 | MP14910-S1 | 6034 | 87357 | 8579 | 12224 |
| 00:35 | MP14910-S2 | 6083 | 86210 | 8569 | 12326 |
| 00:40 | JC87728-4 | 6169 | 88809 | 8586 | 12709 |
| 00:45 | MP14910-SD1 | 6173 | 88636 | 8442 | 12709 |
| 00:51 | MA46695-CCV13 | 5981 | 84880 | 8351 | 12083 |
| 00:56 | MA46695-CCB14 | 6131 | 87839 | 8465 | 12635 |
| 01:01 | ZZZZZZ | 5012 | 74368 | 7682 | 10435 |
| 01:06 | ZZZZZZ | 5977 | 85596 | 8327 | 12024 |
| 01:11 | ZZZZZZ | 5881 | 84664 | 8292 | 11818 |
| 01:16 | ZZZZZZ | 6091 | 87375 | 8452 | 12463 |
| 01:22 | ZZZZZZ | 6043 | 86310 | 8391 | 12253 |
| 01:27 | ZZZZZZ | 6049 | 86764 | 8452 | 12260 |
| 01:32 | ZZZZZZ | 6101 | 87509 | 8413 | 12552 |
| 01:37 | ZZZZZZ | 6114 | 87526 | 8350 | 12599 |
| 01:42 | ZZZZZZ | 6120 | 87779 | 8354 | 12590 |
| 01:47 | ZZZZZZ | 6122 | 87894 | 8382 | 12603 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 01:52 | MA46695-CCV14 | 5929 | 84652 | 8260 | 11976 |
| 01:57 | MA46695-CCB15 | 6086 | 87010 | 8262 | 12547 |
| 02:03 | ZZZZZZ | 6107 | 86969 | 8256 | 12579 |
| 02:08 | ZZZZZZ | 6104 | 87188 | 8363 | 12585 |
| 02:13 | ZZZZZZ | 5788 | 83095 | 8154 | 11562 |
| 02:18 | MP14895-B1 | 6123 | 86947 | 8507 | 12453 |
| 02:23 | MP14895-MB1 | 6199 | 88733 | 8478 | 12860 |
| 02:28 | MP14895-S1 | 5201 | 76117 | 7820 | 10302 |
| 02:34 | MP14895-S2 | 5153 | 75730 | 7739 | 10212 |
| 02:39 | JC87702-1 | 5129 | 74871 | 7691 | 10103 |
| 02:45 | MP14895-SD1 | 5561 | 80473 | 7908 | 11067 |
| 02:50 | ZZZZZZ | 5824 | 84724 | 8114 | 11870 |
| 02:55 | MA46695-CCV15 | 5746 | 82263 | 8033 | 11644 |
| 03:00 | MA46695-CCB16 | 5983 | 85537 | 8056 | 12355 |
| 03:05 | ZZZZZZ | 5855 | 83510 | 8130 | 11890 |
| 03:10 | ZZZZZZ | 5881 | 83743 | 8063 | 11932 |
| 03:16 | ZZZZZZ | 5812 | 84196 | 8077 | 11851 |
| 03:21 | ZZZZZZ | 5671 | 81778 | 7646 | 11370 |
| 03:26 | ZZZZZZ | 5305 | 76767 | 7766 | 10334 |
| 03:31 | ZZZZZZ | 5908 | 84608 | 8196 | 11836 |
| 03:36 | ZZZZZZ | 5899 | 83699 | 8065 | 11683 |
| 03:42 | MP14915-B1 | 6055 | 84973 | 8251 | 12297 |
| 03:47 | MP14915-MB1 | 6166 | 87065 | 8326 | 12764 |
| 03:52 | MA46695-CCV16 | 5897 | 84138 | 8048 | 11927 |
| 03:57 | MA46695-CCB17 | 6050 | 85478 | 7933 | 12469 |
| 04:02 | MP14915-S1 | 6024 | 85045 | 8133 | 12170 |
| 04:07 | MP14915-S2 | 6014 | 84641 | 8060 | 12147 |
| 04:12 | JC87713-4 | 6062 | 85796 | 8147 | 12329 |
| 04:17 | MP14915-SD1 | 6031 | 85503 | 7927 | 12407 |
| 04:22 | ZZZZZZ | 6102 | 86967 | 8246 | 12488 |
| 04:27 | ZZZZZZ | 5679 | 81746 | 7976 | 11307 |
| 04:33 | ZZZZZZ | 6131 | 87166 | 8217 | 12509 |
| 04:38 | ZZZZZZ | 5952 | 85175 | 8069 | 12088 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46695
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 04:43 | MA46695-CCV17 | 5940 | 84046 | 7995 | 12014 |
| 04:48 | MA46695-CCB18 | 6066 | 85964 | 7975 | 12522 |
| 04:53 | ZZZZZZ | 6081 | 86353 | 7951 | 12540 |
| 04:58 | ZZZZZZ | 6087 | 86593 | 8011 | 12579 |
| 05:03 | ZZZZZZ | 5789 | 82573 | 7811 | 11520 |
| 05:09 | ZZZZZZ | 5737 | 81968 | 7886 | 11422 |
| 05:14 | ZZZZZZ | 5365 | 77152 | 7625 | 10472 |
| 05:19 | ZZZZZZ | 5403 | 77485 | 7499 | 10524 |
| 05:24 | MA46695-CCV18 | 5900 | 83342 | 7755 | 11947 |
| 05:29 | MA46695-CCB19 | 6085 | 86631 | 7876 | 12596 |
| 05:34 | ZZZZZZ | 6108 | 86829 | 7934 | 12628 |
| 05:40 | ZZZZZZ | 5955 | 85058 | 7944 | 12113 |
| 05:45 | ZZZZZZ | 6162 | 87132 | 7914 | 12739 |
| 05:50 | ZZZZZZ | 6076 | 86661 | 7835 | 12584 |
| 05:55 | ZZZZZZ | 5959 | 85646 | 7908 | 12132 |
| 06:00 | ZZZZZZ | 6116 | 87304 | 7888 | 12596 |
| 06:05 | ZZZZZZ | 6099 | 85807 | 7777 | 12612 |
| 06:10 | ZZZZZZ | 6074 | 85617 | 7979 | 12392 |
| 06:15 | ZZZZZZ | 6098 | 87013 | 7968 | 12610 |
| 06:20 | MA46695-CCV19 | 5928 | 83693 | 7824 | 12004 |
| 06:25 | MA46695-CCB20 | 6132 | 87161 | 7910 | 12658 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46695  Units: ug/l

| Time: / Sample ID: | | | 12:06 ICB1 | | 12:22 CCB1 | | 13:20 CCB2 | | 14:05 CCB3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | -3.50 | <200 | 0.900 | <200 | 1.20 | <200 | -10.5 | <200 |
| Antimony | 6.0 | 1.2 | 0.300 | <6.0 | 0.300 | <6.0 | -0.400 | <6.0 | 0.900 | <6.0 |
| Arsenic | 3.0 | 1.6 | 0.200 | <3.0 | 0.900 | <3.0 | 1.10 | <3.0 | 0.400 | <3.0 |
| Barium | 200 | .3 | 0.200 | <200 | 0.100 | <200 | 0.00 | <200 | 0.100 | <200 |
| Beryllium | 1.0 | .1 | 0.00 | <1.0 | -0.100 | <1.0 | -0.100 | <1.0 | -0.100 | <1.0 |
| Bismuth | 20 | 2 | | | | | | | | |
| Boron | 100 | 2 | | | | | | | | |
| Cadmium | 3.0 | .3 | -0.200 | <3.0 | -0.200 | <3.0 | 0.100 | <3.0 | -0.100 | <3.0 |
| Calcium | 5000 | 4.1 | 4.60 | <5000 | 5.60 | <5000 | 2.60 | <5000 | 3.70 | <5000 |
| Chromium | 10 | .4 | 0.100 | <10 | 0.00 | <10 | -0.100 | <10 | 0.00 | <10 |
| Cobalt | 50 | .4 | 0.400 | <50 | 0.100 | <50 | 0.300 | <50 | 0.100 | <50 |
| Copper | 10 | .3 | -0.900 | <10 | -0.900 | <10 | -1.40 | <10 | -1.10 | <10 |
| Iron | 100 | 2.3 | 1.20 | <100 | -0.600 | <100 | -1.90 | <100 | -2.40 | <100 |
| Lead | 3.0 | 2.3 | -0.700 | <3.0 | 0.00 | <3.0 | -0.600 | <3.0 | 0.500 | <3.0 |
| Lithium | 50 | 1.1 | | | | | | | | |
| Magnesium | 5000 | 33 | 30.3 | <5000 | 4.30 | <5000 | 11.2 | <5000 | 12.9 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 | 0.00 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | 0.400 | <10 | 0.100 | <10 | 0.200 | <10 | 0.300 | <10 |
| Phosphorus | 50 | 1.1 | | | | | | | | |
| Potassium | 10000 | 26 | 68.2 | <10000 | 29.8 | <10000 | 82.9 | <10000 | 3.90 | <10000 |
| Selenium | 10 | 2.2 | 1.50 | <10 | 1.20 | <10 | 0.400 | <10 | 1.60 | <10 |
| Silicon | 200 | 8.7 | | | | | | | | |
| Silver | 10 | .3 | -1.00 | <10 | -0.800 | <10 | -1.30 | <10 | -1.20 | <10 |
| Sodium | 10000 | 6 | 23.8 | <10000 | 18.8 | <10000 | 24.0 | <10000 | 31.0 | <10000 |
| Strontium | 10 | .1 | | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | -1.60 | <10 | -0.700 | <10 | 0.200 | <10 | -0.700 | <10 |
| Tin | 10 | 1.6 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.4 | | | | | | | | |
| Vanadium | 50 | .3 | 0.00 | <50 | 0.300 | <50 | 0.300 | <50 | 0.400 | <50 |
| Zinc | 20 | .3 | 0.00 | <20 | -0.100 | <20 | -0.200 | <20 | -0.100 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46695  Units: ug/l

| Time: | | | 12:06 | | 12:22 | | 13:20 | | 14:05 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46695  Units: ug/l

| Time: / Sample ID: | | | 15:01 CCB4 | | 15:56 CCB5 | | 16:37 CCB6 | | 17:50 CCB7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 8.4 | -11.3 | <200 | -7.10 | <200 | 1.00 | <200 | -6.90 | <200 |
| Antimony | 6.0 | 1.2 | -0.500 | <6.0 | 0.100 | <6.0 | 0.00 | <6.0 | 0.700 | <6.0 |
| Arsenic | 3.0 | 1.6 | 0.600 | <3.0 | -0.600 | <3.0 | 0.700 | <3.0 | 0.00 | <3.0 |
| Barium | 200 | .3 | 0.00 | <200 | -0.300 | <200 | -0.200 | <200 | 0.200 | <200 |
| Beryllium | 1.0 | .1 | -0.100 | <1.0 | -0.100 | <1.0 | -0.100 | <1.0 | -0.100 | <1.0 |
| Bismuth | 20 | 2 | | | | | | | | |
| Boron | 100 | 2 | | | | | | | | |
| Cadmium | 3.0 | .3 | 0.100 | <3.0 | -0.100 | <3.0 | 0.00 | <3.0 | -0.100 | <3.0 |
| Calcium | 5000 | 4.1 | -1.20 | <5000 | -1.90 | <5000 | 3.90 | <5000 | -4.20 | <5000 |
| Chromium | 10 | .4 | -0.100 | <10 | 0.100 | <10 | 0.300 | <10 | -0.200 | <10 |
| Cobalt | 50 | .4 | 0.100 | <50 | 0.300 | <50 | 0.200 | <50 | 0.00 | <50 |
| Copper | 10 | .3 | -1.00 | <10 | -1.30 | <10 | -1.50 | <10 | -1.40 | <10 |
| Iron | 100 | 2.3 | 1.20 | <100 | -0.100 | <100 | -2.40 | <100 | -1.30 | <100 |
| Lead | 3.0 | 2.3 | 0.100 | <3.0 | -0.500 | <3.0 | 0.300 | <3.0 | -0.200 | <3.0 |
| Lithium | 50 | 1.1 | | | | | | | | |
| Magnesium | 5000 | 33 | -1.80 | <5000 | 17.6 | <5000 | -18.9 | <5000 | -8.30 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.100 | <15 | 0.100 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .9 | anr | | | | | | | |
| Nickel | 10 | .7 | 0.200 | <10 | 0.200 | <10 | 0.300 | <10 | 0.200 | <10 |
| Phosphorus | 50 | 1.1 | | | | | | | | |
| Potassium | 10000 | 26 | -37.9 | <10000 | 0.700 | <10000 | 51.8 | <10000 | -62.8 | <10000 |
| Selenium | 10 | 2.2 | 2.00 | <10 | 2.00 | <10 | 0.800 | <10 | 0.900 | <10 |
| Silicon | 200 | 8.7 | | | | | | | | |
| Silver | 10 | .3 | -1.30 | <10 | -1.80 | <10 | -1.50 | <10 | -1.30 | <10 |
| Sodium | 10000 | 6 | 53.4 | <10000 | 62.6 | <10000 | 11.8 | <10000 | 54.0 | <10000 |
| Strontium | 10 | .1 | | | | | | | | |
| Sulfur | 50 | 2.1 | anr | | | | | | | |
| Thallium | 10 | 4.8 | -0.200 | <10 | -0.700 | <10 | 0.00 | <10 | -1.50 | <10 |
| Tin | 10 | 1.6 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.4 | | | | | | | | |
| Vanadium | 50 | .3 | 0.300 | <50 | 0.500 | <50 | 0.500 | <50 | 0.400 | <50 |
| Zinc | 20 | .3 | -0.200 | <20 | -0.200 | <20 | -0.200 | <20 | -0.500 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46695  Units: ug/l

| Time: / Sample ID: | | | 15:01 CCB4 | | 15:56 CCB5 | | 16:37 CCB6 | | 17:50 CCB7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46695  Units: ug/l

| Time: / Sample ID: | | | 18:46 CCB8 | | 19:47 CCB9 | |
|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final |
| Aluminum | 200 | 8.4 | -9.70 | <200 | -0.900 | <200 |
| Antimony | 6.0 | 1.2 | 0.00 | <6.0 | 0.300 | <6.0 |
| Arsenic | 3.0 | 1.6 | 0.700 | <3.0 | 0.500 | <3.0 |
| Barium | 200 | .3 | 0.00 | <200 | -0.300 | <200 |
| Beryllium | 1.0 | .1 | 0.00 | <1.0 | 0.00 | <1.0 |
| Bismuth | 20 | 2 | | | | |
| Boron | 100 | 2 | | | | |
| Cadmium | 3.0 | .3 | -0.200 | <3.0 | 0.00 | <3.0 |
| Calcium | 5000 | 4.1 | -1.40 | <5000 | -3.00 | <5000 |
| Chromium | 10 | .4 | 0.100 | <10 | 0.00 | <10 |
| Cobalt | 50 | .4 | 0.100 | <50 | 0.100 | <50 |
| Copper | 10 | .3 | -1.20 | <10 | -0.200 | <10 |
| Iron | 100 | 2.3 | -4.30 | <100 | -2.40 | <100 |
| Lead | 3.0 | 2.3 | -0.900 | <3.0 | 1.00 | <3.0 |
| Lithium | 50 | 1.1 | | | | |
| Magnesium | 5000 | 33 | -8.30 | <5000 | -25.1 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .9 | anr | | | |
| Nickel | 10 | .7 | 0.200 | <10 | 0.00 | <10 |
| Phosphorus | 50 | 1.1 | | | | |
| Potassium | 10000 | 26 | 4.40 | <10000 | 19.8 | <10000 |
| Selenium | 10 | 2.2 | 1.50 | <10 | 2.30 | <10 |
| Silicon | 200 | 8.7 | | | | |
| Silver | 10 | .3 | -1.00 | <10 | -0.500 | <10 |
| Sodium | 10000 | 6 | 119 | <10000 | 73.3 | <10000 |
| Strontium | 10 | .1 | | | | |
| Sulfur | 50 | 2.1 | anr | | | |
| Thallium | 10 | 4.8 | -0.400 | <10 | 0.00 | <10 |
| Tin | 10 | 1.6 | | | | |
| Titanium | 10 | .5 | | | | |
| Tungsten | 50 | 1.4 | | | | |
| Vanadium | 50 | .3 | 0.100 | <50 | 0.200 | <50 |
| Zinc | 20 | .3 | -0.400 | <20 | -0.400 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46695  Units: ug/l

| Time: | | | 18:46 | | 19:47 | |
|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | |
| Metal | RL | IDL | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 12:12 | |
|---|---|---|---|
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Aluminum | 40000 | 40400 | 101.0 |
| Antimony | 2000 | 1970 | 98.5 |
| Arsenic | 2000 | 1980 | 99.0 |
| Barium | 2000 | 2040 | 102.0 |
| Beryllium | 2000 | 2020 | 101.0 |
| Bismuth | | | |
| Boron | | | |
| Cadmium | 2000 | 2010 | 100.5 |
| Calcium | 40000 | 40700 | 101.8 |
| Chromium | 2000 | 2040 | 102.0 |
| Cobalt | 2000 | 2040 | 102.0 |
| Copper | 2000 | 2020 | 101.0 |
| Iron | 40000 | 41500 | 103.8 |
| Lead | 2000 | 2030 | 101.5 |
| Lithium | | | |
| Magnesium | 40000 | 40300 | 100.8 |
| Manganese | 2000 | 2030 | 101.5 |
| Molybdenum | anr | | |
| Nickel | 2000 | 2030 | 101.5 |
| Phosphorus | | | |
| Potassium | 40000 | 40500 | 101.3 |
| Selenium | 2000 | 1990 | 99.5 |
| Silicon | | | |
| Silver | 250 | 251 | 100.4 |
| Sodium | 40000 | 40500 | 101.3 |
| Strontium | | | |
| Sulfur | anr | | |
| Thallium | 2000 | 2060 | 103.0 |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | 2000 | 2030 | 101.5 |
| Zinc | 2000 | 2050 | 102.5 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits:  to  % Recovery  Run ID: MA46695  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 12:12 | |
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Zirconium | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 12:01 | | | 13:15 | | | 14:00 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 39800 | 99.5 | 40000 | 40300 | 100.8 | 40000 | 40100 | 100.3 |
| Antimony | 2000 | 1910 | 95.5 | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 |
| Arsenic | 2000 | 1940 | 97.0 | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 |
| Barium | 2000 | 1990 | 99.5 | 2000 | 2050 | 102.5 | 2000 | 2030 | 101.5 |
| Beryllium | 2000 | 1980 | 99.0 | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 1970 | 98.5 | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 |
| Calcium | 40000 | 39800 | 99.5 | 40000 | 40800 | 102.0 | 40000 | 40500 | 101.3 |
| Chromium | 2000 | 1970 | 98.5 | 2000 | 2070 | 103.5 | 2000 | 2040 | 102.0 |
| Cobalt | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 |
| Copper | 2000 | 1970 | 98.5 | 2000 | 2060 | 103.0 | 2000 | 2040 | 102.0 |
| Iron | 40000 | 40700 | 101.8 | 40000 | 41300 | 103.3 | 40000 | 41200 | 103.0 |
| Lead | 2000 | 1960 | 98.0 | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 40000 | 100.0 | 40000 | 39900 | 99.8 | 40000 | 39400 | 98.5 |
| Manganese | 2000 | 1980 | 99.0 | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | 2000 | 1970 | 98.5 | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 39900 | 99.8 | 40000 | 40300 | 100.8 | 40000 | 39900 | 99.8 |
| Selenium | 2000 | 1930 | 96.5 | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 247 | 98.8 | 250 | 255 | 102.0 | 250 | 251 | 100.4 |
| Sodium | 40000 | 40000 | 100.0 | 40000 | 39800 | 99.5 | 40000 | 40100 | 100.3 |
| Strontium | | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 1990 | 99.5 | 2000 | 2050 | 102.5 | 2000 | 2060 | 103.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 1980 | 99.0 | 2000 | 2060 | 103.0 | 2000 | 2040 | 102.0 |
| Zinc | 2000 | 1970 | 98.5 | 2000 | 2030 | 101.5 | 2000 | 2020 | 101.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 12:01 | | | 13:15 | | | 14:00 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 14:56 | | | 15:51 | | | 16:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 40600 | 101.5 | 40000 | 40700 | 101.8 | 40000 | 40800 | 102.0 |
| Antimony | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 | 2000 | 1990 | 99.5 |
| Arsenic | 2000 | 1980 | 99.0 | 2000 | 2000 | 100.0 | 2000 | 2010 | 100.5 |
| Barium | 2000 | 2070 | 103.5 | 2000 | 2070 | 103.5 | 2000 | 2100 | 105.0 |
| Beryllium | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 | 2000 | 2020 | 101.0 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 |
| Calcium | 40000 | 41000 | 102.5 | 40000 | 41200 | 103.0 | 40000 | 41200 | 103.0 |
| Chromium | 2000 | 2050 | 102.5 | 2000 | 2070 | 103.5 | 2000 | 2100 | 105.0 |
| Cobalt | 2000 | 2050 | 102.5 | 2000 | 2060 | 103.0 | 2000 | 2070 | 103.5 |
| Copper | 2000 | 2040 | 102.0 | 2000 | 2070 | 103.5 | 2000 | 2090 | 104.5 |
| Iron | 40000 | 41400 | 103.5 | 40000 | 41500 | 103.8 | 40000 | 41100 | 102.8 |
| Lead | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 39800 | 99.5 | 40000 | 39800 | 99.5 | 40000 | 39700 | 99.3 |
| Manganese | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 |
| Molybdenum | anr | | | | | | | | |
| Nickel | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 40200 | 100.5 | 40000 | 40200 | 100.5 | 40000 | 40800 | 102.0 |
| Selenium | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 252 | 100.8 | 250 | 255 | 102.0 | 250 | 259 | 103.6 |
| Sodium | 40000 | 40700 | 101.8 | 40000 | 40700 | 101.8 | 40000 | 40400 | 101.0 |
| Strontium | | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 | 2000 | 2080 | 104.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2050 | 102.5 | 2000 | 2070 | 103.5 | 2000 | 2090 | 104.5 |
| Zinc | 2000 | 2030 | 101.5 | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 14:56 | | | 15:51 | | | 16:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 17:45 | | | 18:41 | | | 19:42 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 40600 | 101.5 | 40000 | 40600 | 101.5 | 40000 | 41000 | 102.5 |
| Antimony | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 | 2000 | 2020 | 101.0 |
| Arsenic | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 |
| Barium | 2000 | 2090 | 104.5 | 2000 | 2070 | 103.5 | 2000 | 2080 | 104.0 |
| Beryllium | 2000 | 2020 | 101.0 | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 |
| Calcium | 40000 | 41000 | 102.5 | 40000 | 40600 | 101.5 | 40000 | 40500 | 101.3 |
| Chromium | 2000 | 2070 | 103.5 | 2000 | 2060 | 103.0 | 2000 | 2060 | 103.0 |
| Cobalt | 2000 | 2040 | 102.0 | 2000 | 2060 | 103.0 | 2000 | 2060 | 103.0 |
| Copper | 2000 | 2070 | 103.5 | 2000 | 2070 | 103.5 | 2000 | 2060 | 103.0 |
| Iron | 40000 | 41100 | 102.8 | 40000 | 40400 | 101.0 | 40000 | 39700 | 99.3 |
| Lead | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 39300 | 98.3 | 40000 | 39000 | 97.5 | 40000 | 39200 | 98.0 |
| Manganese | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 | 2000 | 2080 | 104.0 |
| Molybdenum | anr | | | | | | | | |
| Nickel | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 | 2000 | 2060 | 103.0 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 40700 | 101.8 | 40000 | 40300 | 100.8 | 40000 | 40400 | 101.0 |
| Selenium | 2000 | 1980 | 99.0 | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 256 | 102.4 | 250 | 253 | 101.2 | 250 | 253 | 101.2 |
| Sodium | 40000 | 40900 | 102.3 | 40000 | 40400 | 101.0 | 40000 | 41500 | 103.8 |
| Strontium | | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2070 | 103.5 | 2000 | 2080 | 104.0 | 2000 | 2100 | 105.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2070 | 103.5 | 2000 | 2070 | 103.5 | 2000 | 2060 | 103.0 |
| Zinc | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 17:45 | | | 18:41 | | | 19:42 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 12:48 | | | 12:54 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | 300000 | 321000 | 107.0 |
| Antimony | 8000 | 7970 | 99.6 | | | |
| Arsenic | 8000 | 7970 | 99.6 | | | |
| Barium | 8000 | 8100 | 101.3 | | | |
| Beryllium | 8000 | 8050 | 100.6 | | | |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 8000 | 8010 | 100.1 | | | |
| Calcium | | | | 200000 | 205000 | 102.5 |
| Chromium | 8000 | 8310 | 103.9 | | | |
| Cobalt | 8000 | 8160 | 102.0 | | | |
| Copper | 8000 | 8110 | 101.4 | | | |
| Iron | | | | 200000 | 205000 | 102.5 |
| Lead | 8000 | 8190 | 102.4 | | | |
| Lithium | | | | | | |
| Magnesium | | | | 300000 | 306000 | 102.0 |
| Manganese | 8000 | 7940 | 99.3 | | | |
| Molybdenum | anr | | | | | |
| Nickel | 8000 | 8050 | 100.6 | | | |
| Phosphorus | | | | | | |
| Potassium | | | | 200000 | 206000 | 103.0 |
| Selenium | 8000 | 7950 | 99.4 | | | |
| Silicon | | | | | | |
| Silver | 625 | 598 | 95.7 | | | |
| Sodium | | | | 200000 | 201000 | 100.5 |
| Strontium | | | | | | |
| Sulfur | anr | | | | | |
| Thallium | 8000 | 8190 | 102.4 | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 8000 | 8100 | 101.3 | | | |
| Zinc | 8000 | 8300 | 103.8 | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | 12:48 | | | 12:54 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46695  Units: ug/l

| Time: | | | | 12:28 | | 12:33 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRID1 | | CRI1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | 117 | 117.0 | 212 | 106.0 |
| Antimony | 6.0 | 20 | 3.0 | 0.00U | 0.0* (a) | 6.60 | 110.0 |
| Arsenic | 8.0 | 20 | 3.0 | 3.20 | 106.7 | 9.10 | 113.8 |
| Barium | 200 | | 4.0 | 4.00 | 100.0 | 200 | 100.0 |
| Beryllium | 2.0 | | 1.0 | 0.900 | 90.0 | 1.90 | 95.0 |
| Bismuth | 20 | | | | | | |
| Boron | 100 | | 10 | | | | |
| Cadmium | 3.0 | | 1.0 | 0.800 | 80.0 | 2.90 | 96.7 |
| Calcium | 5000 | 2000 | 1000 | 1070 | 107.0 | 5270 | 105.4 |
| Chromium | 10 | | 2.0 | 1.90 | 95.0 | 10.1 | 101.0 |
| Cobalt | 50 | | 3.0 | 3.10 | 103.3 | 49.9 | 99.8 |
| Copper | 10 | | 2.0 | -0.900 | 0.0* (a) | 9.20 | 92.0 |
| Iron | 100 | 500 | | | | 105 | 105.0 |
| Lead | 3.0 | 20 | 2.5 | 0.700U | 0.0* (a) | 3.10 | 103.3 |
| Lithium | 50 | | | | | | |
| Magnesium | 5000 | 2000 | 100 | 112 | 112.0 | 5270 | 105.4 |
| Manganese | 15 | | 3.0 | 3.10 | 103.3 | 15.7 | 104.7 |
| Molybdenum | 20 | | | | | | |
| Nickel | 10 | | 4.0 | 4.10 | 102.5 | 10.0 | 100.0 |
| Phosphorus | 50 | | | | | | |
| Potassium | 5000 | | 2000 | 2030 | 101.5 | 5030 | 100.6 |
| Selenium | 10 | 20 | 5.0 | 5.80 | 116.0 | 11.8 | 118.0 |
| Silicon | 200 | | | | | | |
| Silver | 5.0 | | 2.0 | -0.900 | 0.0* (a) | 4.60 | 92.0 |
| Sodium | 5000 | | 1000 | 1060 | 106.0 | 5140 | 102.8 |
| Strontium | 10 | | | | | | |
| Sulfur | 50 | | | | | | |
| Thallium | 10 | | 2.0 | 2.60U | 0.0* (a) | 10.0 | 100.0 |
| Tin | 10 | | | | | | |
| Titanium | 10 | | | | | | |
| Tungsten | 50 | | | | | | |
| Vanadium | 50 | | 2.0 | 2.20 | 110.0 | 50.6 | 101.2 |
| Zinc | 20 | | 10 | 10.2 | 102.0 | 20.3 | 101.5 |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46695  Units: ug/l

| Time: | | | | 12:28 | | 12:33 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRID1 | | CRI1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | | 12:38 | | 12:43 | | 16:22 | | 16:27 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 504000 | 100.8 | 515000 | 103.0 | 511000 | 102.2 | 520000 | 104.0 |
| Antimony | | 1000 | -3.00 | | 1010 | 101.0 | -2.00 | | 1020 | 102.0 |
| Arsenic | | 1000 | -0.800 | | 1040 | 104.0 | -1.20 | | 1050 | 105.0 |
| Barium | | 500 | 1.20 | | 489 | 97.8 | 1.20 | | 509 | 101.8 |
| Beryllium | | 500 | -0.300 | | 478 | 95.6 | -0.300 | | 474 | 94.8 |
| Bismuth | | 500 | -8.20 | | 506 | 101.2 | -9.40 | | 518 | 103.6 |
| Boron | | 500 | 3.00 | | 486 | 97.2 | 3.40 | | 491 | 98.2 |
| Cadmium | | 1000 | -0.400 | | 986 | 98.6 | -0.300 | | 996 | 99.6 |
| Calcium | 400000 | 400000 | 388000 | 97.0 | 388000 | 97.0 | 397000 | 99.3 | 387000 | 96.8 |
| Chromium | | 500 | 0.800 | | 477 | 95.4 | 0.600 | | 482 | 96.4 |
| Cobalt | | 500 | 1.00 | | 466 | 93.2 | 0.700 | | 469 | 93.8 |
| Copper | | 500 | -0.600 | | 521 | 104.2 | -0.200 | | 534 | 106.8 |
| Iron | 200000 | 200000 | 195000 | 97.5 | 194000 | 97.0 | 195000 | 97.5 | 191000 | 95.5 |
| Lead | | 1000 | -1.20 | | 926 | 92.6 | 2.10 | | 926 | 92.6 |
| Lithium | | 500 | -9.00 | | 511 | 102.2 | -2.40 | | 532 | 106.4 |
| Magnesium | 500000 | 500000 | 496000 | 99.2 | 499000 | 99.8 | 492000 | 98.4 | 486000 | 97.2 |
| Manganese | | 500 | -1.40 | | 488 | 97.6 | -2.10 | | 484 | 96.8 |
| Molybdenum | | 500 | 3.60 | | 476 | 95.2 | 3.50 | | 478 | 95.6 |
| Nickel | | 1000 | 2.60 | | 930 | 93.0 | 2.90 | | 929 | 92.9 |
| Phosphorus | | 500 | 23.0 | | 533 | 106.6 | 23.8 | | 529 | 105.8 |
| Potassium | | | 46.6 | | 224 | | -68.4 | | -16.6 | |
| Selenium | | 1000 | -3.10 | | 988 | 98.8 | -3.40 | | 984 | 98.4 |
| Silicon | | 500 | -10.9 | | 488 | 97.6 | -11.3 | | 490 | 98.0 |
| Silver | | 1000 | 1.10 | | 1060 | 106.0 | -2.30 | | 1080 | 108.0 |
| Sodium | | | 29.3 | | -12.5 | | 47.8 | | 32.5 | |
| Strontium | | 500 | -0.600 | | 498 | 99.6 | -0.500 | | 514 | 102.8 |
| Sulfur | | 500 | 16.4 | | 505 | 101.0 | 14.8 | | 509 | 101.8 |
| Thallium | | 1000 | -0.100 | | 955 | 95.5 | -3.10 | | 959 | 95.9 |
| Tin | | 500 | -4.20 | | 467 | 93.4 | -4.10 | | 458 | 91.6 |
| Titanium | | 500 | 4.90 | | 499 | 99.8 | 5.00 | | 506 | 101.2 |
| Tungsten | | 500 | 10.2 | | 480 | 96.0 | 15.1 | | 484 | 96.8 |
| Vanadium | | 500 | 2.10 | | 489 | 97.8 | 2.80 | | 496 | 99.2 |
| Zinc | | 1000 | -1.60 | | 927 | 92.7 | -1.70 | | 921 | 92.1 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SF051019M1.ICP  Date Analyzed: 05/10/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46695  Units: ug/l

| Time: | | | 12:38 | | 12:43 | | 16:22 | | 16:27 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | 2.20 | | 497 | 99.4 | 2.00 | | 499 | 99.8 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:13 | MA46697-STD1 | 1 | | B=2.7235E-004, C=1.2242E-002, RHO=0.9997451 |
| 11:15 | MA46697-STD2 | 1 | | STDB |
| 11:16 | MA46697-STD3 | 1 | | STDC |
| 11:17 | MA46697-STD4 | 1 | | STDD |
| 11:19 | MA46697-STD5 | 1 | | STDE |
| 11:21 | MA46697-STD6 | 1 | | STDF |
| 11:26 | MA46697-ICV1 | 1 | | |
| 11:27 | MA46697-ICB1 | 1 | | |
| 11:29 | MA46697-CCV1 | 1 | | |
| 11:30 | MA46697-CCB1 | 1 | | |
| 11:32 | MA46697-CRI1 | 1 | | |
| 11:34 | MA46697-CCV2 | 1 | | |
| 11:35 | MA46697-CCB2 | 1 | | |
| 11:46 | MP14990-MB1 | 1 | | |
| 11:47 | MP14990-B1 | 1 | | |
| 11:51 | MP14990-S1 | 1 | | |
| 11:52 | MP14990-S2 | 1 | | |
| 11:54 | JC87933-2 | 1 | | (sample used for QC only; not part of login JC87535) |
| 11:56 | ZZZZZZ | 1 | | |
| 11:57 | ZZZZZZ | 1 | | |
| 11:58 | MP14991-MB1 | 1 | | |
| 12:00 | MP14991-B1 | 1 | | |
| 12:01 | MA46697-CCV3 | 1 | | |
| 12:03 | MA46697-CCB3 | 1 | | |
| 12:05 | MP14991-S1 | 1 | | |
| 12:06 | MP14991-S2 | 1 | | |
| 12:08 | JC87698-32B | 1 | | (sample used for QC only; not part of login JC87535) |
| 12:09 | ZZZZZZ | 1 | | |
| 12:11 | MP14992-MB1 | 1 | | |
| 12:12 | MP14992-B1 | 1 | | |
| 12:13 | MP14992-S1 | 1 | | |
| 12:15 | MP14992-S2 | 1 | | |
| 12:17 | JC87752-1A | 1 | | (sample used for QC only; not part of login JC87535) |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:19 | MA46697-CCV4 | 1 | | |
| 12:20 | MA46697-CCB4 | 1 | | |
| 12:22 | ZZZZZZ | 1 | | |
| 12:23 | ZZZZZZ | 1 | | |
| 12:24 | ZZZZZZ | 1 | | |
| 12:26 | ZZZZZZ | 1 | | |
| 12:27 | ZZZZZZ | 1 | | |
| 12:28 | ZZZZZZ | 1 | | |
| 12:30 | ZZZZZZ | 1 | | |
| 12:31 | ZZZZZZ | 1 | | |
| 12:32 | ZZZZZZ | 1 | | |
| 12:34 | MA46697-CCV5 | 1 | | |
| 12:35 | MA46697-CCB5 | 1 | | |
| 12:37 | MP14993-MB1 | 1 | | |
| 12:38 | MP14993-B1 | 1 | | |
| 12:39 | MP14993-S1 | 1 | | |
| 12:41 | MP14993-S2 | 1 | | |
| 12:43 | JC87838-3A | 1 | | (sample used for QC only; not part of login JC87535) |
| 12:45 | MP14994-MB1 | 1 | | |
| 12:46 | MP14994-B1 | 1 | | |
| 12:47 | MP14994-S1 | 1 | | |
| 12:49 | MP14994-S2 | 1 | | |
| 12:51 | MA46697-CCV6 | 1 | | |
| 12:53 | MA46697-CCB6 | 1 | | |
| 12:55 | JC87848-3 | 1 | | (sample used for QC only; not part of login JC87535) |
| 12:56 | ZZZZZZ | 1 | | |
| 12:57 | ZZZZZZ | 1 | | |
| 12:59 | ZZZZZZ | 1 | | |
| 13:00 | ZZZZZZ | 1 | | |
| 13:01 | ZZZZZZ | 1 | | |
| 13:02 | ZZZZZZ | 1 | | |
| 13:04 | ZZZZZZ | 1 | | |
| 13:05 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:06 | MA46697-CCV7 | 1 | | |
| 13:08 | MA46697-CCB7 | 1 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:11 | ZZZZZZ | 1 | | |
| 13:12 | ZZZZZZ | 1 | | |
| 13:13 | ZZZZZZ | 1 | | |
| 13:15 | ZZZZZZ | 1 | | |
| 13:16 | ZZZZZZ | 1 | | |
| 13:17 | ZZZZZZ | 1 | | |
| 13:19 | ZZZZZZ | 1 | | |
| 13:20 | ZZZZZZ | 1 | | |
| 13:22 | MA46697-CCV8 | 1 | | |
| 13:23 | MA46697-CCB8 | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:26 | ZZZZZZ | 1 | | |
| 13:28 | MP14995-MB1 | 1 | | |
| 13:29 | MP14995-B1 | 1 | | |
| 13:30 | MP14995-S1 | 1 | | |
| 13:32 | MP14995-S2 | 1 | | |
| 13:34 | JC87670-5A | 1 | | (sample used for QC only; not part of login JC87535) |
| 13:36 | ZZZZZZ | 1 | | |
| 13:37 | ZZZZZZ | 1 | | |
| 13:38 | MA46697-CCV9 | 1 | | |
| 13:40 | MA46697-CCB9 | 1 | | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:43 | ZZZZZZ | 1 | | |
| 13:44 | ZZZZZZ | 1 | | |
| 13:45 | ZZZZZZ | 1 | | |
| 13:47 | ZZZZZZ | 1 | | |
| 13:48 | ZZZZZZ | 1 | | |
| 13:49 | ZZZZZZ | 1 | | |
| 13:51 | ZZZZZZ | 1 | | |
| 13:52 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:53 | MA46697-CCV10 | 1 | | |
| 13:55 | MA46697-CCB10 | 1 | | |
| 13:57 | ZZZZZZ | 1 | | |
| 13:58 | ZZZZZZ | 1 | | |
| 13:59 | ZZZZZZ | 1 | | |
| 14:01 | ZZZZZZ | 1 | | |
| 14:02 | MP14996-MB1 | 1 | | |
| 14:03 | MP14996-B1 | 1 | | |
| 14:05 | MP14996-S1 | 1 | | |
| 14:06 | MP14996-S2 | 1 | | |
| 14:08 | JC87414-5R | 1 | | (sample used for QC only; not part of login JC87535) |
| 14:10 | MA46697-CCV11 | 1 | | |
| 14:11 | MA46697-CCB11 | 1 | | |
| 14:13 | ZZZZZZ | 1 | | |
| 14:14 | ZZZZZZ | 1 | | |
| 14:16 | JC87535-13 | 1 | | |
| 14:17 | JC87535-14 | 1 | | |
| 14:18 | JC87535-15 | 1 | | |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 14:20 | ZZZZZZ | 1 | | |
| 14:21 | MP14997-MB1 | 1 | | |
| 14:22 | MP14997-B1 | 1 | | |
| 14:24 | MP14997-S1 | 1 | | |
| 14:25 | MA46697-CCV12 | 1 | | |
| 14:27 | MA46697-CCB12 | 1 | | |
| 14:29 | MP14997-S2 | 1 | | |
| 14:30 | JC87841-5A | 1 | | (sample used for QC only; not part of login JC87535) |
| 14:32 | ZZZZZZ | 1 | | |
| 14:34 | ZZZZZZ | 1 | | |
| 14:35 | ZZZZZZ | 1 | | |
| 14:36 | ZZZZZZ | 1 | | |
| 14:37 | ZZZZZZ | 1 | | |
| 14:39 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:41 | ZZZZZZ | 1 | | |
| 14:49 | MA46697-CCV13 | 1 | | |
| 14:51 | MA46697-CCB13 | 1 | | |
| 14:53 | ZZZZZZ | 1 | | |
| 14:54 | ZZZZZZ | 1 | | |
| 14:55 | ZZZZZZ | 1 | | |
| 15:00 | MA46697-CRI2 | 1 | | |
| 15:01 | MA46697-CCV14 | 1 | | |
| 15:02 | MA46697-CCB14 | 1 | | |

----------> Last reportable CCB for job JC87535
Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg | |
|---|---|---|---|---|
| 11:26 | MA46697-ICV1 | 1 | X | |
| 11:27 | MA46697-ICB1 | 1 | X | |
| 11:29 | MA46697-CCV1 | 1 | X | |
| 11:30 | MA46697-CCB1 | 1 | X | |
| 11:32 | MA46697-CRI1 | 1 | X | |
| 11:34 | MA46697-CCV2 | 1 | X | |
| 11:35 | MA46697-CCB2 | 1 | X | |
| 11:46 | MP14990-MB1 | 1 | X | |
| 11:47 | MP14990-B1 | 1 | X | |
| 11:51 | MP14990-S1 | 1 | X | |
| 11:52 | MP14990-S2 | 1 | X | |
| 11:54 | JC87933-2 | 1 | | (a) |
| 11:56 | ZZZZZZ | 1 | | |
| 11:57 | ZZZZZZ | 1 | | |
| 11:58 | MP14991-MB1 | 1 | X | |
| 12:00 | MP14991-B1 | 1 | X | |
| 12:01 | MA46697-CCV3 | 1 | X | |
| 12:03 | MA46697-CCB3 | 1 | X | |
| 12:05 | MP14991-S1 | 1 | X | |
| 12:06 | MP14991-S2 | 1 | X | |
| 12:08 | JC87698-32B | 1 | X | (a) |
| 12:09 | ZZZZZZ | 1 | | |
| 12:11 | MP14992-MB1 | 1 | X | |
| 12:12 | MP14992-B1 | 1 | X | |
| 12:13 | MP14992-S1 | 1 | X | |
| 12:15 | MP14992-S2 | 1 | X | |
| 12:17 | JC87752-1A | 1 | X | (a) |
| 12:19 | MA46697-CCV4 | 1 | X | |
| 12:20 | MA46697-CCB4 | 1 | X | |
| 12:22 | ZZZZZZ | 1 | | |
| 12:23 | ZZZZZZ | 1 | | |
| 12:24 | ZZZZZZ | 1 | | |
| 12:26 | ZZZZZZ | 1 | | |
| | | Element: | Hg | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg | |
|---|---|---|---|---|
| 12:27 | ZZZZZZ | 1 | | |
| 12:28 | ZZZZZZ | 1 | | |
| 12:30 | ZZZZZZ | 1 | | |
| 12:31 | ZZZZZZ | 1 | | |
| 12:32 | ZZZZZZ | 1 | | |
| 12:34 | MA46697-CCV5 | 1 | X | |
| 12:35 | MA46697-CCB5 | 1 | X | |
| 12:37 | MP14993-MB1 | 1 | X | |
| 12:38 | MP14993-B1 | 1 | X | |
| 12:39 | MP14993-S1 | 1 | X | |
| 12:41 | MP14993-S2 | 1 | X | |
| 12:43 | JC87838-3A | 1 | X | (a) |
| 12:45 | MP14994-MB1 | 1 | X | |
| 12:46 | MP14994-B1 | 1 | X | |
| 12:47 | MP14994-S1 | 1 | X | |
| 12:49 | MP14994-S2 | 1 | X | |
| 12:51 | MA46697-CCV6 | 1 | X | |
| 12:53 | MA46697-CCB6 | 1 | X | |
| 12:55 | JC87848-3 | 1 | X | (a) |
| 12:56 | ZZZZZZ | 1 | | |
| 12:57 | ZZZZZZ | 1 | | |
| 12:59 | ZZZZZZ | 1 | | |
| 13:00 | ZZZZZZ | 1 | | |
| 13:01 | ZZZZZZ | 1 | | |
| 13:02 | ZZZZZZ | 1 | | |
| 13:04 | ZZZZZZ | 1 | | |
| 13:05 | ZZZZZZ | 1 | | |
| 13:06 | MA46697-CCV7 | 1 | X | |
| 13:08 | MA46697-CCB7 | 1 | X | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:11 | ZZZZZZ | 1 | | |
| 13:12 | ZZZZZZ | 1 | | |
| 13:13 | ZZZZZZ | 1 | | |
| | | Element: | Hg | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg | |
|---|---|---|---|---|
| 13:15 | ZZZZZZ | 1 | | |
| 13:16 | ZZZZZZ | 1 | | |
| 13:17 | ZZZZZZ | 1 | | |
| 13:19 | ZZZZZZ | 1 | | |
| 13:20 | ZZZZZZ | 1 | | |
| 13:22 | MA46697-CCV8 | 1 | X | |
| 13:23 | MA46697-CCB8 | 1 | X | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:26 | ZZZZZZ | 1 | | |
| 13:28 | MP14995-MB1 | 1 | X | |
| 13:29 | MP14995-B1 | 1 | X | |
| 13:30 | MP14995-S1 | 1 | X | |
| 13:32 | MP14995-S2 | 1 | X | |
| 13:34 | JC87670-5A | 1 | X | (a) |
| 13:36 | ZZZZZZ | 1 | | |
| 13:37 | ZZZZZZ | 1 | | |
| 13:38 | MA46697-CCV9 | 1 | X | |
| 13:40 | MA46697-CCB9 | 1 | X | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:43 | ZZZZZZ | 1 | | |
| 13:44 | ZZZZZZ | 1 | | |
| 13:45 | ZZZZZZ | 1 | | |
| 13:47 | ZZZZZZ | 1 | | |
| 13:48 | ZZZZZZ | 1 | | |
| 13:49 | ZZZZZZ | 1 | | |
| 13:51 | ZZZZZZ | 1 | | |
| 13:52 | ZZZZZZ | 1 | | |
| 13:53 | MA46697-CCV10 | 1 | X | |
| 13:55 | MA46697-CCB10 | 1 | X | |
| 13:57 | ZZZZZZ | 1 | | |
| 13:58 | ZZZZZZ | 1 | | |
| 13:59 | ZZZZZZ | 1 | | |
| 14:01 | ZZZZZZ | 1 | | |
| | | Element: | Hg | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg | |
|---|---|---|---|---|
| 14:02 | MP14996-MB1 | 1 | X | |
| 14:03 | MP14996-B1 | 1 | X | |
| 14:05 | MP14996-S1 | 1 | X | |
| 14:06 | MP14996-S2 | 1 | X | |
| 14:08 | JC87414-5R | 1 | X | (a) |
| 14:10 | MA46697-CCV11 | 1 | X | |
| 14:11 | MA46697-CCB11 | 1 | X | |
| 14:13 | ZZZZZZ | 1 | | |
| 14:14 | ZZZZZZ | 1 | | |
| 14:16 | JC87535-13 | 1 | X | |
| 14:17 | JC87535-14 | 1 | X | |
| 14:18 | JC87535-15 | 1 | X | |
| 14:20 | ZZZZZZ | 1 | | |
| 14:21 | MP14997-MB1 | 1 | X | |
| 14:22 | MP14997-B1 | 1 | X | |
| 14:24 | MP14997-S1 | 1 | X | |
| 14:25 | MA46697-CCV12 | 1 | X | |
| 14:27 | MA46697-CCB12 | 1 | X | |
| 14:29 | MP14997-S2 | 1 | X | |
| 14:30 | JC87841-5A | 1 | X | (a) |
| 14:32 | ZZZZZZ | 1 | | |
| 14:34 | ZZZZZZ | 1 | | |
| 14:35 | ZZZZZZ | 1 | | |
| 14:36 | ZZZZZZ | 1 | | |
| 14:37 | ZZZZZZ | 1 | | |
| 14:39 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:41 | ZZZZZZ | 1 | | |
| 14:49 | MA46697-CCV13 | 1 | X | |
| 14:51 | MA46697-CCB13 | 1 | X | |
| 14:53 | ZZZZZZ | 1 | | |
| 14:54 | ZZZZZZ | 1 | | |
| 14:55 | ZZZZZZ | 1 | | |
| | | Element: | Hg | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
Analyst: LL  Run ID: MA46697
Parameters: Hg

| Time | Sample Description | Dilution | Element: Hg |
|---|---|---|---|
| 15:00 | MA46697-CRI2 | 1 | X |
| 15:01 | MA46697-CCV14 | 1 | X |
| 15:02 | MA46697-CCB14 | 1 | X |

(a) Sample used for QC only; not part of login JC87535.

Element: Hg

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: result < RL  Run ID: MA46697  Units: ug/l

| Time: | | | 11:27 | | 11:30 | | 11:35 | | 12:03 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .026 | -0.0771 | <0.20 | -0.0842 | <0.20 | -0.0842 | <0.20 | -0.0730 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: result < RL  Run ID: MA46697  Units: ug/l

| Time: | | | 12:20 | | 12:35 | | 12:53 | | 13:08 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .026 | -0.0657 | <0.20 | -0.0629 | <0.20 | -0.0667 | <0.20 | -0.0716 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: result < RL  Run ID: MA46697  Units: ug/l

| Time: | | | 13:23 | | 13:40 | | 13:55 | | 14:11 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | | CCB10 | | CCB11 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .026 | -0.0801 | <0.20 | -0.0640 | <0.20 | -0.0496 | <0.20 | -0.0583 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: result < RL  Run ID: MA46697  Units: ug/l

| Time: | | | 14:27 | | 14:51 | | 15:02 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB12 | | CCB13 | | CCB14 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .026 | -0.0667 | <0.20 | -0.0637 | <0.20 | -0.0578 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery  Run ID: MA46697  Units: ug/l

| Time: | | 11:26 | | | 11:29 | | | 11:34 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 3 | 2.99 | 99.7 | 2.5 | 2.54 | 101.6 | 2.5 | 2.46 | 98.4 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery  Run ID: MA46697  Units: ug/l

| Time: | | 12:01 | | | 12:19 | | | 12:34 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.52 | 100.8 | 2.5 | 2.49 | 99.6 | 2.5 | 2.55 | 102.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery  Run ID: MA46697  Units: ug/l

| Time: | | 12:51 | | | 13:06 | | | 13:22 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.43 | 97.2 | 2.5 | 2.52 | 100.8 | 2.5 | 2.33 | 93.2 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery  Run ID: MA46697  Units: ug/l

| Time: | | 13:38 | | | 13:53 | | | 14:10 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | | CCV | CCV11 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.46 | 98.4 | 2.5 | 2.47 | 98.8 | 2.5 | 2.48 | 99.2 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: 90 to 110 % Recovery  Run ID: MA46697  Units: ug/l

| Time: | | 14:25 | | | 14:49 | | | 15:01 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV12 | | CCV | CCV13 | | CCV | CCV14 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.36 | 94.4 | 2.5 | 2.68 | 107.2 | 2.5 | 2.49 | 99.6 |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9051319W1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A
QC Limits: 70 to 130 % Recovery  Run ID: MA46697  Units: ug/l

| Time: | | | 11:32 | | 15:00 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Mercury | 0.20 | | 0.223 | 111.5 | 0.236 | 118.0 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
Analyst: LL  Run ID: MA46698
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:11 | MA46698-STD1 | 1 | | B=1.1244e-004, C=-4.4669e-002, Rho=0.9999673 |
| 13:12 | MA46698-STD2 | 1 | | STDB |
| 13:14 | MA46698-STD3 | 1 | | STDC |
| 13:15 | MA46698-STD4 | 1 | | STDD |
| 13:17 | MA46698-STD5 | 1 | | STDE |
| 13:18 | MA46698-STD6 | 1 | | STDF |
| 13:22 | MA46698-ICV1 | 1 | | |
| 13:23 | MA46698-ICB1 | 1 | | |
| 13:25 | MA46698-CCV1 | 1 | | |
| 13:26 | MA46698-CCB1 | 1 | | |
| 13:28 | MA46698-CRI1 | 1 | | |
| 13:30 | MA46698-CCV2 | 1 | | |
| 13:31 | MA46698-CCB2 | 1 | | |
| 13:42 | MP14998-MB1 | 1 | | |
| 13:43 | MP14998-B1 | 1 | | |
| 13:44 | ZZZZZZ | 1 | | |
| 13:46 | MP14998-S1 | 1 | | |
| 13:48 | MP14998-S2 | 1 | | |
| 13:50 | ZZZZZZ | 1 | | |
| 13:52 | ZZZZZZ | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:55 | ZZZZZZ | 1 | | |
| 13:56 | MA46698-CCV3 | 1 | | |
| 13:58 | MA46698-CCB3 | 1 | | |
| 14:00 | ZZZZZZ | 1 | | |
| 14:01 | ZZZZZZ | 1 | | |
| 14:03 | ZZZZZZ | 1 | | |
| 14:04 | ZZZZZZ | 1 | | |
| 14:05 | ZZZZZZ | 1 | | |
| 14:07 | ZZZZZZ | 1 | | |
| 14:08 | ZZZZZZ | 1 | | |
| 14:10 | ZZZZZZ | 1 | | |
| 14:11 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
Analyst: LL  Run ID: MA46698
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:13 | MA46698-CCV4 | 1 | | |
| 14:14 | MA46698-CCB4 | 1 | | |
| 14:16 | ZZZZZZ | 1 | | |
| 14:17 | ZZZZZZ | 1 | | |
| 14:19 | ZZZZZZ | 1 | | |
| 14:20 | ZZZZZZ | 1 | | |
| 14:21 | ZZZZZZ | 1 | | |
| 14:23 | MP14999-MB1 | 1 | | |
| 14:24 | MP14999-B1 | 1 | | |
| 14:26 | MP14999-S1 | 1 | | |
| 14:27 | MP14999-S2 | 1 | | |
| 14:29 | MA46698-CCV5 | 1 | | |
| 14:31 | MA46698-CCB5 | 1 | | |
| 14:33 | TD38572-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 14:34 | JC87535-8 | 1 | | |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 14:37 | MA46698-CRI2 | 1 | | |
| 14:38 | MA46698-CCV6 | 1 | | |
| 14:40 | MA46698-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job JC87535 | | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
Analyst: LL  Run ID: MA46698
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 13:22 | MA46698-ICV1 | 1 | X |
| 13:23 | MA46698-ICB1 | 1 | X |
| 13:25 | MA46698-CCV1 | 1 | X |
| 13:26 | MA46698-CCB1 | 1 | X |
| 13:28 | MA46698-CRI1 | 1 | X |
| 13:30 | MA46698-CCV2 | 1 | X |
| 13:31 | MA46698-CCB2 | 1 | X |
| 13:42 | MP14998-MB1 | 1 | X |
| 13:43 | MP14998-B1 | 1 | X |
| 13:44 | ZZZZZZ | 1 | |
| 13:46 | MP14998-S1 | 1 | X |
| 13:48 | MP14998-S2 | 1 | X |
| 13:50 | ZZZZZZ | 1 | |
| 13:52 | ZZZZZZ | 1 | |
| 13:53 | ZZZZZZ | 1 | |
| 13:55 | ZZZZZZ | 1 | |
| 13:56 | MA46698-CCV3 | 1 | X |
| 13:58 | MA46698-CCB3 | 1 | X |
| 14:00 | ZZZZZZ | 1 | |
| 14:01 | ZZZZZZ | 1 | |
| 14:03 | ZZZZZZ | 1 | |
| 14:04 | ZZZZZZ | 1 | |
| 14:05 | ZZZZZZ | 1 | |
| 14:07 | ZZZZZZ | 1 | |
| 14:08 | ZZZZZZ | 1 | |
| 14:10 | ZZZZZZ | 1 | |
| 14:11 | ZZZZZZ | 1 | |
| 14:13 | MA46698-CCV4 | 1 | X |
| 14:14 | MA46698-CCB4 | 1 | X |
| 14:16 | ZZZZZZ | 1 | |
| 14:17 | ZZZZZZ | 1 | |
| 14:19 | ZZZZZZ | 1 | |
| 14:20 | ZZZZZZ | 1 | |
| | | Element: | Hg |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
Analyst: LL  Run ID: MA46698
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 14:21 | ZZZZZZ | 1 | |
| 14:23 | MP14999-MB1 | 1 | X |
| 14:24 | MP14999-B1 | 1 | X |
| 14:26 | MP14999-S1 | 1 | X |
| 14:27 | MP14999-S2 | 1 | X |
| 14:29 | MA46698-CCV5 | 1 | X |
| 14:31 | MA46698-CCB5 | 1 | X |
| 14:33 | TD38572-1 | 1 | X (a) |
| 14:34 | JC87535-8 | 1 | X |
| 14:37 | MA46698-CRI2 | 1 | X |
| 14:38 | MA46698-CCV6 | 1 | X |
| 14:40 | MA46698-CCB6 | 1 | X |

(a) Sample used for QC only; not part of login JC87535.

Element: Hg

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
QC Limits: result < RL  Run ID: MA46698  Units: ug/l

| Time: / Sample ID: | | | 13:23 ICB1 | | 13:26 CCB1 | | 13:31 CCB2 | | 13:58 CCB3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .014 | -0.0125 | <0.20 | -0.0139 | <0.20 | -0.0148 | <0.20 | -0.0132 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
QC Limits: result < RL  Run ID: MA46698  Units: ug/l

| Time: | | | 14:14 | | 14:31 | | 14:40 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .014 | -0.0180 | <0.20 | -0.00910 | <0.20 | -0.0104 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46698  Units: ug/l

| Time: | | 13:22 | | | 13:25 | | | 13:30 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 3 | 3.10 | 103.3 | 2.5 | 2.46 | 98.4 | 2.5 | 2.42 | 96.8 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46698  Units: ug/l

| Time: | | 13:56 | | | 14:13 | | | 14:29 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.35 | 94.0 | 2.5 | 2.39 | 95.6 | 2.5 | 2.45 | 98.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46698  Units: ug/l

| Time: | | 14:38 | |
|---|---|---|---|
| Sample ID: | CCV | CCV6 | |
| Metal | True | Results | % Rec |
| Mercury | 2.5 | 2.43 | 97.2 |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8051319S1.CSV  Date Analyzed: 05/13/19  Methods: SW846 7470A, SW846 7471B
QC Limits: 70 to 130 % Recovery  Run ID: MA46698  Units: ug/l

| Time: | | | 13:28 | | 14:37 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Mercury | 0.20 | | 0.207 | 103.5 | 0.247 | 123.5 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:10 | MA46702-STD1 | 1 | | iec 1/3/2019 to 5/14/2019 |
| 09:15 | MA46702-STD2 | 1 | | STDB |
| 09:21 | ZZZZZZ | 1 | | |
| 09:26 | ZZZZZZ | 1 | | |
| 09:31 | ZZZZZZ | 1 | | |
| 09:41 | MA46702-ICV1 | 1 | | |
| 09:47 | MA46702-ICV2 | 1 | | |
| 09:52 | MA46702-ICB1 | 1 | | |
| 10:01 | MA46702-ICCV1 | 1 | | |
| 10:09 | MA46702-CCB1 | 1 | | |
| 10:15 | MA46702-CRI1 | 1 | | |
| 10:20 | MA46702-CRID1 | 1 | | |
| 10:25 | MA46702-ICSA1 | 1 | | |
| 10:30 | MA46702-ICSAB1 | 1 | | |
| 10:36 | MA46702-HSTD1 | 1 | | |
| 10:42 | MA46702-HSTD2 | 1 | | |
| 10:47 | ZZZZZZ | 1 | | |
| 10:53 | ZZZZZZ | 1 | | |
| 10:58 | ZZZZZZ | 1 | | |
| 11:03 | MA46702-CCV1 | 1 | | |
| 11:08 | MA46702-CCB2 | 1 | | |
| 11:13 | MP14966-MB1 | 5 | | |
| 11:18 | MP14966-B1 | 5 | | |
| 11:23 | MP14966-S1 | 5 | | |
| 11:28 | MP14966-S2 | 5 | | |
| 11:33 | JC87414-5R | 5 | | (sample used for QC only; not part of login JC87535) |
| 11:38 | MP14966-SD1 | 25 | | |
| 11:44 | JC87535-13 | 5 | | |
| 11:49 | JC87535-14 | 5 | | |
| 11:54 | MP14899-B1 | 1 | | |
| 11:59 | MA46702-CCV2 | 1 | | |
| 12:04 | MA46702-CCB3 | 1 | | |
| 12:09 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP Date Analyzed: 05/13/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:14 | JC87535-15 | 5 | | |
| 12:19 | ZZZZZZ | 5 | | |
| 12:24 | ZZZZZZ | 5 | | |
| 12:30 | ZZZZZZ | 5 | | |
| 12:35 | ZZZZZZ | 1 | | |
| 12:40 | ZZZZZZ | 10 | | |
| 12:45 | ZZZZZZ | 10 | | |
| 12:50 | ZZZZZZ | 2 | | |
| 12:55 | MA46702-CCV3 | 1 | | |
| 13:00 | MA46702-CCB4 | 1 | | |
| 13:05 | MP14899-B2 | 1 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:15 | MP14899-MB1 | 1 | | |
| 13:20 | MP14899-S1 | 1 | | |
| 13:26 | MP14899-S2 | 1 | | |
| 13:31 | JC87644-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 13:36 | MP14899-SD1 | 25 | | |
| 13:42 | MP14899-SD1 | 5 | | |
| 13:47 | MP14899-S1 | 5 | | |
| 13:52 | MA46702-CCV4 | 1 | | |
| 13:57 | MA46702-CCB5 | 1 | | |
| 14:02 | MP14899-S2 | 5 | | |
| 14:07 | JC87644-1 | 5 | | (sample used for QC only; not part of login JC87535) |
| 14:12 | ZZZZZZ | 5 | | |
| 14:17 | ZZZZZZ | 25 | | |
| 14:22 | ZZZZZZ | 1 | | |
| 14:28 | ZZZZZZ | 1 | | |
| 14:33 | ZZZZZZ | 5 | | |
| 14:38 | ZZZZZZ | 25 | | |
| 14:44 | ZZZZZZ | 5 | | |
| 14:49 | MA46702-CCV5 | 1 | | |
| 14:54 | MA46702-CCB6 | 1 | | |
| 14:59 | ZZZZZZ | 25 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:04 | ZZZZZZ | 5 | | |
| 15:10 | ZZZZZZ | 25 | | |
| 15:15 | ZZZZZZ | 5 | | |
| 15:20 | ZZZZZZ | 25 | | |
| 15:26 | ZZZZZZ | 5 | | |
| 15:31 | ZZZZZZ | 25 | | |
| 15:37 | ZZZZZZ | 5 | | |
| 15:42 | ZZZZZZ | 5 | | |
| 15:47 | MA46702-CCV6 | 1 | | |
| 15:52 | MA46702-CCB7 | 1 | | |
| 15:57 | ZZZZZZ | 1 | | |
| 16:02 | ZZZZZZ | 1 | | |
| 16:07 | ZZZZZZ | 1 | | |
| 16:13 | ZZZZZZ | 1 | | |
| 16:18 | MA46702-ICSA2 | 1 | | |
| 16:24 | MA46702-ICSAB2 | 1 | | |
| 16:29 | ZZZZZZ | 3 | | |
| 16:34 | ZZZZZZ | 25 | | |
| 16:39 | ZZZZZZ | 25 | | |
| 16:44 | MA46702-CCV7 | 1 | | |
| 16:49 | MA46702-CCB8 | 1 | | |
| 16:54 | ZZZZZZ | 25 | | |
| 16:59 | ZZZZZZ | 5 | | |
| 17:05 | ZZZZZZ | 1 | | |
| 17:10 | ZZZZZZ | 2 | | |
| 17:15 | ZZZZZZ | 2 | | |
| 17:20 | ZZZZZZ | 2 | | |
| 17:26 | ZZZZZZ | 2 | | |
| 17:31 | ZZZZZZ | 2 | | |
| 17:36 | ZZZZZZ | 2 | | |
| 17:42 | MA46702-CCV8 | 1 | | |
| 17:47 | MA46702-CCB9 | 1 | | |
| 17:52 | ZZZZZZ | 2 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:57 | ZZZZZZ | 1 | | |
| 18:02 | MP14924-PS1 | 1 | | |
| 18:07 | ZZZZZZ | 1 | | |
| 18:12 | MP14909A-S1 | 2 | | |
| 18:17 | MP14909A-S2 | 2 | | |
| 18:22 | MP14895-MB1 | 1 | | |
| 18:27 | MP14895-B1 | 1 | | |
| 18:32 | MP14895-S1 | 1 | | |
| 18:38 | MA46702-CCV9 | 1 | | |
| 18:43 | MA46702-CCB10 | 1 | | |
| 18:48 | ZZZZZZ | 1 | | |
| 18:53 | ZZZZZZ | 1 | | |
| 18:59 | ZZZZZZ | 1 | | |
| 19:04 | ZZZZZZ | 1 | | |
| 19:09 | ZZZZZZ | 1 | | |
| 19:14 | ZZZZZZ | 1 | | |
| 19:19 | ZZZZZZ | 1 | | |
| 19:24 | ZZZZZZ | 1 | | |
| 19:29 | ZZZZZZ | 1 | | |
| 19:34 | ZZZZZZ | 1 | | |
| 19:40 | ZZZZZZ | 1 | | |
| 19:45 | ZZZZZZ | 1 | | |
| 19:50 | MA46702-CCV10 | 1 | | |
| 19:55 | MA46702-CCB11 | 1 | | |
| 20:00 | MP14895-S2 | 1 | | |
| 20:06 | JC87702-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 20:11 | MP14895-SD1 | 5 | | |
| 20:16 | MP14895-S1 | 10 | | |
| 20:21 | MP14895-S2 | 10 | | |
| 20:26 | JC87702-1 | 10 | | (sample used for QC only; not part of login JC87535) |
| 20:32 | MP14895-SD1 | 50 | | |
| 20:37 | ZZZZZZ | 1 | | |
| 20:42 | ZZZZZZ | 5 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:47 | MP14895-MB1 | 1 | | |
| 20:52 | MA46702-CCV11 | 1 | | |
| 20:57 | MA46702-CCB12 | 1 | | |
| 21:02 | ZZZZZZ | 10 | | |
| 21:08 | ZZZZZZ | 1 | | |
| 21:13 | MP14915-MB1 | 1 | | |
| 21:18 | MP14915-B1 | 1 | | |
| 21:23 | MP14915-S1 | 1 | | |
| 21:28 | MP14915-S2 | 1 | | |
| 21:33 | JC87713-4 | 1 | | (sample used for QC only; not part of login JC87535) |
| 21:38 | MP14915-SD1 | 5 | | |
| 21:43 | ZZZZZZ | 1 | | |
| 21:48 | ZZZZZZ | 1 | | |
| 21:54 | MA46702-CCV12 | 1 | | |
| 21:59 | MA46702-CCB13 | 1 | | |
| 22:04 | ZZZZZZ | 1 | | |
| 22:09 | ZZZZZZ | 1 | | |
| 22:15 | ZZZZZZ | 1 | | |
| 22:20 | ZZZZZZ | 1 | | |
| 22:25 | ZZZZZZ | 1 | | |
| 22:30 | MP14845-PS1 | 1 | | |
| 22:35 | MP14918-PS1 | 1 | | |
| ----------> | Last reportable sample/prep for job JC87535 | | | |
| 22:40 | MP14961-MB1 | 1 | | |
| 22:45 | MP14961-B1 | 1 | | |
| 22:50 | MP14961-S1 | 1 | | |
| 22:55 | MA46702-CCV13 | 1 | | |
| 23:00 | MA46702-CCB14 | 1 | | |
| ----------> | Last reportable CCB for job JC87535 | | | |
| 23:06 | MP14961-S2 | 1 | | |
| 23:11 | JC87861-2 | 1 | | (sample used for QC only; not part of login JC87535) |
| 23:16 | MP14961-SD1 | 5 | | |
| 23:21 | ZZZZZZ | 1 | | |
| 23:26 | ZZZZZZ | 1 | | |
| 23:32 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:37 | ZZZZZZ | 1 | | |
| 23:42 | ZZZZZZ | 1 | | |
| 23:47 | ZZZZZZ | 1 | | |
| 23:53 | ZZZZZZ | 1 | | |
| 23:58 | MA46702-CCV14 | 1 | | |
| 00:03 | MA46702-CCB15 | 1 | | |
| 00:08 | ZZZZZZ | 1 | | |
| 00:13 | ZZZZZZ | 1 | | |
| 00:19 | ZZZZZZ | 1 | | |
| 00:24 | ZZZZZZ | 1 | | |
| 00:29 | ZZZZZZ | 1 | | |
| 00:35 | ZZZZZZ | 1 | | |
| 00:40 | ZZZZZZ | 1 | | |
| 00:45 | ZZZZZZ | 1 | | |
| 00:50 | ZZZZZZ | 1 | | |
| 00:56 | ZZZZZZ | 1 | | |
| 01:01 | MA46702-CCV15 | 1 | | |
| 01:06 | MA46702-CCB16 | 1 | | |
| 01:11 | ZZZZZZ | 1 | | |
| 01:16 | ZZZZZZ | 1 | | |
| 01:21 | ZZZZZZ | 1 | | |
| 07:53 | MA46702-CCV16 | 1 | | |
| 08:03 | MA46702-CCB17 | 1 | | |
| 08:26 | ZZZZZZ | 25 | | |
| 08:36 | ZZZZZZ | 2 | | |
| 08:46 | ZZZZZZ | 20 | | |
| 08:51 | ZZZZZZ | 100 | | |
| 08:59 | ZZZZZZ | 5 | | |
| 09:04 | ZZZZZZ | 1 | | |
| 09:09 | ZZZZZZ | 1 | | |
| 09:15 | MA46702-CCV17 | 1 | | |
| 09:28 | MA46702-CCB18 | 1 | | |
| 10:02 | ZZZZZZ | 1 | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Element: Dilution | S b | A s | B a | C d | C r | P b | S e | A g | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 09:21 | ZZZZZZ | 1 | | | | | | | | | |
| 09:26 | ZZZZZZ | 1 | | | | | | | | | |
| 09:31 | ZZZZZZ | 1 | | | | | | | | | |
| 09:41 | MA46702-ICV1 | 1 | | | | | | | | | |
| 09:47 | MA46702-ICV2 | 1 | X | X | X | X | X | X | X | X | |
| 09:52 | MA46702-ICB1 | 1 | X | X | X | X | X | X | X | X | |
| 10:01 | MA46702-ICCV1 | 1 | X | X | X | X | X | X | X | X | |
| 10:09 | MA46702-CCB1 | 1 | X | X | X | X | X | X | X | X | |
| 10:15 | MA46702-CRI1 | 1 | X | X | X | X | X | X | X | X | |
| 10:20 | MA46702-CRID1 | 1 | X | X | X | X | X | X | X | X | |
| 10:25 | MA46702-ICSA1 | 1 | X | X | X | X | X | X | X | X | |
| 10:30 | MA46702-ICSAB1 | 1 | X | X | X | X | X | X | X | X | |
| 10:36 | MA46702-HSTD1 | 1 | X | X | X | X | X | X | X | X | |
| 10:42 | MA46702-HSTD2 | 1 | X | X | X | X | X | X | X | X | |
| 10:47 | ZZZZZZ | 1 | | | | | | | | | |
| 10:53 | ZZZZZZ | 1 | | | | | | | | | |
| 10:58 | ZZZZZZ | 1 | | | | | | | | | |
| 11:03 | MA46702-CCV1 | 1 | X | X | X | X | X | X | X | X | |
| 11:08 | MA46702-CCB2 | 1 | X | X | X | X | X | X | X | X | |
| 11:13 | MP14966-MB1 | 5 | | X | X | X | X | X | X | X | |
| 11:18 | MP14966-B1 | 5 | | X | X | X | X | X | X | X | |
| 11:23 | MP14966-S1 | 5 | | X | X | X | X | X | X | X | |
| 11:28 | MP14966-S2 | 5 | | X | X | X | X | X | X | X | |
| 11:33 | JC87414-5R | 5 | | X | X | X | X | X | X | X | (a) |
| 11:38 | MP14966-SD1 | 25 | | X | X | X | X | X | X | X | |
| 11:44 | JC87535-13 | 5 | | X | X | X | X | X | X | X | |
| 11:49 | JC87535-14 | 5 | | X | X | X | X | X | X | X | |
| 11:54 | MP14899-B1 | 1 | | | | | | | | X | |
| 11:59 | MA46702-CCV2 | 1 | X | X | X | X | X | X | X | X | |
| 12:04 | MA46702-CCB3 | 1 | X | X | X | X | X | X | X | X | |
| 12:09 | ZZZZZZ | 1 | | | | | | | | | |
| 12:14 | JC87535-15 | 5 | | X | X | X | X | X | X | X | |
| 12:19 | ZZZZZZ | 5 | | | | | | | | | |
| | | Element: | S b | A s | B a | C d | C r | P b | S e | A g | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Element: Dilution | Sb | As | Ba | Cd | Cr | Pb | Se | Ag | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:24 | ZZZZZZ | 5 | | | | | | | | | |
| 12:30 | ZZZZZZ | 5 | | | | | | | | | |
| 12:35 | ZZZZZZ | 1 | | | | | | | | | |
| 12:40 | ZZZZZZ | 10 | | | | | | | | | |
| 12:45 | ZZZZZZ | 10 | | | | | | | | | |
| 12:50 | ZZZZZZ | 2 | | | | | | | | | |
| 12:55 | MA46702-CCV3 | 1 | X | X | X | X | X | X | X | X | |
| 13:00 | MA46702-CCB4 | 1 | X | X | X | X | X | X | X | X | |
| 13:05 | MP14899-B2 | 1 | | | | | | | | X | |
| 13:10 | ZZZZZZ | 1 | | | | | | | | | |
| 13:15 | MP14899-MB1 | 1 | | | | | | | | X | |
| 13:20 | MP14899-S1 | 1 | X | X | X | | | X | | X | |
| 13:26 | MP14899-S2 | 1 | X | X | X | | | X | | X | |
| 13:31 | JC87644-1 | 1 | X | X | | | | X | | X | (a) |
| 13:36 | MP14899-SD1 | 25 | | | | | | | X | | |
| 13:42 | MP14899-SD1 | 5 | X | X | | | | X | | X | |
| 13:47 | MP14899-S1 | 5 | | | | | | | X | | |
| 13:52 | MA46702-CCV4 | 1 | X | X | X | X | X | X | X | X | |
| 13:57 | MA46702-CCB5 | 1 | X | X | X | X | X | X | X | X | |
| 14:02 | MP14899-S2 | 5 | | | | | | | X | | |
| 14:07 | JC87644-1 | 5 | | | | | | | X | | (a) |
| 14:12 | ZZZZZZ | 5 | | | | | | | | | |
| 14:17 | ZZZZZZ | 25 | | | | | | | | | |
| 14:22 | ZZZZZZ | 1 | | | | | | | | | |
| 14:28 | ZZZZZZ | 1 | | | | | | | | | |
| 14:33 | ZZZZZZ | 5 | | | | | | | | | |
| 14:38 | ZZZZZZ | 25 | | | | | | | | | |
| 14:44 | ZZZZZZ | 5 | | | | | | | | | |
| 14:49 | MA46702-CCV5 | 1 | X | X | X | X | X | X | X | X | |
| 14:54 | MA46702-CCB6 | 1 | X | X | X | X | X | X | X | X | |
| 14:59 | ZZZZZZ | 25 | | | | | | | | | |
| 15:04 | ZZZZZZ | 5 | | | | | | | | | |
| 15:10 | ZZZZZZ | 25 | | | | | | | | | |
| | | Element: | Sb | As | Ba | Cd | Cr | Pb | Se | Ag | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Element: Dilution | Sb | As | Ba | Cd | Cr | Pb | Se | Ag |
|---|---|---|---|---|---|---|---|---|---|---|
| 15:15 | ZZZZZZ | 5 | | | | | | | | |
| 15:20 | ZZZZZZ | 25 | | | | | | | | |
| 15:26 | ZZZZZZ | 5 | | | | | | | | |
| 15:31 | ZZZZZZ | 25 | | | | | | | | |
| 15:37 | ZZZZZZ | 5 | | | | | | | | |
| 15:42 | ZZZZZZ | 5 | | | | | | | | |
| 15:47 | MA46702-CCV6 | 1 | X | X | X | X | X | X | X | X |
| 15:52 | MA46702-CCB7 | 1 | X | X | X | X | X | X | X | X |
| 15:57 | ZZZZZZ | 1 | | | | | | | | |
| 16:02 | ZZZZZZ | 1 | | | | | | | | |
| 16:07 | ZZZZZZ | 1 | | | | | | | | |
| 16:13 | ZZZZZZ | 1 | | | | | | | | |
| 16:18 | MA46702-ICSA2 | 1 | X | X | X | X | X | X | X | X |
| 16:24 | MA46702-ICSAB2 | 1 | X | X | X | X | X | X | X | X |
| 16:29 | ZZZZZZ | 3 | | | | | | | | |
| 16:34 | ZZZZZZ | 25 | | | | | | | | |
| 16:39 | ZZZZZZ | 25 | | | | | | | | |
| 16:44 | MA46702-CCV7 | 1 | X | X | X | X | X | X | X | X |
| 16:49 | MA46702-CCB8 | 1 | X | X | X | X | X | X | X | X |
| 16:54 | ZZZZZZ | 25 | | | | | | | | |
| 16:59 | ZZZZZZ | 5 | | | | | | | | |
| 17:05 | ZZZZZZ | 1 | | | | | | | | |
| 17:10 | ZZZZZZ | 2 | | | | | | | | |
| 17:15 | ZZZZZZ | 2 | | | | | | | | |
| 17:20 | ZZZZZZ | 2 | | | | | | | | |
| 17:26 | ZZZZZZ | 2 | | | | | | | | |
| 17:31 | ZZZZZZ | 2 | | | | | | | | |
| 17:36 | ZZZZZZ | 2 | | | | | | | | |
| 17:42 | MA46702-CCV8 | 1 | X | X | X | X | X | X | X | X |
| 17:47 | MA46702-CCB9 | 1 | X | X | X | X | X | X | X | X |
| 17:52 | ZZZZZZ | 2 | | | | | | | | |
| 17:57 | ZZZZZZ | 1 | | | | | | | | |
| 18:02 | MP14924-PS1 | 1 | X | | | | | | | |
| | | Element: | Sb | As | Ba | Cd | Cr | Pb | Se | Ag |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Element: Dilution | S b | A s | B a | C d | C r | P b | S e | A g | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:07 | ZZZZZZ | 1 | | | | | | | | | |
| 18:12 | MP14909A-S1 | 2 | | | | | | | | | |
| 18:17 | MP14909A-S2 | 2 | | | | | | | | | |
| 18:22 | MP14895-MB1 | 1 | | | | | | | | | |
| 18:27 | MP14895-B1 | 1 | X | | | | | | | | |
| 18:32 | MP14895-S1 | 1 | X | | | | | X | | | |
| 18:38 | MA46702-CCV9 | 1 | X | X | X | X | X | X | X | X | |
| 18:43 | MA46702-CCB10 | 1 | X | X | X | X | X | X | X | X | |
| 18:48 | ZZZZZZ | 1 | | | | | | | | | |
| 18:53 | ZZZZZZ | 1 | | | | | | | | | |
| 18:59 | ZZZZZZ | 1 | | | | | | | | | |
| 19:04 | ZZZZZZ | 1 | | | | | | | | | |
| 19:09 | ZZZZZZ | 1 | | | | | | | | | |
| 19:14 | ZZZZZZ | 1 | | | | | | | | | |
| 19:19 | ZZZZZZ | 1 | | | | | | | | | |
| 19:24 | ZZZZZZ | 1 | | | | | | | | | |
| 19:29 | ZZZZZZ | 1 | | | | | | | | | |
| 19:34 | ZZZZZZ | 1 | | | | | | | | | |
| 19:40 | ZZZZZZ | 1 | | | | | | | | | |
| 19:45 | ZZZZZZ | 1 | | | | | | | | | |
| 19:50 | MA46702-CCV10 | 1 | X | X | X | X | X | X | X | X | |
| 19:55 | MA46702-CCB11 | 1 | X | X | X | X | X | X | X | X | |
| 20:00 | MP14895-S2 | 1 | X | | | | | X | | | |
| 20:06 | JC87702-1 | 1 | | | | | | X | | | (a) |
| 20:11 | MP14895-SD1 | 5 | X | | | | | X | | | |
| 20:16 | MP14895-S1 | 10 | | | | | | | X | | |
| 20:21 | MP14895-S2 | 10 | | | | | | | X | | |
| 20:26 | JC87702-1 | 10 | | | | | | | | | (a) |
| 20:32 | MP14895-SD1 | 50 | | | | | | | X | | |
| 20:37 | ZZZZZZ | 1 | | | | | | | | | |
| 20:42 | ZZZZZZ | 5 | | | | | | | | | |
| 20:47 | MP14895-MB1 | 1 | X | | | | | | | | |
| 20:52 | MA46702-CCV11 | 1 | X | X | X | X | X | X | X | X | |
| | | Element: | S b | A s | B a | C d | C r | P b | S e | A g | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Element: Dilution | Sb | As | Ba | Cd | Cr | Pb | Se | Ag | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:57 | MA46702-CCB12 | 1 | X | X | X | X | X | X | X | X | |
| 21:02 | ZZZZZZ | 10 | | | | | | | | | |
| 21:08 | ZZZZZZ | 1 | | | | | | | | | |
| 21:13 | MP14915-MB1 | 1 | X | | | | | | | | |
| 21:18 | MP14915-B1 | 1 | X | | | | | | | | |
| 21:23 | MP14915-S1 | 1 | X | | | | | | | | |
| 21:28 | MP14915-S2 | 1 | X | | | | | | | | |
| 21:33 | JC87713-4 | 1 | | | | | | | | | (a) |
| 21:38 | MP14915-SD1 | 5 | X | | | | | | | | |
| 21:43 | ZZZZZZ | 1 | | | | | | | | | |
| 21:48 | ZZZZZZ | 1 | | | | | | | | | |
| 21:54 | MA46702-CCV12 | 1 | X | X | X | X | X | X | X | X | |
| 21:59 | MA46702-CCB13 | 1 | X | X | X | X | X | X | X | X | |
| 22:04 | ZZZZZZ | 1 | | | | | | | | | |
| 22:09 | ZZZZZZ | 1 | | | | | | | | | |
| 22:15 | ZZZZZZ | 1 | | | | | | | | | |
| 22:20 | ZZZZZZ | 1 | | | | | | | | | |
| 22:25 | ZZZZZZ | 1 | | | | | | | | | |
| 22:30 | MP14845-PS1 | 1 | X | | | | | | | | |
| 22:35 | MP14918-PS1 | 1 | X | | | | | | | | |
| 22:40 | MP14961-MB1 | 1 | | | | | | | | | |
| 22:45 | MP14961-B1 | 1 | | | | | | | | | |
| 22:50 | MP14961-S1 | 1 | | | | | | | | | |
| 22:55 | MA46702-CCV13 | 1 | X | X | X | X | X | X | X | X | |
| 23:00 | MA46702-CCB14 | 1 | X | X | X | X | X | X | X | X | |
| 23:06 | MP14961-S2 | 1 | | | | | | | | | |
| 23:11 | JC87861-2 | 1 | | | | | | | | | (a) |
| 23:16 | MP14961-SD1 | 5 | | | | | | | | | |
| 23:21 | ZZZZZZ | 1 | | | | | | | | | |
| 23:26 | ZZZZZZ | 1 | | | | | | | | | |
| 23:32 | ZZZZZZ | 1 | | | | | | | | | |
| 23:37 | ZZZZZZ | 1 | | | | | | | | | |
| 23:42 | ZZZZZZ | 1 | | | | | | | | | |
| | | Element: | Sb | As | Ba | Cd | Cr | Pb | Se | Ag | |

REPORTED ELEMENTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Element: Dilution | S b | A s | B a | C d | C r | P b | S e | A g |
|---|---|---|---|---|---|---|---|---|---|---|
| 23:47 | ZZZZZZ | 1 | | | | | | | | |
| 23:53 | ZZZZZZ | 1 | | | | | | | | |
| 23:58 | MA46702-CCV14 | 1 | X | X | X | X | X | X | X | X |
| 00:03 | MA46702-CCB15 | 1 | X | X | X | X | X | X | X | X |
| 00:08 | ZZZZZZ | 1 | | | | | | | | |
| 00:13 | ZZZZZZ | 1 | | | | | | | | |
| 00:19 | ZZZZZZ | 1 | | | | | | | | |
| 00:24 | ZZZZZZ | 1 | | | | | | | | |
| 00:29 | ZZZZZZ | 1 | | | | | | | | |
| 00:35 | ZZZZZZ | 1 | | | | | | | | |
| 00:40 | ZZZZZZ | 1 | | | | | | | | |
| 00:45 | ZZZZZZ | 1 | | | | | | | | |
| 00:50 | ZZZZZZ | 1 | | | | | | | | |
| 00:56 | ZZZZZZ | 1 | | | | | | | | |
| 01:01 | MA46702-CCV15 | 1 | X | X | X | X | X | X | X | X |
| 01:06 | MA46702-CCB16 | 1 | X | X | X | X | X | X | X | X |
| 01:11 | ZZZZZZ | 1 | | | | | | | | |
| 01:16 | ZZZZZZ | 1 | | | | | | | | |
| 01:21 | ZZZZZZ | 1 | | | | | | | | |
| 07:53 | MA46702-CCV16 | 1 | X | X | X | X | X | X | X | X |
| 08:03 | MA46702-CCB17 | 1 | X | X | X | X | X | X | X | X |
| 08:26 | ZZZZZZ | 25 | | | | | | | | |
| 08:36 | ZZZZZZ | 2 | | | | | | | | |
| 08:46 | ZZZZZZ | 20 | | | | | | | | |
| 08:51 | ZZZZZZ | 100 | | | | | | | | |
| 08:59 | ZZZZZZ | 5 | | | | | | | | |
| 09:04 | ZZZZZZ | 1 | | | | | | | | |
| 09:09 | ZZZZZZ | 1 | | | | | | | | |
| 09:15 | MA46702-CCV17 | 1 | X | X | X | X | X | X | X | X |
| 09:28 | MA46702-CCB18 | 1 | X | X | X | X | X | X | X | X |
| 10:02 | ZZZZZZ | 1 | | | | | | | | |

(a) Sample used for QC only; not part of login JC87535.

| Element: | S b | A s | B a | C d | C r | P b | S e | A g |
|---|---|---|---|---|---|---|---|---|

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 09:10 | MA46702-STD1 | 6163 R | 158460 R | 27156 R | 8848 R |
| 09:15 | MA46702-STD2 | 5561 | 147200 | 26362 | 7755 |
| 09:21 | ZZZZZZ | 5813 | 148690 | 26292 | 8041 |
| 09:26 | ZZZZZZ | 6128 | 156550 | 26432 | 8821 |
| 09:31 | ZZZZZZ | 5868 | 148290 | 25987 | 8100 |
| 09:41 | MA46702-ICV1 | No results reported for the elements associated with this internal standard. | | | |
| 09:47 | MA46702-ICV2 | 5808 | 146490 | 25385 | 8048 |
| 09:52 | MA46702-ICB1 | 6206 | 159190 | 26843 | 8926 |
| 10:01 | MA46702-ICCV1 | 5902 | 150800 | 26821 | 8133 |
| 10:09 | MA46702-CCB1 | 6293 | 159570 | 27787 | 9014 |
| 10:15 | MA46702-CRI1 | 6114 | 156490 | 27280 | 8666 |
| 10:20 | MA46702-CRID1 | 6184 | 158750 | 27131 | 8848 |
| 10:25 | MA46702-ICSA1 | 5451 | 137470 | 25960 | 7493 |
| 10:30 | MA46702-ICSAB1 | 5473 | 137320 | 25962 | 7536 |
| 10:36 | MA46702-HSTD1 | 6023 | 154840 | 27343 | 8738 |
| 10:42 | MA46702-HSTD2 | 5533 | 138640 | 26058 | 7487 |
| 10:47 | ZZZZZZ | 6078 | 154860 | 27044 | 8880 |
| 10:53 | ZZZZZZ | 6044 | 158640 | 26825 | 8909 |
| 10:58 | ZZZZZZ | 6181 | 999999 ! | 27013 | 8885 |
| 11:03 | MA46702-CCV1 | 5903 | 149930 | 26318 | 8132 |
| 11:08 | MA46702-CCB2 | 6169 | 158670 | 26959 | 8868 |
| 11:13 | MP14966-MB1 | 5854 | 146400 | 26711 | 7911 |
| 11:18 | MP14966-B1 | 5915 | 148190 | 26796 | 7938 |
| 11:23 | MP14966-S1 | 5801 | 147300 | 26466 | 7815 |
| 11:28 | MP14966-S2 | 5782 | 146540 | 26569 | 7784 |
| 11:33 | JC87414-5R | 5750 | 145450 | 26455 | 7769 |
| 11:38 | MP14966-SD1 | 5944 | 152200 | 26643 | 8258 |
| 11:44 | JC87535-13 | 5831 | 146390 | 26498 | 7818 |
| 11:49 | JC87535-14 | 5824 | 146480 | 26550 | 7811 |
| 11:54 | MP14899-B1 | 5970 | 153530 | 27096 | 8245 |
| 11:59 | MA46702-CCV2 | 5859 | 149460 | 26480 | 8065 |
| 12:04 | MA46702-CCB3 | 6138 | 158140 | 26968 | 8808 |
| 12:09 | ZZZZZZ | 5983 | 148300 | 26950 | 8256 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 12:14 | JC87535-15 | 5855 | 148050 | 26771 | 7884 |
| 12:19 | ZZZZZZ | 5868 | 146590 | 26735 | 7868 |
| 12:24 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 12:30 | ZZZZZZ | 5780 | 145480 | 26466 | 7738 |
| 12:35 | ZZZZZZ | 6189 | 158990 | 27517 | 8859 |
| 12:40 | ZZZZZZ | 5918 | 150480 | 26581 | 8146 |
| 12:45 | ZZZZZZ | 5902 | 149210 | 26679 | 8079 |
| 12:50 | ZZZZZZ | 6006 | 152410 | 27360 | 8141 |
| 12:55 | MA46702-CCV3 | 5865 | 148790 | 26469 | 8062 |
| 13:00 | MA46702-CCB4 | 6157 | 157470 | 26899 | 8826 |
| 13:05 | MP14899-B2 | 6040 | 150950 | 27137 | 8328 |
| 13:10 | ZZZZZZ | 5980 | 152990 | 27133 | 8253 |
| 13:15 | MP14899-MB1 | 6265 | 160890 | 27592 | 8945 |
| 13:20 | MP14899-S1 | 5554 | 141120 | 26285 | 7412 |
| 13:26 | MP14899-S2 | 5490 | 142070 | 26317 | 7360 |
| 13:31 | JC87644-1 | 5525 | 140810 | 26370 | 7438 |
| 13:36 | MP14899-SD1 | 6028 | 154480 | 26807 | 8510 |
| 13:42 | MP14899-SD1 | 5848 | 149910 | 26739 | 8045 |
| 13:47 | MP14899-S1 | 5855 | 149890 | 26453 | 8006 |
| 13:52 | MA46702-CCV4 | 5933 | 150560 | 26782 | 8133 |
| 13:57 | MA46702-CCB5 | 6113 | 157720 | 26832 | 8769 |
| 14:02 | MP14899-S2 | 5866 | 149720 | 26654 | 8028 |
| 14:07 | JC87644-1 | 5859 | 148760 | 26499 | 8049 |
| 14:12 | ZZZZZZ | 5608 | 141470 | 25984 | 7544 |
| 14:17 | ZZZZZZ | 5913 | 150490 | 26600 | 8150 |
| 14:22 | ZZZZZZ | 5650 | 146750 | 27239 | 7625 |
| 14:28 | ZZZZZZ | 5668 | 145610 | 27213 | 7652 |
| 14:33 | ZZZZZZ | 5570 | 140740 | 26102 | 7492 |
| 14:38 | ZZZZZZ | 5825 | 149120 | 26425 | 8055 |
| 14:44 | ZZZZZZ | 4421 | 110290 !a | 24017 | 5815 !a |
| 14:49 | MA46702-CCV5 | 5837 | 147500 | 26482 | 7995 |
| 14:54 | MA46702-CCB6 | 6101 | 156660 | 26819 | 8726 |
| 14:59 | ZZZZZZ | 5258 | 131270 | 25364 | 6923 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP Date Analyzed: 05/13/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 15:04 | ZZZZZZ | 5516 | 141440 | 26001 | 7423 |
| 15:10 | ZZZZZZ | 5904 | 149590 | 26489 | 8120 |
| 15:15 | ZZZZZZ | 4738 | 119870 | 24232 | 6346 |
| 15:20 | ZZZZZZ | 5437 | 138010 | 25506 | 7284 |
| 15:26 | ZZZZZZ | 4272 !a | 105840 !a | 24309 | 5439 !a |
| 15:31 | ZZZZZZ | 5261 | 127400 | 25096 | 6864 |
| 15:37 | ZZZZZZ | 5901 | 150210 | 26665 | 8020 |
| 15:42 | ZZZZZZ | 5760 | 144810 | 26207 | 7758 |
| 15:47 | MA46702-CCV6 | 5791 | 148440 | 26086 | 7985 |
| 15:52 | MA46702-CCB7 | 6116 | 157040 | 26597 | 8777 |
| 15:57 | ZZZZZZ | 6091 | 158470 | 26832 | 8736 |
| 16:02 | ZZZZZZ | 5765 | 147810 | 26212 | 7887 |
| 16:07 | ZZZZZZ | 5471 | 139010 | 25701 | 7291 |
| 16:13 | ZZZZZZ | 6085 | 156720 | 26556 | 8733 |
| 16:18 | MA46702-ICSA2 | 5333 | 134660 | 25363 | 7341 |
| 16:24 | MA46702-ICSAB2 | 5337 | 134760 | 25505 | 7347 |
| 16:29 | ZZZZZZ | 6151 | 155970 | 27106 | 8455 |
| 16:34 | ZZZZZZ | 5848 | 149650 | 26358 | 8067 |
| 16:39 | ZZZZZZ | 5851 | 147400 | 26310 | 8050 |
| 16:44 | MA46702-CCV7 | 5854 | 148120 | 26215 | 8028 |
| 16:49 | MA46702-CCB8 | 6078 | 157280 | 26582 | 8698 |
| 16:54 | ZZZZZZ | 5943 | 153360 | 26491 | 8320 |
| 16:59 | ZZZZZZ | 5820 | 147210 | 26283 | 7920 |
| 17:05 | ZZZZZZ | 6129 | 156330 | 26810 | 8774 |
| 17:10 | ZZZZZZ | 6187 | 156730 | 27685 | 8375 |
| 17:15 | ZZZZZZ | 6128 | 155620 | 27729 | 8348 |
| 17:20 | ZZZZZZ | 6263 | 999999 !a | 27562 | 8464 |
| 17:26 | ZZZZZZ | 6168 | 155340 | 27625 | 8305 |
| 17:31 | ZZZZZZ | 6155 | 156250 | 27588 | 8301 |
| 17:36 | ZZZZZZ | 6218 | 156940 | 27643 | 8348 |
| 17:42 | MA46702-CCV8 | 5560 | 142720 | 25127 | 7764 |
| 17:47 | MA46702-CCB9 | 5790 | 149620 | 24989 | 8421 |
| 17:52 | ZZZZZZ | 5965 | 148450 | 25756 | 8172 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 17:57 | ZZZZZZ | 5984 | 151820 | 25397 | 8680 |
| 18:02 | MP14924-PS1 | 5890 | 999999 ! | 25816 | 8058 |
| 18:07 | ZZZZZZ | 5934 | 149700 | 25210 | 8610 |
| 18:12 | MP14909A-S1 | 5706 | 142930 | 24754 | 7876 |
| 18:17 | MP14909A-S2 | 5653 | 141740 | 24569 | 7823 |
| 18:22 | MP14895-MB1 | No results reported for the elements associated with this internal standard. | | | |
| 18:27 | MP14895-B1 | 5806 | 145390 | 24825 | 8201 |
| 18:32 | MP14895-S1 | 4890 | 121200 | 23673 | 6663 |
| 18:38 | MA46702-CCV9 | 5593 | 139980 | 24310 | 7834 |
| 18:43 | MA46702-CCB10 | 5890 | 150220 | 24575 | 8605 |
| 18:48 | ZZZZZZ | 5868 | 149110 | 24649 | 8558 |
| 18:53 | ZZZZZZ | 5864 | 149230 | 24609 | 8538 |
| 18:59 | ZZZZZZ | 5865 | 152010 | 24647 | 8596 |
| 19:04 | ZZZZZZ | 5857 | 149300 | 24468 | 8567 |
| 19:09 | ZZZZZZ | 5833 | 148090 | 24381 | 8520 |
| 19:14 | ZZZZZZ | 5990 | 151900 | 24746 | 8704 |
| 19:19 | ZZZZZZ | 5901 | 149580 | 25168 | 8675 |
| 19:24 | ZZZZZZ | 5909 | 149070 | 24586 | 8652 |
| 19:29 | ZZZZZZ | 5998 | 149100 | 24566 | 8757 |
| 19:34 | ZZZZZZ | 5862 | 148650 | 24439 | 8682 |
| 19:40 | ZZZZZZ | 5589 | 132610 | 24565 | 7849 |
| 19:45 | ZZZZZZ | 5390 | 136360 | 23618 | 7549 |
| 19:50 | MA46702-CCV10 | 5604 | 140510 | 23924 | 7898 |
| 19:55 | MA46702-CCB11 | 5815 | 148960 | 24357 | 8542 |
| 20:00 | MP14895-S2 | 4909 | 123750 | 22808 | 6696 |
| 20:06 | JC87702-1 | 4871 | 122270 | 23256 | 6612 |
| 20:11 | MP14895-SD1 | 5341 | 134220 | 23895 | 7337 |
| 20:16 | MP14895-S1 | 5467 | 138450 | 24010 | 7592 |
| 20:21 | MP14895-S2 | 5445 | 138680 | 24185 | 7577 |
| 20:26 | JC87702-1 | 5494 | 137760 | 24658 | 7637 |
| 20:32 | MP14895-SD1 | 5693 | 144040 | 24348 | 8137 |
| 20:37 | ZZZZZZ | 5438 | 135670 | 24081 | 7527 |
| 20:42 | ZZZZZZ | 5646 | 143100 | 24404 | 8019 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 20:47 | MP14895-MB1 | 5826 | 148480 | 24386 | 8559 |
| 20:52 | MA46702-CCV11 | 5576 | 139660 | 24127 | 7843 |
| 20:57 | MA46702-CCB12 | 5823 | 148510 | 24345 | 8541 |
| 21:02 | ZZZZZZ | 5406 | 137550 | 23901 | 7543 |
| 21:08 | ZZZZZZ | 5584 | 137650 | 24471 | 7659 |
| 21:13 | MP14915-MB1 | 5952 | 150930 | 24894 | 8820 |
| 21:18 | MP14915-B1 | 5796 | 145870 | 25025 | 8220 |
| 21:23 | MP14915-S1 | 5801 | 144330 | 24811 | 8111 |
| 21:28 | MP14915-S2 | 5750 | 144700 | 24391 | 8067 |
| 21:33 | JC87713-4 | 5858 | 141150 | 25621 | 8309 |
| 21:38 | MP14915-SD1 | 5849 | 999999 !a | 24664 | 8469 |
| 21:43 | ZZZZZZ | 5491 | 134510 | 24857 | 7529 |
| 21:48 | ZZZZZZ | 5501 | 136740 | 24426 | 7533 |
| 21:54 | MA46702-CCV12 | 5584 | 140520 | 24088 | 7865 |
| 21:59 | MA46702-CCB13 | 5888 | 149840 | 24584 | 8627 |
| 22:04 | ZZZZZZ | 5134 | 999999 ! | 23788 | 6882 |
| 22:09 | ZZZZZZ | 5111 | 126000 | 23258 | 6858 |
| 22:15 | ZZZZZZ | 5918 | 999999 ! | 24622 | 8804 |
| 22:20 | ZZZZZZ | 5898 | 150500 | 24772 | 8770 |
| 22:25 | ZZZZZZ | 5907 | 151700 | 25108 | 8591 |
| 22:30 | MP14845-PS1 | 5845 | 143650 | 25608 | 7998 |
| 22:35 | MP14918-PS1 | 5814 | 146340 | 25514 | 8085 |
| 22:40 | MP14961-MB1 | 5874 | 150720 | 24875 | 8578 |
| 22:45 | MP14961-B1 | 5680 | 143750 | 24476 | 8028 |
| 22:50 | MP14961-S1 | 5472 | 136940 | 24159 | 7493 |
| 22:55 | MA46702-CCV13 | 5626 | 141310 | 24458 | 7896 |
| 23:00 | MA46702-CCB14 | 5882 | 149570 | 24371 | 8616 |
| 23:06 | MP14961-S2 | 5448 | 135870 | 24311 | 7475 |
| 23:11 | JC87861-2 | 5524 | 137080 | 24409 | 7547 |
| 23:16 | MP14961-SD1 | 5691 | 143300 | 24194 | 8027 |
| 23:21 | ZZZZZZ | 5352 | 130390 | 23909 | 7229 |
| 23:26 | ZZZZZZ | 5292 | 130230 | 23643 | 7113 |
| 23:32 | ZZZZZZ | 5220 | 129160 | 23843 | 7015 |

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 23:37 | ZZZZZZ | 5762 | 145940 | 24670 | 8174 |
| 23:42 | ZZZZZZ | 5280 | 130240 | 23906 | 7113 |
| 23:47 | ZZZZZZ | 5199 | 127090 | 23659 | 6957 |
| 23:53 | ZZZZZZ | 5394 | 134090 | 23975 | 7344 |
| 23:58 | MA46702-CCV14 | 5611 | 140540 | 24018 | 7891 |
| 00:03 | MA46702-CCB15 | 5862 | 149470 | 24322 | 8584 |
| 00:08 | ZZZZZZ | 5531 | 141530 | 24598 | 7640 |
| 00:13 | ZZZZZZ | 5536 | 138340 | 24400 | 7553 |
| 00:19 | ZZZZZZ | 5313 | 131020 | 23918 | 7158 |
| 00:24 | ZZZZZZ | 5272 | 129770 | 24062 | 7074 |
| 00:29 | ZZZZZZ | 5314 | 131030 | 24207 | 7104 |
| 00:35 | ZZZZZZ | 5777 | 146260 | 24773 | 8189 |
| 00:40 | ZZZZZZ | 5329 | 131170 | 24150 | 7147 |
| 00:45 | ZZZZZZ | 5259 | 128800 | 24127 | 6999 |
| 00:50 | ZZZZZZ | 5417 | 134940 | 24026 | 7345 |
| 00:56 | ZZZZZZ | 5571 | 141330 | 24501 | 7722 |
| 01:01 | MA46702-CCV15 | 5594 | 141330 | 24078 | 7863 |
| 01:06 | MA46702-CCB16 | 5919 | 150740 | 24687 | 8653 |
| 01:11 | ZZZZZZ | 5861 | 999999 ! | 24651 | 8579 |
| 01:16 | ZZZZZZ | 5844 | 149790 | 24724 | 8575 |
| 01:21 | ZZZZZZ | 5929 | 150940 | 24735 | 8639 |
| 07:53 | MA46702-CCV16 | 5642 | 141550 | 24031 | 7960 |
| 08:03 | MA46702-CCB17 | 5844 | 148020 | 24090 | 8607 |
| 08:26 | ZZZZZZ | 5733 | 143570 | 24231 | 8209 |
| 08:36 | ZZZZZZ | 5014 | 126300 | 23062 | 7010 |
| 08:46 | ZZZZZZ | 5565 | 140040 | 23769 | 7810 |
| 08:51 | ZZZZZZ | 5748 | 145420 | 24588 | 8345 |
| 08:59 | ZZZZZZ | 5578 | 137980 | 23902 | 7714 |
| 09:04 | ZZZZZZ | 5928 | 999999 ! | 24589 | 8685 |
| 09:09 | ZZZZZZ | 5888 | 148460 | 24317 | 8646 |
| 09:15 | MA46702-CCV17 | 5566 | 139580 | 23825 | 7838 |
| 09:28 | MA46702-CCB18 | 5893 | 149690 | 24313 | 8657 |
| 10:02 | ZZZZZZ | 5884 | 149470 | 24320 | 8647 |

R = Reference for ISTD limits.  ! = Outside limits.

INTERNAL STANDARD SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46702
Parameters: Sb,As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: / Sample ID: | | | 09:52 ICB1 | | 10:09 CCB1 | | 11:08 CCB2 | | 12:04 CCB3 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | anr | | | | | | | |
| Antimony | 6.0 | 1.4 | 0.700 | <6.0 | 1.20 | <6.0 | 1.30 | <6.0 | 0.500 | <6.0 |
| Arsenic | 3.0 | 1.5 | 0.700 | <3.0 | 1.40 | <3.0 | 1.30 | <3.0 | 1.00 | <3.0 |
| Barium | 200 | .5 | 0.200 | <200 | -0.100 | <200 | 0.200 | <200 | 0.100 | <200 |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | 0.100 | <3.0 | 0.200 | <3.0 | 0.00 | <3.0 | 0.100 | <3.0 |
| Calcium | 5000 | 3.9 | anr | | | | | | | |
| Chromium | 10 | .3 | 0.00 | <10 | 0.200 | <10 | -0.100 | <10 | 0.00 | <10 |
| Cobalt | 50 | .3 | anr | | | | | | | |
| Copper | 10 | .6 | anr | | | | | | | |
| Iron | 100 | 2.6 | anr | | | | | | | |
| Lead | 3.0 | 1.6 | -0.600 | <3.0 | 0.500 | <3.0 | 0.200 | <3.0 | 1.00 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | anr | | | | | | | |
| Manganese | 15 | .1 | anr | | | | | | | |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | anr | | | | | | | |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | anr | | | | | | | |
| Selenium | 10 | 3 | -1.30 | <10 | 0.100 | <10 | -1.50 | <10 | -1.60 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | 0.00 | <10 | 0.200 | <10 | -0.500 | <10 | -0.100 | <10 |
| Sodium | 10000 | 9.9 | anr | | | | | | | |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | | | |
| Thallium | 10 | 1.3 | anr | | | | | | | |
| Tin | 10 | .7 | anr | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | anr | | | | | | | |
| Zinc | 20 | .2 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 09:52 | | 10:09 | | 11:08 | | 12:04 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 13:00 | | 13:57 | | 14:54 | | 15:52 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | anr | | | | | | | |
| Antimony | 6.0 | 1.4 | 2.20 | <6.0 | 1.80 | <6.0 | 0.00 | <6.0 | 1.80 | <6.0 |
| Arsenic | 3.0 | 1.5 | 1.10 | <3.0 | 1.60 | <3.0 | 1.10 | <3.0 | 1.10 | <3.0 |
| Barium | 200 | .5 | 0.200 | <200 | 0.400 | <200 | 0.600 | <200 | 0.500 | <200 |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | 0.400 | <3.0 | 0.700 | <3.0 | 0.800 | <3.0 | 0.700 | <3.0 |
| Calcium | 5000 | 3.9 | anr | | | | | | | |
| Chromium | 10 | .3 | 0.100 | <10 | 0.100 | <10 | 0.600 | <10 | 0.200 | <10 |
| Cobalt | 50 | .3 | anr | | | | | | | |
| Copper | 10 | .6 | anr | | | | | | | |
| Iron | 100 | 2.6 | anr | | | | | | | |
| Lead | 3.0 | 1.6 | 0.900 | <3.0 | 1.00 | <3.0 | 1.10 | <3.0 | 1.10 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | anr | | | | | | | |
| Manganese | 15 | .1 | anr | | | | | | | |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | anr | | | | | | | |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | anr | | | | | | | |
| Selenium | 10 | 3 | 0.500 | <10 | -0.300 | <10 | 0.900 | <10 | 0.900 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | -0.100 | <10 | -0.200 | <10 | -0.300 | <10 | -0.300 | <10 |
| Sodium | 10000 | 9.9 | anr | | | | | | | |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | | | |
| Thallium | 10 | 1.3 | anr | | | | | | | |
| Tin | 10 | .7 | anr | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | anr | | | | | | | |
| Zinc | 20 | .2 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 13:00 | | 13:57 | | 14:54 | | 15:52 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 16:49 | | 17:47 | | 18:43 | | 19:55 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | | CCB10 | | CCB11 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | anr | | | | | | | |
| Antimony | 6.0 | 1.4 | 1.00 | <6.0 | 2.80 | <6.0 | 0.300 | <6.0 | 0.400 | <6.0 |
| Arsenic | 3.0 | 1.5 | 0.300 | <3.0 | -0.700 | <3.0 | -1.30 | <3.0 | -1.50 | <3.0 |
| Barium | 200 | .5 | 0.600 | <200 | 0.700 | <200 | 0.500 | <200 | 0.600 | <200 |
| Beryllium | 1.0 | .1 | anr | | | | | | | |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | anr | | | | | | | |
| Cadmium | 3.0 | .3 | 0.500 | <3.0 | 0.900 | <3.0 | 1.00 | <3.0 | 0.800 | <3.0 |
| Calcium | 5000 | 3.9 | anr | | | | | | | |
| Chromium | 10 | .3 | 0.100 | <10 | 0.200 | <10 | 0.400 | <10 | 0.800 | <10 |
| Cobalt | 50 | .3 | anr | | | | | | | |
| Copper | 10 | .6 | anr | | | | | | | |
| Iron | 100 | 2.6 | anr | | | | | | | |
| Lead | 3.0 | 1.6 | 0.400 | <3.0 | 0.700 | <3.0 | 1.00 | <3.0 | 0.500 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | anr | | | | | | | |
| Manganese | 15 | .1 | anr | | | | | | | |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | anr | | | | | | | |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | anr | | | | | | | |
| Selenium | 10 | 3 | -1.20 | <10 | 1.60 | <10 | 0.400 | <10 | 1.30 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | -0.300 | <10 | 0.100 | <10 | 1.10 | <10 | 1.30 | <10 |
| Sodium | 10000 | 9.9 | anr | | | | | | | |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | | | |
| Thallium | 10 | 1.3 | anr | | | | | | | |
| Tin | 10 | .7 | anr | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | anr | | | | | | | |
| Zinc | 20 | .2 | anr | | | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 16:49 | | 17:47 | | 18:43 | | 19:55 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | | CCB10 | | CCB11 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 20:57 | | 21:59 | | 23:00 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB12 | | CCB13 | | CCB14 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | anr | | | | | |
| Antimony | 6.0 | 1.4 | -0.100 | <6.0 | 0.300 | <6.0 | 0.100 | <6.0 |
| Arsenic | 3.0 | 1.5 | -1.10 | <3.0 | -2.20 | <3.0 | -0.600 | <3.0 |
| Barium | 200 | .5 | 0.100 | <200 | 0.00 | <200 | 0.00 | <200 |
| Beryllium | 1.0 | .1 | anr | | | | | |
| Bismuth | 20 | 1.8 | | | | | | |
| Boron | 100 | .8 | anr | | | | | |
| Cadmium | 3.0 | .3 | 0.100 | <3.0 | 0.00 | <3.0 | 0.100 | <3.0 |
| Calcium | 5000 | 3.9 | anr | | | | | |
| Chromium | 10 | .3 | 0.00 | <10 | -0.200 | <10 | 0.00 | <10 |
| Cobalt | 50 | .3 | anr | | | | | |
| Copper | 10 | .6 | anr | | | | | |
| Iron | 100 | 2.6 | anr | | | | | |
| Lead | 3.0 | 1.6 | 0.500 | <3.0 | -0.900 | <3.0 | 0.600 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | |
| Magnesium | 5000 | 16 | anr | | | | | |
| Manganese | 15 | .1 | anr | | | | | |
| Molybdenum | 20 | .4 | | | | | | |
| Nickel | 10 | .5 | anr | | | | | |
| Phosphorus | 50 | 1.9 | | | | | | |
| Potassium | 10000 | 79 | anr | | | | | |
| Selenium | 10 | 3 | 1.10 | <10 | 0.00 | <10 | 0.700 | <10 |
| Silicon | 200 | 1.2 | | | | | | |
| Silver | 10 | .5 | 0.800 | <10 | 1.30 | <10 | 1.10 | <10 |
| Sodium | 10000 | 9.9 | anr | | | | | |
| Strontium | 10 | .3 | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | |
| Thallium | 10 | 1.3 | anr | | | | | |
| Tin | 10 | .7 | anr | | | | | |
| Titanium | 10 | .5 | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | |
| Vanadium | 50 | .5 | anr | | | | | |
| Zinc | 20 | .2 | anr | | | | | |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46702  Units: ug/l

| Time: | | | 20:57 | | 21:59 | | 23:00 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB12 | | CCB13 | | CCB14 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 10:01 | |
|---|---|---|---|
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Aluminum | anr | | |
| Antimony | 2000 | 1970 | 98.5 |
| Arsenic | 2000 | 1960 | 98.0 |
| Barium | 2000 | 2050 | 102.5 |
| Beryllium | anr | | |
| Bismuth | | | |
| Boron | anr | | |
| Cadmium | 2000 | 1960 | 98.0 |
| Calcium | anr | | |
| Chromium | 2000 | 2040 | 102.0 |
| Cobalt | anr | | |
| Copper | anr | | |
| Iron | anr | | |
| Lead | 2000 | 2000 | 100.0 |
| Lithium | | | |
| Magnesium | anr | | |
| Manganese | anr | | |
| Molybdenum | | | |
| Nickel | anr | | |
| Phosphorus | | | |
| Potassium | anr | | |
| Selenium | 2000 | 1950 | 97.5 |
| Silicon | | | |
| Silver | 250 | 251 | 100.4 |
| Sodium | anr | | |
| Strontium | | | |
| Sulfur | | | |
| Thallium | anr | | |
| Tin | anr | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | anr | | |
| Zinc | anr | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits:  to  % Recovery  Run ID: MA46702  Units: ug/l

| | | | |
|---|---|---|---|
| Time: | | 10:01 | |
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Zirconium | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 09:47 | | | 11:03 | | | 11:59 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV2 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1930 | 96.5 | 2000 | 1960 | 98.0 | 2000 | 1970 | 98.5 |
| Arsenic | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 | 2000 | 1970 | 98.5 |
| Barium | 2000 | 2050 | 102.5 | 2000 | 2060 | 103.0 | 2000 | 2040 | 102.0 |
| Beryllium | anr | | | | | | | | |
| Bismuth | | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1930 | 96.5 | 2000 | 1950 | 97.5 | 2000 | 1960 | 98.0 |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1910 | 95.5 | 2000 | 1940 | 97.0 | 2000 | 1960 | 98.0 |
| Silicon | | | | | | | | | |
| Silver | 250 | 249 | 99.6 | 250 | 252 | 100.8 | 250 | 252 | 100.8 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 09:47 | | | 11:03 | | | 11:59 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV2 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 12:55 | | | 13:52 | | | 14:49 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1970 | 98.5 | 2000 | 1940 | 97.0 | 2000 | 1970 | 98.5 |
| Arsenic | 2000 | 1950 | 97.5 | 2000 | 1940 | 97.0 | 2000 | 1970 | 98.5 |
| Barium | 2000 | 2060 | 103.0 | 2000 | 2020 | 101.0 | 2000 | 2060 | 103.0 |
| Beryllium | anr | | | | | | | | |
| Bismuth | | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1950 | 97.5 | 2000 | 1930 | 96.5 | 2000 | 1960 | 98.0 |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 2060 | 103.0 | 2000 | 2030 | 101.5 | 2000 | 2070 | 103.5 |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2000 | 100.0 | 2000 | 1980 | 99.0 | 2000 | 2000 | 100.0 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1950 | 97.5 | 2000 | 1930 | 96.5 | 2000 | 1970 | 98.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 253 | 101.2 | 250 | 249 | 99.6 | 250 | 254 | 101.6 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 12:55 | | | 13:52 | | | 14:49 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 15:47 | | | 16:44 | | | 17:42 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 2000 | 100.0 | 2000 | 1970 | 98.5 | 2000 | 2000 | 100.0 |
| Arsenic | 2000 | 1990 | 99.5 | 2000 | 1960 | 98.0 | 2000 | 2010 | 100.5 |
| Barium | 2000 | 2060 | 103.0 | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 |
| Beryllium | anr | | | | | | | | |
| Bismuth | | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 1980 | 99.0 | 2000 | 1950 | 97.5 | 2000 | 2010 | 100.5 |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 2060 | 103.0 | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2020 | 101.0 | 2000 | 2000 | 100.0 | 2000 | 2020 | 101.0 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1980 | 99.0 | 2000 | 1950 | 97.5 | 2000 | 2010 | 100.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 254 | 101.6 | 250 | 253 | 101.2 | 250 | 256 | 102.4 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 15:47 | | | 16:44 | | | 17:42 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 18:38 | | | 19:50 | | | 20:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | | CCV | CCV11 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 1940 | 97.0 |
| Arsenic | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 | 2000 | 1900 | 95.0 |
| Barium | 2000 | 2090 | 104.5 | 2000 | 2100 | 105.0 | 2000 | 2020 | 101.0 |
| Beryllium | anr | | | | | | | | |
| Bismuth | | | | | | | | | |
| Boron | anr | | | | | | | | |
| Cadmium | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 | 2000 | 1960 | 98.0 |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 2150 | 107.5 | 2000 | 2150 | 107.5 | 2000 | 2080 | 104.0 |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 1940 | 97.0 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1970 | 98.5 | 2000 | 1970 | 98.5 | 2000 | 1910 | 95.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 261 | 104.4 | 250 | 261 | 104.4 | 250 | 253 | 101.2 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | anr | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 18:38 | | | 19:50 | | | 20:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV9 | | CCV | CCV10 | | CCV | CCV11 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 21:54 | | | 22:55 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV12 | | CCV | CCV13 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | |
| Antimony | 2000 | 1940 | 97.0 | 2000 | 1930 | 96.5 |
| Arsenic | 2000 | 1900 | 95.0 | 2000 | 1910 | 95.5 |
| Barium | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Beryllium | anr | | | | | |
| Bismuth | | | | | | |
| Boron | anr | | | | | |
| Cadmium | 2000 | 1970 | 98.5 | 2000 | 1960 | 98.0 |
| Calcium | anr | | | | | |
| Chromium | 2000 | 2080 | 104.0 | 2000 | 2080 | 104.0 |
| Cobalt | anr | | | | | |
| Copper | anr | | | | | |
| Iron | anr | | | | | |
| Lead | 2000 | 1940 | 97.0 | 2000 | 1940 | 97.0 |
| Lithium | | | | | | |
| Magnesium | anr | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | anr | | | | | |
| Phosphorus | | | | | | |
| Potassium | anr | | | | | |
| Selenium | 2000 | 1910 | 95.5 | 2000 | 1910 | 95.5 |
| Silicon | | | | | | |
| Silver | 250 | 253 | 101.2 | 250 | 253 | 101.2 |
| Sodium | anr | | | | | |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | anr | | | | | |
| Tin | anr | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | anr | | | | | |
| Zinc | anr | | | | | |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 21:54 | | | 22:55 | |
|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV12 | | CCV | CCV13 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 10:36 | | | 10:42 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | 8000 | 7830 | 97.9 | | | |
| Arsenic | 8000 | 7680 | 96.0 | | | |
| Barium | 8000 | 8150 | 101.9 | | | |
| Beryllium | anr | | | | | |
| Bismuth | | | | | | |
| Boron | anr | | | | | |
| Cadmium | 8000 | 7620 | 95.3 | | | |
| Calcium | | | | | | |
| Chromium | 8000 | 8300 | 103.8 | | | |
| Cobalt | anr | | | | | |
| Copper | anr | | | | | |
| Iron | | | | | | |
| Lead | 8000 | 7940 | 99.3 | | | |
| Lithium | | | | | | |
| Magnesium | | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | anr | | | | | |
| Phosphorus | | | | | | |
| Potassium | | | | | | |
| Selenium | 8000 | 7700 | 96.3 | | | |
| Silicon | | | | | | |
| Silver | 625 | 602 | 96.3 | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | anr | | | | | |
| Tin | anr | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | anr | | | | | |
| Zinc | anr | | | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | 10:36 | | | 10:42 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46702  Units: ug/l

| Time: | | | | 10:15 | | 10:20 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | anr | | | |
| Antimony | 6.0 | 20 | 3.0 | 6.90 | 115.0 | | |
| Arsenic | 8.0 | 20 | 3.0 | 9.20 | 115.0 | 3.40 | 113.3 |
| Barium | 200 | | 4.0 | 194 | 97.0 | 4.00 | 100.0 |
| Beryllium | 2.0 | | 1.0 | anr | | | |
| Bismuth | 20 | | | | | | |
| Boron | 100 | | 10 | anr | | | |
| Cadmium | 3.0 | | 1.0 | 2.80 | 93.3 | 0.900 | 90.0 |
| Calcium | 5000 | 2000 | 1000 | anr | | | |
| Chromium | 10 | | 2.0 | 9.70 | 97.0 | 2.00 | 100.0 |
| Cobalt | 50 | | 3.0 | anr | | | |
| Copper | 10 | | 2.0 | anr | | | |
| Iron | 100 | 500 | | anr | | | |
| Lead | 3.0 | 20 | 2.5 | 2.90 | 96.7 | | |
| Lithium | 50 | | | | | | |
| Magnesium | 5000 | 2000 | 100 | anr | | | |
| Manganese | 15 | | 3.0 | anr | | | |
| Molybdenum | 20 | | | | | | |
| Nickel | 10 | | 4.0 | anr | | | |
| Phosphorus | 50 | | | | | | |
| Potassium | 5000 | | 2000 | anr | | | |
| Selenium | 10 | 20 | 5.0 | 9.40 | 94.0 | | |
| Silicon | 200 | | | | | | |
| Silver | 5.0 | | 2.0 | 5.40 | 108.0 | | |
| Sodium | 5000 | | 1000 | anr | | | |
| Strontium | 10 | | | | | | |
| Sulfur | 50 | | | | | | |
| Thallium | 10 | | 2.0 | anr | | | |
| Tin | 10 | | | anr | | | |
| Titanium | 10 | | | | | | |
| Tungsten | 50 | | | | | | |
| Vanadium | 50 | | 2.0 | anr | | | |
| Zinc | 20 | | 10 | anr | | | |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46702  Units: ug/l

| Time: | | | | 10:15 | | 10:20 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | | 10:25 | | 10:30 | | 16:18 | | 16:24 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 502000 | 100.4 | 507000 | 101.4 | 515000 | 103.0 | 522000 | 104.4 |
| Antimony | | 1000 | -2.90 | | 1020 | 102.0 | -2.20 | | 1020 | 102.0 |
| Arsenic | | 1000 | 0.800 | | 1030 | 103.0 | 0.300 | | 1050 | 105.0 |
| Barium | | 500 | 1.00 | | 514 | 102.8 | 1.00 | | 511 | 102.2 |
| Beryllium | | 500 | 0.100 | | 500 | 100.0 | 0.100 | | 505 | 101.0 |
| Bismuth | | 500 | -12.0 | | 482 | 96.4 | -13.1 | | 490 | 98.0 |
| Boron | | 500 | -0.500 | | 467 | 93.4 | -1.20 | | 473 | 94.6 |
| Cadmium | | 1000 | -0.800 | | 973 | 97.3 | -0.800 | | 980 | 98.0 |
| Calcium | 400000 | 400000 | 390000 | 97.5 | 382000 | 95.5 | 392000 | 98.0 | 382000 | 95.5 |
| Chromium | | 500 | -0.100 | | 491 | 98.2 | 0.00 | | 498 | 99.6 |
| Cobalt | | 500 | -0.300 | | 471 | 94.2 | -0.300 | | 479 | 95.8 |
| Copper | | 500 | 3.40 | | 514 | 102.8 | 4.30 | | 521 | 104.2 |
| Iron | 200000 | 200000 | 195000 | 97.5 | 197000 | 98.5 | 200000 | 100.0 | 198000 | 99.0 |
| Lead | | 1000 | 0.00 | | 917 | 91.7 | 1.40 | | 924 | 92.4 |
| Lithium | | 500 | 0.400 | | 539 | 107.8 | 0.100 | | 537 | 107.4 |
| Magnesium | 500000 | 500000 | 507000 | 101.4 | 511000 | 102.2 | 509000 | 101.8 | 511000 | 102.2 |
| Manganese | | 500 | -0.600 | | 513 | 102.6 | -0.300 | | 513 | 102.6 |
| Molybdenum | | 500 | 0.600 | | 472 | 94.4 | 0.700 | | 481 | 96.2 |
| Nickel | | 1000 | -0.400 | | 932 | 93.2 | -0.800 | | 940 | 94.0 |
| Phosphorus | | 500 | 11.9 | | 510 | 102.0 | 3.40 | | 518 | 103.6 |
| Potassium | | | 163 | | 188 | | 526 | | 513 | |
| Selenium | | 1000 | 7.70 | | 998 | 99.8 | 9.97 | | 1010 | 101.0 |
| Silicon | | 500 | 5.40 | | 485 | 97.0 | 8.80 | | 493 | 98.6 |
| Silver | | 1000 | 1.00 | | 1100 | 110.0 | 0.800 | | 1100 | 110.0 |
| Sodium | | | 55.8 | | 69.1 | | 1650 | | 1430 | |
| Strontium | | 500 | -0.500 | | 517 | 103.4 | -0.500 | | 516 | 103.2 |
| Sulfur | | 500 | -41.7 | | 443 | 88.6 | -36.3 | | 461 | 92.2 |
| Thallium | | 1000 | -0.300 | | 944 | 94.4 | 0.500 | | 947 | 94.7 |
| Tin | | 500 | -1.40 | | 465 | 93.0 | -2.00 | | 473 | 94.6 |
| Titanium | | 500 | -1.10 | | 511 | 102.2 | -1.20 | | 513 | 102.6 |
| Tungsten | | 500 | 1.30 | | 466 | 93.2 | 2.10 | | 473 | 94.6 |
| Vanadium | | 500 | -5.10 | | 496 | 99.2 | -5.40 | | 503 | 100.6 |
| Zinc | | 1000 | -1.00 | | 917 | 91.7 | -1.10 | | 926 | 92.6 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC051319M1.ICP  Date Analyzed: 05/13/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46702  Units: ug/l

| Time: | | | 10:25 | | 10:30 | | 16:18 | | 16:24 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | -1.00 | | 514 | 102.8 | -0.700 | | 516 | 103.2 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14859 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/07/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.033 | .0053 | .015 | -0.0099 | <0.033 |

Associated samples MP14859: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14859 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/07/19

| Metal | JC87535-7 Original | MS | Spikelot HGPWS1 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 0.032 | 0.38 | 0.351 | 99.3 | 80-120 |

Associated samples MP14859: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14859 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/07/19

| Metal | JC87535-7 Original | MSD | Spikelot HGPWS1 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 0.032 | 0.39 | 0.351 | 102.1 | 2.6 | 20 |

Associated samples MP14859: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14859
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 05/07/19

| Metal | BSP Result | Spikelot HGPWS1 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 0.35 | 0.333 | 105.0 | 80-120 |

Associated samples MP14859: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/08/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 52 | .87 | 8.3 | 1.1 | <52 |
| Antimony | 2.1 | .12 | .42 | 0.11 | <2.1 |
| Arsenic | 2.1 | .16 | .29 | 0.052 | <2.1 |
| Barium | 21 | .031 | 2 | -0.021 | <21 |
| Beryllium | 0.21 | .01 | .082 | 0.0 | <0.21 |
| Bismuth | 2.1 | .21 | .54 | | |
| Boron | 10 | .21 | 1.5 | | |
| Cadmium | 0.52 | .031 | .072 | -0.010 | <0.52 |
| Calcium | 520 | .42 | 46 | 7.8 | <520 |
| Chromium | 1.0 | .041 | .38 | 0.10 | <1.0 |
| Cobalt | 5.2 | .041 | .29 | 0.010 | <5.2 |
| Copper | 2.6 | .031 | .87 | 0.38 | <2.6 |
| Iron | 52 | .24 | 20 | 2.6 | <52 |
| Lead | 2.1 | .24 | .42 | 0.010 | <2.1 |
| Lithium | 5.2 | .11 | .95 | | |
| Magnesium | 520 | 3.4 | 14 | 3.5 | <520 |
| Manganese | 1.5 | .01 | .42 | 0.031 | <1.5 |
| Molybdenum | 2.1 | .093 | .33 | | |
| Nickel | 4.1 | .072 | .36 | 0.021 | <4.1 |
| Phosphorus | 21 | .11 | 3.4 | | |
| Potassium | 1000 | 2.7 | 33 | 2.5 | <1000 |
| Selenium | 2.1 | .23 | .67 | -0.14 | <2.1 |
| Silicon | 21 | .9 | 11 | | |
| Silver | 0.52 | .031 | .18 | -0.052 | <0.52 |
| Sodium | 1000 | .62 | 80 | 11.6 | <1000 |
| Strontium | 5.2 | .01 | .19 | | |
| Sulfur | 10 | .22 | 9.7 | | |
| Thallium | 1.0 | .49 | .6 | 0.041 | <1.0 |
| Tin | 21 | .16 | 3.9 | | |
| Titanium | 1.0 | .052 | .35 | | |
| Tungsten | 5.2 | .14 | 1.8 | | |
| Vanadium | 5.2 | .031 | .2 | 0.021 | <5.2 |
| Zinc | 5.2 | .031 | 2.4 | 0.58 | <5.2 |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/08/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Zirconium | 2.1 | .031 | .24 | | |

Associated samples MP14865: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/08/19

| Metal | JC87654-4A Original | MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | 11300 | 17600 | 3430 | 183.8N(a | 75-125 |
| Antimony | 0.67 | 173 | 274 | 62.8N(a) | 75-125 |
| Arsenic | 11.0 | 252 | 274 | 87.9 | 75-125 |
| Barium | 80.4 | 331 | 274 | 91.4 | 75-125 |
| Beryllium | 0.44 | 247 | 274 | 89.9 | 75-125 |
| Bismuth | | | | | |
| Boron | | | | | |
| Cadmium | 0.14 | 247 | 274 | 90.0 | 75-125 |
| Calcium | 3660 | 6870 | 3430 | 93.6 | 75-125 |
| Chromium | 14.0 | 267 | 274 | 92.3 | 75-125 |
| Cobalt | 6.5 | 261 | 274 | 92.8 | 75-125 |
| Copper | 33.9 | 286 | 274 | 91.9 | 75-125 |
| Iron | 16600 | 18500 | 3430 | 55.4 (b) | 75-125 |
| Lead | 115 | 316 | 274 | 73.3N(a) | 75-125 |
| Lithium | | | | | |
| Magnesium | 2420 | 5600 | 3430 | 92.8 | 75-125 |
| Manganese | 241 | 490 | 274 | 90.8 | 75-125 |
| Molybdenum | | | | | |
| Nickel | 18.3 | 273 | 274 | 92.9 | 75-125 |
| Phosphorus | | | | | |
| Potassium | 804 | 4670 | 3430 | 112.8 | 75-125 |
| Selenium | 0.63 | 238 | 274 | 86.6 | 75-125 |
| Silicon | | | | | |
| Silver | 0.30 | 30.7 | 34.3 | 88.7 | 75-125 |
| Sodium | 144 | 3230 | 3430 | 90.0 | 75-125 |
| Strontium | | | | | |
| Sulfur | | | | | |
| Thallium | 0.0 | 258 | 274 | 94.1 | 75-125 |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | 19.9 | 274 | 274 | 92.7 | 75-125 |
| Zinc | 204 | 450 | 274 | 89.7 | 75-125 |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/08/19

| Metal | JC87654-4A Original MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14865: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/08/19

| Metal | JC87654-4A Original | MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | 11300 | 18000 | 3390 | 197.4N(a | 2.2 | 20 |
| Antimony | 0.67 | 172 | 272 | 63.1N(a) | 0.6 | 20 |
| Arsenic | 11.0 | 253 | 272 | 89.1 | 0.4 | 20 |
| Barium | 80.4 | 339 | 272 | 95.2 | 2.4 | 20 |
| Beryllium | 0.44 | 252 | 272 | 92.6 | 2.0 | 20 |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 0.14 | 247 | 272 | 90.9 | 0.0 | 20 |
| Calcium | 3660 | 7090 | 3390 | 101.0 | 3.2 | 20 |
| Chromium | 14.0 | 268 | 272 | 93.5 | 0.4 | 20 |
| Cobalt | 6.5 | 262 | 272 | 94.1 | 0.4 | 20 |
| Copper | 33.9 | 287 | 272 | 93.2 | 0.3 | 20 |
| Iron | 16600 | 19800 | 3390 | 94.3 | 6.8 | 20 |
| Lead | 115 | 326 | 272 | 77.7 | 3.1 | 20 |
| Lithium | | | | | | |
| Magnesium | 2420 | 5690 | 3390 | 96.3 | 1.6 | 20 |
| Manganese | 241 | 487 | 272 | 90.6 | 0.6 | 20 |
| Molybdenum | | | | | | |
| Nickel | 18.3 | 272 | 272 | 93.4 | 0.4 | 20 |
| Phosphorus | | | | | | |
| Potassium | 804 | 4720 | 3390 | 115.4 | 1.1 | 20 |
| Selenium | 0.63 | 237 | 272 | 87.0 | 0.4 | 20 |
| Silicon | | | | | | |
| Silver | 0.30 | 30.8 | 33.9 | 89.8 | 0.3 | 20 |
| Sodium | 144 | 3300 | 3390 | 93.0 | 2.1 | 20 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 0.0 | 257 | 272 | 94.6 | 0.4 | 20 |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 19.9 | 274 | 272 | 93.6 | 0.0 | 20 |
| Zinc | 204 | 452 | 272 | 91.3 | 0.4 | 20 |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/08/19

| Metal | JC87654-4A Original MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|
| Zirconium | | | | | |

Associated samples MP14865: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/08/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | 2350 | 2400 | 97.8 | 80-120 |
| Antimony | 183 | 192 | 95.2 | 80-120 |
| Arsenic | 182 | 192 | 94.6 | 80-120 |
| Barium | 187 | 192 | 97.2 | 80-120 |
| Beryllium | 191 | 192 | 99.3 | 80-120 |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 184 | 192 | 95.7 | 80-120 |
| Calcium | 2400 | 2400 | 99.8 | 80-120 |
| Chromium | 190 | 192 | 98.8 | 80-120 |
| Cobalt | 189 | 192 | 98.3 | 80-120 |
| Copper | 186 | 192 | 96.7 | 80-120 |
| Iron | 2400 | 2400 | 99.8 | 80-120 |
| Lead | 189 | 192 | 98.3 | 80-120 |
| Lithium | | | | |
| Magnesium | 2400 | 2400 | 99.8 | 80-120 |
| Manganese | 192 | 192 | 99.8 | 80-120 |
| Molybdenum | | | | |
| Nickel | 190 | 192 | 98.8 | 80-120 |
| Phosphorus | | | | |
| Potassium | 2280 | 2400 | 94.8 | 80-120 |
| Selenium | 182 | 192 | 94.6 | 80-120 |
| Silicon | | | | |
| Silver | 22.8 | 24 | 94.8 | 80-120 |
| Sodium | 2350 | 2400 | 97.8 | 80-120 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | 193 | 192 | 100.4 | 80-120 |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | 188 | 192 | 97.8 | 80-120 |
| Zinc | 191 | 192 | 99.3 | 80-120 |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/08/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14865: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/08/19

| Metal | JC87654-4A Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | 79400 | 80400 | 1.2 | 0-10 |
| Antimony | 4.70 | 6.50 | 38.3 (a) | 0-10 |
| Arsenic | 77.2 | 81.7 | 5.8 | 0-10 |
| Barium | 563 | 569 | 1.1 | 0-10 |
| Beryllium | 3.10 | 3.30 | 6.5 | 0-10 |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 1.00 | 0.00 | 100.0(a) | 0-10 |
| Calcium | 25600 | 26300 | 2.5 | 0-10 |
| Chromium | 98.1 | 98.6 | 0.5 | 0-10 |
| Cobalt | 45.7 | 45.3 | 0.9 | 0-10 |
| Copper | 237 | 223 | 5.9 | 0-10 |
| Iron | 117000 | 119000 | 2.4 | 0-10 |
| Lead | 808 | 801 | 0.9 | 0-10 |
| Lithium | | | | |
| Magnesium | 17000 | 17300 | 2.0 | 0-10 |
| Manganese | 1690 | 1690 | 0.2 | 0-10 |
| Molybdenum | | | | |
| Nickel | 129 | 126 | 1.8 | 0-10 |
| Phosphorus | | | | |
| Potassium | 5630 | 5050 | 10.3*(b) | 0-10 |
| Selenium | 4.40 | 0.00 | 100.0(a) | 0-10 |
| Silicon | | | | |
| Silver | 2.10 | 5.10 | 142.9(a) | 0-10 |
| Sodium | 1010 | 1060 | 4.7 | 0-10 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | 0.00 | 0.00 | NC | 0-10 |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | 140 | 139 | 0.6 | 0-10 |
| Zinc | 1430 | 1460 | 2.2 | 0-10 |

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 05/08/19

| | JC87654-4A | | QC |
|---|---|---|---|
| Metal | Original SDL 1:5 | %DIF | Limits |
| Zirconium | | | |

Associated samples MP14865: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/08/19

| Metal | Sample ml | Final ml | JC87654-4A Raw | JC87654-4A Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | 19.25 | 20 | 4.7 | 4.52375 | 2001 | 0.2 | 200 | 2000 | 99.8 | 80-120 |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Bismuth | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | 19.25 | 20 | 807.7 | 777.4113 | 2801 | 0.2 | 200 | 2000 | 101.2 | 80-120 |
| Lithium | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Phosphorus | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Sulfur | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14865
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/08/19

| Metal | Sample ml | Final ml | JC87654-4A Raw | JC87654-4A Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Zirconium | | | | | | | | | | |

Associated samples MP14865: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-9, JC87535-10, JC87535-11, JC87535-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/10/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 51 | .86 | 8.2 | 2.2 | <51 |
| Antimony | 2.0 | .12 | .42 | -0.071 | <2.0 |
| Arsenic | 2.0 | .16 | .29 | 0.020 | <2.0 |
| Barium | 20 | .031 | 1.9 | 0.010 | <20 |
| Beryllium | 0.20 | .01 | .082 | -0.010 | <0.20 |
| Bismuth | 2.0 | .2 | .53 | | |
| Boron | 10 | .2 | 1.5 | | |
| Cadmium | 0.51 | .031 | .071 | -0.010 | <0.51 |
| Calcium | 510 | .42 | 45 | 7.3 | <510 |
| Chromium | 1.0 | .041 | .38 | 0.082 | <1.0 |
| Cobalt | 5.1 | .041 | .29 | -0.010 | <5.1 |
| Copper | 2.6 | .031 | .86 | 0.0 | <2.6 |
| Iron | 51 | .23 | 20 | 2.1 | <51 |
| Lead | 2.0 | .23 | .42 | 0.051 | <2.0 |
| Lithium | 5.1 | .11 | .94 | | |
| Magnesium | 510 | 3.3 | 14 | 1.9 | <510 |
| Manganese | 1.5 | .01 | .42 | 0.020 | <1.5 |
| Molybdenum | 2.0 | .092 | .33 | | |
| Nickel | 4.1 | .071 | .36 | 0.061 | <4.1 |
| Phosphorus | 20 | .11 | 3.3 | | |
| Potassium | 1000 | 2.7 | 32 | -1.7 | <1000 |
| Selenium | 2.0 | .22 | .66 | 0.14 | <2.0 |
| Silicon | 20 | .89 | 11 | | |
| Silver | 0.51 | .031 | .17 | -0.16 | <0.51 |
| Sodium | 1000 | .61 | 79 | 13.2 | <1000 |
| Strontium | 5.1 | .01 | .18 | | |
| Sulfur | 10 | .21 | 9.6 | | |
| Thallium | 1.0 | .49 | .59 | -0.020 | <1.0 |
| Tin | 20 | .16 | 3.9 | | |
| Titanium | 1.0 | .051 | .35 | | |
| Tungsten | 5.1 | .14 | 1.8 | | |
| Vanadium | 5.1 | .031 | .19 | 0.061 | <5.1 |
| Zinc | 5.1 | .031 | 2.3 | 0.17 | <5.1 |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/10/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Zirconium | 2.0 | .031 | .23 | | |

Associated samples MP14918: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/10/19

| Metal | JC87535-8 Original | MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | 6860 | 12600 | 3120 | 184.1N(a | 75-125 |
| Antimony | 0.44 | 169 | 249 | 67.6N(a) | 75-125 |
| Arsenic | 11.8 | 249 | 249 | 95.1 | 75-125 |
| Barium | 63.0 | 307 | 249 | 97.8 | 75-125 |
| Beryllium | 0.42 | 232 | 249 | 92.8 | 75-125 |
| Bismuth | | | | | |
| Boron | | | | | |
| Cadmium | 0.40 | 237 | 249 | 94.8 | 75-125 |
| Calcium | 1680 | 4850 | 3120 | 101.7 | 75-125 |
| Chromium | 40.7 | 276 | 249 | 94.3 | 75-125 |
| Cobalt | 7.5 | 248 | 249 | 96.4 | 75-125 |
| Copper | 31.3 | 272 | 249 | 96.5 | 75-125 |
| Iron | 15600 | 18800 | 3120 | 102.6 | 75-125 |
| Lead | 69.3 | 318 | 249 | 99.7 | 75-125 |
| Lithium | | | | | |
| Magnesium | 2360 | 5610 | 3120 | 104.2 | 75-125 |
| Manganese | 379 | 594 | 249 | 86.2 | 75-125 |
| Molybdenum | | | | | |
| Nickel | 14.0 | 252 | 249 | 95.4 | 75-125 |
| Phosphorus | | | | | |
| Potassium | 931 | 4630 | 3120 | 118.6 | 75-125 |
| Selenium | 0.0 | 230 | 249 | 92.2 | 75-125 |
| Silicon | | | | | |
| Silver | 0.0 | 30.0 | 31.2 | 96.2 | 75-125 |
| Sodium | 84.8 | 3130 | 3120 | 97.7 | 75-125 |
| Strontium | | | | | |
| Sulfur | | | | | |
| Thallium | 0.0 | 242 | 249 | 97.0 | 75-125 |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | 13.6 | 254 | 249 | 96.4 | 75-125 |
| Zinc | 156 | 382 | 249 | 90.6 | 75-125 |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/10/19

| Metal | JC87535-8 Original MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14918: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/10/19

| Metal | JC87535-8 Original | MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | 6860 | 12600 | 3180 | 180.5N(a | 0.0 | 20 |
| Antimony | 0.44 | 178 | 254 | 69.8N(a) | 5.2 | 20 |
| Arsenic | 11.8 | 256 | 254 | 96.0 | 2.8 | 20 |
| Barium | 63.0 | 316 | 254 | 99.4 | 2.9 | 20 |
| Beryllium | 0.42 | 239 | 254 | 93.8 | 3.0 | 20 |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 0.40 | 244 | 254 | 95.7 | 2.9 | 20 |
| Calcium | 1680 | 5120 | 3180 | 108.2 | 5.4 | 20 |
| Chromium | 40.7 | 284 | 254 | 95.6 | 2.9 | 20 |
| Cobalt | 7.5 | 255 | 254 | 97.3 | 2.8 | 20 |
| Copper | 31.3 | 280 | 254 | 97.7 | 2.9 | 20 |
| Iron | 15600 | 19000 | 3180 | 106.9 | 1.1 | 20 |
| Lead | 69.3 | 326 | 254 | 100.9 | 2.5 | 20 |
| Lithium | | | | | | |
| Magnesium | 2360 | 5610 | 3180 | 102.2 | 0.0 | 20 |
| Manganese | 379 | 616 | 254 | 93.1 | 3.6 | 20 |
| Molybdenum | | | | | | |
| Nickel | 14.0 | 259 | 254 | 96.3 | 2.7 | 20 |
| Phosphorus | | | | | | |
| Potassium | 931 | 4640 | 3180 | 116.6 | 0.2 | 20 |
| Selenium | 0.0 | 237 | 254 | 93.1 | 3.0 | 20 |
| Silicon | | | | | | |
| Silver | 0.0 | 30.9 | 31.8 | 97.1 | 3.0 | 20 |
| Sodium | 84.8 | 3230 | 3180 | 98.9 | 3.1 | 20 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 0.0 | 250 | 254 | 98.3 | 3.3 | 20 |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 13.6 | 261 | 254 | 97.2 | 2.7 | 20 |
| Zinc | 156 | 389 | 254 | 91.6 | 1.8 | 20 |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/10/19

| Metal | JC87535-8 Original | MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Zirconium | | | | | | |

Associated samples MP14918: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/10/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | 2600 | 2530 | 103.0 | 80-120 |
| Antimony | 197 | 202 | 97.5 | 80-120 |
| Arsenic | 197 | 202 | 97.5 | 80-120 |
| Barium | 206 | 202 | 102.0 | 80-120 |
| Beryllium | 201 | 202 | 99.5 | 80-120 |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 196 | 202 | 97.0 | 80-120 |
| Calcium | 2640 | 2530 | 104.5 | 80-120 |
| Chromium | 203 | 202 | 100.5 | 80-120 |
| Cobalt | 199 | 202 | 98.5 | 80-120 |
| Copper | 202 | 202 | 100.0 | 80-120 |
| Iron | 2660 | 2530 | 105.3 | 80-120 |
| Lead | 212 | 202 | 104.9 | 80-120 |
| Lithium | | | | |
| Magnesium | 2530 | 2530 | 100.2 | 80-120 |
| Manganese | 200 | 202 | 99.0 | 80-120 |
| Molybdenum | | | | |
| Nickel | 197 | 202 | 97.5 | 80-120 |
| Phosphorus | | | | |
| Potassium | 2560 | 2530 | 101.4 | 80-120 |
| Selenium | 191 | 202 | 94.5 | 80-120 |
| Silicon | | | | |
| Silver | 25.1 | 25.3 | 99.4 | 80-120 |
| Sodium | 2630 | 2530 | 104.1 | 80-120 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | 203 | 202 | 100.5 | 80-120 |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | 202 | 202 | 100.0 | 80-120 |
| Zinc | 198 | 202 | 98.0 | 80-120 |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/10/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14918: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/10/19

| Metal | JC87535-8 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | 52800 | 55100 | 4.2 | 0-10 |
| Antimony | 3.40 | 0.00 | 100.0(a) | 0-10 |
| Arsenic | 91.1 | 94.8 | 4.1 | 0-10 |
| Barium | 485 | 503 | 3.7 | 0-10 |
| Beryllium | 3.20 | 2.60 | 18.8 (a) | 0-10 |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 3.10 | 2.80 | 9.7 | 0-10 |
| Calcium | 12900 | 13600 | 5.3 | 0-10 |
| Chromium | 313 | 332 | 6.0 | 0-10 |
| Cobalt | 58.0 | 59.8 | 3.1 | 0-10 |
| Copper | 241 | 246 | 2.0 | 0-10 |
| Iron | 120000 | 126000 | 4.9 | 0-10 |
| Lead | 534 | 546 | 2.3 | 0-10 |
| Lithium | | | | |
| Magnesium | 18200 | 19000 | 4.6 | 0-10 |
| Manganese | 2920 | 3130 | 7.2 | 0-10 |
| Molybdenum | | | | |
| Nickel | 108 | 111 | 3.0 | 0-10 |
| Phosphorus | | | | |
| Potassium | 7180 | 7060 | 1.6 | 0-10 |
| Selenium | 0.00 | 0.00 | NC | 0-10 |
| Silicon | | | | |
| Silver | 0.00 | 0.00 | NC | 0-10 |
| Sodium | 653 | 934 | 43.0*(b) | 0-10 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | 0.00 | 0.00 | NC | 0-10 |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | 105 | 111 | 6.2 | 0-10 |
| Zinc | 1210 | 1260 | 4.6 | 0-10 |

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918 Methods: SW846 6010D
Matrix Type: SOLID Units: ug/l

Prep Date: 05/10/19

| Metal | JC87535-8 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14918: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/10/19

| Metal | Sample ml | Final ml | JC87535-8 Raw | JC87535-8 Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | 19.25 | 20 | 3.4 | 3.2725 | 2021 | 0.2 | 200 | 2000 | 100.9 | 80-120 |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Bismuth | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Lithium | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Phosphorus | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Sulfur | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14918
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/10/19

| Metal | Sample ml | Final ml | JC87535-8 Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Zirconium | | | | | | | | | | |

Associated samples MP14918: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 05/11/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 1.0 | .072 | .23 | | |
| Antimony | 0.50 | .007 | .024 | | |
| Arsenic | 0.50 | .0075 | .014 | 0.0061 | <0.50 |
| Barium | 1.0 | .0025 | .067 | 0.0040 | <1.0 |
| Beryllium | 0.010 | .0005 | .0025 | | |
| Bismuth | 0.10 | .009 | .02 | | |
| Boron | 0.50 | .004 | .31 | | |
| Cadmium | 0.020 | .0015 | .005 | -0.00020 | <0.020 |
| Calcium | 25 | .02 | .5 | | |
| Chromium | 0.050 | .0015 | .01 | -0.00030 | <0.050 |
| Cobalt | 0.25 | .0015 | .013 | | |
| Copper | 0.050 | .003 | .03 | | |
| Iron | 0.50 | .013 | .16 | | |
| Lead | 0.50 | .008 | .009 | 0.0028 | <0.50 |
| Lithium | 0.25 | .011 | .037 | | |
| Magnesium | 25 | .082 | .7 | | |
| Manganese | 0.075 | .0005 | .007 | | |
| Molybdenum | 0.10 | .002 | .018 | | |
| Nickel | 0.050 | .0025 | .0085 | | |
| Phosphorus | 0.25 | .0095 | .089 | | |
| Potassium | 50 | .4 | 1 | | |
| Selenium | 0.50 | .015 | .025 | 0.00020 | <0.50 |
| Silicon | 1.0 | .006 | .51 | | |
| Silver | 0.050 | .0025 | .0095 | -0.00060 | <0.050 |
| Strontium | 0.050 | .0015 | .005 | | |
| Sulfur | 0.25 | .018 | .23 | | |
| Thallium | 0.50 | .0065 | .009 | | |
| Tin | 0.050 | .0035 | .019 | | |
| Titanium | 0.050 | .0025 | .013 | | |
| Tungsten | 0.25 | .0085 | .2 | | |
| Vanadium | 0.25 | .0025 | .009 | | |
| Zinc | 0.10 | .001 | .035 | | |
| Zirconium | 0.050 | .0015 | .021 | | |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966 Methods: SW846 6010D
Matrix Type: LEACHATE Units: mg/l

Prep Date: 05/11/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|

Associated samples MP14966: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 05/11/19

| Metal | JC87414-5R Original | MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | | | | | |
| Antimony | | | | | |
| Arsenic | 0.028 | 2.0 | 2.0 | 98.6 | 75-125 |
| Barium | 1.2 | 3.1 | 2.0 | 95.0 | 75-125 |
| Beryllium | | | | | |
| Bismuth | | | | | |
| Boron | | | | | |
| Cadmium | 0.018 | 1.9 | 2.0 | 94.1 | 75-125 |
| Calcium | | | | | |
| Chromium | 0.0050 | 2.0 | 2.0 | 99.8 | 75-125 |
| Cobalt | | | | | |
| Copper | anr | | | | |
| Iron | | | | | |
| Lead | 1.0 | 3.1 | 2.0 | 105.0 | 75-125 |
| Lithium | | | | | |
| Magnesium | | | | | |
| Manganese | | | | | |
| Molybdenum | | | | | |
| Nickel | anr | | | | |
| Phosphorus | | | | | |
| Potassium | | | | | |
| Selenium | 0.0 | 1.9 | 2.0 | 95.0 | 75-125 |
| Silicon | | | | | |
| Silver | 0.0 | 0.25 | 0.25 | 100.0 | 75-125 |
| Strontium | | | | | |
| Sulfur | | | | | |
| Thallium | | | | | |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | | | | | |
| Zinc | anr | | | | |
| Zirconium | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE
Methods: SW846 6010D
Units: mg/l

Prep Date: 05/11/19

| | JC87414-5R | Spikelot | | QC |
|---|---|---|---|---|
| Metal | Original MS | MPSPK2 | % Rec | Limits |

Associated samples MP14966: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 05/11/19

| Metal | JC87414-5R Original | MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | | | | | | |
| Antimony | | | | | | |
| Arsenic | 0.028 | 1.9 | 2.0 | 93.6 | 5.1 | 20 |
| Barium | 1.2 | 3.1 | 2.0 | 95.0 | 0.0 | 20 |
| Beryllium | | | | | | |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 0.018 | 1.9 | 2.0 | 94.1 | 0.0 | 20 |
| Calcium | | | | | | |
| Chromium | 0.0050 | 1.9 | 2.0 | 94.8 | 5.1 | 20 |
| Cobalt | | | | | | |
| Copper | anr | | | | | |
| Iron | | | | | | |
| Lead | 1.0 | 3.1 | 2.0 | 105.0 | 0.0 | 20 |
| Lithium | | | | | | |
| Magnesium | | | | | | |
| Manganese | | | | | | |
| Molybdenum | | | | | | |
| Nickel | anr | | | | | |
| Phosphorus | | | | | | |
| Potassium | | | | | | |
| Selenium | 0.0 | 1.9 | 2.0 | 95.0 | 0.0 | 20 |
| Silicon | | | | | | |
| Silver | 0.0 | 0.25 | 0.25 | 100.0 | 0.0 | 20 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | | | | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | | | | | | |
| Zinc | anr | | | | | |
| Zirconium | | | | | | |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966 Methods: SW846 6010D
Matrix Type: LEACHATE Units: mg/l

Prep Date: 05/11/19

| | JC87414-5R | Spikelot | | MSD | QC |
|---|---|---|---|---|---|
| Metal | Original MSD | MPSPK2 | % Rec | RPD | Limit |

Associated samples MP14966: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 05/11/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 1.9 | 2.0 | 95.0 | 80-120 |
| Barium | 2.0 | 2.0 | 100.0 | 80-120 |
| Beryllium | | | | |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 1.9 | 2.0 | 95.0 | 80-120 |
| Calcium | | | | |
| Chromium | 2.0 | 2.0 | 100.0 | 80-120 |
| Cobalt | | | | |
| Copper | anr | | | |
| Iron | | | | |
| Lead | 2.2 | 2.0 | 110.0 | 80-120 |
| Lithium | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | anr | | | |
| Phosphorus | | | | |
| Potassium | | | | |
| Selenium | 1.9 | 2.0 | 95.0 | 80-120 |
| Silicon | | | | |
| Silver | 0.25 | 0.25 | 100.0 | 80-120 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | anr | | | |
| Zirconium | | | | |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: mg/l

Prep Date: 05/11/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|

Associated samples MP14966: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/11/19

| Metal | JC87414-5R Original | SDL 5:25 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | 27.9 | 52.7 | 88.9 (a) | 0-10 |
| Barium | 1240 | 1190 | 4.4 | 0-10 |
| Beryllium | | | | |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 18.1 | 16.6 | 8.3 | 0-10 |
| Calcium | | | | |
| Chromium | 5.00 | 0.00 | 100.0(a) | 0-10 |
| Cobalt | | | | |
| Copper | anr | | | |
| Iron | | | | |
| Lead | 1050 | 1070 | 2.6 | 0-10 |
| Lithium | | | | |
| Magnesium | | | | |
| Manganese | | | | |
| Molybdenum | | | | |
| Nickel | anr | | | |
| Phosphorus | | | | |
| Potassium | | | | |
| Selenium | 0.00 | 0.00 | NC | 0-10 |
| Silicon | | | | |
| Silver | 0.00 | 0.00 | NC | 0-10 |
| Sodium | | | | |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | | | | |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | | | | |
| Zinc | anr | | | |

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14966
Matrix Type: LEACHATE

Methods: SW846 6010D
Units: ug/l

Prep Date: 05/11/19

| Metal | JC87414-5R Original SDL 5:25 %DIF | QC Limits |
|---|---|---|
| Zirconium | | |

Associated samples MP14966: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14996 Methods: SW846 7470A
Matrix Type: LEACHATE Units: mg/l

Prep Date: 05/13/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.00020 | .000026 | .000095 | 0.000013 | <0.00020 |

Associated samples MP14996: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14996
Matrix Type: LEACHATE
Methods: SW846 7470A
Units: mg/l

Prep Date: 05/13/19

| Metal | JC87414-5R Original | MS | Spikelot HGPW3 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 0.0 | 0.0021 | 0.0020 | 105.0 | 75-125 |

Associated samples MP14996: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14996 Methods: SW846 7470A
Matrix Type: LEACHATE Units: mg/l

Prep Date: 05/13/19

| Metal | JC87414-5R Original | MSD | Spikelot HGPW3 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 0.0 | 0.0022 | 0.0020 | 110.0 | 4.7 | 20 |

Associated samples MP14996: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14996
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 05/13/19

| Metal | BSP Result | Spikelot HGPW3 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 0.0023 | 0.0020 | 115.0 | 80-120 |

Associated samples MP14996: JC87535-13, JC87535-14, JC87535-15

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14998 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/13/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.033 | .0023 | .015 | 0.0016 | <0.033 |

Associated samples MP14998: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14998
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 05/13/19

| Metal | JC87535-8 Original | MS | Spikelot HGPWS1 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 0.37 | 0.71 | 0.379 | 89.6 | 80-120 |

Associated samples MP14998: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14998 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 05/13/19

| Metal | JC87535-8 Original | MSD | Spikelot HGPWS1 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 0.37 | 0.81 | 0.393 | 111.9 | 13.2 | 20 |

Associated samples MP14998: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14998
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 05/13/19

| Metal | BSP Result | Spikelot HGPWS1 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 0.31 | 0.333 | 93.0 | 80-120 |

Associated samples MP14998: JC87535-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

# Instrument Detection Limits



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG7 **Effective Date:** 05/02/19

| Analyte | IDL ug/l |
|---|---|
| Mercury | .03162 |

The above applies to the following instrument runs:
MA46664

# Instrument Detection Limits



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG8 **Effective Date:** 05/02/19

| Analyte | IDL ug/l |
|---|---|
| Mercury | .0137 |

The above applies to the following instrument runs:
MA46698

# Instrument Detection Limits



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG9 **Effective Date:** 05/02/19

| Analyte | IDL ug/l |
|---|---|
| Mercury | .0263 |

The above applies to the following instrument runs:
MA46697

# Instrument Detection Limits



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** SSTRACE3 **Effective Date:** 02/18/19

| Analyte | IDL ug/l |
|---|---|
| Aluminum | 14.3 |
| Antimony | 1.4 |
| Arsenic | 1.5 |
| Barium | .5 |
| Beryllium | .1 |
| Bismuth | 1.8 |
| Boron | .8 |
| Cadmium | .3 |
| Calcium | 3.9 |
| Chromium | .3 |
| Cobalt | .3 |
| Copper | .6 |
| Iron | 2.6 |
| Lead | 1.6 |
| Lithium | 2.1 |
| Magnesium | 16.3 |
| Manganese | .1 |
| Molybdenum | .4 |
| Nickel | .5 |
| Phosphorus | 1.9 |
| Potassium | 79 |
| Selenium | 3 |
| Silicon | 1.2 |
| Silver | .5 |
| Sodium | 9.9 |
| Sulfur | 3.5 |
| Strontium | .3 |
| Thallium | 1.3 |
| Tin | .7 |
| Titanium | .5 |
| Tungsten | 1.7 |
| Vanadium | .5 |
| Yttrium | 5 |
| Zinc | .2 |
| Zirconium | .3 |

The above applies to the following instrument runs:
MA46702

# Instrument Detection Limits



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** SSTRACE6 **Effective Date:** 01/16/19

| Analyte | IDL ug/l |
|---|---|
| Aluminum | 8.4 |
| Antimony | 1.2 |
| Arsenic | 1.6 |
| Barium | .3 |
| Beryllium | .1 |
| Bismuth | 2 |
| Boron | 2 |
| Cadmium | .3 |
| Calcium | 4.1 |
| Chromium | .4 |
| Cobalt | .4 |
| Copper | .3 |
| Iron | 2.3 |
| Lead | 2.3 |
| Lithium | 1.1 |
| Magnesium | 32.6 |
| Manganese | .1 |
| Molybdenum | .9 |
| Nickel | .7 |
| Phosphorus | 1.1 |
| Potassium | 26.4 |
| Selenium | 2.2 |
| Silicon | 8.7 |
| Silver | .3 |
| Sodium | 6 |
| Sulfur | 2.1 |
| Strontium | .1 |
| Thallium | 4.8 |
| Tin | 1.6 |
| Titanium | .5 |
| Tungsten | 1.4 |
| Vanadium | .3 |
| Zinc | .3 |
| Zirconium | .3 |

The above applies to the following instrument runs:
MA46680,MA46687,MA46695

# Instrument Linear Ranges



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG7 **Effective Date:** 03/10/17

| Analyte | Linear Range ug/l |
|---|---|
| Mercury | 5 |

The above applies to the following instrument runs:
MA46664

# Instrument Linear Ranges



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG8 **Effective Date:** 03/10/17

| Analyte | Linear Range ug/l |
|---|---|
| Mercury | 5 |

The above applies to the following instrument runs:
MA46698

# Instrument Linear Ranges



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG9 **Effective Date:** 02/26/18

| Analyte | Linear Range ug/l |
|---|---|
| Mercury | 5 |

The above applies to the following instrument runs:
MA46697

# Instrument Linear Ranges



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** SSTRACE3 **Effective Date:** 07/16/18

| Analyte | Linear Range ug/l |
|---|---|
| Aluminum | 300000 |
| Antimony | 8000 |
| Arsenic | 8000 |
| Barium | 8000 |
| Beryllium | 8000 |
| Bismuth | 8000 |
| Boron | 8000 |
| Cadmium | 8000 |
| Calcium | 200000 |
| Chromium | 8000 |
| Cobalt | 8000 |
| Copper | 8000 |
| Iron | 200000 |
| Lead | 8000 |
| Lithium | 8000 |
| Magnesium | 300000 |
| Manganese | 8000 |
| Molybdenum | 8000 |
| Nickel | 8000 |
| Palladium | 8000 |
| Phosphorus | 8000 |
| Potassium | 200000 |
| Selenium | 8000 |
| Silicon | 25000 |
| Silver | 625 |
| Sodium | 200000 |
| Sulfur | 100000 |
| Strontium | 8000 |
| Thallium | 8000 |
| Tin | 8000 |
| Titanium | 8000 |
| Tungsten | 8000 |
| Vanadium | 8000 |
| Zinc | 8000 |
| Zirconium | 8000 |

The above applies to the following instrument runs:
MA46702

# Instrument Linear Ranges



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** SSTRACE6 **Effective Date:** 07/16/18

| Analyte | Linear Range ug/l |
|---|---|
| Aluminum | 300000 |
| Antimony | 8000 |
| Arsenic | 8000 |
| Barium | 8000 |
| Beryllium | 8000 |
| Bismuth | 8000 |
| Boron | 8000 |
| Cadmium | 8000 |
| Calcium | 200000 |
| Chromium | 8000 |
| Cobalt | 8000 |
| Copper | 8000 |
| Iron | 200000 |
| Lead | 8000 |
| Lithium | 8000 |
| Magnesium | 300000 |
| Manganese | 8000 |
| Molybdenum | 8000 |
| Nickel | 8000 |
| Palladium | 8000 |
| Phosphorus | 8000 |
| Potassium | 200000 |
| Selenium | 8000 |
| Silicon | 25000 |
| Silver | 625 |
| Sodium | 200000 |
| Sulfur | 100000 |
| Strontium | 8000 |
| Thallium | 8000 |
| Tin | 8000 |
| Titanium | 8000 |
| Tungsten | 8000 |
| Vanadium | 8000 |
| Zinc | 8000 |
| Zirconium | 8000 |

The above applies to the following instrument runs:
MA46680,MA46687,MA46695

## Metals Analysis

Raw Data

# MA46664

Method: ACCUTEST Operator: Admin Date of Analysis: 07 May 2019 11:47:07

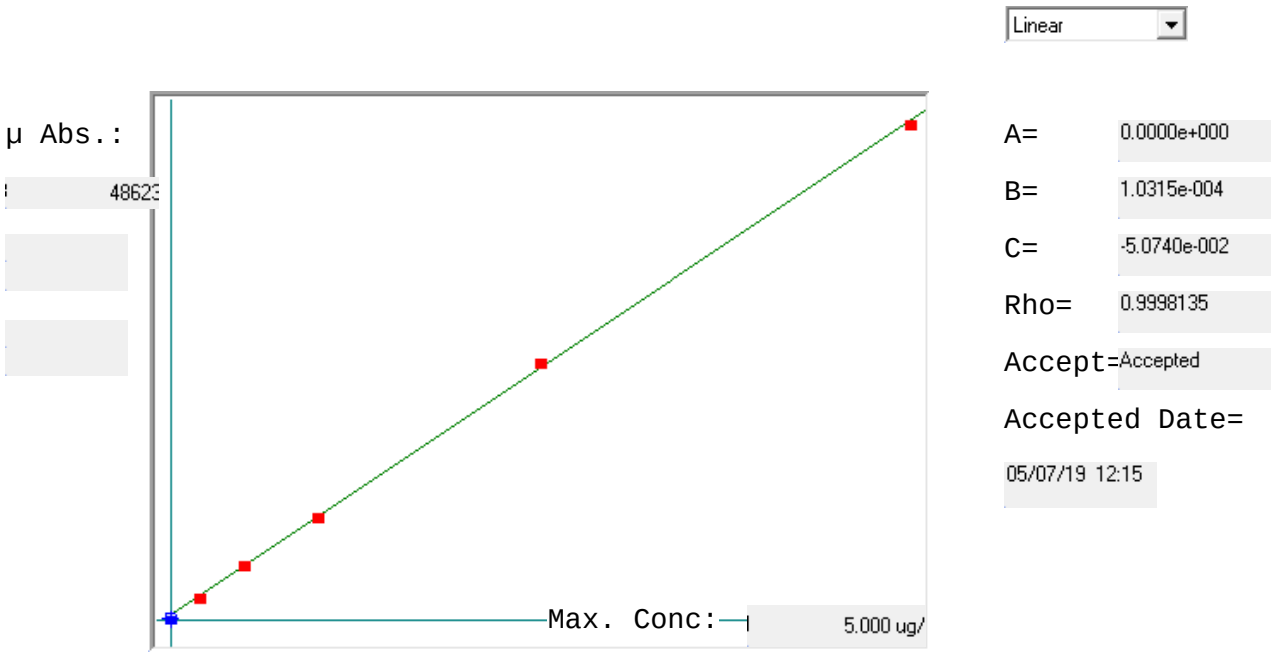
| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| STDA - 1 | 07 May 2019 12:01:20 | Std | ug/l | - | 272 | 1.000 | 1.000 |
| STDB - 1 | 07 May 2019 12:02:38 | Std | ug/l | - | 2205 | 1.000 | 1.000 |
| STDC - 1 | 07 May 2019 12:03:58 | Std | ug/l | - | 5463 | 1.000 | 1.000 |
| STDD - 1 | 07 May 2019 12:05:39 | Std | ug/l | - | 11530 | 1.000 | 1.000 |
| STDE - 1 | 07 May 2019 12:07:30 | Std | ug/l | - | 25372 | 1.000 | 1.000 |
| STDF - 1 | 07 May 2019 12:09:24 | Std | ug/l | - | 48623 | 1.000 | 1.000 |
| STDD - 1 | 07 May 2019 12:13:28 | Std | ug/l | - | 10208 | 1.000 | 1.000 |
| ICV - 1 | 07 May 2019 12:15:29 | CK STND | ug/l | 106.2% 3.1870 | 31389 | 1.000 | 1.000 |
| ICB - 1 | 07 May 2019 12:17:02 | CK STND | ug/l | -0.0710 | -196 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 12:19:08 | CK STND | ug/l | 99.6% 2.4898 | 24630 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 12:20:28 | CK STND | ug/l | -0.0720 | -206 | 1.000 | 1.000 |
| CRI - 1 | 07 May 2019 12:22:31 | CK STND | ug/l | 86.5% 0.1730 | 2169 | 1.000 | 1.000 |
| MP14857-MB1 - 1 | 07 May 2019 12:25:05 | SMPL | ug/l | -0.0207 | 291 | 1.000 | 1.000 |
| MP14857-B1 - 1 | 07 May 2019 12:26:21 | SMPL | ug/l | 2.0512 | 20378 | 1.000 | 1.000 |
| MP14857-S1 - 1 | 07 May 2019 12:27:39 | SMPL | ug/l | 1.9379 | 19279 | 1.000 | 1.000 |
| MP14857-S2 - 1 | 07 May 2019 12:29:50 | SMPL | ug/l | 1.9822 | 19709 | 1.000 | 1.000 |
| JC87325-1 - 1 | 07 May 2019 12:31:59 | SMPL | ug/l | -0.0463 | 43 | 1.000 | 1.000 |
| JC87325-2 - 1 | 07 May 2019 12:34:04 | SMPL | ug/l | -0.0385 | 119 | 1.000 | 1.000 |
| JC87499-1 - 1 | 07 May 2019 12:35:24 | SMPL | ug/l | 0.1854 | 2289 | 1.000 | 1.000 |
| JC87499-2 - 1 | 07 May 2019 12:36:45 | SMPL | ug/l | 0.0420 | 899 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 12:38:27 | CK STND | ug/l | 98.7% 2.4685 | 24423 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 12:40:01 | CK STND | ug/l | -0.0508 | -1 | 1.000 | 1.000 |
| JC87499-3 - 1 | 07 May 2019 12:42:06 | SMPL | ug/l | 0.3181 | 3576 | 1.000 | 1.000 |
| JC87499-4 - 1 | 07 May 2019 12:43:26 | SMPL | ug/l | 0.0989 | 1451 | 1.000 | 1.000 |
| JC87422-5 - 1 | 07 May 2019 12:45:14 | SMPL | ug/l | 0.0854 | 1320 | 1.000 | 1.000 |
| JC87396-1 - 1 | 07 May 2019 12:46:53 | SMPL | ug/l | 0.5614 | 5935 | 1.000 | 1.000 |
| JC87364-1 - 1 | 07 May 2019 12:48:32 | SMPL | ug/l | 0.0740 | 1209 | 1.000 | 1.000 |
| JC87364-2 - 1 | 07 May 2019 12:50:24 | SMPL | ug/l | 0.0880 | 1345 | 1.000 | 1.000 |
| JC87364-3 - 1 | 07 May 2019 12:51:58 | SMPL | ug/l | 0.1609 | 2052 | 1.000 | 1.000 |
| JC87364-4 - 1 | 07 May 2019 12:53:35 | SMPL | ug/l | 0.0236 | 721 | 1.000 | 1.000 |
| JC87364-5 - 1 | 07 May 2019 12:55:16 | SMPL | ug/l | 0.0358 | 839 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 12:56:46 | CK STND | ug/l | 97.2% 2.4296 | 24046 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 12:58:19 | CK STND | ug/l | -0.0500 | 7 | 1.000 | 1.000 |
| JC87364-6 - 1 | 07 May 2019 13:00:23 | SMPL | ug/l | 0.0599 | 1073 | 1.000 | 1.000 |
| JC87364-7 - 1 | 07 May 2019 13:01:43 | SMPL | ug/l | 0.1156 | 1613 | 1.000 | 1.000 |
| JC87364-8 - 1 | 07 May 2019 13:03:17 | SMPL | ug/l | 0.0035 | 526 | 1.000 | 1.000 |
| JC87364-9 - 1 | 07 May 2019 13:04:57 | SMPL | ug/l | 0.0448 | 926 | 1.000 | 1.000 |
| JC87364-10 - 1 | 07 May 2019 13:06:25 | SMPL | ug/l | -0.0098 | 397 | 1.000 | 1.000 |
| JC87364-11 - 1 | 07 May 2019 13:08:00 | SMPL | ug/l | 0.0433 | 912 | 1.000 | 1.000 |
| JC87364-12 - 1 | 07 May 2019 13:09:27 | SMPL | ug/l | -0.0250 | 250 | 1.000 | 1.000 |
| MP14858-MB1 - 1 | 07 May 2019 13:11:01 | SMPL | ug/l | -0.0724 | -210 | 1.000 | 1.000 |
| MP14858-B1 - 1 | 07 May 2019 13:12:21 | SMPL | ug/l | 2.0398 | 20267 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 13:13:40 | CK STND | ug/l | 98.7% 2.4665 | 24404 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 13:15:47 | CK STND | ug/l | -0.0531 | -23 | 1.000 | 1.000 |
| MP14858-S1 - 1 | 07 May 2019 13:17:52 | SMPL | ug/l | 1.7886 | 17832 | 1.000 | 1.000 |
| MP14858-S2 - 1 | 07 May 2019 13:19:11 | SMPL | ug/l | 1.7280 | 17244 | 1.000 | 1.000 |
| JC87450-16 - 1 | 07 May 2019 13:21:15 | SMPL | ug/l | -0.0361 | 142 | 1.000 | 1.000 |
| JC87450-1 - 1 | 07 May 2019 13:23:19 | SMPL | ug/l | -0.0398 | 106 | 1.000 | 1.000 |
| JC87450-2 - 1 | 07 May 2019 13:24:39 | SMPL | ug/l | -0.0651 | -139 | 1.000 | 1.000 |
| JC87450-3 - 1 | 07 May 2019 13:25:59 | SMPL | ug/l | -0.0010 | 482 | 1.000 | 1.000 |
| JC87450-4 - 1 | 07 May 2019 13:27:19 | SMPL | ug/l | -0.0377 | 126 | 1.000 | 1.000 |
| JC87450-5 - 1 | 07 May 2019 13:28:47 | SMPL | ug/l | -0.0441 | 64 | 1.000 | 1.000 |
| JC87450-6 - 1 | 07 May 2019 13:30:08 | SMPL | ug/l | -0.0091 | 404 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 13:31:29 | CK STND | ug/l | 94.7% 2.3668 | 23437 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 13:32:55 | CK STND | ug/l | -0.0438 | 67 | 1.000 | 1.000 |
| JC87450-7 - 1 | 07 May 2019 13:35:00 | SMPL | ug/l | -0.0499 | 8 | 1.000 | 1.000 |
| JC87450-8 - 1 | 07 May 2019 13:36:22 | SMPL | ug/l | 0.1134 | 1591 | 1.000 | 1.000 |
| JC87450-9 - 1 | 07 May 2019 13:37:42 | SMPL | ug/l | -0.0166 | 331 | 1.000 | 1.000 |
| JC87450-10 - 1 | 07 May 2019 13:39:20 | SMPL | ug/l | -0.0764 | -249 | 1.000 | 1.000 |
| JC87450-11 - 1 | 07 May 2019 13:40:42 | SMPL | ug/l | -0.0060 | 434 | 1.000 | 1.000 |
| JC87450-12 - 1 | 07 May 2019 13:42:00 | SMPL | ug/l | -0.0333 | 169 | 1.000 | 1.000 |
| JC87450-13 - 1 | 07 May 2019 13:43:22 | SMPL | ug/l | -0.0523 | -15 | 1.000 | 1.000 |
| JC87450-14 - 1 | 07 May 2019 13:44:42 | SMPL | ug/l | -0.0678 | -165 | 1.000 | 1.000 |
| JC87450-15 - 1 | 07 May 2019 13:46:02 | SMPL | ug/l | -0.0486 | 21 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 13:47:21 | CK STND | ug/l | 101.0% 2.5240 | 24961 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 13:48:40 | CK STND | ug/l | -0.0540 | -32 | 1.000 | 1.000 |
| JC87450-17 - 1 | 07 May 2019 13:50:48 | SMPL | ug/l | -0.0296 | 205 | 1.000 | 1.000 |
| JC87421-1 - 1 | 07 May 2019 13:52:08 | SMPL | ug/l | 0.1353 | 1804 | 1.000 | 1.000 |
| JC87421-5 - 1 | 07 May 2019 13:53:28 | SMPL | ug/l | 1.6057 | 16059 | 1.000 | 1.000 |

# MA46664

Method: ACCUTEST Operator: Admin Date of Analysis: 07 May 2019 11:47:07

| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| JC87421-10 - 1 | 07 May 2019 13:55:10 | SMPL | ug/l | 0.2273 | 2696 | 1.000 | 1.000 |
| MP14859-MB1 - 1 | 07 May 2019 13:57:17 | SMPL | ug/l | -0.0592 | -82 | 1.000 | 1.000 |
| MP14859-B1 - 1 | 07 May 2019 13:59:01 | SMPL | ug/l | 2.1185 | 21030 | 1.000 | 1.000 |
| MP14859-S1 - 1 | 07 May 2019 14:00:19 | SMPL | ug/l | 2.1756 | 21584 | 1.000 | 1.000 |
| MP14859-S2 - 1 | 07 May 2019 14:02:29 | SMPL | ug/l | 2.2424 | 22231 | 1.000 | 1.000 |
| JC87535-7 - 1 | 07 May 2019 14:04:37 | SMPL | ug/l | 0.1801 | 2238 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 14:06:47 | CK STND | ug/l | 102.2% 2.5556 | 25268 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 14:08:32 | CK STND | ug/l | -0.0578 | -68 | 1.000 | 1.000 |
| JC87535-1 - 1 | 07 May 2019 14:10:39 | SMPL | ug/l | 0.3055 | 3454 | 1.000 | 1.000 |
| JC87535-2 - 1 | 07 May 2019 14:11:58 | SMPL | ug/l | -0.0165 | 332 | 1.000 | 1.000 |
| JC87535-3 - 1 | 07 May 2019 14:13:43 | SMPL | ug/l | 17.1951 | 167194 | 1.000 | 1.000 |
| JC87535-4 - 1 | 07 May 2019 14:15:08 | SMPL | ug/l | 3.9885 | 39159 | 1.000 | 1.000 |
| JC87535-5 - 1 | 07 May 2019 14:17:54 | SMPL | ug/l | 0.4704 | 5052 | 1.000 | 1.000 |
| JC87535-6 - 1 | 07 May 2019 14:20:10 | SMPL | ug/l | 0.0776 | 1244 | 1.000 | 1.000 |
| JC87535-8 - 1 | 07 May 2019 14:22:01 | SMPL | ug/l | 5.8729 | 57428 | 1.000 | 1.000 |
| JC87535-9 - 1 | 07 May 2019 14:23:40 | SMPL | ug/l | 1.8451 | 18380 | 1.000 | 1.000 |
| JC87535-10 - 1 | 07 May 2019 14:26:02 | SMPL | ug/l | 8.2835 | 80798 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 14:28:10 | CK STND | ug/l | 98.8% 2.4693 | 24431 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 14:30:40 | CK STND | ug/l | -0.0677 | -164 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:32:48 | SMPL | ug/l | 2.2267 | 22079 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:34:08 | SMPL | ug/l | 3.4056 | 33508 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:36:19 | SMPL | ug/l | 0.7478 | 7742 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:38:38 | SMPL | ug/l | 1.2427 | 12540 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:40:35 | SMPL | ug/l | 0.2822 | 3228 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:42:37 | SMPL | ug/l | -0.0181 | 316 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:44:25 | SMPL | ug/l | -0.0319 | 183 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:45:51 | SMPL | ug/l | -0.0835 | -318 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:47:12 | SMPL | ug/l | -0.0453 | 53 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:48:30 | CK STND | ug/l | (L)-3.5% -0.0874 | -355 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 14:58:00 | CK STND | ug/l | (L)-1.4% -0.0343 | 159 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 15:35:10 | CK STND | ug/l | 97.5% 2.4386 | 24133 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 15:36:27 | CK STND | ug/l | -0.0356 | 147 | 1.000 | 1.000 |
| JC87535-11 - 1 | 07 May 2019 15:38:31 | SMPL | ug/l | 2.1319 | 21160 | 1.000 | 1.000 |
| JC87535-12 - 1 | 07 May 2019 15:39:52 | SMPL | ug/l | 3.2400 | 31903 | 1.000 | 1.000 |
| JC87423-4A - 1 | 07 May 2019 15:41:55 | SMPL | ug/l | 0.7125 | 7399 | 1.000 | 1.000 |
| JC87423-5A - 1 | 07 May 2019 15:44:06 | SMPL | ug/l | 1.2155 | 12276 | 1.000 | 1.000 |
| JC87520-1 - 1 | 07 May 2019 15:46:00 | SMPL | ug/l | 0.2959 | 3361 | 1.000 | 1.000 |
| JC87530-1 - 1 | 07 May 2019 15:48:01 | SMPL | ug/l | -0.0147 | 349 | 1.000 | 1.000 |
| JC87530-2 - 1 | 07 May 2019 15:49:48 | SMPL | ug/l | -0.0346 | 156 | 1.000 | 1.000 |
| JC87530-3 - 1 | 07 May 2019 15:51:16 | SMPL | ug/l | -0.0383 | 121 | 1.000 | 1.000 |
| JC87435-3 - 1 | 07 May 2019 15:52:37 | SMPL | ug/l | 0.4980 | 5320 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 15:54:01 | CK STND | ug/l | 92.3% 2.3085 | 22872 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 15:55:51 | CK STND | ug/l | -0.0346 | 156 | 1.000 | 1.000 |
| JC86916-14 - 1 | 07 May 2019 15:57:57 | SMPL | ug/l | 2.7074 | 26739 | 1.000 | 1.000 |
| JC87535-3 - 1 | 07 May 2019 15:59:19 | SMPL | ug/l | 15.4048 | 30361 | 1.000 | 5.000 |
| JC87535-4 - 1 | 07 May 2019 16:01:27 | SMPL | ug/l | 3.5516 | 34924 | 1.000 | 1.000 |
| JC87535-8 - 1 | 07 May 2019 16:03:37 | SMPL | ug/l | 4.9992 | 24725 | 1.000 | 2.000 |
| JC87535-10 - 1 | 07 May 2019 16:05:53 | SMPL | ug/l | 7.1414 | 35109 | 1.000 | 2.000 |
| JC87535-3 - 1 | 07 May 2019 16:08:00 | SMPL | ug/l | 15.0773 | 29726 | 1.000 | 5.000 |
| JC87535-8 - 1 | 07 May 2019 16:10:15 | SMPL | ug/l | 4.8569 | 24035 | 1.000 | 2.000 |
| JC87535-10 - 1 | 07 May 2019 16:12:24 | SMPL | ug/l | 6.8811 | 13834 | 1.000 | 5.000 |
| SAMPLECONF - 1 | 07 May 2019 16:14:32 | CK STND | ug/l | (L)66.7% 0.1335 | 1786 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 16:17:08 | CK STND | ug/l | 92.0% 2.3004 | 22794 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 16:18:29 | CK STND | ug/l | -0.0463 | 43 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 07 May 2019 16:20:46 | CK STND | ug/l | (L)69.1% 0.1382 | 1832 | 1.000 | 1.000 |
| CRI - 1 | 07 May 2019 16:23:16 | SMPL | ug/l | 0.1776 | 2214 | 1.000 | 1.000 |
| CCV - 1 | 07 May 2019 16:25:22 | CK STND | ug/l | 93.2% 2.3289 | 23070 | 1.000 | 1.000 |
| CCB - 1 | 07 May 2019 16:26:39 | CK STND | ug/l | -0.0508 | -1 | 1.000 | 1.000 |

ACCUTEST




| Std ID | Conc. | Calc. | Dev. | Mean | SD or %RSD | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| STDA | 0.000 | -0.023 | -0.023 | 272 | 0.000 | 272 | | | | |
| STDB | 0.200 | 0.177 | -0.023 | 2205 | 0.0 % | 2205 | | | | |
| STDC | 0.500 | 0.513 | 0.013 | 5463 | 0.0 % | 5463 | | | | |
| STDD | 1.000 | 1.002 | 0.002 | 10208 | 0.0 % | 10208 | | | | |
| STDE | 2.500 | 2.566 | 0.066 | 25372 | 0.0 % | 25372 | | | | |
| STDF | 5.000 | 4.965 | -0.035 | 48623 | 0.0 % | 48623 | | | | |

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/8/2019 15:50:04 Type: Cal
Method: SGS NO VALVE3(v361) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0058** | **-.0011** | **-.0001** | **-.0000** | **.0000** | **.0097** | **-.0000** | **-.0003** | **-.0018** |
| Stddev | .0012 | .0002 | .0001 | .0000 | .0001 | .0000 | .0000 | .0001 | .0001 |
| %RSD | 20.28 | 21.83 | 53.58 | 33.62 | 449.9 | .3931 | 78.43 | 28.00 | 7.582 |
| #1 | .0062 | -.0008 | -.0002 | -.0000 | .0000 | .0097 | -.0000 | -.0004 | -.0017 |
| #2 | .0045 | -.0013 | -.0000 | -.0000 | .0001 | .0097 | -.0000 | -.0002 | -.0020 |
| #3 | .0067 | -.0013 | -.0001 | -.0000 | -.0001 | .0098 | -.0000 | -.0003 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.0008** | **.0005** | **-.0005** | **-.0001** | **-.0001** | **.0005** | **.0006** | **-.0008** | **.0054** |
| Stddev | .0000 | .0002 | .0001 | .0001 | .0001 | .0001 | .0002 | .0002 | .0003 |
| %RSD | 3.149 | 41.64 | 15.39 | 68.30 | 83.14 | 13.99 | 27.76 | 24.43 | 4.882 |
| #1 | -.0008 | .0007 | -.0006 | -.0001 | -.0002 | .0005 | .0006 | -.0006 | .0051 |
| #2 | -.0009 | .0005 | -.0005 | -.0001 | -.0000 | .0004 | .0004 | -.0007 | .0057 |
| #3 | -.0008 | .0003 | -.0004 | -.0000 | -.0001 | .0004 | .0007 | -.0010 | .0053 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0000** | **.0001** | **-.0108** | **-.0130** | **.0005** | **.0004** | **.0024** | **.0002** | **-.0003** |
| Stddev | .0001 | .0001 | .0021 | .0005 | .0001 | .0001 | .0002 | .0000 | .0007 |
| %RSD | 2499. | 72.98 | 18.93 | 3.720 | 14.41 | 31.32 | 7.901 | 5.029 | 255.0 |
| #1 | .0001 | .0001 | -.0112 | -.0135 | .0004 | .0003 | .0024 | .0002 | -.0008 |
| #2 | -.0001 | .0002 | -.0086 | -.0131 | .0006 | .0006 | .0022 | .0002 | .0005 |
| #3 | .0000 | .0001 | -.0127 | -.0125 | .0005 | .0004 | .0026 | .0002 | -.0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.0018** | **.0028** | **-.0011** | **.0003** | **-.0006** | **-.0130** | **-.0033** |
| Stddev | .0000 | .0000 | .0001 | .0001 | .0001 | .0016 | .0001 |
| %RSD | 1.405 | .6617 | 8.676 | 40.68 | 9.968 | 12.68 | 2.400 |
| #1 | -.0018 | .0028 | -.0010 | .0003 | -.0005 | -.0146 | -.0033 |
| #2 | -.0018 | .0028 | -.0011 | .0005 | -.0006 | -.0130 | -.0034 |
| #3 | -.0018 | .0027 | -.0011 | .0002 | -.0006 | -.0113 | -.0033 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/8/2019 15:50:04 Type: Cal
Method: SGS NO VALVE3(v361) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84503.** | **9148.0** | **6064.8** | **12544.** |
| Stddev | 387. | 26.0 | 8.6 | 7. |
| %RSD | .45779 | .28443 | .14133 | .05851 |
| #1 | 84315. | 9172.3 | 6054.9 | 12542. |
| #2 | 84948. | 9151.1 | 6070.6 | 12552. |
| #3 | 84246. | 9120.5 | 6068.8 | 12538. |



◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 5/8/2019 15:55:12 Type: Cal
Method: SGS NO VALVE3(v361) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **11.84** | **9.827** | **4.586** | **2.357** | **1.015** | **1.698** | **2.171** | **1.533** | **.1296** |
| Stddev | .03 | .025 | .019 | .010 | .002 | .004 | .011 | .007 | .0002 |
| %RSD | .2549 | .2585 | .4120 | .4128 | .2077 | .2249 | .4935 | .4493 | .1279 |
| #1 | 11.86 | 9.850 | 4.607 | 2.368 | 1.016 | 1.701 | 2.172 | 1.541 | .1295 |
| #2 | 11.86 | 9.832 | 4.571 | 2.350 | 1.016 | 1.700 | 2.181 | 1.529 | .1297 |
| #3 | 11.81 | 9.800 | 4.579 | 2.352 | 1.012 | 1.694 | 2.160 | 1.529 | .1294 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.380** | **5.896** | **.6145** | **.2436** | **.7619** | **.4361** | **.7075** | **4.122** | **6.682** |
| Stddev | .003 | .030 | .0026 | .0009 | .0031 | .0021 | .0030 | .012 | .022 |
| %RSD | .1908 | .5055 | .4194 | .3667 | .4039 | .4866 | .4247 | .2927 | .3374 |
| #1 | 1.382 | 5.931 | .6174 | .2446 | .7655 | .4386 | .7108 | 4.128 | 6.700 |
| #2 | 1.382 | 5.879 | .6131 | .2430 | .7604 | .4352 | .7049 | 4.129 | 6.689 |
| #3 | 1.377 | 5.880 | .6129 | .2431 | .7600 | .4346 | .7068 | 4.108 | 6.656 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2.812** | **.4681** | **3.281** | **11.34** | **.9993** | **3.378** | **2.038** | **.7014** | **9.564** |
| Stddev | .009 | .0024 | .010 | .04 | .0037 | .017 | .009 | .0031 | .025 |
| %RSD | .3380 | .5224 | .3088 | .3586 | .3748 | .4905 | .4553 | .4372 | .2603 |
| #1 | 2.820 | .4684 | 3.287 | 11.37 | 1.003 | 3.397 | 2.048 | .7050 | 9.582 |
| #2 | 2.815 | .4703 | 3.286 | 11.35 | .9958 | 3.365 | 2.030 | .6995 | 9.574 |
| #3 | 2.802 | .4654 | 3.269 | 11.30 | .9989 | 3.373 | 2.036 | .6999 | 9.535 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.435** | **1.785** | **3.105** | **.3825** | **.8479** | **4.364** | **.6541** |
| Stddev | .003 | .008 | .018 | .0022 | .0033 | .011 | .0030 |
| %RSD | .1979 | .4294 | .5668 | .5712 | .3902 | .2591 | .4577 |
| #1 | 1.437 | 1.794 | 3.104 | .3848 | .8510 | 4.371 | .6576 |
| #2 | 1.436 | 1.780 | 3.088 | .3805 | .8444 | 4.370 | .6525 |
| #3 | 1.432 | 1.782 | 3.123 | .3822 | .8483 | 4.351 | .6523 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 5/8/2019 15:55:12 Type: Cal
Method: SGS NO VALVE3(v361) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82101.** | **9209.5** | **5891.1** | **11996.** |
| Stddev | 314. | 58.4 | 22.2 | 40. |
| %RSD | .38286 | .63381 | .37668 | .32943 |
| #1 | 82156. | 9160.6 | 5865.5 | 11950. |
| #2 | 81762. | 9193.9 | 5904.2 | 12012. |
| #3 | 82384. | 9274.1 | 5903.7 | 12024. |

Zoom In Zoom Out

Sample Name: ccvconf Acquired: 5/8/2019 16:00:20 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.016** | **2.034** | **2.001** | **2.019** | **2.023** | **1.985** | **2.045** | **2.042** | **.2468** |
| Stddev | .001 | .002 | .003 | .006 | .011 | .012 | .018 | .004 | .0008 |
| %RSD | .0285 | .0897 | .1593 | .3178 | .5376 | .5880 | .8777 | .1765 | .3353 |
| #1 | 2.016 | 2.033 | 2.000 | 2.014 | 2.010 | 1.972 | 2.028 | 2.038 | .2463 |
| #2 | 2.015 | 2.033 | 1.998 | 2.017 | 2.030 | 1.994 | 2.064 | 2.042 | .2478 |
| #3 | 2.015 | 2.036 | 2.004 | 2.026 | 2.028 | 1.988 | 2.044 | 2.045 | .2464 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.010** | **2.039** | **1.976** | **2.055** | **2.023** | **1.999** | **1.977** | **40.11** | **40.44** |
| Stddev | .012 | .002 | .003 | .006 | .004 | .007 | .003 | .02 | .04 |
| %RSD | .5743 | .1049 | .1705 | .2893 | .1734 | .3767 | .1609 | .0464 | .1070 |
| #1 | 1.997 | 2.036 | 1.974 | 2.048 | 2.020 | 1.999 | 1.976 | 40.11 | 40.41 |
| #2 | 2.020 | 2.039 | 1.975 | 2.059 | 2.027 | 1.992 | 1.975 | 40.10 | 40.43 |
| #3 | 2.014 | 2.041 | 1.980 | 2.057 | 2.023 | 2.007 | 1.981 | 40.14 | 40.49 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.73** | **40.50** | **39.67** | **40.17** | **2.004** | **1.993** | **4.906** | **2.013** | **2.026** |
| Stddev | .01 | .04 | .03 | .02 | .004 | .004 | .011 | .002 | .001 |
| %RSD | .0349 | .1030 | .0695 | .0549 | .2268 | .2176 | .2137 | .1042 | .0513 |
| #1 | 40.75 | 40.50 | 39.65 | 40.15 | 2.001 | 1.990 | 4.903 | 2.014 | 2.027 |
| #2 | 40.72 | 40.46 | 39.70 | 40.17 | 2.001 | 1.991 | 4.897 | 2.011 | 2.025 |
| #3 | 40.73 | 40.54 | 39.66 | 40.19 | 2.009 | 1.998 | 4.918 | 2.015 | 2.027 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccvconf Acquired: 5/8/2019 16:00:20 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.981** | **1.952** | **1.991** | **1.980** | **1.994** | **2.000** | **2.009** |
| Stddev | .011 | .005 | .013 | .006 | .003 | .001 | .003 |
| %RSD | .5634 | .2355 | .6356 | .2838 | .1647 | .0451 | .1678 |
| #1 | 1.969 | 1.948 | 1.976 | 1.976 | 1.991 | 1.999 | 2.006 |
| #2 | 1.991 | 1.951 | 2.000 | 1.978 | 1.993 | 2.001 | 2.008 |
| #3 | 1.983 | 1.957 | 1.996 | 1.986 | 1.997 | 2.000 | 2.013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82900.** | **9170.5** | **5943.6** | **12088.** |
| Stddev | 442. | 34.4 | 10.2 | 18. |
| %RSD | .53338 | .37533 | .17170 | .14767 |
| #1 | 83338. | 9186.3 | 5940.6 | 12094. |
| #2 | 82454. | 9131.0 | 5935.2 | 12067. |
| #3 | 82908. | 9194.1 | 5954.9 | 12102. |



Zoom In Zoom Out

Sample Name: ccbconf Acquired: 5/8/2019 16:05:22 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0000** | **.0001** | **.0001** | **.0001** | **-.0002** | **-.0000** | **.0003** | **.0003** |
| Stddev | .0004 | .0000 | .0001 | .0002 | .0002 | .0003 | .0000 | .0002 | .0002 |
| %RSD | 357.1 | 129.3 | 123.1 | 377.9 | 284.2 | 134.3 | 165.8 | 52.38 | 64.90 |
| #1 | -.0004 | .0001 | .0001 | -.0001 | -.0000 | -.0006 | -.0000 | .0003 | .0003 |
| #2 | -.0002 | -.0000 | .0001 | -.0000 | -.0001 | -.0001 | -.0000 | .0001 | .0001 |
| #3 | .0003 | .0001 | -.0000 | .0003 | .0003 | -.0000 | .0000 | .0004 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **.0002** | **.0010** | **-.0001** | **-.0005** | **.0016** | **-.0048** | **-.0032** |
| Stddev | .0004 | .0001 | .0008 | .0013 | .0002 | .0017 | .0006 | .0126 | .0025 |
| %RSD | 272.4 | 52.40 | 448.9 | 138.9 | 175.8 | 363.1 | 35.86 | 262.1 | 77.96 |
| #1 | -.0003 | -.0002 | .0009 | -.0005 | -.0002 | -.0023 | .0013 | .0095 | -.0013 |
| #2 | .0003 | -.0001 | .0001 | .0014 | .0001 | .0011 | .0023 | -.0096 | -.0023 |
| #3 | .0004 | -.0001 | -.0006 | .0020 | -.0002 | -.0003 | .0013 | -.0143 | -.0061 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0041** | **.0298** | **.0353** | **.0044** | **.0001** | **.0009** | **-.0002** | **.0000** |
| Stddev | .0046 | .0356 | .0521 | .0073 | .0004 | .0001 | .0005 | .0009 | .0001 |
| %RSD | 415.7 | 866.6 | 174.8 | 20.61 | 9.185 | 104.6 | 56.55 | 577.6 | 1887. |
| #1 | .0058 | .0254 | -.0178 | .0436 | .0044 | .0002 | .0014 | -.0006 | -.0000 |
| #2 | -.0034 | .0060 | .0218 | .0314 | .0040 | .0000 | .0004 | .0009 | .0001 |
| #3 | .0009 | -.0437 | .0855 | .0307 | .0048 | .0000 | .0010 | -.0007 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccbconf Acquired: 5/8/2019 16:05:22 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0006** | **.0001** | **.0008** | **.0002** | F **.0059** | **-.0014** |
| Stddev | .0004 | .0001 | .0001 | .0005 | .0019 | .0003 | .0003 |
| %RSD | 710.0 | 23.40 | 49.39 | 62.62 | 1001. | 4.995 | 22.29 |
| #1 | .0004 | .0005 | .0002 | .0013 | .0005 | .0059 | -.0018 |
| #2 | -.0002 | .0007 | .0001 | .0009 | -.0018 | .0056 | -.0013 |
| #3 | -.0004 | .0006 | .0001 | .0003 | .0019 | .0062 | -.0012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85150.** | **9349.2** | **6091.2** | **12608.** |
| Stddev | 658. | 143.9 | 10.5 | 19. |
| %RSD | .77237 | 1.5391 | .17259 | .15392 |
| #1 | 85905. | 9248.6 | 6096.5 | 12616. |
| #2 | 84703. | 9285.0 | 6079.1 | 12586. |
| #3 | 84841. | 9514.0 | 6098.0 | 12622. |

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/8/2019 16:10:34 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.002** | **2.010** | **1.984** | **2.034** | **1.979** | **1.960** | **2.032** | **2.016** | **.2449** |
| Stddev | .002 | .003 | .001 | .002 | .003 | .004 | .018 | .001 | .0004 |
| %RSD | .0727 | .1466 | .0421 | .0923 | .1655 | .2197 | .8813 | .0429 | .1835 |
| #1 | 2.001 | 2.007 | 1.984 | 2.032 | 1.977 | 1.958 | 2.011 | 2.015 | .2453 |
| #2 | 2.001 | 2.009 | 1.984 | 2.036 | 1.983 | 1.965 | 2.041 | 2.015 | .2451 |
| #3 | 2.004 | 2.013 | 1.983 | 2.034 | 1.978 | 1.958 | 2.043 | 2.017 | .2444 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.986** | **1.995** | **1.948** | **2.020** | **1.990** | **1.957** | **1.927** | **39.68** | **39.54** |
| Stddev | .004 | .001 | .005 | .007 | .003 | .005 | .003 | .02 | .02 |
| %RSD | .1791 | .0289 | .2360 | .3647 | .1251 | .2528 | .1686 | .0439 | .0469 |
| #1 | 1.983 | 1.995 | 1.949 | 2.012 | 1.987 | 1.954 | 1.923 | 39.69 | 39.53 |
| #2 | 1.990 | 1.994 | 1.952 | 2.027 | 1.991 | 1.954 | 1.930 | 39.66 | 39.54 |
| #3 | 1.986 | 1.996 | 1.943 | 2.021 | 1.992 | 1.962 | 1.927 | 39.69 | 39.57 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.19** | **40.09** | **39.30** | **40.00** | **1.985** | **1.943** | **5.012** | **1.955** | **2.010** |
| Stddev | .08 | .10 | .09 | .01 | .001 | .001 | .005 | .004 | .002 |
| %RSD | .2045 | .2379 | .2193 | .0322 | .0718 | .0423 | .0943 | .2054 | .1011 |
| #1 | 40.11 | 40.13 | 39.20 | 39.98 | 1.985 | 1.942 | 5.012 | 1.950 | 2.009 |
| #2 | 40.27 | 39.98 | 39.33 | 39.99 | 1.987 | 1.943 | 5.017 | 1.957 | 2.009 |
| #3 | 40.18 | 40.15 | 39.36 | 40.01 | 1.984 | 1.944 | 5.008 | 1.957 | 2.013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/8/2019 16:10:34 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.947** | F **1.896** | **1.941** | **1.968** | **1.978** | **2.005** | **2.020** |
| Stddev | .004 | .004 | .004 | .003 | .003 | .002 | .004 |
| %RSD | .2034 | .1856 | .1881 | .1306 | .1694 | .1171 | .1791 |
| #1 | 1.943 | 1.896 | 1.939 | 1.970 | 1.974 | 2.004 | 2.023 |
| #2 | 1.951 | 1.900 | 1.945 | 1.969 | 1.980 | 2.003 | 2.016 |
| #3 | 1.947 | 1.893 | 1.939 | 1.965 | 1.980 | 2.007 | 2.020 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 2.000 | | | | | |
| Range | | -5.000% | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83299.** | **9267.1** | **5976.9** | **12141.** |
| Stddev | 161. | 14.1 | 2.0 | 11. |
| %RSD | .19273 | .15257 | .03263 | .08970 |
| #1 | 83421. | 9251.2 | 5978.4 | 12150. |
| #2 | 83117. | 9271.5 | 5974.7 | 12129. |
| #3 | 83359. | 9278.4 | 5977.5 | 12143. |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/8/2019 16:16:45 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0001** | **.0001** | **.0003** | **-.0003** | **.0000** | **-.0003** | **.0001** |
| Stddev | .0004 | .0001 | .0001 | .0003 | .0002 | .0001 | .0000 | .0001 | .0002 |
| %RSD | 1071. | 132.2 | 101.1 | 323.1 | 65.73 | 25.82 | 242.7 | 41.78 | 130.1 |
| #1 | .0004 | -.0002 | .0002 | .0002 | .0003 | -.0004 | .0000 | -.0005 | .0003 |
| #2 | -.0004 | .0000 | .0000 | .0004 | .0001 | -.0003 | .0001 | -.0004 | -.0000 |
| #3 | -.0001 | -.0001 | .0001 | -.0003 | .0005 | -.0003 | -.0000 | -.0002 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0002** | **.0005** | **.0008** | **-.0003** | **-.0002** | **.0004** | **-.0055** | **-.0015** |
| Stddev | .0003 | .0000 | .0008 | .0004 | .0008 | .0008 | .0012 | .0059 | .0015 |
| %RSD | 295.6 | 10.76 | 150.4 | 45.89 | 288.9 | 396.3 | 323.2 | 107.0 | 102.8 |
| #1 | -.0002 | -.0001 | .0011 | .0008 | -.0011 | .0000 | .0011 | -.0102 | -.0032 |
| #2 | .0003 | -.0001 | -.0004 | .0004 | -.0003 | -.0012 | -.0010 | .0011 | -.0007 |
| #3 | .0001 | -.0002 | .0008 | .0011 | .0005 | .0005 | .0011 | -.0075 | -.0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **-.0018** | **.2131** | **.0557** | **.0037** | **-.0001** | **.0003** | **-.0000** | **-.0000** |
| Stddev | .0023 | .0086 | .0326 | .0086 | .0004 | .0001 | .0012 | .0004 | .0001 |
| %RSD | 180.3 | 468.3 | 15.29 | 15.46 | 10.45 | 176.4 | 369.0 | 2332. | 1165. |
| #1 | -.0013 | .0000 | .2088 | .0587 | .0042 | .0001 | -.0011 | .0001 | -.0000 |
| #2 | .0029 | .0057 | .1829 | .0459 | .0036 | -.0002 | .0010 | -.0005 | .0001 |
| #3 | .0022 | -.0112 | .2476 | .0623 | .0034 | -.0002 | .0011 | .0003 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/8/2019 16:16:45 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0015** | **.0002** | **-.0008** | **-.0006** | **.0038** | **-.0012** |
| Stddev | .0006 | .0004 | .0002 | .0006 | .0005 | .0011 | .0001 |
| %RSD | 169.8 | 29.84 | 95.89 | 67.86 | 91.78 | 29.87 | 9.231 |
| #1 | .0003 | .0020 | .0004 | -.0014 | -.0008 | .0050 | -.0010 |
| #2 | -.0002 | .0014 | .0002 | -.0008 | -.0009 | .0027 | -.0012 |
| #3 | .0009 | .0011 | .0000 | -.0003 | .0000 | .0038 | -.0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85645.** | **9366.1** | **6188.0** | **12766.** |
| Stddev | 286. | 17.5 | 9.4 | 8. |
| %RSD | .33385 | .18649 | .15144 | .06275 |
| #1 | 85323. | 9345.9 | 6182.1 | 12759. |
| #2 | 85742. | 9374.9 | 6183.2 | 12765. |
| #3 | 85870. | 9377.4 | 6198.8 | 12775. |

Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 5/8/2019 16:22:16 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.998** | **2.015** | **1.981** | **2.003** | **2.010** | **1.977** | **2.037** | **2.025** | **.2458** |
| Stddev | .026 | .025 | .004 | .006 | .010 | .008 | .018 | .006 | .0006 |
| %RSD | 1.283 | 1.264 | .1870 | .3256 | .4938 | .4192 | .8948 | .2850 | .2418 |
| #1 | 2.008 | 2.023 | 1.984 | 2.006 | 2.015 | 1.981 | 2.039 | 2.028 | .2461 |
| #2 | 1.960 | 1.977 | 1.983 | 2.011 | 2.020 | 1.983 | 2.062 | 2.032 | .2463 |
| #3 | 2.016 | 2.034 | 1.978 | 1.997 | 2.010 | 1.980 | 2.028 | 2.021 | .2459 |
| #4 | 2.008 | 2.026 | 1.977 | 1.998 | 1.997 | 1.965 | 2.020 | 2.019 | .2450 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.003** | **2.024** | **1.955** | **2.046** | **2.005** | **1.980** | **1.960** | **39.78** | **40.19** |
| Stddev | .009 | .005 | .006 | .008 | .005 | .006 | .004 | .56 | .50 |
| %RSD | .4527 | .2387 | .3135 | .3947 | .2354 | .3003 | .2092 | 1.409 | 1.240 |
| #1 | 2.007 | 2.027 | 1.957 | 2.052 | 2.007 | 1.988 | 1.961 | 40.00 | 40.38 |
| #2 | 2.010 | 2.029 | 1.963 | 2.053 | 2.011 | 1.982 | 1.966 | 38.94 | 39.46 |
| #3 | 2.005 | 2.020 | 1.952 | 2.036 | 2.002 | 1.977 | 1.958 | 40.16 | 40.57 |
| #4 | 1.990 | 2.019 | 1.949 | 2.045 | 2.001 | 1.974 | 1.957 | 40.00 | 40.37 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 5/8/2019 16:22:16 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.33** | **40.32** | **39.72** | **40.10** | **1.982** | **1.972** | **4.864** | **1.994** | **1.998** |
| Stddev | .50 | .42 | .43 | .48 | .004 | .004 | .009 | .003 | .025 |
| %RSD | 1.252 | 1.043 | 1.083 | 1.193 | .2225 | .1886 | .1930 | .1702 | 1.273 |
| #1 | 40.51 | 40.50 | 39.93 | 40.29 | 1.988 | 1.975 | 4.874 | 1.998 | 2.006 |
| #2 | 39.58 | 39.70 | 39.08 | 39.39 | 1.983 | 1.975 | 4.870 | 1.996 | 1.960 |
| #3 | 40.68 | 40.61 | 39.98 | 40.43 | 1.980 | 1.969 | 4.860 | 1.992 | 2.015 |
| #4 | 40.55 | 40.47 | 39.90 | 40.29 | 1.978 | 1.968 | 4.853 | 1.991 | 2.010 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.971** | **1.936** | **1.977** | **1.956** | **1.981** | **1.967** | **1.986** |
| Stddev | .009 | .004 | .009 | .007 | .006 | .024 | .004 |
| %RSD | .4365 | .2045 | .4788 | .3423 | .2899 | 1.223 | .2189 |
| #1 | 1.976 | 1.938 | 1.981 | 1.963 | 1.984 | 1.977 | 1.991 |
| #2 | 1.977 | 1.941 | 1.984 | 1.959 | 1.988 | 1.932 | 1.989 |
| #3 | 1.972 | 1.933 | 1.980 | 1.949 | 1.978 | 1.984 | 1.982 |
| #4 | 1.958 | 1.932 | 1.963 | 1.951 | 1.975 | 1.977 | 1.983 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |



Zoom In Zoom Out

Sample Name: ICCV 1 Acquired: 5/8/2019 16:22:16 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83138.** | **9257.2** | **5983.5** | **12142.** |
| Stddev | 464. | 84.5 | 8.6 | 25. |
| %RSD | .55829 | .91289 | .14351 | .20508 |
| #1 | 82923. | 9201.8 | 5977.8 | 12132. |
| #2 | 82603. | 9381.7 | 5974.8 | 12113. |
| #3 | 83384. | 9207.4 | 5993.0 | 12171. |
| #4 | 83641. | 9238.0 | 5988.2 | 12152. |



Zoom In Zoom Out

Sample Name: CCB 7 Acquired: 5/8/2019 16:31:36 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0001** | **.0001** | **.0001** | **.0002** | **-.0004** | **-.0000** | **.0001** | **.0004** |
| Stddev | .0001 | .0001 | .0002 | .0000 | .0000 | .0003 | .0000 | .0001 | .0006 |
| %RSD | 39.23 | 173.4 | 202.5 | 30.83 | 23.65 | 65.58 | 407.1 | 104.5 | 157.2 |
| #1 | .0005 | .0000 | -.0001 | .0001 | .0001 | -.0007 | -.0000 | .0003 | -.0002 |
| #2 | .0004 | -.0000 | .0001 | .0002 | .0002 | -.0003 | .0000 | .0001 | .0003 |
| #3 | .0002 | .0002 | .0002 | .0001 | .0002 | -.0002 | -.0001 | .0000 | .0011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0001** | **-.0005** | **.0007** | **-.0011** | **.0001** | **-.0011** | **-.0013** | **-.0007** |
| Stddev | .0002 | .0001 | .0003 | .0004 | .0009 | .0012 | .0008 | .0121 | .0049 |
| %RSD | 77.58 | 84.52 | 71.62 | 55.28 | 77.41 | 830.4 | 77.07 | 942.5 | 689.3 |
| #1 | .0001 | -.0001 | -.0003 | .0011 | -.0004 | -.0009 | -.0020 | -.0087 | -.0054 |
| #2 | .0005 | -.0001 | -.0003 | .0007 | -.0008 | .0014 | -.0007 | -.0078 | .0044 |
| #3 | .0002 | -.0002 | -.0009 | .0003 | -.0021 | -.0000 | -.0005 | .0127 | -.0011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **-.0145** | **.2975** | **.0689** | **.0032** | **-.0000** | **-.0004** | **.0001** | **-.0001** |
| Stddev | .0016 | .0228 | .0121 | .0040 | .0006 | .0001 | .0012 | .0005 | .0001 |
| %RSD | 86.16 | 157.8 | 4.055 | 5.780 | 17.61 | 559.2 | 268.5 | 782.1 | 78.35 |
| #1 | .0021 | -.0102 | .3105 | .0727 | .0026 | -.0001 | .0005 | .0004 | -.0001 |
| #2 | .0001 | .0059 | .2953 | .0693 | .0032 | -.0001 | -.0018 | -.0005 | -.0001 |
| #3 | .0032 | -.0391 | .2867 | .0648 | .0037 | .0001 | -.0000 | .0003 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCB 7 Acquired: 5/8/2019 16:31:36 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0000** | **.0000** | **-.0005** | **.0005** | **.0042** | **-.0012** |
| Stddev | .0004 | .0002 | .0002 | .0006 | .0014 | .0008 | .0005 |
| %RSD | 199.7 | 882.4 | 7198. | 121.3 | 283.8 | 18.67 | 40.21 |
| #1 | -.0002 | -.0001 | .0002 | -.0006 | .0012 | .0048 | -.0013 |
| #2 | .0007 | -.0002 | .0000 | .0002 | -.0011 | .0033 | -.0007 |
| #3 | .0001 | .0002 | -.0002 | -.0010 | .0014 | .0044 | -.0016 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85711.** | **9428.5** | **6302.6** | **12991.** |
| Stddev | 2222. | 53.1 | 23.0 | 48. |
| %RSD | 2.5922 | .56367 | .36547 | .37112 |
| #1 | 87099. | 9412.3 | 6328.9 | 13044. |
| #2 | 86886. | 9385.4 | 6285.9 | 12950. |
| #3 | 83148. | 9487.9 | 6293.1 | 12979. |



Zoom In Zoom Out

Sample Name: crid 7 Acquired: 5/8/2019 16:36:17 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0042** | **.0010** | **.0010** | **.0030** | **.0024** | F **-.0003** | **.0031** | **.0041** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0002 | .0003 | .0000 | .0003 |
| %RSD | 8.485 | 2.137 | 9.781 | 3.223 | 7.328 | 86.96 | .5175 | 7.404 |
| #1 | .0046 | .0010 | .0009 | .0030 | .0026 | -.0000 | .0031 | .0041 |
| #2 | .0039 | .0010 | .0011 | .0031 | .0023 | -.0006 | .0031 | .0043 |
| #3 | .0043 | .0010 | .0009 | .0030 | .0024 | -.0004 | .0031 | .0037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **.0004** | **.0022** | **.0109** | **.0030** | F **.0025** | F **-.0008** | F **.0038** | F **.0004** |
| Stddev | .0000 | .0000 | .0001 | .0002 | .0008 | .0005 | .0007 | .0003 |
| %RSD | 9.180 | 2.056 | .7384 | 7.174 | 31.41 | 64.50 | 18.19 | 81.51 |
| #1 | .0004 | .0021 | .0108 | .0030 | .0019 | -.0006 | .0034 | .0007 |
| #2 | .0003 | .0022 | .0109 | .0028 | .0023 | -.0014 | .0046 | .0000 |
| #3 | .0004 | .0022 | .0109 | .0033 | .0034 | -.0005 | .0034 | .0005 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | .0050 | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0962** | **1.054** | **.0039** | **.1286** | **2.059** | **1.063** | **.0033** | **-.0000** |
| Stddev | .0074 | .004 | .0015 | .0148 | .031 | .005 | .0003 | .0002 |
| %RSD | 7.721 | .3787 | 37.22 | 11.55 | 1.526 | .4567 | 9.498 | 704.6 |
| #1 | .0938 | 1.050 | .0033 | .1428 | 2.085 | 1.069 | .0034 | .0001 |
| #2 | .1045 | 1.055 | .0029 | .1131 | 2.066 | 1.061 | .0029 | .0000 |
| #3 | .0903 | 1.057 | .0056 | .1299 | 2.024 | 1.060 | .0035 | -.0002 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: crid 7 Acquired: 5/8/2019 16:36:17 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **-.0001** | **-.0001** | **.0008** | **-.0001** | **-.0000** | **.0019** | **.0004** |
| Stddev | .0009 | .0002 | .0001 | .0001 | .0007 | .0001 | .0007 | .0015 |
| %RSD | 72.74 | 242.9 | 140.4 | 19.12 | 496.0 | 1094. | 35.91 | 387.3 |
| #1 | .0009 | -.0002 | -.0002 | .0008 | -.0007 | -.0001 | .0022 | .0021 |
| #2 | .0006 | .0001 | .0000 | .0009 | -.0004 | .0001 | .0023 | -.0006 |
| #3 | .0022 | -.0001 | -.0001 | .0006 | .0007 | -.0001 | .0011 | -.0003 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0029** | **-.0012** |
| Stddev | .0016 | .0006 |
| %RSD | 55.52 | 47.42 |
| #1 | .0044 | -.0008 |
| #2 | .0013 | -.0009 |
| #3 | .0028 | -.0018 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86915.** | **9449.5** | **6292.5** | **12960.** |
| Stddev | 186. | 42.0 | 10.1 | 23. |
| %RSD | .21417 | .44447 | .16028 | .17942 |
| #1 | 87128. | 9490.5 | 6293.7 | 12945. |
| #2 | 86835. | 9406.6 | 6281.8 | 12947. |
| #3 | 86782. | 9451.4 | 6301.9 | 12986. |



Zoom In Zoom Out

Sample Name: CRI Acquired: 5/8/2019 16:41:26 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2000** | **.0021** | **.0029** | **.0489** | **.0104** | **.0093** | **.0157** | **.0102** | **.0051** |
| Stddev | .0010 | .0001 | .0001 | .0001 | .0001 | .0003 | .0001 | .0001 | .0003 |
| %RSD | .5081 | 4.356 | 4.999 | .2572 | .9318 | 3.275 | .3746 | 1.133 | 5.155 |
| #1 | .1994 | .0021 | .0027 | .0489 | .0105 | .0095 | .0157 | .0102 | .0048 |
| #2 | .2012 | .0021 | .0029 | .0488 | .0103 | .0095 | .0158 | .0100 | .0052 |
| #3 | .1995 | .0020 | .0030 | .0491 | .0103 | .0090 | .0157 | .0102 | .0053 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0507** | **.0206** | **.0085** | **.0106** | **.0027** | **.0098** | **.0050** | **.1994** | **5.222** |
| Stddev | .0001 | .0000 | .0006 | .0010 | .0002 | .0007 | .0014 | .0082 | .018 |
| %RSD | .1091 | .2153 | 7.241 | 9.183 | 7.581 | 6.669 | 28.37 | 4.112 | .3499 |
| #1 | .0506 | .0206 | .0092 | .0097 | .0025 | .0105 | .0047 | .2085 | 5.202 |
| #2 | .0507 | .0206 | .0081 | .0117 | .0025 | .0092 | .0065 | .1971 | 5.236 |
| #3 | .0506 | .0205 | .0082 | .0105 | .0029 | .0097 | .0037 | .1926 | 5.230 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1095** | **5.303** | **5.126** | **5.156** | **.0987** | **.0198** | **.2078** | **.0108** | **.0099** |
| Stddev | .0037 | .023 | .048 | .009 | .0006 | .0003 | .0007 | .0003 | .0002 |
| %RSD | 3.380 | .4313 | .9333 | .1773 | .5891 | 1.613 | .3548 | 2.376 | 1.606 |
| #1 | .1054 | 5.312 | 5.097 | 5.151 | .0984 | .0198 | .2087 | .0105 | .0098 |
| #2 | .1126 | 5.277 | 5.101 | 5.150 | .0994 | .0201 | .2076 | .0110 | .0099 |
| #3 | .1106 | 5.320 | 5.182 | 5.166 | .0983 | .0195 | .2072 | .0109 | .0101 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CRI Acquired: 5/8/2019 16:41:26 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0106** | **.0489** | **.0100** | **.0549** | **.0224** | **.0569** | **.0470** |
| Stddev | .0002 | .0007 | .0000 | .0021 | .0006 | .0007 | .0010 |
| %RSD | 2.091 | 1.348 | .4407 | 3.797 | 2.786 | 1.235 | 2.100 |
| #1 | .0108 | .0481 | .0100 | .0552 | .0231 | .0575 | .0467 |
| #2 | .0104 | .0494 | .0100 | .0527 | .0222 | .0561 | .0480 |
| #3 | .0105 | .0491 | .0100 | .0568 | .0219 | .0570 | .0461 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86326.** | **9366.6** | **6224.8** | **12769.** |
| Stddev | 639. | 9.2 | 55.9 | 109. |
| %RSD | .74057 | .09785 | .89745 | .85347 |
| #1 | 86120. | 9376.2 | 6177.5 | 12676. |
| #2 | 85815. | 9358.0 | 6210.3 | 12742. |
| #3 | 87043. | 9365.6 | 6286.4 | 12889. |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/8/2019 16:46:32 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0002** | **-.0002** | **.0009** | **.0006** | **-.0039** | **-.0026** | **.0029** | **.0000** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .0003 | .0007 | .0006 | .0001 | .0020 |
| %RSD | 14.50 | 41.21 | 117.1 | 11.85 | 48.83 | 16.99 | 23.81 | 4.734 | 6241. |
| #1 | .0010 | -.0002 | -.0000 | .0009 | .0004 | -.0038 | -.0025 | .0027 | .0011 |
| #2 | .0010 | -.0003 | -.0004 | .0009 | .0009 | -.0034 | -.0020 | .0028 | .0013 |
| #3 | .0013 | -.0001 | -.0001 | .0011 | .0004 | -.0047 | -.0032 | .0030 | -.0023 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **-.0007** | **-.0022** | **.0004** | **-.0012** | **-.0010** | **.0003** | **492.6** | **374.1** |
| Stddev | .0002 | .0003 | .0004 | .0036 | .0021 | .0028 | .0016 | 15.2 | 8.9 |
| %RSD | 12.76 | 34.20 | 20.16 | 808.3 | 172.1 | 289.0 | 526.6 | 3.091 | 2.377 |
| #1 | .0019 | -.0008 | -.0027 | .0023 | .0004 | .0015 | -.0014 | 501.0 | 377.7 |
| #2 | .0021 | -.0010 | -.0018 | .0028 | -.0005 | -.0003 | .0006 | 501.8 | 380.6 |
| #3 | .0017 | -.0005 | -.0020 | -.0037 | -.0037 | -.0040 | .0017 | 475.0 | 364.0 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **187.7** | **491.3** | **.2027** | **.0897** | **.0015** | **.0034** | **-.0089** | **-.0036** | **-.0006** |
| Stddev | 5.1 | 11.3 | .0456 | .0113 | .0005 | .0002 | .0009 | .0003 | .0001 |
| %RSD | 2.727 | 2.303 | 22.50 | 12.57 | 33.88 | 6.416 | 10.08 | 7.553 | 23.11 |
| #1 | 190.5 | 496.8 | .1508 | .0911 | .0016 | .0032 | -.0099 | -.0033 | -.0005 |
| #2 | 190.9 | 498.7 | .2365 | .1002 | .0010 | .0036 | -.0088 | -.0038 | -.0006 |
| #3 | 181.8 | 478.2 | .2207 | .0778 | .0020 | .0033 | -.0081 | -.0036 | -.0008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/8/2019 16:46:32 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **.0115** | **.0017** | **.0167** | **-.0055** | **-.0037** | **.0207** |
| Stddev | .0003 | .0007 | .0004 | .0026 | .0018 | .0012 | .0012 |
| %RSD | 6.353 | 5.650 | 23.11 | 15.85 | 32.93 | 31.76 | 5.629 |
| #1 | .0052 | .0122 | .0017 | .0190 | -.0043 | -.0025 | .0204 |
| #2 | .0055 | .0114 | .0020 | .0138 | -.0076 | -.0038 | .0219 |
| #3 | .0049 | .0110 | .0013 | .0173 | -.0046 | -.0049 | .0196 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **78968.** | **9288.5** | **5739.5** | **11602.** |
| Stddev | 523. | 245.0 | 14.2 | 18. |
| %RSD | .66269 | 2.6374 | .24655 | .15553 |
| #1 | 78368. | 9165.9 | 5735.3 | 11588. |
| #2 | 79208. | 9129.0 | 5755.3 | 11622. |
| #3 | 79328. | 9570.6 | 5728.0 | 11594. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/8/2019 16:51:36 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4897** | **.4921** | **.9864** | **.4710** | **.4802** | **.5167** | **.5029** | **.9545** | **1.041** |
| Stddev | .0007 | .0012 | .0041 | .0010 | .0026 | .0016 | .0026 | .0032 | .004 |
| %RSD | .1531 | .2495 | .4201 | .2141 | .5454 | .3082 | .5151 | .3397 | .3354 |
| #1 | .4905 | .4934 | .9910 | .4720 | .4791 | .5160 | .5018 | .9577 | 1.039 |
| #2 | .4897 | .4920 | .9854 | .4711 | .4783 | .5155 | .5011 | .9547 | 1.038 |
| #3 | .4890 | .4909 | .9829 | .4700 | .4832 | .5185 | .5059 | .9512 | 1.045 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4914** | **.9429** | **1.029** | **.9638** | **.9393** | **1.016** | **1.055** | **507.6** | **385.6** |
| Stddev | .0030 | .0040 | .003 | .0038 | .0026 | .003 | .006 | .9 | 2.5 |
| %RSD | .6178 | .4190 | .2830 | .3965 | .2754 | .2466 | .5917 | .1851 | .6532 |
| #1 | .4907 | .9468 | 1.032 | .9664 | .9423 | 1.018 | 1.062 | 508.4 | 387.8 |
| #2 | .4887 | .9429 | 1.029 | .9656 | .9376 | 1.016 | 1.054 | 507.8 | 382.8 |
| #3 | .4947 | .9389 | 1.026 | .9594 | .9381 | 1.013 | 1.050 | 506.5 | 386.2 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **193.7** | **507.1** | **.0752** | **.0932** | **.4817** | **.4716** | **.4945** | **.4679** | **.4991** |
| Stddev | .4 | 1.1 | .0507 | .0151 | .0011 | .0032 | .0012 | .0010 | .0006 |
| %RSD | .2147 | .2096 | 67.36 | 16.15 | .2252 | .6773 | .2391 | .2079 | .1178 |
| #1 | 194.0 | 508.3 | .1336 | .1066 | .4830 | .4748 | .4954 | .4687 | .4996 |
| #2 | 193.8 | 506.5 | .0495 | .0961 | .4813 | .4716 | .4949 | .4680 | .4993 |
| #3 | 193.2 | 506.5 | .0426 | .0769 | .4809 | .4685 | .4931 | .4668 | .4984 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/8/2019 16:51:36 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4931** | **.4704** | **.4863** | **.5141** | **.4956** | **.5108** | **.5389** |
| Stddev | .0032 | .0021 | .0023 | .0031 | .0032 | .0013 | .0012 |
| %RSD | .6447 | .4504 | .4762 | .6112 | .6391 | .2575 | .2270 |
| #1 | .4915 | .4728 | .4851 | .5134 | .4991 | .5101 | .5402 |
| #2 | .4910 | .4695 | .4849 | .5175 | .4948 | .5100 | .5377 |
| #3 | .4968 | .4689 | .4890 | .5114 | .4930 | .5123 | .5387 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **79142.** | **9083.4** | **5772.9** | **11662.** |
| Stddev | 532. | 19.6 | 39.1 | 70. |
| %RSD | .67242 | .21618 | .67717 | .59862 |
| #1 | 79404. | 9090.1 | 5730.4 | 11586. |
| #2 | 79491. | 9061.3 | 5781.1 | 11675. |
| #3 | 78529. | 9098.7 | 5807.3 | 11724. |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/8/2019 16:56:35 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.915** | **8.077** | **7.889** | **8.001** | **8.111** | **7.857** | **7.953** | **8.063** | **.6229** |
| Stddev | .033 | .021 | .009 | .005 | .012 | .077 | .040 | .003 | .0006 |
| %RSD | .4111 | .2579 | .1158 | .0597 | .1420 | .9808 | .5075 | .0351 | .0950 |
| #1 | 7.913 | 8.094 | 7.897 | 8.002 | 8.123 | 7.884 | 7.962 | 8.063 | .6234 |
| #2 | 7.883 | 8.083 | 7.891 | 8.004 | 8.112 | 7.918 | 7.987 | 8.065 | .6231 |
| #3 | 7.948 | 8.053 | 7.879 | 7.995 | 8.100 | 7.771 | 7.908 | 8.060 | .6223 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.912** | **8.215** | **7.941** | **8.105** | **8.098** | **7.934** | **8.024** | **.0439** | **.0127** |
| Stddev | .053 | .017 | .007 | .006 | .005 | .013 | .006 | .0050 | .0017 |
| %RSD | .6728 | .2115 | .0895 | .0697 | .0584 | .1679 | .0755 | 11.50 | 13.38 |
| #1 | 7.898 | 8.230 | 7.947 | 8.109 | 8.103 | 7.949 | 8.030 | .0399 | .0131 |
| #2 | 7.867 | 8.220 | 7.942 | 8.099 | 8.099 | 7.930 | 8.024 | .0422 | .0109 |
| #3 | 7.970 | 8.196 | 7.933 | 8.109 | 8.093 | 7.924 | 8.018 | .0496 | .0142 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0168** | **-.1064** | **.1074** | **.0730** | **7.858** | **8.053** | **25.34** | **8.273** | **7.808** |
| Stddev | .0010 | .0052 | .0519 | .0062 | .006 | .006 | .01 | .009 | .083 |
| %RSD | 5.736 | 4.860 | 48.33 | 8.444 | .0729 | .0695 | .0441 | .1125 | 1.064 |
| #1 | -.0158 | -.1035 | .0479 | .0684 | 7.862 | 8.059 | 25.33 | 8.283 | 7.838 |
| #2 | -.0177 | -.1033 | .1313 | .0707 | 7.860 | 8.050 | 25.35 | 8.270 | 7.714 |
| #3 | -.0171 | -.1124 | .1431 | .0800 | 7.851 | 8.049 | 25.33 | 8.265 | 7.872 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/8/2019 16:56:35 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.971** | **8.232** | **7.920** | **96.30** | **8.142** | **7.802** | **7.961** |
| Stddev | .053 | .014 | .083 | .09 | .007 | .016 | .002 |
| %RSD | .6662 | .1711 | 1.051 | .0901 | .0820 | .2037 | .0297 |
| #1 | 8.032 | 8.245 | 8.011 | 96.38 | 8.149 | 7.818 | 7.964 |
| #2 | 7.931 | 8.234 | 7.900 | 96.31 | 8.141 | 7.802 | 7.960 |
| #3 | 7.952 | 8.217 | 7.848 | 96.21 | 8.136 | 7.786 | 7.959 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86412.** | **9629.5** | **6076.1** | **12877.** |
| Stddev | 91. | 5.5 | 6.5 | 7. |
| %RSD | .10552 | .05671 | .10670 | .05101 |
| #1 | 86514. | 9623.4 | 6069.3 | 12872. |
| #2 | 86338. | 9634.0 | 6076.7 | 12876. |
| #3 | 86384. | 9631.0 | 6082.3 | 12884. |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/8/2019 17:02:29 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0003** | **-.0000** | **.0001** | **.0011** | **-.0030** | **-.0011** | **.0029** | **.0019** |
| Stddev | .0001 | .0001 | .0000 | .0001 | .0001 | .0002 | .0001 | .0006 | .0003 |
| %RSD | 15.87 | 26.57 | 77.89 | 39.14 | 7.474 | 8.170 | 9.440 | 20.20 | 13.63 |
| #1 | .0008 | .0003 | -.0001 | .0001 | .0012 | -.0030 | -.0011 | .0035 | .0020 |
| #2 | .0010 | .0004 | -.0000 | .0001 | .0012 | -.0032 | -.0011 | .0031 | .0021 |
| #3 | .0011 | .0002 | -.0000 | .0002 | .0010 | -.0027 | -.0009 | .0023 | .0016 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **-.0006** | **-.0011** | **.0009** | **.0003** | **-.0011** | **.0032** | **311.0** | **200.5** |
| Stddev | .0004 | .0001 | .0014 | .0001 | .0015 | .0011 | .0006 | .1 | .1 |
| %RSD | 18.84 | 11.58 | 129.2 | 15.11 | 529.7 | 100.1 | 17.03 | .0468 | .0274 |
| #1 | .0020 | -.0007 | .0005 | .0009 | -.0015 | .0000 | .0026 | 311.1 | 200.5 |
| #2 | .0021 | -.0006 | -.0019 | .0008 | .0014 | -.0012 | .0035 | 311.1 | 200.5 |
| #3 | .0015 | -.0005 | -.0019 | .0010 | .0009 | -.0022 | .0036 | 310.9 | 200.6 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **197.3** | **307.1** | **199.5** | **196.1** | **.0097** | **.0022** | **.0043** | **-.0030** | **-.0003** |
| Stddev | .1 | .2 | .8 | 2.6 | .0004 | .0002 | .0010 | .0001 | .0001 |
| %RSD | .0384 | .0648 | .3805 | 1.333 | 4.390 | 7.593 | 24.44 | 2.394 | 28.67 |
| #1 | 197.3 | 306.9 | 200.2 | 198.8 | .0092 | .0023 | .0031 | -.0029 | -.0003 |
| #2 | 197.3 | 307.1 | 199.6 | 193.6 | .0099 | .0023 | .0048 | -.0031 | -.0003 |
| #3 | 197.4 | 307.3 | 198.7 | 196.1 | .0100 | .0020 | .0050 | -.0030 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/8/2019 17:02:29 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0034** | **.0082** | **.0028** | **.0156** | **-.0060** | **.0294** | **.0141** |
| Stddev | .0001 | .0020 | .0003 | .0031 | .0022 | .0015 | .0002 |
| %RSD | 2.878 | 24.12 | 9.189 | 20.01 | 36.74 | 5.073 | 1.546 |
| #1 | .0035 | .0078 | .0028 | .0126 | -.0036 | .0280 | .0140 |
| #2 | .0033 | .0065 | .0026 | .0189 | -.0063 | .0293 | .0144 |
| #3 | .0033 | .0104 | .0031 | .0154 | -.0080 | .0310 | .0140 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81583.** | **9177.9** | **5839.0** | **11715.** |
| Stddev | 161. | 18.8 | 7.6 | 21. |
| %RSD | .19689 | .20455 | .13019 | .17650 |
| #1 | 81422. | 9156.7 | 5832.2 | 11694. |
| #2 | 81583. | 9192.5 | 5837.5 | 11717. |
| #3 | 81744. | 9184.4 | 5847.2 | 11735. |



Zoom In Zoom Out

Sample Name: feconf Acquired: 5/8/2019 17:07:39 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0003** | **-.0002** | **.0001** | **.0007** | **-.0041** | **.0002** | **.0026** | **.0018** |
| Stddev | .0002 | .0000 | .0003 | .0002 | .0003 | .0004 | .0004 | .0002 | .0006 |
| %RSD | 63.55 | 14.01 | 170.5 | 201.0 | 42.50 | 10.66 | 257.0 | 7.506 | 31.26 |
| #1 | .0001 | -.0004 | .0001 | -.0000 | .0005 | -.0044 | -.0001 | .0028 | .0014 |
| #2 | .0004 | -.0003 | -.0001 | -.0000 | .0006 | -.0044 | .0000 | .0024 | .0015 |
| #3 | .0006 | -.0003 | -.0005 | .0003 | .0010 | -.0036 | .0006 | .0026 | .0024 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0006** | **.0003** | **.0024** | **-.0001** | **-.0013** | **.0006** | **-.0048** | **-.0012** |
| Stddev | .0002 | .0001 | .0006 | .0014 | .0009 | .0015 | .0001 | .0142 | .0035 |
| %RSD | 28.67 | 22.02 | 162.9 | 58.39 | 952.2 | 113.6 | 15.86 | 293.1 | 299.6 |
| #1 | .0005 | -.0007 | .0007 | .0008 | .0003 | -.0019 | .0006 | -.0097 | -.0009 |
| #2 | .0006 | -.0004 | -.0003 | .0031 | .0006 | -.0024 | .0007 | -.0159 | .0022 |
| #3 | .0009 | -.0006 | .0006 | .0032 | -.0011 | .0004 | .0005 | .0111 | -.0048 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **195.8** | **-.0652** | **.0921** | **.0940** | **.0035** | **.0006** | **.0034** | **-.0023** | **-.0002** |
| Stddev | 1.7 | .0256 | .0162 | .0101 | .0006 | .0004 | .0003 | .0005 | .0000 |
| %RSD | .8628 | 39.19 | 17.64 | 10.70 | 16.21 | 68.46 | 9.763 | 21.63 | 31.76 |
| #1 | 196.1 | -.0452 | .0738 | .1048 | .0040 | .0003 | .0038 | -.0023 | -.0001 |
| #2 | 194.0 | -.0940 | .0978 | .0924 | .0029 | .0005 | .0032 | -.0028 | -.0002 |
| #3 | 197.4 | -.0565 | .1047 | .0848 | .0036 | .0010 | .0033 | -.0018 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0042** | **.0035** | **.0061** | **-.0007** | **.0132** | **.0030** |
| Stddev | .0001 | .0005 | .0002 | .0008 | .0003 | .0008 | .0005 |
| %RSD | 32.51 | 11.14 | 4.605 | 13.67 | 46.61 | 6.264 | 16.36 |
| #1 | -.0002 | .0038 | .0034 | .0054 | -.0005 | .0130 | .0034 |
| #2 | -.0002 | .0047 | .0035 | .0059 | -.0010 | .0124 | .0030 |
| #3 | -.0003 | .0040 | .0037 | .0070 | -.0005 | .0141 | .0025 |



Zoom In Zoom Out

Sample Name: feconf Acquired: 5/8/2019 17:07:39 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86951.** | **9414.3** | **6255.5** | **13162.** |
| Stddev | 908. | 28.6 | 122.3 | 227. |
| %RSD | 1.0446 | .30340 | 1.9543 | 1.7240 |
| #1 | 85902. | 9426.9 | 6281.2 | 13213. |
| #2 | 87482. | 9434.5 | 6122.5 | 12914. |
| #3 | 87470. | 9381.6 | 6362.9 | 13359. |



Zoom In Zoom Out

Sample Name: crconf Acquired: 5/8/2019 17:12:46 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0001** | **-.0001** | **-.0008** | F **9.916** | **-.0009** | **-.0010** | **-.0001** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .046 | .0004 | .0000 | .0002 |
| %RSD | 285.3 | 85.20 | 131.4 | 9.050 | .4623 | 46.68 | 2.631 | 210.8 |
| #1 | .0002 | -.0002 | -.0002 | -.0008 | 9.958 | -.0007 | -.0010 | -.0004 |
| #2 | -.0001 | -.0000 | -.0001 | -.0008 | 9.924 | -.0005 | -.0010 | -.0000 |
| #3 | .0000 | -.0000 | .0000 | -.0009 | 9.867 | -.0013 | -.0010 | .0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **.0001** | **-.0019** | F **-.0030** | **-.0001** | **-.0005** | **-.0006** |
| Stddev | .0002 | .0001 | .0002 | .0010 | .0008 | .0000 | .0016 | .0008 |
| %RSD | 275.9 | 1214. | 117.4 | 52.44 | 25.83 | 25.73 | 306.7 | 127.2 |
| #1 | .0001 | -.0001 | .0003 | -.0008 | -.0031 | -.0001 | -.0015 | -.0010 |
| #2 | -.0002 | .0001 | .0001 | -.0022 | -.0038 | -.0001 | -.0014 | -.0011 |
| #3 | -.0001 | -.0001 | -.0000 | -.0026 | -.0022 | -.0001 | .0013 | .0003 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0025** | **.0054** | **-.0025** | **-.0048** | **.0691** | **.0404** | **.0042** | **.0004** |
| Stddev | .0166 | .0008 | .0019 | .0239 | .0276 | .0072 | .0004 | .0001 |
| %RSD | 672.4 | 15.30 | 76.75 | 493.1 | 39.98 | 17.76 | 10.71 | 27.95 |
| #1 | .0165 | .0053 | -.0003 | -.0249 | .1002 | .0337 | .0039 | .0005 |
| #2 | -.0143 | .0062 | -.0039 | -.0112 | .0596 | .0480 | .0047 | .0005 |
| #3 | -.0096 | .0046 | -.0033 | .0215 | .0474 | .0396 | .0040 | .0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0020** | **-.0001** | **.0001** | **.0016** | **.0007** | F **-.0112** | **.0014** | **-.0159** |
| Stddev | .0011 | .0009 | .0000 | .0003 | .0007 | .0002 | .0010 | .0011 |
| %RSD | 56.74 | 615.6 | 33.79 | 17.68 | 99.23 | 1.552 | 69.98 | 6.715 |
| #1 | -.0007 | -.0008 | .0001 | .0019 | .0014 | -.0113 | .0024 | -.0147 |
| #2 | -.0027 | -.0006 | .0001 | .0017 | .0002 | -.0112 | .0012 | -.0168 |
| #3 | -.0025 | .0009 | .0001 | .0013 | .0004 | -.0110 | .0005 | -.0163 |

Zoom In Zoom Out

Sample Name: crconf Acquired: 5/8/2019 17:12:46 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0074** | **.0001** |
| Stddev | .0011 | .0008 |
| %RSD | 14.36 | 785.2 |
| #1 | .0082 | -.0006 |
| #2 | .0079 | .0000 |
| #3 | .0062 | .0009 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86513.** | **9445.9** | **6183.1** | **12991.** |
| Stddev | 256. | 34.7 | 13.1 | 22. |
| %RSD | .29590 | .36784 | .21193 | .17177 |
| #1 | 86456. | 9405.9 | 6168.1 | 12968. |
| #2 | 86290. | 9464.3 | 6189.7 | 12992. |
| #3 | 86792. | 9467.7 | 6191.7 | 13012. |



Zoom In Zoom Out

Sample Name: asconf Acquired: 5/8/2019 17:12:05 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0000** | **-.0005** | **.0002** | **.0003** | **-.0008** | **-.0000** | **-.0000** | **-.0008** |
| Stddev | .0004 | .0001 | .0000 | .0001 | .0003 | .0001 | .0000 | .0001 | .0004 |
| %RSD | 1356. | 720.4 | 6.578 | 57.95 | 103.6 | 9.029 | 61.00 | 3388. | 42.14 |
| #1 | -.0002 | .0001 | -.0005 | .0001 | .0001 | -.0008 | -.0000 | .0001 | -.0005 |
| #2 | -.0002 | -.0001 | -.0005 | .0003 | .0002 | -.0009 | -.0001 | -.0001 | -.0007 |
| #3 | .0005 | .0000 | -.0005 | .0002 | .0007 | -.0008 | -.0000 | -.0000 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0001** | **4.998** | **-.0001** | **-.0005** | **-.0006** | **.0015** | **.0039** | **-.0008** |
| Stddev | .0002 | .0001 | .033 | .0006 | .0003 | .0002 | .0009 | .0048 | .0007 |
| %RSD | 31.06 | 136.5 | .6535 | 612.1 | 72.00 | 31.45 | 60.22 | 123.5 | 90.17 |
| #1 | .0007 | .0000 | 5.002 | -.0001 | -.0007 | -.0004 | .0007 | .0070 | -.0008 |
| #2 | .0005 | -.0002 | 4.964 | -.0007 | -.0005 | -.0006 | .0013 | .0062 | -.0001 |
| #3 | .0004 | -.0000 | 5.029 | .0005 | -.0001 | -.0008 | .0025 | -.0016 | -.0016 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0041** | **-.0029** | **-.0101** | **.0285** | **.0038** | **.0001** | **.0040** | **.0007** | **.0000** |
| Stddev | .0052 | .0162 | .0309 | .0090 | .0003 | .0001 | .0009 | .0006 | .0001 |
| %RSD | 126.7 | 549.5 | 304.8 | 31.49 | 8.258 | 214.6 | 21.49 | 78.27 | 225.3 |
| #1 | .0020 | .0009 | .0079 | .0266 | .0041 | .0000 | .0050 | .0006 | .0001 |
| #2 | .0003 | .0110 | .0075 | .0206 | .0034 | .0002 | .0035 | .0013 | -.0000 |
| #3 | .0100 | -.0208 | -.0458 | .0383 | .0038 | -.0001 | .0035 | .0002 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0014** | **.0005** | **.0022** | **-.0005** | **.0059** | **-.0001** |
| Stddev | .0003 | .0002 | .0001 | .0008 | .0022 | .0003 | .0002 |
| %RSD | 37.99 | 15.53 | 11.32 | 37.10 | 497.4 | 5.525 | 265.6 |
| #1 | .0004 | .0012 | .0006 | .0030 | -.0012 | .0063 | .0001 |
| #2 | .0009 | .0016 | .0005 | .0014 | .0021 | .0059 | -.0000 |
| #3 | .0008 | .0014 | .0005 | .0021 | -.0023 | .0056 | -.0003 |



Zoom In Zoom Out

Sample Name: asconf Acquired: 5/8/2019 17:18:05 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87001.** | **9178.6** | **6302.4** | **12936.** |
| Stddev | 572. | 401.2 | 21.5 | 34. |
| %RSD | .65713 | 4.3714 | .34079 | .26223 |
| #1 | 87655. | 8716.3 | 6302.0 | 12938. |
| #2 | 86754. | 9435.8 | 6324.1 | 12969. |
| #3 | 86594. | 9383.8 | 6281.2 | 12901. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 17:23:14 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.953** | **1.983** | **1.940** | **1.975** | **1.991** | **1.952** | **1.995** | **1.981** | **.2413** |
| Stddev | .006 | .006 | .001 | .002 | .001 | .002 | .003 | .001 | .0004 |
| %RSD | .2877 | .3059 | .0306 | .1137 | .0468 | .0994 | .1569 | .0277 | .1589 |
| #1 | 1.955 | 1.985 | 1.940 | 1.976 | 1.992 | 1.953 | 1.998 | 1.982 | .2410 |
| #2 | 1.958 | 1.988 | 1.940 | 1.972 | 1.990 | 1.950 | 1.992 | 1.980 | .2413 |
| #3 | 1.947 | 1.976 | 1.939 | 1.975 | 1.991 | 1.954 | 1.994 | 1.981 | .2417 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.982** | **1.996** | **1.918** | **2.008** | **1.976** | **1.940** | **1.903** | **38.94** | **39.54** |
| Stddev | .003 | .001 | .003 | .004 | .002 | .004 | .002 | .09 | .13 |
| %RSD | .1475 | .0277 | .1643 | .1741 | .1208 | .2025 | .1154 | .2182 | .3255 |
| #1 | 1.984 | 1.996 | 1.919 | 2.005 | 1.979 | 1.940 | 1.902 | 38.95 | 39.61 |
| #2 | 1.979 | 1.997 | 1.914 | 2.009 | 1.975 | 1.944 | 1.902 | 39.02 | 39.62 |
| #3 | 1.984 | 1.996 | 1.920 | 2.012 | 1.976 | 1.936 | 1.906 | 38.85 | 39.39 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.64** | **39.61** | **38.45** | **38.96** | **1.943** | **1.928** | **4.717** | **1.941** | **1.974** |
| Stddev | .15 | .19 | .14 | .10 | .003 | .002 | .010 | .003 | .005 |
| %RSD | .3669 | .4732 | .3538 | .2573 | .1474 | .1065 | .2133 | .1690 | .2618 |
| #1 | 39.68 | 39.68 | 38.50 | 39.02 | 1.946 | 1.930 | 4.728 | 1.937 | 1.975 |
| #2 | 39.76 | 39.75 | 38.54 | 39.02 | 1.940 | 1.927 | 4.708 | 1.941 | 1.978 |
| #3 | 39.48 | 39.40 | 38.29 | 38.84 | 1.944 | 1.927 | 4.716 | 1.944 | 1.968 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 17:23:14 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.942** | **1.901** | **1.944** | **1.925** | **1.942** | **1.949** | **1.934** |
| Stddev | .003 | .001 | .003 | .003 | .002 | .005 | .002 |
| %RSD | .1290 | .0594 | .1352 | .1589 | .0752 | .2686 | .0997 |
| #1 | 1.944 | 1.902 | 1.947 | 1.928 | 1.944 | 1.948 | 1.933 |
| #2 | 1.939 | 1.900 | 1.942 | 1.924 | 1.941 | 1.955 | 1.936 |
| #3 | 1.942 | 1.901 | 1.944 | 1.922 | 1.941 | 1.945 | 1.933 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83986.** | **9279.9** | **6127.9** | **12361.** |
| Stddev | 97. | 29.3 | 6.7 | 8. |
| %RSD | .11503 | .31525 | .10966 | .06443 |
| #1 | 84055. | 9268.7 | 6134.6 | 12370. |
| #2 | 83876. | 9257.9 | 6121.2 | 12359. |
| #3 | 84029. | 9313.1 | 6128.0 | 12355. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 17:28:15 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **-.0001** | **-.0000** | **.0002** | **-.0004** | **.0000** | **-.0003** | **.0000** |
| Stddev | .0004 | .0001 | .0001 | .0000 | .0001 | .0003 | .0000 | .0001 | .0003 |
| %RSD | 600.0 | 101.0 | 92.18 | 1510. | 42.48 | 65.26 | 36.40 | 52.48 | 1011. |
| #1 | .0001 | .0002 | -.0000 | -.0000 | .0002 | -.0002 | .0000 | -.0005 | .0003 |
| #2 | .0002 | .0000 | -.0002 | .0000 | .0002 | -.0007 | .0000 | -.0002 | -.0001 |
| #3 | -.0005 | .0000 | -.0001 | .0000 | .0001 | -.0004 | .0000 | -.0002 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0010** | **.0006** | **.0001** | **-.0004** | **.0004** | **-.0018** | **-.0005** |
| Stddev | .0003 | .0001 | .0004 | .0016 | .0010 | .0004 | .0005 | .0082 | .0011 |
| %RSD | 842.5 | 66.14 | 36.58 | 277.3 | 1187. | 105.2 | 142.9 | 456.6 | 215.5 |
| #1 | -.0002 | -.0001 | .0015 | .0024 | .0011 | .0001 | -.0002 | -.0110 | -.0016 |
| #2 | .0003 | -.0001 | .0008 | -.0004 | -.0008 | -.0007 | .0009 | .0006 | -.0004 |
| #3 | -.0002 | -.0000 | .0009 | -.0003 | -.0000 | -.0007 | .0004 | .0050 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **-.0118** | **-.0108** | **.0398** | **.0041** | **.0000** | **-.0003** | **.0002** | **.0000** |
| Stddev | .0037 | .0146 | .0223 | .0074 | .0008 | .0001 | .0004 | .0002 | .0001 |
| %RSD | 73.46 | 123.1 | 206.0 | 18.55 | 19.94 | 213.0 | 127.1 | 148.8 | 404.2 |
| #1 | .0060 | -.0275 | .0121 | .0429 | .0050 | -.0000 | .0001 | .0004 | .0001 |
| #2 | .0009 | .0013 | -.0324 | .0451 | .0039 | .0000 | -.0003 | -.0001 | .0001 |
| #3 | .0081 | -.0092 | -.0122 | .0314 | .0035 | .0002 | -.0008 | .0002 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 17:28:15 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0000** | **.0002** | **.0001** | **-.0001** | F **.0089** | **-.0003** |
| Stddev | .0001 | .0006 | .0002 | .0012 | .0007 | .0012 | .0006 |
| %RSD | 132.9 | 1305. | 124.8 | 1102. | 667.3 | 13.15 | 202.6 |
| #1 | .0001 | .0005 | -.0001 | .0013 | .0003 | .0085 | .0003 |
| #2 | .0001 | .0003 | .0003 | -.0011 | .0003 | .0102 | -.0008 |
| #3 | -.0000 | -.0007 | .0003 | .0001 | -.0009 | .0080 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87049.** | **9442.0** | **6323.1** | **12982.** |
| Stddev | 255. | 18.6 | 12.8 | 19. |
| %RSD | .29297 | .19658 | .20306 | .14630 |
| #1 | 86776. | 9462.9 | 6308.6 | 12962. |
| #2 | 87282. | 9435.5 | 6327.9 | 12986. |
| #3 | 87088. | 9427.6 | 6332.8 | 12999. |



Zoom In Zoom Out

Sample Name: MP14865-MB1 Acquired: 5/8/2019 17:33:25 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0000** | **-.0001** | **.0001** | **.0010** | **.0037** | **.0003** | **.0002** | **-.0005** |
| Stddev | .0000 | .0000 | .0001 | .0001 | .0002 | .0001 | .0000 | .0002 | .0003 |
| %RSD | 10.48 | 269.5 | 208.8 | 66.06 | 17.03 | 2.540 | 5.075 | 115.8 | 67.97 |
| #1 | -.0002 | -.0000 | -.0002 | .0000 | .0009 | .0038 | .0003 | .0002 | -.0007 |
| #2 | -.0002 | .0000 | .0000 | .0002 | .0012 | .0038 | .0003 | .0004 | -.0001 |
| #3 | -.0002 | -.0000 | -.0000 | .0002 | .0009 | .0036 | .0003 | -.0000 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0056** | **.0005** | **.0004** | **.0001** | **-.0014** | **.0011** | **.0105** | **.0753** |
| Stddev | .0003 | .0000 | .0010 | .0010 | .0004 | .0014 | .0013 | .0105 | .0027 |
| %RSD | 219.6 | .4205 | 203.9 | 222.0 | 668.3 | 99.69 | 124.3 | 99.72 | 3.604 |
| #1 | .0006 | .0056 | .0016 | .0011 | .0005 | -.0022 | .0026 | .0158 | .0777 |
| #2 | -.0000 | .0056 | -.0001 | -.0007 | -.0003 | .0002 | .0003 | .0173 | .0759 |
| #3 | -.0001 | .0056 | -.0001 | .0009 | .0000 | -.0023 | .0003 | -.0016 | .0724 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0249** | **.0335** | **.0242** | **.1129** | **.0057** | **.0003** | **.0095** | **.0184** | **.0004** |
| Stddev | .0029 | .0198 | .0298 | .0041 | .0004 | .0003 | .0006 | .0005 | .0000 |
| %RSD | 11.75 | 59.13 | 123.3 | 3.669 | 7.821 | 102.9 | 6.644 | 2.851 | 6.694 |
| #1 | .0239 | .0155 | -.0071 | .1134 | .0059 | .0004 | .0089 | .0178 | .0004 |
| #2 | .0226 | .0303 | .0523 | .1086 | .0061 | -.0000 | .0101 | .0185 | .0004 |
| #3 | .0282 | .0547 | .0273 | .1168 | .0052 | .0004 | .0095 | .0188 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0012** | **.0003** | **.0077** | **.0006** | **.0072** | **.0202** |
| Stddev | .0004 | .0011 | .0003 | .0010 | .0004 | .0017 | .0004 |
| %RSD | 48.46 | 98.01 | 81.63 | 13.45 | 65.60 | 23.83 | 1.965 |
| #1 | .0003 | .0010 | .0001 | .0088 | .0011 | .0076 | .0204 |
| #2 | .0008 | .0024 | .0006 | .0068 | .0004 | .0053 | .0197 |
| #3 | .0010 | .0001 | .0003 | .0074 | .0004 | .0086 | .0204 |

Zoom In Zoom Out

Sample Name: MP14865-MB1 Acquired: 5/8/2019 17:33:25 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87544.** | **9463.5** | **6326.8** | **12982.** |
| Stddev | 599. | 42.7 | 17.5 | 37. |
| %RSD | .68413 | .45127 | .27694 | .28768 |
| #1 | 86887. | 9429.2 | 6347.0 | 13025. |
| #2 | 88059. | 9450.0 | 6317.1 | 12963. |
| #3 | 87685. | 9511.3 | 6316.2 | 12958. |



Zoom In Zoom Out

Sample Name: MP14865-B1 Acquired: 5/8/2019 17:38:33 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.942** | **1.986** | **1.914** | **1.966** | **1.976** | **1.934** | **1.992** | **1.977** |
| Stddev | .004 | .004 | .000 | .001 | .005 | .002 | .014 | .002 |
| %RSD | .2152 | .1922 | .0173 | .0615 | .2661 | .0884 | .7153 | .1089 |
| #1 | 1.937 | 1.982 | 1.914 | 1.965 | 1.981 | 1.935 | 1.996 | 1.974 |
| #2 | 1.943 | 1.987 | 1.914 | 1.967 | 1.976 | 1.932 | 2.003 | 1.979 |
| #3 | 1.945 | 1.989 | 1.915 | 1.967 | 1.970 | 1.934 | 1.976 | 1.978 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2370** | **1.959** | **1.989** | **1.890** | **2.003** | **1.967** | **1.888** | **1.904** |
| Stddev | .0004 | .004 | .002 | .001 | .003 | .003 | .003 | .004 |
| %RSD | .1835 | .1890 | .0943 | .0508 | .1679 | .1261 | .1339 | .1935 |
| #1 | .2373 | 1.963 | 1.988 | 1.891 | 1.999 | 1.965 | 1.885 | 1.900 |
| #2 | .2373 | 1.959 | 1.991 | 1.890 | 2.006 | 1.969 | 1.890 | 1.905 |
| #3 | .2365 | 1.955 | 1.987 | 1.889 | 2.003 | 1.966 | 1.888 | 1.907 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.43** | **24.93** | **24.95** | **24.92** | **23.74** | **24.46** | **1.874** | **1.918** |
| Stddev | .05 | .06 | .05 | .15 | .03 | .06 | .002 | .002 |
| %RSD | .2067 | .2583 | .2165 | .6193 | .1101 | .2539 | .1071 | .1056 |
| #1 | 24.37 | 24.86 | 24.90 | 24.76 | 23.76 | 24.39 | 1.872 | 1.916 |
| #2 | 24.45 | 24.94 | 24.95 | 24.96 | 23.71 | 24.48 | 1.874 | 1.918 |
| #3 | 24.47 | 24.99 | 25.01 | 25.06 | 23.75 | 24.50 | 1.876 | 1.920 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0808** | **1.963** | **1.959** | **1.935** | **1.619** | **1.931** | **-.0029** | **-.0049** |
| Stddev | .0014 | .003 | .004 | .005 | .003 | .003 | .0006 | .0009 |
| %RSD | 1.794 | .1278 | .2103 | .2671 | .1775 | .1453 | 19.79 | 17.71 |
| #1 | .0795 | 1.961 | 1.955 | 1.938 | 1.615 | 1.934 | -.0028 | -.0049 |
| #2 | .0804 | 1.965 | 1.959 | 1.938 | 1.620 | 1.930 | -.0024 | -.0058 |
| #3 | .0824 | 1.961 | 1.963 | 1.929 | 1.621 | 1.929 | -.0035 | -.0040 |



Zoom In Zoom Out

Sample Name: MP14865-B1 Acquired: 5/8/2019 17:38:33 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0265** | **1.922** |
| Stddev | .0014 | .003 |
| %RSD | 5.175 | .1354 |
| #1 | -.0276 | 1.920 |
| #2 | -.0269 | 1.922 |
| #3 | -.0250 | 1.925 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86388.** | **9568.5** | **6233.8** | **12642.** |
| Stddev | 386. | 24.2 | 2.9 | 5. |
| %RSD | .44705 | .25325 | .04672 | .04036 |
| #1 | 85972. | 9592.8 | 6233.5 | 12640. |
| #2 | 86457. | 9568.4 | 6236.8 | 12648. |
| #3 | 86735. | 9544.3 | 6231.0 | 12639. |



Zoom In Zoom Out

Sample Name: MP14865-S1 Acquired: 5/8/2019 17:43:31 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.415** | **1.805** | **1.798** | **1.906** | **1.947** | **2.086** | **3.577** | **1.990** | **.2239** |
| Stddev | .091 | .068 | .004 | .003 | .005 | .008 | .022 | .004 | .0016 |
| %RSD | 3.756 | 3.759 | .1939 | .1473 | .2707 | .3645 | .6193 | .1869 | .7030 |
| #1 | 2.310 | 1.726 | 1.801 | 1.909 | 1.948 | 2.084 | 3.553 | 1.994 | .2221 |
| #2 | 2.465 | 1.844 | 1.798 | 1.905 | 1.941 | 2.079 | 3.597 | 1.988 | .2246 |
| #3 | 2.469 | 1.844 | 1.794 | 1.903 | 1.952 | 2.094 | 3.580 | 1.987 | .2250 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.996** | **3.285** | **1.840** | **1.879** | **2.303** | **1.736** | **1.265** | **128.2** | **50.09** |
| Stddev | .006 | .006 | .000 | .001 | .003 | .002 | .005 | 4.8 | 1.86 |
| %RSD | .2835 | .1694 | .0158 | .0308 | .1423 | .0971 | .3708 | 3.739 | 3.716 |
| #1 | 1.998 | 3.291 | 1.841 | 1.879 | 2.306 | 1.734 | 1.270 | 122.6 | 47.94 |
| #2 | 1.990 | 3.282 | 1.840 | 1.879 | 2.302 | 1.737 | 1.263 | 130.8 | 51.10 |
| #3 | 2.001 | 3.281 | 1.840 | 1.880 | 2.300 | 1.737 | 1.262 | 131.0 | 51.23 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **135.0** | **40.87** | **34.08** | **23.55** | **1.823** | **1.766** | **4.007** | **1.799** | **1.911** |
| Stddev | 5.0 | 1.61 | 1.20 | .85 | .005 | .004 | .020 | .007 | .072 |
| %RSD | 3.700 | 3.948 | 3.520 | 3.620 | .2962 | .2021 | .4957 | .3752 | 3.753 |
| #1 | 129.2 | 39.01 | 32.69 | 22.57 | 1.828 | 1.770 | 4.030 | 1.807 | 1.829 |
| #2 | 137.8 | 41.76 | 34.72 | 24.02 | 1.823 | 1.765 | 3.997 | 1.797 | 1.952 |
| #3 | 137.8 | 41.85 | 34.81 | 24.07 | 1.817 | 1.764 | 3.995 | 1.794 | 1.953 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.504** | **1.275** | **1.650** | **13.13** | **-.0135** | **.1289** | **6.152** |
| Stddev | .012 | .001 | .007 | .02 | .0006 | .0063 | .011 |
| %RSD | .3486 | .0920 | .4222 | .1410 | 4.646 | 4.892 | .1737 |
| #1 | 3.507 | 1.274 | 1.650 | 13.15 | -.0140 | .1217 | 6.164 |
| #2 | 3.491 | 1.276 | 1.643 | 13.13 | -.0136 | .1317 | 6.147 |
| #3 | 3.515 | 1.274 | 1.657 | 13.11 | -.0128 | .1333 | 6.145 |

Zoom In Zoom Out

Sample Name: MP14865-S1 Acquired: 5/8/2019 17:43:31 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88876.** | **10220.** | **6437.2** | **12692.** |
| Stddev | 196. | 253. | 14.4 | 22. |
| %RSD | .22043 | 2.4727 | .22328 | .17148 |
| #1 | 88924. | 10510. | 6420.6 | 12667. |
| #2 | 89044. | 10099. | 6445.6 | 12705. |
| #3 | 88661. | 10050. | 6445.4 | 12703. |



Zoom In Zoom Out

Sample Name: MP14865-S2 Acquired: 5/8/2019 17:48:29 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.493** | **1.857** | **1.816** | **1.926** | **1.973** | **2.115** | **3.589** | **2.006** | **.2266** |
| Stddev | .066 | .049 | .012 | .012 | .004 | .002 | .018 | .012 | .0012 |
| %RSD | 2.631 | 2.615 | .6728 | .6444 | .1917 | .1083 | .5116 | .5872 | .5273 |
| #1 | 2.492 | 1.856 | 1.827 | 1.935 | 1.970 | 2.115 | 3.580 | 2.016 | .2263 |
| #2 | 2.560 | 1.907 | 1.803 | 1.912 | 1.971 | 2.113 | 3.578 | 1.993 | .2279 |
| #3 | 2.428 | 1.809 | 1.819 | 1.930 | 1.977 | 2.118 | 3.611 | 2.010 | .2255 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.017** | **3.332** | **1.865** | **1.894** | **2.400** | **1.749** | **1.264** | **132.2** | **52.22** |
| Stddev | .003 | .023 | .014 | .010 | .016 | .012 | .010 | 3.6 | 1.43 |
| %RSD | .1307 | .6878 | .7624 | .5496 | .6611 | .6550 | .7771 | 2.711 | 2.736 |
| #1 | 2.016 | 3.354 | 1.879 | 1.903 | 2.415 | 1.760 | 1.274 | 132.0 | 52.26 |
| #2 | 2.015 | 3.309 | 1.850 | 1.882 | 2.383 | 1.737 | 1.254 | 135.8 | 53.63 |
| #3 | 2.020 | 3.334 | 1.866 | 1.896 | 2.403 | 1.750 | 1.264 | 128.6 | 50.78 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **145.5** | **41.94** | **34.78** | **24.32** | **1.841** | **1.787** | **3.822** | **1.876** | **1.979** |
| Stddev | 3.9 | 1.19 | .89 | .64 | .009 | .013 | .032 | .014 | .052 |
| %RSD | 2.672 | 2.831 | 2.561 | 2.643 | .4926 | .7108 | .8412 | .7576 | 2.624 |
| #1 | 145.4 | 41.95 | 34.79 | 24.29 | 1.849 | 1.798 | 3.859 | 1.890 | 1.977 |
| #2 | 149.5 | 43.13 | 35.66 | 24.98 | 1.831 | 1.773 | 3.804 | 1.861 | 2.032 |
| #3 | 141.7 | 40.75 | 33.88 | 23.70 | 1.843 | 1.788 | 3.803 | 1.877 | 1.929 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.525** | **1.286** | **1.679** | **13.58** | **-.0127** | **.1361** | **6.663** |
| Stddev | .005 | .009 | .002 | .09 | .0011 | .0052 | .043 |
| %RSD | .1523 | .6979 | .1025 | .6325 | 8.474 | 3.827 | .6397 |
| #1 | 3.519 | 1.293 | 1.678 | 13.66 | -.0115 | .1362 | 6.704 |
| #2 | 3.525 | 1.276 | 1.678 | 13.49 | -.0132 | .1413 | 6.619 |
| #3 | 3.530 | 1.288 | 1.681 | 13.59 | -.0134 | .1308 | 6.667 |



Zoom In Zoom Out

Sample Name: MP14865-S2 Acquired: 5/8/2019 17:48:29 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88450.** | **9905.6** | **6431.1** | **12697.** |
| Stddev | 61. | 277.5 | 36.6 | 65. |
| %RSD | .06841 | 2.8010 | .56989 | .50885 |
| #1 | 88496. | 9885.9 | 6389.6 | 12627. |
| #2 | 88472. | 9638.5 | 6459.2 | 12753. |
| #3 | 88382. | 10192. | 6444.5 | 12712. |



Zoom In Zoom Out

Sample Name: JC87654-4A Acquired: 5/8/2019 17:53:26 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5634** | **.0031** | **.0010** | **.0457** | **.0981** | **.2374** | **1.686** | **.1285** | **.0021** |
| Stddev | .0043 | .0001 | .0002 | .0004 | .0003 | .0008 | .006 | .0005 | .0003 |
| %RSD | .7718 | 2.208 | 17.11 | .8052 | .2790 | .3273 | .3588 | .3563 | 13.04 |
| #1 | .5598 | .0031 | .0009 | .0454 | .0980 | .2366 | 1.684 | .1281 | .0019 |
| #2 | .5683 | .0032 | .0012 | .0455 | .0980 | .2375 | 1.682 | .1290 | .0024 |
| #3 | .5622 | .0031 | .0009 | .0461 | .0985 | .2382 | 1.693 | .1284 | .0020 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1395** | **1.429** | **.0772** | **.0016** | **.8077** | **.0044** | **.0047** | **79.44** | **25.62** |
| Stddev | .0006 | .004 | .0005 | .0015 | .0019 | .0002 | .0012 | .54 | .14 |
| %RSD | .4070 | .2657 | .5841 | 89.63 | .2412 | 5.403 | 25.59 | .6775 | .5583 |
| #1 | .1393 | 1.424 | .0772 | .0030 | .8057 | .0045 | .0043 | 79.03 | 25.52 |
| #2 | .1390 | 1.432 | .0776 | .0001 | .8077 | .0046 | .0060 | 80.05 | 25.79 |
| #3 | .1401 | 1.429 | .0767 | .0018 | .8096 | .0041 | .0037 | 79.26 | 25.57 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **116.5** | **16.97** | **5.632** | **1.008** | **.0706** | **.0067** | **2.484** | **.3891** | **.1142** |
| Stddev | .7 | .14 | .034 | .012 | .0004 | .0001 | .005 | .0021 | .0004 |
| %RSD | .6406 | .8225 | .6090 | 1.195 | .6043 | 2.231 | .2070 | .5303 | .3708 |
| #1 | 116.0 | 16.85 | 5.610 | .9981 | .0705 | .0066 | 2.478 | .3867 | .1138 |
| #2 | 117.3 | 17.12 | 5.672 | 1.005 | .0704 | .0067 | 2.488 | .3902 | .1147 |
| #3 | 116.1 | 16.95 | 5.615 | 1.022 | .0711 | .0069 | 2.484 | .3904 | .1142 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.431** | **-.0004** | **.0234** | **14.84** | **-.0078** | **.1468** | **4.540** |
| Stddev | .005 | .0008 | .0003 | .04 | .0003 | .0003 | .012 |
| %RSD | .3287 | 202.2 | 1.357 | .2553 | 3.963 | .2108 | .2543 |
| #1 | 1.427 | .0000 | .0230 | 14.81 | -.0078 | .1465 | 4.527 |
| #2 | 1.430 | -.0013 | .0234 | 14.88 | -.0082 | .1471 | 4.548 |
| #3 | 1.436 | .0001 | .0237 | 14.84 | -.0076 | .1468 | 4.545 |

Zoom In Zoom Out

Sample Name: JC87654-4A Acquired: 5/8/2019 17:53:26 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **90690.** | **10092.** | **6545.2** | **12992.** |
| Stddev | 295. | 37. | 12.7 | 16. |
| %RSD | .32483 | .37083 | .19380 | .12405 |
| #1 | 90481. | 10124. | 6558.7 | 13011. |
| #2 | 91027. | 10051. | 6533.6 | 12986. |
| #3 | 90563. | 10100. | 6543.1 | 12981. |



Zoom In Zoom Out

Sample Name: MP14865-SD1 Acquired: 5/8/2019 17:58:23 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5694** | **.0033** | **-.0000** | **.0453** | **.0986** | **.2233** | **1.690** | **.1262** | **.0051** |
| Stddev | .0017 | .0001 | .0003 | .0005 | .0025 | .0052 | .040 | .0017 | .0022 |
| %RSD | .2942 | 3.220 | 2380. | 1.172 | 2.522 | 2.333 | 2.362 | 1.337 | 42.32 |
| #1 | .5691 | .0032 | .0000 | .0447 | .0980 | .2221 | 1.687 | .1281 | .0046 |
| #2 | .5712 | .0033 | .0002 | .0456 | .0965 | .2187 | 1.652 | .1252 | .0074 |
| #3 | .5679 | .0034 | -.0003 | .0457 | .1013 | .2290 | 1.731 | .1252 | .0032 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1387** | **1.461** | **.0817** | **.0057** | **.8007** | **-.0027** | **.0065** | **80.37** | **26.25** |
| Stddev | .0025 | .008 | .0002 | .0012 | .0034 | .0066 | .0067 | .23 | .10 |
| %RSD | 1.798 | .5268 | .2367 | 20.85 | .4250 | 242.4 | 102.7 | .2894 | .3749 |
| #1 | .1377 | 1.459 | .0815 | .0046 | .8018 | -.0100 | -.0012 | 80.42 | 26.21 |
| #2 | .1368 | 1.454 | .0818 | .0070 | .7969 | -.0011 | .0106 | 80.58 | 26.36 |
| #3 | .1415 | 1.469 | .0817 | .0055 | .8035 | .0029 | .0103 | 80.12 | 26.18 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **119.3** | **17.31** | **5.050** | **1.055** | **.0909** | **.0066** | **3.237** | **.3911** | **.1147** |
| Stddev | .4 | .18 | .261 | .055 | .0012 | .0009 | .001 | .0047 | .0005 |
| %RSD | .3571 | 1.017 | 5.169 | 5.243 | 1.297 | 14.09 | .0278 | 1.206 | .4758 |
| #1 | 119.3 | 17.48 | 5.347 | 1.072 | .0896 | .0065 | 3.236 | .3874 | .1152 |
| #2 | 119.7 | 17.13 | 4.946 | 1.100 | .0912 | .0075 | 3.236 | .3895 | .1147 |
| #3 | 118.9 | 17.31 | 4.857 | .9936 | .0919 | .0057 | 3.238 | .3964 | .1141 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.403** | **.0117** | **.0229** | **14.82** | **-.0025** | **.1947** | **4.550** |
| Stddev | .030 | .0012 | .0008 | .06 | .0071 | .0055 | .026 |
| %RSD | 2.119 | 9.839 | 3.461 | .3945 | 282.8 | 2.805 | .5688 |
| #1 | 1.401 | .0130 | .0235 | 14.79 | -.0098 | .1890 | 4.546 |
| #2 | 1.374 | .0113 | .0220 | 14.78 | -.0022 | .1999 | 4.526 |
| #3 | 1.433 | .0109 | .0234 | 14.88 | .0044 | .1953 | 4.577 |



Zoom In Zoom Out

Sample Name: MP14865-SD1 Acquired: 5/8/2019 17:58:23 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89833.** | **9640.6** | **6437.9** | **13127.** |
| Stddev | 1934. | 12.1 | 25.5 | 53. |
| %RSD | 2.1526 | .12571 | .39618 | .40021 |
| #1 | 89942. | 9626.6 | 6457.5 | 13163. |
| #2 | 91710. | 9647.5 | 6447.0 | 13152. |
| #3 | 87847. | 9647.6 | 6409.0 | 13067. |



Zoom In Zoom Out

Sample Name: JC87654-1A Acquired: 5/8/2019 18:03:25 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5413** | **.0036** | **.0008** | **.0524** | **.1152** | **.2051** | **2.175** | **.1177** | **.0020** |
| Stddev | .0005 | .0000 | .0001 | .0004 | .0002 | .0007 | .025 | .0002 | .0002 |
| %RSD | .0989 | .8885 | 17.84 | .6992 | .1890 | .3468 | 1.147 | .2082 | 8.214 |
| #1 | .5419 | .0036 | .0009 | .0527 | .1153 | .2050 | 2.148 | .1179 | .0020 |
| #2 | .5409 | .0037 | .0009 | .0526 | .1150 | .2045 | 2.197 | .1176 | .0018 |
| #3 | .5411 | .0037 | .0006 | .0520 | .1154 | .2059 | 2.181 | .1175 | .0022 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1702** | **.6407** | **.0457** | **.0023** | **.4252** | **.0009** | **.0042** | **105.0** | **55.75** |
| Stddev | .0005 | .0009 | .0012 | .0017 | .0005 | .0011 | .0032 | .1 | .14 |
| %RSD | .3006 | .1408 | 2.658 | 73.63 | .1199 | 118.4 | 76.75 | .1317 | .2527 |
| #1 | .1699 | .6413 | .0470 | .0041 | .4251 | .0019 | .0033 | 105.2 | 55.86 |
| #2 | .1699 | .6413 | .0447 | .0007 | .4257 | -.0002 | .0078 | 105.0 | 55.78 |
| #3 | .1708 | .6397 | .0454 | .0020 | .4247 | .0011 | .0016 | 104.9 | 55.59 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **134.7** | **21.13** | **7.622** | **1.079** | **.0762** | **.0052** | **2.639** | **.0347** | **.2537** |
| Stddev | .3 | .05 | .002 | .020 | .0002 | .0003 | .007 | .0005 | .0003 |
| %RSD | .2011 | .2570 | .0235 | 1.816 | .3242 | 5.962 | .2800 | 1.342 | .0998 |
| #1 | 134.9 | 21.17 | 7.621 | 1.073 | .0765 | .0049 | 2.630 | .0346 | .2540 |
| #2 | 134.8 | 21.07 | 7.624 | 1.101 | .0761 | .0052 | 2.641 | .0342 | .2537 |
| #3 | 134.4 | 21.14 | 7.622 | 1.063 | .0760 | .0055 | 2.645 | .0351 | .2535 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.382** | **.0041** | **.0294** | **15.31** | **-.0103** | **.2054** | **4.915** |
| Stddev | .006 | .0008 | .0004 | .02 | .0010 | .0011 | .011 |
| %RSD | .4240 | 18.58 | 1.448 | .1266 | 9.785 | .5558 | .2137 |
| #1 | 1.382 | .0033 | .0291 | 15.33 | -.0096 | .2067 | 4.920 |
| #2 | 1.376 | .0040 | .0291 | 15.31 | -.0099 | .2047 | 4.922 |
| #3 | 1.388 | .0048 | .0298 | 15.29 | -.0115 | .2048 | 4.903 |

Zoom In Zoom Out

Sample Name: JC87654-1A Acquired: 5/8/2019 18:03:25 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **90651.** | **10133.** | **6525.3** | **12940.** |
| Stddev | 155. | 23. | 11.6 | 25. |
| %RSD | .17098 | .22569 | .17844 | .19589 |
| #1 | 90633. | 10109. | 6514.7 | 12923. |
| #2 | 90506. | 10133. | 6523.3 | 12929. |
| #3 | 90814. | 10155. | 6537.7 | 12969. |



Zoom In Zoom Out

Sample Name: JC87654-2A Acquired: 5/8/2019 18:08:31 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3528** | **.0036** | **.0001** | **.0647** | **.1081** | **.0716** | **1.033** | **.1167** | **.0014** |
| Stddev | .0003 | .0001 | .0000 | .0006 | .0005 | .0003 | .004 | .0009 | .0002 |
| %RSD | .0785 | 2.373 | 26.79 | .9217 | .4247 | .4230 | .4012 | .8016 | 12.93 |
| #1 | .3525 | .0035 | .0001 | .0648 | .1076 | .0713 | 1.028 | .1174 | .0014 |
| #2 | .3529 | .0036 | .0002 | .0653 | .1085 | .0718 | 1.036 | .1170 | .0015 |
| #3 | .3530 | .0037 | .0001 | .0641 | .1084 | .0718 | 1.035 | .1156 | .0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1701** | **.2651** | **.0390** | **.0016** | **.0856** | **-.0012** | **-.0003** | **76.19** | **6.052** |
| Stddev | .0008 | .0012 | .0011 | .0007 | .0003 | .0013 | .0008 | .03 | .006 |
| %RSD | .4541 | .4372 | 2.762 | 43.09 | .2936 | 107.9 | 225.7 | .0434 | .0940 |
| #1 | .1692 | .2644 | .0402 | .0013 | .0859 | .0001 | .0000 | 76.20 | 6.051 |
| #2 | .1706 | .2664 | .0381 | .0011 | .0854 | -.0011 | -.0012 | 76.22 | 6.058 |
| #3 | .1704 | .2644 | .0388 | .0024 | .0855 | -.0025 | .0002 | 76.15 | 6.047 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **134.4** | **17.48** | **6.862** | **.5096** | **.0300** | **.0047** | **2.296** | **.0149** | **.0608** |
| Stddev | .2 | .08 | .004 | .0076 | .0005 | .0001 | .027 | .0008 | .0001 |
| %RSD | .1299 | .4613 | .0659 | 1.494 | 1.574 | 2.919 | 1.174 | 5.471 | .0894 |
| #1 | 134.3 | 17.56 | 6.859 | .5016 | .0295 | .0048 | 2.292 | .0159 | .0608 |
| #2 | 134.6 | 17.48 | 6.860 | .5168 | .0299 | .0046 | 2.324 | .0145 | .0608 |
| #3 | 134.5 | 17.40 | 6.867 | .5105 | .0305 | .0047 | 2.271 | .0145 | .0607 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.571** | **.0032** | **.0817** | **1.524** | **-.0140** | **.1828** | **1.786** |
| Stddev | .006 | .0005 | .0004 | .008 | .0002 | .0005 | .009 |
| %RSD | .4117 | 15.69 | .4296 | .5474 | 1.294 | .2534 | .4801 |
| #1 | 1.564 | .0027 | .0814 | 1.520 | -.0139 | .1831 | 1.782 |
| #2 | 1.575 | .0033 | .0821 | 1.533 | -.0142 | .1823 | 1.796 |
| #3 | 1.575 | .0037 | .0816 | 1.519 | -.0140 | .1830 | 1.781 |



Zoom In Zoom Out

Sample Name: JC87654-2A Acquired: 5/8/2019 18:08:31 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: DUE

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **92026.** | **10127.** | **6619.0** | **13025.** |
| Stddev | 273. | 42. | 40.5 | 84. |
| %RSD | .29715 | .41823 | .61120 | .64451 |
| #1 | 92340. | 10089. | 6582.1 | 12945. |
| #2 | 91896. | 10118. | 6612.6 | 13017. |
| #3 | 91842. | 10173. | 6662.3 | 13112. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 18:13:31 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.951** | **1.992** | **1.941** | **1.976** | **1.977** | **1.924** | **2.004** | **2.010** | **.2394** |
| Stddev | .010 | .009 | .030 | .027 | .016 | .016 | .022 | .030 | .0019 |
| %RSD | .5354 | .4654 | 1.548 | 1.381 | .8026 | .8540 | 1.117 | 1.513 | .7875 |
| #1 | 1.955 | 1.997 | 1.908 | 1.946 | 1.969 | 1.915 | 1.987 | 1.977 | .2380 |
| #2 | 1.959 | 1.998 | 1.967 | 2.000 | 1.968 | 1.914 | 1.996 | 2.035 | .2387 |
| #3 | 1.939 | 1.981 | 1.947 | 1.982 | 1.996 | 1.943 | 2.029 | 2.019 | .2415 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.959** | **2.000** | **1.937** | **2.002** | **1.988** | **1.952** | **1.923** | **38.93** | **39.51** |
| Stddev | .017 | .030 | .028 | .027 | .026 | .033 | .028 | .21 | .17 |
| %RSD | .8810 | 1.515 | 1.423 | 1.341 | 1.313 | 1.703 | 1.474 | .5432 | .4372 |
| #1 | 1.950 | 1.967 | 1.906 | 1.975 | 1.959 | 1.916 | 1.892 | 39.06 | 39.61 |
| #2 | 1.949 | 2.027 | 1.958 | 2.029 | 2.009 | 1.982 | 1.948 | 39.06 | 39.61 |
| #3 | 1.979 | 2.005 | 1.946 | 2.003 | 1.997 | 1.959 | 1.928 | 38.69 | 39.31 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.70** | **39.91** | **38.08** | **39.18** | **1.947** | **1.942** | **4.784** | **1.973** | **1.972** |
| Stddev | .22 | .18 | .19 | .19 | .028 | .029 | .078 | .033 | .011 |
| %RSD | .5537 | .4606 | .5023 | .4812 | 1.455 | 1.503 | 1.639 | 1.664 | .5527 |
| #1 | 39.85 | 39.99 | 38.14 | 39.29 | 1.916 | 1.910 | 4.697 | 1.937 | 1.977 |
| #2 | 39.80 | 40.03 | 38.24 | 39.28 | 1.971 | 1.968 | 4.849 | 2.002 | 1.980 |
| #3 | 39.45 | 39.70 | 37.87 | 38.96 | 1.953 | 1.947 | 4.806 | 1.980 | 1.960 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 18:13:31 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.934** | **1.901** | **1.943** | **1.943** | **1.926** | **1.960** | **1.980** |
| Stddev | .018 | .029 | .017 | .030 | .028 | .011 | .030 |
| %RSD | .9064 | 1.548 | .8675 | 1.533 | 1.470 | .5489 | 1.522 |
| #1 | 1.924 | 1.869 | 1.935 | 1.910 | 1.895 | 1.964 | 1.947 |
| #2 | 1.923 | 1.927 | 1.932 | 1.969 | 1.951 | 1.969 | 2.007 |
| #3 | 1.954 | 1.908 | 1.963 | 1.951 | 1.931 | 1.948 | 1.985 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86532.** | **9454.7** | **6232.7** | **12652.** |
| Stddev | 188. | 28.8 | 69.3 | 122. |
| %RSD | .21753 | .30418 | 1.1119 | .96281 |
| #1 | 86683. | 9423.4 | 6300.4 | 12769. |
| #2 | 86592. | 9479.9 | 6161.9 | 12526. |
| #3 | 86321. | 9460.9 | 6235.7 | 12662. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 18:18:32 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0007** | **.0001** | **-.0000** | **.0001** | **-.0001** | **-.0003** | **.0000** | **-.0001** | **.0010** |
| Stddev | .0000 | .0001 | .0001 | .0002 | .0001 | .0002 | .0000 | .0003 | .0001 |
| %RSD | 6.433 | 105.8 | 167.2 | 160.9 | 119.0 | 74.64 | 162.8 | 196.7 | 10.93 |
| #1 | -.0007 | .0000 | .0000 | .0004 | .0000 | -.0005 | -.0000 | .0001 | .0012 |
| #2 | -.0006 | .0000 | -.0000 | -.0001 | -.0002 | -.0001 | .0000 | -.0001 | .0010 |
| #3 | -.0007 | .0001 | -.0001 | .0001 | -.0001 | -.0003 | .0000 | -.0004 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **.0002** | **-.0005** | **-.0004** | **-.0001** | **-.0002** | **-.0043** | **.0006** |
| Stddev | .0002 | .0001 | .0006 | .0004 | .0007 | .0011 | .0008 | .0091 | .0018 |
| %RSD | 123.4 | 51.99 | 299.5 | 80.03 | 167.8 | 1031. | 329.9 | 213.2 | 285.2 |
| #1 | .0001 | -.0001 | .0009 | -.0000 | -.0012 | -.0003 | -.0001 | -.0008 | .0011 |
| #2 | .0004 | -.0002 | -.0001 | -.0007 | .0000 | -.0011 | -.0011 | -.0146 | -.0014 |
| #3 | .0000 | -.0001 | -.0002 | -.0006 | -.0001 | .0011 | .0005 | .0026 | .0022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0058** | **.0265** | **-.1292** | **.0334** | **.0042** | **.0000** | **.0004** | **-.0000** | **-.0000** |
| Stddev | .0028 | .0260 | .0165 | .0081 | .0004 | .0000 | .0006 | .0003 | .0001 |
| %RSD | 49.29 | 97.88 | 12.79 | 24.13 | 8.668 | 120.8 | 147.4 | 2164. | 232.5 |
| #1 | .0035 | .0210 | -.1212 | .0287 | .0038 | .0000 | .0001 | -.0002 | .0000 |
| #2 | .0049 | .0038 | -.1182 | .0427 | .0045 | .0001 | .0000 | .0003 | .0000 |
| #3 | .0089 | .0548 | -.1482 | .0288 | .0044 | -.0000 | .0011 | -.0001 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 18:18:32 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0010** | **.0001** | **.0002** | **.0010** | F **.0161** | **-.0020** |
| Stddev | .0003 | .0008 | .0002 | .0009 | .0010 | .0005 | .0008 |
| %RSD | 147.5 | 79.15 | 146.7 | 461.9 | 96.13 | 2.928 | 38.09 |
| #1 | -.0001 | .0019 | .0001 | .0012 | .0005 | .0166 | -.0016 |
| #2 | .0002 | .0003 | .0003 | -.0006 | .0004 | .0158 | -.0015 |
| #3 | .0004 | .0008 | -.0001 | -.0000 | .0022 | .0159 | -.0029 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **90369.** | **9661.8** | **6465.9** | **13395.** |
| Stddev | 755. | 26.7 | 25.2 | 36. |
| %RSD | .83584 | .27668 | .38980 | .26801 |
| #1 | 90881. | 9647.2 | 6441.5 | 13363. |
| #2 | 90723. | 9692.6 | 6491.9 | 13434. |
| #3 | 89501. | 9645.5 | 6464.4 | 13387. |



Zoom In Zoom Out

Sample Name: MP14866-MB1 Acquired: 5/8/2019 18:23:43 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0007** | **-.0000** | **.0000** | **.0001** | **.0003** | **.0001** | **.0000** | **-.0001** | **.0008** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0004 | .0001 | .0001 | .0001 | .0002 |
| %RSD | 27.39 | 416.1 | 1459. | 76.88 | 123.0 | 37.71 | 282.4 | 167.8 | 27.26 |
| #1 | -.0007 | -.0001 | -.0001 | .0001 | .0002 | .0001 | -.0000 | -.0000 | .0008 |
| #2 | -.0005 | .0001 | .0001 | .0000 | .0008 | .0002 | -.0000 | -.0003 | .0011 |
| #3 | -.0009 | -.0001 | .0001 | .0002 | -.0000 | .0002 | .0001 | .0000 | .0006 |
| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0018** | **-.0001** | **.0002** | **-.0010** | **.0001** | **.0015** | **-.0147** | **.0061** |
| Stddev | .0001 | .0000 | .0010 | .0007 | .0004 | .0014 | .0012 | .0086 | .0038 |
| %RSD | 25.63 | 2.423 | 1107. | 371.4 | 34.98 | 1750. | 83.75 | 58.55 | 61.95 |
| #1 | .0002 | .0018 | .0010 | -.0004 | -.0007 | -.0014 | .0023 | -.0185 | .0095 |
| #2 | .0004 | .0018 | -.0007 | .0009 | -.0014 | .0002 | .0021 | -.0049 | .0067 |
| #3 | .0003 | .0018 | -.0007 | .0001 | -.0009 | .0014 | .0001 | -.0208 | .0021 |
| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **-.0029** | **-.1405** | **.0272** | **.0031** | **.0003** | **.0060** | **-.0001** | **.0000** |
| Stddev | .0017 | .0446 | .0215 | .0072 | .0003 | .0002 | .0003 | .0005 | .0001 |
| %RSD | 63.91 | 1551. | 15.29 | 26.39 | 10.01 | 63.94 | 5.380 | 851.3 | 1441. |
| #1 | .0042 | .0485 | -.1542 | .0305 | .0034 | .0001 | .0056 | .0005 | -.0001 |
| #2 | .0031 | -.0307 | -.1516 | .0190 | .0032 | .0002 | .0062 | -.0003 | .0001 |
| #3 | .0008 | -.0264 | -.1157 | .0321 | .0028 | .0005 | .0060 | -.0004 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0007** | **.0002** | **.0030** | **.0008** | **.0116** | **-.0018** |
| Stddev | .0002 | .0007 | .0001 | .0010 | .0009 | .0028 | .0006 |
| %RSD | 24.02 | 94.69 | 41.47 | 34.70 | 107.9 | 24.41 | 32.57 |
| #1 | .0008 | .0002 | .0002 | .0018 | .0018 | .0096 | -.0012 |
| #2 | .0006 | .0004 | .0001 | .0035 | .0004 | .0104 | -.0024 |
| #3 | .0005 | .0015 | .0002 | .0036 | .0002 | .0149 | -.0017 |

Zoom In Zoom Out

Sample Name: MP14866-MB1 Acquired: 5/8/2019 18:23:43 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **90775.** | **9780.8** | **6421.0** | **13310.** |
| Stddev | 217. | 25.0 | 12.2 | 31. |
| %RSD | .23887 | .25512 | .18993 | .23538 |
| #1 | 90917. | 9756.3 | 6435.0 | 13346. |
| #2 | 90525. | 9780.0 | 6414.6 | 13294. |
| #3 | 90883. | 9806.2 | 6413.3 | 13290. |



Zoom In Zoom Out

Sample Name: MP14866-B1 Acquired: 5/8/2019 18:28:52 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.913** | **1.972** | **1.887** | **1.929** | **1.914** | **1.870** | **1.981** | **1.971** |
| Stddev | .006 | .006 | .009 | .010 | .003 | .002 | .021 | .009 |
| %RSD | .3236 | .3038 | .4914 | .5297 | .1521 | .1288 | 1.043 | .4790 |
| #1 | 1.920 | 1.978 | 1.891 | 1.935 | 1.917 | 1.872 | 1.977 | 1.975 |
| #2 | 1.910 | 1.971 | 1.876 | 1.917 | 1.916 | 1.870 | 1.962 | 1.960 |
| #3 | 1.908 | 1.966 | 1.893 | 1.935 | 1.911 | 1.867 | 2.003 | 1.977 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2268** | **1.896** | **1.947** | **1.872** | **1.964** | **1.943** | **1.885** | **1.891** |
| Stddev | .0006 | .003 | .010 | .008 | .011 | .009 | .009 | .011 |
| %RSD | .2504 | .1352 | .4907 | .4455 | .5588 | .4625 | .4760 | .5773 |
| #1 | .2267 | 1.897 | 1.953 | 1.876 | 1.970 | 1.949 | 1.889 | 1.896 |
| #2 | .2262 | 1.898 | 1.936 | 1.862 | 1.951 | 1.933 | 1.875 | 1.879 |
| #3 | .2274 | 1.893 | 1.952 | 1.877 | 1.970 | 1.948 | 1.892 | 1.899 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.01** | **24.35** | **24.56** | **24.73** | **23.08** | **24.24** | **1.873** | **1.910** |
| Stddev | .07 | .06 | .08 | .09 | .08 | .06 | .009 | .009 |
| %RSD | .3105 | .2633 | .3412 | .3641 | .3338 | .2662 | .5084 | .4775 |
| #1 | 24.09 | 24.42 | 24.65 | 24.82 | 23.15 | 24.31 | 1.877 | 1.914 |
| #2 | 23.98 | 24.34 | 24.51 | 24.64 | 23.10 | 24.20 | 1.862 | 1.899 |
| #3 | 23.95 | 24.30 | 24.51 | 24.72 | 23.00 | 24.20 | 1.880 | 1.917 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0776** | **1.942** | **1.926** | **1.878** | **1.811** | **1.900** | **-.0131** | **-.0089** |
| Stddev | .0015 | .012 | .005 | .003 | .010 | .003 | .0005 | .0006 |
| %RSD | 1.874 | .6182 | .2550 | .1518 | .5286 | .1381 | 3.855 | 6.862 |
| #1 | .0775 | 1.949 | 1.931 | 1.880 | 1.814 | 1.902 | -.0125 | -.0083 |
| #2 | .0763 | 1.928 | 1.923 | 1.879 | 1.800 | 1.901 | -.0131 | -.0095 |
| #3 | .0792 | 1.948 | 1.923 | 1.875 | 1.819 | 1.897 | -.0135 | -.0088 |



Zoom In Zoom Out

Sample Name: MP14866-B1 Acquired: 5/8/2019 18:28:52 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0240** | **1.917** |
| Stddev | .0003 | .009 |
| %RSD | 1.349 | .4674 |
| #1 | -.0244 | 1.921 |
| #2 | -.0238 | 1.906 |
| #3 | -.0238 | 1.923 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88860.** | **9686.0** | **6322.7** | **12916.** |
| Stddev | 111. | 27.4 | 31.9 | 57. |
| %RSD | .12481 | .28298 | .50520 | .44397 |
| #1 | 88851. | 9674.3 | 6308.0 | 12889. |
| #2 | 88754. | 9717.3 | 6359.3 | 12982. |
| #3 | 88975. | 9666.4 | 6300.7 | 12878. |



Zoom In Zoom Out

Sample Name: JC87654-5A Acquired: 5/8/2019 18:33:52 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0038** | **.0000** | **.0000** | **-.0001** | **.0005** | **.0003** | **.0003** | **.0105** | **.0005** |
| Stddev | .0003 | .0000 | .0001 | .0003 | .0002 | .0003 | .0000 | .0031 | .0002 |
| %RSD | 7.204 | 81.73 | 354.4 | 323.8 | 33.38 | 92.51 | 6.871 | 29.70 | 32.90 |
| #1 | .0035 | .0000 | .0001 | -.0003 | .0003 | -.0000 | .0003 | .0072 | .0007 |
| #2 | .0041 | .0000 | -.0001 | -.0001 | .0006 | .0005 | .0004 | .0111 | .0006 |
| #3 | .0037 | .0001 | .0000 | .0002 | .0006 | .0004 | .0003 | .0133 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0023** | **.0002** | **.0004** | **-.0001** | **-.0004** | **.0003** | **.0364** | **.0309** |
| Stddev | .0002 | .0001 | .0005 | .0013 | .0008 | .0008 | .0013 | .0296 | .0017 |
| %RSD | 108.5 | 3.784 | 227.0 | 370.1 | 1178. | 235.6 | 385.9 | 81.49 | 5.353 |
| #1 | .0003 | .0022 | .0005 | -.0012 | .0005 | .0006 | -.0006 | .0127 | .0327 |
| #2 | .0000 | .0024 | .0004 | .0013 | .0003 | -.0010 | .0018 | .0696 | .0296 |
| #3 | .0001 | .0022 | -.0003 | .0010 | -.0010 | -.0006 | -.0002 | .0268 | .0303 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0043** | **-.0022** | **-.1319** | **.0816** | **.0052** | **.0003** | **.3374** | **-.0001** | **.0038** |
| Stddev | .0032 | .0119 | .0386 | .0078 | .0006 | .0001 | .0027 | .0004 | .0001 |
| %RSD | 75.73 | 544.2 | 29.28 | 9.621 | 11.39 | 16.96 | .8036 | 562.7 | 2.062 |
| #1 | .0042 | -.0140 | -.1191 | .0806 | .0046 | .0004 | .3390 | -.0005 | .0038 |
| #2 | .0076 | .0099 | -.1013 | .0899 | .0057 | .0003 | .3390 | .0004 | .0038 |
| #3 | .0011 | -.0024 | -.1753 | .0743 | .0052 | .0003 | .3343 | -.0001 | .0037 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0043** | **.0001** | **.0112** | **.0014** | **.0114** | **.0001** |
| Stddev | .0002 | .0006 | .0001 | .0010 | .0007 | .0013 | .0006 |
| %RSD | 25.58 | 13.64 | 86.50 | 8.580 | 48.48 | 11.63 | 571.3 |
| #1 | .0005 | .0045 | .0001 | .0122 | .0016 | .0129 | .0002 |
| #2 | .0006 | .0047 | .0003 | .0110 | .0006 | .0103 | .0006 |
| #3 | .0008 | .0036 | .0001 | .0103 | .0019 | .0112 | -.0005 |

Zoom In Zoom Out

Sample Name: JC87654-5A Acquired: 5/8/2019 18:33:52 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89870.** | **9749.7** | **6376.4** | **13172.** |
| Stddev | 384. | 29.6 | 24.8 | 39. |
| %RSD | .42782 | .30399 | .38949 | .29339 |
| #1 | 90234. | 9719.6 | 6355.7 | 13139. |
| #2 | 89468. | 9750.4 | 6369.5 | 13164. |
| #3 | 89909. | 9778.9 | 6403.9 | 13214. |



Zoom In Zoom Out

Sample Name: JC87535-1 Acquired: 5/8/2019 18:39:01 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: MP14865

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3984** | **.0047** | **.0058** | **.0755** | **.1520** | **1.746** | **2.742** | **.1696** | ***** |
| Stddev | .0010 | .0001 | .0002 | .0005 | .0012 | .013 | .009 | .0014 | ----- |
| %RSD | .2566 | 2.328 | 3.759 | .6072 | .7740 | .7371 | .3251 | .8077 | ----- |
| #1 | .3992 | .0047 | .0056 | .0750 | .1518 | 1.742 | 2.735 | .1681 | ----- |
| #2 | .3987 | .0046 | .0058 | .0758 | .1533 | 1.761 | 2.738 | .1708 | ----- |
| #3 | .3972 | .0048 | .0060 | .0757 | .1510 | 1.736 | 2.752 | .1700 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1970** | **3.431** | **.0958** | **.0018** | **.3133** | **.0013** | **.0072** | **83.01** | **21.25** |
| Stddev | .0016 | .022 | .0014 | .0016 | .0010 | .0031 | .0010 | .09 | .03 |
| %RSD | .8071 | .6469 | 1.492 | 87.63 | .3339 | 236.6 | 13.57 | .1051 | .1444 |
| #1 | .1968 | 3.407 | .0968 | .0025 | .3135 | .0047 | .0072 | 83.03 | 21.26 |
| #2 | .1987 | 3.451 | .0965 | .0029 | .3143 | -.0015 | .0081 | 83.08 | 21.28 |
| #3 | .1956 | 3.435 | .0941 | .0000 | .3122 | .0008 | .0062 | 82.91 | 21.22 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **417.4** | **6.028** | **6.287** | **.6143** | **.0718** | **.0086** | **3.180** | **.1432** | **.2090** |
| Stddev | .4 | .020 | .010 | .0104 | .0006 | .0001 | .005 | .0006 | .0003 |
| %RSD | .1055 | .3307 | .1531 | 1.696 | .8032 | 1.107 | .1684 | .3884 | .1595 |
| #1 | 417.5 | 6.005 | 6.298 | .6197 | .0724 | .0086 | 3.178 | .1426 | .2088 |
| #2 | 417.9 | 6.042 | 6.284 | .6023 | .0717 | .0085 | 3.186 | .1436 | .2094 |
| #3 | 417.0 | 6.037 | 6.279 | .6210 | .0713 | .0087 | 3.176 | .1433 | .2089 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.632** | **.0017** | **.0579** | **30.55** | **-.0070** | **.0939** | **4.817** |
| Stddev | .012 | .0004 | .0002 | .18 | .0020 | .0016 | .021 |
| %RSD | .7042 | 23.11 | .3468 | .5815 | 28.88 | 1.669 | .4406 |
| #1 | 1.629 | .0020 | .0579 | 30.36 | -.0093 | .0922 | 4.793 |
| #2 | 1.645 | .0012 | .0581 | 30.71 | -.0056 | .0953 | 4.832 |
| #3 | 1.622 | .0019 | .0577 | 30.57 | -.0060 | .0943 | 4.826 |



Zoom In Zoom Out

Sample Name: JC87535-1 Acquired: 5/8/2019 18:39:01 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: MP14865

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88270.** | **9892.3** | **6257.2** | **13204.** |
| Stddev | 412. | 27.4 | 31.0 | 56. |
| %RSD | .46711 | .27698 | .49556 | .42120 |
| #1 | 88401. | 9866.7 | 6292.9 | 13268. |
| #2 | 87808. | 9889.0 | 6237.1 | 13168. |
| #3 | 88601. | 9921.2 | 6241.5 | 13177. |



Zoom In Zoom Out

Sample Name: JC87535-2 Acquired: 5/8/2019 18:44:03 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2979** | **.0047** | **.0003** | **.0701** | **.2372** | **.0869** | **1.024** | **.1451** | **.0034** |
| Stddev | .0005 | .0001 | .0001 | .0021 | .0010 | .0006 | .007 | .0042 | .0009 |
| %RSD | .1831 | 3.065 | 30.18 | 3.018 | .4082 | .7024 | .6942 | 2.861 | 26.69 |
| #1 | .2985 | .0045 | .0002 | .0687 | .2361 | .0863 | 1.016 | .1421 | .0042 |
| #2 | .2974 | .0047 | .0004 | .0726 | .2379 | .0875 | 1.030 | .1499 | .0024 |
| #3 | .2977 | .0048 | .0004 | .0691 | .2376 | .0868 | 1.027 | .1434 | .0035 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1751** | **.3308** | **.0354** | **.0017** | **.0553** | **.0007** | **.0020** | **79.21** | **2.285** |
| Stddev | .0016 | .0107 | .0011 | .0016 | .0011 | .0022 | .0009 | .13 | .006 |
| %RSD | .8874 | 3.237 | 3.246 | 94.56 | 1.982 | 309.4 | 43.15 | .1614 | .2795 |
| #1 | .1733 | .3230 | .0346 | .0032 | .0553 | .0020 | .0011 | 79.36 | 2.292 |
| #2 | .1763 | .3430 | .0367 | -.0000 | .0565 | -.0018 | .0022 | 79.14 | 2.280 |
| #3 | .1755 | .3263 | .0348 | .0020 | .0543 | .0020 | .0028 | 79.13 | 2.283 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **123.4** | **19.12** | **8.273** | **.7156** | **.0283** | **.0124** | **2.651** | **.0160** | **.0286** |
| Stddev | .2 | .04 | .016 | .0098 | .0010 | .0002 | .108 | .0004 | .0001 |
| %RSD | .1698 | .2244 | .1965 | 1.375 | 3.382 | 1.653 | 4.056 | 2.351 | .1830 |
| #1 | 123.6 | 19.11 | 8.292 | .7214 | .0275 | .0122 | 2.582 | .0164 | .0287 |
| #2 | 123.2 | 19.17 | 8.265 | .7210 | .0294 | .0126 | 2.775 | .0161 | .0286 |
| #3 | 123.4 | 19.08 | 8.263 | .7042 | .0281 | .0124 | 2.596 | .0156 | .0286 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.893** | **.0080** | **.0603** | **2.650** | **-.0126** | **.1200** | **3.167** |
| Stddev | .012 | .0007 | .0006 | .087 | .0006 | .0013 | .100 |
| %RSD | .6276 | 8.627 | .9409 | 3.271 | 5.126 | 1.084 | 3.141 |
| #1 | 1.880 | .0081 | .0597 | 2.588 | -.0119 | .1211 | 3.095 |
| #2 | 1.903 | .0086 | .0606 | 2.749 | -.0127 | .1186 | 3.280 |
| #3 | 1.897 | .0073 | .0607 | 2.613 | -.0132 | .1204 | 3.124 |

Zoom In Zoom Out

Sample Name: JC87535-2 Acquired: 5/8/2019 18:44:03 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89969.** | **9962.1** | **6293.1** | **12749.** |
| Stddev | 432. | 41.3 | 170.1 | 309. |
| %RSD | .47989 | .41413 | 2.7025 | 2.4229 |
| #1 | 90376. | 9917.8 | 6413.9 | 12969. |
| #2 | 89516. | 9999.4 | 6098.6 | 12396. |
| #3 | 90017. | 9969.0 | 6366.7 | 12881. |



Zoom In Zoom Out

Sample Name: JC87535-3 Acquired: 5/8/2019 18:49:02 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7620** | **.0029** | **.0045** | **.0618** | **.8366** | **1.414** | **.6812** | **.3942** | **.0054** |
| Stddev | .0046 | .0001 | .0002 | .0002 | .0070 | .012 | .0056 | .0003 | .0004 |
| %RSD | .6014 | 3.197 | 5.146 | .3483 | .8396 | .8264 | .8157 | .0824 | 6.559 |
| #1 | .7570 | .0028 | .0045 | .0617 | .8286 | 1.401 | .6748 | .3939 | .0058 |
| #2 | .7631 | .0028 | .0048 | .0620 | .8420 | 1.421 | .6851 | .3945 | .0053 |
| #3 | .7659 | .0030 | .0043 | .0616 | .8391 | 1.421 | .6836 | .3941 | .0051 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1471** | **1.558** | **.0857** | **.0012** | **1.627** | **.0155** | **.0216** | **27.56** | **44.62** |
| Stddev | .0009 | .004 | .0008 | .0009 | .003 | .0008 | .0011 | .14 | .19 |
| %RSD | .6333 | .2558 | .9135 | 75.80 | .1972 | 5.472 | 4.960 | .4995 | .4317 |
| #1 | .1460 | 1.557 | .0863 | .0002 | 1.626 | .0154 | .0204 | 27.42 | 44.43 |
| #2 | .1478 | 1.563 | .0848 | .0020 | 1.630 | .0163 | .0221 | 27.57 | 44.60 |
| #3 | .1474 | 1.555 | .0860 | .0015 | 1.623 | .0146 | .0224 | 27.69 | 44.82 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **218.2** | **4.838** | **2.035** | **.5257** | **.0217** | **.0906** | **8.112** | **.1045** | **.2190** |
| Stddev | 1.0 | .049 | .062 | .0090 | .0006 | .0004 | .031 | .0002 | .0012 |
| %RSD | .4436 | 1.014 | 3.035 | 1.706 | 2.674 | .4812 | .3790 | .1868 | .5597 |
| #1 | 217.1 | 4.856 | 1.964 | .5162 | .0223 | .0903 | 8.093 | .1044 | .2177 |
| #2 | 218.4 | 4.782 | 2.061 | .5340 | .0218 | .0911 | 8.147 | .1047 | .2192 |
| #3 | 219.0 | 4.875 | 2.079 | .5270 | .0212 | .0904 | 8.095 | .1044 | .2201 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.262** | **.0062** | **.0458** | F **254.8** | **-.0040** | **.0375** | **1.023** |
| Stddev | .011 | .0003 | .0004 | .7 | .0005 | .0016 | .004 |
| %RSD | .8935 | 5.049 | .7945 | .2618 | 12.95 | 4.345 | .3976 |
| #1 | 1.250 | .0064 | .0455 | 254.5 | -.0038 | .0357 | 1.023 |
| #2 | 1.266 | .0058 | .0458 | 255.5 | -.0046 | .0383 | 1.028 |
| #3 | 1.271 | .0063 | .0462 | 254.3 | -.0036 | .0387 | 1.020 |



Zoom In Zoom Out

Sample Name: JC87535-3 Acquired: 5/8/2019 18:49:02 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88545.** | **9791.5** | **6202.8** | **12957.** |
| Stddev | 756. | 3.4 | 15.8 | 25. |
| %RSD | .85408 | .03492 | .25544 | .19285 |
| #1 | 89382. | 9788.9 | 6202.1 | 12952. |
| #2 | 87910. | 9790.3 | 6187.2 | 12935. |
| #3 | 88344. | 9795.4 | 6218.9 | 12984. |



Zoom In Zoom Out

Sample Name: JC87535-4 Acquired: 5/8/2019 18:54:01 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6843** | **.0102** | **.0008** | **.0612** | **.1844** | **.6688** | **1.789** | **.1310** |
| Stddev | .0050 | .0001 | .0002 | .0003 | .0009 | .0031 | .005 | .0006 |
| %RSD | .7259 | .5641 | 19.93 | .5656 | .4859 | .4602 | .2578 | .4351 |
| #1 | .6900 | .0103 | .0009 | .0616 | .1838 | .6700 | 1.791 | .1316 |
| #2 | .6809 | .0102 | .0006 | .0609 | .1840 | .6653 | 1.791 | .1306 |
| #3 | .6819 | .0103 | .0008 | .0611 | .1854 | .6711 | 1.783 | .1307 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **.5344** | **.9137** | **.1166** | F **-.0020** | **1.045** | **.0203** | **.0030** |
| Stddev | ----- | .0034 | .0034 | .0003 | .0028 | .004 | .0017 | .0008 |
| %RSD | ----- | .6371 | .3750 | .2739 | 135.9 | .3558 | 8.274 | 27.47 |
| #1 | ----- | .5343 | .9175 | .1169 | .0001 | 1.049 | .0214 | .0033 |
| #2 | ----- | .5311 | .9108 | .1164 | -.0052 | 1.042 | .0210 | .0037 |
| #3 | ----- | .5379 | .9128 | .1163 | -.0010 | 1.044 | .0183 | .0021 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **63.73** | **15.94** | F **336.4** | **12.21** | **6.580** | **.9260** | **.0619** | **.0155** |
| Stddev | .50 | .11 | 2.5 | .17 | .056 | .0155 | .0011 | .0003 |
| %RSD | .7841 | .6602 | .7550 | 1.424 | .8522 | 1.677 | 1.841 | 1.865 |
| #1 | 64.30 | 16.07 | 339.3 | 12.41 | 6.643 | .9439 | .0632 | .0157 |
| #2 | 63.37 | 15.88 | 334.6 | 12.11 | 6.561 | .9182 | .0616 | .0152 |
| #3 | 63.53 | 15.89 | 335.3 | 12.10 | 6.535 | .9160 | .0610 | .0157 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.419** | **.0433** | **.2468** | **3.091** | **.0003** | **.0711** | **36.76** | F **-.0275** |
| Stddev | .014 | .0002 | .0018 | .017 | .0017 | .0002 | .12 | .0021 |
| %RSD | .5826 | .4026 | .7267 | .5429 | 664.6 | .2829 | .3373 | 7.510 |
| #1 | 2.431 | .0433 | .2488 | 3.088 | .0009 | .0713 | 36.89 | -.0298 |
| #2 | 2.403 | .0431 | .2457 | 3.076 | -.0017 | .0710 | 36.65 | -.0259 |
| #3 | 2.423 | .0435 | .2457 | 3.109 | .0015 | .0709 | 36.72 | -.0267 |

Zoom In Zoom Out

Sample Name: JC87535-4 Acquired: 5/8/2019 18:54:01 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1109** | F **8.733** |
| Stddev | .0009 | .023 |
| %RSD | .7886 | .2585 |
| #1 | .1111 | 8.759 |
| #2 | .1100 | 8.716 |
| #3 | .1117 | 8.725 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **99528.** | **11240.** | **7069.7** | **13263.** |
| Stddev | 434. | 78. | 15.5 | 27. |
| %RSD | .43616 | .69022 | .21865 | .20572 |
| #1 | 99867. | 11152. | 7051.8 | 13233. |
| #2 | 99678. | 11299. | 7078.0 | 13285. |
| #3 | 99039. | 11270. | 7079.2 | 13271. |



Zoom In Zoom Out

Sample Name: JC87535-5 Acquired: 5/8/2019 18:59:05 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.263** | **.0075** | **.0019** | **.0751** | **.2945** | **.1527** | **2.775** | **.1817** | **.0036** |
| Stddev | .003 | .0000 | .0003 | .0008 | .0014 | .0007 | .011 | .0017 | .0005 |
| %RSD | .2572 | .5294 | 15.15 | 1.124 | .4857 | .4881 | .3824 | .9470 | 12.55 |
| #1 | 1.264 | .0074 | .0016 | .0742 | .2961 | .1534 | 2.785 | .1797 | .0031 |
| #2 | 1.266 | .0075 | .0021 | .0756 | .2942 | .1527 | 2.776 | .1830 | .0040 |
| #3 | 1.260 | .0075 | .0019 | .0756 | .2933 | .1519 | 2.764 | .1823 | .0037 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2891** | **.9090** | **.0513** | **.0032** | **.5539** | **.0019** | **.0015** | **150.5** | **19.29** |
| Stddev | .0022 | .0083 | .0014 | .0017 | .0041 | .0027 | .0012 | .4 | .04 |
| %RSD | .7665 | .9100 | 2.699 | 52.35 | .7449 | 139.3 | 77.32 | .2337 | .2190 |
| #1 | .2912 | .9002 | .0501 | .0033 | .5492 | .0046 | .0002 | 150.4 | 19.26 |
| #2 | .2893 | .9167 | .0528 | .0048 | .5569 | .0019 | .0019 | 150.9 | 19.33 |
| #3 | .2868 | .9101 | .0510 | .0015 | .5556 | -.0007 | .0024 | 150.2 | 19.26 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **177.1** | **35.57** | **12.89** | **1.573** | **.0538** | **.0057** | **2.410** | **.0209** | **.1745** |
| Stddev | .5 | .13 | .03 | .009 | .0003 | .0000 | .015 | .0004 | .0005 |
| %RSD | .2784 | .3672 | .1937 | .5988 | .5997 | .8453 | .6383 | 1.919 | .3001 |
| #1 | 176.8 | 35.42 | 12.87 | 1.567 | .0539 | .0056 | 2.397 | .0205 | .1743 |
| #2 | 177.7 | 35.61 | 12.92 | 1.584 | .0534 | .0057 | 2.427 | .0209 | .1751 |
| #3 | 176.9 | 35.68 | 12.89 | 1.568 | .0541 | .0057 | 2.407 | .0213 | .1741 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.781** | **.0131** | **.0983** | **12.01** | **-.0193** | **.2483** | **3.099** |
| Stddev | .022 | .0006 | .0006 | .10 | .0015 | .0004 | .025 |
| %RSD | .5845 | 4.470 | .6559 | .8158 | 7.534 | .1579 | .7898 |
| #1 | 3.800 | .0136 | .0988 | 11.91 | -.0178 | .2488 | 3.073 |
| #2 | 3.785 | .0125 | .0986 | 12.10 | -.0196 | .2482 | 3.122 |
| #3 | 3.757 | .0134 | .0976 | 12.03 | -.0207 | .2481 | 3.101 |



Zoom In Zoom Out

Sample Name: JC87535-5 Acquired: 5/8/2019 18:59:05 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **91863.** | **10286.** | **6562.9** | **12727.** |
| Stddev | 124. | 51. | 48.5 | 89. |
| %RSD | .13476 | .49365 | .73850 | .70294 |
| #1 | 91720. | 10332. | 6610.7 | 12815. |
| #2 | 91941. | 10294. | 6513.8 | 12636. |
| #3 | 91928. | 10232. | 6564.2 | 12730. |



Zoom In Zoom Out

Sample Name: JC87535-6 Acquired: 5/8/2019 19:04:12 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.096** | **.0082** | **.0009** | **.0817** | **.3216** | **.0683** | **2.199** | **.2008** |
| Stddev | .005 | .0001 | .0002 | .0003 | .0024 | .0007 | .022 | .0006 |
| %RSD | .4671 | 1.620 | 21.40 | .3765 | .7407 | 1.021 | 1.024 | .3140 |
| #1 | 1.099 | .0084 | .0007 | .0819 | .3238 | .0689 | 2.225 | .2015 |
| #2 | 1.090 | .0081 | .0010 | .0813 | .3191 | .0675 | 2.183 | .2003 |
| #3 | 1.099 | .0082 | .0010 | .0819 | .3220 | .0684 | 2.188 | .2007 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033** | **.3259** | **.4880** | **.0304** | **.0017** | **.1002** | **.0014** | **.0013** |
| Stddev | .0004 | .0027 | .0010 | .0002 | .0002 | .0018 | .0010 | .0011 |
| %RSD | 11.98 | .8205 | .2040 | .7876 | 12.24 | 1.811 | 68.85 | 85.86 |
| #1 | .0029 | .3287 | .4885 | .0305 | .0015 | .0982 | .0021 | .0011 |
| #2 | .0034 | .3233 | .4869 | .0305 | .0016 | .1009 | .0017 | .0002 |
| #3 | .0037 | .3255 | .4887 | .0301 | .0019 | .1016 | .0003 | .0024 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **167.2** | **18.49** | **171.7** | **39.55** | **14.71** | **1.683** | **.0521** | **.0039** |
| Stddev | .8 | .10 | .8 | .25 | .06 | .003 | .0003 | .0004 |
| %RSD | .4551 | .5600 | .4456 | .6361 | .3748 | .1720 | .6692 | 9.062 |
| #1 | 167.8 | 18.58 | 172.4 | 39.82 | 14.75 | 1.683 | .0524 | .0037 |
| #2 | 166.4 | 18.38 | 170.9 | 39.33 | 14.65 | 1.680 | .0521 | .0037 |
| #3 | 167.5 | 18.51 | 171.8 | 39.48 | 14.75 | 1.685 | .0517 | .0043 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.344** | **.0109** | **.1522** | **4.533** | **.0022** | **.1052** | **2.881** | F **-.0236** |
| Stddev | .005 | .0003 | .0007 | .031 | .0010 | .0006 | .003 | .0012 |
| %RSD | .2050 | 3.161 | .4915 | .6895 | 48.16 | .5885 | .1156 | 4.952 |
| #1 | 2.347 | .0108 | .1524 | 4.564 | .0026 | .1058 | 2.885 | -.0223 |
| #2 | 2.338 | .0112 | .1514 | 4.501 | .0010 | .1046 | 2.878 | -.0246 |
| #3 | 2.346 | .0105 | .1528 | 4.534 | .0030 | .1052 | 2.881 | -.0238 |

Zoom In Zoom Out

Sample Name: JC87535-6 Acquired: 5/8/2019 19:04:12 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2461** | **2.691** |
| Stddev | .0026 | .003 |
| %RSD | 1.055 | .0941 |
| #1 | .2483 | 2.690 |
| #2 | .2432 | 2.688 |
| #3 | .2467 | 2.693 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **92818.** | **10337.** | **6644.9** | **12704.** |
| Stddev | 440. | 30. | 24.1 | 37. |
| %RSD | .47380 | .28555 | .36216 | .29194 |
| #1 | 92315. | 10303. | 6646.1 | 12694. |
| #2 | 93013. | 10348. | 6668.3 | 12745. |
| #3 | 93127. | 10359. | 6620.2 | 12673. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 19:09:20 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.930** | **1.951** | **1.926** | **1.955** | **1.930** | **1.903** | **1.990** | **1.983** | **.2351** |
| Stddev | .010 | .011 | .003 | .005 | .007 | .006 | .009 | .006 | .0006 |
| %RSD | .5277 | .5489 | .1409 | .2657 | .3786 | .3434 | .4786 | .2918 | .2407 |
| #1 | 1.941 | 1.963 | 1.927 | 1.957 | 1.922 | 1.896 | 1.993 | 1.985 | .2345 |
| #2 | 1.927 | 1.947 | 1.928 | 1.958 | 1.936 | 1.908 | 1.997 | 1.987 | .2355 |
| #3 | 1.922 | 1.943 | 1.923 | 1.949 | 1.931 | 1.906 | 1.979 | 1.976 | .2354 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.917** | **1.958** | **1.907** | **1.982** | **1.961** | **1.929** | **1.909** | **38.62** | **38.59** |
| Stddev | .007 | .002 | .003 | .002 | .004 | .005 | .007 | .24 | .25 |
| %RSD | .3869 | .1202 | .1594 | .1065 | .1991 | .2728 | .3679 | .6124 | .6535 |
| #1 | 1.909 | 1.957 | 1.909 | 1.984 | 1.962 | 1.929 | 1.915 | 38.89 | 38.88 |
| #2 | 1.923 | 1.960 | 1.909 | 1.982 | 1.964 | 1.934 | 1.910 | 38.54 | 38.46 |
| #3 | 1.918 | 1.955 | 1.904 | 1.980 | 1.957 | 1.923 | 1.902 | 38.44 | 38.42 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.02** | **38.58** | **37.45** | **38.91** | **1.934** | **1.930** | **4.735** | **1.944** | **1.959** |
| Stddev | .23 | .32 | .20 | .26 | .001 | .004 | .008 | .004 | .010 |
| %RSD | .5964 | .8384 | .5471 | .6608 | .0336 | .1801 | .1595 | .2115 | .5055 |
| #1 | 39.28 | 38.95 | 37.67 | 39.19 | 1.934 | 1.932 | 4.738 | 1.947 | 1.970 |
| #2 | 38.96 | 38.46 | 37.39 | 38.84 | 1.935 | 1.932 | 4.740 | 1.947 | 1.955 |
| #3 | 38.82 | 38.34 | 37.28 | 38.69 | 1.933 | 1.926 | 4.726 | 1.940 | 1.951 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 19:09:20 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.897** | **1.878** | **1.923** | **1.914** | **1.916** | **1.914** | **1.949** |
| Stddev | .007 | .004 | .007 | .004 | .003 | .012 | .002 |
| %RSD | .3471 | .1960 | .3566 | .2146 | .1312 | .6167 | .1222 |
| #1 | 1.891 | 1.877 | 1.915 | 1.916 | 1.918 | 1.927 | 1.950 |
| #2 | 1.904 | 1.882 | 1.928 | 1.916 | 1.916 | 1.910 | 1.951 |
| #3 | 1.897 | 1.875 | 1.925 | 1.909 | 1.913 | 1.905 | 1.946 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86274.** | **9434.0** | **6136.6** | **12462.** |
| Stddev | 365. | 102.7 | 8.8 | 8. |
| %RSD | .42248 | 1.0881 | .14263 | .06671 |
| #1 | 86470. | 9316.3 | 6144.2 | 12470. |
| #2 | 85854. | 9480.4 | 6138.7 | 12463. |
| #3 | 86500. | 9505.2 | 6127.0 | 12453. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 19:14:20 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0007** | **.0001** | **-.0002** | **.0000** | **-.0001** | **.0000** | **.0000** | **-.0005** | **.0005** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0002 | .0002 | .0001 | .0001 | .0001 |
| %RSD | 29.92 | 129.3 | 33.63 | 310.6 | 285.6 | 1323. | 395.8 | 27.92 | 26.24 |
| #1 | -.0006 | -.0000 | -.0002 | .0001 | .0002 | -.0002 | .0001 | -.0003 | .0006 |
| #2 | -.0006 | .0002 | -.0001 | .0001 | -.0003 | .0001 | .0000 | -.0006 | .0003 |
| #3 | -.0009 | .0000 | -.0002 | -.0001 | -.0001 | .0001 | -.0000 | -.0005 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0001** | **.0004** | **.0009** | **.0006** | **.0004** | **.0000** | **-.0074** | **-.0016** |
| Stddev | .0001 | .0001 | .0011 | .0010 | .0011 | .0005 | .0000 | .0132 | .0019 |
| %RSD | 617.2 | 92.87 | 243.5 | 101.4 | 173.9 | 122.8 | 108.1 | 177.5 | 115.7 |
| #1 | .0001 | .0000 | -.0001 | .0020 | .0018 | .0001 | .0001 | -.0117 | .0002 |
| #2 | -.0001 | -.0002 | .0017 | .0008 | -.0001 | .0002 | -.0000 | -.0180 | -.0016 |
| #3 | .0000 | -.0002 | -.0002 | .0001 | .0001 | .0010 | .0000 | .0074 | -.0035 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **-.0156** | **-.1218** | **.0211** | **.0033** | **.0000** | **.0005** | **-.0001** | **.0000** |
| Stddev | .0024 | .0137 | .0316 | .0071 | .0005 | .0003 | .0009 | .0001 | .0002 |
| %RSD | 225.3 | 87.83 | 25.90 | 33.77 | 14.01 | 640.9 | 180.5 | 46.38 | 1428. |
| #1 | -.0038 | -.0009 | -.0984 | .0294 | .0038 | -.0001 | -.0005 | -.0001 | .0002 |
| #2 | .0010 | -.0178 | -.1094 | .0170 | .0032 | -.0001 | .0006 | -.0002 | -.0000 |
| #3 | -.0005 | -.0281 | -.1577 | .0170 | .0029 | .0004 | .0014 | -.0001 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 19:14:20 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0003** | **.0002** | **.0015** | **.0014** | F **.0135** | **-.0012** |
| Stddev | .0001 | .0002 | .0000 | .0008 | .0002 | .0008 | .0005 |
| %RSD | 37.63 | 68.83 | 21.68 | 54.94 | 14.96 | 6.089 | 42.24 |
| #1 | .0002 | .0001 | .0002 | .0022 | .0016 | .0130 | -.0017 |
| #2 | .0003 | .0003 | .0002 | .0006 | .0015 | .0130 | -.0007 |
| #3 | .0001 | .0006 | .0001 | .0017 | .0012 | .0144 | -.0014 |

| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
|---|---|---|---|---|---|---|---|
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88427.** | **9419.9** | **6331.2** | **13092.** |
| Stddev | 197. | 68.2 | 24.3 | 48. |
| %RSD | .22266 | .72411 | .38353 | .36951 |
| #1 | 88276. | 9498.4 | 6304.1 | 13037. |
| #2 | 88356. | 9374.9 | 6338.3 | 13117. |
| #3 | 88650. | 9386.4 | 6351.1 | 13124. |



Zoom In Zoom Out

Sample Name: JC87535-7 Acquired: 5/8/2019 19:20:31 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3397** | **.0051** | **.0010** | **.0639** | **.1938** | **.2420** | **1.260** | **.1493** | **.0029** |
| Stddev | .0009 | .0001 | .0002 | .0002 | .0017 | .0008 | .006 | .0009 | .0007 |
| %RSD | .2677 | 1.899 | 22.37 | .3444 | .8827 | .3369 | .4508 | .5818 | 23.65 |
| #1 | .3386 | .0052 | .0009 | .0637 | .1953 | .2423 | 1.264 | .1493 | .0026 |
| #2 | .3401 | .0050 | .0013 | .0640 | .1941 | .2426 | 1.263 | .1502 | .0024 |
| #3 | .3403 | .0050 | .0008 | .0641 | .1919 | .2411 | 1.253 | .1485 | .0036 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1454** | **.7055** | **.0525** | **.0017** | **.3462** | **.0012** | **.0032** | **88.78** | **8.353** |
| Stddev | .0007 | .0016 | .0004 | .0016 | .0023 | .0017 | .0015 | .26 | .024 |
| %RSD | .4686 | .2211 | .8540 | 94.17 | .6578 | 142.6 | 44.70 | .2976 | .2810 |
| #1 | .1457 | .7065 | .0523 | .0034 | .3473 | .0025 | .0041 | 88.59 | 8.341 |
| #2 | .1459 | .7064 | .0530 | .0004 | .3478 | .0018 | .0016 | 88.67 | 8.338 |
| #3 | .1446 | .7037 | .0522 | .0012 | .3436 | -.0007 | .0041 | 89.08 | 8.380 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **184.4** | **19.75** | **10.79** | **.8662** | **.0497** | **.0211** | **2.665** | **.0375** | **.0733** |
| Stddev | .4 | .06 | .02 | .0136 | .0008 | .0002 | .006 | .0005 | .0003 |
| %RSD | .1986 | .3198 | .1946 | 1.565 | 1.593 | .7929 | .2409 | 1.242 | .4172 |
| #1 | 184.3 | 19.75 | 10.79 | .8818 | .0494 | .0210 | 2.661 | .0380 | .0732 |
| #2 | 184.1 | 19.69 | 10.77 | .8578 | .0506 | .0210 | 2.673 | .0375 | .0731 |
| #3 | 184.8 | 19.81 | 10.82 | .8590 | .0491 | .0213 | 2.662 | .0371 | .0737 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.124** | **.0015** | **.0593** | **2.506** | **-.0100** | **.1500** | **3.100** |
| Stddev | .013 | .0004 | .0001 | .007 | .0009 | .0010 | .008 |
| %RSD | .6230 | 29.53 | .1388 | .2713 | 8.880 | .6925 | .2554 |
| #1 | 2.137 | .0013 | .0594 | 2.510 | -.0091 | .1507 | 3.100 |
| #2 | 2.125 | .0020 | .0592 | 2.510 | -.0100 | .1488 | 3.108 |
| #3 | 2.110 | .0012 | .0592 | 2.498 | -.0109 | .1504 | 3.092 |



Zoom In Zoom Out

Sample Name: JC87535-7 Acquired: 5/8/2019 19:20:31 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **90028.** | **9843.1** | **6438.9** | **13036.** |
| Stddev | 268. | 7.8 | 6.5 | 13. |
| %RSD | .29811 | .07966 | .10094 | .09881 |
| #1 | 89893. | 9849.3 | 6440.3 | 13038. |
| #2 | 89854. | 9845.7 | 6431.9 | 13022. |
| #3 | 90337. | 9834.3 | 6444.6 | 13047. |



Zoom In Zoom Out

Sample Name: JC87535-8 Acquired: 5/8/2019 19:25:26 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.229** | **.0072** | **.0190** | **.1007** | **1.922** | **.9149** | **6.389** | **.1977** | **.0131** |
| Stddev | .005 | .0001 | .0003 | .0010 | .007 | .0020 | .038 | .0020 | .0002 |
| %RSD | .4270 | 1.496 | 1.563 | .9754 | .3790 | .2190 | .5952 | 1.024 | 1.350 |
| #1 | 1.223 | .0071 | .0187 | .0997 | 1.917 | .9135 | 6.345 | .1955 | .0132 |
| #2 | 1.233 | .0073 | .0193 | .1007 | 1.918 | .9140 | 6.414 | .1981 | .0133 |
| #3 | 1.232 | .0071 | .0190 | .1017 | 1.930 | .9172 | 6.407 | .1995 | .0129 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2118** | **5.838** | **.3135** | **.0049** | **1.924** | **.0070** | **.0114** | **112.1** | **27.41** |
| Stddev | .0004 | .061 | .0044 | .0019 | .021 | .0012 | .0011 | .5 | .10 |
| %RSD | .1814 | 1.041 | 1.399 | 37.77 | 1.089 | 17.21 | 9.764 | .4680 | .3778 |
| #1 | .2114 | 5.772 | .3087 | .0035 | 1.901 | .0062 | .0125 | 111.5 | 27.29 |
| #2 | .2120 | 5.852 | .3147 | .0043 | 1.930 | .0064 | .0113 | 112.3 | 27.48 |
| #3 | .2121 | 5.891 | .3172 | .0070 | 1.941 | .0084 | .0103 | 112.4 | 27.46 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **181.9** | **28.94** | **11.53** | **.9293** | **.0527** | **.0052** | **2.067** | **.5070** | **.1933** |
| Stddev | .8 | .13 | .02 | .0055 | .0010 | .0003 | .026 | .0061 | .0008 |
| %RSD | .4642 | .4351 | .2091 | .5968 | 1.843 | 5.180 | 1.240 | 1.206 | .4032 |
| #1 | 180.9 | 28.80 | 11.51 | .9282 | .0525 | .0050 | 2.039 | .5006 | .1925 |
| #2 | 182.3 | 29.05 | 11.56 | .9353 | .0519 | .0051 | 2.073 | .5076 | .1934 |
| #3 | 182.5 | 28.95 | 11.53 | .9244 | .0538 | .0055 | 2.089 | .5128 | .1940 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.525** | **-.0155** | **.0343** | **48.41** | **-.0011** | **.1825** | **6.643** |
| Stddev | .009 | .0008 | .0004 | .50 | .0013 | .0004 | .072 |
| %RSD | .3666 | 5.110 | 1.094 | 1.042 | 123.8 | .2163 | 1.084 |
| #1 | 2.517 | -.0154 | .0339 | 47.85 | .0004 | .1830 | 6.565 |
| #2 | 2.523 | -.0148 | .0347 | 48.55 | -.0014 | .1823 | 6.657 |
| #3 | 2.535 | -.0164 | .0342 | 48.83 | -.0022 | .1822 | 6.707 |

Zoom In Zoom Out

Sample Name: JC87535-8 Acquired: 5/8/2019 19:25:26 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **92027.** | **10328.** | **6592.4** | **13041.** |
| Stddev | 245. | 62. | 61.0 | 114. |
| %RSD | .26591 | .60432 | .92464 | .87202 |
| #1 | 92161. | 10397. | 6658.2 | 13159. |
| #2 | 92175. | 10311. | 6581.1 | 13032. |
| #3 | 91745. | 10276. | 6537.8 | 12932. |



Zoom In Zoom Out

Sample Name: JC87535-9 Acquired: 5/8/2019 19:30:26 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8424** | **.0050** | **.0051** | **.0549** | **.2073** | **.4548** | **2.609** | **.1346** | **.0039** |
| Stddev | .0026 | .0000 | .0001 | .0002 | .0024 | .0054 | .018 | .0005 | .0007 |
| %RSD | .3047 | .4680 | 2.829 | .3388 | 1.176 | 1.179 | .6733 | .3701 | 18.21 |
| #1 | .8401 | .0050 | .0051 | .0551 | .2101 | .4609 | 2.628 | .1345 | .0031 |
| #2 | .8420 | .0050 | .0052 | .0547 | .2057 | .4512 | 2.595 | .1342 | .0045 |
| #3 | .8452 | .0051 | .0049 | .0549 | .2060 | .4522 | 2.603 | .1351 | .0041 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2278** | **3.880** | **.0571** | **.0025** | **2.344** | **.0022** | **.0163** | **98.40** | F **372.7** |
| Stddev | .0024 | .017 | .0006 | .0010 | .009 | .0004 | .0006 | .36 | .4 |
| %RSD | 1.064 | .4482 | 1.087 | 38.64 | .3990 | 16.72 | 3.516 | .3683 | .1201 |
| #1 | .2306 | 3.890 | .0577 | .0017 | 2.350 | .0023 | .0167 | 98.03 | 372.3 |
| #2 | .2264 | 3.859 | .0564 | .0036 | 2.333 | .0018 | .0157 | 98.40 | 372.6 |
| #3 | .2265 | 3.889 | .0571 | .0021 | 2.347 | .0026 | .0167 | 98.76 | 373.2 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **140.8** | **136.8** | **17.79** | **1.955** | **.0660** | **.0101** | **2.565** | **.9187** | **1.122** |
| Stddev | .7 | .5 | .08 | .009 | .0007 | .0003 | .011 | .0036 | .005 |
| %RSD | .4711 | .3762 | .4465 | .4412 | 1.119 | 3.267 | .4189 | .3967 | .4155 |
| #1 | 140.1 | 136.2 | 17.74 | 1.945 | .0668 | .0102 | 2.570 | .9210 | 1.117 |
| #2 | 140.7 | 137.0 | 17.75 | 1.960 | .0654 | .0097 | 2.553 | .9145 | 1.122 |
| #3 | 141.5 | 137.2 | 17.88 | 1.960 | .0656 | .0103 | 2.573 | .9207 | 1.126 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.819** | **-.0029** | **.0721** | **14.00** | **-.0133** | **.1356** | **3.218** |
| Stddev | .044 | .0020 | .0006 | .05 | .0011 | .0022 | .016 |
| %RSD | 1.152 | 70.40 | .7638 | .3774 | 8.162 | 1.612 | .4898 |
| #1 | 3.869 | -.0050 | .0728 | 14.02 | -.0126 | .1349 | 3.228 |
| #2 | 3.789 | -.0009 | .0717 | 13.93 | -.0128 | .1381 | 3.200 |
| #3 | 3.798 | -.0027 | .0719 | 14.03 | -.0146 | .1339 | 3.226 |



Zoom In Zoom Out

Sample Name: JC87535-9 Acquired: 5/8/2019 19:30:26 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86850.** | **9840.5** | **6239.3** | **12183.** |
| Stddev | 1096. | 26.9 | 20.5 | 29. |
| %RSD | 1.2623 | .27327 | .32907 | .23826 |
| #1 | 85584. | 9855.1 | 6227.1 | 12164. |
| #2 | 87494. | 9856.9 | 6263.0 | 12216. |
| #3 | 87472. | 9809.4 | 6227.7 | 12169. |



Zoom In Zoom Out

Sample Name: JC87654-1A Acquired: 5/8/2019 19:35:36 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.104** | **.0071** | **.0120** | **.0930** | **1.014** | **.7191** | **5.372** | **.1850** | **.0098** |
| Stddev | .003 | .0000 | .0001 | .0004 | .006 | .0034 | .047 | .0011 | .0004 |
| %RSD | .2465 | .3034 | .7641 | .3960 | .5610 | .4772 | .8677 | .5684 | 4.384 |
| #1 | 1.107 | .0071 | .0119 | .0931 | 1.017 | .7205 | 5.393 | .1861 | .0095 |
| #2 | 1.103 | .0071 | .0120 | .0934 | 1.017 | .7215 | 5.404 | .1850 | .0098 |
| #3 | 1.102 | .0070 | .0120 | .0926 | 1.007 | .7152 | 5.318 | .1840 | .0103 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2026** | **3.666** | **.2215** | **.0043** | **1.470** | **.0073** | **.0096** | **105.9** | **108.0** |
| Stddev | .0004 | .017 | .0014 | .0016 | .006 | .0024 | .0009 | .2 | .3 |
| %RSD | .2075 | .4603 | .6250 | 36.32 | .4370 | 32.23 | 9.407 | .2092 | .2465 |
| #1 | .2029 | 3.684 | .2229 | .0036 | 1.477 | .0060 | .0094 | 106.1 | 108.3 |
| #2 | .2028 | 3.666 | .2214 | .0033 | 1.471 | .0101 | .0088 | 105.9 | 107.9 |
| #3 | .2021 | 3.650 | .2201 | .0061 | 1.464 | .0059 | .0105 | 105.7 | 107.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **175.5** | **27.58** | **11.71** | **2.390** | **.0550** | **.0055** | **2.067** | **.1857** | **.2207** |
| Stddev | .6 | .13 | .03 | .003 | .0018 | .0002 | .007 | .0009 | .0008 |
| %RSD | .3360 | .4880 | .2236 | .1361 | 3.211 | 4.308 | .3268 | .4703 | .3473 |
| #1 | 176.2 | 27.74 | 11.72 | 2.393 | .0560 | .0052 | 2.070 | .1863 | .2216 |
| #2 | 175.4 | 27.49 | 11.72 | 2.386 | .0530 | .0057 | 2.059 | .1861 | .2205 |
| #3 | 175.0 | 27.53 | 11.67 | 2.390 | .0562 | .0056 | 2.071 | .1847 | .2201 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.530** | **-.0078** | **.0550** | **31.71** | **-.0097** | **.1629** | **6.615** |
| Stddev | .009 | .0018 | .0004 | .15 | .0011 | .0015 | .028 |
| %RSD | .3525 | 23.30 | .7277 | .4814 | 11.38 | .8992 | .4176 |
| #1 | 2.535 | -.0079 | .0552 | 31.86 | -.0094 | .1645 | 6.643 |
| #2 | 2.535 | -.0096 | .0553 | 31.71 | -.0088 | .1616 | 6.614 |
| #3 | 2.520 | -.0060 | .0546 | 31.55 | -.0109 | .1628 | 6.587 |

Zoom In Zoom Out

Sample Name: JC87654-1A Acquired: 5/8/2019 19:35:36 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **91938.** | **10242.** | **6552.1** | **12891.** |
| Stddev | 484. | 51. | 21.7 | 43. |
| %RSD | .52614 | .49711 | .33162 | .33049 |
| #1 | 91817. | 10183. | 6533.1 | 12856. |
| #2 | 91526. | 10267. | 6547.5 | 12878. |
| #3 | 92470. | 10276. | 6575.8 | 12938. |



Zoom In Zoom Out

Sample Name: JC87654-2A Acquired: 5/8/2019 19:40:36 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3630** | **.0030** | **.0083** | **.0330** | **.2464** | **.2361** | **1.788** | **.0750** | **.0041** |
| Stddev | .0019 | .0001 | .0001 | .0005 | .0026 | .0025 | .020 | .0002 | .0001 |
| %RSD | .5172 | 2.926 | 1.244 | 1.447 | 1.067 | 1.073 | 1.092 | .2636 | 2.514 |
| #1 | .3638 | .0031 | .0082 | .0329 | .2476 | .2368 | 1.794 | .0751 | .0042 |
| #2 | .3609 | .0029 | .0084 | .0335 | .2434 | .2332 | 1.767 | .0747 | .0041 |
| #3 | .3644 | .0030 | .0082 | .0326 | .2482 | .2381 | 1.805 | .0750 | .0040 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0898** | **1.233** | **.0955** | **.0141** | **.8131** | **.0230** | **.0016** | **46.27** | **17.18** |
| Stddev | .0013 | .003 | .0013 | .0004 | .0028 | .0021 | .0014 | .27 | .09 |
| %RSD | 1.442 | .2692 | 1.405 | 2.545 | .3474 | 8.952 | 89.40 | .5769 | .5162 |
| #1 | .0906 | 1.235 | .0961 | .0144 | .8138 | .0210 | .0007 | 46.34 | 17.20 |
| #2 | .0883 | 1.235 | .0965 | .0143 | .8155 | .0228 | .0008 | 45.98 | 17.09 |
| #3 | .0905 | 1.229 | .0940 | .0137 | .8100 | .0251 | .0033 | 46.50 | 17.27 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **89.80** | **11.39** | **6.170** | **.8161** | **.0293** | **.0044** | **2.241** | **.0670** | **.1142** |
| Stddev | .49 | .07 | .014 | .0037 | .0005 | .0002 | .019 | .0005 | .0005 |
| %RSD | .5419 | .6040 | .2302 | .4548 | 1.536 | 5.169 | .8466 | .8175 | .4233 |
| #1 | 89.83 | 11.41 | 6.182 | .8191 | .0294 | .0046 | 2.245 | .0675 | .1142 |
| #2 | 89.30 | 11.32 | 6.155 | .8120 | .0288 | .0042 | 2.220 | .0671 | .1137 |
| #3 | 90.27 | 11.45 | 6.175 | .8172 | .0297 | .0044 | 2.257 | .0664 | .1147 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.248** | **-.0025** | **.0423** | **24.51** | **.0091** | **.0807** | **2.128** |
| Stddev | .014 | .0008 | .0004 | .07 | .0011 | .0015 | .008 |
| %RSD | 1.129 | 31.11 | .9780 | .2802 | 12.44 | 1.833 | .3888 |
| #1 | 1.252 | -.0028 | .0427 | 24.57 | .0081 | .0823 | 2.133 |
| #2 | 1.233 | -.0032 | .0419 | 24.54 | .0088 | .0805 | 2.132 |
| #3 | 1.260 | -.0017 | .0423 | 24.44 | .0103 | .0793 | 2.118 |



Zoom In Zoom Out

Sample Name: JC87654-2A Acquired: 5/8/2019 19:40:36 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **91994.** | **9983.4** | **6507.7** | **13247.** |
| Stddev | 722. | 90.2 | 2.8 | 3. |
| %RSD | .78510 | .90361 | .04328 | .01891 |
| #1 | 91521. | 9985.2 | 6504.8 | 13245. |
| #2 | 92825. | 10073. | 6507.8 | 13250. |
| #3 | 91635. | 9892.3 | 6510.4 | 13246. |



Zoom In Zoom Out

Sample Name: JC87535-12 Acquired: 5/8/2019 19:45:37 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7875** | **.0071** | **.0075** | **.0939** | **.6967** | **.4411** | **6.671** | **.1952** | **.0066** |
| Stddev | .0025 | .0001 | .0003 | .0006 | .0029 | .0018 | .029 | .0012 | .0001 |
| %RSD | .3228 | 2.005 | 4.311 | .6701 | .4199 | .4124 | .4384 | .6222 | 1.571 |
| #1 | .7847 | .0070 | .0075 | .0937 | .7001 | .4430 | 6.687 | .1950 | .0065 |
| #2 | .7897 | .0072 | .0078 | .0946 | .6950 | .4394 | 6.689 | .1965 | .0065 |
| #3 | .7880 | .0069 | .0072 | .0934 | .6951 | .4410 | 6.637 | .1941 | .0067 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2519** | **2.490** | **.1782** | **.0029** | **.8184** | **.0049** | **.0065** | **118.7** | **23.23** |
| Stddev | .0011 | .011 | .0017 | .0004 | .0028 | .0023 | .0009 | .5 | .09 |
| %RSD | .4558 | .4443 | .9638 | 13.71 | .3439 | 46.62 | 14.03 | .3851 | .3835 |
| #1 | .2532 | 2.489 | .1788 | .0028 | .8178 | .0040 | .0072 | 118.2 | 23.13 |
| #2 | .2511 | 2.501 | .1795 | .0025 | .8215 | .0076 | .0055 | 119.0 | 23.31 |
| #3 | .2515 | 2.479 | .1762 | .0033 | .8159 | .0033 | .0068 | 118.8 | 23.24 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **191.3** | **32.64** | **14.43** | **1.877** | **.0569** | **.0047** | **2.112** | **.1042** | **.1215** |
| Stddev | .7 | .06 | .05 | .015 | .0008 | .0003 | .019 | .0007 | .0007 |
| %RSD | .3491 | .1779 | .3208 | .7743 | 1.411 | 6.295 | .8845 | .6924 | .5523 |
| #1 | 190.5 | 32.60 | 14.37 | 1.875 | .0565 | .0044 | 2.108 | .1047 | .1208 |
| #2 | 191.8 | 32.71 | 14.46 | 1.892 | .0578 | .0049 | 2.132 | .1045 | .1221 |
| #3 | 191.5 | 32.61 | 14.44 | 1.863 | .0564 | .0049 | 2.095 | .1034 | .1217 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.490** | **-.0031** | **.0983** | **13.20** | **-.0152** | **.1911** | **5.281** |
| Stddev | .017 | .0003 | .0006 | .06 | .0012 | .0013 | .026 |
| %RSD | .4987 | 10.36 | .5819 | .4459 | 7.927 | .6692 | .4929 |
| #1 | 3.510 | -.0033 | .0988 | 13.21 | -.0145 | .1914 | 5.287 |
| #2 | 3.480 | -.0027 | .0977 | 13.25 | -.0144 | .1897 | 5.305 |
| #3 | 3.480 | -.0032 | .0984 | 13.14 | -.0165 | .1922 | 5.253 |

Zoom In Zoom Out

Sample Name: JC87535-12 Acquired: 5/8/2019 19:45:37 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **92695.** | **10287.** | **6664.0** | **13041.** |
| Stddev | 315. | 74. | 27.3 | 57. |
| %RSD | .33956 | .72385 | .41019 | .43610 |
| #1 | 92452. | 10359. | 6673.1 | 13060. |
| #2 | 92582. | 10290. | 6633.3 | 12977. |
| #3 | 93050. | 10211. | 6685.7 | 13086. |



Zoom In Zoom Out

Sample Name: JC87670-5 Acquired: 5/8/2019 19:50:40 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7300** | **.0078** | **.0005** | **.1300** | **.2468** | **.2659** | **6.508** | **.2583** |
| Stddev | .0020 | .0001 | .0001 | .0005 | .0023 | .0026 | .046 | .0009 |
| %RSD | .2710 | 1.429 | 16.16 | .3687 | .9431 | .9917 | .7095 | .3464 |
| #1 | .7315 | .0077 | .0005 | .1298 | .2489 | .2682 | 6.539 | .2575 |
| #2 | .7308 | .0079 | .0005 | .1298 | .2473 | .2664 | 6.530 | .2582 |
| #3 | .7278 | .0079 | .0004 | .1306 | .2443 | .2630 | 6.455 | .2593 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **.4223** | **.5745** | **.0448** | **.0014** | **.1113** | **-.0047** | **.0041** |
| Stddev | ----- | .0040 | .0020 | .0012 | .0019 | .0002 | .0004 | .0004 |
| %RSD | ----- | .9408 | .3542 | 2.636 | 141.3 | .2184 | 7.770 | 10.96 |
| #1 | ----- | .4262 | .5730 | .0447 | .0020 | .1115 | -.0045 | .0040 |
| #2 | ----- | .4224 | .5738 | .0461 | -.0008 | .1113 | -.0045 | .0037 |
| #3 | ----- | .4182 | .5768 | .0437 | .0029 | .1110 | -.0051 | .0046 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **159.4** | **20.13** | F **326.5** | **52.49** | **16.51** | **1.614** | **.0650** | **.0040** |
| Stddev | .6 | .07 | 1.1 | .32 | .04 | .005 | .0006 | .0004 |
| %RSD | .3838 | .3693 | .3394 | .6043 | .2599 | .2855 | .8719 | 10.51 |
| #1 | 160.0 | 20.20 | 327.5 | 52.76 | 16.55 | 1.619 | .0655 | .0042 |
| #2 | 159.5 | 20.13 | 326.7 | 52.56 | 16.51 | 1.611 | .0644 | .0042 |
| #3 | 158.8 | 20.05 | 325.3 | 52.14 | 16.46 | 1.612 | .0652 | .0035 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.256** | **.0082** | **.1411** | **5.295** | **.0045** | **.1446** | **.2916** | F **-.0268** |
| Stddev | .016 | .0003 | .0005 | .051 | .0014 | .0012 | .0027 | .0011 |
| %RSD | .7166 | 3.292 | .3872 | .9728 | 30.52 | .8275 | .9223 | 4.273 |
| #1 | 2.242 | .0084 | .1415 | 5.344 | .0049 | .1457 | .2887 | -.0256 |
| #2 | 2.252 | .0079 | .1412 | 5.300 | .0029 | .1447 | .2924 | -.0270 |
| #3 | 2.274 | .0082 | .1405 | 5.241 | .0055 | .1433 | .2939 | -.0279 |



Zoom In Zoom Out

Sample Name: JC87670-5 Acquired: 5/8/2019 19:50:40 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2342** | **4.840** |
| Stddev | .0021 | .014 |
| %RSD | .8988 | .2839 |
| #1 | .2361 | 4.833 |
| #2 | .2319 | 4.831 |
| #3 | .2345 | 4.856 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **95843.** | **10482.** | **6797.8** | **13188.** |
| Stddev | 651. | 80. | 13.2 | 11. |
| %RSD | .67902 | .76261 | .19379 | .08600 |
| #1 | 95288. | 10395. | 6795.9 | 13183. |
| #2 | 95682. | 10501. | 6811.8 | 13201. |
| #3 | 96559. | 10552. | 6785.6 | 13180. |



Zoom In Zoom Out

Sample Name: JC87670-11 Acquired: 5/8/2019 19:55:43 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.203** | **.0092** | **.0008** | **.1722** | **.3265** | **.3648** | **5.612** | **.3298** |
| Stddev | .002 | .0001 | .0003 | .0004 | .0004 | .0005 | .010 | .0010 |
| %RSD | .1628 | 1.125 | 35.23 | .2411 | .1353 | .1329 | .1820 | .3180 |
| #1 | 1.204 | .0093 | .0005 | .1725 | .3267 | .3653 | 5.609 | .3295 |
| #2 | 1.202 | .0092 | .0010 | .1725 | .3269 | .3644 | 5.603 | .3310 |
| #3 | 1.201 | .0091 | .0009 | .1718 | .3261 | .3646 | 5.623 | .3290 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **.5052** | **.6456** | **.0618** | **.0005** | **.1161** | **-.0032** | **.0042** |
| Stddev | ----- | .0007 | .0001 | .0009 | .0012 | .0014 | .0019 | .0004 |
| %RSD | ----- | .1402 | .0220 | 1.485 | 223.0 | 1.217 | 59.95 | 10.74 |
| #1 | ----- | .5057 | .6455 | .0610 | .0018 | .1145 | -.0054 | .0039 |
| #2 | ----- | .5055 | .6456 | .0628 | -.0006 | .1165 | -.0027 | .0039 |
| #3 | ----- | .5044 | .6458 | .0616 | .0004 | .1172 | -.0016 | .0047 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **220.3** | **48.97** | F **330.7** | **92.24** | **29.73** | **3.387** | **.1508** | **.0044** |
| Stddev | .3 | .11 | .5 | .32 | .15 | .010 | .0005 | .0002 |
| %RSD | .1327 | .2269 | .1527 | .3427 | .5143 | .2949 | .3520 | 3.771 |
| #1 | 220.6 | 49.10 | 331.2 | 92.60 | 29.90 | 3.396 | .1507 | .0046 |
| #2 | 220.1 | 48.90 | 330.2 | 92.10 | 29.71 | 3.376 | .1504 | .0043 |
| #3 | 220.1 | 48.91 | 330.6 | 92.01 | 29.60 | 3.388 | .1514 | .0043 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.500** | **.0053** | **.2383** | **6.552** | **.0020** | **.1776** | **.4976** | F **-.0371** |
| Stddev | .015 | .0001 | .0001 | .026 | .0008 | .0003 | .0017 | .0022 |
| %RSD | .6071 | 2.286 | .0568 | .4001 | 37.67 | .1677 | .3435 | 5.889 |
| #1 | 2.507 | .0051 | .2385 | 6.522 | .0024 | .1773 | .4965 | -.0391 |
| #2 | 2.510 | .0054 | .2383 | 6.569 | .0011 | .1776 | .4967 | -.0374 |
| #3 | 2.482 | .0053 | .2382 | 6.566 | .0025 | .1779 | .4996 | -.0347 |

Zoom In Zoom Out

Sample Name: JC87670-11 Acquired: 5/8/2019 19:55:43 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.3436** | **4.402** |
| Stddev | .0005 | .002 |
| %RSD | .1555 | .0464 |
| #1 | .3439 | 4.403 |
| #2 | .3439 | 4.399 |
| #3 | .3430 | 4.402 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **94768.** | **10467.** | **6656.5** | **12844.** |
| Stddev | 232. | 71. | 8.5 | 8. |
| %RSD | .24447 | .67539 | .12836 | .06136 |
| #1 | 95014. | 10417. | 6657.8 | 12845. |
| #2 | 94553. | 10548. | 6664.3 | 12851. |
| #3 | 94738. | 10436. | 6647.4 | 12835. |



Zoom In Zoom Out

Sample Name: JC87670-17 Acquired: 5/8/2019 20:00:53 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.004** | **.0083** | **.0011** | **.1546** | **.2535** | **.2587** | F **8.458** | **.2891** |
| Stddev | .001 | .0001 | .0001 | .0021 | .0043 | .0039 | .113 | .0034 |
| %RSD | .0774 | .9026 | 11.49 | 1.380 | 1.700 | 1.503 | 1.333 | 1.168 |
| #1 | 1.005 | .0084 | .0010 | .1552 | .2557 | .2605 | 8.571 | .2901 |
| #2 | 1.005 | .0083 | .0012 | .1522 | .2562 | .2614 | 8.457 | .2853 |
| #3 | 1.003 | .0083 | .0010 | .1564 | .2485 | .2542 | 8.345 | .2919 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **.3946** | **.5874** | **.0604** | **.0024** | **.1097** | **-.0058** | **.0025** |
| Stddev | ----- | .0066 | .0078 | .0015 | .0011 | .0011 | .0014 | .0005 |
| %RSD | ----- | 1.661 | 1.335 | 2.544 | 44.79 | .9572 | 24.12 | 18.36 |
| #1 | ----- | .3987 | .5888 | .0611 | .0028 | .1099 | -.0055 | .0025 |
| #2 | ----- | .3981 | .5790 | .0586 | .0012 | .1086 | -.0046 | .0021 |
| #3 | ----- | .3870 | .5945 | .0614 | .0032 | .1106 | -.0074 | .0030 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **171.9** | **21.31** | F **286.7** | **63.63** | **21.75** | **2.722** | **.0853** | **.0059** |
| Stddev | .2 | .03 | .4 | .21 | .04 | .009 | .0008 | .0003 |
| %RSD | .1008 | .1480 | .1499 | .3239 | .1623 | .3482 | .9361 | 4.621 |
| #1 | 171.8 | 21.28 | 286.6 | 63.59 | 21.78 | 2.711 | .0854 | .0062 |
| #2 | 172.1 | 21.34 | 287.2 | 63.86 | 21.74 | 2.728 | .0844 | .0058 |
| #3 | 171.8 | 21.31 | 286.4 | 63.45 | 21.71 | 2.728 | .0860 | .0057 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.925** | **.0084** | **.1602** | **5.046** | **.0026** | **.1447** | **.1308** | F **-.0278** |
| Stddev | .026 | .0007 | .0001 | .090 | .0007 | .0022 | .0034 | .0047 |
| %RSD | 1.365 | 8.063 | .0852 | 1.776 | 27.89 | 1.542 | 2.568 | 17.02 |
| #1 | 1.941 | .0092 | .1600 | 5.092 | .0030 | .1458 | .1314 | -.0289 |
| #2 | 1.895 | .0082 | .1603 | 5.103 | .0018 | .1462 | .1272 | -.0226 |
| #3 | 1.939 | .0079 | .1602 | 4.943 | .0030 | .1421 | .1338 | -.0319 |



Zoom In Zoom Out

Sample Name: JC87670-17 Acquired: 5/8/2019 20:00:53 Type: Unk
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2725** | **3.846** |
| Stddev | .0008 | .043 |
| %RSD | .2884 | 1.116 |
| #1 | .2730 | 3.855 |
| #2 | .2729 | 3.799 |
| #3 | .2716 | 3.883 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **95702.** | **10428.** | **6817.4** | **13070.** |
| Stddev | 1393. | 16. | 68.0 | 129. |
| %RSD | 1.4555 | .15326 | .99770 | .98876 |
| #1 | 94945. | 10412. | 6806.3 | 13049. |
| #2 | 94853. | 10444. | 6890.3 | 13209. |
| #3 | 97310. | 10430. | 6755.6 | 12953. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 20:05:58 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.941** | **1.988** | **1.930** | **1.966** | **1.951** | **1.905** | **2.002** | **2.012** | **.2358** |
| Stddev | .006 | .005 | .006 | .005 | .007 | .009 | .025 | .005 | .0009 |
| %RSD | .3313 | .2649 | .3191 | .2795 | .3859 | .4860 | 1.230 | .2698 | .3835 |
| #1 | 1.948 | 1.994 | 1.937 | 1.972 | 1.959 | 1.913 | 2.030 | 2.018 | .2368 |
| #2 | 1.939 | 1.987 | 1.927 | 1.966 | 1.949 | 1.907 | 1.983 | 2.010 | .2354 |
| #3 | 1.936 | 1.984 | 1.926 | 1.961 | 1.944 | 1.895 | 1.994 | 2.007 | .2351 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.935** | **1.983** | **1.926** | **1.994** | **1.980** | **1.954** | **1.929** | **39.00** | **39.37** |
| Stddev | .008 | .005 | .006 | .007 | .006 | .007 | .003 | .14 | .08 |
| %RSD | .3924 | .2733 | .3134 | .3598 | .3046 | .3552 | .1369 | .3499 | .1926 |
| #1 | 1.943 | 1.989 | 1.933 | 2.002 | 1.987 | 1.961 | 1.932 | 39.16 | 39.46 |
| #2 | 1.933 | 1.980 | 1.922 | 1.993 | 1.979 | 1.954 | 1.928 | 38.92 | 39.33 |
| #3 | 1.928 | 1.980 | 1.922 | 1.988 | 1.975 | 1.948 | 1.928 | 38.93 | 39.32 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.32** | **39.52** | **37.43** | **39.25** | **1.938** | **1.940** | **4.784** | **1.975** | **1.964** |
| Stddev | .08 | .09 | .13 | .13 | .004 | .006 | .010 | .007 | .006 |
| %RSD | .2040 | .2248 | .3442 | .3329 | .2164 | .3000 | .2141 | .3604 | .2837 |
| #1 | 39.41 | 39.61 | 37.57 | 39.40 | 1.942 | 1.946 | 4.795 | 1.983 | 1.969 |
| #2 | 39.32 | 39.43 | 37.39 | 39.18 | 1.938 | 1.936 | 4.780 | 1.969 | 1.964 |
| #3 | 39.25 | 39.53 | 37.33 | 39.16 | 1.934 | 1.937 | 4.775 | 1.973 | 1.958 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/8/2019 20:05:58 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.917** | **1.886** | **1.940** | **1.933** | **1.914** | **1.945** | **1.979** |
| Stddev | .007 | .006 | .010 | .008 | .009 | .006 | .000 |
| %RSD | .3467 | .3104 | .4953 | .4086 | .4663 | .2964 | .0069 |
| #1 | 1.924 | 1.893 | 1.950 | 1.941 | 1.923 | 1.952 | 1.979 |
| #2 | 1.915 | 1.884 | 1.940 | 1.926 | 1.914 | 1.942 | 1.979 |
| #3 | 1.911 | 1.881 | 1.931 | 1.933 | 1.906 | 1.942 | 1.979 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87621.** | **9552.6** | **6277.0** | **12767.** |
| Stddev | 282. | 30.0 | 19.6 | 44. |
| %RSD | .32134 | .31417 | .31227 | .34199 |
| #1 | 87379. | 9534.7 | 6254.6 | 12719. |
| #2 | 87553. | 9587.2 | 6285.5 | 12776. |
| #3 | 87930. | 9535.8 | 6291.0 | 12805. |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 20:10:58 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0001** | **.0001** | **.0002** | **.0002** | **.0005** | **.0000** | **.0002** | **.0008** |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0002 | .0002 | .0000 | .0002 | .0003 |
| %RSD | 36.67 | 109.3 | 95.89 | 20.75 | 129.2 | 37.85 | 99.06 | 154.0 | 35.51 |
| #1 | -.0005 | .0001 | .0000 | .0002 | -.0001 | .0003 | -.0000 | -.0001 | .0011 |
| #2 | -.0003 | .0000 | .0001 | .0002 | .0003 | .0006 | .0000 | .0003 | .0006 |
| #3 | -.0006 | .0003 | .0002 | .0002 | .0003 | .0006 | .0001 | .0003 | .0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0001** | **.0006** | **.0003** | **-.0001** | **-.0018** | **.0000** | **-.0125** | **-.0018** |
| Stddev | .0002 | .0000 | .0004 | .0009 | .0004 | .0007 | .0007 | .0241 | .0034 |
| %RSD | 3196. | 68.90 | 71.63 | 297.7 | 381.4 | 39.24 | 3677. | 192.4 | 183.7 |
| #1 | -.0002 | -.0000 | .0001 | .0012 | .0003 | -.0012 | -.0005 | .0117 | .0013 |
| #2 | .0002 | -.0001 | .0008 | .0005 | -.0001 | -.0016 | -.0003 | -.0127 | -.0015 |
| #3 | -.0000 | -.0001 | .0009 | -.0007 | -.0005 | -.0025 | .0009 | -.0366 | -.0054 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **-.0100** | **-.0913** | **.0617** | **.0025** | **.0000** | **-.0003** | **-.0003** | **-.0001** |
| Stddev | .0037 | .0211 | .0096 | .0050 | .0002 | .0001 | .0012 | .0004 | .0001 |
| %RSD | 601.3 | 210.4 | 10.47 | 8.091 | 9.177 | 759.9 | 478.0 | 122.9 | 128.2 |
| #1 | .0019 | -.0220 | -.0821 | .0631 | .0027 | -.0001 | -.0005 | -.0003 | .0000 |
| #2 | -.0049 | -.0225 | -.1012 | .0659 | .0023 | .0001 | -.0014 | -.0007 | -.0002 |
| #3 | .0011 | .0144 | -.0907 | .0562 | .0023 | .0000 | .0011 | .0001 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/8/2019 20:10:58 Type: QC
Method: SGS NO VALVE3(v361) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0006** | **.0003** | **.0018** | **.0013** | F **.0236** | **-.0025** |
| Stddev | .0002 | .0005 | .0001 | .0009 | .0013 | .0021 | .0005 |
| %RSD | 33.40 | 81.93 | 23.06 | 51.44 | 98.37 | 8.964 | 18.03 |
| #1 | .0004 | .0005 | .0003 | .0011 | .0027 | .0254 | -.0020 |
| #2 | .0003 | .0011 | .0003 | .0013 | .0003 | .0241 | -.0029 |
| #3 | .0006 | .0002 | .0002 | .0028 | .0008 | .0213 | -.0026 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89794.** | **9512.8** | **6364.2** | **13209.** |
| Stddev | 148. | 58.0 | 3.7 | 2. |
| %RSD | .16437 | .61018 | .05820 | .01756 |
| #1 | 89855. | 9574.5 | 6366.2 | 13211. |
| #2 | 89626. | 9459.3 | 6366.5 | 13209. |
| #3 | 89901. | 9504.5 | 6359.9 | 13206. |





NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 2 | Al | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000824 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 11 | V | 0.002018 | 0.000000 | No |
| | | | Mo | -0.000040 | 0.000000 | No |
| | | | Ti | -0.000120 | 0.000000 | No |
| | | | Mn | 0.000016 | 0.000000 | No |
| | | | Ba | -0.000013 | 0.000000 | No |
| | | | Zn | 0.000010 | 0.000000 | No |
| | | | Sb | -0.000021 | 0.000000 | No |
| | | | Ag | 0.000060 | 0.000000 | No |
| | | | Sn | 0.000010 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| Cd 228.802 {448} | ☒ | 14 | As | 0.009700 | 0.000000 | No |
| | | | Ni | -0.000277 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ba | 0.000100 | 0.000000 | No |
| | | | Co | -0.001036 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Mn | -0.000014 | 0.000000 | No |
| | | | Ti | 0.000051 | 0.000000 | No |
| | | | Cu | 0.000009 | 0.000000 | No |
| | | | Sr | -0.000050 | 0.000000 | No |
| | | | W | -0.000194 | 0.000000 | No |
| | | | Cr | 0.000010 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 5 | Fe | -0.000001 | 0.000000 | No |
| | | | Ca | -0.000003 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ti | 0.001922 | 0.000000 | No |
| | | | Mo | -0.000963 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 8 | Mn | 0.000098 | 0.000000 | No |
| | | | Mo | -0.000053 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Sn | 0.000032 | 0.000000 | No |
| | | | Ti | 0.000042 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| Cu 324.754 {104}2 | ☒ | 12 | Cr | 0.000055 | 0.000000 | No |
| | | | Mo | 0.000395 | 0.000000 | No |
| | | | Ti | -0.000174 | 0.000000 | No |
| | | | Mn | -0.000130 | 0.000000 | No |
| | | | Co | -0.000902 | 0.000000 | No |
| | | | Zn | 0.000037 | 0.000000 | No |
| | | | Fe | -0.000162 | 0.000000 | No |
| | | | Zr | -0.000007 | 0.000000 | No |
| | | | V | -0.000457 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Ni | 0.000032 | 0.000000 | No |
| | | | W | 0.000097 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 2 | Fe | -0.000126 | 0.000000 | No |
| | | | Mo | 0.000011 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 7 | Cr | -0.000028 | 0.000000 | No |
| | | | Mo | -0.000041 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Zn | 0.000017 | 0.000000 | No |
| | | | Co | -0.000329 | 0.000000 | No |
| | | | Ti | 0.000010 | 0.000000 | No |
| | | | W | -0.000073 | 0.000000 | No |
| Ag 328.068 {103} | ☒ | 15 | Mn | 0.000056 | 0.000000 | No |
| | | | Mo | -0.000279 | 0.000000 | No |
| | | | Ti | -0.000866 | 0.000000 | No |
| | | | V | -0.000959 | 0.000000 | No |
| | | | Zr | 0.005343 | 0.000000 | No |
| | | | Sb | -0.000013 | 0.000000 | No |
| | | | Mg | -0.000003 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Fe | -0.000324 | 0.000000 | No |
| | | | Al | -0.000003 | 0.000000 | No |
| | | | Zn | -0.000090 | 0.000000 | No |
| | | | Ba | -0.000087 | 0.000000 | No |
| | | | Ni | -0.000021 | 0.000000 | No |
| | | | Cr | 0.000013 | 0.000000 | No |
| | | | As | 0.000081 | 0.000000 | No |
| V 292.402 {115} | ☒ | 6 | Fe | 0.000004 | 0.000000 | No |
| | | | Ti | 0.000746 | 0.000000 | No |
| | | | Mo | -0.000244 | 0.000000 | No |
| | | | Co | 0.000015 | 0.000000 | No |
| | | | Cr | -0.007890 | 0.000000 | No |
| | | | Mn | -0.000920 | 0.000000 | No |
| Zn 206.200 {464} | ☒ | 13 | Cr | -0.000600 | 0.000000 | No |
| | | | Mo | -0.000376 | 0.000000 | No |
| | | | Fe | 0.000011 | 0.000000 | No |
| | | | Co | 0.000122 | 0.000000 | No |
| | | | Ni | 0.000058 | 0.000000 | No |
| | | | Se | 0.000849 | 0.000000 | No |
| | | | Ca | 0.000003 | 0.000000 | No |
| | | | Ti | 0.000131 | 0.000000 | No |
| | | | Sn | 0.000068 | 0.000000 | No |
| | | | V | -0.000012 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Si | 0.000017 | 0.000000 | No |
| | | | Zr | 0.000269 | 0.000000 | No |
| As 189.042 {478} | ☒ | 22 | Al | 0.000003 | 0.000000 | No |
| | | | Fe | -0.000020 | 0.000000 | No |
| | | | Ca | -0.000000 | 0.000000 | No |
| | | | Mn | -0.000048 | 0.000000 | No |
| | | | Mo | 0.000980 | 0.000000 | No |
| | | | Cr | 0.000509 | 0.000000 | No |
| | | | Co | -0.000050 | 0.000000 | No |
| | | | Si | -0.000047 | 0.000000 | No |
| | | | Cu | 0.000120 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Cd | -0.000103 | 0.000000 | No |
| | | | Sn | -0.000017 | 0.000000 | No |
| | | | Zn | -0.000045 | 0.000000 | No |
| | | | Zr | -0.000145 | 0.000000 | No |
| | | | Sb | 0.000022 | 0.000000 | No |
| | | | Ti | 0.000017 | 0.000000 | No |
| | | | Ni | -0.000069 | 0.000000 | No |
| | | | W | 0.001510 | 0.000000 | No |
| | | | S | -0.000010 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Ba | -0.000070 | 0.000000 | No |
| | | | Sr | 0.000000 | 0.000000 | No |
| | | | V | -0.000014 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 30 | Cr | 0.000416 | 0.000000 | No |
| | | | Mo | -0.009600 | 0.000000 | No |
| | | | Al | 0.000008 | 0.000000 | No |
| | | | V | -0.026220 | 0.000000 | No |
| | | | Mn | 0.001718 | 0.000000 | No |
| | | | Si | -0.000021 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Ti | -0.002032 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Co | 0.004940 | 0.000000 | No |
| | | | Sr | -0.000233 | 0.000000 | No |
| | | | Zn | -0.000131 | 0.000000 | No |
| | | | Pb | -0.000116 | 0.000000 | No |
| | | | Mg | 0.000005 | 0.000000 | No |
| | | | Ba | -0.000014 | 0.000000 | No |
| | | | W | -0.030000 | 0.000000 | No |
| | | | B | 0.000151 | 0.000000 | No |
| | | | Ni | -0.000034 | 0.000000 | No |
| | | | Sn | 0.000110 | 0.000000 | No |
| | | | Fe | -0.000049 | 0.000000 | No |
| | | | Li | -0.000199 | 0.000000 | No |
| | | | S | 0.000013 | 0.000000 | No |
| | | | As | 0.000056 | 0.000000 | No |
| | | | Bi | -0.000040 | 0.000000 | No |
| | | | P | 0.000021 | 0.000000 | No |
| | | | Cd | 0.000117 | 0.000000 | No |
| | | | Sb | 0.000034 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000059 | 0.000000 | No |
| | | | Be | -0.000289 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 20 | Al | -0.000159 | 0.000000 | No |
| | | | Ca | -0.000008 | 0.000000 | No |
| | | | Mn | 0.000066 | 0.000000 | No |
| | | | Zn | 0.000027 | 0.000000 | No |
| | | | Mo | -0.000610 | 0.000000 | No |
| | | | Ni | 0.000436 | 0.000000 | No |
| | | | Cu | 0.000381 | 0.000000 | No |
| | | | V | -0.000103 | 0.000000 | No |
| | | | Co | 0.000016 | 0.000000 | No |
| | | | Ti | -0.000225 | 0.000000 | No |
| | | | Si | 0.000124 | 0.000000 | No |
| | | | Mg | 0.000014 | 0.000000 | No |
| | | | Sb | 0.000041 | 0.000000 | No |
| | | | Cr | -0.000028 | 0.000000 | No |
| | | | Sn | 0.000130 | 0.000000 | No |
| | | | Fe | 0.000046 | 0.000000 | No |
| | | | W | -0.005000 | 0.000000 | No |
| | | | Sr | -0.000036 | 0.000000 | No |
| | | | Zr | -0.000181 | 0.000000 | No |
| | | | S | 0.000012 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 18 | Al | 0.000005 | 0.000000 | No |
| | | | Ca | -0.000010 | 0.000000 | No |
| | | | Mn | 0.000649 | 0.000000 | No |
| | | | Mo | 0.000066 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Co | -0.000296 | 0.000000 | No |
| | | | Cu | -0.000107 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | Ti | -0.000093 | 0.000000 | No |
| | | | Zn | -0.000077 | 0.000000 | No |
| | | | Fe | -0.000192 | 0.000000 | No |
| | | | Si | 0.000068 | 0.000000 | No |
| | | | B | -0.000043 | 0.000000 | No |
| | | | Ba | 0.000050 | 0.000000 | No |
| | | | S | 0.000000 | 0.000000 | No |
| | | | Zr | -0.000206 | 0.000000 | No |
| | | | V | 0.000082 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Sn | -0.000113 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 17 | Fe | 0.000045 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| | | | Ca | 0.000006 | 0.000000 | No |
| | | | Ni | -0.000683 | 0.000000 | No |
| | | | Cr | 0.008000 | 0.000000 | No |
| | | | V | -0.000239 | 0.000000 | No |
| | | | Zn | -0.000104 | 0.000000 | No |
| | | | Mo | 0.000010 | 0.000000 | No |
| | | | Ti | -0.003963 | 0.000000 | No |
| | | | Sn | -0.000500 | 0.000000 | No |
| | | | Mn | -0.000040 | 0.000000 | No |
| | | | Co | -0.000036 | 0.000000 | No |
| | | | Se | -0.000075 | 0.000000 | No |
| | | | Zr | 0.000000 | 0.000000 | No |
| | | | W | 0.050000 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | S | 0.000018 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 8 | Ca | 0.000067 | 0.000000 | No |
| | | | Mo | 0.054823 | 0.000000 | No |
| | | | Ti | 0.000037 | 0.000000 | No |
| | | | Si | 0.000228 | 0.000000 | No |
| | | | Co | -0.000115 | 0.000000 | No |
| | | | Li | -0.001000 | 0.000000 | No |
| | | | Ba | 0.000725 | 0.000000 | No |
| | | | Zr | 0.004878 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | 5 | Al | 0.000043 | 0.000000 | No |
| | | | Fe | 0.000046 | 0.000000 | No |
| | | | Mg | 0.000071 | 0.000000 | No |
| | | | Ti | -0.000042 | 0.000000 | No |
| | | | Co | 0.001523 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 11 | Cr | 0.000237 | 0.000000 | No |
| | | | Zn | 0.000466 | 0.000000 | No |
| | | | Al | 0.000022 | 0.000000 | No |
| | | | Co | 0.000318 | 0.000000 | No |
| | | | Cd | 0.000700 | 0.000000 | No |
| | | | Sn | -0.000019 | 0.000000 | No |
| | | | Ti | -0.000710 | 0.000000 | No |
| | | | Si | 0.000053 | 0.000000 | No |
| | | | Ca | 0.000012 | 0.000000 | No |
| | | | Ba | 0.000400 | 0.000000 | No |
| | | | Mn | -0.000272 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 3 | Mo | -0.021115 | 0.000000 | No |
| | | | Pb | -0.000017 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Fe | -0.000081 | 0.000000 | No |
| K 766.490 { 44} | ☒ | None | | | | |
| Na 589.592 { 57} | ☒ | 1 | Al | 0.000039 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.040842 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 6 | Ti | 0.000050 | 0.000000 | No |
| | | | Mg | -0.000005 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Fe | -0.000006 | 0.000000 | No |
| | | | V | -0.000100 | 0.000000 | No |
| | | | W | -0.000612 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 12 | Mn | 0.000152 | 0.000000 | No |
| | | | Fe | 0.000021 | 0.000000 | No |
| | | | Ca | 0.000041 | 0.000000 | No |
| | | | Ni | 0.000391 | 0.000000 | No |
| | | | Cd | 0.001794 | 0.000000 | No |
| | | | Cr | 0.001112 | 0.000000 | No |
| | | | Mo | 0.029007 | 0.000000 | No |
| | | | Ti | 0.007395 | 0.000000 | No |
| | | | Ba | 0.000825 | 0.000000 | No |
| | | | Sn | 0.005204 | 0.000000 | No |
| | | | V | 0.001738 | 0.000000 | No |
| | | | Zr | 0.001561 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | 4 | Ti | -0.002059 | 0.000000 | No |
| | | | Fe | 0.000017 | 0.000000 | No |
| | | | Mo | 0.000058 | 0.000000 | No |
| | | | Zr | 0.000976 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 2 | Ca | 0.000019 | 0.000000 | No |
| | | | Zr | -0.000004 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 5 | Cr | 0.000072 | 0.000000 | No |
| | | | Mo | 0.002014 | 0.000000 | No |
| | | | Zr | 0.000002 | 0.000000 | No |
| | | | W | 0.000004 | 0.000000 | No |
| | | | V | 0.000064 | 0.000000 | No |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| In 230.606 {446}* | ☒ | None | | | | |
| W 207.911 {462} | ☒ | 3 | V | 0.000064 | 0.000000 | No |
| | | | Zn | 0.016225 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| Zr 339.198 { 99} | ☒ | 14 | Fe | -0.000087 | 0.000000 | No |
| | | | Si | 0.000631 | 0.000000 | No |
| | | | Ba | -0.000049 | 0.000000 | No |
| | | | Sn | 0.000046 | 0.000000 | No |
| | | | Sb | -0.000067 | 0.000000 | No |
| | | | V | 0.000226 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Ti | 0.000007 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Li | -0.000097 | 0.000000 | No |
| | | | Bi | 0.000607 | 0.000000 | No |
| | | | Mn | 0.000059 | 0.000000 | No |
| | | | Mo | 0.000401 | 0.000000 | No |
| S 182.034 {485} | ☒ | 10 | Ca | 0.000060 | 0.000000 | No |
| | | | Mo | 0.000978 | 0.000000 | No |
| | | | Al | -0.000024 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000008 | 0.000000 | No |
| | | | | Mn | 0.002516 | 0.000000 | No |
| | | | | W | -0.018006 | 0.000000 | No |
| | | | | Mg | 0.000012 | 0.000000 | No |
| | | | | Cr | 0.000119 | 0.000000 | No |
| | | | | V | 0.000018 | 0.000000 | No |
| | | | | B | -0.000196 | 0.000000 | No |
| | Bi 223.061 {451} | ☒ | 6 | Fe | 0.000158 | 0.000000 | No |
| | | | | Ti | -0.017590 | 0.000000 | No |
| | | | | Co | -0.003172 | 0.000000 | No |
| | | | | Cr | 0.003172 | 0.000000 | No |
| | | | | Cu | -0.001562 | 0.000000 | No |
| | | | | V | -0.000498 | 0.000000 | No |
| | Li 670.784 { 50} | ☒ | 2 | Ca | 0.000062 | 0.000000 | No |
| | | | | W | 0.021000 | 0.000000 | No |
| | P 177.495 {490} | ☒ | 2 | Mn | -0.001748 | 0.000000 | No |
| | | | | Cu | 0.004091 | 0.000000 | No |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|---|
| | Ba 455.403 { 74} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.005811 | 2.956327 | 0.000000 | 1.000000 |
| | Be 313.042 {108} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.001130 | 2.452382 | 0.000000 | 1.000000 |
| | Cd 228.802 {448} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000103 | 1.137097 | 0.000000 | 1.000000 |
| | Co 228.616 {448} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000024 | 0.588663 | 0.000000 | 1.000000 |
| | Cr 267.716 {126} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000022 | 0.253624 | 0.000000 | 1.000000 |
| | Cu 324.754 {104}2 | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.009711 | 0.423970 | 0.000000 | 1.000000 |
| | Mn 257.610 {131} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000033 | 0.544071 | 0.000000 | 1.000000 |
| | Ni 231.604 {446} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000316 | 0.383444 | 0.000000 | 1.000000 |
| | Ag 328.068 {103} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.001836 | 0.270292 | 0.000000 | 1.000000 |
| | V 292.402 {115} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000849 | 0.348091 | 0.000000 | 1.000000 |
| | Zn 206.200 {464} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000516 | 1.472719 | 0.000000 | 1.000000 |
| | As 189.042 {478} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000510 | 0.153414 | 0.000000 | 1.000000 |
| | Tl 190.856 {477} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000082 | 0.064931 | 0.000000 | 1.000000 |
| | Pb 220.353 {453} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000093 | 0.191831 | 0.000000 | 1.000000 |
| | Se 196.090 {472} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000454 | 0.109340 | 0.000000 | 1.000000 |
| | Sb 206.833 {463} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000580 | 0.167767 | 0.000000 | 1.000000 |
| | Al 396.152 { 85} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000753 | 0.051371 | 0.000000 | 1.000000 |
| | Ca 317.933 {106} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.005368 | 0.083433 | 0.000000 | 1.000000 |
| | Fe 259.940 {130} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000005 | 0.035149 | 0.000000 | 1.000000 |
| | Mg 279.079 {121} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000106 | 0.005856 | 0.000000 | 1.000000 |
| | K 766.490 { 44} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.010833 | 0.041144 | 0.000000 | 1.000000 |
| | Na 589.592 { 57} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.013026 | 0.141919 | 0.000000 | 1.000000 |
| | B 208.959 {462} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000481 | 0.239912 | 0.000000 | 1.000000 |
| | Mo 202.030 {467} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000421 | 0.845167 | 0.000000 | 1.000000 |
| | Si 212.412 {459} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.002410 | 0.199547 | 0.000000 | 1.000000 |
| | Sn 189.989 {478} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000216 | 0.175424 | 0.000000 | 1.000000 |
| | Sr 407.771 { 83} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000280 | 2.390112 | 0.000000 | 1.000000 |
| | Ti 334.904 {101} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.001777 | 0.358481 | 0.000000 | 1.000000 |
| | Y 360.073 { 94}* | 5/9/2019 9:39:11 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 371.030 { 91}* | 5/9/2019 9:39:11 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 224.306 {451}* | 5/9/2019 9:39:11 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | In 230.606 {446}* | 5/9/2019 9:39:11 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | W 207.911 {462} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.002752 | 0.438449 | 0.000000 | 1.000000 |
| | Zr 339.198 { 99} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.001059 | 0.775763 | 0.000000 | 1.000000 |
| | S 182.034 {485} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | 0.000343 | 0.096842 | 0.000000 | 1.000000 |
| | Bi 223.061 {451} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.000605 | 0.215683 | 0.000000 | 1.000000 |
| | Li 670.784 { 50} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | None | -0.012961 | 1.070391 | 0.000000 | 1.000000 |
| | P 177.495 {490} | 5/9/2019 9:39:11 | 5/8/2019 16:00:14 | Linear | 1/Conc | -0.003332 | 0.163982 | 0.000000 | 1.000000 |

| | Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Slope | Y-int | Slope factor | Offset |
| | Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000335 | 0.001118 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | 1.000000 | 0.000000 | 0.000117 | 0.000390 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000193 | 0.000642 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {448} | 1.000000 | 0.000000 | 0.000286 | 0.000952 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000296 | 0.000987 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000282 | 0.000939 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000049 | 0.000164 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000388 | 0.001294 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000427 | 0.001425 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | 1.000000 | 0.000000 | 0.000362 | 0.001205 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000121 | 0.000404 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 189.042 {478} | 1.000000 | 0.000000 | 0.000956 | 0.003187 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001623 | 0.005409 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001109 | 0.003698 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | 1.000000 | 0.000000 | 0.001746 | 0.005820 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001466 | 0.004888 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | 1.000000 | 0.000000 | 0.014069 | 0.046896 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | 1.000000 | 0.000000 | 0.003995 | 0.013315 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {130} | 1.000000 | 0.000000 | 0.004310 | 0.014365 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | 1.000000 | 0.000000 | 0.032710 | 0.109033 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | 1.000000 | 0.000000 | 0.041980 | 0.139932 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | 1.000000 | 0.000000 | 0.011486 | 0.038287 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 208.959 {462} | 1.000000 | 0.000000 | 0.000673 | 0.002244 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000246 | 0.000822 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 212.412 {459} | 1.000000 | 0.000000 | 0.001180 | 0.003935 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000681 | 0.002271 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000157 | 0.000524 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000397 | 0.001323 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 360.073 { 94}* | 0.000000 | 0.000000 | 0.000796 | 0.002654 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | 0.000000 | 0.000000 | 0.002186 | 0.007287 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451}* | 0.000000 | 0.000000 | 0.004215 | 0.014050 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | W 207.911 {462} | 1.000000 | 0.000000 | 0.000968 | 0.003227 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000182 | 0.000608 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | 1.000000 | 0.000000 | 0.001640 | 0.005468 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001577 | 0.005256 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001628 | 0.005426 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 177.495 {490} | 1.000000 | 0.000000 | 0.000878 | 0.002928 | OK. | 1.000000 | 0.000000 | 1 | 0 |

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/9/2019 12:17:52 Type: Cal
Method: SGS NO VALVE3(v365) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0050** | **-.0007** | **-.0001** | **.0001** | **-.0000** | **.0099** | **-.0000** | **-.0004** | **-.0015** |
| Stddev | .0007 | .0002 | .0001 | .0001 | .0001 | .0000 | .0000 | .0001 | .0001 |
| %RSD | 13.33 | 28.09 | 185.9 | 79.84 | 390.1 | .1538 | 26.16 | 20.93 | 3.569 |
| #1 | .0057 | -.0005 | .0001 | .0002 | .0000 | .0099 | -.0001 | -.0004 | -.0014 |
| #2 | .0044 | -.0007 | -.0001 | .0000 | -.0001 | .0099 | -.0000 | -.0003 | -.0015 |
| #3 | .0048 | -.0009 | -.0001 | .0001 | .0000 | .0099 | -.0001 | -.0004 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.0008** | **.0007** | **-.0005** | **-.0001** | **-.0002** | **.0004** | **.0023** | **-.0012** | **.0054** |
| Stddev | .0000 | .0001 | .0002 | .0000 | .0003 | .0001 | .0000 | .0004 | .0002 |
| %RSD | 4.146 | 9.116 | 37.79 | 47.70 | 170.1 | 36.03 | 2.079 | 36.98 | 4.062 |
| #1 | -.0009 | .0006 | -.0004 | -.0000 | -.0003 | .0005 | .0022 | -.0013 | .0057 |
| #2 | -.0008 | .0008 | -.0004 | -.0001 | .0001 | .0004 | .0022 | -.0007 | .0053 |
| #3 | -.0008 | .0007 | -.0007 | -.0001 | -.0003 | .0002 | .0023 | -.0015 | .0053 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0000** | **.0002** | **.0168** | **.0072** | **.0008** | **.0003** | **.0024** | **.0002** | **-.0004** |
| Stddev | .0001 | .0002 | .0005 | .0011 | .0000 | .0002 | .0002 | .0000 | .0002 |
| %RSD | 462.2 | 103.5 | 3.274 | 14.95 | 2.376 | 44.51 | 8.498 | 5.124 | 49.54 |
| #1 | -.0000 | .0000 | .0167 | .0081 | .0007 | .0005 | .0024 | .0002 | -.0002 |
| #2 | .0001 | .0001 | .0174 | .0075 | .0008 | .0002 | .0025 | .0002 | -.0006 |
| #3 | -.0001 | .0004 | .0163 | .0060 | .0008 | .0003 | .0021 | .0002 | -.0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.0016** | **.0028** | **-.0010** | **.0007** | **-.0003** | **.0089** | **-.0041** |
| Stddev | .0001 | .0003 | .0000 | .0000 | .0002 | .0021 | .0001 |
| %RSD | 7.370 | 11.11 | .5955 | 4.144 | 48.33 | 23.46 | 2.264 |
| #1 | -.0015 | .0031 | -.0010 | .0007 | -.0004 | .0065 | -.0041 |
| #2 | -.0015 | .0027 | -.0010 | .0006 | -.0004 | .0103 | -.0040 |
| #3 | -.0017 | .0025 | -.0010 | .0007 | -.0001 | .0099 | -.0042 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/9/2019 12:17:52 Type: Cal
Method: SGS NO VALVE3(v365) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86432.** | **8986.0** | **6083.1** | **12845.** |
| Stddev | 258. | 19.1 | 6.1 | 22. |
| %RSD | .29876 | .21217 | .10068 | .16817 |
| #1 | 86471. | 8990.7 | 6088.9 | 12868. |
| #2 | 86156. | 9002.3 | 6076.7 | 12826. |
| #3 | 86669. | 8965.0 | 6083.8 | 12841. |



◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 5/9/2019 12:22:59 Type: Cal
Method: SGS NO VALVE3(v365) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.55** | **10.37** | **4.832** | **2.446** | **1.048** | **1.743** | **2.296** | **1.625** | **.1331** |
| Stddev | .02 | .01 | .006 | .003 | .008 | .012 | .021 | .002 | .0011 |
| %RSD | .1214 | .1443 | .1330 | .1310 | .7754 | .6715 | .9074 | .1191 | .7945 |
| #1 | 12.53 | 10.36 | 4.831 | 2.444 | 1.039 | 1.730 | 2.273 | 1.625 | .1319 |
| #2 | 12.55 | 10.37 | 4.826 | 2.444 | 1.051 | 1.749 | 2.314 | 1.623 | .1336 |
| #3 | 12.56 | 10.39 | 4.839 | 2.449 | 1.054 | 1.751 | 2.302 | 1.627 | .1338 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.422** | **6.251** | **.6537** | **.2525** | **.7967** | **.4659** | **.7692** | **4.360** | **6.953** |
| Stddev | .011 | .007 | .0010 | .0005 | .0012 | .0009 | .0001 | .006 | .014 |
| %RSD | .7904 | .1120 | .1526 | .1887 | .1458 | .2031 | .0159 | .1404 | .1953 |
| #1 | 1.409 | 6.246 | .6535 | .2525 | .7957 | .4670 | .7691 | 4.353 | 6.938 |
| #2 | 1.426 | 6.247 | .6529 | .2520 | .7964 | .4652 | .7691 | 4.360 | 6.956 |
| #3 | 1.430 | 6.259 | .6548 | .2529 | .7979 | .4654 | .7693 | 4.365 | 6.964 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2.659** | **.5247** | **3.547** | **12.47** | **1.054** | **3.587** | **2.191** | **.7581** | **10.03** |
| Stddev | .004 | .0007 | .004 | .02 | .001 | .004 | .003 | .0007 | .01 |
| %RSD | .1547 | .1318 | .1011 | .1230 | .0501 | .1154 | .1172 | .0980 | .1296 |
| #1 | 2.654 | .5242 | 3.547 | 12.46 | 1.054 | 3.589 | 2.192 | .7577 | 10.02 |
| #2 | 2.660 | .5245 | 3.543 | 12.46 | 1.053 | 3.582 | 2.188 | .7576 | 10.02 |
| #3 | 2.662 | .5255 | 3.550 | 12.48 | 1.054 | 3.590 | 2.193 | .7590 | 10.04 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.490** | **1.876** | **3.268** | **.4066** | **.8802** | **4.685** | **.7204** |
| Stddev | .011 | .002 | .031 | .0008 | .0007 | .008 | .0008 |
| %RSD | .7444 | .0877 | .9363 | .2004 | .0850 | .1694 | .1104 |
| #1 | 1.477 | 1.875 | 3.232 | .4063 | .8806 | 4.678 | .7202 |
| #2 | 1.495 | 1.876 | 3.282 | .4060 | .8793 | 4.685 | .7197 |
| #3 | 1.497 | 1.878 | 3.288 | .4075 | .8807 | 4.694 | .7213 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 5/9/2019 12:22:59 Type: Cal
Method: SGS NO VALVE3(v365) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82142.** | **8755.5** | **5748.0** | **11981.** |
| Stddev | 592. | 28.5 | 15.2 | 34. |
| %RSD | .72043 | .32530 | .26507 | .28151 |
| #1 | 82807. | 8772.7 | 5756.6 | 12005. |
| #2 | 81948. | 8771.3 | 5757.1 | 11997. |
| #3 | 81672. | 8722.7 | 5730.4 | 11943. |

Zoom In Zoom Out

Sample Name: ccvconf Acquired: 5/9/2019 12:28:00 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **2.010** | **1.973** | **2.001** | **1.997** | **1.966** | **2.022** | **2.026** | **.2441** |
| Stddev | .001 | .003 | .005 | .004 | .018 | .021 | .006 | .005 | .0030 |
| %RSD | .0414 | .1619 | .2812 | .2208 | .9058 | 1.083 | .2949 | .2638 | 1.212 |
| #1 | 1.985 | 2.006 | 1.970 | 2.000 | 2.005 | 1.978 | 2.027 | 2.023 | .2460 |
| #2 | 1.986 | 2.011 | 1.970 | 1.997 | 1.976 | 1.942 | 2.023 | 2.022 | .2407 |
| #3 | 1.986 | 2.012 | 1.980 | 2.005 | 2.009 | 1.979 | 2.016 | 2.032 | .2455 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.984** | **2.013** | **1.950** | **2.039** | **2.005** | **1.977** | **1.953** | **39.75** | **40.12** |
| Stddev | .018 | .006 | .008 | .006 | .004 | .004 | .008 | .03 | .06 |
| %RSD | .9338 | .3116 | .4237 | .3191 | .2009 | .1824 | .4225 | .0656 | .1430 |
| #1 | 1.994 | 2.013 | 1.945 | 2.040 | 2.006 | 1.977 | 1.949 | 39.73 | 40.07 |
| #2 | 1.963 | 2.007 | 1.945 | 2.032 | 2.000 | 1.974 | 1.947 | 39.73 | 40.11 |
| #3 | 1.996 | 2.020 | 1.959 | 2.045 | 2.008 | 1.981 | 1.962 | 39.78 | 40.19 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.36** | **40.16** | **39.20** | **39.69** | **1.983** | **1.967** | **4.908** | **1.986** | **2.003** |
| Stddev | .09 | .13 | .03 | .03 | .005 | .005 | .020 | .007 | .002 |
| %RSD | .2297 | .3337 | .0640 | .0697 | .2359 | .2398 | .4021 | .3451 | .0949 |
| #1 | 40.26 | 40.31 | 39.17 | 39.66 | 1.981 | 1.967 | 4.896 | 1.985 | 2.000 |
| #2 | 40.41 | 40.06 | 39.21 | 39.68 | 1.979 | 1.962 | 4.897 | 1.980 | 2.004 |
| #3 | 40.43 | 40.11 | 39.22 | 39.72 | 1.988 | 1.971 | 4.931 | 1.993 | 2.004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccvconf Acquired: 5/9/2019 12:28:00 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.955** | **1.925** | **1.961** | **1.957** | **1.976** | **1.963** | **1.984** |
| Stddev | .018 | .004 | .021 | .005 | .007 | .003 | .011 |
| %RSD | .9349 | .2168 | 1.049 | .2637 | .3383 | .1454 | .5699 |
| #1 | 1.964 | 1.922 | 1.971 | 1.953 | 1.971 | 1.960 | 1.976 |
| #2 | 1.933 | 1.923 | 1.937 | 1.956 | 1.974 | 1.966 | 1.979 |
| #3 | 1.966 | 1.930 | 1.974 | 1.963 | 1.983 | 1.962 | 1.997 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84212.** | **8994.9** | **5909.4** | **12260.** |
| Stddev | 433. | 57.2 | 14.2 | 23. |
| %RSD | .51427 | .63563 | .24013 | .19049 |
| #1 | 84096. | 9010.9 | 5910.4 | 12259. |
| #2 | 84691. | 9042.3 | 5923.1 | 12284. |
| #3 | 83849. | 8931.4 | 5894.8 | 12237. |



Zoom In Zoom Out

Sample Name: ccbconf Acquired: 5/9/2019 12:33:01 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0000** | **-.0003** | **-.0002** | **.0000** | **.0002** | **.0000** | **.0002** | **-.0003** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0003 | .0002 | .0000 | .0004 | .0003 |
| %RSD | 34.65 | 1889. | 29.27 | 59.22 | 2321. | 85.14 | 116.9 | 158.1 | 85.13 |
| #1 | .0001 | -.0000 | -.0002 | -.0003 | -.0000 | .0000 | .0001 | .0001 | -.0001 |
| #2 | .0003 | .0000 | -.0003 | -.0001 | .0003 | .0002 | .0000 | -.0000 | -.0002 |
| #3 | .0003 | .0000 | -.0004 | -.0004 | -.0003 | .0003 | .0000 | .0006 | -.0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0001** | **-.0004** | **.0010** | **-.0002** | **.0003** | **.0010** | **.0030** | **.0010** |
| Stddev | .0002 | .0001 | .0005 | .0009 | .0007 | .0009 | .0008 | .0065 | .0027 |
| %RSD | 75.90 | 198.5 | 116.2 | 89.01 | 430.9 | 333.8 | 87.59 | 217.7 | 272.7 |
| #1 | -.0004 | .0000 | .0001 | .0004 | -.0009 | .0012 | .0000 | -.0024 | -.0021 |
| #2 | -.0000 | -.0002 | -.0006 | .0005 | -.0001 | .0003 | .0012 | .0011 | .0023 |
| #3 | -.0004 | -.0000 | -.0007 | .0019 | .0005 | -.0006 | .0017 | .0102 | .0027 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **-.0112** | **.1056** | **.0230** | **.0030** | **.0002** | **.0011** | **.0002** | **-.0000** |
| Stddev | .0014 | .0313 | .0159 | .0127 | .0004 | .0001 | .0009 | .0002 | .0001 |
| %RSD | 200.1 | 278.3 | 15.04 | 55.16 | 14.53 | 49.94 | 84.32 | 133.5 | 224.8 |
| #1 | .0024 | -.0460 | .1119 | .0347 | .0029 | .0002 | .0009 | .0003 | -.0000 |
| #2 | .0001 | -.0024 | .1173 | .0095 | .0035 | .0002 | .0022 | .0003 | -.0001 |
| #3 | -.0003 | .0147 | .0875 | .0248 | .0026 | .0001 | .0003 | -.0001 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccbconf Acquired: 5/9/2019 12:33:01 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0010** | **-.0001** | **-.0004** | **.0006** | F **.0050** | **.0003** |
| Stddev | .0006 | .0000 | .0001 | .0017 | .0010 | .0010 | .0002 |
| %RSD | 155.8 | 3.256 | 89.53 | 455.6 | 152.8 | 21.11 | 68.90 |
| #1 | .0002 | .0010 | -.0002 | -.0010 | .0016 | .0046 | .0001 |
| #2 | -.0009 | .0009 | -.0000 | .0015 | -.0004 | .0042 | .0005 |
| #3 | -.0003 | .0010 | -.0001 | -.0016 | .0007 | .0062 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86273.** | **9005.3** | **6083.5** | **12854.** |
| Stddev | 287. | 12.4 | 23.8 | 46. |
| %RSD | .33273 | .13726 | .39045 | .35720 |
| #1 | 86532. | 8994.2 | 6090.1 | 12863. |
| #2 | 85965. | 9018.6 | 6057.1 | 12805. |
| #3 | 86323. | 9003.1 | 6103.2 | 12895. |

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/9/2019 12:38:13 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.989** | **2.006** | **1.960** | **2.007** | **1.985** | **1.963** | **2.028** | **2.001** | **.2442** |
| Stddev | .012 | .013 | .001 | .002 | .000 | .002 | .009 | .001 | .0001 |
| %RSD | .5895 | .6321 | .0596 | .0872 | .0154 | .1061 | .4349 | .0427 | .0483 |
| #1 | 1.983 | 2.001 | 1.959 | 2.008 | 1.985 | 1.962 | 2.026 | 2.002 | .2441 |
| #2 | 2.003 | 2.021 | 1.961 | 2.007 | 1.985 | 1.962 | 2.021 | 2.001 | .2443 |
| #3 | 1.981 | 1.997 | 1.961 | 2.005 | 1.984 | 1.966 | 2.038 | 2.001 | .2441 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **1.984** | **1.927** | **2.010** | **1.978** | **1.950** | **1.916** | **39.55** | **39.40** |
| Stddev | .001 | .002 | .001 | .003 | .003 | .006 | .005 | .27 | .22 |
| %RSD | .0339 | .1053 | .0349 | .1292 | .1515 | .2987 | .2581 | .6845 | .5550 |
| #1 | 1.984 | 1.983 | 1.926 | 2.011 | 1.980 | 1.952 | 1.914 | 39.48 | 39.25 |
| #2 | 1.986 | 1.983 | 1.927 | 2.012 | 1.980 | 1.955 | 1.921 | 39.85 | 39.65 |
| #3 | 1.985 | 1.987 | 1.928 | 2.007 | 1.975 | 1.944 | 1.912 | 39.33 | 39.30 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.96** | **39.69** | **39.06** | **39.95** | **1.967** | **1.933** | **4.900** | **1.946** | **2.000** |
| Stddev | .19 | .15 | .21 | .22 | .003 | .001 | .003 | .005 | .011 |
| %RSD | .4755 | .3856 | .5255 | .5566 | .1488 | .0624 | .0666 | .2409 | .5494 |
| #1 | 39.86 | 39.54 | 38.98 | 39.90 | 1.965 | 1.934 | 4.903 | 1.943 | 1.996 |
| #2 | 40.18 | 39.85 | 39.29 | 40.20 | 1.970 | 1.934 | 4.897 | 1.951 | 2.013 |
| #3 | 39.83 | 39.69 | 38.91 | 39.76 | 1.965 | 1.932 | 4.898 | 1.944 | 1.993 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/9/2019 12:38:13 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.950** | F **1.888** | **1.950** | **1.942** | **1.963** | **1.992** | **1.981** |
| Stddev | .001 | .002 | .001 | .006 | .002 | .012 | .001 |
| %RSD | .0302 | .1112 | .0356 | .3130 | .1093 | .6129 | .0711 |
| #1 | 1.950 | 1.891 | 1.949 | 1.935 | 1.961 | 1.988 | 1.980 |
| #2 | 1.949 | 1.888 | 1.950 | 1.946 | 1.965 | 2.006 | 1.981 |
| #3 | 1.951 | 1.886 | 1.950 | 1.944 | 1.962 | 1.983 | 1.983 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 2.000 | | | | | |
| Range | | -5.000% | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83316.** | **8872.9** | **5918.6** | **12256.** |
| Stddev | 112. | 63.8 | 4.4 | 14. |
| %RSD | .13423 | .71910 | .07357 | .11160 |
| #1 | 83266. | 8891.6 | 5915.4 | 12243. |
| #2 | 83238. | 8801.8 | 5917.0 | 12253. |
| #3 | 83444. | 8925.2 | 5923.6 | 12271. |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/9/2019 12:43:52 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **2.001** | **1.960** | **1.991** | **2.000** | **1.961** | **2.018** | **2.013** | **.2444** |
| Stddev | .003 | .004 | .001 | .003 | .001 | .003 | .004 | .004 | .0003 |
| %RSD | .1593 | .2109 | .0484 | .1712 | .0589 | .1396 | .2116 | .1728 | .1379 |
| #1 | 1.982 | 1.996 | 1.961 | 1.992 | 1.998 | 1.961 | 2.015 | 2.013 | .2441 |
| #2 | 1.988 | 2.003 | 1.959 | 1.987 | 2.000 | 1.959 | 2.017 | 2.009 | .2447 |
| #3 | 1.984 | 2.003 | 1.960 | 1.994 | 2.000 | 1.964 | 2.023 | 2.016 | .2443 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.991** | **1.997** | **1.938** | **2.022** | **1.990** | **1.964** | **1.939** | **39.64** | **39.98** |
| Stddev | .003 | .003 | .005 | .005 | .002 | .002 | .002 | .10 | .11 |
| %RSD | .1238 | .1396 | .2352 | .2476 | .1151 | .1062 | .1022 | .2438 | .2722 |
| #1 | 1.988 | 1.996 | 1.943 | 2.021 | 1.990 | 1.965 | 1.937 | 39.57 | 39.87 |
| #2 | 1.991 | 1.995 | 1.935 | 2.017 | 1.987 | 1.965 | 1.938 | 39.75 | 40.09 |
| #3 | 1.993 | 2.000 | 1.936 | 2.027 | 1.992 | 1.962 | 1.941 | 39.61 | 39.98 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.13** | **40.04** | **39.10** | **39.58** | **1.968** | **1.949** | **4.869** | **1.965** | **1.993** |
| Stddev | .11 | .14 | .12 | .09 | .003 | .002 | .006 | .000 | .003 |
| %RSD | .2640 | .3555 | .3170 | .2284 | .1541 | .1144 | .1226 | .0140 | .1273 |
| #1 | 40.02 | 39.89 | 38.98 | 39.50 | 1.971 | 1.950 | 4.865 | 1.965 | 1.991 |
| #2 | 40.23 | 40.17 | 39.23 | 39.68 | 1.966 | 1.946 | 4.867 | 1.965 | 1.996 |
| #3 | 40.13 | 40.07 | 39.09 | 39.56 | 1.966 | 1.949 | 4.876 | 1.965 | 1.994 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/9/2019 12:43:52 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.958** | **1.910** | **1.957** | **1.946** | **1.961** | **1.961** | **1.969** |
| Stddev | .003 | .003 | .001 | .005 | .003 | .003 | .001 |
| %RSD | .1593 | .1451 | .0362 | .2507 | .1693 | .1381 | .0269 |
| #1 | 1.955 | 1.913 | 1.956 | 1.943 | 1.964 | 1.958 | 1.970 |
| #2 | 1.959 | 1.908 | 1.958 | 1.942 | 1.961 | 1.964 | 1.969 |
| #3 | 1.961 | 1.908 | 1.957 | 1.951 | 1.957 | 1.962 | 1.970 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83807.** | **8926.0** | **5932.4** | **12279.** |
| Stddev | 103. | 38.9 | 7.7 | 25. |
| %RSD | .12249 | .43553 | .12994 | .20249 |
| #1 | 83854. | 8948.9 | 5925.2 | 12260. |
| #2 | 83689. | 8881.1 | 5940.5 | 12307. |
| #3 | 83878. | 8948.1 | 5931.6 | 12269. |

Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/9/2019 12:48:53 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0000** | **.0000** | **-.0001** | **.0001** | **.0000** | **.0000** | **.0002** | **-.0001** |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0001 | .0003 | .0000 | .0003 | .0002 |
| %RSD | 83.91 | 1581. | 636.7 | 102.0 | 42.97 | 653.9 | 116.1 | 130.8 | 210.3 |
| #1 | .0001 | .0001 | -.0001 | -.0001 | .0001 | .0000 | .0000 | .0001 | -.0000 |
| #2 | .0003 | -.0000 | -.0000 | -.0000 | .0002 | -.0002 | .0000 | .0005 | -.0003 |
| #3 | .0001 | -.0000 | .0002 | -.0003 | .0002 | .0004 | -.0000 | .0000 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0000** | **.0001** | **.0005** | **.0000** | **.0017** | **-.0003** | **.0076** | **.0032** |
| Stddev | .0002 | .0001 | .0004 | .0008 | .0005 | .0016 | .0010 | .0118 | .0038 |
| %RSD | 58.07 | 327.7 | 444.6 | 160.3 | 1254. | 94.53 | 317.3 | 155.3 | 121.0 |
| #1 | -.0007 | -.0001 | .0006 | .0004 | -.0006 | .0015 | .0008 | .0093 | .0002 |
| #2 | -.0002 | -.0000 | -.0001 | -.0002 | .0003 | .0002 | -.0012 | .0185 | .0018 |
| #3 | -.0003 | .0001 | -.0002 | .0014 | .0004 | .0034 | -.0006 | -.0050 | .0075 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **-.0073** | **.0972** | **.0234** | **.0039** | **.0001** | **.0013** | **.0002** | **.0001** |
| Stddev | .0067 | .0116 | .0240 | .0105 | .0009 | .0001 | .0005 | .0005 | .0001 |
| %RSD | 511.6 | 158.1 | 24.65 | 44.93 | 22.09 | 146.0 | 41.96 | 296.9 | 139.2 |
| #1 | -.0069 | -.0016 | .1006 | .0317 | .0049 | .0001 | .0010 | -.0003 | .0001 |
| #2 | -.0031 | -.0207 | .1193 | .0116 | .0037 | -.0001 | .0010 | .0007 | .0002 |
| #3 | .0061 | .0002 | .0717 | .0269 | .0032 | .0002 | .0019 | .0002 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/9/2019 12:48:53 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0003** | **.0001** | **.0001** | **.0005** | **.0055** | **.0000** |
| Stddev | .0004 | .0011 | .0001 | .0011 | .0017 | .0010 | .0005 |
| %RSD | 119.6 | 307.9 | 147.2 | 2214. | 341.9 | 17.55 | 4684. |
| #1 | .0001 | -.0008 | .0001 | -.0010 | .0019 | .0066 | -.0001 |
| #2 | -.0006 | .0012 | .0001 | -.0001 | .0011 | .0047 | .0006 |
| #3 | -.0003 | .0006 | -.0000 | .0013 | -.0014 | .0052 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86769.** | **9007.1** | **6094.4** | **12868.** |
| Stddev | 206. | 66.7 | 19.1 | 50. |
| %RSD | .23714 | .74067 | .31304 | .39040 |
| #1 | 86993. | 9059.9 | 6091.9 | 12864. |
| #2 | 86589. | 9029.1 | 6076.6 | 12820. |
| #3 | 86726. | 8932.1 | 6114.6 | 12921. |



Zoom In Zoom Out

Sample Name: cridconf Acquired: 5/9/2019 12:54:06 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0042** | **.0010** | **.0008** | **.0029** | **.0022** | F **-.0001** | **.0033** | **.0042** |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0001 | .0001 | .0001 | .0002 |
| %RSD | 1.705 | 5.943 | 7.813 | 7.923 | 2.666 | 185.5 | 2.839 | 5.647 |
| #1 | .0042 | .0010 | .0008 | .0028 | .0023 | .0001 | .0034 | .0044 |
| #2 | .0043 | .0011 | .0008 | .0027 | .0022 | -.0002 | .0032 | .0039 |
| #3 | .0042 | .0010 | .0007 | .0031 | .0022 | -.0002 | .0032 | .0043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0001** | **.0017** | **.0105** | **.0027** | F **.0026** | F **.0009** | **.0060** | F **-.0004** |
| Stddev | .0003 | .0003 | .0001 | .0006 | .0008 | .0013 | .0003 | .0003 |
| %RSD | 391.8 | 15.67 | 1.396 | 23.74 | 30.67 | 144.8 | 4.656 | 77.70 |
| #1 | .0001 | .0014 | .0106 | .0025 | .0034 | .0023 | .0058 | -.0006 |
| #2 | .0001 | .0019 | .0103 | .0034 | .0019 | -.0000 | .0061 | -.0000 |
| #3 | -.0004 | .0016 | .0105 | .0022 | .0023 | .0003 | .0063 | -.0007 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1149** | **1.049** | **.0079** | **.0975** | **2.024** | **1.043** | **.0027** | **.0001** |
| Stddev | .0107 | .004 | .0019 | .0109 | .036 | .006 | .0001 | .0001 |
| %RSD | 9.287 | .3712 | 23.76 | 11.15 | 1.779 | .5886 | 5.101 | 112.1 |
| #1 | .1226 | 1.049 | .0076 | .0895 | 2.022 | 1.050 | .0026 | -.0000 |
| #2 | .1027 | 1.053 | .0062 | .0931 | 1.989 | 1.041 | .0026 | .0002 |
| #3 | .1193 | 1.045 | .0099 | .1099 | 2.061 | 1.038 | .0028 | .0003 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: cridconf Acquired: 5/9/2019 12:54:06 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0001** | **.0000** | **-.0002** | **.0004** | **.0001** | **-.0006** | **-.0007** |
| Stddev | .0002 | .0008 | .0001 | .0005 | .0007 | .0001 | .0006 | .0007 |
| %RSD | 22.57 | 772.6 | 708.3 | 239.3 | 186.5 | 64.29 | 94.50 | 96.78 |
| #1 | .0008 | .0007 | .0002 | .0004 | .0004 | .0001 | -.0013 | -.0007 |
| #2 | .0008 | .0003 | -.0000 | -.0006 | .0011 | .0001 | -.0003 | -.0000 |
| #3 | .0005 | -.0008 | -.0001 | -.0005 | -.0003 | .0000 | -.0003 | -.0015 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0042** | **.0011** |
| Stddev | .0015 | .0002 |
| %RSD | 35.99 | 17.73 |
| #1 | .0036 | .0010 |
| #2 | .0032 | .0013 |
| #3 | .0060 | .0010 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85739.** | **8926.7** | **6085.0** | **12802.** |
| Stddev | 574. | 19.9 | 19.4 | 31. |
| %RSD | .66897 | .22290 | .31881 | .24107 |
| #1 | 85104. | 8908.1 | 6068.2 | 12778. |
| #2 | 86220. | 8924.2 | 6106.3 | 12837. |
| #3 | 85894. | 8947.7 | 6080.6 | 12791. |

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/9/2019 13:00:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.983** | **2.002** | **1.954** | **1.989** | **1.987** | **1.952** | **2.008** | **2.006** | **.2428** |
| Stddev | .009 | .010 | .004 | .002 | .021 | .024 | .010 | .003 | .0023 |
| %RSD | .4651 | .5028 | .1790 | .0964 | 1.063 | 1.247 | .5163 | .1615 | .9576 |
| #1 | 1.980 | 2.002 | 1.959 | 1.991 | 2.003 | 1.972 | 2.020 | 2.009 | .2449 |
| #2 | 1.985 | 2.006 | 1.954 | 1.989 | 1.998 | 1.965 | 1.999 | 2.008 | .2438 |
| #3 | 1.973 | 1.989 | 1.953 | 1.986 | 1.990 | 1.952 | 2.012 | 2.003 | .2429 |
| #4 | 1.994 | 2.013 | 1.951 | 1.989 | 1.956 | 1.917 | 2.000 | 2.004 | .2395 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.980** | **1.992** | **1.930** | **2.021** | **1.984** | **1.956** | **1.935** | **39.75** | **39.97** |
| Stddev | .022 | .005 | .006 | .003 | .003 | .004 | .004 | .13 | .20 |
| %RSD | 1.108 | .2584 | .3198 | .1627 | .1318 | .2010 | .1913 | .3237 | .4924 |
| #1 | 1.995 | 1.999 | 1.939 | 2.026 | 1.987 | 1.960 | 1.938 | 39.72 | 39.91 |
| #2 | 1.994 | 1.992 | 1.928 | 2.020 | 1.983 | 1.959 | 1.938 | 39.78 | 40.04 |
| #3 | 1.985 | 1.991 | 1.927 | 2.019 | 1.982 | 1.952 | 1.935 | 39.59 | 39.72 |
| #4 | 1.948 | 1.987 | 1.925 | 2.018 | 1.982 | 1.953 | 1.930 | 39.90 | 40.19 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/9/2019 13:00:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.25** | **39.83** | **39.10** | **39.81** | **1.968** | **1.950** | **4.838** | **1.955** | **2.002** |
| Stddev | .20 | .27 | .21 | .20 | .005 | .002 | .013 | .005 | .009 |
| %RSD | .5017 | .6708 | .5491 | .5127 | .2468 | .1167 | .2634 | .2523 | .4600 |
| #1 | 40.24 | 39.73 | 39.00 | 39.73 | 1.973 | 1.953 | 4.857 | 1.961 | 1.999 |
| #2 | 40.32 | 39.83 | 39.12 | 39.89 | 1.963 | 1.949 | 4.833 | 1.956 | 2.005 |
| #3 | 39.99 | 39.57 | 38.87 | 39.57 | 1.966 | 1.949 | 4.832 | 1.953 | 1.990 |
| #4 | 40.47 | 40.20 | 39.38 | 40.05 | 1.971 | 1.949 | 4.830 | 1.949 | 2.012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.948** | **1.910** | **1.952** | **1.934** | **1.958** | **1.958** | **1.958** |
| Stddev | .022 | .003 | .024 | .005 | .005 | .010 | .005 |
| %RSD | 1.145 | .1388 | 1.247 | .2662 | .2715 | .5200 | .2583 |
| #1 | 1.964 | 1.913 | 1.971 | 1.941 | 1.966 | 1.956 | 1.964 |
| #2 | 1.962 | 1.911 | 1.966 | 1.930 | 1.958 | 1.962 | 1.959 |
| #3 | 1.951 | 1.907 | 1.953 | 1.933 | 1.955 | 1.944 | 1.957 |
| #4 | 1.916 | 1.909 | 1.917 | 1.931 | 1.955 | 1.969 | 1.952 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/9/2019 13:00:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84172.** | **8911.2** | **5912.2** | **12219.** |
| Stddev | 720. | 42.4 | 15.0 | 26. |
| %RSD | .85497 | .47606 | .25393 | .21682 |
| #1 | 83607. | 8964.9 | 5891.5 | 12186. |
| #2 | 83739. | 8904.2 | 5927.1 | 12247. |
| #3 | 84146. | 8914.1 | 5917.3 | 12232. |
| #4 | 85195. | 8861.6 | 5912.8 | 12210. |



Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/9/2019 13:07:28 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0000** | **-.0000** | **.0001** | **-.0001** | **.0000** | **-.0001** | **-.0003** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0003 | .0002 | .0001 | .0002 | .0003 |
| %RSD | 168.0 | 60.24 | 847.5 | 833.9 | 246.0 | 156.0 | 133.1 | 194.7 | 129.6 |
| #1 | -.0000 | -.0000 | -.0001 | .0000 | -.0002 | -.0003 | .0001 | -.0003 | -.0000 |
| #2 | .0001 | -.0002 | .0001 | .0001 | .0003 | .0001 | .0000 | .0001 | -.0001 |
| #3 | .0002 | -.0001 | -.0000 | -.0002 | .0002 | -.0002 | -.0000 | -.0001 | -.0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0000** | **.0004** | **.0001** | **.0002** | **.0007** | **.0008** | **.0114** | **.0034** |
| Stddev | .0001 | .0001 | .0004 | .0011 | .0008 | .0010 | .0000 | .0083 | .0016 |
| %RSD | 155.5 | 186.7 | 103.0 | 1694. | 400.1 | 141.3 | .7900 | 72.33 | 47.05 |
| #1 | .0000 | -.0001 | .0002 | -.0011 | -.0007 | .0003 | .0008 | .0020 | .0016 |
| #2 | -.0000 | -.0001 | .0001 | .0012 | .0006 | .0019 | .0008 | .0146 | .0038 |
| #3 | .0001 | .0000 | .0008 | .0001 | .0007 | -.0000 | .0008 | .0176 | .0046 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0026** | **.1323** | **.0124** | **.0036** | **.0002** | **.0009** | **.0003** | **.0001** |
| Stddev | .0033 | .0115 | .0109 | .0084 | .0008 | .0000 | .0005 | .0003 | .0002 |
| %RSD | 3197. | 436.8 | 8.233 | 67.23 | 20.80 | 9.041 | 53.75 | 124.0 | 227.5 |
| #1 | -.0014 | -.0081 | .1199 | .0211 | .0045 | .0002 | .0014 | .0002 | .0003 |
| #2 | .0037 | .0011 | .1371 | .0045 | .0033 | .0002 | .0005 | .0007 | -.0001 |
| #3 | -.0026 | .0148 | .1400 | .0117 | .0030 | .0002 | .0007 | .0000 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/9/2019 13:07:28 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **.0002** | **-.0011** | **.0002** | **.0046** | **.0001** |
| Stddev | .0003 | .0013 | .0002 | .0015 | .0005 | .0008 | .0004 |
| %RSD | 138.3 | 2571. | 118.3 | 132.7 | 284.1 | 16.74 | 434.3 |
| #1 | -.0005 | -.0010 | .0004 | -.0008 | .0005 | .0055 | .0005 |
| #2 | .0001 | .0014 | .0000 | -.0027 | .0005 | .0041 | -.0004 |
| #3 | -.0002 | -.0006 | .0001 | .0002 | -.0004 | .0042 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87298.** | **9066.0** | **6146.8** | **12918.** |
| Stddev | 92. | 55.6 | 25.4 | 43. |
| %RSD | .10539 | .61281 | .41342 | .33094 |
| #1 | 87223. | 9006.4 | 6118.2 | 12869. |
| #2 | 87271. | 9116.3 | 6166.7 | 12951. |
| #3 | 87401. | 9075.2 | 6155.6 | 12932. |



Zoom In Zoom Out

Sample Name: crid Acquired: 5/9/2019 13:11:40 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0041** | **.0010** | **.0009** | **.0028** | **.0025** | F **.0002** | **.0032** | **.0043** |
| Stddev | .0003 | .0000 | .0001 | .0003 | .0002 | .0000 | .0000 | .0002 |
| %RSD | 7.446 | 1.689 | 6.078 | 9.501 | 7.420 | 31.67 | .2549 | 5.461 |
| #1 | .0040 | .0010 | .0010 | .0029 | .0025 | .0001 | .0032 | .0043 |
| #2 | .0044 | .0009 | .0009 | .0031 | .0023 | .0002 | .0032 | .0045 |
| #3 | .0038 | .0010 | .0009 | .0025 | .0027 | .0002 | .0032 | .0040 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0002** | **.0019** | **.0108** | **.0029** | F **.0036** | F **.0006** | **.0058** | F **.0005** |
| Stddev | .0004 | .0001 | .0005 | .0010 | .0008 | .0003 | .0016 | .0005 |
| %RSD | 171.9 | 3.533 | 4.493 | 33.11 | 22.61 | 52.41 | 27.05 | 112.2 |
| #1 | -.0003 | .0019 | .0105 | .0033 | .0043 | .0005 | .0054 | .0005 |
| #2 | .0002 | .0020 | .0114 | .0018 | .0039 | .0004 | .0045 | .0010 |
| #3 | -.0005 | .0018 | .0106 | .0037 | .0027 | .0010 | .0076 | -.0000 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1156** | **1.041** | **-.0021** | F **.0674** | **1.929** | **1.043** | **.0025** | **.0001** |
| Stddev | .0161 | .002 | .0006 | .0122 | .032 | .011 | .0003 | .0001 |
| %RSD | 13.91 | .1654 | 30.67 | 18.11 | 1.647 | 1.025 | 13.39 | 63.24 |
| #1 | .1335 | 1.039 | -.0028 | .0778 | 1.903 | 1.046 | .0029 | .0002 |
| #2 | .1111 | 1.043 | -.0016 | .0540 | 1.919 | 1.053 | .0024 | .0001 |
| #3 | .1023 | 1.041 | -.0019 | .0703 | 1.964 | 1.032 | .0022 | .0001 |
| Check ? | Chk Pass | Chk Pass | None | Chk Fail | Chk Pass | Chk Pass | None | None |
| Value | | | | .1000 | | | | |
| Range | | | | -20.00% | | | | |



Zoom In Zoom Out

Sample Name: crid Acquired: 5/9/2019 13:11:40 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0003** | **.0000** | **-.0002** | **-.0000** | **.0002** | **-.0011** | **.0005** |
| Stddev | .0005 | .0008 | .0001 | .0001 | .0014 | .0000 | .0010 | .0007 |
| %RSD | 132.0 | 231.7 | 611.7 | 82.19 | 2824. | 29.50 | 92.50 | 130.6 |
| #1 | -.0000 | .0005 | -.0000 | -.0001 | -.0009 | .0001 | -.0010 | .0008 |
| #2 | .0010 | -.0005 | .0001 | -.0003 | .0016 | .0002 | -.0020 | .0011 |
| #3 | .0002 | .0011 | -.0000 | -.0001 | -.0008 | .0002 | -.0001 | -.0002 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0055** | **.0007** |
| Stddev | .0024 | .0005 |
| %RSD | 43.58 | 66.09 |
| #1 | .0063 | .0013 |
| #2 | .0073 | .0003 |
| #3 | .0028 | .0006 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86706.** | **9074.8** | **6109.2** | **12827.** |
| Stddev | 136. | 7.3 | 8.8 | 11. |
| %RSD | .15725 | .08054 | .14362 | .08624 |
| #1 | 86800. | 9081.5 | 6119.2 | 12840. |
| #2 | 86550. | 9067.0 | 6105.9 | 12820. |
| #3 | 86769. | 9076.0 | 6102.6 | 12821. |



Zoom In Zoom Out

Sample Name: cri Acquired: 5/9/2019 13:16:50 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1972** | **.0019** | **.0029** | **.0494** | **.0100** | **.0095** | **.0156** | **.0103** | **.0043** |
| Stddev | .0003 | .0000 | .0001 | .0000 | .0002 | .0002 | .0001 | .0001 | .0004 |
| %RSD | .1368 | 2.045 | 2.858 | .1009 | 2.453 | 2.137 | .7911 | .9939 | 10.03 |
| #1 | .1972 | .0019 | .0030 | .0494 | .0102 | .0097 | .0156 | .0104 | .0046 |
| #2 | .1969 | .0018 | .0030 | .0494 | .0101 | .0094 | .0157 | .0102 | .0038 |
| #3 | .1975 | .0019 | .0028 | .0494 | .0098 | .0093 | .0154 | .0104 | .0045 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0497** | **.0205** | **.0080** | **.0102** | **.0036** | **.0118** | **.0061** | **.2105** | **5.150** |
| Stddev | .0003 | .0002 | .0004 | .0005 | .0018 | .0010 | .0013 | .0202 | .016 |
| %RSD | .6475 | .9647 | 5.113 | 5.248 | 51.23 | 8.555 | 20.76 | 9.614 | .3100 |
| #1 | .0496 | .0207 | .0081 | .0098 | .0036 | .0126 | .0075 | .1885 | 5.141 |
| #2 | .0501 | .0203 | .0083 | .0100 | .0053 | .0107 | .0058 | .2283 | 5.141 |
| #3 | .0495 | .0204 | .0075 | .0108 | .0017 | .0121 | .0051 | .2146 | 5.169 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0999** | **5.170** | **4.832** | **5.013** | **.0982** | **.0200** | **.2109** | **.0105** | **.0100** |
| Stddev | .0046 | .035 | .033 | .014 | .0008 | .0002 | .0009 | .0003 | .0001 |
| %RSD | 4.625 | .6816 | .6823 | .2683 | .8618 | .9759 | .4203 | 3.044 | 1.063 |
| #1 | .1023 | 5.210 | 4.850 | 5.026 | .0985 | .0198 | .2106 | .0107 | .0099 |
| #2 | .1028 | 5.152 | 4.851 | 5.000 | .0988 | .0202 | .2119 | .0101 | .0100 |
| #3 | .0946 | 5.147 | 4.794 | 5.014 | .0972 | .0199 | .2102 | .0107 | .0101 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: cri Acquired: 5/9/2019 13:16:50 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0101** | **.0479** | **.0100** | **.0515** | **.0239** | **.0571** | **.0494** |
| Stddev | .0003 | .0005 | .0001 | .0007 | .0004 | .0004 | .0004 |
| %RSD | 3.070 | 1.099 | .8261 | 1.277 | 1.465 | .6865 | .7568 |
| #1 | .0098 | .0473 | .0100 | .0515 | .0243 | .0572 | .0493 |
| #2 | .0104 | .0481 | .0101 | .0522 | .0239 | .0566 | .0498 |
| #3 | .0102 | .0483 | .0099 | .0509 | .0236 | .0574 | .0491 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87095.** | **9091.9** | **6114.4** | **12749.** |
| Stddev | 693. | 15.6 | 33.2 | 72. |
| %RSD | .79516 | .17147 | .54231 | .56585 |
| #1 | 86713. | 9081.9 | 6095.7 | 12704. |
| #2 | 86677. | 9084.0 | 6094.8 | 12711. |
| #3 | 87894. | 9109.9 | 6152.7 | 12832. |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/9/2019 13:21:55 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **-.0003** | **-.0003** | **.0003** | **.0005** | **-.0053** | **-.0015** | **.0024** | **.0031** |
| Stddev | .0002 | .0000 | .0003 | .0003 | .0004 | .0002 | .0001 | .0004 | .0002 |
| %RSD | 17.12 | 6.673 | 107.1 | 81.45 | 88.00 | 3.980 | 3.513 | 18.15 | 7.768 |
| #1 | .0010 | -.0003 | -.0006 | .0002 | .0008 | -.0053 | -.0015 | .0025 | .0030 |
| #2 | .0009 | -.0003 | -.0002 | .0007 | .0006 | -.0055 | -.0015 | .0019 | .0030 |
| #3 | .0012 | -.0003 | -.0001 | .0001 | .0000 | -.0051 | -.0014 | .0027 | .0034 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0005** | **-.0026** | **-.0008** | **.0009** | **.0030** | **-.0018** | **503.7** | **385.7** |
| Stddev | .0001 | .0001 | .0019 | .0028 | .0020 | .0043 | .0017 | .6 | 5.6 |
| %RSD | 13.77 | 13.06 | 74.38 | 350.1 | 215.8 | 144.6 | 93.28 | .1270 | 1.442 |
| #1 | .0011 | -.0005 | -.0037 | .0020 | .0005 | .0053 | -.0036 | 503.5 | 388.3 |
| #2 | .0009 | -.0004 | -.0004 | -.0037 | .0031 | -.0020 | -.0018 | 503.3 | 379.3 |
| #3 | .0012 | -.0006 | -.0037 | -.0008 | -.0008 | .0056 | -.0002 | 504.5 | 389.4 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **191.5** | **496.7** | **.0171** | **.0558** | **.0036** | **.0039** | **-.0093** | **-.0027** | **-.0006** |
| Stddev | .3 | .8 | .0205 | .0077 | .0012 | .0005 | .0020 | .0004 | .0001 |
| %RSD | .1427 | .1535 | 120.0 | 13.85 | 34.44 | 13.96 | 21.14 | 13.67 | 14.86 |
| #1 | 191.4 | 496.3 | -.0053 | .0588 | .0048 | .0038 | -.0084 | -.0024 | -.0005 |
| #2 | 191.4 | 496.2 | .0350 | .0470 | .0023 | .0033 | -.0080 | -.0025 | -.0007 |
| #3 | 191.8 | 497.6 | .0217 | .0616 | .0038 | .0044 | -.0116 | -.0031 | -.0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/9/2019 13:21:55 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0049** | **.0100** | **.0022** | **.0122** | **-.0040** | **-.0033** | **.0214** |
| Stddev | .0003 | .0009 | .0001 | .0014 | .0015 | .0010 | .0013 |
| %RSD | 5.537 | 9.401 | 5.512 | 11.11 | 36.03 | 29.60 | 6.262 |
| #1 | .0046 | .0102 | .0022 | .0110 | -.0052 | -.0023 | .0212 |
| #2 | .0051 | .0108 | .0021 | .0120 | -.0024 | -.0033 | .0229 |
| #3 | .0050 | .0089 | .0023 | .0137 | -.0045 | -.0042 | .0202 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **78588.** | **8624.5** | **5542.0** | **11428.** |
| Stddev | 245. | 35.8 | 12.3 | 21. |
| %RSD | .31186 | .41495 | .22139 | .18142 |
| #1 | 78708. | 8617.4 | 5550.2 | 11450. |
| #2 | 78750. | 8663.2 | 5548.0 | 11425. |
| #3 | 78306. | 8592.7 | 5527.9 | 11409. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/9/2019 13:26:59 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4888** | **.4790** | **.9795** | **.4654** | **.4727** | **.5079** | **.4931** | **.9447** | **1.029** |
| Stddev | .0002 | .0011 | .0012 | .0009 | .0002 | .0001 | .0003 | .0019 | .001 |
| %RSD | .0412 | .2196 | .1263 | .1874 | .0436 | .0178 | .0644 | .2023 | .0794 |
| #1 | .4887 | .4794 | .9800 | .4657 | .4729 | .5080 | .4934 | .9463 | 1.030 |
| #2 | .4890 | .4778 | .9804 | .4661 | .4725 | .5079 | .4933 | .9452 | 1.029 |
| #3 | .4886 | .4798 | .9781 | .4644 | .4727 | .5078 | .4928 | .9426 | 1.028 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4829** | **.9274** | **1.026** | **.9558** | **.9295** | **1.002** | **1.008** | **510.3** | **377.1** |
| Stddev | .0002 | .0025 | .001 | .0014 | .0019 | .003 | .000 | .7 | 5.5 |
| %RSD | .0509 | .2721 | .0832 | .1475 | .2047 | .2609 | .0219 | .1408 | 1.456 |
| #1 | .4831 | .9291 | 1.026 | .9542 | .9313 | 1.000 | 1.008 | 511.0 | 379.3 |
| #2 | .4826 | .9286 | 1.027 | .9567 | .9297 | 1.000 | 1.008 | 509.6 | 370.8 |
| #3 | .4828 | .9245 | 1.025 | .9566 | .9275 | 1.005 | 1.008 | 510.5 | 381.1 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **188.6** | **488.7** | **-.2561** | **.0523** | **.4819** | **.4704** | **.4927** | **.4656** | **.4977** |
| Stddev | .3 | 1.0 | .0227 | .0082 | .0014 | .0007 | .0002 | .0009 | .0001 |
| %RSD | .1409 | .1945 | 8.865 | 15.67 | .2891 | .1517 | .0382 | .1857 | .0290 |
| #1 | 188.9 | 489.4 | -.2499 | .0592 | .4830 | .4711 | .4926 | .4665 | .4978 |
| #2 | 188.4 | 487.6 | -.2372 | .0545 | .4823 | .4703 | .4927 | .4657 | .4975 |
| #3 | 188.6 | 489.1 | -.2813 | .0433 | .4803 | .4697 | .4929 | .4648 | .4977 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/9/2019 13:26:59 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4901** | **.4671** | **.4878** | **.5064** | **.5031** | **.5113** | **.5417** |
| Stddev | .0005 | .0008 | .0003 | .0027 | .0019 | .0008 | .0003 |
| %RSD | .0944 | .1645 | .0524 | .5426 | .3842 | .1493 | .0587 |
| #1 | .4897 | .4668 | .4881 | .5067 | .5050 | .5122 | .5414 |
| #2 | .4900 | .4679 | .4876 | .5090 | .5012 | .5107 | .5420 |
| #3 | .4906 | .4665 | .4876 | .5035 | .5030 | .5109 | .5418 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **77734.** | **8554.8** | **5450.4** | **11277.** |
| Stddev | 132. | 39.0 | 16.1 | 27. |
| %RSD | .17002 | .45580 | .29525 | .24129 |
| #1 | 77866. | 8511.2 | 5436.7 | 11251. |
| #2 | 77602. | 8586.4 | 5446.3 | 11274. |
| #3 | 77733. | 8566.9 | 5468.1 | 11306. |



Zoom In Zoom Out

Sample Name: hstd 7 Acquired: 5/9/2019 13:31:58 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.993** | **7.981** | **7.878** | **8.005** | **8.147** | **7.885** | **7.925** | **8.057** | **.6257** |
| Stddev | .059 | .010 | .048 | .005 | .005 | .039 | .037 | .005 | .0003 |
| %RSD | .7448 | .1243 | .6084 | .0619 | .0582 | .4894 | .4616 | .0625 | .0513 |
| #1 | 8.007 | 7.972 | 7.823 | 8.009 | 8.150 | 7.875 | 7.884 | 8.061 | .6257 |
| #2 | 7.927 | 7.981 | 7.905 | 8.007 | 8.141 | 7.928 | 7.955 | 8.058 | .6260 |
| #3 | 8.043 | 7.992 | 7.907 | 8.000 | 8.148 | 7.853 | 7.936 | 8.051 | .6254 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.973** | **8.149** | **7.915** | **8.126** | **8.086** | **7.933** | **8.049** | **.0606** | **.0212** |
| Stddev | .047 | .001 | .028 | .028 | .004 | .033 | .061 | .0120 | .0061 |
| %RSD | .5926 | .0172 | .3547 | .3468 | .0552 | .4153 | .7555 | 19.82 | 28.89 |
| #1 | 7.943 | 8.150 | 7.883 | 8.093 | 8.083 | 7.895 | 7.978 | .0566 | .0200 |
| #2 | 7.948 | 8.147 | 7.933 | 8.143 | 8.091 | 7.950 | 8.081 | .0511 | .0158 |
| #3 | 8.027 | 8.149 | 7.930 | 8.141 | 8.084 | 7.954 | 8.086 | .0741 | .0279 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0144** | **-.0426** | **-.1638** | **.0471** | **7.879** | **8.066** | **25.24** | **8.213** | **7.985** |
| Stddev | .0066 | .0203 | .0703 | .0152 | .045 | .037 | .13 | .034 | .021 |
| %RSD | 45.73 | 47.55 | 42.89 | 32.17 | .5681 | .4589 | .5250 | .4103 | .2614 |
| #1 | -.0176 | -.0238 | -.0884 | .0494 | 7.827 | 8.023 | 25.09 | 8.174 | 7.968 |
| #2 | -.0186 | -.0399 | -.1756 | .0310 | 7.905 | 8.086 | 25.28 | 8.232 | 8.008 |
| #3 | -.0068 | -.0641 | -.2275 | .0611 | 7.904 | 8.088 | 25.34 | 8.233 | 7.979 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: hstd 7 Acquired: 5/9/2019 13:31:58 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.965** | **8.225** | **7.960** | **96.17** | **8.196** | **7.790** | **7.906** |
| Stddev | .043 | .029 | .044 | .31 | .066 | .009 | .031 |
| %RSD | .5460 | .3547 | .5481 | .3222 | .7987 | .1221 | .3921 |
| #1 | 8.001 | 8.192 | 8.009 | 95.81 | 8.120 | 7.780 | 7.871 |
| #2 | 7.917 | 8.240 | 7.928 | 96.35 | 8.234 | 7.793 | 7.917 |
| #3 | 7.978 | 8.244 | 7.942 | 96.35 | 8.233 | 7.798 | 7.930 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85265.** | **9092.6** | **5909.1** | **12793.** |
| Stddev | 93. | 18.0 | 22.5 | 21. |
| %RSD | .10889 | .19825 | .38043 | .16237 |
| #1 | 85372. | 9072.8 | 5929.9 | 12787. |
| #2 | 85222. | 9097.0 | 5912.0 | 12816. |
| #3 | 85201. | 9108.0 | 5885.3 | 12776. |



Zoom In Zoom Out

Sample Name: hstd Acquired: 5/9/2019 13:37:51 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0003** | **.0002** | **.0004** | **.0010** | **-.0050** | **-.0012** | **.0030** | **.0029** |
| Stddev | .0004 | .0000 | .0004 | .0003 | .0001 | .0002 | .0001 | .0004 | .0004 |
| %RSD | 31.44 | 3.752 | 205.4 | 68.52 | 11.77 | 3.564 | 8.941 | 12.49 | 13.50 |
| #1 | .0008 | .0003 | .0006 | .0001 | .0010 | -.0051 | -.0013 | .0030 | .0025 |
| #2 | .0016 | .0003 | -.0000 | .0004 | .0009 | -.0051 | -.0012 | .0033 | .0030 |
| #3 | .0012 | .0002 | -.0001 | .0006 | .0011 | -.0048 | -.0011 | .0026 | .0033 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **-.0004** | **-.0021** | **.0022** | **-.0005** | **.0038** | **.0022** | **319.3** | **201.7** |
| Stddev | .0001 | .0002 | .0007 | .0010 | .0019 | .0026 | .0015 | .8 | 1.1 |
| %RSD | 14.88 | 57.75 | 31.88 | 44.75 | 410.6 | 67.88 | 68.57 | .2429 | .5657 |
| #1 | .0009 | -.0002 | -.0017 | .0019 | -.0022 | .0063 | .0005 | 318.7 | 200.4 |
| #2 | .0007 | -.0007 | -.0016 | .0014 | .0015 | .0012 | .0025 | 320.1 | 201.9 |
| #3 | .0009 | -.0004 | -.0028 | .0033 | -.0007 | .0039 | .0034 | 318.9 | 202.7 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **198.7** | **302.2** | **200.0** | **200.2** | **.0068** | **.0025** | **.0042** | **-.0029** | **-.0003** |
| Stddev | .8 | 3.0 | .7 | 1.2 | .0014 | .0006 | .0022 | .0011 | .0002 |
| %RSD | .4222 | 1.004 | .3729 | .5777 | 20.80 | 22.15 | 51.77 | 37.64 | 63.66 |
| #1 | 197.8 | 299.2 | 200.1 | 198.9 | .0082 | .0026 | .0067 | -.0021 | -.0002 |
| #2 | 198.7 | 302.0 | 200.8 | 200.7 | .0068 | .0019 | .0025 | -.0024 | -.0001 |
| #3 | 199.5 | 305.3 | 199.3 | 201.0 | .0054 | .0030 | .0035 | -.0041 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: hstd Acquired: 5/9/2019 13:37:51 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033** | **.0097** | **.0027** | **.0147** | **-.0037** | **.0243** | **.0145** |
| Stddev | .0003 | .0008 | .0000 | .0008 | .0010 | .0023 | .0002 |
| %RSD | 10.29 | 8.094 | 1.311 | 5.138 | 27.90 | 9.386 | 1.649 |
| #1 | .0036 | .0105 | .0027 | .0154 | -.0042 | .0229 | .0145 |
| #2 | .0030 | .0090 | .0026 | .0139 | -.0045 | .0230 | .0148 |
| #3 | .0032 | .0094 | .0027 | .0148 | -.0026 | .0269 | .0143 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **78597.** | **8568.1** | **5557.9** | **11411.** |
| Stddev | 146. | 41.1 | 16.3 | 31. |
| %RSD | .18626 | .47987 | .29409 | .27034 |
| #1 | 78459. | 8614.8 | 5539.3 | 11377. |
| #2 | 78581. | 8537.4 | 5564.2 | 11420. |
| #3 | 78751. | 8552.0 | 5570.1 | 11436. |



Zoom In Zoom Out

Sample Name: feconf Acquired: 5/9/2019 13:42:57 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0003** | **-.0002** | **.0000** | **.0003** | **-.0061** | **.0002** | **.0024** | **.0033** |
| Stddev | .0005 | .0000 | .0002 | .0001 | .0002 | .0002 | .0001 | .0003 | .0002 |
| %RSD | 162.7 | 8.130 | 83.39 | 1706. | 75.32 | 3.231 | 32.66 | 10.98 | 5.939 |
| #1 | .0008 | -.0003 | -.0000 | -.0000 | .0001 | -.0062 | .0003 | .0027 | .0034 |
| #2 | -.0002 | -.0004 | -.0005 | .0002 | .0002 | -.0059 | .0001 | .0021 | .0031 |
| #3 | .0004 | -.0004 | -.0003 | -.0001 | .0005 | -.0062 | .0003 | .0024 | .0033 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0009** | **-.0006** | **.0016** | **-.0001** | **.0027** | **.0008** | **.0050** | **-.0027** |
| Stddev | .0001 | .0001 | .0002 | .0007 | .0005 | .0003 | .0022 | .0094 | .0044 |
| %RSD | 54.26 | 13.44 | 36.73 | 42.69 | 332.3 | 12.01 | 286.4 | 186.5 | 162.0 |
| #1 | -.0001 | -.0011 | -.0006 | .0020 | -.0004 | .0024 | .0029 | .0024 | .0013 |
| #2 | -.0003 | -.0009 | -.0004 | .0008 | .0004 | .0030 | .0010 | -.0027 | -.0074 |
| #3 | -.0002 | -.0009 | -.0009 | .0019 | -.0004 | .0028 | -.0015 | .0154 | -.0020 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **196.3** | **-.0581** | **.2152** | **.0802** | **.0029** | **.0005** | **.0048** | **-.0021** | **-.0001** |
| Stddev | .3 | .0210 | .0324 | .0011 | .0004 | .0002 | .0004 | .0008 | .0002 |
| %RSD | .1473 | 36.18 | 15.06 | 1.424 | 13.87 | 47.78 | 7.732 | 40.37 | 246.6 |
| #1 | 196.7 | -.0803 | .2408 | .0810 | .0030 | .0004 | .0044 | -.0012 | .0001 |
| #2 | 196.2 | -.0386 | .1788 | .0788 | .0032 | .0007 | .0049 | -.0022 | -.0002 |
| #3 | 196.2 | -.0554 | .2261 | .0806 | .0024 | .0003 | .0051 | -.0029 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **.0008** | **.0032** | **.0017** | **-.0004** | **.0101** | **.0042** |
| Stddev | .0001 | .0005 | .0001 | .0010 | .0031 | .0012 | .0008 |
| %RSD | 17.72 | 56.65 | 1.973 | 56.78 | 823.3 | 11.57 | 20.04 |
| #1 | -.0005 | .0005 | .0032 | .0028 | -.0039 | .0105 | .0044 |
| #2 | -.0005 | .0006 | .0033 | .0010 | .0011 | .0110 | .0033 |
| #3 | -.0004 | .0014 | .0031 | .0013 | .0017 | .0088 | .0049 |



Zoom In Zoom Out

Sample Name: feconf Acquired: 5/9/2019 13:42:57 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84654.** | **8739.5** | **6001.6** | **12943.** |
| Stddev | 451. | 26.1 | 26.2 | 56. |
| %RSD | .53263 | .29861 | .43673 | .43529 |
| #1 | 84453. | 8732.2 | 5975.1 | 12886. |
| #2 | 84338. | 8717.8 | 6027.5 | 12999. |
| #3 | 85170. | 8768.4 | 6002.2 | 12944. |



Zoom In Zoom Out

Sample Name: crconf Acquired: 5/9/2019 13:48:04 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0000** | **-.0002** | **-.0007** | F **10.15** | **-.0008** | **-.0010** | **-.0000** | **-.0005** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .02 | .0002 | .0000 | .0003 | .0001 |
| %RSD | 60.82 | 137.7 | 71.76 | 20.16 | .1645 | 20.59 | 1.599 | 1030. | 20.98 |
| #1 | .0002 | -.0001 | -.0002 | -.0007 | 10.13 | -.0010 | -.0010 | -.0004 | -.0004 |
| #2 | .0003 | -.0001 | -.0001 | -.0008 | 10.17 | -.0006 | -.0010 | .0002 | -.0006 |
| #3 | .0006 | .0000 | -.0003 | -.0006 | 10.14 | -.0007 | -.0010 | .0001 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0068** | **.0005** | **-.0007** | **-.0018** | **.0001** | **-.0005** | **-.0010** | **.0074** | **.0053** |
| Stddev | .0004 | .0002 | .0005 | .0007 | .0006 | .0018 | .0010 | .0120 | .0006 |
| %RSD | 5.321 | 35.59 | 71.75 | 38.35 | 486.3 | 358.3 | 105.9 | 161.6 | 10.54 |
| #1 | -.0067 | .0006 | -.0001 | -.0023 | -.0005 | .0002 | -.0021 | .0097 | .0047 |
| #2 | -.0066 | .0004 | -.0011 | -.0021 | .0000 | -.0025 | -.0006 | .0181 | .0058 |
| #3 | -.0072 | .0003 | -.0010 | -.0010 | .0008 | .0008 | -.0001 | -.0056 | .0052 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0130** | **.1446** | **.0146** | **.0034** | **.0007** | **-.0012** | **-.0001** | **.0001** |
| Stddev | .0043 | .0222 | .0175 | .0018 | .0005 | .0000 | .0009 | .0005 | .0002 |
| %RSD | 1056. | 171.3 | 12.09 | 12.03 | 14.86 | 3.412 | 78.69 | 437.4 | 186.6 |
| #1 | -.0027 | -.0249 | .1512 | .0126 | .0035 | .0007 | -.0008 | .0000 | .0002 |
| #2 | -.0030 | -.0267 | .1248 | .0154 | .0029 | .0008 | -.0023 | -.0006 | -.0001 |
| #3 | .0045 | .0127 | .1578 | .0158 | .0039 | .0008 | -.0005 | .0003 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0011** | **-.0096** | **-.0008** | **-.0162** | **.0071** | **-.0006** |
| Stddev | .0004 | .0007 | .0001 | .0019 | .0003 | .0007 | .0002 |
| %RSD | 45.69 | 65.39 | .9521 | 242.9 | 1.732 | 9.718 | 40.61 |
| #1 | .0010 | .0012 | -.0097 | -.0016 | -.0162 | .0069 | -.0004 |
| #2 | .0005 | .0017 | -.0097 | -.0020 | -.0165 | .0064 | -.0006 |
| #3 | .0014 | .0003 | -.0095 | .0014 | -.0159 | .0078 | -.0009 |

Zoom In Zoom Out

Sample Name: crconf Acquired: 5/9/2019 13:48:04 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86098.** | **8925.0** | **5929.7** | **12840.** |
| Stddev | 73. | 30.5 | 12.0 | 30. |
| %RSD | .08435 | .34156 | .20285 | .23610 |
| #1 | 86100. | 8958.3 | 5916.9 | 12807. |
| #2 | 86024. | 8898.4 | 5931.5 | 12850. |
| #3 | 86169. | 8918.5 | 5940.7 | 12865. |



Zoom In Zoom Out

Sample Name: asconf Acquired: 5/9/2019 13:53:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **.0004** | **-.0002** | **.0002** | **-.0002** | **.0000** | **-.0001** | **-.0007** |
| Stddev | .0002 | .0001 | .0002 | .0002 | .0003 | .0004 | .0000 | .0000 | .0001 |
| %RSD | 101.1 | 91.01 | 47.32 | 92.17 | 104.9 | 203.3 | 71.49 | 22.23 | 11.71 |
| #1 | .0004 | -.0000 | .0002 | -.0002 | .0000 | .0000 | .0001 | -.0001 | -.0007 |
| #2 | .0004 | -.0001 | .0004 | -.0004 | .0005 | .0000 | .0000 | -.0001 | -.0008 |
| #3 | -.0000 | -.0002 | .0005 | -.0000 | .0002 | -.0006 | .0000 | -.0001 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0002** | **5.029** | **.0008** | **.0003** | **.0007** | **.0004** | **.0044** | **.0062** |
| Stddev | .0001 | .0001 | .012 | .0007 | .0009 | .0012 | .0011 | .0063 | .0053 |
| %RSD | 1057. | 47.84 | .2365 | 83.13 | 299.1 | 166.4 | 239.1 | 143.2 | 86.27 |
| #1 | -.0000 | .0002 | 5.043 | .0016 | .0013 | .0007 | .0012 | .0063 | .0026 |
| #2 | .0001 | .0001 | 5.026 | .0003 | -.0003 | .0019 | -.0008 | .0095 | .0123 |
| #3 | -.0001 | .0002 | 5.019 | .0006 | -.0001 | -.0005 | .0009 | -.0026 | .0036 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0021** | **-.0220** | **.1436** | **-.0021** | **.0022** | **.0002** | **.0018** | **-.0000** | **.0001** |
| Stddev | .0039 | .0282 | .0171 | .0050 | .0003 | .0001 | .0009 | .0004 | .0001 |
| %RSD | 189.8 | 128.0 | 11.92 | 235.9 | 15.32 | 58.48 | 47.44 | 7696. | 125.4 |
| #1 | .0011 | -.0125 | .1325 | -.0064 | .0025 | .0001 | .0027 | .0001 | .0002 |
| #2 | -.0065 | -.0537 | .1633 | -.0033 | .0024 | .0002 | .0010 | -.0004 | -.0000 |
| #3 | -.0008 | .0002 | .1350 | .0034 | .0018 | .0003 | .0017 | .0003 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0000** | **.0001** | **-.0015** | **.0028** | **.0023** | **.0007** |
| Stddev | .0000 | .0009 | .0001 | .0013 | .0003 | .0014 | .0005 |
| %RSD | 15.95 | 12240. | 61.93 | 88.41 | 10.90 | 61.75 | 70.41 |
| #1 | -.0003 | -.0006 | .0002 | -.0014 | .0031 | .0024 | .0011 |
| #2 | -.0002 | -.0004 | .0000 | -.0003 | .0025 | .0036 | .0002 |
| #3 | -.0002 | .0010 | .0002 | -.0029 | .0028 | .0008 | .0007 |



Zoom In Zoom Out

Sample Name: asconf Acquired: 5/9/2019 13:53:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86062.** | **8845.3** | **6077.9** | **12826.** |
| Stddev | 292. | 21.5 | 14.0 | 19. |
| %RSD | .33905 | .24312 | .22956 | .14599 |
| #1 | 85738. | 8838.3 | 6068.4 | 12810. |
| #2 | 86145. | 8828.1 | 6071.5 | 12822. |
| #3 | 86304. | 8869.4 | 6093.9 | 12846. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 13:58:31 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.996** | **2.010** | **1.966** | **1.990** | **2.011** | **1.978** | **2.051** | **2.021** | **.2462** |
| Stddev | .002 | .003 | .004 | .002 | .002 | .003 | .018 | .002 | .0006 |
| %RSD | .1189 | .1426 | .1897 | .1062 | .0762 | .1572 | .8900 | .1038 | .2621 |
| #1 | 1.996 | 2.010 | 1.962 | 1.988 | 2.013 | 1.980 | 2.039 | 2.019 | .2469 |
| #2 | 1.993 | 2.008 | 1.968 | 1.992 | 2.010 | 1.978 | 2.072 | 2.023 | .2461 |
| #3 | 1.998 | 2.014 | 1.968 | 1.991 | 2.010 | 1.974 | 2.042 | 2.020 | .2456 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.999** | **2.008** | **1.945** | **2.030** | **1.999** | **1.977** | **1.951** | **39.82** | **40.25** |
| Stddev | .001 | .001 | .002 | .004 | .002 | .003 | .004 | .04 | .06 |
| %RSD | .0570 | .0605 | .1258 | .2071 | .0980 | .1422 | .1783 | .0941 | .1490 |
| #1 | 2.000 | 2.008 | 1.942 | 2.035 | 1.998 | 1.974 | 1.947 | 39.80 | 40.18 |
| #2 | 1.998 | 2.009 | 1.946 | 2.029 | 2.001 | 1.978 | 1.951 | 39.81 | 40.26 |
| #3 | 1.998 | 2.007 | 1.946 | 2.027 | 1.998 | 1.980 | 1.954 | 39.87 | 40.30 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.77** | **39.93** | **39.45** | **39.79** | **1.973** | **1.953** | **4.894** | **1.983** | **2.001** |
| Stddev | .06 | .16 | .04 | .08 | .002 | .003 | .010 | .005 | .002 |
| %RSD | .1461 | .3889 | .1134 | .1981 | .0936 | .1367 | .1969 | .2522 | .1119 |
| #1 | 39.71 | 39.76 | 39.41 | 39.73 | 1.971 | 1.951 | 4.883 | 1.980 | 2.001 |
| #2 | 39.76 | 39.95 | 39.50 | 39.76 | 1.974 | 1.956 | 4.901 | 1.988 | 1.999 |
| #3 | 39.83 | 40.07 | 39.43 | 39.88 | 1.974 | 1.954 | 4.898 | 1.979 | 2.003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 13:58:31 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.972** | **1.915** | **1.971** | **1.954** | **1.966** | **1.948** | **1.982** |
| Stddev | .001 | .002 | .000 | .005 | .006 | .002 | .005 |
| %RSD | .0692 | .1202 | .0064 | .2729 | .3099 | .1089 | .2547 |
| #1 | 1.973 | 1.912 | 1.971 | 1.947 | 1.959 | 1.946 | 1.977 |
| #2 | 1.972 | 1.917 | 1.971 | 1.956 | 1.969 | 1.948 | 1.986 |
| #3 | 1.971 | 1.916 | 1.971 | 1.957 | 1.970 | 1.950 | 1.984 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83643.** | **8878.3** | **5918.7** | **12288.** |
| Stddev | 77. | 43.3 | 7.6 | 15. |
| %RSD | .09163 | .48789 | .12891 | .12155 |
| #1 | 83723. | 8928.2 | 5925.5 | 12301. |
| #2 | 83637. | 8856.0 | 5920.2 | 12291. |
| #3 | 83570. | 8850.7 | 5910.5 | 12272. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 14:03:32 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0000** | **-.0000** | **-.0001** | **.0003** | **.0001** | **.0001** | **.0001** | **-.0002** |
| Stddev | .0003 | .0001 | .0001 | .0002 | .0001 | .0001 | .0000 | .0003 | .0001 |
| %RSD | 464.7 | 387.3 | 4815. | 150.2 | 39.71 | 127.3 | 60.22 | 290.5 | 26.32 |
| #1 | -.0000 | .0001 | -.0001 | -.0002 | .0003 | -.0000 | .0001 | .0004 | -.0003 |
| #2 | -.0002 | -.0001 | .0002 | -.0003 | .0002 | .0001 | .0001 | -.0001 | -.0002 |
| #3 | .0004 | .0000 | -.0001 | .0001 | .0004 | .0001 | .0000 | -.0000 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0003** | **.0012** | **-.0003** | **.0016** | **.0008** | **.0120** | **.0040** |
| Stddev | .0003 | .0001 | .0003 | .0010 | .0015 | .0015 | .0005 | .0103 | .0029 |
| %RSD | 434.3 | 95.51 | 104.9 | 84.50 | 509.3 | 93.30 | 60.00 | 85.75 | 74.17 |
| #1 | .0003 | .0002 | .0001 | .0023 | .0001 | -.0000 | .0013 | .0085 | .0073 |
| #2 | -.0002 | .0000 | .0001 | .0004 | -.0019 | .0030 | .0003 | .0236 | .0018 |
| #3 | -.0003 | .0001 | .0006 | .0009 | .0010 | .0019 | .0008 | .0039 | .0028 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0015** | **-.0196** | **.0546** | **.0118** | **.0031** | **.0001** | **.0007** | **.0004** | **.0001** |
| Stddev | .0036 | .0300 | .0032 | .0082 | .0004 | .0002 | .0006 | .0005 | .0002 |
| %RSD | 236.0 | 152.6 | 5.903 | 69.52 | 11.63 | 197.0 | 85.86 | 125.4 | 186.5 |
| #1 | .0025 | -.0127 | .0556 | .0056 | .0032 | .0001 | .0013 | -.0001 | .0003 |
| #2 | -.0042 | .0062 | .0510 | .0087 | .0027 | .0004 | .0008 | .0009 | -.0000 |
| #3 | -.0029 | -.0525 | .0572 | .0211 | .0034 | -.0001 | .0001 | .0005 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 14:03:32 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0004** | **.0001** | **-.0011** | **.0008** | **.0047** | **.0006** |
| Stddev | .0003 | .0004 | .0000 | .0009 | .0009 | .0013 | .0003 |
| %RSD | 67.59 | 102.9 | 51.76 | 80.06 | 102.5 | 28.70 | 55.64 |
| #1 | -.0004 | .0008 | .0000 | -.0006 | .0008 | .0036 | .0002 |
| #2 | -.0007 | .0005 | .0001 | -.0006 | .0000 | .0062 | .0007 |
| #3 | -.0002 | -.0000 | .0001 | -.0021 | .0018 | .0042 | .0008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86526.** | **8892.9** | **6083.4** | **12875.** |
| Stddev | 75. | 6.6 | 11.5 | 12. |
| %RSD | .08665 | .07403 | .18825 | .09609 |
| #1 | 86468. | 8894.1 | 6095.7 | 12889. |
| #2 | 86499. | 8898.8 | 6081.2 | 12870. |
| #3 | 86610. | 8885.8 | 6073.1 | 12865. |



Zoom In Zoom Out

Sample Name: mp14845-mb1conf Acquired: 5/9/2019 14:08:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **-.0000** | **-.0000** | **.0009** | **.0009** | **.0002** | **.0006** | **-.0000** |
| Stddev | .0000 | .0000 | .0002 | .0003 | .0002 | .0001 | .0000 | .0002 | .0002 |
| %RSD | 25.92 | 27.90 | 685.9 | 2214. | 17.90 | 13.10 | 6.362 | 28.65 | 1131. |
| #1 | .0001 | -.0001 | -.0001 | .0003 | .0007 | .0008 | .0002 | .0006 | .0002 |
| #2 | .0002 | -.0001 | .0002 | .0000 | .0011 | .0010 | .0002 | .0007 | -.0001 |
| #3 | .0002 | -.0001 | -.0003 | -.0003 | .0009 | .0010 | .0002 | .0004 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0065** | **-.0004** | **-.0000** | **.0003** | **.0010** | **.0012** | **.0077** | **.0557** |
| Stddev | .0000 | .0001 | .0011 | .0007 | .0004 | .0013 | .0015 | .0081 | .0028 |
| %RSD | 52.68 | 1.039 | 287.0 | 1589. | 145.9 | 137.4 | 122.2 | 104.3 | 5.065 |
| #1 | .0000 | .0065 | -.0015 | -.0002 | .0007 | .0023 | .0021 | .0121 | .0552 |
| #2 | .0001 | .0064 | .0007 | -.0007 | .0001 | -.0003 | -.0005 | .0127 | .0531 |
| #3 | .0001 | .0066 | -.0004 | .0007 | -.0000 | .0009 | .0020 | -.0016 | .0587 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0170** | **.0206** | **.1023** | **.0811** | **.0029** | **.0007** | **.0069** | **.0185** | **.0003** |
| Stddev | .0038 | .0229 | .0614 | .0163 | .0002 | .0002 | .0007 | .0003 | .0002 |
| %RSD | 22.62 | 110.8 | 60.09 | 20.05 | 8.052 | 34.90 | 10.03 | 1.851 | 51.92 |
| #1 | .0212 | -.0057 | .1565 | .0828 | .0027 | .0009 | .0069 | .0183 | .0005 |
| #2 | .0162 | .0322 | .1148 | .0965 | .0031 | .0006 | .0077 | .0189 | .0002 |
| #3 | .0136 | .0354 | .0355 | .0641 | .0028 | .0005 | .0063 | .0184 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0014** | **.0003** | **.0032** | **.0001** | **.0024** | **.0190** |
| Stddev | .0002 | .0014 | .0002 | .0009 | .0008 | .0009 | .0003 |
| %RSD | 96.55 | 94.37 | 52.41 | 26.39 | 606.7 | 39.67 | 1.657 |
| #1 | -.0000 | .0028 | .0003 | .0032 | .0008 | .0013 | .0189 |
| #2 | .0004 | .0001 | .0004 | .0041 | -.0007 | .0032 | .0188 |
| #3 | .0003 | .0014 | .0001 | .0024 | .0003 | .0027 | .0194 |

Zoom In Zoom Out

Sample Name: mp14845-mb1conf Acquired: 5/9/2019 14:08:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88152.** | **9133.2** | **6152.4** | **12995.** |
| Stddev | 242. | 40.3 | 16.7 | 26. |
| %RSD | .27504 | .44111 | .27103 | .19706 |
| #1 | 88147. | 9155.9 | 6168.1 | 13009. |
| #2 | 87912. | 9086.7 | 6134.9 | 12966. |
| #3 | 88397. | 9157.0 | 6154.2 | 13011. |



Zoom In Zoom Out

Sample Name: jc87492-3 7 Acquired: 5/9/2019 14:13:49 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.445** | **.0011** | **.0009** | **.0091** | **2.319** | **.3292** | **.5412** | **.0481** | **.0071** |
| Stddev | .008 | .0002 | .0006 | .0009 | .049 | .0064 | .0113 | .0005 | .0021 |
| %RSD | .1477 | 19.73 | 74.17 | 9.530 | 2.124 | 1.945 | 2.091 | 1.012 | 29.06 |
| #1 | 5.449 | .0011 | .0015 | .0091 | 2.297 | .3256 | .5357 | .0480 | .0085 |
| #2 | 5.451 | .0009 | .0002 | .0082 | 2.285 | .3255 | .5337 | .0487 | .0080 |
| #3 | 5.436 | .0014 | .0008 | .0099 | 2.376 | .3366 | .5542 | .0477 | .0047 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1829** | **.8351** | **.5041** | **.0036** | **4.560** | **.0356** | **.0193** | **21.87** | **11.68** |
| Stddev | .0037 | .0016 | .0005 | .0029 | .009 | .0016 | .0014 | .06 | .02 |
| %RSD | 2.026 | .1966 | .1059 | 78.60 | .2080 | 4.612 | 7.116 | .2816 | .2112 |
| #1 | .1815 | .8362 | .5040 | .0068 | 4.566 | .0345 | .0181 | 21.92 | 11.66 |
| #2 | .1802 | .8358 | .5047 | .0028 | 4.564 | .0375 | .0208 | 21.89 | 11.71 |
| #3 | .1872 | .8332 | .5037 | .0013 | 4.549 | .0349 | .0190 | 21.80 | 11.68 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **333.7** | **3.282** | **5.176** | **1.454** | **.0568** | **.0102** | **1.790** | **.1679** | **.1435** |
| Stddev | .2 | .066 | .077 | .008 | .0012 | .0004 | .005 | .0004 | .0001 |
| %RSD | .0471 | 2.002 | 1.492 | .5670 | 2.114 | 3.454 | .2916 | .2434 | .0971 |
| #1 | 333.8 | 3.341 | 5.258 | 1.457 | .0561 | .0098 | 1.792 | .1679 | .1435 |
| #2 | 333.5 | 3.295 | 5.105 | 1.444 | .0582 | .0104 | 1.794 | .1684 | .1437 |
| #3 | 333.7 | 3.211 | 5.164 | 1.460 | .0562 | .0104 | 1.784 | .1676 | .1434 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.309** | **.0043** | **.0369** | **32.23** | **-.0047** | **.0276** | **3.640** |
| Stddev | .030 | .0007 | .0001 | .07 | .0054 | .0020 | .006 |
| %RSD | 2.329 | 16.54 | .2250 | .2261 | 113.4 | 7.306 | .1686 |
| #1 | 1.292 | .0047 | .0368 | 32.29 | .0012 | .0259 | 3.645 |
| #2 | 1.291 | .0048 | .0368 | 32.25 | -.0091 | .0298 | 3.642 |
| #3 | 1.344 | .0035 | .0370 | 32.15 | -.0063 | .0270 | 3.633 |



Zoom In Zoom Out

Sample Name: jc87492-3 7 Acquired: 5/9/2019 14:13:49 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85484.** | **9029.2** | **6076.5** | **13037.** |
| Stddev | 1595. | 32.3 | 14.8 | 30. |
| %RSD | 1.8662 | .35737 | .24282 | .22867 |
| #1 | 85990. | 8991.9 | 6071.8 | 13032. |
| #2 | 86765. | 9046.8 | 6064.7 | 13010. |
| #3 | 83697. | 9048.9 | 6093.1 | 13069. |



Zoom In Zoom Out

Sample Name: mp14840-b1 Acquired: 5/9/2019 14:18:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.984** | **2.008** | **1.934** | **1.973** | **1.996** | **1.965** | **2.024** | **2.005** |
| Stddev | .024 | .023 | .002 | .003 | .002 | .003 | .014 | .003 |
| %RSD | 1.185 | 1.157 | .1107 | .1331 | .1044 | .1401 | .7051 | .1454 |
| #1 | 1.999 | 2.022 | 1.935 | 1.976 | 1.998 | 1.968 | 2.008 | 2.008 |
| #2 | 1.997 | 2.021 | 1.932 | 1.972 | 1.994 | 1.962 | 2.036 | 2.002 |
| #3 | 1.957 | 1.981 | 1.935 | 1.972 | 1.998 | 1.964 | 2.027 | 2.005 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2404** | **1.982** | **1.986** | **1.907** | **2.017** | **1.975** | **1.904** | **1.926** |
| Stddev | .0005 | .002 | .003 | .005 | .001 | .003 | .004 | .007 |
| %RSD | .1938 | .0984 | .1352 | .2842 | .0591 | .1542 | .2201 | .3750 |
| #1 | .2400 | 1.982 | 1.989 | 1.911 | 2.019 | 1.977 | 1.906 | 1.931 |
| #2 | .2409 | 1.980 | 1.984 | 1.901 | 2.017 | 1.971 | 1.899 | 1.918 |
| #3 | .2404 | 1.984 | 1.987 | 1.909 | 2.017 | 1.975 | 1.907 | 1.929 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.82** | **25.14** | **24.94** | **24.64** | **24.22** | **24.92** | **1.894** | **1.951** |
| Stddev | .30 | .27 | .27 | .25 | .24 | .27 | .004 | .004 |
| %RSD | 1.218 | 1.078 | 1.079 | 1.027 | .9846 | 1.098 | .1924 | .2283 |
| #1 | 25.00 | 25.30 | 25.08 | 24.75 | 24.41 | 25.09 | 1.894 | 1.953 |
| #2 | 25.00 | 25.29 | 25.11 | 24.81 | 24.31 | 25.07 | 1.891 | 1.945 |
| #3 | 24.47 | 24.83 | 24.63 | 24.35 | 23.95 | 24.61 | 1.898 | 1.953 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1207** | **2.000** | **1.993** | **1.967** | **1.902** | **1.966** | **1.979** | F **-.0418** |
| Stddev | .0020 | .003 | .022 | .003 | .006 | .002 | .005 | .0010 |
| %RSD | 1.617 | .1697 | 1.119 | .1512 | .3107 | .0787 | .2374 | 2.407 |
| #1 | .1230 | 2.004 | 2.006 | 1.968 | 1.904 | 1.967 | 1.983 | -.0414 |
| #2 | .1195 | 1.997 | 2.006 | 1.963 | 1.895 | 1.965 | 1.974 | -.0410 |
| #3 | .1197 | 1.999 | 1.967 | 1.969 | 1.906 | 1.967 | 1.979 | -.0429 |

Zoom In Zoom Out

Sample Name: mp14840-b1 Acquired: 5/9/2019 14:18:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0355** | **1.957** |
| Stddev | .0012 | .006 |
| %RSD | 3.305 | .2989 |
| #1 | -.0355 | 1.961 |
| #2 | -.0343 | 1.950 |
| #3 | -.0366 | 1.960 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86075.** | **9104.7** | **6034.2** | **12583.** |
| Stddev | 169. | 93.8 | 8.9 | 16. |
| %RSD | .19653 | 1.0297 | .14723 | .12454 |
| #1 | 85918. | 9031.0 | 6024.4 | 12565. |
| #2 | 86052. | 9072.9 | 6041.9 | 12587. |
| #3 | 86254. | 9210.2 | 6036.2 | 12596. |



Zoom In Zoom Out

Sample Name: mp14840-mb1 Acquired: 5/9/2019 14:23:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0000** | **.0002** | **-.0002** | **.0011** | **.0010** | **.0004** | **.0007** | **.0002** |
| Stddev | .0001 | .0002 | .0001 | .0003 | .0001 | .0002 | .0000 | .0001 | .0002 |
| %RSD | 117.6 | 357.7 | 31.22 | 151.5 | 8.870 | 19.08 | 4.381 | 21.88 | 99.09 |
| #1 | .0002 | -.0000 | .0002 | -.0005 | .0011 | .0012 | .0004 | .0008 | .0002 |
| #2 | -.0000 | .0001 | .0002 | -.0000 | .0012 | .0009 | .0004 | .0007 | .0000 |
| #3 | .0002 | -.0002 | .0001 | .0000 | .0010 | .0008 | .0003 | .0005 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0061** | **-.0013** | **-.0012** | **.0001** | **.0013** | **.0011** | **.0089** | **.0635** |
| Stddev | .0001 | .0000 | .0008 | .0012 | .0006 | .0007 | .0008 | .0099 | .0031 |
| %RSD | 78.79 | .6408 | 64.09 | 101.3 | 545.1 | 55.71 | 74.72 | 110.1 | 4.869 |
| #1 | .0001 | .0061 | -.0003 | .0002 | .0007 | .0021 | .0009 | .0034 | .0600 |
| #2 | .0000 | .0060 | -.0017 | -.0020 | -.0005 | .0010 | .0004 | .0203 | .0647 |
| #3 | .0001 | .0061 | -.0019 | -.0017 | .0001 | .0008 | .0020 | .0031 | .0659 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0213** | **-.0076** | **.1102** | **.0930** | **.0037** | **.0006** | **.0278** | **.0260** | **.0005** |
| Stddev | .0026 | .0137 | .0360 | .0038 | .0004 | .0002 | .0005 | .0002 | .0001 |
| %RSD | 12.20 | 181.7 | 32.72 | 4.044 | 10.16 | 32.17 | 1.881 | .8148 | 10.61 |
| #1 | .0243 | -.0097 | .0901 | .0952 | .0042 | .0008 | .0275 | .0259 | .0005 |
| #2 | .0194 | -.0201 | .1518 | .0887 | .0036 | .0005 | .0276 | .0262 | .0005 |
| #3 | .0203 | .0071 | .0886 | .0952 | .0034 | .0005 | .0284 | .0258 | .0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0022** | **.0004** | **.0065** | **.0010** | **.0013** | **.0265** |
| Stddev | .0001 | .0015 | .0002 | .0011 | .0009 | .0003 | .0004 |
| %RSD | 72.18 | 70.84 | 39.95 | 16.82 | 93.56 | 24.37 | 1.478 |
| #1 | .0001 | .0036 | .0006 | .0056 | .0004 | .0010 | .0261 |
| #2 | .0001 | .0005 | .0003 | .0077 | .0005 | .0016 | .0269 |
| #3 | .0003 | .0023 | .0003 | .0061 | .0021 | .0012 | .0265 |



Zoom In Zoom Out

Sample Name: mp14840-mb1 Acquired: 5/9/2019 14:23:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88526.** | **9148.4** | **6204.0** | **13055.** |
| Stddev | 351. | 1.0 | 13.6 | 22. |
| %RSD | .39645 | .01102 | .21956 | .16728 |
| #1 | 88372. | 9148.0 | 6194.5 | 13041. |
| #2 | 88927. | 9149.5 | 6197.9 | 13044. |
| #3 | 88278. | 9147.6 | 6219.6 | 13080. |



Zoom In Zoom Out

Sample Name: mp14840-s1 Acquired: 5/9/2019 14:28:50 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.515** | **1.868** | **1.829** | **1.956** | **2.121** | **2.068** | **4.990** | **2.064** |
| Stddev | .012 | .008 | .003 | .002 | .008 | .004 | .048 | .002 |
| %RSD | .3349 | .4086 | .1638 | .0986 | .3838 | .2130 | .9657 | .1128 |
| #1 | 3.506 | 1.860 | 1.826 | 1.954 | 2.116 | 2.064 | 4.981 | 2.061 |
| #2 | 3.528 | 1.876 | 1.832 | 1.956 | 2.131 | 2.073 | 5.042 | 2.065 |
| #3 | 3.511 | 1.867 | 1.830 | 1.958 | 2.117 | 2.067 | 4.947 | 2.065 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2355** | **2.339** | **2.351** | **1.829** | **1.914** | **2.028** | **1.787** | **.7824** |
| Stddev | .0009 | .006 | .004 | .001 | .005 | .002 | .003 | .0013 |
| %RSD | .3784 | .2671 | .1663 | .0584 | .2787 | .1010 | .1587 | .1643 |
| #1 | .2347 | 2.335 | 2.346 | 1.829 | 1.909 | 2.026 | 1.786 | .7813 |
| #2 | .2365 | 2.347 | 2.354 | 1.831 | 1.914 | 2.030 | 1.790 | .7820 |
| #3 | .2355 | 2.337 | 2.352 | 1.828 | 1.920 | 2.029 | 1.785 | .7838 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **356.4** | **70.80** | **197.7** | **60.43** | **73.59** | **30.23** | **1.777** | **1.738** |
| Stddev | 1.6 | .27 | .8 | .26 | .30 | .12 | .004 | .002 |
| %RSD | .4460 | .3777 | .3984 | .4260 | .4013 | .3897 | .2095 | .0980 |
| #1 | 355.1 | 70.56 | 197.0 | 60.16 | 73.36 | 30.16 | 1.774 | 1.736 |
| #2 | 358.2 | 71.09 | 198.6 | 60.67 | 73.92 | 30.37 | 1.781 | 1.740 |
| #3 | 356.0 | 70.75 | 197.6 | 60.45 | 73.48 | 30.17 | 1.776 | 1.738 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.304** | **1.759** | **2.117** | **2.358** | **1.084** | **1.883** | **3.315** | F **-.0383** |
| Stddev | .002 | .003 | .008 | .008 | .003 | .006 | .004 | .0004 |
| %RSD | .0800 | .1717 | .3782 | .3545 | .2774 | .3413 | .1274 | 1.040 |
| #1 | 2.303 | 1.756 | 2.110 | 2.353 | 1.087 | 1.879 | 3.310 | -.0379 |
| #2 | 2.302 | 1.762 | 2.126 | 2.368 | 1.085 | 1.891 | 3.319 | -.0387 |
| #3 | 2.306 | 1.758 | 2.116 | 2.354 | 1.081 | 1.881 | 3.315 | -.0382 |

Zoom In Zoom Out

Sample Name: mp14840-s1 Acquired: 5/9/2019 14:28:50 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1648** | F **8.593** |
| Stddev | .0006 | .011 |
| %RSD | .3603 | .1236 |
| #1 | .1642 | 8.581 |
| #2 | .1648 | 8.600 |
| #3 | .1654 | 8.597 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87952.** | **9596.7** | **6274.9** | **12368.** |
| Stddev | 429. | 51.3 | 12.3 | 13. |
| %RSD | .48742 | .53480 | .19558 | .10478 |
| #1 | 88081. | 9637.0 | 6288.3 | 12383. |
| #2 | 87474. | 9538.9 | 6264.1 | 12360. |
| #3 | 88302. | 9614.2 | 6272.3 | 12361. |



Zoom In Zoom Out

Sample Name: mp14840-s2 Acquired: 5/9/2019 14:33:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.457** | **1.870** | **1.838** | **1.965** | **2.113** | **2.092** | **5.124** | **2.062** |
| Stddev | .015 | .008 | .007 | .006 | .005 | .009 | .015 | .004 |
| %RSD | .4206 | .4301 | .3766 | .2935 | .2231 | .4474 | .3008 | .1751 |
| #1 | 3.467 | 1.876 | 1.836 | 1.962 | 2.112 | 2.093 | 5.140 | 2.061 |
| #2 | 3.462 | 1.874 | 1.833 | 1.960 | 2.109 | 2.082 | 5.109 | 2.059 |
| #3 | 3.440 | 1.861 | 1.846 | 1.971 | 2.119 | 2.100 | 5.124 | 2.066 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2357** | **2.331** | **2.430** | **1.845** | **1.920** | **2.047** | **1.798** | **.8061** |
| Stddev | .0010 | .006 | .006 | .007 | .005 | .006 | .007 | .0047 |
| %RSD | .4150 | .2681 | .2529 | .3905 | .2397 | .2941 | .3821 | .5878 |
| #1 | .2362 | 2.331 | 2.425 | 1.846 | 1.916 | 2.045 | 1.794 | .8054 |
| #2 | .2346 | 2.325 | 2.428 | 1.838 | 1.918 | 2.043 | 1.794 | .8017 |
| #3 | .2364 | 2.338 | 2.437 | 1.853 | 1.925 | 2.054 | 1.806 | .8111 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **350.9** | **76.94** | **194.1** | **59.89** | **72.33** | **29.74** | **1.786** | **1.753** |
| Stddev | 1.6 | .33 | .9 | .23 | .35 | .12 | .007 | .006 |
| %RSD | .4445 | .4329 | .4863 | .3921 | .4808 | .3997 | .3724 | .3730 |
| #1 | 351.7 | 77.06 | 194.6 | 59.99 | 72.49 | 29.80 | 1.786 | 1.750 |
| #2 | 351.9 | 77.20 | 194.7 | 60.06 | 72.58 | 29.81 | 1.779 | 1.748 |
| #3 | 349.1 | 76.56 | 193.0 | 59.62 | 71.94 | 29.60 | 1.792 | 1.760 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.245** | **1.764** | **2.135** | **2.390** | **1.093** | **1.850** | **3.385** | F **-.0371** |
| Stddev | .007 | .002 | .009 | .007 | .004 | .005 | .013 | .0026 |
| %RSD | .3078 | .1365 | .4397 | .2919 | .3501 | .2764 | .3814 | 7.068 |
| #1 | 2.241 | 1.762 | 2.142 | 2.390 | 1.090 | 1.849 | 3.378 | -.0345 |
| #2 | 2.240 | 1.764 | 2.139 | 2.384 | 1.092 | 1.845 | 3.378 | -.0397 |
| #3 | 2.253 | 1.767 | 2.125 | 2.397 | 1.098 | 1.855 | 3.400 | -.0372 |



Zoom In Zoom Out

Sample Name: mp14840-s2 Acquired: 5/9/2019 14:33:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1589** | F **10.13** |
| Stddev | .0026 | .03 |
| %RSD | 1.643 | .2825 |
| #1 | .1609 | 10.12 |
| #2 | .1599 | 10.10 |
| #3 | .1560 | 10.16 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88044.** | **9661.9** | **6259.8** | **12344.** |
| Stddev | 209. | 76.8 | 23.5 | 47. |
| %RSD | .23763 | .79466 | .37574 | .38053 |
| #1 | 87809. | 9676.0 | 6262.4 | 12342. |
| #2 | 88211. | 9579.1 | 6281.9 | 12391. |
| #3 | 88111. | 9730.7 | 6235.1 | 12298. |



Zoom In Zoom Out

Sample Name: td38519-2b Acquired: 5/9/2019 14:38:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.358** | **.0103** | **.0008** | **.0630** | **.2196** | **.1550** | **2.872** | **.1297** | **.0017** |
| Stddev | .002 | .0002 | .0000 | .0005 | .0010 | .0004 | .009 | .0002 | .0001 |
| %RSD | .1311 | 1.578 | 1.443 | .8481 | .4376 | .2475 | .3186 | .1166 | 6.628 |
| #1 | 1.358 | .0101 | .0009 | .0636 | .2204 | .1554 | 2.875 | .1298 | .0016 |
| #2 | 1.356 | .0103 | .0008 | .0631 | .2185 | .1546 | 2.879 | .1295 | .0018 |
| #3 | 1.359 | .0104 | .0008 | .0625 | .2197 | .1551 | 2.862 | .1297 | .0017 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4037** | **.5324** | **.0543** | **.0029** | **.1268** | **.0028** | **.0011** | **249.7** | **48.99** |
| Stddev | .0002 | .0011 | .0010 | .0004 | .0017 | .0010 | .0016 | .6 | .13 |
| %RSD | .0556 | .2049 | 1.816 | 14.94 | 1.365 | 37.11 | 146.7 | .2477 | .2589 |
| #1 | .4040 | .5331 | .0554 | .0031 | .1253 | .0039 | .0002 | 249.7 | 49.03 |
| #2 | .4035 | .5312 | .0536 | .0024 | .1287 | .0026 | .0029 | 249.1 | 48.85 |
| #3 | .4037 | .5330 | .0538 | .0032 | .1265 | .0019 | .0001 | 250.3 | 49.10 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **159.7** | **34.29** | **38.51** | **6.368** | **.0495** | **.0042** | **2.378** | **.0269** | **.2355** |
| Stddev | .4 | .08 | .12 | .013 | .0004 | .0002 | .007 | .0005 | .0004 |
| %RSD | .2789 | .2347 | .3194 | .2002 | .7244 | 4.516 | .2999 | 1.942 | .1707 |
| #1 | 159.8 | 34.28 | 38.55 | 6.367 | .0496 | .0044 | 2.378 | .0275 | .2352 |
| #2 | 159.2 | 34.22 | 38.37 | 6.356 | .0491 | .0042 | 2.371 | .0265 | .2353 |
| #3 | 160.1 | 34.38 | 38.60 | 6.381 | .0498 | .0041 | 2.385 | .0269 | .2360 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4515** | **.0037** | **.1121** | **1.348** | **-.0088** | **.1237** | **6.552** |
| Stddev | .0006 | .0010 | .0002 | .007 | .0018 | .0005 | .020 |
| %RSD | .1391 | 26.01 | .2158 | .5055 | 20.29 | .4227 | .3027 |
| #1 | .4522 | .0037 | .1120 | 1.349 | -.0076 | .1232 | 6.568 |
| #2 | .4509 | .0027 | .1119 | 1.340 | -.0108 | .1242 | 6.530 |
| #3 | .4514 | .0046 | .1124 | 1.353 | -.0080 | .1236 | 6.557 |

Zoom In Zoom Out

Sample Name: td38519-2b Acquired: 5/9/2019 14:38:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89496.** | **9763.1** | **6428.1** | **12553.** |
| Stddev | 296. | 64.8 | 18.9 | 25. |
| %RSD | .33127 | .66346 | .29444 | .20236 |
| #1 | 89694. | 9818.6 | 6428.6 | 12552. |
| #2 | 89155. | 9778.8 | 6446.7 | 12579. |
| #3 | 89639. | 9691.9 | 6408.9 | 12529. |



Zoom In Zoom Out

Sample Name: mp14840-sd1 Acquired: 5/9/2019 14:43:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.456** | **.0106** | **.0002** | **.0661** | **.2353** | **.1594** | **3.138** | **.1359** | **.0027** |
| Stddev | .003 | .0003 | .0007 | .0008 | .0073 | .0056 | .105 | .0021 | .0016 |
| %RSD | .1833 | 2.896 | 261.0 | 1.188 | 3.120 | 3.496 | 3.343 | 1.533 | 58.68 |
| #1 | 1.455 | .0103 | .0009 | .0654 | .2269 | .1530 | 3.022 | .1336 | .0036 |
| #2 | 1.453 | .0109 | .0003 | .0669 | .2405 | .1629 | 3.226 | .1366 | .0009 |
| #3 | 1.458 | .0108 | -.0004 | .0661 | .2385 | .1623 | 3.166 | .1375 | .0035 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4277** | **.5920** | **.0595** | **.0083** | **.1341** | **-.0002** | **.0086** | **268.3** | **53.30** |
| Stddev | .0140 | .0092 | .0032 | .0052 | .0055 | .0029 | .0033 | 1.0 | .21 |
| %RSD | 3.270 | 1.562 | 5.361 | 62.50 | 4.129 | 1686. | 38.96 | .3574 | .4032 |
| #1 | .4119 | .5813 | .0567 | .0143 | .1404 | .0031 | .0055 | 268.3 | 53.37 |
| #2 | .4385 | .5966 | .0630 | .0045 | .1301 | -.0015 | .0081 | 267.3 | 53.05 |
| #3 | .4326 | .5980 | .0590 | .0062 | .1317 | -.0022 | .0121 | 269.2 | 53.46 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **177.3** | **37.62** | **41.33** | **6.675** | **.0616** | **.0048** | **2.537** | **.0346** | **.2561** |
| Stddev | .5 | .36 | .28 | .043 | .0012 | .0004 | .032 | .0013 | .0006 |
| %RSD | .2777 | .9568 | .6813 | .6372 | 1.956 | 9.068 | 1.259 | 3.819 | .2515 |
| #1 | 177.3 | 37.81 | 41.41 | 6.724 | .0627 | .0052 | 2.500 | .0343 | .2562 |
| #2 | 176.8 | 37.21 | 41.02 | 6.658 | .0619 | .0044 | 2.555 | .0361 | .2554 |
| #3 | 177.8 | 37.85 | 41.57 | 6.644 | .0603 | .0049 | 2.556 | .0335 | .2567 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4780** | **.0150** | **.1191** | **1.417** | **-.0047** | **.1091** | **7.062** |
| Stddev | .0159 | .0045 | .0040 | .025 | .0056 | .0042 | .104 |
| %RSD | 3.322 | 29.81 | 3.343 | 1.739 | 119.0 | 3.805 | 1.477 |
| #1 | .4603 | .0121 | .1146 | 1.388 | -.0044 | .1138 | 6.942 |
| #2 | .4911 | .0201 | .1222 | 1.431 | -.0105 | .1074 | 7.111 |
| #3 | .4826 | .0127 | .1205 | 1.430 | .0007 | .1061 | 7.132 |



Zoom In Zoom Out

Sample Name: mp14840-sd1 Acquired: 5/9/2019 14:43:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87463.** | **9068.6** | **6222.5** | **12743.** |
| Stddev | 2569. | 19.9 | 80.8 | 142. |
| %RSD | 2.9374 | .21946 | 1.2984 | 1.1163 |
| #1 | 90333. | 9058.5 | 6314.4 | 12906. |
| #2 | 85376. | 9091.5 | 6190.2 | 12680. |
| #3 | 86681. | 9055.6 | 6162.8 | 12642. |



Zoom In Zoom Out

Sample Name: jc87577-2 Acquired: 5/9/2019 14:48:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **-.0002** | **-.0001** | **.0009** | **.0012** | **.0008** | **.0008** | **-.0001** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0005 | .0000 | .0002 | .0001 |
| %RSD | 104.0 | 66.59 | 33.03 | 168.6 | 24.12 | 40.61 | 2.864 | 25.98 | 166.5 |
| #1 | .0000 | -.0001 | -.0002 | -.0002 | .0010 | .0007 | .0008 | .0010 | .0000 |
| #2 | -.0003 | -.0000 | -.0001 | -.0003 | .0007 | .0012 | .0007 | .0007 | -.0002 |
| #3 | -.0003 | -.0001 | -.0003 | .0001 | .0011 | .0016 | .0007 | .0006 | -.0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0053** | **.0005** | **.0010** | **-.0003** | **-.0003** | **.0010** | **.0140** | **.0554** |
| Stddev | .0003 | .0001 | .0008 | .0006 | .0006 | .0016 | .0005 | .0118 | .0024 |
| %RSD | 698.1 | 1.413 | 145.2 | 64.61 | 199.3 | 515.1 | 53.44 | 83.76 | 4.417 |
| #1 | -.0003 | .0052 | -.0001 | .0014 | .0004 | .0014 | .0013 | .0197 | .0555 |
| #2 | .0003 | .0053 | .0014 | .0014 | -.0006 | -.0007 | .0012 | .0219 | .0578 |
| #3 | -.0001 | .0054 | .0004 | .0003 | -.0007 | -.0016 | .0004 | .0005 | .0529 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0784** | **-.0145** | **.1861** | **.0147** | **.0026** | **.0005** | **.0185** | **.0176** | **.0002** |
| Stddev | .0035 | .0096 | .0196 | .0089 | .0006 | .0001 | .0009 | .0003 | .0000 |
| %RSD | 4.507 | 66.30 | 10.55 | 60.55 | 23.35 | 27.91 | 4.987 | 1.529 | 20.21 |
| #1 | .0813 | -.0062 | .1696 | .0045 | .0030 | .0006 | .0184 | .0178 | .0002 |
| #2 | .0745 | -.0123 | .2078 | .0185 | .0029 | .0005 | .0195 | .0177 | .0002 |
| #3 | .0794 | -.0250 | .1809 | .0210 | .0019 | .0003 | .0177 | .0173 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0000** | **.0008** | **.0557** | **.0019** | **-.0072** | **.0199** |
| Stddev | .0007 | .0010 | .0001 | .0007 | .0011 | .0011 | .0005 |
| %RSD | 90.21 | 1977. | 15.53 | 1.326 | 56.16 | 14.76 | 2.522 |
| #1 | .0011 | -.0011 | .0010 | .0557 | .0007 | -.0075 | .0195 |
| #2 | .0012 | .0008 | .0009 | .0564 | .0024 | -.0060 | .0197 |
| #3 | -.0000 | .0004 | .0007 | .0549 | .0026 | -.0080 | .0205 |

Zoom In Zoom Out

Sample Name: jc87577-2 Acquired: 5/9/2019 14:48:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88350.** | **9078.2** | **6238.9** | **13142.** |
| Stddev | 568. | 57.1 | 9.6 | 18. |
| %RSD | .64298 | .62939 | .15401 | .13873 |
| #1 | 88243. | 9052.2 | 6234.4 | 13138. |
| #2 | 88963. | 9038.7 | 6232.4 | 13127. |
| #3 | 87842. | 9143.7 | 6250.0 | 13162. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 14:53:58 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.001** | **2.022** | **1.975** | **1.996** | **2.015** | **1.983** | **2.053** | **2.025** | **.2471** |
| Stddev | .008 | .008 | .007 | .007 | .001 | .003 | .009 | .007 | .0006 |
| %RSD | .4033 | .3739 | .3587 | .3653 | .0455 | .1632 | .4534 | .3710 | .2477 |
| #1 | 1.996 | 2.016 | 1.970 | 1.991 | 2.014 | 1.981 | 2.044 | 2.021 | .2472 |
| #2 | 2.010 | 2.031 | 1.983 | 2.004 | 2.016 | 1.987 | 2.063 | 2.034 | .2476 |
| #3 | 1.997 | 2.020 | 1.972 | 1.992 | 2.014 | 1.982 | 2.052 | 2.020 | .2464 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.005** | **2.013** | **1.945** | **2.048** | **2.003** | **1.985** | **1.964** | **40.04** | **40.46** |
| Stddev | .001 | .007 | .008 | .007 | .006 | .006 | .010 | .17 | .18 |
| %RSD | .0351 | .3493 | .4016 | .3490 | .3223 | .2921 | .5169 | .4158 | .4423 |
| #1 | 2.005 | 2.008 | 1.942 | 2.050 | 2.000 | 1.983 | 1.962 | 39.91 | 40.37 |
| #2 | 2.005 | 2.021 | 1.954 | 2.053 | 2.011 | 1.991 | 1.975 | 40.23 | 40.67 |
| #3 | 2.006 | 2.009 | 1.939 | 2.040 | 1.999 | 1.980 | 1.955 | 39.98 | 40.35 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.97** | **40.02** | **39.83** | **39.96** | **1.984** | **1.960** | **4.911** | **1.985** | **2.015** |
| Stddev | .19 | .25 | .23 | .18 | .011 | .008 | .020 | .009 | .008 |
| %RSD | .4786 | .6349 | .5679 | .4583 | .5513 | .4140 | .4130 | .4591 | .3782 |
| #1 | 39.87 | 39.86 | 39.68 | 39.84 | 1.977 | 1.954 | 4.898 | 1.981 | 2.010 |
| #2 | 40.19 | 40.31 | 40.09 | 40.17 | 1.997 | 1.970 | 4.934 | 1.995 | 2.024 |
| #3 | 39.84 | 39.88 | 39.72 | 39.87 | 1.979 | 1.957 | 4.900 | 1.978 | 2.012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 14:53:58 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.979** | **1.924** | **1.975** | **1.954** | **1.981** | **1.940** | **1.988** |
| Stddev | .002 | .005 | .002 | .009 | .008 | .007 | .007 |
| %RSD | .0851 | .2739 | .1021 | .4749 | .4197 | .3444 | .3498 |
| #1 | 1.977 | 1.920 | 1.973 | 1.948 | 1.982 | 1.934 | 1.982 |
| #2 | 1.980 | 1.930 | 1.976 | 1.965 | 1.989 | 1.947 | 1.995 |
| #3 | 1.980 | 1.921 | 1.976 | 1.949 | 1.972 | 1.940 | 1.986 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83481.** | **8825.6** | **5885.8** | **12214.** |
| Stddev | 219. | 55.1 | 20.4 | 38. |
| %RSD | .26204 | .62481 | .34744 | .30727 |
| #1 | 83500. | 8822.1 | 5905.8 | 12245. |
| #2 | 83253. | 8772.3 | 5865.0 | 12172. |
| #3 | 83689. | 8882.4 | 5886.5 | 12226. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 14:58:59 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0000** | **.0002** | **-.0001** | **.0002** | **.0001** | **.0001** | **.0002** |
| Stddev | .0004 | .0000 | .0002 | .0001 | .0002 | .0001 | .0000 | .0003 |
| %RSD | 131.5 | 88.09 | 86.71 | 105.6 | 81.13 | 245.9 | 40.94 | 180.4 |
| #1 | -.0005 | -.0000 | .0002 | -.0002 | .0000 | -.0001 | .0001 | -.0001 |
| #2 | -.0006 | .0000 | .0003 | .0000 | .0003 | .0002 | .0000 | .0004 |
| #3 | .0002 | -.0000 | .0000 | -.0003 | .0004 | .0001 | .0000 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **.0002** | **.0003** | **.0012** | **.0001** | **.0005** | **.0007** |
| Stddev | .0004 | .0004 | .0003 | .0006 | .0020 | .0008 | .0005 | .0003 |
| %RSD | 1056. | 866.2 | 140.6 | 220.0 | 170.0 | 814.8 | 102.4 | 47.73 |
| #1 | -.0005 | -.0005 | -.0000 | -.0002 | .0021 | -.0000 | .0000 | .0008 |
| #2 | .0001 | .0003 | .0005 | .0009 | .0025 | -.0007 | .0010 | .0003 |
| #3 | .0003 | .0001 | .0001 | .0001 | -.0011 | .0010 | .0004 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0065** | **.0024** | **.0044** | **-.0140** | **.1952** | **-.0312** | **.0030** | **.0003** |
| Stddev | .0024 | .0028 | .0030 | .0263 | .0546 | .0105 | .0002 | .0002 |
| %RSD | 36.49 | 118.3 | 68.65 | 188.2 | 27.94 | 33.69 | 6.585 | 87.15 |
| #1 | -.0091 | -.0000 | .0027 | .0156 | .2177 | -.0200 | .0028 | .0000 |
| #2 | -.0056 | .0017 | .0078 | -.0347 | .2350 | -.0327 | .0030 | .0005 |
| #3 | -.0047 | .0055 | .0026 | -.0228 | .1330 | -.0409 | .0032 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 14:58:59 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0004** | **.0001** | **-.0002** | **.0006** | **.0001** | **-.0008** | **.0019** |
| Stddev | .0010 | .0003 | .0000 | .0001 | .0006 | .0002 | .0007 | .0013 |
| %RSD | 137.3 | 69.51 | 38.75 | 49.88 | 95.09 | 213.9 | 92.39 | 70.18 |
| #1 | -.0004 | .0006 | .0001 | -.0003 | .0010 | .0001 | -.0000 | .0017 |
| #2 | .0014 | .0001 | .0002 | -.0003 | .0009 | -.0001 | -.0015 | .0034 |
| #3 | .0013 | .0005 | .0001 | -.0001 | -.0001 | .0002 | -.0008 | .0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0054** | **.0005** |
| Stddev | .0029 | .0007 |
| %RSD | 54.00 | 145.2 |
| #1 | -.0062 | -.0003 |
| #2 | -.0022 | .0006 |
| #3 | -.0078 | .0010 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86759.** | **8881.6** | **6123.4** | **12922.** |
| Stddev | 128. | 39.7 | 24.0 | 49. |
| %RSD | .14800 | .44647 | .39221 | .37575 |
| #1 | 86809. | 8927.2 | 6102.3 | 12882. |
| #2 | 86613. | 8855.4 | 6118.5 | 12907. |
| #3 | 86855. | 8862.2 | 6149.5 | 12976. |



Zoom In Zoom Out

Sample Name: jc87577-3 Acquired: 5/9/2019 15:04:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0000** | **-.0000** | **.0000** | **.0011** | **.0008** | **.0011** | **.0004** | **-.0001** |
| Stddev | .0001 | .0000 | .0000 | .0002 | .0002 | .0003 | .0001 | .0002 | .0004 |
| %RSD | 184.4 | 220.6 | 258.9 | 662.1 | 20.86 | 34.26 | 5.259 | 43.13 | 273.1 |
| #1 | -.0001 | -.0000 | .0000 | -.0000 | .0009 | .0007 | .0011 | .0003 | .0003 |
| #2 | .0002 | .0000 | .0000 | -.0001 | .0011 | .0006 | .0011 | .0003 | -.0004 |
| #3 | .0001 | -.0001 | -.0000 | .0003 | .0013 | .0011 | .0012 | .0006 | -.0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0230** | **.0004** | **-.0005** | **.0007** | **.0011** | **.0012** | **.0108** | **.0651** |
| Stddev | .0002 | .0001 | .0007 | .0013 | .0002 | .0013 | .0007 | .0092 | .0001 |
| %RSD | 2030. | .3107 | 195.1 | 236.9 | 34.28 | 117.5 | 53.33 | 84.51 | .1922 |
| #1 | .0003 | .0229 | -.0004 | .0009 | .0006 | .0019 | .0005 | .0197 | .0652 |
| #2 | -.0002 | .0230 | .0008 | -.0016 | .0006 | .0019 | .0017 | .0113 | .0651 |
| #3 | -.0001 | .0231 | .0007 | -.0010 | .0010 | -.0004 | .0015 | .0014 | .0650 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1258** | **-.0096** | **.1974** | **.0286** | **.0022** | **.0002** | **.0089** | **.0182** | **.0003** |
| Stddev | .0011 | .0114 | .0105 | .0012 | .0006 | .0002 | .0010 | .0007 | .0000 |
| %RSD | .8853 | 119.0 | 5.311 | 4.293 | 26.10 | 91.02 | 10.91 | 4.018 | 12.97 |
| #1 | .1265 | -.0152 | .2087 | .0300 | .0020 | .0004 | .0084 | .0175 | .0003 |
| #2 | .1264 | -.0171 | .1953 | .0277 | .0017 | .0001 | .0083 | .0181 | .0003 |
| #3 | .1245 | .0035 | .1881 | .0281 | .0028 | .0001 | .0100 | .0190 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0007** | **.0002** | **.0613** | **.0009** | **-.0078** | **.0209** |
| Stddev | .0002 | .0008 | .0001 | .0012 | .0009 | .0012 | .0003 |
| %RSD | 37.65 | 118.0 | 55.68 | 1.958 | 98.69 | 15.56 | 1.641 |
| #1 | .0005 | -.0002 | .0002 | .0627 | -.0001 | -.0080 | .0208 |
| #2 | .0008 | -.0003 | .0003 | .0605 | .0017 | -.0089 | .0212 |
| #3 | .0004 | -.0016 | .0001 | .0607 | .0012 | -.0065 | .0206 |



Zoom In Zoom Out

Sample Name: jc87577-3 Acquired: 5/9/2019 15:04:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87017.** | **8965.1** | **6076.0** | **12807.** |
| Stddev | 724. | 55.6 | 8.1 | 14. |
| %RSD | .83189 | .61996 | .13309 | .10632 |
| #1 | 87098. | 8990.8 | 6066.7 | 12800. |
| #2 | 87696. | 9003.2 | 6081.7 | 12823. |
| #3 | 86255. | 8901.3 | 6079.5 | 12798. |



Zoom In Zoom Out

Sample Name: jc87577-2conf Acquired: 5/9/2019 15:09:18 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0001** | **-.0002** | **-.0002** | **.0009** | **.0014** | **.0008** | **.0006** | **-.0002** |
| Stddev | .0003 | .0000 | .0001 | .0000 | .0002 | .0001 | .0000 | .0001 | .0001 |
| %RSD | 329.2 | 32.82 | 46.16 | 18.43 | 26.11 | 7.841 | 6.353 | 20.40 | 76.24 |
| #1 | -.0000 | -.0001 | -.0001 | -.0001 | .0007 | .0014 | .0008 | .0007 | -.0003 |
| #2 | .0002 | -.0002 | -.0002 | -.0002 | .0011 | .0013 | .0008 | .0005 | -.0001 |
| #3 | -.0004 | -.0001 | -.0003 | -.0002 | .0008 | .0015 | .0007 | .0006 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0053** | **-.0001** | **.0009** | **.0007** | **.0022** | **.0001** | **.0096** | **.0524** |
| Stddev | .0002 | .0001 | .0004 | .0016 | .0017 | .0007 | .0005 | .0054 | .0024 |
| %RSD | 121.2 | 1.974 | 847.7 | 189.4 | 259.6 | 33.35 | 539.0 | 56.49 | 4.587 |
| #1 | -.0000 | .0053 | .0003 | -.0010 | -.0004 | .0017 | -.0003 | .0143 | .0498 |
| #2 | .0002 | .0053 | -.0005 | .0021 | .0026 | .0030 | .0000 | .0037 | .0528 |
| #3 | .0005 | .0052 | .0001 | .0015 | -.0002 | .0018 | .0006 | .0110 | .0546 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0811** | **.0155** | **.1756** | **.0100** | **.0015** | **.0005** | **.0075** | **.0181** | **.0004** |
| Stddev | .0040 | .0307 | .0305 | .0056 | .0003 | .0001 | .0013 | .0003 | .0002 |
| %RSD | 4.924 | 197.7 | 17.37 | 55.34 | 17.52 | 13.31 | 17.72 | 1.858 | 56.02 |
| #1 | .0840 | .0175 | .1425 | .0047 | .0012 | .0005 | .0072 | .0184 | .0005 |
| #2 | .0765 | -.0161 | .2025 | .0158 | .0016 | .0004 | .0090 | .0178 | .0001 |
| #3 | .0827 | .0452 | .1816 | .0096 | .0016 | .0005 | .0064 | .0180 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0006** | **.0003** | **.0541** | **.0015** | **-.0077** | **.0203** |
| Stddev | .0001 | .0004 | .0001 | .0006 | .0007 | .0015 | .0004 |
| %RSD | 12.99 | 69.49 | 25.74 | 1.156 | 46.44 | 19.74 | 1.933 |
| #1 | .0010 | .0010 | .0003 | .0543 | .0007 | -.0070 | .0200 |
| #2 | .0010 | .0002 | .0004 | .0546 | .0017 | -.0066 | .0208 |
| #3 | .0008 | .0006 | .0002 | .0534 | .0020 | -.0094 | .0202 |

Zoom In Zoom Out

Sample Name: jc87577-2conf Acquired: 5/9/2019 15:09:18 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86989.** | **9010.2** | **6114.9** | **12859.** |
| Stddev | 707. | 53.8 | 16.5 | 39. |
| %RSD | .81256 | .59724 | .26928 | .30329 |
| #1 | 87552. | 9056.9 | 6133.3 | 12903. |
| #2 | 87219. | 8951.3 | 6101.5 | 12831. |
| #3 | 86195. | 9022.3 | 6109.9 | 12842. |



Zoom In Zoom Out

Sample Name: mp14836-mb1conf Acquired: 5/9/2019 15:14:27 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0000** | **.0000** | **-.0001** | **.0001** | **-.0000** | **.0001** | **-.0002** | **-.0003** |
| Stddev | .0002 | .0001 | .0001 | .0003 | .0003 | .0001 | .0001 | .0004 | .0002 |
| %RSD | 60.74 | 668.2 | 219.1 | 507.3 | 271.1 | 322.2 | 93.60 | 183.5 | 81.58 |
| #1 | -.0005 | -.0001 | .0001 | .0003 | .0005 | .0001 | .0001 | -.0000 | -.0005 |
| #2 | -.0001 | -.0000 | .0001 | -.0004 | -.0001 | -.0001 | .0001 | -.0007 | -.0000 |
| #3 | -.0003 | .0001 | -.0001 | -.0001 | .0000 | -.0001 | -.0000 | .0000 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0027** | **-.0003** | **-.0002** | **.0017** | **.0015** | **.0008** | **.0052** | **.0106** |
| Stddev | .0001 | .0000 | .0008 | .0006 | .0003 | .0004 | .0005 | .0083 | .0008 |
| %RSD | 107.2 | .8881 | 235.4 | 245.2 | 18.09 | 28.71 | 66.95 | 159.8 | 7.403 |
| #1 | .0003 | .0026 | -.0012 | .0004 | .0020 | .0012 | .0002 | .0146 | .0113 |
| #2 | .0000 | .0027 | .0003 | -.0003 | .0014 | .0020 | .0010 | .0023 | .0107 |
| #3 | .0000 | .0027 | -.0001 | -.0008 | .0017 | .0012 | .0012 | -.0013 | .0097 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014** | **-.0214** | **.1145** | **-.0614** | **.0016** | **-.0001** | **.0110** | **.0001** | **-.0000** |
| Stddev | .0020 | .0411 | .0197 | .0082 | .0003 | .0000 | .0001 | .0002 | .0000 |
| %RSD | 142.0 | 192.5 | 17.17 | 13.30 | 21.98 | 34.76 | .4667 | 197.8 | 657.5 |
| #1 | .0004 | -.0464 | .0959 | -.0529 | .0013 | -.0001 | .0109 | -.0001 | .0000 |
| #2 | .0001 | -.0438 | .1351 | -.0621 | .0019 | -.0001 | .0110 | .0001 | -.0000 |
| #3 | .0038 | .0261 | .1125 | -.0692 | .0015 | -.0002 | .0110 | .0004 | -.0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0003** | **.0003** | **.0004** | **.0009** | **-.0076** | **.0013** |
| Stddev | .0002 | .0007 | .0002 | .0010 | .0002 | .0003 | .0005 |
| %RSD | 82.82 | 246.7 | 50.49 | 272.8 | 22.03 | 3.790 | 33.82 |
| #1 | .0004 | .0003 | .0002 | .0015 | .0011 | -.0079 | .0017 |
| #2 | .0001 | -.0011 | .0003 | .0000 | .0008 | -.0074 | .0014 |
| #3 | .0001 | -.0001 | .0005 | -.0004 | .0008 | -.0074 | .0008 |



Zoom In Zoom Out

Sample Name: mp14836-mb1conf Acquired: 5/9/2019 15:14:27 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86859.** | **9000.4** | **6144.4** | **12931.** |
| Stddev | 629. | 44.6 | 33.0 | 69. |
| %RSD | .72401 | .49607 | .53687 | .53719 |
| #1 | 87485. | 9021.9 | 6106.3 | 12851. |
| #2 | 86865. | 8949.1 | 6164.9 | 12976. |
| #3 | 86227. | 9030.3 | 6161.9 | 12966. |



Zoom In Zoom Out

Sample Name: jc87448-3 Acquired: 5/9/2019 15:19:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0713** | **-.0007** | **-.0003** | **-.0016** | **.0023** | **.0060** | **.0075** | **-.0005** | **-.0023** |
| Stddev | .0006 | .0003 | .0004 | .0009 | .0009 | .0011 | .0002 | .0008 | .0012 |
| %RSD | .8279 | 42.13 | 120.6 | 54.71 | 40.16 | 18.95 | 2.469 | 170.4 | 50.11 |
| #1 | .0720 | -.0010 | -.0007 | -.0023 | .0033 | .0072 | .0073 | .0004 | -.0018 |
| #2 | .0708 | -.0004 | .0001 | -.0006 | .0017 | .0060 | .0077 | -.0011 | -.0015 |
| #3 | .0711 | -.0006 | -.0004 | -.0018 | .0018 | .0049 | .0075 | -.0007 | -.0036 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0056** | **.0019** | **.0065** | **.0040** | **.0050** | **.0043** | **.1115** | **22.52** |
| Stddev | .0014 | .0005 | .0033 | .0027 | .0016 | .0040 | .0095 | .0367 | .08 |
| %RSD | 6609. | 9.818 | 171.8 | 40.84 | 40.88 | 79.21 | 222.0 | 32.90 | .3612 |
| #1 | .0016 | .0051 | .0057 | .0096 | .0023 | .0093 | -.0015 | .0692 | 22.56 |
| #2 | -.0005 | .0062 | -.0001 | .0049 | .0043 | .0043 | .0152 | .1346 | 22.56 |
| #3 | -.0010 | .0055 | .0002 | .0051 | .0055 | .0014 | -.0009 | .1307 | 22.42 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0233** | **2.438** | **6.318** | **432.1** | **.0593** | **.0046** | **4.884** | **.0035** | **.1336** |
| Stddev | .0243 | .161 | .110 | 2.0 | .0016 | .0020 | .009 | .0010 | .0003 |
| %RSD | 104.6 | 6.586 | 1.744 | .4620 | 2.616 | 43.15 | .1814 | 28.21 | .2334 |
| #1 | .0439 | 2.423 | 6.398 | 433.9 | .0578 | .0023 | 4.892 | .0047 | .1339 |
| #2 | -.0036 | 2.606 | 6.192 | 432.6 | .0609 | .0059 | 4.886 | .0031 | .1336 |
| #3 | .0295 | 2.286 | 6.363 | 430.0 | .0591 | .0055 | 4.875 | .0028 | .1333 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0043** | **-.0020** | **11.20** | **.0036** | **-.0300** | **.0100** |
| Stddev | .0025 | .0023 | .0003 | .03 | .0025 | .0057 | .0019 |
| %RSD | 907.6 | 54.29 | 15.28 | .2351 | 70.07 | 19.18 | 18.92 |
| #1 | .0015 | .0017 | -.0023 | 11.19 | .0065 | -.0315 | .0087 |
| #2 | .0018 | .0050 | -.0017 | 11.23 | .0019 | -.0348 | .0121 |
| #3 | -.0026 | .0061 | -.0019 | 11.18 | .0024 | -.0236 | .0091 |

Zoom In Zoom Out

Sample Name: jc87448-3 Acquired: 5/9/2019 15:19:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83953.** | **8663.7** | **5935.4** | **12297.** |
| Stddev | 39. | 40.6 | 23.0 | 51. |
| %RSD | .04628 | .46836 | .38814 | .41296 |
| #1 | 83969. | 8626.6 | 5922.2 | 12268. |
| #2 | 83980. | 8657.4 | 5922.0 | 12268. |
| #3 | 83908. | 8707.0 | 5962.0 | 12356. |



Zoom In Zoom Out

Sample Name: mp14900-mb1 Acquired: 5/9/2019 15:24:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0000** | **-.0002** | **.0004** | **.0000** | **.0001** | **.0002** | **-.0002** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0002 | .0001 | .0000 | .0002 | .0004 |
| %RSD | 2615. | 329.2 | 437.2 | 61.69 | 42.99 | 325.0 | 9.083 | 127.6 | 204.3 |
| #1 | .0001 | .0001 | -.0001 | -.0002 | .0007 | .0001 | .0001 | .0001 | -.0006 |
| #2 | -.0003 | -.0001 | .0001 | -.0004 | .0003 | -.0001 | .0001 | .0000 | .0002 |
| #3 | .0002 | .0001 | .0001 | -.0001 | .0004 | .0001 | .0001 | .0004 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0011** | **-.0005** | **-.0005** | **.0003** | **.0010** | **.0005** | **-.0012** | **.0049** |
| Stddev | .0003 | .0001 | .0001 | .0005 | .0002 | .0008 | .0010 | .0097 | .0023 |
| %RSD | 130.4 | 7.182 | 22.60 | 96.95 | 56.76 | 83.49 | 179.6 | 806.6 | 48.20 |
| #1 | .0005 | .0011 | -.0004 | -.0001 | .0003 | .0004 | .0001 | -.0059 | .0049 |
| #2 | .0002 | .0011 | -.0006 | -.0010 | .0004 | .0019 | .0016 | .0099 | .0072 |
| #3 | -.0000 | .0012 | -.0004 | -.0003 | .0001 | .0006 | -.0002 | -.0076 | .0025 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0093** | **.1571** | **-.0368** | **.0010** | **.0003** | **.0062** | **-.0002** | **.0001** |
| Stddev | .0036 | .0160 | .0198 | .0091 | .0005 | .0002 | .0013 | .0008 | .0002 |
| %RSD | 1893. | 171.7 | 12.61 | 24.74 | 48.42 | 74.69 | 20.53 | 378.2 | 179.0 |
| #1 | -.0038 | -.0276 | .1789 | -.0398 | .0015 | .0001 | .0049 | -.0009 | -.0000 |
| #2 | .0033 | .0024 | .1402 | -.0265 | .0006 | .0004 | .0074 | -.0005 | .0003 |
| #3 | .0011 | -.0028 | .1521 | -.0440 | .0008 | .0003 | .0064 | .0007 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0005** | **-.0000** | **.0008** | **.0006** | **-.0048** | **.0011** |
| Stddev | .0003 | .0001 | .0001 | .0010 | .0004 | .0013 | .0003 |
| %RSD | 137.3 | 23.07 | 220.8 | 126.1 | 60.83 | 27.49 | 28.81 |
| #1 | .0005 | .0006 | .0000 | .0019 | .0004 | -.0058 | .0015 |
| #2 | -.0001 | .0005 | -.0000 | -.0001 | .0010 | -.0033 | .0010 |
| #3 | .0004 | .0004 | -.0001 | .0006 | .0004 | -.0053 | .0009 |



Zoom In Zoom Out

Sample Name: mp14900-mb1 Acquired: 5/9/2019 15:24:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86025.** | **8868.5** | **6056.9** | **12777.** |
| Stddev | 386. | 35.3 | 115.0 | 217. |
| %RSD | .44822 | .39802 | 1.8982 | 1.6957 |
| #1 | 86430. | 8858.7 | 6186.9 | 13021. |
| #2 | 85985. | 8907.6 | 5968.4 | 12606. |
| #3 | 85662. | 8839.1 | 6015.4 | 12706. |



Zoom In Zoom Out

Sample Name: mp14900-b1 Acquired: 5/9/2019 15:29:51 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.025** | **2.046** | **1.961** | **1.992** | **2.009** | **1.983** | **2.042** | **2.024** |
| Stddev | .029 | .027 | .009 | .007 | .002 | .001 | .012 | .008 |
| %RSD | 1.421 | 1.326 | .4548 | .3738 | .1119 | .0373 | .5878 | .3891 |
| #1 | 2.015 | 2.034 | 1.964 | 1.993 | 2.010 | 1.983 | 2.032 | 2.026 |
| #2 | 2.058 | 2.077 | 1.951 | 1.983 | 2.007 | 1.984 | 2.039 | 2.015 |
| #3 | 2.003 | 2.027 | 1.968 | 1.998 | 2.011 | 1.982 | 2.056 | 2.030 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1960** | **2.000** | **2.001** | **1.954** | **2.047** | **2.000** | **1.956** | **1.983** |
| Stddev | .0005 | .001 | .011 | .010 | .009 | .007 | .008 | .009 |
| %RSD | .2712 | .0649 | .5351 | .5091 | .4355 | .3685 | .4287 | .4726 |
| #1 | .1961 | 2.000 | 2.005 | 1.957 | 2.056 | 2.003 | 1.962 | 1.986 |
| #2 | .1964 | 1.998 | 1.989 | 1.943 | 2.039 | 1.991 | 1.946 | 1.972 |
| #3 | .1954 | 2.001 | 2.010 | 1.962 | 2.046 | 2.005 | 1.959 | 1.990 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.45** | **25.72** | **25.51** | **25.40** | **25.22** | **25.38** | **1.941** | **1.986** |
| Stddev | .36 | .35 | .34 | .41 | .38 | .36 | .008 | .009 |
| %RSD | 1.396 | 1.368 | 1.319 | 1.626 | 1.520 | 1.408 | .3961 | .4617 |
| #1 | 25.36 | 25.55 | 25.35 | 25.25 | 25.07 | 25.22 | 1.944 | 1.988 |
| #2 | 25.85 | 26.12 | 25.90 | 25.87 | 25.65 | 25.79 | 1.932 | 1.976 |
| #3 | 25.15 | 25.48 | 25.28 | 25.09 | 24.93 | 25.13 | 1.947 | 1.994 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0732** | **2.010** | **2.030** | **1.999** | **1.910** | **1.996** | **-.0165** | F **-.0419** |
| Stddev | .0016 | .011 | .027 | .002 | .010 | .001 | .0001 | .0014 |
| %RSD | 2.131 | .5600 | 1.311 | .0970 | .5457 | .0348 | .5399 | 3.227 |
| #1 | .0714 | 2.016 | 2.019 | 2.000 | 1.915 | 1.996 | -.0165 | -.0418 |
| #2 | .0740 | 1.997 | 2.061 | 1.997 | 1.899 | 1.997 | -.0166 | -.0434 |
| #3 | .0742 | 2.018 | 2.011 | 2.001 | 1.918 | 1.997 | -.0164 | -.0407 |

Zoom In Zoom Out

Sample Name: mp14900-b1 Acquired: 5/9/2019 15:29:51 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0465** | **1.968** |
| Stddev | .0020 | .013 |
| %RSD | 4.398 | .6332 |
| #1 | -.0487 | 1.971 |
| #2 | -.0448 | 1.954 |
| #3 | -.0458 | 1.979 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84646.** | **8883.3** | **5967.4** | **12440.** |
| Stddev | 296. | 144.4 | 27.6 | 47. |
| %RSD | .34994 | 1.6255 | .46304 | .38061 |
| #1 | 84624. | 8918.1 | 5955.1 | 12419. |
| #2 | 84952. | 8724.7 | 5999.0 | 12494. |
| #3 | 84361. | 9007.1 | 5948.0 | 12407. |



Zoom In Zoom Out

Sample Name: jc87762-1a Acquired: 5/9/2019 15:34:50 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **-.0000** | **-.0001** | **.0006** | **.0001** | **.0002** | **-.0002** | **.0001** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0001 | .0004 | .0000 | .0004 | .0001 |
| %RSD | 749.1 | 174.5 | 318.8 | 143.3 | 25.27 | 423.7 | 21.63 | 155.9 | 154.7 |
| #1 | .0005 | -.0001 | .0000 | -.0003 | .0004 | .0003 | .0002 | -.0000 | .0000 |
| #2 | -.0003 | .0000 | .0000 | .0001 | .0006 | .0003 | .0003 | -.0007 | -.0000 |
| #3 | -.0003 | -.0001 | -.0001 | -.0001 | .0007 | -.0003 | .0002 | -.0000 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0093** | **-.0004** | **.0002** | **.0002** | **.0011** | **.0007** | **-.0017** | **.0364** |
| Stddev | .0001 | .0001 | .0003 | .0002 | .0001 | .0001 | .0006 | .0161 | .0033 |
| %RSD | 41.83 | 1.409 | 69.35 | 116.1 | 52.72 | 11.55 | 79.69 | 928.7 | 9.063 |
| #1 | .0003 | .0094 | -.0007 | .0003 | .0003 | .0013 | .0001 | -.0118 | .0341 |
| #2 | .0003 | .0092 | -.0001 | -.0001 | .0001 | .0011 | .0012 | -.0103 | .0348 |
| #3 | .0001 | .0094 | -.0004 | .0003 | .0003 | .0010 | .0009 | .0168 | .0402 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0066** | **.0990** | **-.0016** | **.0031** | **.0002** | **.0103** | **.0004** | **.0002** |
| Stddev | .0048 | .0196 | .0451 | .0102 | .0005 | .0002 | .0012 | .0008 | .0001 |
| %RSD | 1388. | 297.7 | 45.52 | 651.7 | 17.65 | 111.5 | 11.62 | 203.3 | 47.47 |
| #1 | -.0059 | .0025 | .1423 | .0089 | .0035 | .0005 | .0111 | .0003 | .0001 |
| #2 | .0032 | -.0106 | .1023 | -.0022 | .0032 | .0002 | .0089 | .0012 | .0002 |
| #3 | .0017 | .0279 | .0524 | -.0114 | .0025 | -.0000 | .0109 | -.0003 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0053** | **.0002** | **.0021** | **-.0005** | **-.0001** | **.0007** |
| Stddev | .0005 | .0003 | .0001 | .0012 | .0006 | .0004 | .0006 |
| %RSD | 226.0 | 4.919 | 25.74 | 59.89 | 133.0 | 335.6 | 82.83 |
| #1 | .0007 | .0054 | .0002 | .0025 | -.0002 | .0003 | .0013 |
| #2 | -.0003 | .0056 | .0002 | .0030 | -.0012 | -.0005 | .0006 |
| #3 | .0004 | .0050 | .0003 | .0007 | -.0000 | -.0002 | .0002 |



Zoom In Zoom Out

Sample Name: jc87762-1a Acquired: 5/9/2019 15:34:50 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86860.** | **8970.8** | **6117.3** | **12943.** |
| Stddev | 110. | 84.4 | 61.1 | 110. |
| %RSD | .12685 | .94130 | .99801 | .84952 |
| #1 | 86986. | 9060.9 | 6073.0 | 12867. |
| #2 | 86779. | 8893.5 | 6186.9 | 13069. |
| #3 | 86817. | 8957.9 | 6092.0 | 12893. |



Zoom In Zoom Out

Sample Name: mp14865-mb1conf Acquired: 5/9/2019 15:39:59 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0001** | **-.0001** | **.0001** | **.0008** | **.0043** | **.0004** | **.0003** | **.0002** |
| Stddev | .0003 | .0000 | .0001 | .0000 | .0001 | .0002 | .0000 | .0001 | .0002 |
| %RSD | 258.5 | 56.74 | 137.3 | 52.11 | 8.105 | 5.065 | 8.727 | 48.26 | 87.21 |
| #1 | .0002 | -.0001 | -.0002 | .0001 | .0009 | .0041 | .0004 | .0002 | .0000 |
| #2 | -.0002 | -.0000 | -.0000 | .0000 | .0008 | .0045 | .0004 | .0003 | .0004 |
| #3 | -.0004 | -.0000 | -.0000 | .0001 | .0008 | .0043 | .0004 | .0005 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0084** | **.0002** | **.0005** | **.0004** | **.0009** | **-.0011** | **.0159** | **.0817** |
| Stddev | .0003 | .0001 | .0001 | .0010 | .0007 | .0004 | .0010 | .0152 | .0050 |
| %RSD | 79.97 | .8088 | 90.17 | 188.2 | 161.5 | 39.73 | 94.49 | 95.84 | 6.153 |
| #1 | .0001 | .0084 | .0000 | .0016 | -.0003 | .0012 | -.0009 | .0234 | .0767 |
| #2 | .0006 | .0083 | .0003 | .0003 | .0011 | .0005 | -.0002 | .0259 | .0816 |
| #3 | .0003 | .0084 | .0002 | -.0004 | .0004 | .0010 | -.0022 | -.0016 | .0867 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0251** | **.0078** | **.0658** | **.0758** | **.0040** | **.0005** | **.0118** | **.0190** | **.0005** |
| Stddev | .0026 | .0322 | .0344 | .0010 | .0004 | .0001 | .0005 | .0002 | .0001 |
| %RSD | 10.42 | 414.2 | 52.38 | 1.332 | 11.07 | 27.43 | 3.868 | 1.079 | 24.74 |
| #1 | .0238 | .0177 | .0388 | .0762 | .0035 | .0006 | .0121 | .0191 | .0004 |
| #2 | .0234 | .0339 | .0540 | .0746 | .0042 | .0005 | .0120 | .0188 | .0005 |
| #3 | .0281 | -.0282 | .1046 | .0765 | .0042 | .0003 | .0113 | .0191 | .0006 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0014** | **.0001** | **.0045** | **.0011** | **-.0012** | **.0214** |
| Stddev | .0001 | .0001 | .0000 | .0006 | .0011 | .0009 | .0003 |
| %RSD | 40.34 | 5.670 | 62.91 | 12.72 | 93.47 | 76.49 | 1.457 |
| #1 | .0002 | .0014 | .0001 | .0039 | .0001 | -.0008 | .0213 |
| #2 | .0004 | .0013 | .0000 | .0048 | .0022 | -.0023 | .0217 |
| #3 | .0004 | .0015 | .0001 | .0050 | .0011 | -.0006 | .0211 |

Zoom In Zoom Out

Sample Name: mp14865-mb1conf Acquired: 5/9/2019 15:39:59 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87319.** | **9068.7** | **6094.8** | **12920.** |
| Stddev | 214. | 168.2 | 21.4 | 36. |
| %RSD | .24497 | 1.8550 | .35054 | .27649 |
| #1 | 87081. | 9023.4 | 6118.9 | 12961. |
| #2 | 87381. | 9255.0 | 6087.3 | 12908. |
| #3 | 87495. | 8927.9 | 6078.2 | 12892. |



Zoom In Zoom Out

Sample Name: mp14865-ps1 Acquired: 5/9/2019 15:45:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.584** | **2.006** | **1.981** | **2.060** | **2.110** | **2.239** | **3.641** | **2.184** |
| Stddev | .006 | .006 | .007 | .007 | .004 | .009 | .018 | .006 |
| %RSD | .2404 | .2998 | .3444 | .3304 | .2084 | .4138 | .5005 | .2715 |
| #1 | 2.590 | 2.013 | 1.988 | 2.068 | 2.109 | 2.240 | 3.627 | 2.190 |
| #2 | 2.577 | 2.001 | 1.979 | 2.056 | 2.115 | 2.248 | 3.634 | 2.182 |
| #3 | 2.583 | 2.004 | 1.975 | 2.057 | 2.106 | 2.229 | 3.661 | 2.179 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2459** | **2.135** | **3.338** | **2.084** | **2.054** | **2.801** | **1.971** | **2.001** |
| Stddev | .0009 | .006 | .009 | .007 | .009 | .006 | .006 | .008 |
| %RSD | .3637 | .2755 | .2671 | .3217 | .4538 | .2165 | .2897 | .4134 |
| #1 | .2466 | 2.135 | 3.347 | 2.091 | 2.062 | 2.807 | 1.977 | 2.010 |
| #2 | .2462 | 2.141 | 3.337 | 2.083 | 2.044 | 2.801 | 1.969 | 2.000 |
| #3 | .2449 | 2.130 | 3.329 | 2.078 | 2.056 | 2.795 | 1.966 | 1.994 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **102.7** | **49.69** | **133.4** | **40.50** | **30.39** | **25.87** | **2.004** | **1.948** |
| Stddev | .2 | .18 | .4 | .19 | .10 | .05 | .009 | .007 |
| %RSD | .2410 | .3537 | .2916 | .4771 | .3367 | .2083 | .4364 | .3565 |
| #1 | 103.0 | 49.88 | 133.8 | 40.71 | 30.50 | 25.92 | 2.014 | 1.956 |
| #2 | 102.5 | 49.53 | 133.1 | 40.44 | 30.29 | 25.82 | 2.000 | 1.947 |
| #3 | 102.7 | 49.66 | 133.3 | 40.34 | 30.38 | 25.87 | 1.997 | 1.942 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.280** | **2.391** | **2.112** | **3.401** | **1.826** | **2.022** | **14.63** | F **-.0532** |
| Stddev | .019 | .007 | .006 | .010 | .009 | .007 | .05 | .0015 |
| %RSD | .8490 | .2746 | .2689 | .3044 | .4767 | .3429 | .3131 | 2.752 |
| #1 | 2.293 | 2.398 | 2.118 | 3.402 | 1.836 | 2.023 | 14.68 | -.0518 |
| #2 | 2.290 | 2.387 | 2.107 | 3.410 | 1.822 | 2.029 | 14.61 | -.0547 |
| #3 | 2.258 | 2.387 | 2.112 | 3.390 | 1.820 | 2.015 | 14.59 | -.0533 |



Zoom In Zoom Out

Sample Name: mp14865-ps1 Acquired: 5/9/2019 15:45:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0931** | **6.433** |
| Stddev | .0004 | .020 |
| %RSD | .3921 | .3177 |
| #1 | .0933 | 6.456 |
| #2 | .0933 | 6.427 |
| #3 | .0927 | 6.416 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86982.** | **9321.2** | **6091.5** | **12461.** |
| Stddev | 121. | 7.7 | 13.3 | 24. |
| %RSD | .13903 | .08257 | .21820 | .19297 |
| #1 | 87100. | 9314.6 | 6077.2 | 12434. |
| #2 | 86987. | 9329.6 | 6093.8 | 12468. |
| #3 | 86859. | 9319.3 | 6103.5 | 12481. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 15:50:07 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **2.015** | **1.974** | **1.983** | **2.025** | **1.983** | **2.037** | **2.023** | **.2485** |
| Stddev | .023 | .023 | .008 | .006 | .016 | .016 | .030 | .006 | .0019 |
| %RSD | 1.159 | 1.139 | .4252 | .3290 | .8052 | .8265 | 1.480 | .2914 | .7647 |
| #1 | 2.023 | 2.032 | 1.966 | 1.976 | 2.041 | 1.998 | 2.056 | 2.017 | .2505 |
| #2 | 2.025 | 2.025 | 1.974 | 1.985 | 2.025 | 1.985 | 2.052 | 2.024 | .2481 |
| #3 | 1.984 | 1.989 | 1.982 | 1.988 | 2.008 | 1.966 | 2.002 | 2.029 | .2468 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.010** | **2.006** | **1.950** | **2.031** | **1.992** | **1.978** | **1.959** | **39.99** | **40.29** |
| Stddev | .016 | .008 | .009 | .009 | .006 | .013 | .010 | .45 | .46 |
| %RSD | .8133 | .3884 | .4516 | .4603 | .2963 | .6362 | .5028 | 1.129 | 1.139 |
| #1 | 2.027 | 1.999 | 1.944 | 2.022 | 1.986 | 1.967 | 1.948 | 40.29 | 40.59 |
| #2 | 2.011 | 2.006 | 1.946 | 2.030 | 1.993 | 1.976 | 1.962 | 40.21 | 40.52 |
| #3 | 1.994 | 2.014 | 1.961 | 2.041 | 1.998 | 1.992 | 1.967 | 39.47 | 39.76 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.37** | **39.84** | **39.90** | **40.26** | **1.976** | **1.956** | **4.927** | **1.991** | **2.005** |
| Stddev | .44 | .46 | .44 | .43 | .009 | .008 | .022 | .006 | .023 |
| %RSD | 1.106 | 1.144 | 1.114 | 1.073 | .4691 | .3982 | .4457 | .3187 | 1.125 |
| #1 | 39.66 | 40.17 | 40.13 | 40.54 | 1.968 | 1.948 | 4.906 | 1.985 | 2.019 |
| #2 | 39.57 | 40.04 | 40.18 | 40.48 | 1.975 | 1.956 | 4.925 | 1.990 | 2.017 |
| #3 | 38.87 | 39.32 | 39.39 | 39.76 | 1.986 | 1.963 | 4.949 | 1.997 | 1.979 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 15:50:07 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.981** | **1.922** | **1.981** | **1.954** | **1.967** | **1.959** | **1.996** |
| Stddev | .015 | .008 | .015 | .008 | .009 | .025 | .009 |
| %RSD | .7659 | .4329 | .7518 | .4154 | .4852 | 1.252 | .4565 |
| #1 | 1.997 | 1.915 | 1.996 | 1.946 | 1.958 | 1.977 | 1.987 |
| #2 | 1.979 | 1.920 | 1.981 | 1.953 | 1.965 | 1.970 | 1.996 |
| #3 | 1.967 | 1.931 | 1.966 | 1.962 | 1.977 | 1.931 | 2.005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83561.** | **8782.9** | **5893.2** | **12289.** |
| Stddev | 632. | 48.1 | 15.7 | 21. |
| %RSD | .75661 | .54791 | .26678 | .17457 |
| #1 | 82893. | 8758.3 | 5904.8 | 12305. |
| #2 | 83639. | 8752.0 | 5899.6 | 12296. |
| #3 | 84151. | 8838.3 | 5875.3 | 12264. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 15:55:07 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **-.0001** | **-.0003** | **.0000** | **-.0001** | **.0000** | **-.0000** | **-.0003** |
| Stddev | .0001 | .0001 | .0002 | .0002 | .0001 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 4933. | 174.0 | 281.4 | 77.95 | 393.0 | 179.4 | 126.7 | 1180. | 121.2 |
| #1 | .0001 | -.0001 | -.0001 | -.0002 | .0001 | -.0003 | .0000 | -.0001 | -.0001 |
| #2 | .0001 | -.0000 | .0001 | -.0005 | .0001 | -.0000 | .0000 | .0001 | -.0006 |
| #3 | -.0002 | .0000 | -.0002 | -.0002 | -.0001 | .0000 | .0001 | .0000 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **-.0002** | **.0009** | **.0006** | **.0007** | **-.0003** | **.0045** | **.0057** |
| Stddev | .0003 | .0002 | .0008 | .0015 | .0008 | .0003 | .0011 | .0092 | .0004 |
| %RSD | 137.9 | 158.2 | 388.8 | 163.6 | 129.7 | 37.12 | 405.3 | 202.7 | 7.063 |
| #1 | .0002 | .0002 | -.0008 | .0003 | .0002 | .0010 | .0005 | .0051 | .0053 |
| #2 | -.0001 | -.0001 | .0007 | -.0002 | .0001 | .0005 | -.0016 | .0134 | .0057 |
| #3 | .0005 | .0001 | -.0006 | .0027 | .0016 | .0007 | .0002 | -.0049 | .0061 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **-.0231** | **.1392** | **-.0104** | **.0029** | **.0005** | **.0004** | **.0005** | **.0001** |
| Stddev | .0029 | .0291 | .0255 | .0030 | .0004 | .0001 | .0004 | .0004 | .0001 |
| %RSD | 217.7 | 126.0 | 18.33 | 29.17 | 14.87 | 14.34 | 115.1 | 77.56 | 77.43 |
| #1 | .0003 | -.0541 | .1197 | -.0085 | .0034 | .0005 | .0007 | .0001 | .0001 |
| #2 | .0004 | .0035 | .1680 | -.0140 | .0029 | .0004 | -.0001 | .0005 | .0001 |
| #3 | -.0046 | -.0186 | .1298 | -.0089 | .0025 | .0006 | .0005 | .0008 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 15:55:07 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0007** | **.0033** | **-.0001** | **-.0010** | **-.0007** | **.0002** | **.0003** |
| Stddev | .0001 | .0006 | .0002 | .0001 | .0005 | .0015 | .0004 |
| %RSD | 14.84 | 18.13 | 306.7 | 8.280 | 76.98 | 970.7 | 129.4 |
| #1 | -.0006 | .0032 | .0001 | -.0011 | -.0008 | .0013 | .0006 |
| #2 | -.0007 | .0039 | -.0002 | -.0009 | -.0011 | .0007 | .0004 |
| #3 | -.0007 | .0027 | -.0002 | -.0010 | -.0001 | -.0016 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86562.** | **8907.7** | **6128.2** | **12982.** |
| Stddev | 1478. | 43.2 | 25.4 | 54. |
| %RSD | 1.7078 | .48538 | .41514 | .41305 |
| #1 | 84855. | 8876.0 | 6100.9 | 12926. |
| #2 | 87433. | 8956.9 | 6151.2 | 13033. |
| #3 | 87397. | 8890.1 | 6132.6 | 12988. |



Zoom In Zoom Out

Sample Name: mp14898-mb1 Acquired: 5/9/2019 16:00:18 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0000** | **-.0001** | **-.0002** | **.0009** | **.0021** | **.0004** | **.0004** | **-.0001** |
| Stddev | .0001 | .0000 | .0002 | .0002 | .0005 | .0001 | .0000 | .0002 | .0001 |
| %RSD | 28.74 | 88.80 | 227.8 | 64.47 | 55.91 | 6.066 | 9.077 | 56.58 | 188.8 |
| #1 | .0003 | -.0001 | -.0002 | -.0004 | .0013 | .0022 | .0003 | .0006 | -.0001 |
| #2 | .0002 | -.0000 | -.0002 | -.0001 | .0003 | .0019 | .0004 | .0002 | -.0001 |
| #3 | .0004 | -.0000 | .0001 | -.0002 | .0010 | .0022 | .0004 | .0005 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0049** | **.0006** | **.0015** | **.0007** | **.0010** | **-.0020** | **.0115** | **.0871** |
| Stddev | .0002 | .0001 | .0003 | .0003 | .0002 | .0004 | .0018 | .0025 | .0035 |
| %RSD | 1210. | 2.677 | 46.77 | 19.08 | 36.03 | 39.66 | 88.30 | 21.66 | 4.007 |
| #1 | .0000 | .0049 | .0006 | .0018 | .0009 | .0011 | -.0027 | .0097 | .0844 |
| #2 | .0002 | .0048 | .0008 | .0012 | .0005 | .0014 | -.0033 | .0105 | .0910 |
| #3 | -.0002 | .0051 | .0003 | .0014 | .0006 | .0006 | .0000 | .0143 | .0858 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0212** | **.0099** | **.1548** | **.0621** | **.0023** | **.0004** | **.0100** | **.0188** | **.0006** |
| Stddev | .0021 | .0370 | .0583 | .0048 | .0003 | .0002 | .0018 | .0002 | .0001 |
| %RSD | 9.809 | 374.7 | 37.66 | 7.753 | 14.14 | 39.15 | 18.32 | 1.140 | 9.106 |
| #1 | .0209 | .0041 | .0920 | .0565 | .0024 | .0006 | .0095 | .0190 | .0006 |
| #2 | .0193 | .0494 | .2072 | .0647 | .0026 | .0003 | .0085 | .0186 | .0006 |
| #3 | .0234 | -.0238 | .1651 | .0650 | .0019 | .0003 | .0121 | .0188 | .0007 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0006** | **.0002** | **.0061** | **.0007** | **-.0023** | **.0207** |
| Stddev | .0002 | .0007 | .0001 | .0003 | .0015 | .0001 | .0001 |
| %RSD | 425.9 | 118.5 | 87.38 | 5.370 | 234.2 | 4.984 | .3873 |
| #1 | -.0002 | .0014 | .0001 | .0059 | -.0010 | -.0024 | .0206 |
| #2 | .0002 | .0004 | .0003 | .0059 | .0020 | -.0022 | .0206 |
| #3 | -.0001 | -.0000 | .0001 | .0065 | .0010 | -.0022 | .0208 |

Zoom In Zoom Out

Sample Name: mp14898-mb1 Acquired: 5/9/2019 16:00:18 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86560.** | **8941.4** | **6098.0** | **12926.** |
| Stddev | 265. | 48.5 | 24.5 | 47. |
| %RSD | .30599 | .54202 | .40191 | .36431 |
| #1 | 86814. | 8898.0 | 6069.7 | 12872. |
| #2 | 86582. | 8932.4 | 6110.3 | 12957. |
| #3 | 86285. | 8993.7 | 6113.9 | 12949. |



Zoom In Zoom Out

Sample Name: mp14898-b1 Acquired: 5/9/2019 16:05:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.934** | **1.950** | **1.905** | **1.931** | **1.933** | **1.892** | **1.965** | **1.964** |
| Stddev | .004 | .004 | .004 | .005 | .007 | .008 | .020 | .003 |
| %RSD | .2338 | .2117 | .2015 | .2358 | .3837 | .4168 | 1.033 | .1695 |
| #1 | 1.939 | 1.955 | 1.900 | 1.926 | 1.928 | 1.886 | 1.945 | 1.960 |
| #2 | 1.930 | 1.949 | 1.906 | 1.933 | 1.930 | 1.889 | 1.966 | 1.967 |
| #3 | 1.932 | 1.947 | 1.907 | 1.934 | 1.942 | 1.901 | 1.986 | 1.966 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2347** | **1.914** | **1.951** | **1.893** | **1.985** | **1.941** | **1.888** | **1.904** |
| Stddev | .0008 | .008 | .003 | .003 | .001 | .004 | .003 | .006 |
| %RSD | .3413 | .4309 | .1575 | .1674 | .0671 | .2249 | .1764 | .2941 |
| #1 | .2343 | 1.909 | 1.948 | 1.889 | 1.983 | 1.936 | 1.884 | 1.898 |
| #2 | .2342 | 1.909 | 1.953 | 1.895 | 1.985 | 1.945 | 1.891 | 1.905 |
| #3 | .2356 | 1.923 | 1.953 | 1.894 | 1.985 | 1.942 | 1.889 | 1.909 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.17** | **24.59** | **24.03** | **24.18** | **24.14** | **24.30** | **1.850** | **1.905** |
| Stddev | .04 | .04 | .02 | .08 | .02 | .02 | .005 | .003 |
| %RSD | .1844 | .1611 | .0863 | .3179 | .0926 | .0804 | .2928 | .1602 |
| #1 | 24.21 | 24.64 | 24.05 | 24.26 | 24.12 | 24.32 | 1.845 | 1.902 |
| #2 | 24.12 | 24.57 | 24.01 | 24.10 | 24.15 | 24.29 | 1.850 | 1.906 |
| #3 | 24.18 | 24.57 | 24.02 | 24.19 | 24.16 | 24.28 | 1.856 | 1.908 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1283** | **1.964** | **1.926** | **1.915** | **1.647** | **1.908** | **-.0088** | F **-.0386** |
| Stddev | .0009 | .001 | .003 | .007 | .005 | .007 | .0005 | .0017 |
| %RSD | .6655 | .0441 | .1312 | .3701 | .3313 | .3737 | 5.808 | 4.432 |
| #1 | .1273 | 1.963 | 1.929 | 1.911 | 1.642 | 1.903 | -.0083 | -.0398 |
| #2 | .1288 | 1.965 | 1.925 | 1.911 | 1.646 | 1.905 | -.0086 | -.0394 |
| #3 | .1288 | 1.964 | 1.925 | 1.924 | 1.653 | 1.916 | -.0093 | -.0366 |



Zoom In Zoom Out

Sample Name: mp14898-b1 Acquired: 5/9/2019 16:05:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0397** | **1.926** |
| Stddev | .0009 | .005 |
| %RSD | 2.284 | .2503 |
| #1 | -.0395 | 1.921 |
| #2 | -.0390 | 1.929 |
| #3 | -.0407 | 1.929 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86048.** | **9013.2** | **5984.2** | **12489.** |
| Stddev | 189. | 32.9 | 12.4 | 32. |
| %RSD | .21926 | .36552 | .20750 | .25630 |
| #1 | 86224. | 9044.6 | 5996.5 | 12525. |
| #2 | 86072. | 9016.2 | 5984.4 | 12476. |
| #3 | 85849. | 8978.9 | 5971.6 | 12465. |



Zoom In Zoom Out

Sample Name: jc87704-1 Acquired: 5/9/2019 16:10:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5355** | **.0055** | **.0021** | **.0825** | **.1817** | **.3602** | **2.999** | **.2464** | **.0029** |
| Stddev | .0025 | .0001 | .0001 | .0013 | .0009 | .0014 | .023 | .0033 | .0001 |
| %RSD | .4651 | 1.204 | 3.491 | 1.580 | .5091 | .3888 | .7814 | 1.350 | 4.785 |
| #1 | .5383 | .0055 | .0021 | .0814 | .1828 | .3617 | 3.018 | .2432 | .0028 |
| #2 | .5342 | .0055 | .0021 | .0821 | .1814 | .3590 | 2.973 | .2460 | .0028 |
| #3 | .5338 | .0054 | .0022 | .0839 | .1810 | .3598 | 3.005 | .2499 | .0030 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2414** | **.8287** | **.0768** | **.0026** | **1.042** | **.0030** | **.0069** | **109.1** | F **456.6** |
| Stddev | .0008 | .0104 | .0018 | .0027 | .015 | .0012 | .0012 | .6 | 6.4 |
| %RSD | .3177 | 1.257 | 2.409 | 104.9 | 1.405 | 39.81 | 17.71 | .5192 | 1.405 |
| #1 | .2421 | .8194 | .0747 | .0018 | 1.029 | .0028 | .0065 | 109.7 | 463.7 |
| #2 | .2414 | .8266 | .0778 | .0057 | 1.038 | .0043 | .0059 | 108.7 | 451.2 |
| #3 | .2406 | .8399 | .0780 | .0003 | 1.058 | .0019 | .0082 | 108.8 | 454.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **165.5** | **226.9** | **20.92** | **3.917** | **.1232** | **.0232** | **2.904** | **.0278** | **.2790** |
| Stddev | .9 | 1.4 | .09 | .018 | .0022 | .0002 | .021 | .0003 | .0014 |
| %RSD | .5135 | .6321 | .4333 | .4719 | 1.764 | .9096 | .7192 | 1.089 | .4843 |
| #1 | 166.5 | 228.5 | 21.03 | 3.938 | .1209 | .0231 | 2.880 | .0275 | .2806 |
| #2 | 165.0 | 225.7 | 20.87 | 3.907 | .1235 | .0230 | 2.913 | .0281 | .2785 |
| #3 | 165.1 | 226.6 | 20.87 | 3.906 | .1253 | .0234 | 2.918 | .0279 | .2780 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.512** | **.0035** | **.1126** | **3.342** | **-.0097** | **.1634** | **3.068** |
| Stddev | .007 | .0010 | .0004 | .045 | .0006 | .0017 | .043 |
| %RSD | .4602 | 28.83 | .3225 | 1.342 | 5.964 | 1.040 | 1.388 |
| #1 | 1.520 | .0024 | .1123 | 3.305 | -.0099 | .1632 | 3.033 |
| #2 | 1.509 | .0038 | .1124 | 3.328 | -.0102 | .1652 | 3.055 |
| #3 | 1.507 | .0043 | .1130 | 3.392 | -.0091 | .1618 | 3.116 |

Zoom In Zoom Out

Sample Name: jc87704-1 Acquired: 5/9/2019 16:10:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84786.** | **9103.5** | **5866.0** | **11613.** |
| Stddev | 472. | 56.4 | 73.0 | 144. |
| %RSD | .55686 | .61983 | 1.2446 | 1.2360 |
| #1 | 84250. | 9043.5 | 5933.0 | 11744. |
| #2 | 84967. | 9155.6 | 5876.6 | 11635. |
| #3 | 85140. | 9111.2 | 5788.2 | 11459. |



Zoom In Zoom Out

Sample Name: jc87704-2 Acquired: 5/9/2019 16:15:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.460** | **.0087** | **.0148** | **.0623** | **.4863** | **1.573** | **4.233** | **.2366** | **.0085** |
| Stddev | .029 | .0001 | .0003 | .0001 | .0036 | .009 | .016 | .0006 | .0009 |
| %RSD | .8265 | .7916 | 1.869 | .1896 | .7326 | .5416 | .3841 | .2473 | 10.64 |
| #1 | 3.474 | .0087 | .0145 | .0624 | .4844 | 1.569 | 4.249 | .2360 | .0082 |
| #2 | 3.478 | .0087 | .0150 | .0622 | .4841 | 1.567 | 4.216 | .2367 | .0096 |
| #3 | 3.427 | .0088 | .0148 | .0622 | .4904 | 1.582 | 4.234 | .2371 | .0079 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1898** | **7.585** | **.1335** | **.0049** | F **9.029** | **.0122** | **.0249** | **66.11** | F **371.6** |
| Stddev | .0010 | .001 | .0005 | .0009 | .013 | .0014 | .0017 | .47 | 2.4 |
| %RSD | .5109 | .0179 | .3778 | 17.66 | .1429 | 11.66 | 6.931 | .7105 | .6538 |
| #1 | .1892 | 7.586 | .1341 | .0048 | 9.034 | .0136 | .0229 | 66.30 | 368.9 |
| #2 | .1894 | 7.584 | .1333 | .0040 | 9.014 | .0123 | .0253 | 66.45 | 372.2 |
| #3 | .1910 | 7.584 | .1332 | .0057 | 9.038 | .0107 | .0263 | 65.57 | 373.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **170.0** | **115.8** | **7.235** | **2.830** | **.0851** | **.0206** | **3.652** | **.9517** | **.9178** |
| Stddev | 1.2 | .8 | .052 | .020 | .0013 | .0001 | .034 | .0020 | .0073 |
| %RSD | .6837 | .7041 | .7199 | .7086 | 1.483 | .6235 | .9253 | .2070 | .7995 |
| #1 | 170.6 | 116.0 | 7.258 | 2.836 | .0846 | .0207 | 3.689 | .9535 | .9215 |
| #2 | 170.6 | 116.4 | 7.272 | 2.847 | .0865 | .0205 | 3.644 | .9496 | .9226 |
| #3 | 168.6 | 114.8 | 7.176 | 2.808 | .0841 | .0205 | 3.623 | .9520 | .9094 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.677** | **-.0147** | **.0614** | **7.462** | **-.0016** | **.1095** | **7.534** |
| Stddev | .006 | .0004 | .0004 | .004 | .0003 | .0021 | .004 |
| %RSD | .3782 | 2.581 | .6324 | .0517 | 21.20 | 1.955 | .0513 |
| #1 | 1.674 | -.0143 | .0612 | 7.463 | -.0012 | .1091 | 7.533 |
| #2 | 1.671 | -.0149 | .0619 | 7.457 | -.0018 | .1119 | 7.531 |
| #3 | 1.684 | -.0150 | .0612 | 7.465 | -.0018 | .1076 | 7.538 |



Zoom In Zoom Out

Sample Name: jc87704-2 Acquired: 5/9/2019 16:15:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84826.** | **9105.5** | **5877.4** | **11904.** |
| Stddev | 441. | 62.8 | 3.0 | 16. |
| %RSD | .51932 | .68947 | .05171 | .13119 |
| #1 | 85163. | 9069.4 | 5878.0 | 11905. |
| #2 | 84988. | 9069.0 | 5880.1 | 11919. |
| #3 | 84328. | 9177.9 | 5874.1 | 11888. |



Zoom In Zoom Out

Sample Name: jc87704-3 Acquired: 5/9/2019 16:20:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.443** | **.0052** | **.0107** | **.0644** | **.1748** | **.4726** | **3.609** | **.1852** | **.0032** |
| Stddev | .007 | .0002 | .0001 | .0008 | .0007 | .0015 | .009 | .0022 | .0003 |
| %RSD | .4742 | 2.990 | .5662 | 1.245 | .4273 | .3142 | .2518 | 1.166 | 10.14 |
| #1 | 1.436 | .0050 | .0107 | .0653 | .1747 | .4728 | 3.600 | .1874 | .0030 |
| #2 | 1.449 | .0052 | .0107 | .0640 | .1756 | .4740 | 3.618 | .1853 | .0030 |
| #3 | 1.445 | .0053 | .0106 | .0639 | .1742 | .4711 | 3.608 | .1831 | .0036 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2526** | **1.741** | **.0838** | **.0018** | **2.087** | **.0049** | **.0131** | **87.55** | F **398.1** |
| Stddev | .0012 | .018 | .0018 | .0011 | .021 | .0009 | .0012 | .34 | 1.5 |
| %RSD | .4773 | 1.031 | 2.180 | 57.50 | .9831 | 18.34 | 9.394 | .3851 | .3712 |
| #1 | .2524 | 1.759 | .0855 | .0030 | 2.109 | .0059 | .0128 | 87.16 | 398.3 |
| #2 | .2539 | 1.740 | .0840 | .0009 | 2.081 | .0046 | .0120 | 87.79 | 396.5 |
| #3 | .2515 | 1.724 | .0819 | .0017 | 2.069 | .0042 | .0144 | 87.70 | 399.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **237.8** | **182.6** | **9.903** | **1.728** | **.0729** | **.0134** | **2.701** | **1.506** | **.4824** |
| Stddev | .7 | .3 | .026 | .002 | .0011 | .0004 | .070 | .015 | .0026 |
| %RSD | .2816 | .1440 | .2633 | .1303 | 1.564 | 2.713 | 2.581 | 1.004 | .5398 |
| #1 | 237.1 | 182.3 | 9.874 | 1.730 | .0740 | .0135 | 2.781 | 1.521 | .4795 |
| #2 | 238.4 | 182.7 | 9.926 | 1.726 | .0730 | .0130 | 2.662 | 1.506 | .4845 |
| #3 | 237.9 | 182.8 | 9.908 | 1.726 | .0718 | .0137 | 2.658 | 1.491 | .4832 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.842** | **.0074** | **.0458** | **3.675** | **-.0094** | **.0917** | **4.361** |
| Stddev | .007 | .0008 | .0003 | .039 | .0006 | .0008 | .044 |
| %RSD | .4056 | 10.36 | .6380 | 1.067 | 5.947 | .9264 | 1.011 |
| #1 | 1.845 | .0081 | .0457 | 3.714 | -.0099 | .0926 | 4.406 |
| #2 | 1.847 | .0066 | .0462 | 3.675 | -.0095 | .0915 | 4.359 |
| #3 | 1.833 | .0074 | .0457 | 3.636 | -.0088 | .0909 | 4.318 |

Zoom In Zoom Out

Sample Name: jc87704-3 Acquired: 5/9/2019 16:20:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84923.** | **9157.5** | **5858.2** | **11894.** |
| Stddev | 288. | 35.7 | 49.2 | 86. |
| %RSD | .33926 | .38995 | .84024 | .72039 |
| #1 | 84907. | 9117.0 | 5806.8 | 11800. |
| #2 | 84643. | 9184.5 | 5862.8 | 11914. |
| #3 | 85219. | 9171.0 | 5905.0 | 11968. |



Zoom In Zoom Out

Sample Name: jc87704-4 Acquired: 5/9/2019 16:26:03 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1886** | **.0019** | **.0006** | **.0368** | **.0865** | **.1041** | **2.431** | **.0877** | **.0035** |
| Stddev | .0011 | .0000 | .0002 | .0003 | .0004 | .0006 | .011 | .0004 | .0009 |
| %RSD | .5659 | 1.309 | 29.36 | .8306 | .4874 | .5335 | .4389 | .5100 | 24.33 |
| #1 | .1899 | .0019 | .0008 | .0369 | .0861 | .1034 | 2.422 | .0878 | .0043 |
| #2 | .1879 | .0019 | .0004 | .0370 | .0865 | .1043 | 2.442 | .0880 | .0037 |
| #3 | .1882 | .0019 | .0007 | .0364 | .0869 | .1045 | 2.427 | .0872 | .0026 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1399** | **.2277** | **.0351** | **-.0009** | **.0639** | **.0055** | **.0032** | **44.64** | F **1274.** |
| Stddev | .0009 | .0002 | .0003 | .0014 | .0015 | .0019 | .0005 | .15 | 7. |
| %RSD | .6104 | .1012 | .9491 | 153.1 | 2.311 | 33.93 | 16.62 | .3396 | .5839 |
| #1 | .1392 | .2275 | .0348 | -.0025 | .0654 | .0057 | .0037 | 44.81 | 1282. |
| #2 | .1396 | .2279 | .0354 | -.0005 | .0624 | .0036 | .0032 | 44.53 | 1268. |
| #3 | .1408 | .2276 | .0349 | .0002 | .0639 | .0073 | .0026 | 44.59 | 1272. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **83.18** | F **400.1** | **10.44** | **2.821** | **.0715** | **.0110** | **2.187** | **.0166** | **.6768** |
| Stddev | .27 | 1.2 | .03 | .008 | .0006 | .0004 | .021 | .0004 | .0024 |
| %RSD | .3264 | .2998 | .2503 | .2682 | .8438 | 3.807 | .9703 | 2.358 | .3589 |
| #1 | 83.49 | 401.3 | 10.47 | 2.826 | .0716 | .0113 | 2.208 | .0163 | .6795 |
| #2 | 82.96 | 400.0 | 10.43 | 2.812 | .0720 | .0113 | 2.187 | .0163 | .6751 |
| #3 | 83.10 | 398.9 | 10.43 | 2.823 | .0708 | .0106 | 2.165 | .0170 | .6757 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.455** | **.0029** | **.0588** | **1.895** | **-.0122** | **.0533** | **1.713** |
| Stddev | .005 | .0003 | .0002 | .003 | .0012 | .0003 | .003 |
| %RSD | .3168 | 9.418 | .3209 | .1812 | 9.828 | .6502 | .1454 |
| #1 | 1.453 | .0027 | .0586 | 1.891 | -.0108 | .0537 | 1.711 |
| #2 | 1.452 | .0032 | .0587 | 1.897 | -.0131 | .0530 | 1.716 |
| #3 | 1.460 | .0027 | .0590 | 1.897 | -.0126 | .0534 | 1.712 |



Zoom In Zoom Out

Sample Name: jc87704-4 Acquired: 5/9/2019 16:26:03 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **79369.** | **8534.0** | **5449.9** | **10858.** |
| Stddev | 352. | 32.3 | 10.6 | 13. |
| %RSD | .44330 | .37844 | .19361 | .11526 |
| #1 | 79580. | 8497.9 | 5445.2 | 10853. |
| #2 | 79564. | 8543.8 | 5442.5 | 10849. |
| #3 | 78963. | 8560.3 | 5462.0 | 10872. |



Zoom In Zoom Out

Sample Name: jc87762-2a Acquired: 5/9/2019 16:31:16 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4668** | **.0034** | **.0003** | **.0404** | **.0934** | **.1139** | **1.659** | **.0831** | **.0022** |
| Stddev | .0018 | .0000 | .0001 | .0004 | .0004 | .0004 | .006 | .0001 | .0005 |
| %RSD | .3781 | .2368 | 27.43 | .8774 | .4239 | .3608 | .3664 | .1069 | 21.05 |
| #1 | .4661 | .0034 | .0003 | .0406 | .0936 | .1139 | 1.660 | .0831 | .0028 |
| #2 | .4655 | .0034 | .0002 | .0407 | .0930 | .1134 | 1.653 | .0831 | .0021 |
| #3 | .4688 | .0034 | .0004 | .0400 | .0937 | .1143 | 1.665 | .0830 | .0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1380** | **.2937** | **.0304** | **.0025** | **.4448** | **.0031** | **.0027** | **91.01** | **184.2** |
| Stddev | .0009 | .0006 | .0004 | .0003 | .0015 | .0004 | .0008 | .26 | .5 |
| %RSD | .6809 | .2092 | 1.258 | 12.82 | .3364 | 12.18 | 30.00 | .2861 | .2451 |
| #1 | .1379 | .2944 | .0302 | .0026 | .4442 | .0034 | .0020 | 90.78 | 183.8 |
| #2 | .1371 | .2935 | .0308 | .0027 | .4465 | .0032 | .0025 | 90.94 | 184.1 |
| #3 | .1390 | .2932 | .0301 | .0021 | .4437 | .0027 | .0036 | 91.29 | 184.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **104.9** | **16.33** | **4.545** | **2.111** | **.0796** | **.0038** | **2.476** | **.0341** | **.5391** |
| Stddev | .3 | .04 | .025 | .006 | .0004 | .0001 | .064 | .0005 | .0015 |
| %RSD | .3188 | .2149 | .5415 | .3037 | .4647 | 1.836 | 2.593 | 1.430 | .2844 |
| #1 | 104.7 | 16.29 | 4.529 | 2.104 | .0793 | .0037 | 2.550 | .0347 | .5382 |
| #2 | 104.7 | 16.33 | 4.533 | 2.116 | .0800 | .0039 | 2.439 | .0337 | .5383 |
| #3 | 105.3 | 16.36 | 4.574 | 2.114 | .0794 | .0039 | 2.439 | .0340 | .5409 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.078** | **.0025** | **.0140** | **14.23** | **-.0064** | **.1471** | **4.012** |
| Stddev | .003 | .0005 | .0001 | .03 | .0018 | .0020 | .006 |
| %RSD | .3149 | 18.60 | .6285 | .1882 | 28.48 | 1.381 | .1623 |
| #1 | 1.075 | .0025 | .0139 | 14.23 | -.0084 | .1479 | 4.007 |
| #2 | 1.078 | .0030 | .0141 | 14.25 | -.0048 | .1447 | 4.019 |
| #3 | 1.082 | .0021 | .0140 | 14.20 | -.0059 | .1486 | 4.010 |

Zoom In Zoom Out

Sample Name: jc87762-2a Acquired: 5/9/2019 16:31:16 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87566.** | **9343.0** | **6189.0** | **12325.** |
| Stddev | 158. | 17.5 | 7.4 | 14. |
| %RSD | .18042 | .18712 | .11883 | .11192 |
| #1 | 87569. | 9361.1 | 6191.2 | 12340. |
| #2 | 87722. | 9326.2 | 6180.8 | 12312. |
| #3 | 87406. | 9341.7 | 6195.0 | 12324. |



Zoom In Zoom Out

Sample Name: jc87704-2 Acquired: 5/9/2019 16:36:14 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.537** | **.0089** | **.0150** | **.0635** | **.5060** | **1.593** | **4.455** | **.2434** | **.0096** |
| Stddev | .005 | .0001 | .0003 | .0001 | .0036 | .012 | .022 | .0015 | .0007 |
| %RSD | .1351 | 1.684 | 1.831 | .2164 | .7135 | .7503 | .4864 | .5963 | 6.874 |
| #1 | 3.532 | .0087 | .0147 | .0637 | .5048 | 1.588 | 4.454 | .2445 | .0104 |
| #2 | 3.537 | .0089 | .0151 | .0634 | .5101 | 1.607 | 4.478 | .2418 | .0093 |
| #3 | 3.542 | .0090 | .0153 | .0634 | .5032 | 1.585 | 4.435 | .2440 | .0092 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1958** | **8.013** | **.1351** | **.0067** | **9.236** | **.0137** | **.0273** | **67.66** | **389.6** |
| Stddev | .0016 | .036 | .0015 | .0030 | .036 | .0024 | .0013 | .11 | .8 |
| %RSD | .8170 | .4521 | 1.130 | 45.50 | .3890 | 17.58 | 4.645 | .1633 | .2052 |
| #1 | .1951 | 8.013 | .1333 | .0033 | 9.247 | .0123 | .0265 | 67.54 | 389.0 |
| #2 | .1976 | 7.976 | .1361 | .0076 | 9.196 | .0164 | .0288 | 67.72 | 389.4 |
| #3 | .1946 | 8.048 | .1357 | .0092 | 9.265 | .0123 | .0267 | 67.74 | 390.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **178.4** | **119.4** | **7.242** | **2.891** | **.0860** | **.0214** | **3.717** | **.9852** | **.9463** |
| Stddev | .2 | .3 | .022 | .008 | .0015 | .0001 | .012 | .0055 | .0019 |
| %RSD | .1252 | .2550 | .3018 | .2713 | 1.724 | .5302 | .3105 | .5624 | .1965 |
| #1 | 178.2 | 119.1 | 7.218 | 2.888 | .0850 | .0215 | 3.726 | .9861 | .9442 |
| #2 | 178.4 | 119.4 | 7.262 | 2.885 | .0853 | .0212 | 3.704 | .9793 | .9473 |
| #3 | 178.7 | 119.7 | 7.245 | 2.900 | .0877 | .0214 | 3.722 | .9903 | .9476 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.714** | **-.0202** | **.0631** | **7.543** | **-.0000** | **.1121** | **7.682** |
| Stddev | .011 | .0013 | .0000 | .042 | .0026 | .0012 | .040 |
| %RSD | .6610 | 6.566 | .0523 | .5510 | 6925. | 1.064 | .5237 |
| #1 | 1.710 | -.0194 | .0631 | 7.553 | .0028 | .1134 | 7.682 |
| #2 | 1.727 | -.0196 | .0631 | 7.497 | -.0005 | .1114 | 7.642 |
| #3 | 1.705 | -.0218 | .0630 | 7.579 | -.0024 | .1114 | 7.722 |



Zoom In Zoom Out

Sample Name: jc87704-2 Acquired: 5/9/2019 16:36:14 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83875.** | **8843.4** | **5897.8** | **12047.** |
| Stddev | 499. | 57.2 | 20.1 | 27. |
| %RSD | .59514 | .64640 | .34023 | .22109 |
| #1 | 83972. | 8857.3 | 5904.0 | 12049. |
| #2 | 83335. | 8892.4 | 5914.0 | 12073. |
| #3 | 84319. | 8780.6 | 5875.4 | 12020. |



Zoom In Zoom Out

Sample Name: jc87704-3 Acquired: 5/9/2019 16:41:21 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.462** | **.0053** | **.0110** | **.0658** | **.1835** | **.4792** | **3.770** | **.1902** | **.0047** |
| Stddev | .009 | .0001 | .0005 | .0003 | .0005 | .0010 | .031 | .0000 | .0010 |
| %RSD | .5987 | 2.323 | 4.587 | .4904 | .2469 | .1988 | .8270 | .0231 | 21.59 |
| #1 | 1.472 | .0052 | .0110 | .0662 | .1835 | .4786 | 3.734 | .1901 | .0057 |
| #2 | 1.456 | .0054 | .0105 | .0656 | .1840 | .4788 | 3.785 | .1902 | .0047 |
| #3 | 1.458 | .0055 | .0115 | .0656 | .1831 | .4803 | 3.791 | .1901 | .0037 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2624** | **1.824** | **.0830** | **.0042** | **2.157** | **.0030** | **.0135** | **88.43** | F **418.8** |
| Stddev | .0014 | .006 | .0010 | .0007 | .008 | .0050 | .0031 | .55 | 2.4 |
| %RSD | .5259 | .3253 | 1.247 | 17.30 | .3621 | 163.7 | 22.65 | .6173 | .5636 |
| #1 | .2617 | 1.820 | .0826 | .0045 | 2.152 | .0087 | .0150 | 89.02 | 421.4 |
| #2 | .2614 | 1.831 | .0822 | .0034 | 2.166 | -.0007 | .0100 | 88.33 | 417.9 |
| #3 | .2639 | 1.822 | .0842 | .0047 | 2.154 | .0011 | .0155 | 87.94 | 416.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **249.4** | **188.3** | **9.852** | **1.731** | **.0742** | **.0138** | **2.695** | **1.556** | **.4914** |
| Stddev | 1.3 | 1.1 | .037 | .003 | .0017 | .0001 | .012 | .002 | .0027 |
| %RSD | .5366 | .5739 | .3721 | .1675 | 2.252 | .6803 | .4565 | .1429 | .5460 |
| #1 | 251.0 | 189.5 | 9.890 | 1.729 | .0723 | .0139 | 2.688 | 1.555 | .4945 |
| #2 | 248.8 | 187.5 | 9.849 | 1.735 | .0748 | .0138 | 2.709 | 1.558 | .4902 |
| #3 | 248.5 | 188.0 | 9.817 | 1.730 | .0754 | .0137 | 2.687 | 1.554 | .4895 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.895** | **.0062** | **.0480** | **3.679** | **-.0054** | **.0918** | **4.430** |
| Stddev | .009 | .0007 | .0004 | .010 | .0025 | .0027 | .013 |
| %RSD | .4967 | 11.91 | .8449 | .2775 | 45.64 | 2.910 | .2987 |
| #1 | 1.885 | .0059 | .0484 | 3.667 | -.0046 | .0940 | 4.416 |
| #2 | 1.904 | .0071 | .0476 | 3.686 | -.0081 | .0926 | 4.441 |
| #3 | 1.896 | .0057 | .0479 | 3.684 | -.0034 | .0888 | 4.433 |

Zoom In Zoom Out

Sample Name: jc87704-3 Acquired: 5/9/2019 16:41:21 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83861.** | **8849.7** | **5897.7** | **12062.** |
| Stddev | 155. | 82.6 | 23.4 | 38. |
| %RSD | .18488 | .93348 | .39660 | .31268 |
| #1 | 84034. | 8764.2 | 5894.1 | 12050. |
| #2 | 83813. | 8856.1 | 5876.3 | 12031. |
| #3 | 83735. | 8929.0 | 5922.6 | 12104. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 16:46:22 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **1.996** | **1.971** | **1.988** | **2.024** | **1.982** | **2.027** | **2.007** | **.2480** |
| Stddev | .004 | .006 | .001 | .005 | .004 | .001 | .015 | .004 | .0010 |
| %RSD | .2204 | .2914 | .0496 | .2594 | .1830 | .0604 | .7238 | .1827 | .4096 |
| #1 | 2.009 | 1.998 | 1.971 | 1.985 | 2.021 | 1.981 | 2.044 | 2.004 | .2469 |
| #2 | 2.007 | 1.989 | 1.971 | 1.985 | 2.028 | 1.983 | 2.022 | 2.006 | .2488 |
| #3 | 2.016 | 2.000 | 1.973 | 1.994 | 2.023 | 1.983 | 2.016 | 2.011 | .2484 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.010** | **1.999** | **1.940** | **2.027** | **1.991** | **1.966** | **1.943** | **39.93** | **39.99** |
| Stddev | .003 | .002 | .001 | .002 | .003 | .004 | .000 | .06 | .05 |
| %RSD | .1435 | .1020 | .0698 | .0920 | .1682 | .2048 | .0203 | .1459 | .1350 |
| #1 | 2.007 | 2.000 | 1.942 | 2.027 | 1.987 | 1.962 | 1.944 | 39.96 | 39.98 |
| #2 | 2.012 | 2.000 | 1.939 | 2.025 | 1.994 | 1.967 | 1.943 | 39.87 | 39.94 |
| #3 | 2.011 | 1.996 | 1.941 | 2.028 | 1.992 | 1.970 | 1.944 | 39.98 | 40.05 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.25** | **39.68** | **39.41** | **40.02** | **1.971** | **1.949** | **4.884** | **1.971** | **2.004** |
| Stddev | .06 | .15 | .09 | .05 | .000 | .002 | .004 | .001 | .004 |
| %RSD | .1624 | .3665 | .2325 | .1237 | .0156 | .0904 | .0863 | .0333 | .2249 |
| #1 | 39.28 | 39.83 | 39.49 | 40.01 | 1.970 | 1.948 | 4.882 | 1.972 | 2.004 |
| #2 | 39.18 | 39.54 | 39.31 | 39.97 | 1.970 | 1.950 | 4.881 | 1.971 | 2.000 |
| #3 | 39.30 | 39.67 | 39.42 | 40.07 | 1.971 | 1.951 | 4.889 | 1.971 | 2.009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 16:46:22 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.974** | **1.916** | **1.968** | **1.949** | **1.972** | **1.964** | **1.976** |
| Stddev | .002 | .001 | .001 | .004 | .004 | .004 | .004 |
| %RSD | .0827 | .0443 | .0407 | .2231 | .2101 | .1824 | .2071 |
| #1 | 1.972 | 1.916 | 1.967 | 1.950 | 1.971 | 1.962 | 1.981 |
| #2 | 1.975 | 1.915 | 1.969 | 1.944 | 1.968 | 1.963 | 1.974 |
| #3 | 1.975 | 1.917 | 1.968 | 1.953 | 1.976 | 1.968 | 1.974 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83294.** | **8777.4** | **5905.1** | **12246.** |
| Stddev | 209. | 31.0 | 13.4 | 12. |
| %RSD | .25138 | .35296 | .22757 | .09966 |
| #1 | 83523. | 8759.1 | 5895.2 | 12234. |
| #2 | 83113. | 8759.9 | 5899.8 | 12245. |
| #3 | 83246. | 8813.1 | 5920.4 | 12258. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 16:51:23 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **-.0000** | **-.0002** | **.0002** | **.0001** | **.0000** | **.0001** | **-.0001** |
| Stddev | .0003 | .0000 | .0000 | .0001 | .0003 | .0002 | .0000 | .0001 | .0002 |
| %RSD | 475.5 | 86.95 | 139.5 | 38.00 | 153.0 | 258.9 | 54.92 | 94.63 | 321.2 |
| #1 | -.0003 | -.0000 | .0000 | -.0002 | .0005 | .0001 | .0001 | .0001 | -.0003 |
| #2 | .0002 | -.0001 | -.0000 | -.0001 | .0001 | .0002 | .0001 | .0000 | .0001 |
| #3 | -.0001 | -.0001 | -.0001 | -.0003 | -.0000 | -.0001 | .0000 | .0000 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0001** | **.0001** | **-.0003** | **.0003** | **.0006** | **.0004** | **-.0030** | **.0022** |
| Stddev | .0001 | .0001 | .0002 | .0012 | .0011 | .0011 | .0014 | .0206 | .0012 |
| %RSD | 54.25 | 199.0 | 167.1 | 343.8 | 417.8 | 188.5 | 391.1 | 677.7 | 53.46 |
| #1 | -.0002 | -.0001 | -.0001 | .0009 | .0014 | .0016 | .0003 | .0168 | .0027 |
| #2 | -.0001 | -.0002 | .0002 | -.0005 | .0001 | .0006 | -.0010 | -.0243 | .0008 |
| #3 | -.0001 | .0001 | .0003 | -.0014 | -.0008 | -.0005 | .0018 | -.0016 | .0030 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **-.0199** | **.0639** | **.0161** | **.0015** | **.0002** | **.0006** | **.0004** | **.0001** |
| Stddev | .0026 | .0129 | .0128 | .0067 | .0001 | .0001 | .0005 | .0002 | .0000 |
| %RSD | 195.9 | 64.98 | 20.03 | 41.62 | 9.913 | 64.16 | 94.87 | 45.63 | 34.11 |
| #1 | .0014 | -.0305 | .0539 | .0123 | .0016 | .0001 | .0000 | .0004 | .0001 |
| #2 | -.0036 | -.0237 | .0595 | .0123 | .0014 | .0001 | .0005 | .0002 | .0001 |
| #3 | -.0018 | -.0055 | .0784 | .0239 | .0014 | .0003 | .0011 | .0006 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 16:51:23 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0009** | **.0001** | **-.0031** | **.0010** | F **.0057** | **.0013** |
| Stddev | .0002 | .0004 | .0000 | .0014 | .0005 | .0003 | .0002 |
| %RSD | 46.29 | 48.73 | 58.77 | 45.78 | 49.91 | 5.230 | 14.17 |
| #1 | -.0003 | .0012 | .0001 | -.0042 | .0015 | .0055 | .0014 |
| #2 | -.0006 | .0004 | .0000 | -.0015 | .0007 | .0060 | .0011 |
| #3 | -.0003 | .0011 | .0001 | -.0036 | .0007 | .0056 | .0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86327.** | **8754.8** | **6061.6** | **12779.** |
| Stddev | 379. | 22.0 | 6.0 | 20. |
| %RSD | .43951 | .25178 | .09959 | .15665 |
| #1 | 86038. | 8779.0 | 6062.2 | 12791. |
| #2 | 86187. | 8749.4 | 6055.3 | 12756. |
| #3 | 86757. | 8736.0 | 6067.3 | 12790. |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/9/2019 16:56:33 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **-.0004** | **-.0000** | **.0004** | **.0003** | **-.0054** | **-.0020** | **.0025** | **.0016** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0004 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 15.37 | 16.93 | 564.7 | 51.19 | 140.5 | 2.415 | 3.864 | 8.921 | 5.947 |
| #1 | .0011 | -.0003 | -.0001 | .0006 | .0002 | -.0056 | -.0021 | .0026 | .0015 |
| #2 | .0015 | -.0004 | .0001 | .0002 | -.0000 | -.0053 | -.0020 | .0026 | .0017 |
| #3 | .0013 | -.0004 | -.0001 | .0005 | .0008 | -.0053 | -.0020 | .0022 | .0017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **-.0005** | **-.0029** | **-.0019** | **.0012** | **.0022** | **-.0011** | **506.8** | **386.5** |
| Stddev | .0004 | .0001 | .0019 | .0015 | .0028 | .0016 | .0016 | .8 | 4.3 |
| %RSD | 38.75 | 30.63 | 67.28 | 79.97 | 228.4 | 73.89 | 136.6 | .1637 | 1.120 |
| #1 | .0007 | -.0005 | -.0045 | -.0013 | .0042 | .0010 | .0003 | 507.3 | 390.7 |
| #2 | .0015 | -.0006 | -.0007 | -.0008 | .0010 | .0041 | -.0028 | 507.3 | 386.7 |
| #3 | .0009 | -.0003 | -.0034 | -.0036 | -.0015 | .0016 | -.0009 | 505.9 | 382.0 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **188.7** | **493.3** | **.0126** | **.0394** | **.0016** | **.0036** | **-.0077** | **-.0040** | **-.0005** |
| Stddev | .3 | 1.2 | .0344 | .0072 | .0006 | .0006 | .0008 | .0004 | .0001 |
| %RSD | .1384 | .2422 | 273.6 | 18.36 | 38.59 | 15.16 | 10.67 | 9.625 | 24.14 |
| #1 | 188.7 | 493.7 | -.0116 | .0393 | .0010 | .0036 | -.0073 | -.0044 | -.0006 |
| #2 | 188.9 | 494.3 | .0520 | .0323 | .0022 | .0042 | -.0086 | -.0036 | -.0005 |
| #3 | 188.4 | 492.0 | -.0027 | .0467 | .0016 | .0031 | -.0071 | -.0040 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/9/2019 16:56:33 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0046** | **.0117** | **.0016** | **.0121** | **-.0049** | **-.0042** | **.0232** |
| Stddev | .0005 | .0020 | .0001 | .0024 | .0020 | .0020 | .0012 |
| %RSD | 9.899 | 17.24 | 4.446 | 19.96 | 40.56 | 48.22 | 5.105 |
| #1 | .0041 | .0122 | .0015 | .0095 | -.0064 | -.0050 | .0226 |
| #2 | .0049 | .0133 | .0016 | .0142 | -.0057 | -.0019 | .0246 |
| #3 | .0049 | .0094 | .0015 | .0127 | -.0027 | -.0056 | .0225 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **77947.** | **8430.5** | **5474.2** | **11338.** |
| Stddev | 437. | 46.4 | 15.1 | 24. |
| %RSD | .56084 | .55071 | .27571 | .20800 |
| #1 | 77457. | 8440.7 | 5471.6 | 11345. |
| #2 | 78087. | 8379.9 | 5460.6 | 11312. |
| #3 | 78297. | 8471.0 | 5490.4 | 11358. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/9/2019 17:01:37 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4892** | **.4778** | **.9863** | **.4649** | **.4750** | **.5121** | **.4913** | **.9447** | **1.041** |
| Stddev | .0021 | .0020 | .0013 | .0003 | .0008 | .0013 | .0009 | .0008 | .002 |
| %RSD | .4308 | .4126 | .1351 | .0553 | .1740 | .2514 | .1841 | .0864 | .1735 |
| #1 | .4869 | .4759 | .9849 | .4646 | .4748 | .5119 | .4913 | .9438 | 1.040 |
| #2 | .4911 | .4798 | .9875 | .4649 | .4759 | .5134 | .4921 | .9455 | 1.043 |
| #3 | .4894 | .4779 | .9867 | .4651 | .4742 | .5109 | .4903 | .9448 | 1.040 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4854** | **.9299** | **1.029** | **.9570** | **.9301** | **1.002** | **1.010** | **505.8** | **377.7** |
| Stddev | .0012 | .0018 | .002 | .0025 | .0042 | .001 | .001 | 2.1 | 7.0 |
| %RSD | .2515 | .1912 | .1860 | .2564 | .4495 | .1216 | .0610 | .4093 | 1.855 |
| #1 | .4858 | .9278 | 1.028 | .9544 | .9257 | 1.001 | 1.011 | 504.0 | 373.6 |
| #2 | .4864 | .9311 | 1.032 | .9575 | .9307 | 1.002 | 1.010 | 508.1 | 385.8 |
| #3 | .4840 | .9307 | 1.028 | .9592 | .9340 | 1.003 | 1.010 | 505.5 | 373.8 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **184.1** | **486.7** | **.0096** | **.0497** | **.4813** | **.4698** | **.4941** | **.4669** | **.4971** |
| Stddev | .9 | 2.8 | .0270 | .0105 | .0015 | .0006 | .0021 | .0017 | .0016 |
| %RSD | .4821 | .5818 | 281.6 | 21.09 | .3185 | .1261 | .4249 | .3702 | .3211 |
| #1 | 183.2 | 484.2 | .0193 | .0568 | .4795 | .4692 | .4921 | .4650 | .4959 |
| #2 | 185.0 | 489.7 | .0304 | .0377 | .4820 | .4703 | .4963 | .4672 | .4989 |
| #3 | 184.0 | 486.2 | -.0209 | .0546 | .4824 | .4700 | .4938 | .4684 | .4964 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/9/2019 17:01:37 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4908** | **.4693** | **.4857** | **.5078** | **.5066** | **.5051** | **.5428** |
| Stddev | .0014 | .0023 | .0016 | .0013 | .0030 | .0004 | .0017 |
| %RSD | .2919 | .4896 | .3199 | .2606 | .5900 | .0696 | .3163 |
| #1 | .4896 | .4688 | .4852 | .5068 | .5033 | .5055 | .5412 |
| #2 | .4924 | .4718 | .4875 | .5093 | .5091 | .5050 | .5426 |
| #3 | .4904 | .4673 | .4845 | .5073 | .5073 | .5048 | .5446 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **78216.** | **8574.3** | **5518.9** | **11442.** |
| Stddev | 347. | 59.9 | 13.1 | 20. |
| %RSD | .44381 | .69838 | .23663 | .17315 |
| #1 | 77997. | 8595.4 | 5533.9 | 11465. |
| #2 | 78034. | 8506.8 | 5512.7 | 11429. |
| #3 | 78616. | 8620.8 | 5510.1 | 11433. |



Zoom In Zoom Out

Sample Name: jc87704-4 Acquired: 5/9/2019 17:06:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1891** | **.0018** | **.0006** | **.0357** | **.0949** | **.1059** | **2.603** | **.0918** | **.0029** |
| Stddev | .0014 | .0005 | .0003 | .0009 | .0010 | .0007 | .004 | .0007 | .0026 |
| %RSD | .7228 | 27.50 | 57.06 | 2.568 | 1.094 | .6816 | .1468 | .7433 | 90.72 |
| #1 | .1903 | .0020 | .0008 | .0362 | .0957 | .1052 | 2.601 | .0915 | .0057 |
| #2 | .1876 | .0022 | .0002 | .0346 | .0937 | .1067 | 2.600 | .0914 | .0024 |
| #3 | .1894 | .0012 | .0009 | .0362 | .0953 | .1059 | 2.607 | .0926 | .0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1489** | **.2586** | **.0363** | **.0077** | **.0673** | **.0041** | **.0062** | **44.88** | F **1437.** |
| Stddev | .0009 | .0005 | .0024 | .0084 | .0041 | .0058 | .0043 | .09 | 3. |
| %RSD | .6164 | .1867 | 6.638 | 109.0 | 6.086 | 140.7 | 70.24 | .2056 | .2269 |
| #1 | .1493 | .2581 | .0374 | -.0017 | .0628 | .0085 | .0106 | 44.78 | 1435. |
| #2 | .1495 | .2590 | .0379 | .0104 | .0709 | .0064 | .0019 | 44.89 | 1434. |
| #3 | .1478 | .2588 | .0335 | .0145 | .0680 | -.0025 | .0059 | 44.97 | 1440. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **88.26** | **418.2** | **10.00** | **2.782** | **.0744** | **.0124** | **2.052** | **.0160** | **.6897** |
| Stddev | .09 | 1.5 | .23 | .050 | .0020 | .0005 | .010 | .0012 | .0007 |
| %RSD | .1015 | .3686 | 2.253 | 1.794 | 2.692 | 4.414 | .4674 | 7.656 | .1033 |
| #1 | 88.26 | 417.6 | 9.998 | 2.725 | .0767 | .0125 | 2.041 | .0174 | .6893 |
| #2 | 88.17 | 417.1 | 9.782 | 2.804 | .0731 | .0129 | 2.057 | .0152 | .6893 |
| #3 | 88.35 | 420.0 | 10.23 | 2.818 | .0735 | .0118 | 2.059 | .0154 | .6905 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.513** | **.0093** | **.0617** | **1.825** | **-.0156** | **.0398** | **1.714** |
| Stddev | .004 | .0040 | .0005 | .006 | .0039 | .0109 | .006 |
| %RSD | .2348 | 43.23 | .7358 | .3529 | 24.98 | 27.38 | .3791 |
| #1 | 1.517 | .0047 | .0612 | 1.820 | -.0173 | .0486 | 1.709 |
| #2 | 1.510 | .0113 | .0618 | 1.832 | -.0184 | .0276 | 1.721 |
| #3 | 1.512 | .0119 | .0620 | 1.822 | -.0112 | .0431 | 1.712 |



Zoom In Zoom Out

Sample Name: jc87704-4 Acquired: 5/9/2019 17:06:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83156.** | **8790.1** | **5837.9** | **11931.** |
| Stddev | 254. | 53.5 | 6.7 | 24. |
| %RSD | .30555 | .60842 | .11452 | .20427 |
| #1 | 83444. | 8794.1 | 5836.7 | 11920. |
| #2 | 83059. | 8841.4 | 5845.2 | 11959. |
| #3 | 82965. | 8734.7 | 5832.0 | 11915. |



Zoom In Zoom Out

Sample Name: mp14898-s1 Acquired: 5/9/2019 17:11:38 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.215** | **1.893** | **1.882** | **1.977** | **2.072** | **2.036** | **5.241** | **2.119** |
| Stddev | .016 | .014 | .001 | .003 | .001 | .001 | .058 | .001 |
| %RSD | .7118 | .7124 | .0267 | .1415 | .0585 | .0710 | 1.103 | .0446 |
| #1 | 2.218 | 1.898 | 1.882 | 1.974 | 2.073 | 2.035 | 5.258 | 2.120 |
| #2 | 2.198 | 1.878 | 1.883 | 1.978 | 2.071 | 2.037 | 5.289 | 2.118 |
| #3 | 2.229 | 1.903 | 1.882 | 1.979 | 2.071 | 2.038 | 5.177 | 2.118 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2366** | **2.086** | **2.266** | **1.875** | **1.932** | **1.965** | **1.833** | **1.345** |
| Stddev | .0003 | .001 | .003 | .003 | .000 | .001 | .000 | .003 |
| %RSD | .1145 | .0388 | .1308 | .1445 | .0202 | .0285 | .0202 | .2033 |
| #1 | .2367 | 2.086 | 2.268 | 1.878 | 1.932 | 1.966 | 1.833 | 1.345 |
| #2 | .2368 | 2.085 | 2.266 | 1.875 | 1.932 | 1.965 | 1.833 | 1.348 |
| #3 | .2363 | 2.085 | 2.262 | 1.872 | 1.932 | 1.965 | 1.834 | 1.343 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **116.7** | **39.08** | **180.7** | **66.50** | **33.64** | **26.56** | **1.787** | **1.838** |
| Stddev | .9 | .27 | 1.4 | .42 | .22 | .18 | .001 | .001 |
| %RSD | .7345 | .7027 | .7995 | .6278 | .6544 | .6615 | .0760 | .0661 |
| #1 | 116.9 | 39.18 | 181.2 | 66.72 | 33.64 | 26.61 | 1.787 | 1.839 |
| #2 | 115.8 | 38.77 | 179.1 | 66.02 | 33.42 | 26.36 | 1.789 | 1.839 |
| #3 | 117.5 | 39.28 | 181.9 | 66.77 | 33.86 | 26.70 | 1.786 | 1.837 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.148** | **1.836** | **1.982** | **5.630** | **1.047** | **1.885** | **.4229** | F **-.0451** |
| Stddev | .045 | .002 | .015 | .005 | .004 | .001 | .0013 | .0014 |
| %RSD | 1.441 | .0921 | .7596 | .0961 | .3300 | .0623 | .3101 | 3.193 |
| #1 | 3.171 | 1.838 | 1.984 | 5.635 | 1.047 | 1.884 | .4238 | -.0464 |
| #2 | 3.177 | 1.836 | 1.966 | 5.630 | 1.051 | 1.885 | .4214 | -.0435 |
| #3 | 3.095 | 1.834 | 1.996 | 5.624 | 1.044 | 1.886 | .4235 | -.0453 |

Zoom In Zoom Out

Sample Name: mp14898-s1 Acquired: 5/9/2019 17:11:38 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1279** | **5.587** |
| Stddev | .0009 | .008 |
| %RSD | .7357 | .1356 |
| #1 | .1289 | 5.586 |
| #2 | .1270 | 5.595 |
| #3 | .1279 | 5.580 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86618.** | **9129.0** | **6071.6** | **12398.** |
| Stddev | 268. | 87.4 | 5.0 | 12. |
| %RSD | .30957 | .95779 | .08241 | .09361 |
| #1 | 86452. | 9072.4 | 6066.1 | 12402. |
| #2 | 86475. | 9229.7 | 6075.7 | 12407. |
| #3 | 86927. | 9084.9 | 6073.2 | 12385. |



Zoom In Zoom Out

Sample Name: mp14898-s2 Acquired: 5/9/2019 17:16:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.259** | **1.884** | **1.879** | **1.974** | **2.070** | **2.059** | **5.792** | **2.118** |
| Stddev | .001 | .001 | .003 | .001 | .004 | .004 | .059 | .002 |
| %RSD | .0457 | .0739 | .1405 | .0608 | .1831 | .2166 | 1.025 | .0872 |
| #1 | 2.260 | 1.884 | 1.877 | 1.973 | 2.072 | 2.060 | 5.785 | 2.116 |
| #2 | 2.258 | 1.886 | 1.880 | 1.974 | 2.065 | 2.054 | 5.854 | 2.118 |
| #3 | 2.260 | 1.883 | 1.882 | 1.975 | 2.072 | 2.063 | 5.736 | 2.120 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2357** | **2.088** | **2.314** | **1.878** | **1.924** | **1.966** | **1.834** | **1.275** |
| Stddev | .0006 | .004 | .004 | .001 | .004 | .001 | .001 | .002 |
| %RSD | .2595 | .1776 | .1603 | .0618 | .1927 | .0376 | .0323 | .1678 |
| #1 | .2361 | 2.090 | 2.311 | 1.878 | 1.921 | 1.965 | 1.834 | 1.273 |
| #2 | .2350 | 2.083 | 2.312 | 1.879 | 1.923 | 1.966 | 1.834 | 1.277 |
| #3 | .2360 | 2.089 | 2.318 | 1.876 | 1.928 | 1.966 | 1.835 | 1.276 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **126.2** | **39.09** | **196.9** | **65.95** | **33.22** | **26.51** | **1.790** | **1.834** |
| Stddev | .1 | .04 | .0 | .10 | .01 | .02 | .003 | .002 |
| %RSD | .0579 | .1043 | .0195 | .1453 | .0438 | .0602 | .1717 | .1072 |
| #1 | 126.2 | 39.06 | 196.9 | 65.84 | 33.23 | 26.51 | 1.787 | 1.832 |
| #2 | 126.2 | 39.14 | 196.9 | 65.98 | 33.23 | 26.52 | 1.791 | 1.833 |
| #3 | 126.3 | 39.08 | 196.8 | 66.02 | 33.21 | 26.49 | 1.792 | 1.836 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.039** | **1.818** | **1.985** | **6.041** | **1.071** | **1.869** | **.5475** | F **-.0464** |
| Stddev | .031 | .001 | .001 | .012 | .002 | .003 | .0029 | .0005 |
| %RSD | 1.008 | .0615 | .0329 | .2057 | .1645 | .1827 | .5269 | 1.121 |
| #1 | 3.072 | 1.817 | 1.986 | 6.039 | 1.069 | 1.870 | .5442 | -.0465 |
| #2 | 3.032 | 1.819 | 1.984 | 6.029 | 1.072 | 1.866 | .5492 | -.0469 |
| #3 | 3.012 | 1.817 | 1.985 | 6.054 | 1.072 | 1.872 | .5493 | -.0458 |



Zoom In Zoom Out

Sample Name: mp14898-s2 Acquired: 5/9/2019 17:16:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1276** | **5.507** |
| Stddev | .0009 | .011 |
| %RSD | .7314 | .2014 |
| #1 | .1265 | 5.495 |
| #2 | .1282 | 5.512 |
| #3 | .1281 | 5.515 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86832.** | **9175.0** | **6088.7** | **12421.** |
| Stddev | 218. | 21.4 | 12.9 | 24. |
| %RSD | .25122 | .23299 | .21189 | .19069 |
| #1 | 87055. | 9193.3 | 6103.3 | 12449. |
| #2 | 86823. | 9151.5 | 6083.8 | 12409. |
| #3 | 86619. | 9180.2 | 6078.9 | 12406. |



Zoom In Zoom Out

Sample Name: jc87563-7 Acquired: 5/9/2019 17:21:34 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2907** | **.0023** | **.0008** | **.0654** | **.1553** | **.1371** | **3.766** | **.1700** | **.0021** |
| Stddev | .0008 | .0001 | .0001 | .0003 | .0004 | .0003 | .022 | .0011 | .0006 |
| %RSD | .2718 | 4.911 | 9.822 | .4976 | .2863 | .2128 | .5924 | .6227 | 28.94 |
| #1 | .2909 | .0023 | .0007 | .0652 | .1556 | .1374 | 3.780 | .1698 | .0024 |
| #2 | .2899 | .0022 | .0009 | .0652 | .1554 | .1369 | 3.741 | .1691 | .0014 |
| #3 | .2914 | .0024 | .0007 | .0658 | .1548 | .1371 | 3.778 | .1712 | .0026 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1888** | **.3840** | **.0327** | **.0028** | **.0613** | **.0016** | **.0151** | **79.11** | **11.89** |
| Stddev | .0003 | .0022 | .0002 | .0005 | .0001 | .0010 | .0010 | .30 | .03 |
| %RSD | .1556 | .5821 | .4832 | 16.10 | .2102 | 63.74 | 6.432 | .3844 | .2483 |
| #1 | .1888 | .3835 | .0328 | .0023 | .0612 | .0026 | .0155 | 79.30 | 11.92 |
| #2 | .1891 | .3820 | .0328 | .0030 | .0614 | .0006 | .0140 | 78.76 | 11.86 |
| #3 | .1885 | .3864 | .0325 | .0031 | .0614 | .0016 | .0158 | 79.27 | 11.89 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **152.6** | **36.50** | **7.080** | **1.735** | **.0116** | **.0030** | **1.563** | **.0142** | **.0556** |
| Stddev | .6 | .13 | .050 | .018 | .0006 | .0002 | .007 | .0003 | .0003 |
| %RSD | .3682 | .3632 | .7031 | 1.068 | 4.808 | 7.520 | .4552 | 2.218 | .4784 |
| #1 | 153.0 | 36.64 | 7.122 | 1.756 | .0113 | .0031 | 1.565 | .0138 | .0557 |
| #2 | 152.0 | 36.38 | 7.025 | 1.724 | .0113 | .0031 | 1.569 | .0143 | .0553 |
| #3 | 153.0 | 36.47 | 7.092 | 1.724 | .0123 | .0027 | 1.556 | .0144 | .0557 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.697** | **.0050** | **.0282** | **1.938** | **-.0142** | **.1243** | **3.555** |
| Stddev | .008 | .0011 | .0002 | .007 | .0016 | .0013 | .017 |
| %RSD | .2146 | 21.38 | .6889 | .3721 | 11.22 | 1.085 | .4848 |
| #1 | 3.701 | .0041 | .0284 | 1.938 | -.0139 | .1246 | 3.550 |
| #2 | 3.703 | .0047 | .0283 | 1.931 | -.0128 | .1256 | 3.541 |
| #3 | 3.688 | .0062 | .0280 | 1.945 | -.0160 | .1229 | 3.574 |

Zoom In Zoom Out

Sample Name: jc87563-7 Acquired: 5/9/2019 17:21:34 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87817.** | **9192.1** | **6247.0** | **12707.** |
| Stddev | 241. | 17.1 | 29.5 | 42. |
| %RSD | .27416 | .18569 | .47149 | .32988 |
| #1 | 87620. | 9177.0 | 6253.0 | 12712. |
| #2 | 87745. | 9188.6 | 6273.0 | 12746. |
| #3 | 88085. | 9210.6 | 6215.0 | 12663. |



Zoom In Zoom Out

Sample Name: mp14898-sd1 Acquired: 5/9/2019 17:26:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2961** | **.0022** | **.0001** | **.0664** | **.1675** | **.1416** | **4.104** | **.1776** | **.0005** |
| Stddev | .0031 | .0005 | .0002 | .0013 | .0075 | .0077 | .216 | .0014 | .0044 |
| %RSD | 1.044 | 21.19 | 188.9 | 1.974 | 4.468 | 5.434 | 5.252 | .8128 | 923.3 |
| #1 | .2947 | .0022 | .0004 | .0651 | .1616 | .1358 | 3.945 | .1778 | .0013 |
| #2 | .2940 | .0017 | -.0001 | .0664 | .1759 | .1503 | 4.349 | .1761 | -.0042 |
| #3 | .2997 | .0026 | .0001 | .0678 | .1650 | .1386 | 4.017 | .1789 | .0044 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1997** | **.4227** | **.0348** | **.0074** | **.0634** | **.0074** | **.0152** | **80.51** | **12.43** |
| Stddev | .0093 | .0019 | .0003 | .0043 | .0043 | .0072 | .0006 | .18 | .05 |
| %RSD | 4.680 | .4407 | .8614 | 58.40 | 6.769 | 96.72 | 4.169 | .2175 | .4235 |
| #1 | .1924 | .4208 | .0350 | .0103 | .0652 | .0138 | .0155 | 80.34 | 12.45 |
| #2 | .2103 | .4246 | .0345 | .0096 | .0666 | .0089 | .0145 | 80.50 | 12.37 |
| #3 | .1964 | .4228 | .0350 | .0024 | .0585 | -.0004 | .0157 | 80.69 | 12.48 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **159.0** | **37.29** | **7.842** | **1.508** | **.0173** | **.0040** | **1.618** | **.0147** | **.0574** |
| Stddev | .4 | .07 | .067 | .050 | .0026 | .0006 | .017 | .0009 | .0004 |
| %RSD | .2256 | .1813 | .8475 | 3.329 | 15.25 | 15.74 | 1.024 | 6.452 | .6322 |
| #1 | 158.9 | 37.33 | 7.782 | 1.563 | .0192 | .0038 | 1.606 | .0151 | .0576 |
| #2 | 158.7 | 37.32 | 7.832 | 1.465 | .0184 | .0034 | 1.611 | .0153 | .0570 |
| #3 | 159.4 | 37.21 | 7.914 | 1.496 | .0143 | .0046 | 1.637 | .0136 | .0577 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.866** | **.0136** | **.0299** | **1.972** | **-.0131** | **.0853** | **3.685** |
| Stddev | .200 | .0056 | .0008 | .012 | .0091 | .0054 | .016 |
| %RSD | 5.169 | 40.82 | 2.528 | .5921 | 69.55 | 6.280 | .4236 |
| #1 | 3.719 | .0197 | .0294 | 1.959 | -.0234 | .0881 | 3.674 |
| #2 | 4.094 | .0123 | .0307 | 1.975 | -.0061 | .0791 | 3.703 |
| #3 | 3.785 | .0088 | .0295 | 1.981 | -.0097 | .0886 | 3.679 |



Zoom In Zoom Out

Sample Name: mp14898-sd1 Acquired: 5/9/2019 17:26:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84107.** | **8849.3** | **6147.8** | **12730.** |
| Stddev | 3641. | 37.8 | 33.3 | 58. |
| %RSD | 4.3287 | .42756 | .54202 | .45253 |
| #1 | 86311. | 8817.9 | 6144.3 | 12727. |
| #2 | 79905. | 8891.3 | 6116.4 | 12673. |
| #3 | 86107. | 8838.7 | 6182.8 | 12789. |



Zoom In Zoom Out

Sample Name: jc87563-12 Acquired: 5/9/2019 17:31:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1833** | **.0018** | **-.0001** | **.0484** | **.1276** | **.0837** | **1.801** | **.1253** | **.0019** |
| Stddev | .0019 | .0000 | .0001 | .0003 | .0012 | .0008 | .013 | .0011 | .0007 |
| %RSD | 1.055 | 2.049 | 140.1 | .6572 | .9200 | .9089 | .7005 | .9000 | 34.00 |
| #1 | .1855 | .0017 | .0000 | .0487 | .1267 | .0828 | 1.787 | .1257 | .0027 |
| #2 | .1819 | .0018 | -.0002 | .0484 | .1273 | .0843 | 1.809 | .1261 | .0016 |
| #3 | .1826 | .0018 | -.0001 | .0481 | .1289 | .0839 | 1.808 | .1240 | .0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1534** | **.2629** | **.0249** | **.0031** | **.0350** | **.0010** | **.0164** | **63.01** | **12.50** |
| Stddev | .0010 | .0020 | .0010 | .0014 | .0009 | .0003 | .0008 | .73 | .14 |
| %RSD | .6766 | .7523 | 4.173 | 46.10 | 2.566 | 29.74 | 5.130 | 1.161 | 1.138 |
| #1 | .1522 | .2643 | .0259 | .0015 | .0359 | .0008 | .0159 | 63.86 | 12.66 |
| #2 | .1538 | .2636 | .0238 | .0040 | .0351 | .0013 | .0158 | 62.63 | 12.44 |
| #3 | .1542 | .2606 | .0250 | .0039 | .0341 | .0008 | .0173 | 62.55 | 12.40 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **110.9** | **29.94** | **6.936** | **3.668** | **.0076** | **.0068** | **1.713** | **.0125** | **.0553** |
| Stddev | 1.3 | .45 | .045 | .044 | .0005 | .0003 | .030 | .0002 | .0008 |
| %RSD | 1.182 | 1.494 | .6512 | 1.192 | 7.123 | 3.919 | 1.727 | 1.848 | 1.499 |
| #1 | 112.5 | 30.46 | 6.988 | 3.718 | .0075 | .0065 | 1.716 | .0123 | .0563 |
| #2 | 110.3 | 29.74 | 6.919 | 3.650 | .0082 | .0070 | 1.741 | .0124 | .0548 |
| #3 | 110.1 | 29.64 | 6.902 | 3.637 | .0071 | .0068 | 1.682 | .0128 | .0548 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.880** | **.0038** | **.0293** | **.5757** | **-.0131** | **.0954** | **3.783** |
| Stddev | .033 | .0005 | .0001 | .0036 | .0017 | .0026 | .023 |
| %RSD | .8566 | 13.92 | .4420 | .6247 | 12.82 | 2.752 | .6075 |
| #1 | 3.842 | .0035 | .0292 | .5770 | -.0147 | .0983 | 3.796 |
| #2 | 3.891 | .0036 | .0294 | .5784 | -.0132 | .0933 | 3.797 |
| #3 | 3.906 | .0044 | .0294 | .5716 | -.0113 | .0947 | 3.757 |

Zoom In Zoom Out

Sample Name: jc87563-12 Acquired: 5/9/2019 17:31:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86567.** | **9033.2** | **6117.5** | **12449.** |
| Stddev | 725. | 116.7 | 34.0 | 56. |
| %RSD | .83766 | 1.2919 | .55567 | .44716 |
| #1 | 87393. | 8898.9 | 6093.1 | 12404. |
| #2 | 86270. | 9110.1 | 6103.0 | 12432. |
| #3 | 86037. | 9090.6 | 6156.3 | 12512. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 17:36:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.023** | **2.009** | **1.979** | **2.006** | **2.008** | **1.980** | **2.016** | **2.022** | **.2458** |
| Stddev | .006 | .007 | .007 | .009 | .049 | .049 | .042 | .008 | .0063 |
| %RSD | .3149 | .3691 | .3526 | .4289 | 2.433 | 2.473 | 2.064 | .3816 | 2.557 |
| #1 | 2.030 | 2.016 | 1.973 | 2.002 | 1.952 | 1.924 | 1.970 | 2.017 | .2385 |
| #2 | 2.019 | 2.001 | 1.978 | 2.001 | 2.041 | 2.015 | 2.051 | 2.018 | .2499 |
| #3 | 2.019 | 2.008 | 1.987 | 2.016 | 2.031 | 2.001 | 2.028 | 2.031 | .2489 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.000** | **2.013** | **1.951** | **2.049** | **2.007** | **1.982** | **1.960** | **40.17** | **40.37** |
| Stddev | .048 | .008 | .007 | .006 | .007 | .005 | .005 | .12 | .15 |
| %RSD | 2.382 | .3829 | .3863 | .2965 | .3717 | .2355 | .2767 | .3064 | .3647 |
| #1 | 1.945 | 2.008 | 1.946 | 2.047 | 2.003 | 1.978 | 1.959 | 40.31 | 40.53 |
| #2 | 2.031 | 2.009 | 1.946 | 2.044 | 2.003 | 1.979 | 1.956 | 40.10 | 40.27 |
| #3 | 2.024 | 2.022 | 1.959 | 2.056 | 2.016 | 1.987 | 1.966 | 40.09 | 40.29 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.85** | **39.96** | **40.55** | **40.32** | **1.987** | **1.960** | **4.885** | **1.971** | **2.032** |
| Stddev | .10 | .17 | .15 | .13 | .007 | .007 | .016 | .008 | .006 |
| %RSD | .2604 | .4334 | .3763 | .3153 | .3744 | .3636 | .3296 | .3843 | .2897 |
| #1 | 39.97 | 40.16 | 40.73 | 40.46 | 1.981 | 1.956 | 4.873 | 1.967 | 2.039 |
| #2 | 39.77 | 39.88 | 40.45 | 40.25 | 1.985 | 1.957 | 4.878 | 1.966 | 2.028 |
| #3 | 39.82 | 39.84 | 40.47 | 40.24 | 1.995 | 1.969 | 4.903 | 1.980 | 2.030 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 17:36:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.969** | **1.928** | **1.958** | **1.964** | **1.990** | **1.965** | **1.979** |
| Stddev | .049 | .010 | .049 | .010 | .005 | .004 | .006 |
| %RSD | 2.465 | .5141 | 2.494 | .4971 | .2532 | .2281 | .3202 |
| #1 | 1.914 | 1.922 | 1.902 | 1.959 | 1.987 | 1.970 | 1.976 |
| #2 | 2.003 | 1.922 | 1.992 | 1.958 | 1.988 | 1.961 | 1.975 |
| #3 | 1.992 | 1.939 | 1.980 | 1.976 | 1.996 | 1.965 | 1.987 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84124.** | **8639.8** | **5891.2** | **12175.** |
| Stddev | 1743. | 51.7 | 19.1 | 39. |
| %RSD | 2.0724 | .59881 | .32379 | .31632 |
| #1 | 86119. | 8601.9 | 5910.5 | 12212. |
| #2 | 82889. | 8618.8 | 5890.7 | 12180. |
| #3 | 83366. | 8698.7 | 5872.3 | 12135. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 17:41:47 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0001** | **-.0002** | **-.0002** | **.0003** | **-.0005** | **.0001** | **-.0002** | **-.0005** |
| Stddev | .0000 | .0001 | .0002 | .0002 | .0003 | .0002 | .0000 | .0004 | .0001 |
| %RSD | 9.258 | 101.0 | 96.32 | 130.2 | 109.4 | 30.83 | 28.50 | 217.0 | 27.03 |
| #1 | -.0002 | -.0002 | -.0001 | -.0000 | .0005 | -.0006 | .0001 | -.0002 | -.0004 |
| #2 | -.0001 | .0000 | -.0001 | -.0001 | .0003 | -.0004 | .0001 | .0002 | -.0007 |
| #3 | -.0001 | -.0002 | -.0004 | -.0004 | -.0000 | -.0007 | .0001 | -.0005 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0008** | **.0017** | **.0002** | **.0010** | **.0011** | **-.0062** | **-.0017** |
| Stddev | .0003 | .0001 | .0007 | .0010 | .0008 | .0005 | .0005 | .0068 | .0039 |
| %RSD | 1469. | 477.9 | 80.80 | 59.66 | 455.8 | 51.62 | 44.48 | 110.1 | 235.5 |
| #1 | .0001 | -.0001 | .0008 | .0029 | .0011 | .0012 | .0008 | -.0138 | -.0024 |
| #2 | -.0003 | .0000 | .0015 | .0014 | -.0003 | .0014 | .0016 | -.0005 | -.0052 |
| #3 | .0001 | .0001 | .0002 | .0009 | -.0003 | .0004 | .0008 | -.0044 | .0026 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0020** | **-.0185** | **.1903** | **-.0408** | **.0023** | **-.0000** | **.0008** | **.0006** | **.0001** |
| Stddev | .0042 | .0079 | .0387 | .0127 | .0005 | .0002 | .0004 | .0003 | .0002 |
| %RSD | 204.7 | 42.84 | 20.34 | 31.06 | 19.86 | 623.0 | 53.04 | 47.37 | 310.4 |
| #1 | -.0066 | -.0146 | .1911 | -.0513 | .0019 | -.0001 | .0011 | .0003 | -.0001 |
| #2 | .0017 | -.0133 | .1512 | -.0445 | .0028 | -.0002 | .0003 | .0006 | .0002 |
| #3 | -.0013 | -.0276 | .2286 | -.0267 | .0023 | .0002 | .0010 | .0009 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 17:41:47 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0020** | **-.0000** | **-.0014** | **.0006** | **-.0044** | **.0016** |
| Stddev | .0002 | .0010 | .0002 | .0004 | .0016 | .0004 | .0001 |
| %RSD | 282.3 | 51.16 | 955.7 | 24.71 | 256.6 | 9.044 | 7.582 |
| #1 | -.0002 | .0018 | .0001 | -.0018 | -.0012 | -.0046 | .0017 |
| #2 | .0000 | .0031 | -.0002 | -.0014 | .0016 | -.0039 | .0017 |
| #3 | .0001 | .0011 | .0001 | -.0011 | .0015 | -.0046 | .0015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85607.** | **8653.4** | **6060.7** | **12739.** |
| Stddev | 414. | 27.9 | 2.0 | 8. |
| %RSD | .48408 | .32271 | .03227 | .06382 |
| #1 | 85174. | 8629.8 | 6062.0 | 12732. |
| #2 | 85646. | 8684.2 | 6058.5 | 12738. |
| #3 | 86000. | 8646.2 | 6061.7 | 12748. |



Zoom In Zoom Out

Sample Name: jc87535-1 Acquired: 5/9/2019 17:46:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14865

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4281** | **.0046** | **.0060** | **.0789** | **.1632** | **1.825** | **2.913** | **.1780** | **.0046** |
| Stddev | .0020 | .0001 | .0001 | .0006 | .0003 | .011 | .014 | .0004 | .0004 |
| %RSD | .4620 | 2.180 | 1.202 | .8090 | .1929 | .5805 | .4805 | .2491 | 8.474 |
| #1 | .4303 | .0047 | .0061 | .0788 | .1631 | 1.831 | 2.921 | .1786 | .0044 |
| #2 | .4265 | .0045 | .0060 | .0796 | .1635 | 1.832 | 2.921 | .1778 | .0043 |
| #3 | .4275 | .0047 | .0060 | .0784 | .1629 | 1.813 | 2.897 | .1778 | .0051 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2101** | **3.587** | **.0978** | **.0017** | **.3336** | **.0113** | **.0159** | **87.99** | **22.91** |
| Stddev | .0013 | .011 | .0007 | .0043 | .0023 | .0017 | .0024 | .62 | .13 |
| %RSD | .6332 | .3011 | .7110 | 254.4 | .6831 | 15.33 | 15.07 | .7011 | .5692 |
| #1 | .2104 | 3.598 | .0979 | .0057 | .3338 | .0123 | .0139 | 88.70 | 23.06 |
| #2 | .2112 | 3.588 | .0970 | .0022 | .3357 | .0093 | .0186 | 87.69 | 22.85 |
| #3 | .2086 | 3.576 | .0983 | -.0028 | .3312 | .0123 | .0154 | 87.57 | 22.82 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **448.1** | **6.428** | **7.175** | **.5202** | **.0739** | **.0090** | **3.084** | **.1454** | **.2233** |
| Stddev | 2.4 | .067 | .012 | .0266 | .0007 | .0005 | .017 | .0004 | .0015 |
| %RSD | .5408 | 1.047 | .1669 | 5.119 | .9972 | 5.016 | .5404 | .2796 | .6522 |
| #1 | 450.8 | 6.501 | 7.183 | .5172 | .0730 | .0095 | 3.103 | .1450 | .2250 |
| #2 | 447.2 | 6.415 | 7.181 | .4953 | .0743 | .0086 | 3.076 | .1458 | .2224 |
| #3 | 446.3 | 6.368 | 7.161 | .5483 | .0743 | .0090 | 3.073 | .1455 | .2225 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.724** | **-.0029** | **.0604** | **31.63** | **-.0013** | **.0801** | **4.914** |
| Stddev | .010 | .0005 | .0009 | .05 | .0025 | .0018 | .018 |
| %RSD | .5745 | 18.31 | 1.434 | .1461 | 191.7 | 2.296 | .3646 |
| #1 | 1.732 | -.0035 | .0608 | 31.68 | .0015 | .0812 | 4.931 |
| #2 | 1.728 | -.0025 | .0610 | 31.63 | -.0023 | .0780 | 4.915 |
| #3 | 1.713 | -.0027 | .0594 | 31.59 | -.0031 | .0812 | 4.896 |



Zoom In Zoom Out

Sample Name: jc87535-1 Acquired: 5/9/2019 17:46:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14865

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85925.** | **8949.9** | **6120.4** | **12925.** |
| Stddev | 398. | 15.2 | 23.0 | 42. |
| %RSD | .46298 | .16996 | .37503 | .32170 |
| #1 | 85627. | 8947.6 | 6102.9 | 12901. |
| #2 | 85771. | 8935.9 | 6111.9 | 12900. |
| #3 | 86377. | 8966.1 | 6146.4 | 12973. |



Zoom In Zoom Out

Sample Name: jc87535-3 Acquired: 5/9/2019 17:51:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8001** | **.0025** | **.0042** | **.0636** | **.8924** | **1.471** | **.7106** | **.4090** | **.0043** |
| Stddev | .0015 | .0002 | .0004 | .0002 | .0028 | .002 | .0024 | .0007 | .0007 |
| %RSD | .1884 | 6.425 | 10.40 | .3153 | .3158 | .1647 | .3431 | .1756 | 16.26 |
| #1 | .8001 | .0026 | .0046 | .0637 | .8899 | 1.469 | .7088 | .4094 | .0042 |
| #2 | .7987 | .0026 | .0043 | .0633 | .8954 | 1.474 | .7134 | .4082 | .0036 |
| #3 | .8017 | .0023 | .0037 | .0636 | .8919 | 1.471 | .7097 | .4095 | .0050 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1561** | **1.626** | **.0859** | **-.0013** | **1.713** | **.0168** | **.0278** | **28.85** | **47.13** |
| Stddev | .0010 | .006 | .0015 | .0047 | .004 | .0001 | .0008 | .09 | .08 |
| %RSD | .6532 | .3460 | 1.751 | 364.4 | .2532 | .5778 | 3.018 | .3242 | .1690 |
| #1 | .1553 | 1.628 | .0843 | .0028 | 1.717 | .0168 | .0276 | 28.75 | 47.12 |
| #2 | .1572 | 1.620 | .0872 | -.0064 | 1.708 | .0170 | .0287 | 28.86 | 47.05 |
| #3 | .1557 | 1.631 | .0863 | -.0003 | 1.715 | .0168 | .0271 | 28.94 | 47.21 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **226.0** | **5.060** | **2.621** | **.4220** | **.0218** | **.0923** | **8.196** | **.1074** | **.2294** |
| Stddev | .0 | .085 | .089 | .0146 | .0003 | .0008 | .054 | .0021 | .0000 |
| %RSD | .0170 | 1.680 | 3.407 | 3.465 | 1.320 | .8731 | .6607 | 1.989 | .0108 |
| #1 | 226.0 | 5.142 | 2.715 | .4384 | .0219 | .0914 | 8.190 | .1076 | .2293 |
| #2 | 226.0 | 5.064 | 2.610 | .4104 | .0215 | .0927 | 8.144 | .1052 | .2294 |
| #3 | 226.0 | 4.973 | 2.537 | .4172 | .0221 | .0929 | 8.252 | .1094 | .2293 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.326** | **.0050** | **.0496** | F **271.7** | **.0019** | **.0186** | **1.045** |
| Stddev | .009 | .0016 | .0003 | 1.0 | .0021 | .0005 | .004 |
| %RSD | .7101 | 31.86 | .6160 | .3832 | 108.6 | 2.520 | .3674 |
| #1 | 1.320 | .0047 | .0494 | 272.2 | .0039 | .0191 | 1.049 |
| #2 | 1.337 | .0035 | .0494 | 270.5 | .0021 | .0185 | 1.042 |
| #3 | 1.321 | .0067 | .0499 | 272.5 | -.0002 | .0182 | 1.043 |

Zoom In Zoom Out

Sample Name: jc87535-3 Acquired: 5/9/2019 17:51:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85571.** | **8883.6** | **6015.7** | **12698.** |
| Stddev | 499. | 20.4 | 14.9 | 15. |
| %RSD | .58337 | .22995 | .24757 | .11856 |
| #1 | 85904. | 8860.2 | 6019.3 | 12701. |
| #2 | 84997. | 8893.3 | 6028.5 | 12712. |
| #3 | 85811. | 8897.4 | 5999.4 | 12682. |



Zoom In Zoom Out

Sample Name: jc87535-4 Acquired: 5/9/2019 17:56:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7555** | **.0107** | **.0008** | **.0631** | **.2043** | **.7177** | **1.946** | **.1367** | **.0044** |
| Stddev | .0052 | .0001 | .0005 | .0003 | .0002 | .0012 | .006 | .0006 | .0008 |
| %RSD | .6865 | 1.234 | 61.05 | .5193 | .1033 | .1728 | .3175 | .4095 | 18.38 |
| #1 | .7598 | .0108 | .0011 | .0631 | .2041 | .7171 | 1.941 | .1366 | .0039 |
| #2 | .7570 | .0107 | .0012 | .0634 | .2045 | .7191 | 1.953 | .1362 | .0054 |
| #3 | .7498 | .0106 | .0002 | .0628 | .2043 | .7168 | 1.944 | .1373 | .0040 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5885** | **1.004** | **.1258** | **-.0003** | **1.103** | **.0303** | **.0159** | **69.87** | **17.75** |
| Stddev | .0014 | .002 | .0011 | .0008 | .002 | .0034 | .0010 | .33 | .13 |
| %RSD | .2295 | .1715 | .8918 | 265.1 | .1866 | 11.31 | 6.211 | .4665 | .7596 |
| #1 | .5870 | 1.003 | .1246 | .0006 | 1.102 | .0323 | .0153 | 70.10 | 17.86 |
| #2 | .5890 | 1.004 | .1263 | -.0010 | 1.106 | .0322 | .0170 | 70.02 | 17.80 |
| #3 | .5896 | 1.006 | .1266 | -.0005 | 1.102 | .0263 | .0154 | 69.50 | 17.60 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **371.0** | **13.27** | **7.651** | **.8741** | **.0672** | **.0171** | **2.276** | **.0463** | **.2721** |
| Stddev | 2.2 | .14 | .113 | .0365 | .0016 | .0005 | .014 | .0013 | .0018 |
| %RSD | .6021 | 1.069 | 1.476 | 4.179 | 2.391 | 2.885 | .6000 | 2.726 | .6719 |
| #1 | 372.6 | 13.32 | 7.767 | .8335 | .0658 | .0172 | 2.277 | .0459 | .2734 |
| #2 | 372.0 | 13.38 | 7.644 | .9043 | .0667 | .0175 | 2.288 | .0453 | .2727 |
| #3 | 368.5 | 13.11 | 7.541 | .8845 | .0689 | .0165 | 2.261 | .0477 | .2700 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.371** | **.0068** | **.0767** | **39.95** | **-.0211** | **.0983** | **9.428** |
| Stddev | .009 | .0015 | .0006 | .02 | .0029 | .0031 | .015 |
| %RSD | .2545 | 22.10 | .7456 | .0544 | 13.68 | 3.110 | .1542 |
| #1 | 3.365 | .0054 | .0760 | 39.96 | -.0234 | .0954 | 9.420 |
| #2 | 3.381 | .0065 | .0771 | 39.96 | -.0179 | .1015 | 9.445 |
| #3 | 3.367 | .0084 | .0769 | 39.92 | -.0220 | .0980 | 9.420 |



Zoom In Zoom Out

Sample Name: jc87535-4 Acquired: 5/9/2019 17:56:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **92086.** | **9631.9** | **6484.1** | **12885.** |
| Stddev | 424. | 36.3 | 9.5 | 22. |
| %RSD | .46095 | .37716 | .14663 | .17270 |
| #1 | 92089. | 9646.7 | 6493.4 | 12910. |
| #2 | 91661. | 9590.5 | 6484.4 | 12875. |
| #3 | 92510. | 9658.5 | 6474.4 | 12870. |



Zoom In Zoom Out

Sample Name: jc87535-9 Acquired: 5/9/2019 18:01:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8927** | **.0049** | **.0048** | **.0553** | **.2251** | **.4692** | **2.781** | **.1388** | **.0050** |
| Stddev | .0028 | .0002 | .0007 | .0002 | .0012 | .0011 | .009 | .0012 | .0010 |
| %RSD | .3104 | 5.028 | 14.86 | .3408 | .5180 | .2434 | .3175 | .8529 | 19.85 |
| #1 | .8938 | .0052 | .0041 | .0554 | .2241 | .4695 | 2.779 | .1387 | .0059 |
| #2 | .8946 | .0047 | .0055 | .0554 | .2248 | .4680 | 2.773 | .1400 | .0051 |
| #3 | .8895 | .0048 | .0049 | .0551 | .2264 | .4702 | 2.791 | .1377 | .0039 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2430** | **4.194** | **.0592** | **.0023** | **2.472** | **.0037** | **.0397** | **103.6** | **411.1** |
| Stddev | .0007 | .011 | .0011 | .0017 | .004 | .0016 | .0003 | .4 | 1.5 |
| %RSD | .2935 | .2683 | 1.774 | 75.90 | .1499 | 44.39 | .7442 | .3801 | .3607 |
| #1 | .2430 | 4.189 | .0592 | .0042 | 2.472 | .0049 | .0399 | 103.6 | 411.4 |
| #2 | .2423 | 4.207 | .0582 | .0008 | 2.476 | .0018 | .0393 | 103.9 | 412.3 |
| #3 | .2437 | 4.185 | .0603 | .0018 | 2.468 | .0043 | .0398 | 103.1 | 409.4 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **149.8** | **146.0** | **19.33** | **1.845** | **.0694** | **.0106** | **2.537** | **.9706** | **1.192** |
| Stddev | .5 | .7 | .17 | .027 | .0018 | .0007 | .014 | .0031 | .004 |
| %RSD | .3360 | .4896 | .8581 | 1.461 | 2.598 | 7.078 | .5349 | .3202 | .2908 |
| #1 | 149.8 | 146.4 | 19.27 | 1.831 | .0674 | .0111 | 2.540 | .9703 | 1.194 |
| #2 | 150.4 | 146.4 | 19.52 | 1.876 | .0707 | .0110 | 2.550 | .9739 | 1.193 |
| #3 | 149.3 | 145.2 | 19.20 | 1.827 | .0702 | .0097 | 2.523 | .9677 | 1.188 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.041** | **-.0067** | **.0750** | **14.44** | **-.0159** | **.1023** | **3.328** |
| Stddev | .011 | .0024 | .0005 | .04 | .0048 | .0054 | .009 |
| %RSD | .2720 | 35.56 | .6140 | .2667 | 30.32 | 5.287 | .2746 |
| #1 | 4.039 | -.0088 | .0755 | 14.41 | -.0176 | .0969 | 3.330 |
| #2 | 4.032 | -.0041 | .0747 | 14.48 | -.0197 | .1077 | 3.336 |
| #3 | 4.053 | -.0073 | .0749 | 14.43 | -.0105 | .1022 | 3.318 |

Zoom In Zoom Out

Sample Name: jc87535-9 Acquired: 5/9/2019 18:01:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83928.** | **8766.7** | **5952.4** | **12134.** |
| Stddev | 225. | 58.1 | 16.3 | 29. |
| %RSD | .26861 | .66309 | .27436 | .24216 |
| #1 | 83987. | 8745.1 | 5949.5 | 12124. |
| #2 | 84118. | 8722.4 | 5937.7 | 12111. |
| #3 | 83679. | 8832.5 | 5969.9 | 12167. |



Zoom In Zoom Out

Sample Name: jc87535-11 Acquired: 5/9/2019 18:06:59 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3790** | **.0030** | **.0084** | **.0335** | **.2558** | **.2473** | **1.820** | **.0756** | **.0027** |
| Stddev | .0004 | .0000 | .0001 | .0004 | .0017 | .0006 | .007 | .0004 | .0003 |
| %RSD | .1005 | 1.643 | 1.754 | 1.263 | .6547 | .2582 | .3739 | .5578 | 11.65 |
| #1 | .3793 | .0031 | .0082 | .0334 | .2554 | .2478 | 1.820 | .0755 | .0030 |
| #2 | .3790 | .0030 | .0085 | .0340 | .2576 | .2475 | 1.827 | .0760 | .0024 |
| #3 | .3786 | .0030 | .0085 | .0332 | .2543 | .2466 | 1.813 | .0752 | .0026 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0932** | **1.252** | **.0958** | **.0149** | **.8316** | **.0238** | **.0070** | **47.61** | **17.59** |
| Stddev | .0003 | .005 | .0000 | .0010 | .0035 | .0014 | .0004 | .02 | .01 |
| %RSD | .3675 | .3773 | .0370 | 6.505 | .4201 | 5.779 | 5.216 | .0465 | .0621 |
| #1 | .0934 | 1.249 | .0958 | .0157 | .8290 | .0228 | .0066 | 47.63 | 17.61 |
| #2 | .0934 | 1.257 | .0959 | .0152 | .8356 | .0233 | .0070 | 47.61 | 17.59 |
| #3 | .0928 | 1.249 | .0958 | .0138 | .8303 | .0254 | .0074 | 47.58 | 17.59 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **90.03** | **11.39** | **6.868** | **.7396** | **.0295** | **.0048** | **1.958** | **.0677** | **.1185** |
| Stddev | .11 | .03 | .040 | .0089 | .0001 | .0001 | .009 | .0002 | .0003 |
| %RSD | .1173 | .2191 | .5751 | 1.201 | .2112 | 2.788 | .4352 | .3168 | .2266 |
| #1 | 90.14 | 11.37 | 6.823 | .7303 | .0294 | .0047 | 1.955 | .0674 | .1188 |
| #2 | 89.93 | 11.39 | 6.884 | .7405 | .0295 | .0050 | 1.967 | .0678 | .1182 |
| #3 | 90.02 | 11.42 | 6.896 | .7480 | .0295 | .0047 | 1.951 | .0678 | .1184 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.294** | **-.0027** | **.0427** | **25.01** | **.0130** | **.0585** | **2.133** |
| Stddev | .004 | .0002 | .0002 | .10 | .0002 | .0021 | .009 |
| %RSD | .3126 | 6.858 | .3681 | .4061 | 1.407 | 3.605 | .4387 |
| #1 | 1.295 | -.0028 | .0428 | 24.94 | .0132 | .0594 | 2.125 |
| #2 | 1.297 | -.0029 | .0425 | 25.13 | .0128 | .0561 | 2.144 |
| #3 | 1.289 | -.0025 | .0427 | 24.96 | .0129 | .0601 | 2.131 |



Zoom In Zoom Out

Sample Name: jc87535-11 Acquired: 5/9/2019 18:06:59 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87154.** | **9020.6** | **6131.1** | **12666.** |
| Stddev | 506. | 30.0 | 34.9 | 66. |
| %RSD | .58002 | .33266 | .56940 | .52424 |
| #1 | 87454. | 9051.5 | 6151.0 | 12701. |
| #2 | 86571. | 8991.6 | 6090.8 | 12589. |
| #3 | 87438. | 9018.8 | 6151.6 | 12707. |



Zoom In Zoom Out

Sample Name: jc87670-5 Acquired: 5/9/2019 18:11:59 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7976** | **.0081** | **.0003** | **.1357** | **.2758** | **.2893** | **7.092** | **.2675** | **.0028** |
| Stddev | .0079 | .0002 | .0001 | .0026 | .0061 | .0059 | .041 | .0031 | .0017 |
| %RSD | .9850 | 1.921 | 35.73 | 1.929 | 2.203 | 2.043 | .5807 | 1.175 | 62.25 |
| #1 | .8067 | .0080 | .0003 | .1333 | .2828 | .2961 | 7.126 | .2641 | .0008 |
| #2 | .7933 | .0082 | .0005 | .1385 | .2725 | .2863 | 7.046 | .2704 | .0040 |
| #3 | .7929 | .0079 | .0002 | .1353 | .2720 | .2854 | 7.104 | .2680 | .0036 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4704** | **.6239** | **.0470** | **.0052** | **.1176** | **.0016** | **.0249** | **171.8** | **21.91** |
| Stddev | .0120 | .0073 | .0006 | .0029 | .0032 | .0042 | .0027 | 1.8 | .30 |
| %RSD | 2.545 | 1.167 | 1.321 | 56.83 | 2.689 | 257.9 | 10.88 | 1.061 | 1.383 |
| #1 | .4841 | .6164 | .0477 | .0029 | .1206 | .0059 | .0269 | 173.9 | 22.26 |
| #2 | .4647 | .6309 | .0468 | .0041 | .1143 | -.0026 | .0259 | 170.8 | 21.74 |
| #3 | .4623 | .6243 | .0465 | .0085 | .1179 | .0016 | .0218 | 170.6 | 21.73 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **354.9** | **55.63** | **18.65** | **1.579** | **.0685** | **.0038** | **2.213** | **.0083** | **.1540** |
| Stddev | 4.1 | .64 | .17 | .039 | .0007 | .0004 | .034 | .0010 | .0018 |
| %RSD | 1.160 | 1.146 | .9130 | 2.445 | 1.007 | 10.58 | 1.514 | 11.86 | 1.147 |
| #1 | 359.6 | 56.36 | 18.85 | 1.622 | .0683 | .0042 | 2.180 | .0087 | .1561 |
| #2 | 352.8 | 55.22 | 18.56 | 1.547 | .0679 | .0034 | 2.247 | .0091 | .1530 |
| #3 | 352.2 | 55.30 | 18.55 | 1.568 | .0692 | .0037 | 2.212 | .0072 | .1530 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.853** | **.0028** | **.1568** | **.3146** | **-.0179** | **.2197** | **5.090** |
| Stddev | .137 | .0018 | .0035 | .0071 | .0022 | .0035 | .060 |
| %RSD | 2.345 | 61.98 | 2.255 | 2.246 | 12.24 | 1.576 | 1.184 |
| #1 | 6.012 | .0042 | .1609 | .3126 | -.0155 | .2235 | 5.032 |
| #2 | 5.774 | .0035 | .1548 | .3224 | -.0197 | .2188 | 5.152 |
| #3 | 5.774 | .0009 | .1546 | .3087 | -.0186 | .2168 | 5.085 |

Zoom In Zoom Out

Sample Name: jc87670-5 Acquired: 5/9/2019 18:11:59 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87056.** | **9128.1** | **6196.9** | **12512.** |
| Stddev | 1674. | 107.0 | 61.0 | 114. |
| %RSD | 1.9227 | 1.1725 | .98418 | .90997 |
| #1 | 85135. | 9005.4 | 6253.3 | 12617. |
| #2 | 88198. | 9176.4 | 6132.2 | 12391. |
| #3 | 87836. | 9202.4 | 6205.2 | 12527. |



Zoom In Zoom Out

Sample Name: jc87670-11 Acquired: 5/9/2019 18:17:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.296** | **.0094** | **.0006** | **.1804** | **.3595** | **.3927** | **6.086** | **.3418** | **.0038** |
| Stddev | .004 | .0001 | .0005 | .0008 | .0021 | .0037 | .015 | .0014 | .0010 |
| %RSD | .2908 | 1.435 | 76.66 | .4460 | .5893 | .9492 | .2414 | .4156 | 26.31 |
| #1 | 1.292 | .0093 | .0001 | .1797 | .3606 | .3940 | 6.094 | .3401 | .0033 |
| #2 | 1.300 | .0095 | .0008 | .1803 | .3609 | .3955 | 6.069 | .3426 | .0031 |
| #3 | 1.296 | .0093 | .0010 | .1813 | .3571 | .3885 | 6.095 | .3426 | .0049 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5547** | **.7037** | **.0620** | **.0040** | **.1242** | **.0018** | **.0278** | **234.2** | **52.57** |
| Stddev | .0041 | .0029 | .0005 | .0023 | .0034 | .0024 | .0042 | .5 | .14 |
| %RSD | .7430 | .4099 | .8262 | 58.17 | 2.749 | 131.9 | 15.09 | .1989 | .2637 |
| #1 | .5554 | .7004 | .0625 | .0013 | .1255 | .0009 | .0233 | 233.8 | 52.42 |
| #2 | .5583 | .7048 | .0615 | .0052 | .1204 | .0000 | .0284 | 234.7 | 52.69 |
| #3 | .5502 | .7058 | .0620 | .0056 | .1268 | .0046 | .0316 | 234.3 | 52.59 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **357.1** | **96.84** | **32.54** | **3.388** | **.1606** | **.0052** | **2.463** | **.0061** | **.2581** |
| Stddev | .8 | .05 | .08 | .036 | .0006 | .0008 | .025 | .0011 | .0010 |
| %RSD | .2116 | .0545 | .2576 | 1.072 | .3850 | 14.68 | .9977 | 17.74 | .3692 |
| #1 | 356.5 | 96.89 | 32.48 | 3.346 | .1610 | .0048 | 2.439 | .0063 | .2571 |
| #2 | 357.9 | 96.78 | 32.64 | 3.407 | .1599 | .0061 | 2.489 | .0071 | .2590 |
| #3 | 356.9 | 96.85 | 32.50 | 3.411 | .1609 | .0047 | 2.462 | .0049 | .2582 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.161** | **.0045** | **.1881** | **.5277** | **-.0228** | **.3297** | **4.605** |
| Stddev | .050 | .0008 | .0010 | .0021 | .0029 | .0030 | .019 |
| %RSD | .6987 | 18.50 | .5142 | .4062 | 12.57 | .9206 | .4048 |
| #1 | 7.178 | .0050 | .1885 | .5258 | -.0195 | .3262 | 4.586 |
| #2 | 7.200 | .0050 | .1887 | .5272 | -.0238 | .3314 | 4.606 |
| #3 | 7.104 | .0036 | .1870 | .5301 | -.0250 | .3315 | 4.623 |



Zoom In Zoom Out

Sample Name: jc87670-11 Acquired: 5/9/2019 18:17:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87105.** | **9103.7** | **6184.4** | **12400.** |
| Stddev | 311. | 27.3 | 37.1 | 58. |
| %RSD | .35738 | .29947 | .60043 | .46491 |
| #1 | 87002. | 9089.8 | 6221.5 | 12459. |
| #2 | 86858. | 9135.1 | 6184.5 | 12400. |
| #3 | 87455. | 9086.2 | 6147.2 | 12343. |



Zoom In Zoom Out

Sample Name: jc87670-17 Acquired: 5/9/2019 18:22:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.076** | **.0085** | **.0008** | **.1621** | **.2804** | **.2799** | **9.295** | **.2995** | **.0018** |
| Stddev | .017 | .0001 | .0002 | .0009 | .0007 | .0009 | .040 | .0026 | .0018 |
| %RSD | 1.547 | 1.708 | 22.71 | .5436 | .2578 | .3081 | .4340 | .8828 | 97.71 |
| #1 | 1.057 | .0084 | .0010 | .1612 | .2804 | .2790 | 9.282 | .2982 | .0002 |
| #2 | 1.087 | .0087 | .0007 | .1623 | .2797 | .2802 | 9.340 | .2978 | .0038 |
| #3 | 1.084 | .0085 | .0008 | .1629 | .2812 | .2807 | 9.263 | .3026 | .0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4381** | **.6375** | **.0636** | **.0039** | **.1173** | **-.0015** | **.0234** | **182.8** | **23.00** |
| Stddev | .0008 | .0019 | .0016 | .0016 | .0039 | .0014 | .0029 | 3.1 | .37 |
| %RSD | .1886 | .2934 | 2.470 | 41.66 | 3.362 | 97.91 | 12.32 | 1.680 | 1.628 |
| #1 | .4386 | .6356 | .0625 | .0035 | .1214 | -.0029 | .0265 | 179.3 | 22.57 |
| #2 | .4385 | .6375 | .0654 | .0025 | .1135 | -.0015 | .0207 | 184.9 | 23.26 |
| #3 | .4371 | .6393 | .0629 | .0056 | .1171 | -.0000 | .0231 | 184.2 | 23.16 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **307.5** | **66.96** | **23.88** | **2.651** | **.0906** | **.0066** | **1.927** | **.0094** | **.1726** |
| Stddev | 5.3 | 1.07 | .43 | .083 | .0010 | .0006 | .010 | .0013 | .0022 |
| %RSD | 1.712 | 1.604 | 1.813 | 3.128 | 1.062 | 8.499 | .5112 | 13.76 | 1.285 |
| #1 | 301.4 | 65.74 | 23.38 | 2.556 | .0895 | .0062 | 1.917 | .0085 | .1700 |
| #2 | 311.0 | 67.79 | 24.10 | 2.689 | .0910 | .0073 | 1.928 | .0109 | .1740 |
| #3 | 310.0 | 67.33 | 24.15 | 2.708 | .0913 | .0064 | 1.937 | .0088 | .1737 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.547** | **.0058** | **.1537** | **.1366** | **-.0163** | **.2439** | **4.044** |
| Stddev | .008 | .0017 | .0007 | .0018 | .0025 | .0042 | .018 |
| %RSD | .1510 | 28.88 | .4642 | 1.346 | 15.45 | 1.739 | .4534 |
| #1 | 5.540 | .0059 | .1530 | .1347 | -.0135 | .2391 | 4.026 |
| #2 | 5.545 | .0074 | .1537 | .1383 | -.0169 | .2470 | 4.046 |
| #3 | 5.556 | .0041 | .1544 | .1370 | -.0184 | .2457 | 4.062 |

Zoom In Zoom Out

Sample Name: jc87670-17 Acquired: 5/9/2019 18:22:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87802.** | **9191.1** | **6248.5** | **12474.** |
| Stddev | 194. | 176.5 | 19.8 | 34. |
| %RSD | .22105 | 1.9204 | .31661 | .26917 |
| #1 | 87933. | 9393.9 | 6270.9 | 12505. |
| #2 | 87893. | 9072.6 | 6241.3 | 12479. |
| #3 | 87579. | 9106.7 | 6233.3 | 12438. |



Zoom In Zoom Out

Sample Name: jc87670-23 Acquired: 5/9/2019 18:27:16 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6508** | **.0061** | **-.0002** | **.0712** | **.2056** | **.1784** | **2.510** | **.1663** | **.0024** |
| Stddev | .0014 | .0002 | .0002 | .0008 | .0008 | .0003 | .010 | .0006 | .0004 |
| %RSD | .2122 | 2.990 | 103.0 | 1.080 | .3912 | .1898 | .3860 | .3842 | 16.25 |
| #1 | .6514 | .0059 | -.0002 | .0704 | .2065 | .1788 | 2.520 | .1666 | .0021 |
| #2 | .6519 | .0061 | -.0005 | .0712 | .2049 | .1782 | 2.508 | .1668 | .0022 |
| #3 | .6493 | .0062 | -.0000 | .0719 | .2054 | .1783 | 2.501 | .1656 | .0028 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4152** | **.3950** | **.0480** | **.0015** | **.0730** | **.0025** | **.0193** | **130.8** | **20.95** |
| Stddev | .0019 | .0011 | .0010 | .0032 | .0013 | .0046 | .0030 | .1 | .01 |
| %RSD | .4677 | .2858 | 2.137 | 209.5 | 1.783 | 189.0 | 15.75 | .0565 | .0551 |
| #1 | .4172 | .3961 | .0485 | .0027 | .0741 | .0073 | .0227 | 130.9 | 20.96 |
| #2 | .4151 | .3949 | .0469 | -.0021 | .0734 | .0019 | .0186 | 130.8 | 20.94 |
| #3 | .4134 | .3939 | .0488 | .0039 | .0716 | -.0019 | .0167 | 130.7 | 20.96 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **233.7** | **36.47** | **12.75** | **1.195** | **.0506** | **.0047** | **2.270** | **.0105** | **.1494** |
| Stddev | .3 | .10 | .02 | .010 | .0008 | .0003 | .007 | .0005 | .0002 |
| %RSD | .1233 | .2845 | .1354 | .8271 | 1.575 | 5.785 | .2956 | 5.208 | .1379 |
| #1 | 233.4 | 36.54 | 12.74 | 1.187 | .0508 | .0050 | 2.276 | .0110 | .1494 |
| #2 | 233.8 | 36.35 | 12.74 | 1.206 | .0513 | .0045 | 2.271 | .0099 | .1491 |
| #3 | 233.9 | 36.53 | 12.77 | 1.192 | .0498 | .0045 | 2.263 | .0104 | .1495 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.852** | **.0082** | **.1152** | **.1735** | **-.0169** | **.1567** | **3.073** |
| Stddev | .018 | .0008 | .0005 | .0004 | .0028 | .0007 | .006 |
| %RSD | .3650 | 9.823 | .4687 | .2567 | 16.41 | .4474 | .1984 |
| #1 | 4.872 | .0077 | .1153 | .1730 | -.0138 | .1575 | 3.079 |
| #2 | 4.846 | .0092 | .1146 | .1739 | -.0192 | .1561 | 3.067 |
| #3 | 4.838 | .0078 | .1156 | .1737 | -.0176 | .1565 | 3.073 |



Zoom In Zoom Out

Sample Name: jc87670-23 Acquired: 5/9/2019 18:27:16 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86817.** | **9059.0** | **6193.4** | **12483.** |
| Stddev | 93. | 15.8 | 1.9 | 3. |
| %RSD | .10761 | .17393 | .03109 | .02417 |
| #1 | 86711. | 9059.3 | 6191.1 | 12481. |
| #2 | 86887. | 9043.0 | 6194.5 | 12480. |
| #3 | 86853. | 9074.5 | 6194.5 | 12486. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 18:32:18 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.027** | **2.007** | **1.992** | **2.015** | **2.031** | **2.009** | **2.044** | **2.025** | **.2496** |
| Stddev | .001 | .002 | .001 | .001 | .025 | .023 | .040 | .001 | .0029 |
| %RSD | .0346 | .1115 | .0486 | .0425 | 1.242 | 1.159 | 1.941 | .0500 | 1.154 |
| #1 | 2.028 | 2.009 | 1.993 | 2.015 | 2.051 | 2.029 | 2.079 | 2.025 | .2518 |
| #2 | 2.027 | 2.009 | 1.992 | 2.015 | 2.040 | 2.016 | 2.053 | 2.026 | .2506 |
| #3 | 2.027 | 2.005 | 1.991 | 2.016 | 2.003 | 1.983 | 2.001 | 2.024 | .2463 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.027** | **2.024** | **1.962** | **2.059** | **2.013** | **1.988** | **1.966** | **40.30** | **40.45** |
| Stddev | .022 | .001 | .004 | .002 | .003 | .003 | .003 | .07 | .08 |
| %RSD | 1.106 | .0694 | .1883 | .1159 | .1343 | .1295 | .1419 | .1700 | .1954 |
| #1 | 2.044 | 2.025 | 1.966 | 2.061 | 2.011 | 1.991 | 1.968 | 40.38 | 40.53 |
| #2 | 2.035 | 2.024 | 1.961 | 2.057 | 2.016 | 1.986 | 1.967 | 40.26 | 40.44 |
| #3 | 2.002 | 2.022 | 1.959 | 2.061 | 2.013 | 1.987 | 1.963 | 40.26 | 40.38 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.91** | **39.97** | **40.50** | **40.14** | **2.000** | **1.966** | **4.891** | **1.968** | **2.038** |
| Stddev | .08 | .17 | .09 | .06 | .001 | .002 | .004 | .004 | .003 |
| %RSD | .2064 | .4302 | .2209 | .1549 | .0450 | .0755 | .0738 | .2182 | .1207 |
| #1 | 39.94 | 40.15 | 40.58 | 40.21 | 2.000 | 1.967 | 4.895 | 1.973 | 2.041 |
| #2 | 39.97 | 39.96 | 40.51 | 40.12 | 1.999 | 1.964 | 4.889 | 1.967 | 2.037 |
| #3 | 39.81 | 39.81 | 40.41 | 40.09 | 2.001 | 1.967 | 4.889 | 1.965 | 2.037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 18:32:18 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.993** | **1.939** | **1.975** | **1.977** | **2.012** | **1.954** | **1.980** |
| Stddev | .024 | .003 | .024 | .004 | .001 | .002 | .002 |
| %RSD | 1.179 | .1438 | 1.189 | .1849 | .0678 | .0820 | .0935 |
| #1 | 2.012 | 1.942 | 1.993 | 1.981 | 2.013 | 1.955 | 1.981 |
| #2 | 2.000 | 1.937 | 1.984 | 1.975 | 2.012 | 1.955 | 1.978 |
| #3 | 1.967 | 1.939 | 1.949 | 1.974 | 2.011 | 1.952 | 1.981 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82583.** | **8601.8** | **5838.3** | **12047.** |
| Stddev | 867. | 58.3 | 5.4 | 12. |
| %RSD | 1.0503 | .67820 | .09296 | .09900 |
| #1 | 81967. | 8536.5 | 5835.9 | 12053. |
| #2 | 82206. | 8619.9 | 5834.5 | 12034. |
| #3 | 83575. | 8648.9 | 5844.5 | 12055. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 18:37:19 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0000** | **.0000** | **-.0001** | **.0001** | **-.0005** | **.0001** | **.0001** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0001 | .0000 | .0004 |
| %RSD | 86.80 | 310.6 | 795.0 | 196.3 | 394.6 | 12.40 | 25.80 | 287.0 |
| #1 | -.0004 | .0001 | .0002 | -.0003 | -.0002 | -.0005 | .0001 | -.0000 |
| #2 | -.0000 | -.0001 | -.0000 | -.0000 | .0001 | -.0006 | .0001 | -.0001 |
| #3 | -.0004 | -.0001 | -.0001 | .0000 | .0003 | -.0005 | .0001 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0008** | **.0000** | **-.0000** | **-.0001** | **.0007** | **.0005** | **-.0004** | **-.0004** |
| Stddev | .0004 | .0003 | .0000 | .0007 | .0004 | .0002 | .0003 | .0019 |
| %RSD | 45.21 | 875.2 | 162.2 | 755.7 | 49.53 | 42.38 | 76.35 | 483.3 |
| #1 | -.0006 | -.0002 | -.0000 | -.0001 | .0011 | .0006 | -.0002 | -.0026 |
| #2 | -.0012 | -.0000 | -.0001 | -.0008 | .0007 | .0003 | -.0003 | .0006 |
| #3 | -.0006 | .0004 | .0000 | .0006 | .0004 | .0006 | -.0007 | .0008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0039** | **-.0013** | **.0029** | **.0089** | **.1949** | **-.0678** | **.0014** | **.0002** |
| Stddev | .0194 | .0030 | .0009 | .0093 | .0066 | .0087 | .0005 | .0001 |
| %RSD | 495.2 | 230.8 | 30.39 | 104.4 | 3.410 | 12.77 | 32.27 | 41.40 |
| #1 | -.0183 | -.0048 | .0028 | .0119 | .2026 | -.0648 | .0013 | .0002 |
| #2 | .0182 | .0003 | .0038 | .0162 | .1910 | -.0776 | .0020 | .0003 |
| #3 | -.0116 | .0006 | .0021 | -.0015 | .1911 | -.0611 | .0011 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 18:37:19 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015** | **.0001** | **.0001** | **-.0002** | **.0004** | **.0001** | **.0003** | **.0033** |
| Stddev | .0016 | .0011 | .0002 | .0004 | .0011 | .0001 | .0010 | .0011 |
| %RSD | 110.9 | 1274. | 166.5 | 299.6 | 302.1 | 97.08 | 401.7 | 31.74 |
| #1 | .0018 | -.0011 | -.0001 | .0001 | .0012 | .0001 | .0012 | .0026 |
| #2 | -.0003 | .0003 | .0002 | .0002 | .0009 | .0000 | .0004 | .0046 |
| #3 | .0029 | .0011 | .0003 | -.0007 | -.0009 | .0003 | -.0008 | .0029 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0093** | **.0019** |
| Stddev | .0016 | .0009 |
| %RSD | 16.92 | 45.11 |
| #1 | -.0079 | .0024 |
| #2 | -.0089 | .0009 |
| #3 | -.0110 | .0023 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85398.** | **8655.7** | **6048.1** | **12700.** |
| Stddev | 97. | 32.0 | 4.9 | 14. |
| %RSD | .11337 | .37027 | .08150 | .10950 |
| #1 | 85297. | 8620.3 | 6049.0 | 12695. |
| #2 | 85489. | 8664.4 | 6042.8 | 12688. |
| #3 | 85408. | 8682.6 | 6052.5 | 12715. |



Zoom In Zoom Out

Sample Name: mp14863-mb1 7 Acquired: 5/9/2019 18:42:29 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **-.0000** | **-.0001** | **.0007** | **.0002** | **.0003** | **.0002** | **-.0006** |
| Stddev | .0001 | .0001 | .0002 | .0003 | .0002 | .0001 | .0000 | .0001 | .0004 |
| %RSD | 42.31 | 53.42 | 563.0 | 509.9 | 29.68 | 68.41 | 7.292 | 71.52 | 58.48 |
| #1 | -.0002 | -.0001 | -.0002 | -.0004 | .0007 | .0002 | .0003 | .0004 | -.0003 |
| #2 | -.0003 | -.0002 | -.0001 | .0001 | .0009 | .0001 | .0003 | .0002 | -.0010 |
| #3 | -.0001 | -.0002 | .0002 | .0001 | .0005 | .0004 | .0003 | .0001 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0087** | **-.0001** | **.0005** | **-.0000** | **-.0003** | **-.0010** | **.0107** | **.0606** |
| Stddev | .0005 | .0001 | .0003 | .0007 | .0006 | .0021 | .0009 | .0188 | .0005 |
| %RSD | 170.0 | .8270 | 285.0 | 129.0 | 1321. | 789.5 | 95.56 | 176.5 | .7943 |
| #1 | -.0003 | .0087 | .0002 | .0012 | -.0004 | .0017 | -.0019 | .0307 | .0610 |
| #2 | .0006 | .0087 | -.0001 | -.0001 | .0007 | -.0024 | -.0001 | .0078 | .0607 |
| #3 | .0004 | .0086 | -.0005 | .0004 | -.0004 | -.0000 | -.0009 | -.0066 | .0600 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0145** | **.0052** | **.1365** | **-.0335** | **.0011** | **.0003** | **.0104** | **.0175** | **.0003** |
| Stddev | .0029 | .0306 | .0421 | .0051 | .0005 | .0001 | .0013 | .0004 | .0000 |
| %RSD | 19.71 | 583.0 | 30.84 | 15.22 | 44.74 | 40.95 | 12.27 | 2.291 | 17.20 |
| #1 | .0112 | -.0300 | .1152 | -.0354 | .0008 | .0003 | .0089 | .0175 | .0003 |
| #2 | .0163 | .0214 | .1093 | -.0278 | .0009 | .0005 | .0107 | .0178 | .0003 |
| #3 | .0160 | .0243 | .1850 | -.0374 | .0017 | .0002 | .0114 | .0170 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0004** | **.0000** | **.0049** | **.0011** | **-.0102** | **.0194** |
| Stddev | .0001 | .0011 | .0001 | .0020 | .0018 | .0004 | .0005 |
| %RSD | 49.95 | 260.0 | 153.0 | 40.12 | 162.0 | 3.626 | 2.750 |
| #1 | .0004 | .0015 | -.0000 | .0033 | -.0004 | -.0102 | .0200 |
| #2 | .0002 | -.0008 | .0001 | .0071 | .0006 | -.0105 | .0194 |
| #3 | .0002 | .0006 | .0000 | .0043 | .0030 | -.0098 | .0189 |

Zoom In Zoom Out

Sample Name: mp14863-mb1 7 Acquired: 5/9/2019 18:42:29 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86525.** | **8840.1** | **6090.1** | **12781.** |
| Stddev | 294. | 25.3 | 21.3 | 39. |
| %RSD | .33987 | .28640 | .35035 | .30676 |
| #1 | 86795. | 8869.2 | 6066.0 | 12737. |
| #2 | 86569. | 8822.9 | 6097.5 | 12795. |
| #3 | 86212. | 8828.2 | 6106.7 | 12811. |



Zoom In Zoom Out

Sample Name: mp14863-b1 Acquired: 5/9/2019 18:47:37 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.978** | **1.968** | **1.935** | **1.967** | **1.983** | **1.963** | **1.988** | **1.976** |
| Stddev | .008 | .008 | .006 | .006 | .004 | .003 | .004 | .006 |
| %RSD | .4140 | .4283 | .3176 | .2903 | .1924 | .1419 | .1770 | .3213 |
| #1 | 1.981 | 1.969 | 1.939 | 1.968 | 1.987 | 1.966 | 1.992 | 1.979 |
| #2 | 1.969 | 1.959 | 1.928 | 1.960 | 1.980 | 1.962 | 1.985 | 1.969 |
| #3 | 1.984 | 1.976 | 1.937 | 1.971 | 1.983 | 1.961 | 1.988 | 1.981 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2398** | **1.965** | **1.983** | **1.902** | **2.031** | **1.974** | **1.929** | **1.910** |
| Stddev | .0004 | .002 | .008 | .006 | .006 | .008 | .005 | .006 |
| %RSD | .1803 | .1106 | .3850 | .3058 | .3086 | .4180 | .2423 | .3046 |
| #1 | .2403 | 1.967 | 1.988 | 1.905 | 2.035 | 1.977 | 1.930 | 1.913 |
| #2 | .2394 | 1.963 | 1.975 | 1.895 | 2.023 | 1.965 | 1.924 | 1.903 |
| #3 | .2397 | 1.964 | 1.987 | 1.906 | 2.034 | 1.981 | 1.934 | 1.913 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.62** | **24.76** | **24.42** | **24.35** | **24.72** | **24.72** | **1.886** | **1.885** |
| Stddev | .10 | .10 | .11 | .09 | .08 | .10 | .005 | .006 |
| %RSD | .3861 | .4230 | .4535 | .3584 | .3126 | .4130 | .2612 | .3150 |
| #1 | 24.59 | 24.77 | 24.43 | 24.34 | 24.79 | 24.74 | 1.891 | 1.889 |
| #2 | 24.54 | 24.64 | 24.31 | 24.28 | 24.63 | 24.61 | 1.881 | 1.878 |
| #3 | 24.72 | 24.85 | 24.53 | 24.45 | 24.73 | 24.81 | 1.887 | 1.888 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0679** | **1.945** | **1.985** | **1.945** | **1.155** | **1.929** | **-.0001** | F **-.0251** |
| Stddev | .0015 | .008 | .008 | .003 | .002 | .003 | .0011 | .0017 |
| %RSD | 2.190 | .4072 | .4082 | .1760 | .2043 | .1699 | 1544. | 6.629 |
| #1 | .0662 | 1.951 | 1.986 | 1.949 | 1.156 | 1.932 | -.0002 | -.0246 |
| #2 | .0684 | 1.936 | 1.976 | 1.943 | 1.152 | 1.927 | .0011 | -.0237 |
| #3 | .0691 | 1.948 | 1.992 | 1.944 | 1.156 | 1.926 | -.0011 | -.0269 |



Zoom In Zoom Out

Sample Name: mp14863-b1 Acquired: 5/9/2019 18:47:37 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0333** | **1.932** |
| Stddev | .0010 | .004 |
| %RSD | 3.087 | .1813 |
| #1 | -.0328 | 1.934 |
| #2 | -.0326 | 1.928 |
| #3 | -.0344 | 1.934 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84853.** | **8760.8** | **6013.8** | **12430.** |
| Stddev | 152. | 40.1 | 20.3 | 38. |
| %RSD | .17871 | .45776 | .33805 | .30257 |
| #1 | 84795. | 8736.1 | 5993.5 | 12401. |
| #2 | 85025. | 8807.0 | 6034.2 | 12473. |
| #3 | 84738. | 8739.1 | 6013.6 | 12417. |



Zoom In Zoom Out

Sample Name: mp14863-s1 Acquired: 5/9/2019 18:52:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.278** | **1.931** | **1.926** | **2.024** | **2.118** | **2.113** | **5.047** | **2.136** |
| Stddev | .005 | .004 | .011 | .010 | .006 | .006 | .036 | .012 |
| %RSD | .2204 | .2221 | .5465 | .4984 | .3002 | .3026 | .7094 | .5417 |
| #1 | 2.277 | 1.932 | 1.931 | 2.028 | 2.120 | 2.116 | 5.082 | 2.140 |
| #2 | 2.283 | 1.935 | 1.914 | 2.013 | 2.111 | 2.106 | 5.011 | 2.123 |
| #3 | 2.273 | 1.927 | 1.934 | 2.032 | 2.123 | 2.118 | 5.048 | 2.144 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2417** | **2.126** | **2.871** | **1.916** | **1.992** | **2.029** | **1.889** | **1.217** |
| Stddev | .0006 | .006 | .017 | .011 | .012 | .011 | .011 | .006 |
| %RSD | .2315 | .2616 | .5865 | .5927 | .5863 | .5346 | .6036 | .4997 |
| #1 | .2424 | 2.129 | 2.875 | 1.923 | 1.997 | 2.032 | 1.889 | 1.219 |
| #2 | .2413 | 2.120 | 2.852 | 1.903 | 1.979 | 2.017 | 1.877 | 1.211 |
| #3 | .2416 | 2.130 | 2.885 | 1.923 | 2.000 | 2.038 | 1.900 | 1.222 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **122.8** | **41.40** | **176.6** | **63.76** | **34.25** | **25.47** | **1.838** | **1.847** |
| Stddev | .3 | .08 | .4 | .10 | .11 | .05 | .010 | .010 |
| %RSD | .2066 | .1927 | .2053 | .1528 | .3270 | .1857 | .5529 | .5335 |
| #1 | 122.8 | 41.46 | 176.7 | 63.76 | 34.22 | 25.45 | 1.840 | 1.851 |
| #2 | 123.1 | 41.43 | 177.0 | 63.85 | 34.37 | 25.52 | 1.827 | 1.836 |
| #3 | 122.6 | 41.31 | 176.3 | 63.66 | 34.15 | 25.44 | 1.848 | 1.855 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.834** | **1.818** | **2.054** | **6.270** | **.8571** | **1.882** | **.5250** | F **-.0352** |
| Stddev | .015 | .012 | .004 | .019 | .0042 | .005 | .0043 | .0017 |
| %RSD | .5277 | .6576 | .1789 | .3099 | .4921 | .2699 | .8178 | 4.882 |
| #1 | 2.848 | 1.825 | 2.052 | 6.280 | .8595 | 1.886 | .5270 | -.0340 |
| #2 | 2.819 | 1.804 | 2.058 | 6.247 | .8522 | 1.877 | .5200 | -.0344 |
| #3 | 2.836 | 1.825 | 2.051 | 6.281 | .8595 | 1.885 | .5279 | -.0371 |

Zoom In Zoom Out

Sample Name: mp14863-s1 Acquired: 5/9/2019 18:52:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1136** | **5.839** |
| Stddev | .0019 | .034 |
| %RSD | 1.698 | .5881 |
| #1 | .1113 | 5.842 |
| #2 | .1146 | 5.803 |
| #3 | .1147 | 5.872 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85893.** | **9109.5** | **6079.1** | **12309.** |
| Stddev | 215. | 28.5 | 24.4 | 43. |
| %RSD | .25078 | .31257 | .40165 | .34838 |
| #1 | 85669. | 9077.9 | 6069.0 | 12284. |
| #2 | 86099. | 9117.4 | 6106.9 | 12359. |
| #3 | 85911. | 9133.1 | 6061.3 | 12284. |



Zoom In Zoom Out

Sample Name: mp14863-s2 Acquired: 5/9/2019 18:57:33 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.329** | **1.891** | **1.894** | **2.003** | **2.112** | **2.107** | **5.533** | **2.129** |
| Stddev | .008 | .006 | .004 | .004 | .010 | .014 | .074 | .008 |
| %RSD | .3566 | .3163 | .1842 | .2118 | .4763 | .6688 | 1.334 | .3564 |
| #1 | 2.337 | 1.895 | 1.896 | 2.005 | 2.100 | 2.091 | 5.457 | 2.133 |
| #2 | 2.331 | 1.893 | 1.895 | 2.006 | 2.119 | 2.113 | 5.604 | 2.134 |
| #3 | 2.320 | 1.884 | 1.890 | 1.998 | 2.116 | 2.118 | 5.537 | 2.120 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2356** | **2.115** | **2.897** | **1.884** | **1.950** | **2.049** | **1.854** | **1.070** |
| Stddev | .0008 | .009 | .009 | .004 | .007 | .005 | .001 | .002 |
| %RSD | .3422 | .4141 | .2987 | .2075 | .3791 | .2436 | .0692 | .2074 |
| #1 | .2348 | 2.105 | 2.902 | 1.885 | 1.953 | 2.053 | 1.853 | 1.071 |
| #2 | .2355 | 2.122 | 2.903 | 1.887 | 1.956 | 2.050 | 1.854 | 1.071 |
| #3 | .2364 | 2.119 | 2.887 | 1.879 | 1.942 | 2.043 | 1.855 | 1.067 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **146.4** | **38.64** | **194.4** | **68.22** | **36.90** | **25.07** | **1.794** | **1.814** |
| Stddev | .4 | .15 | .6 | .36 | .12 | .09 | .004 | .005 |
| %RSD | .2873 | .3990 | .2856 | .5256 | .3303 | .3564 | .2440 | .2626 |
| #1 | 146.8 | 38.78 | 194.9 | 68.56 | 37.03 | 25.17 | 1.796 | 1.817 |
| #2 | 146.4 | 38.66 | 194.5 | 68.25 | 36.87 | 25.07 | 1.798 | 1.817 |
| #3 | 146.0 | 38.48 | 193.8 | 67.84 | 36.79 | 24.99 | 1.789 | 1.809 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.899** | **1.775** | **2.036** | **7.115** | **.8515** | **1.876** | **.3455** | F **-.0442** |
| Stddev | .013 | .009 | .005 | .019 | .0030 | .011 | .0021 | .0011 |
| %RSD | .4597 | .4824 | .2627 | .2630 | .3552 | .5676 | .6067 | 2.423 |
| #1 | 2.911 | 1.782 | 2.041 | 7.127 | .8511 | 1.864 | .3476 | -.0430 |
| #2 | 2.902 | 1.778 | 2.036 | 7.125 | .8547 | 1.884 | .3434 | -.0450 |
| #3 | 2.885 | 1.765 | 2.030 | 7.093 | .8487 | 1.880 | .3455 | -.0445 |



Zoom In Zoom Out

Sample Name: mp14863-s2 Acquired: 5/9/2019 18:57:33 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1339** | **6.523** |
| Stddev | .0015 | .019 |
| %RSD | 1.139 | .2898 |
| #1 | .1356 | 6.535 |
| #2 | .1331 | 6.532 |
| #3 | .1329 | 6.501 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86968.** | **9189.6** | **6099.9** | **12341.** |
| Stddev | 124. | 53.2 | 14.2 | 31. |
| %RSD | .14284 | .57840 | .23284 | .25469 |
| #1 | 87086. | 9132.5 | 6089.3 | 12319. |
| #2 | 86839. | 9198.6 | 6094.4 | 12326. |
| #3 | 86980. | 9237.6 | 6116.1 | 12377. |



Zoom In Zoom Out

Sample Name: jc87450-16 Acquired: 5/9/2019 19:02:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3291** | **.0028** | **.0039** | **.0756** | **.1733** | **.1642** | **3.258** | **.1879** | **.0020** |
| Stddev | .0016 | .0000 | .0001 | .0005 | .0009 | .0007 | .025 | .0003 | .0004 |
| %RSD | .4802 | 1.336 | 3.482 | .6096 | .5036 | .4049 | .7606 | .1635 | 20.27 |
| #1 | .3277 | .0029 | .0038 | .0751 | .1728 | .1641 | 3.233 | .1880 | .0024 |
| #2 | .3288 | .0029 | .0040 | .0757 | .1743 | .1650 | 3.282 | .1875 | .0017 |
| #3 | .3308 | .0028 | .0038 | .0760 | .1727 | .1637 | 3.259 | .1881 | .0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1943** | **1.158** | **.0519** | **.0042** | **.1099** | **.0001** | **.0173** | **87.87** | **14.44** |
| Stddev | .0010 | .003 | .0006 | .0013 | .0002 | .0006 | .0018 | .18 | .04 |
| %RSD | .5080 | .2839 | 1.088 | 30.54 | .1599 | 992.6 | 10.50 | .2022 | .2742 |
| #1 | .1948 | 1.156 | .0525 | .0042 | .1101 | -.0006 | .0192 | 87.68 | 14.39 |
| #2 | .1950 | 1.157 | .0516 | .0029 | .1097 | .0006 | .0156 | 87.89 | 14.45 |
| #3 | .1932 | 1.162 | .0516 | .0054 | .1099 | .0002 | .0172 | 88.03 | 14.47 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **164.6** | **40.24** | **9.756** | **.7277** | **.0247** | **.0050** | **1.480** | **.0109** | **.0777** |
| Stddev | .2 | .14 | .023 | .0102 | .0004 | .0002 | .003 | .0001 | .0001 |
| %RSD | .1347 | .3507 | .2360 | 1.404 | 1.560 | 3.586 | .1812 | .8256 | .0691 |
| #1 | 164.4 | 40.09 | 9.734 | .7322 | .0247 | .0052 | 1.482 | .0108 | .0777 |
| #2 | 164.9 | 40.28 | 9.753 | .7349 | .0250 | .0050 | 1.481 | .0109 | .0777 |
| #3 | 164.6 | 40.36 | 9.780 | .7160 | .0243 | .0048 | 1.477 | .0110 | .0778 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.130** | **.0003** | **.0270** | **3.857** | **-.0122** | **.1283** | **3.906** |
| Stddev | .015 | .0005 | .0002 | .009 | .0010 | .0004 | .010 |
| %RSD | .3575 | 192.3 | .7435 | .2448 | 8.015 | .2833 | .2518 |
| #1 | 4.124 | -.0001 | .0268 | 3.851 | -.0133 | .1281 | 3.900 |
| #2 | 4.146 | .0008 | .0272 | 3.853 | -.0118 | .1287 | 3.901 |
| #3 | 4.119 | .0001 | .0270 | 3.868 | -.0115 | .1282 | 3.918 |

Zoom In Zoom Out

Sample Name: jc87450-16 Acquired: 5/9/2019 19:02:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87977.** | **9178.0** | **6224.3** | **12615.** |
| Stddev | 405. | 25.9 | 19.9 | 22. |
| %RSD | .46087 | .28179 | .32011 | .17062 |
| #1 | 88076. | 9169.5 | 6239.1 | 12633. |
| #2 | 87531. | 9157.5 | 6232.1 | 12620. |
| #3 | 88323. | 9207.0 | 6201.6 | 12591. |



Zoom In Zoom Out

Sample Name: mp14863-sd1 Acquired: 5/9/2019 19:07:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3277** | **.0024** | **.0037** | **.0794** | **.1828** | **.1662** | **3.465** | **.1968** | **-.0021** |
| Stddev | .0057 | .0003 | .0006 | .0013 | .0012 | .0015 | .009 | .0009 | .0029 |
| %RSD | 1.752 | 12.76 | 16.94 | 1.658 | .6686 | .9022 | .2529 | .4826 | 142.4 |
| #1 | .3222 | .0027 | .0038 | .0797 | .1831 | .1657 | 3.455 | .1964 | -.0054 |
| #2 | .3273 | .0021 | .0031 | .0779 | .1814 | .1650 | 3.468 | .1961 | -.0007 |
| #3 | .3336 | .0025 | .0043 | .0805 | .1837 | .1679 | 3.472 | .1979 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2022** | **1.264** | **.0491** | **.0091** | **.1114** | **.0024** | **.0170** | **88.11** | **14.73** |
| Stddev | .0019 | .007 | .0063 | .0070 | .0047 | .0059 | .0051 | 1.78 | .32 |
| %RSD | .9352 | .5563 | 12.78 | 77.21 | 4.218 | 243.4 | 29.83 | 2.019 | 2.169 |
| #1 | .2000 | 1.256 | .0420 | .0165 | .1062 | -.0040 | .0217 | 86.10 | 14.37 |
| #2 | .2031 | 1.266 | .0536 | .0025 | .1154 | .0036 | .0116 | 88.73 | 14.87 |
| #3 | .2034 | 1.270 | .0518 | .0084 | .1125 | .0076 | .0177 | 89.50 | 14.96 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **169.4** | **40.72** | **10.09** | **.3896** | **.0332** | **.0055** | **1.549** | **.0141** | **.0787** |
| Stddev | 3.6 | .64 | .07 | .0230 | .0029 | .0007 | .018 | .0009 | .0013 |
| %RSD | 2.153 | 1.584 | .7315 | 5.897 | 8.881 | 13.06 | 1.155 | 6.471 | 1.705 |
| #1 | 165.3 | 39.99 | 10.17 | .3688 | .0299 | .0059 | 1.529 | .0133 | .0772 |
| #2 | 170.6 | 40.93 | 10.07 | .4143 | .0341 | .0060 | 1.556 | .0151 | .0798 |
| #3 | 172.2 | 41.23 | 10.03 | .3858 | .0356 | .0047 | 1.563 | .0139 | .0791 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.247** | **.0096** | **.0284** | **3.976** | **.0023** | **.0811** | **4.093** |
| Stddev | .012 | .0037 | .0003 | .035 | .0055 | .0064 | .024 |
| %RSD | .2799 | 38.16 | 1.027 | .8739 | 237.4 | 7.873 | .5918 |
| #1 | 4.234 | .0076 | .0281 | 3.938 | .0071 | .0823 | 4.066 |
| #2 | 4.251 | .0073 | .0287 | 3.986 | -.0036 | .0742 | 4.108 |
| #3 | 4.257 | .0138 | .0284 | 4.006 | .0035 | .0868 | 4.107 |



Zoom In Zoom Out

Sample Name: mp14863-sd1 Acquired: 5/9/2019 19:07:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 0.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86988.** | **8940.3** | **6166.3** | **12722.** |
| Stddev | 71. | 66.9 | 11.3 | 27. |
| %RSD | .08135 | .74848 | .18259 | .21331 |
| #1 | 87068. | 8899.7 | 6179.0 | 12752. |
| #2 | 86934. | 8903.7 | 6162.4 | 12714. |
| #3 | 86962. | 9017.5 | 6157.6 | 12700. |



Zoom In Zoom Out

Sample Name: jc87450-1 Acquired: 5/9/2019 19:12:46 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2699** | **.0023** | **.0008** | **.0564** | **.1387** | **.1151** | **5.859** | **.1565** | **.0014** |
| Stddev | .0020 | .0001 | .0001 | .0006 | .0025 | .0018 | .147 | .0005 | .0007 |
| %RSD | .7514 | 3.620 | 17.43 | .9888 | 1.767 | 1.586 | 2.513 | .3374 | 49.47 |
| #1 | .2679 | .0024 | .0009 | .0564 | .1385 | .1150 | 5.777 | .1570 | .0014 |
| #2 | .2719 | .0022 | .0007 | .0569 | .1364 | .1133 | 5.771 | .1566 | .0020 |
| #3 | .2700 | .0024 | .0008 | .0558 | .1413 | .1170 | 6.029 | .1560 | .0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1584** | **.3739** | **.0323** | **.0029** | **.0661** | **-.0000** | **.0125** | **77.53** | **11.22** |
| Stddev | .0030 | .0018 | .0010 | .0017 | .0006 | .0009 | .0006 | .56 | .08 |
| %RSD | 1.913 | .4808 | 2.994 | 57.05 | .8524 | 1927. | 4.947 | .7160 | .7111 |
| #1 | .1583 | .3760 | .0327 | .0034 | .0658 | .0009 | .0119 | 76.99 | 11.15 |
| #2 | .1554 | .3730 | .0312 | .0042 | .0657 | -.0001 | .0126 | 78.10 | 11.31 |
| #3 | .1615 | .3727 | .0330 | .0010 | .0667 | -.0009 | .0131 | 77.49 | 11.21 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **132.5** | **33.42** | **8.398** | **1.021** | **.0054** | **.0030** | **1.260** | **.0107** | **.0712** |
| Stddev | 1.0 | .29 | .065 | .002 | .0006 | .0003 | .015 | .0010 | .0005 |
| %RSD | .7269 | .8626 | .7772 | .2158 | 11.96 | 9.245 | 1.157 | 9.444 | .7532 |
| #1 | 131.5 | 33.15 | 8.363 | 1.023 | .0053 | .0028 | 1.274 | .0103 | .0706 |
| #2 | 133.5 | 33.73 | 8.474 | 1.021 | .0047 | .0034 | 1.262 | .0100 | .0716 |
| #3 | 132.5 | 33.38 | 8.358 | 1.018 | .0060 | .0029 | 1.245 | .0119 | .0713 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.485** | **.0021** | **.0144** | **.4033** | **-.0110** | **.1044** | **3.884** |
| Stddev | .066 | .0003 | .0002 | .0043 | .0021 | .0011 | .021 |
| %RSD | 1.892 | 15.78 | 1.412 | 1.057 | 18.77 | 1.042 | .5416 |
| #1 | 3.477 | .0020 | .0141 | .4077 | -.0122 | .1034 | 3.907 |
| #2 | 3.424 | .0018 | .0144 | .4030 | -.0122 | .1043 | 3.877 |
| #3 | 3.555 | .0024 | .0146 | .3992 | -.0086 | .1055 | 3.867 |

Zoom In Zoom Out

Sample Name: jc87450-1 Acquired: 5/9/2019 19:12:46 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88121.** | **9166.3** | **6243.4** | **12676.** |
| Stddev | 1341. | 34.7 | 29.7 | 56. |
| %RSD | 1.5217 | .37904 | .47629 | .44118 |
| #1 | 88125. | 9161.4 | 6209.1 | 12613. |
| #2 | 89460. | 9134.3 | 6258.7 | 12696. |
| #3 | 86779. | 9203.3 | 6262.4 | 12719. |



Zoom In Zoom Out

Sample Name: jc87450-2 Acquired: 5/9/2019 19:17:54 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2600** | **.0023** | **.0002** | **.0671** | **.1637** | **.1074** | **1.880** | **.1757** | **.0015** |
| Stddev | .0003 | .0001 | .0003 | .0002 | .0009 | .0004 | .020 | .0002 | .0005 |
| %RSD | .1194 | 6.451 | 175.9 | .2828 | .5194 | .3434 | 1.051 | .1106 | 33.01 |
| #1 | .2597 | .0025 | .0006 | .0673 | .1630 | .1070 | 1.897 | .1756 | .0020 |
| #2 | .2603 | .0022 | .0001 | .0670 | .1635 | .1073 | 1.858 | .1756 | .0011 |
| #3 | .2600 | .0023 | -.0001 | .0670 | .1647 | .1078 | 1.885 | .1759 | .0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1744** | **.3234** | **.0374** | **.0019** | **.0506** | **-.0001** | **.0150** | **81.72** | **12.00** |
| Stddev | .0002 | .0001 | .0005 | .0010 | .0008 | .0014 | .0009 | .01 | .01 |
| %RSD | .1403 | .0260 | 1.403 | 52.14 | 1.579 | 1248. | 5.687 | .0175 | .1239 |
| #1 | .1742 | .3233 | .0380 | .0029 | .0509 | -.0017 | .0160 | 81.71 | 12.02 |
| #2 | .1742 | .3233 | .0371 | .0020 | .0497 | .0009 | .0145 | 81.74 | 12.00 |
| #3 | .1747 | .3235 | .0371 | .0009 | .0512 | .0004 | .0146 | 81.72 | 11.99 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **130.7** | **36.30** | **7.823** | **3.204** | **.0058** | **.0035** | **1.164** | **.0116** | **.0713** |
| Stddev | .0 | .09 | .037 | .011 | .0002 | .0003 | .003 | .0001 | .0001 |
| %RSD | .0255 | .2485 | .4767 | .3289 | 4.081 | 9.672 | .2312 | .4635 | .1253 |
| #1 | 130.7 | 36.40 | 7.791 | 3.192 | .0056 | .0037 | 1.162 | .0117 | .0714 |
| #2 | 130.7 | 36.26 | 7.864 | 3.207 | .0060 | .0031 | 1.164 | .0116 | .0713 |
| #3 | 130.7 | 36.23 | 7.815 | 3.212 | .0057 | .0037 | 1.167 | .0116 | .0714 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.703** | **.0026** | **.0255** | **6.133** | **-.0133** | **.1215** | **4.106** |
| Stddev | .009 | .0005 | .0003 | .016 | .0008 | .0014 | .007 |
| %RSD | .2490 | 18.27 | 1.154 | .2614 | 6.275 | 1.113 | .1826 |
| #1 | 3.695 | .0032 | .0251 | 6.116 | -.0128 | .1211 | 4.098 |
| #2 | 3.702 | .0023 | .0257 | 6.134 | -.0143 | .1205 | 4.107 |
| #3 | 3.713 | .0024 | .0256 | 6.148 | -.0129 | .1230 | 4.112 |



Zoom In Zoom Out

Sample Name: jc87450-2 Acquired: 5/9/2019 19:17:54 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88408.** | **9145.7** | **6252.6** | **12626.** |
| Stddev | 319. | 37.3 | 4.0 | 6. |
| %RSD | .36089 | .40752 | .06450 | .04429 |
| #1 | 88040. | 9124.6 | 6254.4 | 12627. |
| #2 | 88579. | 9188.8 | 6255.5 | 12631. |
| #3 | 88606. | 9123.9 | 6248.0 | 12620. |



Zoom In Zoom Out

Sample Name: jc87450-3 Acquired: 5/9/2019 19:23:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3167** | **.0026** | **.0011** | **.0888** | **.1837** | **.2170** | **3.962** | **.2124** | **.0016** |
| Stddev | .0017 | .0001 | .0001 | .0005 | .0008 | .0006 | .047 | .0002 | .0004 |
| %RSD | .5456 | 1.968 | 9.393 | .5749 | .4186 | .2570 | 1.173 | .0918 | 24.85 |
| #1 | .3161 | .0025 | .0012 | .0882 | .1840 | .2174 | 3.945 | .2123 | .0012 |
| #2 | .3186 | .0026 | .0010 | .0892 | .1844 | .2172 | 4.015 | .2123 | .0017 |
| #3 | .3153 | .0026 | .0010 | .0890 | .1829 | .2164 | 3.928 | .2126 | .0020 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2543** | **.7137** | **.0894** | **.0032** | **.1212** | **.0016** | **.0161** | **102.1** | **16.94** |
| Stddev | .0011 | .0024 | .0004 | .0008 | .0006 | .0019 | .0021 | .4 | .03 |
| %RSD | .4462 | .3407 | .4599 | 25.08 | .5316 | 116.3 | 13.22 | .3907 | .1893 |
| #1 | .2550 | .7111 | .0891 | .0027 | .1208 | .0018 | .0144 | 102.1 | 16.93 |
| #2 | .2548 | .7140 | .0899 | .0027 | .1209 | -.0003 | .0153 | 102.5 | 16.98 |
| #3 | .2530 | .7159 | .0892 | .0041 | .1220 | .0034 | .0185 | 101.7 | 16.92 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **198.2** | **47.66** | **9.639** | **.7177** | **.0145** | **.0085** | **1.264** | **.0100** | **.1017** |
| Stddev | .5 | .17 | .077 | .0073 | .0010 | .0001 | .004 | .0006 | .0002 |
| %RSD | .2303 | .3567 | .7970 | 1.012 | 6.703 | 1.116 | .3384 | 5.609 | .1776 |
| #1 | 198.0 | 47.53 | 9.678 | .7116 | .0138 | .0085 | 1.259 | .0098 | .1019 |
| #2 | 198.8 | 47.85 | 9.687 | .7257 | .0156 | .0084 | 1.265 | .0106 | .1018 |
| #3 | 198.0 | 47.59 | 9.550 | .7159 | .0142 | .0086 | 1.268 | .0096 | .1015 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.932** | **.0029** | **.0195** | **1.787** | **-.0111** | **.1506** | **4.242** |
| Stddev | .015 | .0009 | .0001 | .008 | .0008 | .0015 | .019 |
| %RSD | .3863 | 31.37 | .5686 | .4597 | 6.794 | .9941 | .4516 |
| #1 | 3.942 | .0039 | .0195 | 1.779 | -.0102 | .1504 | 4.227 |
| #2 | 3.939 | .0027 | .0194 | 1.787 | -.0114 | .1522 | 4.236 |
| #3 | 3.914 | .0021 | .0196 | 1.795 | -.0116 | .1492 | 4.264 |

Zoom In Zoom Out

Sample Name: jc87450-3 Acquired: 5/9/2019 19:23:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88373.** | **9239.3** | **6223.6** | **12659.** |
| Stddev | 608. | 34.1 | 11.0 | 4. |
| %RSD | .68782 | .36937 | .17744 | .03359 |
| #1 | 88571. | 9251.0 | 6236.2 | 12661. |
| #2 | 87690. | 9200.9 | 6218.4 | 12654. |
| #3 | 88857. | 9266.0 | 6216.0 | 12661. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 19:28:09 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.022** | **1.994** | **1.975** | **1.999** | **2.019** | **1.998** | **2.032** | **2.012** | **.2476** |
| Stddev | .006 | .007 | .007 | .007 | .006 | .007 | .006 | .006 | .0007 |
| %RSD | .3189 | .3688 | .3535 | .3327 | .2998 | .3350 | .3030 | .2883 | .2701 |
| #1 | 2.016 | 1.987 | 1.978 | 2.002 | 2.017 | 2.000 | 2.039 | 2.015 | .2483 |
| #2 | 2.029 | 2.002 | 1.980 | 2.003 | 2.026 | 2.004 | 2.032 | 2.015 | .2476 |
| #3 | 2.022 | 1.993 | 1.967 | 1.991 | 2.015 | 1.991 | 2.026 | 2.005 | .2470 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **1.998** | **1.946** | **2.035** | **1.996** | **1.971** | **1.951** | **40.17** | **39.99** |
| Stddev | .005 | .007 | .006 | .007 | .006 | .008 | .010 | .14 | .14 |
| %RSD | .2461 | .3395 | .3288 | .3387 | .3028 | .4101 | .4909 | .3406 | .3463 |
| #1 | 2.012 | 2.003 | 1.950 | 2.037 | 1.999 | 1.974 | 1.959 | 40.04 | 39.85 |
| #2 | 2.016 | 2.000 | 1.950 | 2.041 | 2.001 | 1.977 | 1.955 | 40.31 | 40.13 |
| #3 | 2.006 | 1.990 | 1.939 | 2.027 | 1.989 | 1.961 | 1.941 | 40.17 | 39.99 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.32** | **39.30** | **40.47** | **40.48** | **1.983** | **1.956** | **4.874** | **1.958** | **2.032** |
| Stddev | .05 | .15 | .15 | .12 | .007 | .007 | .019 | .009 | .006 |
| %RSD | .1293 | .3926 | .3623 | .3087 | .3392 | .3550 | .3858 | .4342 | .3075 |
| #1 | 39.26 | 39.18 | 40.34 | 40.38 | 1.987 | 1.961 | 4.879 | 1.962 | 2.026 |
| #2 | 39.35 | 39.47 | 40.63 | 40.62 | 1.987 | 1.959 | 4.890 | 1.964 | 2.039 |
| #3 | 39.34 | 39.26 | 40.43 | 40.44 | 1.975 | 1.948 | 4.854 | 1.948 | 2.032 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 19:28:09 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.976** | **1.919** | **1.975** | **1.959** | **1.991** | **1.964** | **1.970** |
| Stddev | .005 | .009 | .008 | .007 | .007 | .005 | .008 |
| %RSD | .2536 | .4807 | .4060 | .3787 | .3332 | .2826 | .4123 |
| #1 | 1.976 | 1.923 | 1.979 | 1.966 | 1.995 | 1.959 | 1.977 |
| #2 | 1.981 | 1.926 | 1.980 | 1.960 | 1.994 | 1.970 | 1.972 |
| #3 | 1.971 | 1.909 | 1.965 | 1.951 | 1.983 | 1.962 | 1.961 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83550.** | **8667.2** | **5897.0** | **12194.** |
| Stddev | 238. | 31.1 | 11.1 | 17. |
| %RSD | .28502 | .35915 | .18863 | .14025 |
| #1 | 83731. | 8670.9 | 5892.1 | 12186. |
| #2 | 83280. | 8634.4 | 5889.2 | 12182. |
| #3 | 83638. | 8696.4 | 5909.8 | 12214. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 19:33:10 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **.0001** | **-.0001** | **.0003** | **-.0003** | **.0001** | **.0002** |
| Stddev | .0004 | .0000 | .0002 | .0001 | .0002 | .0001 | .0000 | .0002 |
| %RSD | 258.9 | 57.66 | 139.2 | 41.21 | 61.79 | 34.84 | 10.37 | 80.46 |
| #1 | .0003 | -.0000 | .0004 | -.0001 | .0001 | -.0002 | .0001 | .0004 |
| #2 | -.0002 | -.0001 | .0000 | -.0001 | .0004 | -.0003 | .0001 | .0001 |
| #3 | -.0005 | -.0000 | .0000 | -.0002 | .0004 | -.0004 | .0001 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0002** | **.0001** | **-.0007** | **.0001** | **-.0000** | **.0013** | **.0008** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0012 | .0001 | .0018 | .0002 |
| %RSD | 25.14 | 29.22 | 156.4 | 42.45 | 805.4 | 501.3 | 139.2 | 31.42 |
| #1 | -.0002 | .0003 | .0001 | -.0004 | -.0011 | -.0001 | .0013 | .0008 |
| #2 | -.0002 | .0003 | .0002 | -.0007 | .0003 | .0001 | .0032 | .0010 |
| #3 | -.0003 | .0002 | -.0001 | -.0010 | .0013 | .0000 | -.0005 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **.0037** | **.0047** | **-.0212** | **.1356** | **-.0515** | **.0017** | **.0003** |
| Stddev | .0064 | .0033 | .0031 | .0171 | .0417 | .0087 | .0001 | .0004 |
| %RSD | 452.9 | 90.41 | 65.20 | 80.60 | 30.77 | 16.90 | 7.433 | 104.8 |
| #1 | -.0088 | .0072 | .0077 | -.0041 | .1837 | -.0592 | .0016 | .0006 |
| #2 | .0016 | .0006 | .0048 | -.0382 | .1095 | -.0421 | .0018 | -.0001 |
| #3 | .0029 | .0032 | .0016 | -.0212 | .1135 | -.0533 | .0016 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 19:33:10 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014** | **.0006** | **.0001** | **-.0001** | **.0009** | **.0002** | **-.0012** | **.0001** |
| Stddev | .0007 | .0004 | .0002 | .0002 | .0002 | .0001 | .0010 | .0013 |
| %RSD | 49.60 | 63.34 | 167.9 | 135.4 | 25.12 | 41.27 | 79.66 | 1091. |
| #1 | .0016 | .0004 | -.0000 | -.0001 | .0009 | .0002 | -.0007 | .0006 |
| #2 | .0006 | .0003 | .0001 | -.0003 | .0007 | .0001 | -.0024 | .0011 |
| #3 | .0019 | .0010 | .0003 | .0000 | .0012 | .0001 | -.0006 | -.0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0058** | **.0021** |
| Stddev | .0013 | .0003 |
| %RSD | 22.01 | 13.43 |
| #1 | -.0070 | .0022 |
| #2 | -.0045 | .0017 |
| #3 | -.0058 | .0023 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85170.** | **8721.7** | **5961.1** | **12574.** |
| Stddev | 316. | 39.2 | 11.1 | 17. |
| %RSD | .37058 | .44944 | .18562 | .13562 |
| #1 | 85503. | 8744.9 | 5951.7 | 12568. |
| #2 | 85132. | 8676.4 | 5973.3 | 12594. |
| #3 | 84875. | 8743.7 | 5958.2 | 12561. |



Zoom In Zoom Out

Sample Name: ticonf Acquired: 5/9/2019 19:38:22 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **-.0005** | **.0002** | **-.0003** | **-.0009** | **.0001** | **.0001** |
| Stddev | .0002 | .0001 | .0002 | .0003 | .0003 | .0002 | .0000 | .0000 |
| %RSD | 313.7 | 85.73 | 31.05 | 123.7 | 78.92 | 26.22 | 19.00 | 20.65 |
| #1 | .0001 | .0000 | -.0004 | -.0000 | -.0004 | -.0007 | .0001 | .0001 |
| #2 | .0000 | .0002 | -.0007 | .0002 | -.0000 | -.0009 | .0001 | .0001 |
| #3 | -.0004 | .0001 | -.0004 | .0005 | -.0005 | -.0011 | .0001 | .0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0005** | **-.0009** | **-.0006** | **.0006** | **.0010** | **.0013** | **.0418** |
| Stddev | .0001 | .0004 | .0000 | .0006 | .0014 | .0014 | .0002 | .0010 |
| %RSD | 32.78 | 70.34 | 3.392 | 94.21 | 241.1 | 144.4 | 16.01 | 2.461 |
| #1 | .0004 | .0010 | -.0009 | .0000 | .0021 | -.0007 | .0015 | .0409 |
| #2 | .0002 | .0004 | -.0009 | -.0012 | -.0008 | .0019 | .0014 | .0417 |
| #3 | .0004 | .0003 | -.0009 | -.0007 | .0005 | .0018 | .0011 | .0429 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0096** | **.0085** | **-.0186** | **.0684** | **-.0409** | **.0021** | **.0013** |
| Stddev | .0053 | .0059 | .0027 | .0295 | .0218 | .0105 | .0006 | .0001 |
| %RSD | 6729. | 61.76 | 32.42 | 158.8 | 31.94 | 25.66 | 26.74 | 6.697 |
| #1 | -.0003 | .0141 | .0093 | .0110 | .0918 | -.0309 | .0026 | .0013 |
| #2 | .0053 | .0118 | .0107 | -.0187 | .0647 | -.0518 | .0021 | .0014 |
| #3 | -.0053 | .0029 | .0054 | -.0480 | .0486 | -.0399 | .0015 | .0013 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0245** | F **-.0174** | **.0002** | F **10.04** | **.0010** | **.0003** | **-.0006** | F **-.0407** |
| Stddev | .0016 | .0006 | .0000 | .10 | .0003 | .0001 | .0003 | .0028 |
| %RSD | 6.566 | 3.469 | 14.82 | .9808 | 28.95 | 38.16 | 57.13 | 6.988 |
| #1 | -.0263 | -.0179 | .0002 | 10.14 | .0007 | .0004 | -.0009 | -.0375 |
| #2 | -.0238 | -.0175 | .0003 | 10.04 | .0013 | .0003 | -.0002 | -.0427 |
| #3 | -.0234 | -.0167 | .0002 | 9.939 | .0010 | .0002 | -.0007 | -.0420 |



Zoom In Zoom Out

Sample Name: ticonf Acquired: 5/9/2019 19:38:22 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0032** | **.0017** |
| Stddev | .0014 | .0002 |
| %RSD | 42.63 | 10.63 |
| #1 | -.0028 | .0016 |
| #2 | -.0021 | .0019 |
| #3 | -.0047 | .0016 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85095.** | **8749.3** | **5990.0** | **12617.** |
| Stddev | 262. | 31.8 | 35.5 | 70. |
| %RSD | .30761 | .36355 | .59286 | .55636 |
| #1 | 84796. | 8775.8 | 5971.6 | 12576. |
| #2 | 85210. | 8714.1 | 5967.4 | 12577. |
| #3 | 85280. | 8758.1 | 6030.9 | 12698. |



Zoom In Zoom Out

Sample Name: vconf Acquired: 5/9/2019 19:43:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0006** | **.0008** | **.0000** | **.0008** | **.0003** | **.0001** | **-.0002** | **-.0011** |
| Stddev | .0002 | .0002 | .0000 | .0001 | .0001 | .0001 | .0000 | .0004 | .0004 |
| %RSD | 112.3 | 34.16 | 5.794 | 568.1 | 12.96 | 47.22 | 58.11 | 200.6 | 38.11 |
| #1 | .0002 | -.0004 | .0008 | .0000 | .0008 | .0003 | .0001 | -.0007 | -.0012 |
| #2 | .0002 | -.0007 | .0008 | -.0001 | .0008 | .0002 | .0001 | .0001 | -.0015 |
| #3 | -.0000 | -.0006 | .0007 | .0002 | .0010 | .0005 | .0000 | -.0001 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **10.68** | **.0007** | **.0005** | **.0059** | **.0001** | **.0020** | **.0024** | **-.0010** | **.0091** |
| Stddev | .07 | .0001 | .0003 | .0013 | .0007 | .0008 | .0014 | .0136 | .0036 |
| %RSD | .6157 | 8.051 | 57.17 | 22.29 | 643.4 | 40.80 | 57.23 | 1390. | 39.39 |
| #1 | 10.61 | .0007 | .0003 | .0045 | .0001 | .0010 | .0018 | .0143 | .0101 |
| #2 | 10.74 | .0007 | .0008 | .0070 | -.0006 | .0024 | .0040 | -.0054 | .0120 |
| #3 | 10.70 | .0006 | .0004 | .0063 | .0008 | .0025 | .0014 | -.0119 | .0051 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **-.0349** | **.1228** | **.0050** | **.0007** | **-.0006** | **.0697** | **.0004** | **-.0000** |
| Stddev | .0057 | .0189 | .0107 | .0109 | .0007 | .0001 | .0007 | .0003 | .0000 |
| %RSD | 560.8 | 54.21 | 8.730 | 219.2 | 95.93 | 20.52 | 1.053 | 93.27 | 269.4 |
| #1 | -.0074 | -.0148 | .1130 | -.0075 | .0008 | -.0006 | .0695 | .0005 | -.0000 |
| #2 | .0010 | -.0375 | .1343 | .0099 | .0014 | -.0004 | .0706 | .0006 | -.0000 |
| #3 | .0034 | -.0523 | .1213 | .0126 | -.0000 | -.0007 | .0692 | -.0000 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **.0002** | **-.0020** | **-.0017** | **-.0023** | **-.0112** | **-.0036** |
| Stddev | .0004 | .0005 | .0001 | .0002 | .0008 | .0021 | .0004 |
| %RSD | 80.21 | 226.5 | 4.738 | 10.83 | 33.21 | 18.75 | 10.98 |
| #1 | -.0009 | -.0003 | -.0020 | -.0017 | -.0020 | -.0094 | -.0032 |
| #2 | -.0000 | .0005 | -.0021 | -.0015 | -.0017 | -.0108 | -.0040 |
| #3 | -.0007 | .0005 | -.0019 | -.0019 | -.0031 | -.0135 | -.0038 |

Zoom In Zoom Out

Sample Name: vconf Acquired: 5/9/2019 19:43:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85512.** | **8709.5** | **6025.4** | **12680.** |
| Stddev | 297. | 6.9 | 6.9 | 5. |
| %RSD | .34705 | .07942 | .11403 | .03820 |
| #1 | 85393. | 8715.2 | 6031.7 | 12685. |
| #2 | 85294. | 8701.8 | 6026.3 | 12677. |
| #3 | 85850. | 8711.6 | 6018.1 | 12677. |



Zoom In Zoom Out

Sample Name: coconf Acquired: 5/9/2019 19:48:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0001** | **-.0006** | F **11.53** | **.0003** | **-.0025** | **-.0001** | **-.0019** |
| Stddev | .0002 | .0000 | .0000 | .04 | .0002 | .0002 | .0000 | .0000 |
| %RSD | 66.58 | 64.31 | 5.153 | .3394 | 85.76 | 9.721 | 28.35 | 2.122 |
| #1 | -.0002 | .0001 | -.0006 | 11.52 | .0005 | -.0024 | -.0001 | -.0020 |
| #2 | -.0001 | .0000 | -.0007 | 11.50 | .0001 | -.0028 | -.0002 | -.0019 |
| #3 | -.0005 | .0001 | -.0006 | 11.57 | .0001 | -.0023 | -.0001 | -.0019 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0003** | **-.0008** | **-.0012** | F **-.0022** | **.0025** | **.0027** | **.0007** |
| Stddev | .0002 | .0005 | .0001 | .0002 | .0008 | .0000 | .0005 | .0017 |
| %RSD | 82.67 | 175.7 | 14.98 | 20.16 | 35.12 | 1.691 | 16.97 | 245.4 |
| #1 | -.0000 | -.0009 | -.0009 | -.0009 | -.0031 | .0024 | .0023 | .0007 |
| #2 | -.0003 | .0001 | -.0009 | -.0014 | -.0018 | .0025 | .0032 | .0024 |
| #3 | -.0004 | -.0001 | -.0007 | -.0011 | -.0017 | .0025 | .0026 | -.0010 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0055** | **-.0121** | **-.0046** | **-.0183** | **.0884** | **-.0813** | **-.0002** | **.0001** |
| Stddev | .0102 | .0006 | .0051 | .0143 | .0055 | .0074 | .0003 | .0001 |
| %RSD | 183.7 | 5.063 | 110.5 | 78.17 | 6.262 | 9.134 | 125.3 | 139.7 |
| #1 | -.0140 | -.0127 | -.0099 | -.0084 | .0839 | -.0842 | -.0005 | .0002 |
| #2 | .0058 | -.0122 | .0001 | -.0117 | .0946 | -.0869 | -.0002 | -.0000 |
| #3 | -.0084 | -.0115 | -.0040 | -.0347 | .0866 | -.0729 | .0000 | .0001 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0041** | **.0002** | **-.0000** | **-.0002** | **-.0002** | **.0002** | **.0025** | **.0082** |
| Stddev | .0008 | .0009 | .0002 | .0003 | .0001 | .0001 | .0007 | .0015 |
| %RSD | 19.70 | 492.0 | 379.8 | 182.7 | 62.84 | 82.79 | 26.68 | 18.47 |
| #1 | -.0050 | .0011 | .0001 | -.0000 | -.0000 | .0002 | .0019 | .0098 |
| #2 | -.0036 | -.0000 | -.0000 | -.0005 | -.0002 | .0000 | .0032 | .0069 |
| #3 | -.0036 | -.0006 | -.0002 | .0001 | -.0002 | .0003 | .0024 | .0078 |



Zoom In Zoom Out

Sample Name: coconf Acquired: 5/9/2019 19:48:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0094** | **.0020** |
| Stddev | .0009 | .0004 |
| %RSD | 9.209 | 19.93 |
| #1 | -.0089 | .0019 |
| #2 | -.0104 | .0025 |
| #3 | -.0090 | .0017 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85683.** | **8695.0** | **6037.1** | **12812.** |
| Stddev | 94. | 70.1 | 25.4 | 36. |
| %RSD | .10991 | .80594 | .41999 | .28476 |
| #1 | 85738. | 8636.8 | 6053.3 | 12838. |
| #2 | 85737. | 8675.4 | 6050.0 | 12829. |
| #3 | 85575. | 8772.8 | 6007.8 | 12771. |



Zoom In Zoom Out

Sample Name: niconf Acquired: 5/9/2019 19:54:08 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0000** | **.0001** | **.0012** | **.0004** | **-.0004** | **.0001** | F **10.03** | **-.0001** |
| Stddev | .0004 | .0001 | .0003 | .0003 | .0002 | .0001 | .0000 | .02 | .0003 |
| %RSD | 263.8 | 197.0 | 449.7 | 23.61 | 64.18 | 13.75 | 18.08 | .1786 | 273.5 |
| #1 | .0001 | .0000 | -.0000 | .0009 | .0003 | -.0003 | .0001 | 10.01 | .0000 |
| #2 | -.0006 | -.0001 | .0004 | .0014 | .0002 | -.0004 | .0001 | 10.02 | .0001 |
| #3 | .0001 | -.0001 | -.0002 | .0013 | .0007 | -.0004 | .0001 | 10.05 | -.0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0012** | **.0010** | **.0010** | **.0001** | **.0010** | **.0050** | **-.0111** | **.0090** |
| Stddev | .0003 | .0001 | .0005 | .0017 | .0004 | .0009 | .0010 | .0136 | .0036 |
| %RSD | 675.1 | 6.814 | 52.02 | 166.1 | 708.0 | 97.12 | 19.35 | 122.0 | 40.00 |
| #1 | .0002 | .0011 | .0004 | .0026 | .0004 | .0010 | .0046 | .0039 | .0056 |
| #2 | -.0004 | .0012 | .0014 | -.0008 | .0001 | .0019 | .0042 | -.0147 | .0127 |
| #3 | .0001 | .0013 | .0011 | .0012 | -.0004 | .0000 | .0060 | -.0226 | .0087 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **-.0215** | **.1121** | **-.0836** | **-.0001** | **.0001** | **-.0024** | **-.0002** | **-.0000** |
| Stddev | .0045 | .0217 | .0084 | .0074 | .0006 | .0001 | .0010 | .0006 | .0001 |
| %RSD | 739.3 | 101.1 | 7.472 | 8.908 | 728.5 | 85.00 | 39.97 | 283.7 | 1154. |
| #1 | -.0059 | .0036 | .1057 | -.0920 | .0006 | .0001 | -.0033 | -.0006 | .0001 |
| #2 | .0018 | -.0331 | .1216 | -.0777 | -.0003 | .0000 | -.0014 | .0005 | -.0000 |
| #3 | .0022 | -.0350 | .1091 | -.0810 | -.0005 | .0001 | -.0024 | -.0005 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0002** | **.0002** | **-.0015** | **-.0011** | **-.0090** | **.0082** |
| Stddev | .0003 | .0003 | .0000 | .0012 | .0003 | .0004 | .0005 |
| %RSD | 85.31 | 148.8 | 18.40 | 79.66 | 28.47 | 4.722 | 6.337 |
| #1 | -.0001 | .0003 | .0002 | -.0028 | -.0014 | -.0087 | .0078 |
| #2 | -.0002 | -.0001 | .0002 | -.0010 | -.0008 | -.0095 | .0088 |
| #3 | -.0007 | .0005 | .0002 | -.0006 | -.0011 | -.0088 | .0081 |

Zoom In Zoom Out

Sample Name: niconf Acquired: 5/9/2019 19:54:08 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85214.** | **8581.4** | **6048.2** | **12758.** |
| Stddev | 460. | 48.6 | 7.8 | 11. |
| %RSD | .54011 | .56671 | .12818 | .08779 |
| #1 | 85451. | 8633.9 | 6040.5 | 12747. |
| #2 | 84683. | 8537.9 | 6056.0 | 12769. |
| #3 | 85508. | 8572.3 | 6048.0 | 12759. |



Zoom In Zoom Out

Sample Name: snconf Acquired: 5/9/2019 19:59:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0003** | **-.0001** | **-.0002** | **-.0000** | **-.0003** | **.0001** | **.0004** | **-.0003** |
| Stddev | .0002 | .0002 | .0001 | .0001 | .0002 | .0003 | .0000 | .0002 | .0004 |
| %RSD | 734.7 | 60.50 | 93.77 | 51.62 | 376.6 | 86.50 | 19.21 | 68.03 | 123.7 |
| #1 | -.0002 | -.0004 | .0000 | -.0004 | -.0001 | -.0002 | .0001 | .0004 | -.0008 |
| #2 | .0000 | -.0003 | -.0001 | -.0002 | -.0002 | -.0006 | .0001 | .0001 | -.0002 |
| #3 | .0002 | -.0001 | -.0001 | -.0002 | .0002 | -.0001 | .0001 | .0006 | .0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0001** | **-.0006** | **-.0003** | **-.0013** | **.0013** | **.0033** | **.0018** | **.0075** |
| Stddev | .0002 | .0001 | .0004 | .0005 | .0008 | .0014 | .0019 | .0124 | .0023 |
| %RSD | 100.8 | 129.6 | 67.22 | 147.8 | 64.68 | 107.0 | 57.86 | 704.9 | 30.29 |
| #1 | -.0001 | .0003 | -.0001 | -.0003 | -.0004 | -.0003 | .0012 | .0131 | .0062 |
| #2 | -.0000 | .0001 | -.0007 | .0001 | -.0015 | .0019 | .0038 | .0036 | .0101 |
| #3 | -.0005 | -.0000 | -.0009 | -.0009 | -.0020 | .0022 | .0049 | -.0114 | .0061 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0032** | **-.0222** | **.1141** | **-.0810** | **.0044** | **.0001** | **-.0033** | F **10.40** | **.0000** |
| Stddev | .0033 | .0248 | .0235 | .0025 | .0004 | .0002 | .0007 | .02 | .0002 |
| %RSD | 104.7 | 111.4 | 20.61 | 3.082 | 8.270 | 243.1 | 21.95 | .2357 | 4696. |
| #1 | .0060 | -.0454 | .1392 | -.0804 | .0047 | .0003 | -.0030 | 10.37 | .0002 |
| #2 | .0039 | -.0253 | .0926 | -.0789 | .0045 | -.0001 | -.0028 | 10.41 | -.0000 |
| #3 | -.0005 | .0039 | .1104 | -.0838 | .0040 | .0000 | -.0041 | 10.42 | -.0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0011** | **-.0003** | **-.0018** | **.0010** | **-.0107** | **.0017** |
| Stddev | .0002 | .0003 | .0002 | .0003 | .0019 | .0004 | .0002 |
| %RSD | 39.10 | 26.57 | 74.82 | 15.76 | 195.2 | 3.847 | 9.319 |
| #1 | -.0005 | .0011 | -.0003 | -.0015 | .0002 | -.0111 | .0019 |
| #2 | -.0004 | .0014 | -.0004 | -.0018 | -.0005 | -.0109 | .0016 |
| #3 | -.0002 | .0008 | -.0001 | -.0021 | .0032 | -.0103 | .0017 |



Zoom In Zoom Out

Sample Name: snconf Acquired: 5/9/2019 19:59:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85587.** | **8677.3** | **6042.8** | **12689.** |
| Stddev | 212. | 28.5 | 17.5 | 35. |
| %RSD | .24825 | .32795 | .28989 | .27397 |
| #1 | 85805. | 8651.3 | 6062.3 | 12726. |
| #2 | 85576. | 8707.7 | 6028.5 | 12658. |
| #3 | 85380. | 8673.0 | 6037.6 | 12682. |



Zoom In Zoom Out

Sample Name: baconf Acquired: 5/9/2019 20:04:26 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **10.26** | **.0000** | **-.0006** | **.0019** | **.0004** | **.0001** | **.0001** | **.0003** | **.0003** |
| Stddev | .19 | .0001 | .0001 | .0003 | .0001 | .0001 | .0000 | .0003 | .0005 |
| %RSD | 1.889 | 116.3 | 13.15 | 16.53 | 14.87 | 171.5 | 28.53 | 77.06 | 158.0 |
| #1 | 10.21 | .0001 | -.0005 | .0022 | .0004 | -.0000 | .0001 | .0002 | .0004 |
| #2 | 10.47 | .0001 | -.0006 | .0016 | .0005 | .0001 | .0001 | .0006 | .0007 |
| #3 | 10.09 | -.0000 | -.0006 | .0020 | .0004 | .0001 | .0000 | .0001 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0002** | **.0013** | **.0004** | **.0010** | **-.0000** | **.0003** | **-.0070** | **.0029** |
| Stddev | .0002 | .0001 | .0007 | .0014 | .0007 | .0011 | .0014 | .0097 | .0024 |
| %RSD | 118.0 | 46.40 | 49.89 | 336.1 | 64.60 | 16930. | 492.7 | 137.5 | 80.96 |
| #1 | -.0003 | .0002 | .0014 | -.0007 | .0010 | .0008 | -.0013 | -.0076 | .0037 |
| #2 | .0001 | .0004 | .0007 | -.0001 | .0017 | .0005 | .0011 | -.0165 | .0048 |
| #3 | -.0004 | .0001 | .0020 | .0020 | .0004 | -.0013 | .0011 | .0029 | .0003 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0008** | **-.0170** | **.0526** | **-.1026** | **-.0006** | **.0002** | **-.0054** | **.0008** | **.0002** |
| Stddev | .0040 | .0226 | .0075 | .0106 | .0005 | .0000 | .0003 | .0004 | .0001 |
| %RSD | 480.8 | 132.5 | 14.35 | 10.35 | 80.69 | 18.44 | 6.257 | 54.35 | 28.83 |
| #1 | -.0032 | .0070 | .0605 | -.1120 | -.0009 | .0003 | -.0053 | .0005 | .0003 |
| #2 | -.0031 | -.0378 | .0454 | -.1048 | -.0009 | .0002 | -.0051 | .0013 | .0003 |
| #3 | .0038 | -.0203 | .0518 | -.0911 | -.0000 | .0002 | -.0057 | .0005 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0018** | **.0005** | **-.0026** | **-.0006** | **-.0136** | **.0020** |
| Stddev | .0003 | .0006 | .0002 | .0020 | .0021 | .0008 | .0005 |
| %RSD | 219.6 | 32.89 | 30.58 | 76.37 | 360.7 | 6.164 | 23.88 |
| #1 | -.0005 | .0018 | .0005 | -.0027 | -.0030 | -.0128 | .0015 |
| #2 | .0000 | .0013 | .0004 | -.0046 | .0012 | -.0136 | .0023 |
| #3 | .0000 | .0025 | .0007 | -.0006 | .0000 | -.0145 | .0023 |

Zoom In Zoom Out

Sample Name: baconf Acquired: 5/9/2019 20:04:26 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84526.** | **8596.6** | **6028.3** | **12768.** |
| Stddev | 682. | 29.7 | 15.5 | 15. |
| %RSD | .80725 | .34593 | .25730 | .11396 |
| #1 | 84532. | 8564.3 | 6027.2 | 12766. |
| #2 | 85205. | 8602.9 | 6013.3 | 12755. |
| #3 | 83841. | 8622.8 | 6044.3 | 12783. |



Zoom In Zoom Out

Sample Name: moconf Acquired: 5/9/2019 20:09:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0000** | **.0002** | **-.0003** | **-.0007** | **.0013** | **-.0003** | **-.0002** | **.0014** |
| Stddev | .0005 | .0000 | .0001 | .0001 | .0001 | .0002 | .0000 | .0003 | .0003 |
| %RSD | 220.8 | 606.6 | 36.67 | 32.80 | 19.54 | 13.49 | 9.053 | 118.4 | 20.01 |
| #1 | -.0008 | .0000 | .0002 | -.0003 | -.0006 | .0014 | -.0003 | .0001 | .0016 |
| #2 | -.0000 | .0001 | .0001 | -.0004 | -.0009 | .0011 | -.0003 | -.0005 | .0015 |
| #3 | .0001 | -.0000 | .0001 | -.0002 | -.0007 | .0015 | -.0003 | -.0003 | .0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0023** | **-.0006** | **-.0019** | **-.0000** | **.0029** | **.0010** | **.0020** | **.0112** |
| Stddev | .0004 | .0000 | .0009 | .0012 | .0002 | .0003 | .0016 | .0110 | .0008 |
| %RSD | 5050. | 1.500 | 151.9 | 61.59 | 591.1 | 9.180 | 151.4 | 551.6 | 7.393 |
| #1 | .0004 | .0023 | -.0017 | -.0022 | .0001 | .0032 | .0002 | .0037 | .0117 |
| #2 | -.0005 | .0022 | .0000 | -.0006 | -.0002 | .0027 | .0028 | .0120 | .0118 |
| #3 | .0001 | .0023 | -.0002 | -.0029 | .0001 | .0029 | .0001 | -.0098 | .0103 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0442** | **.0312** | **-.0939** | **-.0092** | F **9.367** | **.1050** | **-.0002** | **.0001** |
| Stddev | .0024 | .0240 | .0216 | .0026 | .0016 | .055 | .0009 | .0007 | .0002 |
| %RSD | 184.5 | 54.42 | 69.19 | 2.784 | 16.83 | .5855 | .8484 | 310.5 | 178.7 |
| #1 | .0018 | .0202 | .0291 | -.0968 | -.0103 | 9.329 | .1052 | .0001 | .0002 |
| #2 | .0034 | .0683 | .0537 | -.0919 | -.0100 | 9.430 | .1040 | -.0010 | -.0001 |
| #3 | -.0013 | .0440 | .0107 | -.0929 | -.0075 | 9.342 | .1058 | .0003 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0012** | **.0019** | **.0106** | **-.0046** | **.0000** | **-.0167** | **.0026** |
| Stddev | .0003 | .0009 | .0001 | .0014 | .0006 | .0011 | .0004 |
| %RSD | 25.14 | 47.40 | 1.363 | 29.38 | 1702. | 6.863 | 15.89 |
| #1 | -.0009 | .0016 | .0105 | -.0043 | .0007 | -.0180 | .0030 |
| #2 | -.0014 | .0029 | .0105 | -.0062 | -.0003 | -.0157 | .0023 |
| #3 | -.0014 | .0012 | .0107 | -.0035 | -.0002 | -.0165 | .0024 |



Zoom In Zoom Out

Sample Name: moconf Acquired: 5/9/2019 20:09:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84924.** | **8568.1** | **5993.5** | **12612.** |
| Stddev | 91. | 23.0 | 20.9 | 43. |
| %RSD | .10770 | .26888 | .34858 | .34102 |
| #1 | 85016. | 8594.5 | 5999.8 | 12625. |
| #2 | 84833. | 8552.5 | 5970.2 | 12564. |
| #3 | 84923. | 8557.2 | 6010.6 | 12647. |



Zoom In Zoom Out

Sample Name: sconf Acquired: 5/9/2019 20:14:50 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **.0000** | **-.0001** | **.0001** | **-.0004** | **.0001** | **.0002** | **-.0009** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 97.47 | 31.90 | 2055. | 180.1 | 296.4 | 57.64 | 48.30 | 32.31 | 37.11 |
| #1 | -.0002 | -.0000 | -.0001 | -.0002 | .0002 | -.0006 | .0000 | .0001 | -.0005 |
| #2 | -.0002 | -.0001 | -.0000 | .0001 | -.0002 | -.0002 | .0001 | .0002 | -.0009 |
| #3 | .0000 | -.0000 | .0001 | -.0001 | .0003 | -.0005 | .0001 | .0002 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0007** | **-.0011** | **-.0009** | **.0009** | **-.0015** | **-.0018** | **.0034** |
| Stddev | .0001 | .0001 | .0001 | .0007 | .0004 | .0009 | .0014 | .0017 | .0030 |
| %RSD | 77.17 | 100.9 | 14.76 | 61.72 | 46.82 | 95.73 | 93.91 | 94.63 | 87.34 |
| #1 | -.0002 | .0003 | .0008 | -.0003 | -.0013 | -.0000 | -.0022 | -.0026 | .0066 |
| #2 | -.0002 | .0001 | .0006 | -.0015 | -.0004 | .0017 | .0001 | -.0031 | .0006 |
| #3 | -.0000 | .0000 | .0008 | -.0015 | -.0009 | .0011 | -.0025 | .0001 | .0030 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0022** | **-.0030** | **.0062** | **-.1033** | **.0000** | **.0002** | **.0017** | **.0000** | **.0000** |
| Stddev | .0045 | .0486 | .0365 | .0069 | .0002 | .0001 | .0005 | .0004 | .0002 |
| %RSD | 202.9 | 1617. | 585.8 | 6.669 | 1143. | 28.68 | 28.43 | 1432. | 536.6 |
| #1 | .0046 | -.0007 | .0222 | -.1069 | -.0001 | .0001 | .0011 | .0005 | -.0001 |
| #2 | -.0030 | .0444 | -.0356 | -.0953 | .0002 | .0002 | .0021 | -.0003 | .0002 |
| #3 | .0051 | -.0527 | .0320 | -.1076 | -.0001 | .0003 | .0019 | -.0002 | -.0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0007** | **.0001** | **93.39** | **.0025** | **-.0163** | **.0028** |
| Stddev | .0003 | .0009 | .0002 | .14 | .0013 | .0008 | .0010 |
| %RSD | 124.3 | 130.7 | 167.9 | .1521 | 52.37 | 4.671 | 34.94 |
| #1 | -.0005 | -.0002 | .0002 | 93.27 | .0024 | -.0170 | .0017 |
| #2 | .0001 | .0006 | -.0001 | 93.35 | .0012 | -.0155 | .0035 |
| #3 | -.0002 | .0016 | .0003 | 93.55 | .0038 | -.0165 | .0031 |

Zoom In Zoom Out

Sample Name: sconf Acquired: 5/9/2019 20:14:50 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85257.** | **8638.1** | **6025.6** | **12659.** |
| Stddev | 397. | 34.8 | 18.7 | 30. |
| %RSD | .46541 | .40267 | .30956 | .23688 |
| #1 | 85442. | 8653.9 | 6029.2 | 12671. |
| #2 | 84801. | 8662.1 | 6042.1 | 12681. |
| #3 | 85527. | 8598.2 | 6005.4 | 12625. |



Zoom In Zoom Out

Sample Name: siconf Acquired: 5/9/2019 20:20:00 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0001** | **-.0000** | **-.0002** | **.0004** | **-.0004** | **.0001** | **-.0001** | **-.0007** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0000 | .0001 | .0000 | .0003 | .0001 |
| %RSD | 73.77 | 149.0 | 177.7 | 61.86 | 7.726 | 25.76 | 30.51 | 407.9 | 12.03 |
| #1 | -.0002 | -.0002 | -.0000 | -.0001 | .0004 | -.0005 | .0001 | -.0004 | -.0007 |
| #2 | -.0002 | -.0000 | -.0001 | -.0003 | .0004 | -.0004 | .0000 | .0001 | -.0006 |
| #3 | -.0007 | -.0000 | .0000 | -.0001 | .0003 | -.0003 | .0001 | .0001 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0004** | **.0003** | **.0003** | **.0001** | **.0004** | **.0002** | **-.0187** | **.0076** |
| Stddev | .0002 | .0000 | .0006 | .0004 | .0005 | .0013 | .0012 | .0053 | .0036 |
| %RSD | 82.35 | 9.711 | 243.6 | 137.9 | 624.3 | 320.9 | 762.3 | 28.43 | 47.40 |
| #1 | -.0000 | .0004 | -.0001 | -.0000 | .0005 | .0000 | .0015 | -.0169 | .0039 |
| #2 | -.0004 | .0003 | .0010 | .0001 | -.0005 | -.0007 | -.0009 | -.0247 | .0111 |
| #3 | -.0002 | .0004 | -.0001 | .0007 | .0003 | .0018 | -.0001 | -.0145 | .0078 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **-.0032** | **.0447** | **-.1119** | **-.0006** | **.0003** | **9.139** | **.0009** | **.0001** |
| Stddev | .0028 | .0079 | .0739 | .0111 | .0006 | .0002 | .014 | .0007 | .0001 |
| %RSD | 150.8 | 246.6 | 165.3 | 9.935 | 94.72 | 61.26 | .1516 | 74.52 | 91.34 |
| #1 | .0003 | -.0001 | -.0367 | -.0993 | -.0013 | .0004 | 9.126 | .0016 | .0001 |
| #2 | .0002 | .0027 | .0632 | -.1160 | -.0002 | .0001 | 9.136 | .0009 | .0001 |
| #3 | .0050 | -.0122 | .1076 | -.1204 | -.0003 | .0004 | 9.154 | .0003 | -.0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0009** | **-.0049** | **.0043** | **.0005** | **-.0145** | **.0022** |
| Stddev | .0001 | .0016 | .0002 | .0006 | .0012 | .0015 | .0007 |
| %RSD | 312.4 | 178.0 | 4.898 | 12.91 | 222.0 | 10.05 | 29.63 |
| #1 | -.0001 | .0018 | -.0048 | .0038 | .0017 | -.0162 | .0027 |
| #2 | -.0000 | .0019 | -.0046 | .0049 | .0006 | -.0134 | .0015 |
| #3 | .0002 | -.0010 | -.0051 | .0042 | -.0007 | -.0140 | .0025 |



Zoom In Zoom Out

Sample Name: siconf Acquired: 5/9/2019 20:20:00 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85535.** | **8594.7** | **6067.0** | **12689.** |
| Stddev | 151. | 29.3 | 19.7 | 29. |
| %RSD | .17701 | .34102 | .32489 | .22555 |
| #1 | 85380. | 8576.5 | 6084.8 | 12713. |
| #2 | 85683. | 8628.5 | 6070.3 | 12698. |
| #3 | 85542. | 8579.0 | 6045.8 | 12658. |



Zoom In Zoom Out

Sample Name: mnconf Acquired: 5/9/2019 20:25:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **-.0002** | **.0001** | **-.0002** | **.0013** | **.0009** | F **10.02** | **-.0002** | **-.0005** |
| Stddev | .0003 | .0001 | .0002 | .0000 | .0001 | .0002 | .18 | .0001 | .0002 |
| %RSD | 61.16 | 40.00 | 324.8 | 5.264 | 5.067 | 24.17 | 1.834 | 79.22 | 43.80 |
| #1 | -.0007 | -.0001 | .0002 | -.0002 | .0013 | .0010 | 10.16 | -.0003 | -.0003 |
| #2 | -.0006 | -.0003 | .0001 | -.0002 | .0014 | .0010 | 10.09 | -.0000 | -.0007 |
| #3 | -.0001 | -.0003 | -.0001 | -.0002 | .0013 | .0006 | 9.811 | -.0002 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0002** | **-.0018** | **.0016** | **.0009** | **.0013** | **-.0000** | **-.0054** | **.0030** |
| Stddev | .0004 | .0001 | .0010 | .0014 | .0006 | .0016 | .0010 | .0136 | .0017 |
| %RSD | 40.97 | 20.38 | 59.28 | 85.05 | 67.84 | 123.4 | 5473. | 251.1 | 57.24 |
| #1 | -.0012 | .0002 | -.0030 | .0000 | .0002 | .0030 | -.0008 | .0096 | .0013 |
| #2 | -.0015 | .0003 | -.0011 | .0022 | .0012 | .0011 | .0012 | -.0089 | .0048 |
| #3 | -.0006 | .0003 | -.0012 | .0026 | .0014 | -.0002 | -.0004 | -.0169 | .0028 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0058** | **-.0229** | **.0313** | **-.1139** | **-.0008** | **.0001** | **.0010** | **.0009** | **.0001** |
| Stddev | .0022 | .0254 | .0129 | .0066 | .0005 | .0001 | .0009 | .0004 | .0002 |
| %RSD | 37.81 | 110.9 | 41.21 | 5.833 | 64.82 | 142.9 | 95.05 | 39.99 | 425.6 |
| #1 | -.0065 | -.0230 | .0187 | -.1179 | -.0002 | .0001 | .0000 | .0007 | -.0001 |
| #2 | -.0074 | -.0483 | .0308 | -.1062 | -.0010 | -.0000 | .0010 | .0013 | .0003 |
| #3 | -.0033 | .0025 | .0445 | -.1175 | -.0011 | .0001 | .0018 | .0007 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0022** | **-.0005** | **.0181** | **.0022** | **-.0154** | **.0066** |
| Stddev | .0006 | .0006 | .0001 | .0008 | .0019 | .0003 | .0007 |
| %RSD | 172.8 | 27.92 | 15.33 | 4.646 | 82.60 | 1.782 | 10.34 |
| #1 | -.0008 | .0028 | -.0005 | .0189 | .0034 | -.0151 | .0070 |
| #2 | -.0005 | .0016 | -.0004 | .0181 | .0032 | -.0157 | .0070 |
| #3 | .0003 | .0021 | -.0004 | .0172 | .0001 | -.0155 | .0058 |

Zoom In Zoom Out

Sample Name: mnconf Acquired: 5/9/2019 20:25:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85391.** | **8628.8** | **6022.4** | **12605.** |
| Stddev | 1208. | 19.6 | 13.3 | 16. |
| %RSD | 1.4152 | .22671 | .22145 | .12860 |
| #1 | 84616. | 8625.1 | 6009.3 | 12591. |
| #2 | 84772. | 8650.0 | 6022.0 | 12602. |
| #3 | 86783. | 8611.4 | 6035.9 | 12623. |



Zoom In Zoom Out

Sample Name: caconf Acquired: 5/9/2019 20:30:29 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **-.0002** | **.0009** | **.0004** | **-.0001** | **.0005** | **.0001** |
| Stddev | .0005 | .0001 | .0001 | .0002 | .0002 | .0003 | .0001 | .0005 |
| %RSD | 511.2 | 192.1 | 57.56 | 20.53 | 47.65 | 285.1 | 15.35 | 337.9 |
| #1 | .0002 | .0000 | -.0001 | .0007 | .0006 | .0001 | .0005 | .0007 |
| #2 | -.0007 | -.0001 | -.0002 | .0009 | .0003 | .0001 | .0004 | -.0002 |
| #3 | .0001 | -.0000 | -.0003 | .0011 | .0003 | -.0005 | .0006 | -.0000 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0000** | **.0004** | **-.0008** | **.0013** | **.0006** | **.0006** | **-.0014** |
| Stddev | .0003 | .0002 | .0000 | .0016 | .0006 | .0003 | .0025 | .0007 |
| %RSD | 418.3 | 1281. | 10.39 | 206.0 | 48.08 | 45.50 | 438.7 | 50.24 |
| #1 | -.0002 | -.0001 | .0004 | .0001 | .0012 | .0007 | -.0023 | -.0021 |
| #2 | -.0002 | -.0001 | .0005 | -.0026 | .0020 | .0007 | .0017 | -.0008 |
| #3 | .0002 | .0002 | .0004 | .0002 | .0007 | .0003 | .0022 | -.0012 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0659** | F **436.2** | **-.0037** | **.0029** | **.0868** | **-.0881** | **-.0001** | **.0004** |
| Stddev | .0174 | 2.2 | .0023 | .0321 | .0563 | .0048 | .0002 | .0001 |
| %RSD | 26.45 | .5015 | 61.57 | 1126. | 64.85 | 5.467 | 312.5 | 21.35 |
| #1 | -.0821 | 433.9 | -.0052 | .0098 | .1329 | -.0831 | .0000 | .0004 |
| #2 | -.0474 | 438.3 | -.0049 | -.0322 | .1036 | -.0883 | .0001 | .0005 |
| #3 | -.0681 | 436.3 | -.0011 | .0309 | .0241 | -.0927 | -.0002 | .0004 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0146** | **-.0007** | **-.0008** | **.0048** | **.0015** | **.0006** | **-.0043** | **-.0020** |
| Stddev | .0007 | .0004 | .0002 | .0003 | .0011 | .0002 | .0017 | .0006 |
| %RSD | 4.621 | 52.98 | 23.88 | 6.222 | 76.40 | 30.35 | 39.14 | 29.61 |
| #1 | -.0147 | -.0012 | -.0008 | .0051 | .0002 | .0005 | -.0024 | -.0026 |
| #2 | -.0139 | -.0007 | -.0010 | .0045 | .0024 | .0005 | -.0053 | -.0017 |
| #3 | -.0152 | -.0004 | -.0006 | .0047 | .0018 | .0008 | -.0054 | -.0015 |



Zoom In Zoom Out

Sample Name: caconf Acquired: 5/9/2019 20:30:29 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0285** | **.0098** |
| Stddev | .0019 | .0004 |
| %RSD | 6.815 | 4.126 |
| #1 | -.0277 | .0094 |
| #2 | -.0308 | .0102 |
| #3 | -.0272 | .0099 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **80853.** | **8331.9** | **5683.6** | **11627.** |
| Stddev | 327. | 65.6 | 6.0 | 21. |
| %RSD | .40438 | .78681 | .10554 | .17949 |
| #1 | 80632. | 8396.4 | 5680.2 | 11622. |
| #2 | 80698. | 8334.0 | 5690.5 | 11649. |
| #3 | 81228. | 8265.4 | 5680.0 | 11608. |



Zoom In Zoom Out

Sample Name: alconf Acquired: 5/9/2019 20:35:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **-.0002** | **-.0000** | **.0001** | **.0001** | **-.0013** | **-.0007** | **.0000** |
| Stddev | .0003 | .0001 | .0002 | .0001 | .0006 | .0004 | .0000 | .0001 | .0003 |
| %RSD | 112.8 | 103.8 | 100.5 | 648.4 | 567.5 | 513.7 | .5968 | 8.424 | 35650. |
| #1 | -.0005 | -.0001 | -.0004 | .0000 | -.0003 | -.0001 | -.0013 | -.0007 | .0003 |
| #2 | -.0003 | -.0001 | .0000 | -.0001 | .0008 | .0006 | -.0013 | -.0006 | -.0003 |
| #3 | .0000 | .0000 | -.0002 | .0000 | -.0002 | -.0002 | -.0013 | -.0006 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0010** | **-.0017** | **.0025** | **.0011** | **-.0006** | **.0000** | F **520.3** | **-.0007** |
| Stddev | .0002 | .0002 | .0009 | .0012 | .0018 | .0023 | .0005 | 2.4 | .0061 |
| %RSD | 83.57 | 22.61 | 53.34 | 50.40 | 153.6 | 376.9 | 1075. | .4701 | 902.6 |
| #1 | -.0000 | .0012 | -.0007 | .0025 | .0027 | .0020 | -.0001 | 522.2 | -.0046 |
| #2 | -.0003 | .0011 | -.0019 | .0037 | .0015 | -.0016 | .0006 | 521.1 | .0064 |
| #3 | -.0003 | .0008 | -.0025 | .0012 | -.0007 | -.0024 | -.0004 | 517.5 | -.0039 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0128** | **.0008** | **.0856** | **-.1120** | **.0007** | **.0001** | **.0033** | **-.0010** | **.0001** |
| Stddev | .0022 | .0218 | .0369 | .0049 | .0006 | .0000 | .0009 | .0004 | .0002 |
| %RSD | 17.16 | 2658. | 43.09 | 4.380 | 89.09 | 41.96 | 26.17 | 45.27 | 106.0 |
| #1 | -.0103 | -.0002 | .1072 | -.1154 | .0000 | .0001 | .0035 | -.0014 | -.0000 |
| #2 | -.0145 | -.0204 | .1066 | -.1064 | .0008 | .0001 | .0039 | -.0010 | .0002 |
| #3 | -.0136 | .0231 | .0430 | -.1141 | .0013 | .0001 | .0023 | -.0005 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0105** | **-.0005** | **.0172** | **-.0028** | **-.0115** | **.0149** |
| Stddev | .0001 | .0014 | .0001 | .0021 | .0004 | .0013 | .0009 |
| %RSD | 16.33 | 13.57 | 19.60 | 12.00 | 13.96 | 11.49 | 6.137 |
| #1 | -.0003 | .0088 | -.0004 | .0180 | -.0032 | -.0121 | .0140 |
| #2 | -.0004 | .0113 | -.0006 | .0149 | -.0024 | -.0099 | .0149 |
| #3 | -.0003 | .0114 | -.0004 | .0187 | -.0028 | -.0124 | .0158 |

Zoom In Zoom Out

Sample Name: alconf Acquired: 5/9/2019 20:35:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81170.** | **8859.7** | **6067.3** | **12082.** |
| Stddev | 45. | 32.2 | 11.4 | 16. |
| %RSD | .05590 | .36358 | .18843 | .13391 |
| #1 | 81167. | 8849.4 | 6071.3 | 12095. |
| #2 | 81127. | 8833.9 | 6076.3 | 12087. |
| #3 | 81217. | 8895.8 | 6054.4 | 12064. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 20:40:50 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | **1.985** | **1.954** | **1.982** | **1.992** | **1.965** | **1.994** | **1.990** | **.2438** |
| Stddev | .007 | .008 | .014 | .011 | .056 | .057 | .051 | .011 | .0066 |
| %RSD | .3565 | .4223 | .7093 | .5431 | 2.809 | 2.887 | 2.563 | .5659 | 2.697 |
| #1 | 2.000 | 1.980 | 1.968 | 1.992 | 2.022 | 1.996 | 2.028 | 2.000 | .2476 |
| #2 | 2.012 | 1.995 | 1.953 | 1.984 | 2.026 | 2.000 | 2.018 | 1.991 | .2475 |
| #3 | 2.000 | 1.980 | 1.940 | 1.971 | 1.927 | 1.900 | 1.935 | 1.978 | .2362 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.986** | **1.989** | **1.926** | **2.027** | **1.980** | **1.953** | **1.929** | **39.94** | **40.00** |
| Stddev | .057 | .013 | .013 | .011 | .012 | .011 | .012 | .17 | .20 |
| %RSD | 2.849 | .6509 | .6782 | .5488 | .5987 | .5671 | .6342 | .4253 | .4932 |
| #1 | 2.019 | 2.001 | 1.939 | 2.036 | 1.988 | 1.963 | 1.942 | 39.81 | 39.86 |
| #2 | 2.019 | 1.990 | 1.926 | 2.030 | 1.984 | 1.955 | 1.929 | 40.14 | 40.22 |
| #3 | 1.921 | 1.975 | 1.912 | 2.014 | 1.966 | 1.942 | 1.918 | 39.89 | 39.91 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.23** | **39.50** | **40.05** | **39.65** | **1.965** | **1.930** | **4.805** | **1.931** | **2.016** |
| Stddev | .22 | .25 | .15 | .17 | .012 | .012 | .034 | .013 | .009 |
| %RSD | .5530 | .6361 | .3661 | .4337 | .5896 | .6250 | .7035 | .6884 | .4507 |
| #1 | 39.10 | 39.39 | 39.98 | 39.54 | 1.977 | 1.943 | 4.837 | 1.944 | 2.011 |
| #2 | 39.48 | 39.79 | 40.22 | 39.84 | 1.966 | 1.930 | 4.809 | 1.931 | 2.026 |
| #3 | 39.10 | 39.33 | 39.95 | 39.56 | 1.954 | 1.919 | 4.769 | 1.918 | 2.010 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 20:40:50 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.953** | **1.907** | **1.930** | **1.940** | **1.978** | **1.924** | **1.945** |
| Stddev | .055 | .013 | .056 | .014 | .014 | .009 | .012 |
| %RSD | 2.811 | .6910 | 2.880 | .7067 | .7148 | .4468 | .6341 |
| #1 | 1.984 | 1.920 | 1.961 | 1.955 | 1.992 | 1.918 | 1.957 |
| #2 | 1.987 | 1.906 | 1.963 | 1.939 | 1.979 | 1.934 | 1.945 |
| #3 | 1.890 | 1.894 | 1.866 | 1.927 | 1.963 | 1.921 | 1.933 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83488.** | **8567.3** | **5890.5** | **12132.** |
| Stddev | 2117. | 61.7 | 28.2 | 49. |
| %RSD | 2.5354 | .72015 | .47878 | .40123 |
| #1 | 82311. | 8634.6 | 5864.6 | 12092. |
| #2 | 82222. | 8513.3 | 5886.5 | 12118. |
| #3 | 85932. | 8554.1 | 5920.5 | 12187. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 20:45:51 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0001** | **-.0001** | **-.0001** | **.0002** | **-.0005** | **-.0000** | **-.0002** |
| Stddev | .0004 | .0001 | .0002 | .0002 | .0004 | .0001 | .0000 | .0003 |
| %RSD | 124.5 | 67.91 | 199.6 | 146.0 | 221.8 | 24.81 | 951.6 | 139.1 |
| #1 | -.0003 | -.0001 | -.0003 | .0001 | -.0003 | -.0003 | -.0000 | -.0001 |
| #2 | -.0008 | -.0001 | -.0001 | -.0002 | .0005 | -.0005 | .0000 | -.0005 |
| #3 | .0000 | -.0000 | .0001 | -.0002 | .0004 | -.0005 | -.0000 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0009** | **.0000** | **-.0002** | **.0003** | **.0015** | **.0006** | **-.0006** | **.0007** |
| Stddev | .0002 | .0001 | .0000 | .0005 | .0008 | .0006 | .0007 | .0011 |
| %RSD | 25.64 | 236.9 | 9.172 | 151.7 | 56.99 | 115.2 | 119.0 | 141.8 |
| #1 | -.0011 | -.0000 | -.0002 | -.0001 | .0006 | .0012 | .0002 | .0002 |
| #2 | -.0007 | .0001 | -.0001 | .0008 | .0014 | .0005 | -.0009 | .0020 |
| #3 | -.0010 | -.0000 | -.0002 | .0002 | .0023 | -.0001 | -.0010 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0074** | **-.0001** | **-.0005** | **-.0021** | **.1003** | **-.0933** | **.0016** | **.0001** |
| Stddev | .0095 | .0028 | .0034 | .0101 | .0506 | .0057 | .0002 | .0003 |
| %RSD | 128.3 | 3167. | 614.2 | 468.2 | 50.46 | 6.099 | 14.49 | 355.9 |
| #1 | .0030 | .0007 | -.0044 | .0077 | .1549 | -.0910 | .0016 | .0004 |
| #2 | -.0156 | .0023 | .0017 | -.0017 | .0912 | -.0998 | .0013 | -.0000 |
| #3 | -.0095 | -.0032 | .0010 | -.0124 | .0549 | -.0892 | .0018 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 20:45:51 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0009** | **.0001** | **-.0003** | **-.0007** | **.0000** | **-.0021** | **.0016** |
| Stddev | .0002 | .0002 | .0001 | .0003 | .0006 | .0002 | .0009 | .0006 |
| %RSD | 38.78 | 16.92 | 81.93 | 123.3 | 93.24 | 1031. | 42.02 | 35.70 |
| #1 | .0004 | .0009 | .0000 | -.0000 | -.0014 | -.0000 | -.0030 | .0012 |
| #2 | .0005 | .0011 | .0002 | -.0001 | -.0002 | .0002 | -.0012 | .0014 |
| #3 | .0008 | .0008 | .0001 | -.0006 | -.0004 | -.0001 | -.0021 | .0023 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0107** | **.0021** |
| Stddev | .0011 | .0012 |
| %RSD | 10.66 | 58.45 |
| #1 | -.0108 | .0013 |
| #2 | -.0118 | .0036 |
| #3 | -.0095 | .0015 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84644.** | **8572.3** | **6024.8** | **12639.** |
| Stddev | 39. | 43.1 | 10.5 | 17. |
| %RSD | .04578 | .50310 | .17416 | .13620 |
| #1 | 84621. | 8531.4 | 6013.0 | 12623. |
| #2 | 84689. | 8568.3 | 6028.5 | 12637. |
| #3 | 84622. | 8617.3 | 6032.9 | 12657. |



Zoom In Zoom Out

Sample Name: jc87450-4 Acquired: 5/9/2019 20:51:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3048** | **.0028** | **.0004** | **.0685** | **.2135** | **.1326** | **2.520** | **.1757** | **.0016** |
| Stddev | .0017 | .0000 | .0002 | .0021 | .0101 | .0052 | .095 | .0040 | .0023 |
| %RSD | .5678 | 1.081 | 57.57 | 3.014 | 4.744 | 3.922 | 3.782 | 2.282 | 144.4 |
| #1 | .3035 | .0028 | .0001 | .0669 | .2194 | .1359 | 2.576 | .1731 | .0004 |
| #2 | .3067 | .0028 | .0006 | .0677 | .2018 | .1266 | 2.410 | .1737 | .0043 |
| #3 | .3041 | .0027 | .0004 | .0708 | .2193 | .1352 | 2.574 | .1804 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1843** | **.4232** | **.0386** | **.0020** | **.0529** | **-.0001** | **.0173** | **94.09** | **12.79** |
| Stddev | .0088 | .0106 | .0015 | .0020 | .0012 | .0025 | .0012 | .52 | .05 |
| %RSD | 4.761 | 2.496 | 3.967 | 99.46 | 2.265 | 2078. | 7.031 | .5576 | .4180 |
| #1 | .1901 | .4170 | .0379 | .0043 | .0523 | -.0017 | .0187 | 93.60 | 12.75 |
| #2 | .1742 | .4171 | .0375 | .0005 | .0521 | .0028 | .0164 | 94.64 | 12.85 |
| #3 | .1885 | .4353 | .0403 | .0012 | .0543 | -.0015 | .0168 | 94.01 | 12.78 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **150.9** | **39.06** | **9.727** | **2.665** | **.0045** | **.0217** | **1.278** | **.0103** | **.0763** |
| Stddev | .8 | .15 | .092 | .028 | .0006 | .0004 | .031 | .0008 | .0005 |
| %RSD | .5453 | .3778 | .9470 | 1.052 | 12.98 | 1.938 | 2.443 | 7.723 | .6330 |
| #1 | 150.1 | 38.91 | 9.698 | 2.653 | .0042 | .0213 | 1.256 | .0107 | .0759 |
| #2 | 151.8 | 39.21 | 9.830 | 2.697 | .0041 | .0216 | 1.264 | .0094 | .0768 |
| #3 | 150.7 | 39.06 | 9.653 | 2.645 | .0052 | .0222 | 1.314 | .0108 | .0761 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.129** | **.0044** | **.0247** | **.6187** | **-.0124** | **.1210** | **4.553** |
| Stddev | .199 | .0002 | .0007 | .0163 | .0051 | .0009 | .106 |
| %RSD | 4.811 | 5.007 | 3.023 | 2.642 | 41.32 | .7740 | 2.330 |
| #1 | 4.258 | .0043 | .0253 | .6085 | -.0071 | .1205 | 4.495 |
| #2 | 3.900 | .0046 | .0239 | .6100 | -.0173 | .1221 | 4.488 |
| #3 | 4.229 | .0042 | .0248 | .6375 | -.0128 | .1204 | 4.675 |



Zoom In Zoom Out

Sample Name: jc87450-4 Acquired: 5/9/2019 20:51:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89189.** | **9085.5** | **6171.4** | **12413.** |
| Stddev | 3798. | 60.4 | 128.4 | 251. |
| %RSD | 4.2588 | .66517 | 2.0806 | 2.0210 |
| #1 | 86900. | 9146.2 | 6243.5 | 12562. |
| #2 | 93574. | 9025.3 | 6247.6 | 12554. |
| #3 | 87094. | 9085.2 | 6023.2 | 12124. |



Zoom In Zoom Out

Sample Name: jc87450-5 Acquired: 5/9/2019 20:56:05 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2202** | **.0019** | **.0007** | **.0595** | **.1275** | **.1114** | **3.067** | **.1715** | **.0025** |
| Stddev | .0007 | .0001 | .0001 | .0001 | .0007 | .0003 | .025 | .0003 | .0001 |
| %RSD | .3216 | 4.545 | 9.230 | .1520 | .5780 | .2435 | .8036 | .1608 | 2.491 |
| #1 | .2200 | .0018 | .0007 | .0594 | .1267 | .1117 | 3.043 | .1715 | .0026 |
| #2 | .2210 | .0020 | .0008 | .0596 | .1276 | .1113 | 3.092 | .1718 | .0026 |
| #3 | .2196 | .0019 | .0006 | .0594 | .1281 | .1112 | 3.065 | .1712 | .0025 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1370** | **.3632** | **.0594** | **.0031** | **.0642** | **-.0005** | **.0088** | **72.27** | **9.164** |
| Stddev | .0006 | .0003 | .0005 | .0002 | .0016 | .0009 | .0020 | .14 | .026 |
| %RSD | .4588 | .0826 | .7638 | 4.977 | 2.556 | 197.5 | 22.63 | .1892 | .2880 |
| #1 | .1363 | .3633 | .0598 | .0031 | .0625 | .0001 | .0102 | 72.13 | 9.142 |
| #2 | .1375 | .3633 | .0589 | .0032 | .0657 | -.0000 | .0097 | 72.40 | 9.193 |
| #3 | .1373 | .3628 | .0596 | .0029 | .0645 | -.0015 | .0065 | 72.27 | 9.157 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **148.3** | **33.24** | **6.574** | **1.154** | **.0035** | **.0033** | **1.037** | **.0128** | **.0412** |
| Stddev | .3 | .14 | .008 | .002 | .0008 | .0005 | .004 | .0004 | .0001 |
| %RSD | .1937 | .4236 | .1200 | .1328 | 21.30 | 15.15 | .3555 | 3.313 | .1560 |
| #1 | 148.2 | 33.09 | 6.565 | 1.155 | .0035 | .0033 | 1.042 | .0123 | .0411 |
| #2 | 148.7 | 33.35 | 6.576 | 1.155 | .0043 | .0037 | 1.035 | .0131 | .0412 |
| #3 | 148.1 | 33.29 | 6.580 | 1.152 | .0028 | .0028 | 1.035 | .0130 | .0411 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.170** | **.0017** | **.0258** | **.3580** | **-.0038** | **.1283** | **2.911** |
| Stddev | .008 | .0006 | .0003 | .0020 | .0014 | .0018 | .001 |
| %RSD | .3649 | 37.71 | 1.169 | .5561 | 36.45 | 1.413 | .0373 |
| #1 | 2.160 | .0013 | .0256 | .3561 | -.0040 | .1299 | 2.911 |
| #2 | 2.173 | .0014 | .0257 | .3601 | -.0051 | .1286 | 2.910 |
| #3 | 2.175 | .0024 | .0262 | .3578 | -.0023 | .1263 | 2.912 |

Zoom In Zoom Out

Sample Name: jc87450-5 Acquired: 5/9/2019 20:56:05 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86126.** | **8946.3** | **6138.0** | **12557.** |
| Stddev | 361. | 5.0 | 12.1 | 28. |
| %RSD | .41951 | .05611 | .19690 | .22573 |
| #1 | 86394. | 8944.2 | 6124.1 | 12526. |
| #2 | 85715. | 8942.7 | 6145.0 | 12564. |
| #3 | 86269. | 8952.0 | 6145.0 | 12581. |



Zoom In Zoom Out

Sample Name: jc87450-6 Acquired: 5/9/2019 21:01:09 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6504** | **.0043** | **.0003** | **.0772** | **.2282** | **.1197** | **4.088** | **.2149** | **-.0021** |
| Stddev | .0008 | .0001 | .0002 | .0002 | .0016 | .0007 | .038 | .0004 | .0007 |
| %RSD | .1278 | 1.883 | 86.36 | .2855 | .7101 | .5726 | .9225 | .1863 | 31.16 |
| #1 | .6495 | .0042 | .0005 | .0770 | .2298 | .1204 | 4.131 | .2150 | -.0029 |
| #2 | .6510 | .0043 | .0004 | .0771 | .2283 | .1190 | 4.069 | .2152 | -.0018 |
| #3 | .6509 | .0043 | .0000 | .0774 | .2266 | .1197 | 4.063 | .2144 | -.0017 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2325** | **.7623** | **.0393** | **.0022** | **.0856** | **-.0005** | **.0099** | **149.1** | **12.44** |
| Stddev | .0019 | .0008 | .0005 | .0022 | .0015 | .0022 | .0011 | .3 | .02 |
| %RSD | .8357 | .1091 | 1.387 | 96.64 | 1.717 | 481.9 | 11.40 | .1771 | .1728 |
| #1 | .2347 | .7632 | .0398 | .0017 | .0846 | -.0027 | .0088 | 148.8 | 12.45 |
| #2 | .2313 | .7622 | .0387 | .0046 | .0850 | .0017 | .0098 | 149.3 | 12.42 |
| #3 | .2314 | .7615 | .0393 | .0004 | .0873 | -.0004 | .0111 | 149.2 | 12.46 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **164.6** | **45.55** | **8.278** | **3.238** | **.0073** | **.0040** | **1.649** | **.0104** | **.1219** |
| Stddev | .3 | .10 | .028 | .017 | .0003 | .0003 | .006 | .0005 | .0001 |
| %RSD | .1644 | .2214 | .3420 | .5206 | 3.969 | 7.102 | .3585 | 4.557 | .0557 |
| #1 | 164.3 | 45.66 | 8.293 | 3.223 | .0071 | .0043 | 1.655 | .0102 | .1219 |
| #2 | 164.7 | 45.46 | 8.296 | 3.256 | .0076 | .0037 | 1.649 | .0100 | .1220 |
| #3 | 164.9 | 45.54 | 8.246 | 3.234 | .0072 | .0040 | 1.643 | .0109 | .1219 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.226** | **.0014** | **.0054** | **1.330** | **-.0135** | **.1645** | **7.676** |
| Stddev | .027 | .0002 | .0001 | .002 | .0018 | .0006 | .003 |
| %RSD | .6432 | 15.42 | 2.682 | .1119 | 13.08 | .3553 | .0442 |
| #1 | 4.258 | .0012 | .0055 | 1.331 | -.0119 | .1638 | 7.679 |
| #2 | 4.212 | .0015 | .0055 | 1.330 | -.0154 | .1647 | 7.675 |
| #3 | 4.209 | .0015 | .0053 | 1.328 | -.0132 | .1649 | 7.673 |



Zoom In Zoom Out

Sample Name: jc87450-6 Acquired: 5/9/2019 21:01:09 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86075.** | **9078.0** | **6215.2** | **12442.** |
| Stddev | 450. | 11.5 | 5.5 | 11. |
| %RSD | .52306 | .12682 | .08781 | .08549 |
| #1 | 85591. | 9089.9 | 6208.9 | 12430. |
| #2 | 86151. | 9066.9 | 6217.7 | 12448. |
| #3 | 86482. | 9077.2 | 6218.8 | 12449. |



Zoom In Zoom Out

Sample Name: jc87450-7 Acquired: 5/9/2019 21:06:14 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1474** | **.0020** | **.0005** | **.0593** | **.1285** | **.1158** | **2.581** | **.1442** | **-.0011** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0005 | .0000 | .012 | .0004 | .0001 |
| %RSD | .0657 | 7.309 | 24.10 | .4736 | .4226 | .0051 | .4736 | .2645 | 5.761 |
| #1 | .1474 | .0021 | .0004 | .0591 | .1287 | .1159 | 2.586 | .1438 | -.0012 |
| #2 | .1474 | .0021 | .0006 | .0596 | .1289 | .1158 | 2.567 | .1445 | -.0011 |
| #3 | .1473 | .0018 | .0004 | .0591 | .1279 | .1158 | 2.591 | .1443 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1606** | **.4602** | **.0331** | **.0024** | **.0561** | **-.0012** | **.0085** | **73.17** | **10.45** |
| Stddev | .0002 | .0004 | .0001 | .0001 | .0006 | .0011 | .0003 | .18 | .04 |
| %RSD | .1479 | .0805 | .4489 | 5.018 | 1.140 | 94.20 | 3.804 | .2437 | .3356 |
| #1 | .1604 | .4601 | .0331 | .0024 | .0567 | .0000 | .0084 | 73.36 | 10.47 |
| #2 | .1605 | .4600 | .0330 | .0023 | .0554 | -.0015 | .0089 | 73.13 | 10.46 |
| #3 | .1608 | .4607 | .0333 | .0026 | .0561 | -.0022 | .0083 | 73.01 | 10.41 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **130.2** | **33.24** | **7.556** | **2.917** | **.0014** | **.0030** | **1.174** | **.0105** | **.0528** |
| Stddev | .3 | .06 | .019 | .006 | .0002 | .0004 | .004 | .0004 | .0001 |
| %RSD | .2211 | .1737 | .2559 | .2113 | 11.40 | 11.73 | .3395 | 4.130 | .1535 |
| #1 | 130.6 | 33.25 | 7.545 | 2.924 | .0012 | .0027 | 1.172 | .0105 | .0529 |
| #2 | 130.1 | 33.29 | 7.578 | 2.917 | .0014 | .0030 | 1.178 | .0101 | .0528 |
| #3 | 130.1 | 33.18 | 7.545 | 2.911 | .0015 | .0034 | 1.171 | .0109 | .0527 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.573** | **.0038** | **.0316** | **.2001** | **-.0120** | **.1053** | **3.645** |
| Stddev | .004 | .0010 | .0001 | .0011 | .0010 | .0011 | .003 |
| %RSD | .1185 | 25.90 | .3870 | .5743 | 8.142 | 1.073 | .0827 |
| #1 | 3.571 | .0029 | .0315 | .1994 | -.0124 | .1055 | 3.643 |
| #2 | 3.571 | .0048 | .0317 | .2014 | -.0109 | .1064 | 3.643 |
| #3 | 3.578 | .0037 | .0317 | .1995 | -.0127 | .1041 | 3.649 |

Zoom In Zoom Out

Sample Name: jc87450-7 Acquired: 5/9/2019 21:06:14 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86470.** | **9086.4** | **6155.5** | **12468.** |
| Stddev | 105. | 28.7 | 4.1 | 5. |
| %RSD | .12125 | .31534 | .06725 | .03996 |
| #1 | 86417. | 9080.8 | 6158.1 | 12469. |
| #2 | 86591. | 9060.9 | 6157.6 | 12462. |
| #3 | 86402. | 9117.4 | 6150.7 | 12472. |



Zoom In Zoom Out

Sample Name: jc87450-8 Acquired: 5/9/2019 21:11:20 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3322** | **.0041** | **.0011** | **.0741** | **.1957** | **.1651** | **3.943** | **.2074** | **-.0027** |
| Stddev | .0005 | .0001 | .0001 | .0008 | .0016 | .0008 | .018 | .0019 | .0006 |
| %RSD | .1598 | 2.170 | 6.382 | 1.028 | .7947 | .4870 | .4556 | .9177 | 22.96 |
| #1 | .3328 | .0040 | .0010 | .0744 | .1975 | .1660 | 3.935 | .2081 | -.0031 |
| #2 | .3319 | .0042 | .0011 | .0747 | .1950 | .1648 | 3.929 | .2088 | -.0020 |
| #3 | .3319 | .0041 | .0011 | .0733 | .1946 | .1645 | 3.963 | .2052 | -.0029 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2293** | **.5349** | **.0446** | **.0026** | **.1114** | **-.0010** | **.0118** | **124.3** | **10.01** |
| Stddev | .0020 | .0045 | .0014 | .0019 | .0014 | .0008 | .0009 | .1 | .02 |
| %RSD | .8548 | .8481 | 3.149 | 70.04 | 1.271 | 85.83 | 7.785 | .0958 | .2140 |
| #1 | .2315 | .5358 | .0458 | .0024 | .1131 | -.0001 | .0114 | 124.4 | 10.03 |
| #2 | .2282 | .5389 | .0448 | .0046 | .1107 | -.0010 | .0112 | 124.2 | 9.996 |
| #3 | .2281 | .5300 | .0430 | .0009 | .1105 | -.0018 | .0129 | 124.2 | 9.994 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **153.4** | **44.23** | **8.835** | **5.075** | **.0043** | **.0033** | **1.340** | **.0088** | **.0938** |
| Stddev | .1 | .02 | .011 | .011 | .0006 | .0001 | .013 | .0004 | .0004 |
| %RSD | .0885 | .0527 | .1216 | .2090 | 13.78 | 1.699 | 1.003 | 4.883 | .4084 |
| #1 | 153.6 | 44.22 | 8.825 | 5.086 | .0037 | .0032 | 1.345 | .0093 | .0940 |
| #2 | 153.3 | 44.25 | 8.846 | 5.065 | .0049 | .0033 | 1.349 | .0086 | .0933 |
| #3 | 153.4 | 44.21 | 8.836 | 5.074 | .0042 | .0033 | 1.324 | .0085 | .0940 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.720** | **.0005** | **.0182** | **1.435** | **-.0166** | **.1395** | **5.447** |
| Stddev | .038 | .0007 | .0000 | .009 | .0012 | .0008 | .036 |
| %RSD | .8048 | 126.0 | .1492 | .6245 | 7.393 | .6046 | .6537 |
| #1 | 4.763 | .0009 | .0183 | 1.439 | -.0156 | .1404 | 5.455 |
| #2 | 4.696 | .0010 | .0182 | 1.442 | -.0180 | .1393 | 5.478 |
| #3 | 4.700 | -.0002 | .0182 | 1.425 | -.0163 | .1388 | 5.408 |



Zoom In Zoom Out

Sample Name: jc87450-8 Acquired: 5/9/2019 21:11:20 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87464.** | **9298.3** | **6296.2** | **12469.** |
| Stddev | 683. | 32.1 | 40.7 | 85. |
| %RSD | .78053 | .34562 | .64709 | .68357 |
| #1 | 86693. | 9315.1 | 6282.2 | 12445. |
| #2 | 87711. | 9261.2 | 6264.2 | 12398. |
| #3 | 87990. | 9318.5 | 6342.0 | 12563. |



Zoom In Zoom Out

Sample Name: jc87450-9 Acquired: 5/9/2019 21:16:25 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2968** | **.0023** | **.0025** | **.0758** | **.1651** | **.1847** | **4.127** | **.1954** | **-.0030** |
| Stddev | .0004 | .0001 | .0003 | .0001 | .0002 | .0010 | .035 | .0006 | .0003 |
| %RSD | .1371 | 4.894 | 11.16 | .1857 | .1506 | .5490 | .8543 | .3281 | 8.587 |
| #1 | .2967 | .0022 | .0025 | .0756 | .1648 | .1837 | 4.090 | .1949 | -.0030 |
| #2 | .2972 | .0024 | .0022 | .0758 | .1650 | .1845 | 4.131 | .1952 | -.0028 |
| #3 | .2965 | .0024 | .0027 | .0759 | .1653 | .1857 | 4.161 | .1961 | -.0033 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1936** | **1.160** | **.0521** | **.0036** | **.0818** | **-.0003** | **.0017** | **95.73** | **13.47** |
| Stddev | .0007 | .004 | .0011 | .0003 | .0005 | .0009 | .0019 | .17 | .02 |
| %RSD | .3789 | .2984 | 2.147 | 8.783 | .6627 | 312.0 | 112.1 | .1828 | .1238 |
| #1 | .1936 | 1.156 | .0508 | .0035 | .0816 | -.0007 | -.0004 | 95.68 | 13.47 |
| #2 | .1929 | 1.161 | .0529 | .0039 | .0824 | -.0009 | .0022 | 95.92 | 13.48 |
| #3 | .1944 | 1.162 | .0525 | .0033 | .0814 | .0007 | .0034 | 95.58 | 13.45 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **199.5** | **40.15** | **9.186** | **1.313** | **.0134** | **.0082** | **1.136** | **.0119** | **.1071** |
| Stddev | .3 | .09 | .029 | .004 | .0005 | .0002 | .002 | .0011 | .0004 |
| %RSD | .1550 | .2197 | .3178 | .3393 | 3.466 | 2.163 | .1794 | 9.191 | .4042 |
| #1 | 199.4 | 40.10 | 9.178 | 1.317 | .0138 | .0081 | 1.139 | .0107 | .1073 |
| #2 | 199.8 | 40.25 | 9.161 | 1.308 | .0134 | .0080 | 1.135 | .0127 | .1074 |
| #3 | 199.2 | 40.10 | 9.218 | 1.315 | .0129 | .0083 | 1.136 | .0123 | .1066 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.236** | **-.0002** | **.0345** | **.2742** | **-.0112** | **.1485** | **3.724** |
| Stddev | .009 | .0010 | .0003 | .0008 | .0008 | .0014 | .006 |
| %RSD | .2813 | 473.2 | .9512 | .2845 | 7.573 | .9373 | .1689 |
| #1 | 3.231 | .0007 | .0348 | .2733 | -.0120 | .1499 | 3.717 |
| #2 | 3.231 | -.0012 | .0346 | .2744 | -.0112 | .1485 | 3.729 |
| #3 | 3.247 | -.0001 | .0342 | .2748 | -.0103 | .1471 | 3.727 |

Zoom In Zoom Out

Sample Name: jc87450-9 Acquired: 5/9/2019 21:16:25 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87099.** | **9127.2** | **6188.1** | **12613.** |
| Stddev | 140. | 18.2 | 27.9 | 51. |
| %RSD | .16046 | .19943 | .45051 | .40127 |
| #1 | 87090. | 9148.2 | 6220.0 | 12671. |
| #2 | 87242. | 9116.4 | 6168.4 | 12581. |
| #3 | 86963. | 9116.9 | 6176.0 | 12586. |



Zoom In Zoom Out

Sample Name: jc87450-10 Acquired: 5/9/2019 21:21:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1105** | **.0013** | **-.0001** | **.0565** | **.0827** | **.0447** | **1.350** | **.1004** | **-.0011** |
| Stddev | .0005 | .0001 | .0003 | .0001 | .0015 | .0006 | .032 | .0005 | .0008 |
| %RSD | .4711 | 6.301 | 470.3 | .1561 | 1.818 | 1.380 | 2.397 | .4731 | 71.89 |
| #1 | .1099 | .0014 | .0001 | .0566 | .0836 | .0450 | 1.370 | .1008 | -.0015 |
| #2 | .1109 | .0013 | -.0004 | .0566 | .0810 | .0440 | 1.312 | .1007 | -.0002 |
| #3 | .1105 | .0013 | .0002 | .0564 | .0836 | .0452 | 1.367 | .0999 | -.0017 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0956** | **.2008** | **.0158** | **.0020** | **.0279** | **-.0005** | **.0046** | **45.37** | **9.269** |
| Stddev | .0023 | .0003 | .0008 | .0013 | .0006 | .0016 | .0004 | .13 | .032 |
| %RSD | 2.452 | .1412 | 4.980 | 66.16 | 2.126 | 327.1 | 8.732 | .2869 | .3422 |
| #1 | .0975 | .2011 | .0161 | .0017 | .0277 | -.0021 | .0049 | 45.23 | 9.236 |
| #2 | .0930 | .2006 | .0164 | .0009 | .0274 | .0012 | .0047 | 45.48 | 9.298 |
| #3 | .0962 | .2006 | .0149 | .0034 | .0286 | -.0006 | .0041 | 45.42 | 9.275 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **79.96** | **23.58** | **4.722** | **1.784** | **.0003** | **.0017** | **.6443** | **.0133** | **.0449** |
| Stddev | .20 | .13 | .014 | .009 | .0004 | .0003 | .0011 | .0002 | .0001 |
| %RSD | .2546 | .5546 | .3011 | .4877 | 129.0 | 18.57 | .1631 | 1.711 | .2205 |
| #1 | 79.72 | 23.46 | 4.736 | 1.776 | .0007 | .0021 | .6455 | .0135 | .0448 |
| #2 | 80.09 | 23.56 | 4.721 | 1.793 | .0003 | .0016 | .6438 | .0131 | .0450 |
| #3 | 80.05 | 23.72 | 4.708 | 1.784 | -.0001 | .0015 | .6435 | .0133 | .0449 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.082** | **.0015** | **.0262** | **.0604** | **-.0078** | **.0653** | **2.807** |
| Stddev | .051 | .0007 | .0005 | .0014 | .0038 | .0010 | .005 |
| %RSD | 2.430 | 48.08 | 1.820 | 2.282 | 48.24 | 1.516 | .1816 |
| #1 | 2.115 | .0014 | .0263 | .0592 | -.0090 | .0646 | 2.813 |
| #2 | 2.024 | .0009 | .0256 | .0600 | -.0108 | .0648 | 2.802 |
| #3 | 2.108 | .0023 | .0266 | .0619 | -.0036 | .0664 | 2.807 |



Zoom In Zoom Out

Sample Name: jc87450-10 Acquired: 5/9/2019 21:21:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85348.** | **8793.7** | **6006.5** | **12282.** |
| Stddev | 1828. | 88.9 | 6.5 | 11. |
| %RSD | 2.1421 | 1.0113 | .10862 | .08783 |
| #1 | 84086. | 8849.5 | 6004.6 | 12273. |
| #2 | 87445. | 8691.1 | 6013.8 | 12294. |
| #3 | 84513. | 8840.4 | 6001.2 | 12278. |



Zoom In Zoom Out

Sample Name: jc87450-11 Acquired: 5/9/2019 21:26:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2460** | **.0023** | **.0005** | **.0618** | **.1508** | **.1470** | **3.264** | **.1628** | **-.0016** |
| Stddev | .0009 | .0000 | .0001 | .0001 | .0022 | .0010 | .030 | .0010 | .0006 |
| %RSD | .3686 | 1.757 | 29.87 | .2133 | 1.468 | .6700 | .9126 | .6172 | 34.94 |
| #1 | .2453 | .0023 | .0003 | .0619 | .1518 | .1477 | 3.284 | .1618 | -.0023 |
| #2 | .2470 | .0024 | .0006 | .0620 | .1483 | .1459 | 3.230 | .1630 | -.0011 |
| #3 | .2456 | .0023 | .0006 | .0617 | .1524 | .1475 | 3.280 | .1638 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1735** | **.7069** | **.0377** | **.0021** | **.0701** | **-.0011** | **.0093** | **84.95** | **11.06** |
| Stddev | .0019 | .0035 | .0008 | .0010 | .0000 | .0014 | .0008 | .10 | .02 |
| %RSD | 1.082 | .4924 | 2.071 | 46.63 | .0437 | 125.5 | 8.792 | .1118 | .1700 |
| #1 | .1750 | .7029 | .0375 | .0010 | .0701 | -.0023 | .0090 | 84.90 | 11.04 |
| #2 | .1714 | .7085 | .0386 | .0028 | .0701 | .0004 | .0103 | 85.06 | 11.07 |
| #3 | .1742 | .7093 | .0371 | .0024 | .0702 | -.0015 | .0087 | 84.90 | 11.08 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **135.8** | **34.66** | **6.648** | **.8829** | **.0050** | **.0043** | **1.268** | **.0095** | **.0569** |
| Stddev | .1 | .06 | .042 | .0049 | .0011 | .0002 | .004 | .0002 | .0002 |
| %RSD | .0836 | .1646 | .6306 | .5502 | 22.81 | 5.356 | .2952 | 1.948 | .3040 |
| #1 | 135.7 | 34.69 | 6.622 | .8794 | .0061 | .0045 | 1.264 | .0093 | .0567 |
| #2 | 135.9 | 34.59 | 6.697 | .8808 | .0052 | .0040 | 1.271 | .0096 | .0571 |
| #3 | 135.8 | 34.69 | 6.626 | .8884 | .0038 | .0043 | 1.270 | .0097 | .0568 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.770** | **.0029** | **.0089** | **.5461** | **-.0122** | **.1065** | **4.337** |
| Stddev | .038 | .0010 | .0001 | .0037 | .0021 | .0010 | .030 |
| %RSD | 1.004 | 36.20 | 1.095 | .6793 | 17.51 | .9831 | .6957 |
| #1 | 3.789 | .0025 | .0089 | .5418 | -.0125 | .1067 | 4.303 |
| #2 | 3.726 | .0021 | .0091 | .5481 | -.0142 | .1074 | 4.345 |
| #3 | 3.794 | .0040 | .0089 | .5483 | -.0100 | .1053 | 4.362 |

Zoom In Zoom Out

Sample Name: jc87450-11 Acquired: 5/9/2019 21:26:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86250.** | **8963.6** | **6134.2** | **12389.** |
| Stddev | 666. | 35.3 | 29.4 | 36. |
| %RSD | .77263 | .39359 | .47947 | .29186 |
| #1 | 85859. | 8929.6 | 6167.9 | 12431. |
| #2 | 87020. | 9000.1 | 6113.5 | 12367. |
| #3 | 85872. | 8961.0 | 6121.2 | 12370. |



Zoom In Zoom Out

Sample Name: jc87450-12 Acquired: 5/9/2019 21:31:38 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3593** | **.0030** | **.0004** | **.0652** | **.1584** | **.1174** | **2.562** | **.1643** | **-.0012** |
| Stddev | .0032 | .0001 | .0001 | .0005 | .0015 | .0010 | .030 | .0007 | .0005 |
| %RSD | .8770 | 2.231 | 22.96 | .8327 | .9330 | .8576 | 1.160 | .4255 | 37.63 |
| #1 | .3628 | .0031 | .0003 | .0646 | .1591 | .1185 | 2.565 | .1647 | -.0012 |
| #2 | .3581 | .0029 | .0005 | .0654 | .1594 | .1172 | 2.590 | .1647 | -.0017 |
| #3 | .3569 | .0030 | .0005 | .0657 | .1567 | .1165 | 2.531 | .1635 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1826** | **.3837** | **.0321** | **.0035** | **.0615** | **-.0010** | **.0089** | **102.4** | **12.39** |
| Stddev | .0009 | .0010 | .0008 | .0006 | .0007 | .0002 | .0007 | .9 | .11 |
| %RSD | .4714 | .2503 | 2.375 | 18.16 | 1.212 | 19.46 | 7.476 | .8482 | .9253 |
| #1 | .1832 | .3841 | .0313 | .0036 | .0607 | -.0008 | .0094 | 103.4 | 12.53 |
| #2 | .1829 | .3844 | .0329 | .0028 | .0616 | -.0011 | .0081 | 101.9 | 12.33 |
| #3 | .1816 | .3826 | .0321 | .0041 | .0622 | -.0011 | .0090 | 101.9 | 12.32 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **136.3** | **34.79** | **7.512** | **1.236** | **.0070** | **.0042** | **1.347** | **.0088** | **.1095** |
| Stddev | 1.0 | .27 | .059 | .014 | .0007 | .0002 | .005 | .0007 | .0008 |
| %RSD | .7514 | .7670 | .7907 | 1.166 | 10.76 | 5.788 | .3759 | 7.499 | .7209 |
| #1 | 137.5 | 35.10 | 7.572 | 1.253 | .0078 | .0042 | 1.351 | .0090 | .1105 |
| #2 | 135.6 | 34.66 | 7.513 | 1.227 | .0069 | .0044 | 1.348 | .0094 | .1091 |
| #3 | 135.9 | 34.61 | 7.453 | 1.228 | .0063 | .0039 | 1.341 | .0081 | .1091 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.053** | **.0021** | **.0058** | **1.320** | **-.0139** | **.1109** | **6.145** |
| Stddev | .028 | .0005 | .0001 | .007 | .0013 | .0011 | .013 |
| %RSD | .6982 | 22.00 | 1.160 | .5522 | 9.330 | 1.023 | .2180 |
| #1 | 4.077 | .0016 | .0058 | 1.320 | -.0149 | .1122 | 6.140 |
| #2 | 4.060 | .0025 | .0057 | 1.328 | -.0124 | .1106 | 6.160 |
| #3 | 4.022 | .0022 | .0057 | 1.313 | -.0144 | .1100 | 6.134 |



Zoom In Zoom Out

Sample Name: jc87450-12 Acquired: 5/9/2019 21:31:38 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86837.** | **9083.7** | **6171.4** | **12367.** |
| Stddev | 557. | 92.2 | 16.4 | 42. |
| %RSD | .64182 | 1.0153 | .26618 | .33984 |
| #1 | 86568. | 8981.7 | 6167.5 | 12352. |
| #2 | 86464. | 9161.2 | 6157.2 | 12335. |
| #3 | 87477. | 9108.2 | 6189.4 | 12414. |



Zoom In Zoom Out

Sample Name: jc87450-13 Acquired: 5/9/2019 21:36:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2479** | **.0019** | **.0001** | **.0587** | **.1547** | **.1092** | **3.080** | **.1583** | **-.0020** |
| Stddev | .0099 | .0001 | .0001 | .0001 | .0001 | .0010 | .022 | .0002 | .0022 |
| %RSD | 3.974 | 7.293 | 61.32 | .1445 | .0827 | .9284 | .7052 | .1024 | 111.6 |
| #1 | .2370 | .0017 | .0001 | .0586 | .1547 | .1083 | 3.068 | .1581 | -.0042 |
| #2 | .2563 | .0018 | .0000 | .0587 | .1545 | .1103 | 3.105 | .1585 | .0002 |
| #3 | .2502 | .0020 | .0002 | .0587 | .1548 | .1090 | 3.066 | .1583 | -.0019 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1620** | **.3591** | **.0334** | **.0032** | **.0688** | **-.0004** | **.0068** | **70.61** | **13.07** |
| Stddev | .0007 | .0002 | .0005 | .0009 | .0006 | .0016 | .0009 | 2.89 | .53 |
| %RSD | .4248 | .0475 | 1.595 | 29.27 | .8247 | 380.6 | 13.57 | 4.097 | 4.050 |
| #1 | .1619 | .3590 | .0329 | .0041 | .0692 | -.0004 | .0072 | 67.41 | 12.49 |
| #2 | .1627 | .3593 | .0334 | .0023 | .0682 | .0012 | .0058 | 73.05 | 13.52 |
| #3 | .1613 | .3590 | .0339 | .0033 | .0691 | -.0020 | .0075 | 71.38 | 13.19 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **125.9** | **31.73** | **7.120** | **.7937** | **.0095** | **.0043** | **1.252** | **.0129** | **.0605** |
| Stddev | 5.2 | 1.25 | .301 | .0434 | .0005 | .0002 | .007 | .0011 | .0024 |
| %RSD | 4.104 | 3.934 | 4.235 | 5.471 | 5.480 | 4.070 | .5653 | 8.234 | 4.031 |
| #1 | 120.3 | 30.38 | 6.787 | .7444 | .0097 | .0044 | 1.256 | .0139 | .0579 |
| #2 | 130.3 | 32.85 | 7.375 | .8265 | .0099 | .0041 | 1.256 | .0118 | .0626 |
| #3 | 127.2 | 31.94 | 7.198 | .8101 | .0089 | .0043 | 1.244 | .0130 | .0611 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.487** | **.0034** | **.0269** | **1.279** | **-.0102** | **.0929** | **3.457** |
| Stddev | .005 | .0002 | .0004 | .001 | .0003 | .0033 | .004 |
| %RSD | .1572 | 5.377 | 1.473 | .0728 | 2.933 | 3.583 | .1231 |
| #1 | 3.486 | .0031 | .0265 | 1.279 | -.0103 | .0893 | 3.452 |
| #2 | 3.493 | .0035 | .0272 | 1.280 | -.0099 | .0959 | 3.458 |
| #3 | 3.482 | .0034 | .0270 | 1.279 | -.0105 | .0936 | 3.460 |

Zoom In Zoom Out

Sample Name: jc87450-13 Acquired: 5/9/2019 21:36:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86312.** | **9107.1** | **6146.4** | **12445.** |
| Stddev | 117. | 303.9 | 15.2 | 38. |
| %RSD | .13538 | 3.3365 | .24765 | .30307 |
| #1 | 86222. | 9418.1 | 6145.8 | 12449. |
| #2 | 86271. | 8810.9 | 6131.6 | 12405. |
| #3 | 86444. | 9092.4 | 6162.0 | 12480. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 21:41:54 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.032** | **1.995** | **1.999** | **2.032** | **2.035** | **2.030** | **2.046** | **2.029** | **.2487** |
| Stddev | .004 | .003 | .016 | .014 | .027 | .022 | .029 | .014 | .0025 |
| %RSD | .1951 | .1257 | .8017 | .7033 | 1.317 | 1.071 | 1.409 | .7076 | 1.024 |
| #1 | 2.030 | 1.995 | 1.991 | 2.024 | 2.043 | 2.037 | 2.042 | 2.020 | .2495 |
| #2 | 2.036 | 1.997 | 1.989 | 2.023 | 2.005 | 2.005 | 2.020 | 2.021 | .2458 |
| #3 | 2.029 | 1.992 | 2.018 | 2.048 | 2.057 | 2.047 | 2.077 | 2.045 | .2506 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.038** | **2.029** | **1.965** | **2.074** | **2.023** | **1.998** | **1.970** | **40.59** | **40.13** |
| Stddev | .024 | .017 | .014 | .010 | .015 | .014 | .014 | .08 | .08 |
| %RSD | 1.193 | .8128 | .7262 | .5008 | .7277 | .6861 | .6835 | .1898 | .1923 |
| #1 | 2.044 | 2.022 | 1.957 | 2.067 | 2.017 | 1.990 | 1.963 | 40.59 | 40.11 |
| #2 | 2.011 | 2.018 | 1.956 | 2.070 | 2.012 | 1.989 | 1.962 | 40.67 | 40.21 |
| #3 | 2.058 | 2.048 | 1.981 | 2.086 | 2.040 | 2.013 | 1.986 | 40.51 | 40.06 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.56** | **39.55** | **40.20** | **39.96** | **2.013** | **1.975** | **4.897** | **1.967** | **2.043** |
| Stddev | .08 | .07 | .09 | .06 | .015 | .015 | .040 | .013 | .003 |
| %RSD | .2146 | .1842 | .2119 | .1602 | .7562 | .7595 | .8245 | .6618 | .1351 |
| #1 | 39.51 | 39.53 | 40.14 | 39.95 | 2.004 | 1.968 | 4.879 | 1.961 | 2.043 |
| #2 | 39.66 | 39.64 | 40.30 | 40.03 | 2.004 | 1.966 | 4.870 | 1.958 | 2.045 |
| #3 | 39.51 | 39.50 | 40.16 | 39.90 | 2.030 | 1.993 | 4.944 | 1.982 | 2.040 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 21:41:54 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.001** | **1.953** | **1.988** | **1.987** | **2.030** | **1.937** | **1.982** |
| Stddev | .024 | .014 | .021 | .012 | .013 | .005 | .014 |
| %RSD | 1.195 | .7400 | 1.055 | .6193 | .6617 | .2793 | .7245 |
| #1 | 2.009 | 1.944 | 1.995 | 1.980 | 2.024 | 1.940 | 1.978 |
| #2 | 1.974 | 1.945 | 1.964 | 1.981 | 2.020 | 1.940 | 1.971 |
| #3 | 2.020 | 1.969 | 2.004 | 2.002 | 2.045 | 1.930 | 1.998 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82281.** | **8524.7** | **5816.1** | **11955.** |
| Stddev | 1025. | 32.2 | 34.8 | 65. |
| %RSD | 1.2458 | .37753 | .59858 | .54069 |
| #1 | 82098. | 8515.7 | 5839.7 | 12005. |
| #2 | 83386. | 8497.9 | 5832.6 | 11977. |
| #3 | 81361. | 8560.4 | 5776.1 | 11882. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 21:46:55 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **.0001** | **-.0002** | **.0004** | **-.0003** | **.0001** | **-.0003** |
| Stddev | .0002 | .0000 | .0000 | .0002 | .0002 | .0001 | .0000 | .0003 |
| %RSD | 345.8 | 211.3 | 54.56 | 109.3 | 57.26 | 39.77 | 34.51 | 114.0 |
| #1 | -.0002 | .0000 | .0001 | -.0005 | .0003 | -.0004 | .0001 | -.0006 |
| #2 | -.0001 | -.0000 | .0000 | -.0000 | .0006 | -.0003 | .0001 | -.0002 |
| #3 | .0001 | -.0000 | .0001 | -.0001 | .0002 | -.0002 | .0000 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0003** | **.0000** | **-.0007** | **.0008** | **-.0002** | **.0009** | **.0013** |
| Stddev | .0002 | .0003 | .0001 | .0010 | .0012 | .0006 | .0010 | .0004 |
| %RSD | 14.32 | 112.6 | 211.2 | 140.2 | 150.3 | 358.1 | 112.3 | 33.23 |
| #1 | -.0010 | -.0001 | -.0000 | -.0019 | .0021 | .0006 | .0010 | .0008 |
| #2 | -.0012 | .0004 | .0000 | -.0003 | -.0002 | -.0005 | .0018 | .0014 |
| #3 | -.0010 | .0005 | .0001 | .0000 | .0005 | -.0006 | -.0002 | .0017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0093** | **.0015** | **.0006** | **-.0075** | **-.0383** | **-.1109** | **.0013** | **.0002** |
| Stddev | .0014 | .0047 | .0039 | .0177 | .0277 | .0042 | .0003 | .0001 |
| %RSD | 15.61 | 310.0 | 665.0 | 235.2 | 72.38 | 3.822 | 20.19 | 30.67 |
| #1 | -.0083 | .0014 | -.0032 | -.0094 | -.0246 | -.1138 | .0014 | .0002 |
| #2 | -.0087 | .0063 | .0046 | .0110 | -.0201 | -.1128 | .0016 | .0002 |
| #3 | -.0109 | -.0031 | .0004 | -.0242 | -.0702 | -.1060 | .0010 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 21:46:55 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0000** | **.0002** | **-.0001** | **-.0001** | **.0002** | **-.0022** | **.0016** |
| Stddev | .0007 | .0007 | .0002 | .0005 | .0008 | .0002 | .0006 | .0011 |
| %RSD | 110.9 | 1935. | 98.41 | 374.1 | 1250. | 101.6 | 26.06 | 68.64 |
| #1 | -.0001 | .0007 | .0003 | .0004 | .0009 | -.0000 | -.0027 | .0005 |
| #2 | .0008 | -.0007 | -.0000 | -.0004 | -.0006 | .0003 | -.0022 | .0027 |
| #3 | .0011 | .0001 | .0002 | -.0003 | -.0005 | .0003 | -.0016 | .0015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0154** | **.0035** |
| Stddev | .0009 | .0004 |
| %RSD | 5.824 | 11.51 |
| #1 | -.0164 | .0030 |
| #2 | -.0148 | .0037 |
| #3 | -.0149 | .0037 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84838.** | **8676.8** | **6005.2** | **12556.** |
| Stddev | 152. | 6.8 | 37.4 | 78. |
| %RSD | .17881 | .07855 | .62341 | .61916 |
| #1 | 84804. | 8684.4 | 6024.6 | 12602. |
| #2 | 85004. | 8674.5 | 6029.0 | 12599. |
| #3 | 84706. | 8671.4 | 5962.0 | 12466. |



Zoom In Zoom Out

Sample Name: jc87450-14 Acquired: 5/9/2019 21:52:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1219** | **.0014** | **.0001** | **.0426** | **.0969** | **.0458** | **1.816** | **.1087** | **-.0022** |
| Stddev | .0002 | .0001 | .0002 | .0002 | .0001 | .0004 | .011 | .0005 | .0003 |
| %RSD | .2038 | 7.680 | 153.7 | .5340 | .0950 | .9112 | .6190 | .5024 | 12.96 |
| #1 | .1217 | .0015 | .0003 | .0427 | .0970 | .0453 | 1.810 | .1094 | -.0022 |
| #2 | .1220 | .0014 | .0000 | .0424 | .0969 | .0462 | 1.829 | .1085 | -.0024 |
| #3 | .1221 | .0013 | -.0000 | .0428 | .0968 | .0458 | 1.808 | .1084 | -.0019 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1302** | **.2014** | **.0252** | **.0024** | **.0236** | **-.0020** | **.0018** | **46.15** | **9.501** |
| Stddev | .0003 | .0002 | .0007 | .0004 | .0014 | .0021 | .0012 | .06 | .006 |
| %RSD | .2442 | .1238 | 2.683 | 17.69 | 5.751 | 103.6 | 65.01 | .1376 | .0672 |
| #1 | .1304 | .2011 | .0257 | .0029 | .0227 | -.0037 | .0008 | 46.11 | 9.498 |
| #2 | .1304 | .2014 | .0244 | .0023 | .0229 | .0003 | .0031 | 46.12 | 9.497 |
| #3 | .1299 | .2016 | .0254 | .0020 | .0251 | -.0027 | .0014 | 46.22 | 9.509 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **106.7** | **23.50** | **3.850** | **1.150** | **.0015** | **.0026** | **.8820** | **.0125** | **.0505** |
| Stddev | .1 | .06 | .027 | .007 | .0003 | .0002 | .0033 | .0007 | .0003 |
| %RSD | .1094 | .2582 | .6952 | .5800 | 20.05 | 8.528 | .3765 | 5.286 | .6329 |
| #1 | 106.7 | 23.56 | 3.832 | 1.156 | .0016 | .0024 | .8857 | .0129 | .0506 |
| #2 | 106.6 | 23.45 | 3.837 | 1.143 | .0012 | .0028 | .8793 | .0117 | .0501 |
| #3 | 106.9 | 23.47 | 3.881 | 1.150 | .0018 | .0025 | .8810 | .0129 | .0507 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.138** | **.0001** | **.0233** | **.0605** | **-.0076** | **.0601** | **2.421** |
| Stddev | .003 | .0011 | .0003 | .0019 | .0015 | .0007 | .002 |
| %RSD | .1382 | 1237. | 1.096 | 3.097 | 20.17 | 1.229 | .0786 |
| #1 | 2.141 | .0013 | .0231 | .0625 | -.0085 | .0601 | 2.422 |
| #2 | 2.137 | -.0010 | .0233 | .0589 | -.0059 | .0608 | 2.423 |
| #3 | 2.135 | -.0001 | .0236 | .0599 | -.0085 | .0593 | 2.419 |



Zoom In Zoom Out

Sample Name: jc87450-14 Acquired: 5/9/2019 21:52:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85392.** | **8927.6** | **6083.3** | **12438.** |
| Stddev | 150. | 26.1 | 2.2 | 5. |
| %RSD | .17514 | .29256 | .03673 | .04062 |
| #1 | 85270. | 8929.5 | 6085.4 | 12441. |
| #2 | 85346. | 8952.7 | 6080.9 | 12432. |
| #3 | 85559. | 8900.6 | 6083.7 | 12441. |



Zoom In Zoom Out

Sample Name: jc87450-15 Acquired: 5/9/2019 21:57:12 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1386** | **.0014** | **-.0001** | **.0441** | **.1282** | **.0533** | **1.450** | **.1171** | **-.0001** |
| Stddev | .0006 | .0001 | .0001 | .0003 | .0016 | .0002 | .018 | .0008 | .0008 |
| %RSD | .4510 | 6.015 | 121.6 | .7223 | 1.252 | .3891 | 1.235 | .7019 | 951.9 |
| #1 | .1392 | .0014 | -.0002 | .0438 | .1264 | .0531 | 1.431 | .1173 | .0007 |
| #2 | .1387 | .0014 | -.0001 | .0439 | .1295 | .0532 | 1.466 | .1177 | -.0009 |
| #3 | .1380 | .0015 | .0000 | .0444 | .1286 | .0535 | 1.454 | .1162 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1297** | **.1907** | **.0230** | **.0023** | **.0270** | **-.0011** | **.0081** | **50.88** | **9.907** |
| Stddev | .0014 | .0004 | .0009 | .0018 | .0004 | .0025 | .0008 | .10 | .024 |
| %RSD | 1.049 | .2019 | 3.763 | 76.91 | 1.451 | 235.1 | 10.12 | .1885 | .2386 |
| #1 | .1283 | .1909 | .0221 | .0038 | .0274 | .0006 | .0081 | 50.90 | 9.923 |
| #2 | .1311 | .1909 | .0238 | .0004 | .0268 | .0001 | .0090 | 50.97 | 9.919 |
| #3 | .1298 | .1903 | .0230 | .0027 | .0268 | -.0040 | .0073 | 50.78 | 9.880 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **96.55** | **26.49** | **5.227** | **2.155** | **.0015** | **.0032** | **.8259** | **.0138** | **.0540** |
| Stddev | .06 | .13 | .016 | .004 | .0002 | .0003 | .0038 | .0004 | .0000 |
| %RSD | .0653 | .4717 | .3088 | .1624 | 16.25 | 9.748 | .4646 | 3.077 | .0190 |
| #1 | 96.59 | 26.57 | 5.236 | 2.158 | .0012 | .0028 | .8289 | .0136 | .0540 |
| #2 | 96.57 | 26.55 | 5.238 | 2.155 | .0016 | .0033 | .8216 | .0142 | .0540 |
| #3 | 96.48 | 26.35 | 5.209 | 2.151 | .0017 | .0034 | .8271 | .0134 | .0540 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.017** | **.0031** | **.0222** | **.0888** | **-.0046** | **.0698** | **2.563** |
| Stddev | .025 | .0003 | .0002 | .0004 | .0011 | .0007 | .003 |
| %RSD | 1.232 | 8.563 | .7649 | .4951 | 23.62 | 1.024 | .1320 |
| #1 | 1.990 | .0033 | .0220 | .0885 | -.0035 | .0699 | 2.567 |
| #2 | 2.038 | .0031 | .0223 | .0893 | -.0045 | .0690 | 2.561 |
| #3 | 2.022 | .0028 | .0222 | .0886 | -.0057 | .0704 | 2.560 |

Zoom In Zoom Out

Sample Name: jc87450-15 Acquired: 5/9/2019 21:57:12 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86141.** | **8917.5** | **6124.0** | **12465.** |
| Stddev | 852. | 38.3 | 5.8 | 20. |
| %RSD | .98959 | .42919 | .09463 | .16183 |
| #1 | 87023. | 8897.9 | 6127.2 | 12477. |
| #2 | 85322. | 8893.0 | 6117.3 | 12442. |
| #3 | 86077. | 8961.6 | 6127.5 | 12476. |



Zoom In Zoom Out

Sample Name: jc87450-17 Acquired: 5/9/2019 22:02:13 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2867** | **.0023** | **.0038** | **.0658** | **.1590** | **.1519** | **3.742** | **.1724** | **-.0018** |
| Stddev | .0001 | .0000 | .0002 | .0010 | .0006 | .0004 | .030 | .0028 | .0003 |
| %RSD | .0471 | 1.571 | 4.193 | 1.516 | .3564 | .2840 | .8035 | 1.639 | 16.88 |
| #1 | .2866 | .0023 | .0039 | .0647 | .1587 | .1523 | 3.770 | .1694 | -.0018 |
| #2 | .2866 | .0024 | .0036 | .0661 | .1596 | .1516 | 3.747 | .1728 | -.0016 |
| #3 | .2868 | .0024 | .0038 | .0666 | .1586 | .1516 | 3.710 | .1750 | -.0022 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1777** | **1.028** | **.0483** | **.0020** | **.0907** | **-.0009** | **.0069** | **86.09** | **12.04** |
| Stddev | .0004 | .019 | .0002 | .0006 | .0027 | .0018 | .0008 | .02 | .01 |
| %RSD | .2154 | 1.860 | .4934 | 29.49 | 2.955 | 191.8 | 11.75 | .0249 | .0878 |
| #1 | .1782 | 1.008 | .0481 | .0023 | .0893 | -.0008 | .0074 | 86.07 | 12.05 |
| #2 | .1774 | 1.029 | .0485 | .0024 | .0890 | -.0027 | .0060 | 86.09 | 12.03 |
| #3 | .1776 | 1.046 | .0482 | .0013 | .0938 | .0008 | .0074 | 86.12 | 12.05 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **158.2** | **36.75** | **8.824** | **.6443** | **.0038** | **.0069** | **1.285** | **.0117** | **.0686** |
| Stddev | .0 | .07 | .009 | .0048 | .0004 | .0004 | .022 | .0004 | .0001 |
| %RSD | .0274 | .1856 | .1079 | .7383 | 11.22 | 5.942 | 1.740 | 3.407 | .0983 |
| #1 | 158.2 | 36.68 | 8.814 | .6394 | .0043 | .0069 | 1.262 | .0116 | .0685 |
| #2 | 158.3 | 36.76 | 8.825 | .6446 | .0037 | .0064 | 1.287 | .0113 | .0687 |
| #3 | 158.2 | 36.81 | 8.833 | .6489 | .0034 | .0072 | 1.307 | .0121 | .0686 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.871** | **.0016** | **.0275** | **.4397** | **-.0138** | **.1179** | **3.836** |
| Stddev | .002 | .0005 | .0001 | .0102 | .0015 | .0019 | .072 |
| %RSD | .0457 | 29.16 | .1872 | 2.327 | 10.83 | 1.604 | 1.867 |
| #1 | 3.871 | .0011 | .0276 | .4303 | -.0125 | .1157 | 3.761 |
| #2 | 3.870 | .0020 | .0275 | .4383 | -.0136 | .1185 | 3.844 |
| #3 | 3.873 | .0016 | .0275 | .4506 | -.0154 | .1194 | 3.904 |



Zoom In Zoom Out

Sample Name: jc87450-17 Acquired: 5/9/2019 22:02:13 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87674.** | **9122.6** | **6211.4** | **12521.** |
| Stddev | 97. | 11.7 | 110.1 | 202. |
| %RSD | .11066 | .12802 | 1.7725 | 1.6150 |
| #1 | 87758. | 9109.7 | 6322.6 | 12730. |
| #2 | 87568. | 9132.6 | 6209.2 | 12506. |
| #3 | 87696. | 9125.5 | 6102.5 | 12326. |



Zoom In Zoom Out

Sample Name: mp14896-b1 Acquired: 5/9/2019 22:07:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.052** | **2.005** | **1.976** | **2.021** | **2.028** | **2.039** | **2.031** | **2.019** |
| Stddev | .025 | .023 | .008 | .007 | .005 | .002 | .015 | .006 |
| %RSD | 1.224 | 1.151 | .4263 | .3473 | .2279 | .1117 | .7196 | .2967 |
| #1 | 2.039 | 1.993 | 1.980 | 2.025 | 2.025 | 2.041 | 2.034 | 2.022 |
| #2 | 2.035 | 1.991 | 1.981 | 2.025 | 2.025 | 2.038 | 2.015 | 2.024 |
| #3 | 2.081 | 2.032 | 1.966 | 2.013 | 2.033 | 2.037 | 2.044 | 2.012 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2458** | **2.032** | **2.068** | **1.932** | **2.073** | **2.009** | **1.965** | **1.948** |
| Stddev | .0003 | .002 | .005 | .009 | .002 | .004 | .008 | .010 |
| %RSD | .1046 | .0843 | .2521 | .4834 | .1147 | .1840 | .4295 | .5204 |
| #1 | .2457 | 2.032 | 2.069 | 1.938 | 2.076 | 2.013 | 1.966 | 1.955 |
| #2 | .2456 | 2.030 | 2.072 | 1.937 | 2.071 | 2.008 | 1.974 | 1.952 |
| #3 | .2461 | 2.033 | 2.062 | 1.921 | 2.072 | 2.005 | 1.957 | 1.936 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.35** | **26.28** | **24.86** | **24.59** | **24.76** | **25.12** | **1.979** | **1.961** |
| Stddev | .32 | .30 | .32 | .26 | .31 | .29 | .007 | .006 |
| %RSD | 1.265 | 1.149 | 1.267 | 1.073 | 1.234 | 1.167 | .3412 | .2986 |
| #1 | 25.17 | 26.13 | 24.72 | 24.43 | 24.64 | 24.97 | 1.983 | 1.961 |
| #2 | 25.16 | 26.08 | 24.64 | 24.45 | 24.53 | 24.93 | 1.983 | 1.967 |
| #3 | 25.72 | 26.63 | 25.22 | 24.90 | 25.11 | 25.46 | 1.971 | 1.956 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.653** | **1.948** | **2.090** | **1.993** | **1.886** | **1.979** | **-.0060** | F **-.0344** |
| Stddev | .006 | .010 | .025 | .002 | .007 | .002 | .0006 | .0009 |
| %RSD | .3645 | .5232 | 1.215 | .0840 | .3625 | .0789 | 9.183 | 2.667 |
| #1 | 1.655 | 1.953 | 2.077 | 1.992 | 1.885 | 1.981 | -.0063 | -.0353 |
| #2 | 1.659 | 1.955 | 2.074 | 1.993 | 1.893 | 1.978 | -.0054 | -.0334 |
| #3 | 1.647 | 1.937 | 2.120 | 1.995 | 1.879 | 1.978 | -.0064 | -.0344 |

Zoom In Zoom Out

Sample Name: mp14896-b1 Acquired: 5/9/2019 22:07:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0551** | **1.949** |
| Stddev | .0012 | .010 |
| %RSD | 2.265 | .4981 |
| #1 | -.0564 | 1.953 |
| #2 | -.0550 | 1.955 |
| #3 | -.0539 | 1.938 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84218.** | **8694.0** | **5969.7** | **12294.** |
| Stddev | 29. | 100.3 | 18.0 | 25. |
| %RSD | .03401 | 1.1542 | .30102 | .20055 |
| #1 | 84222. | 8758.4 | 5971.9 | 12291. |
| #2 | 84245. | 8745.2 | 5950.7 | 12271. |
| #3 | 84188. | 8578.4 | 5986.4 | 12320. |



Zoom In Zoom Out

Sample Name: mp14896-mb1 Acquired: 5/9/2019 22:12:15 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0087** | **-.0001** | **-.0001** | **.0011** | **.0002** | **.0004** | **.0036** | **.0056** | **-.0007** |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0002 | .0003 | .0000 | .0004 | .0003 |
| %RSD | 2.202 | 67.76 | 62.76 | 3.161 | 101.1 | 61.41 | 1.058 | 7.267 | 38.61 |
| #1 | .0086 | -.0000 | -.0002 | .0011 | .0001 | .0007 | .0036 | .0057 | -.0004 |
| #2 | .0085 | -.0001 | -.0001 | .0012 | .0004 | .0002 | .0036 | .0059 | -.0007 |
| #3 | .0089 | -.0001 | -.0001 | .0011 | .0000 | .0004 | .0036 | .0051 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0671** | **-.0007** | **.0004** | **-.0001** | **-.0005** | **.0008** | **.0064** | **1.158** |
| Stddev | .0001 | .0005 | .0002 | .0005 | .0007 | .0006 | .0006 | .0089 | .003 |
| %RSD | 46.45 | .6883 | 31.28 | 139.1 | 1327. | 141.4 | 68.89 | 139.0 | .2861 |
| #1 | .0003 | .0671 | -.0009 | .0005 | -.0006 | -.0008 | .0002 | .0062 | 1.155 |
| #2 | .0001 | .0667 | -.0008 | -.0002 | -.0003 | .0003 | .0011 | .0154 | 1.157 |
| #3 | .0002 | .0676 | -.0005 | .0008 | .0007 | -.0009 | .0012 | -.0024 | 1.161 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.1075** | **-.0463** | **.1254** | **.0075** | **.0008** | **1.294** | **-.0000** | **.0294** |
| Stddev | .0029 | .0147 | .0174 | .0054 | .0002 | .0001 | .006 | .0004 | .0001 |
| %RSD | 685.9 | 13.66 | 37.64 | 4.317 | 3.173 | 14.96 | .4802 | 1259. | .3945 |
| #1 | -.0026 | .1144 | -.0497 | .1206 | .0077 | .0007 | 1.291 | -.0004 | .0293 |
| #2 | -.0015 | .1174 | -.0617 | .1313 | .0072 | .0009 | 1.291 | -.0001 | .0295 |
| #3 | .0029 | .0906 | -.0274 | .1243 | .0074 | .0008 | 1.302 | .0004 | .0295 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0008** | **-.0006** | **.0069** | **.0011** | **-.0159** | **.0059** |
| Stddev | .0002 | .0004 | .0000 | .0011 | .0003 | .0004 | .0006 |
| %RSD | 328.7 | 55.86 | 7.937 | 15.26 | 22.99 | 2.348 | 9.985 |
| #1 | .0000 | .0012 | -.0006 | .0057 | .0012 | -.0157 | .0059 |
| #2 | -.0001 | .0003 | -.0005 | .0077 | .0013 | -.0164 | .0054 |
| #3 | .0003 | .0008 | -.0006 | .0072 | .0008 | -.0158 | .0066 |



Zoom In Zoom Out

Sample Name: mp14896-mb1 Acquired: 5/9/2019 22:12:15 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85846.** | **8878.7** | **6101.2** | **12733.** |
| Stddev | 35. | 69.4 | 33.1 | 57. |
| %RSD | .04106 | .78117 | .54232 | .44803 |
| #1 | 85816. | 8893.2 | 6103.3 | 12735. |
| #2 | 85836. | 8939.6 | 6133.2 | 12789. |
| #3 | 85885. | 8803.2 | 6067.1 | 12675. |



Zoom In Zoom Out

Sample Name: mp14896-s1 Acquired: 5/9/2019 22:17:20 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.884** | **1.840** | **1.859** | **1.820** | **1.868** | **1.902** | **1.875** | **1.821** |
| Stddev | .005 | .004 | .002 | .003 | .004 | .001 | .003 | .001 |
| %RSD | .2510 | .1938 | .0784 | .1534 | .1989 | .0719 | .1459 | .0708 |
| #1 | 1.882 | 1.837 | 1.861 | 1.823 | 1.871 | 1.901 | 1.878 | 1.822 |
| #2 | 1.882 | 1.839 | 1.859 | 1.818 | 1.869 | 1.903 | 1.873 | 1.821 |
| #3 | 1.890 | 1.844 | 1.858 | 1.818 | 1.864 | 1.901 | 1.875 | 1.819 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2239** | **1.869** | **2.583** | **1.910** | **1.838** | **1.785** | **2.228** | **1.831** |
| Stddev | .0004 | .002 | .001 | .001 | .005 | .001 | .002 | .001 |
| %RSD | .1999 | .0852 | .0301 | .0452 | .2941 | .0658 | .0882 | .0709 |
| #1 | .2237 | 1.870 | 2.584 | 1.909 | 1.840 | 1.785 | 2.230 | 1.830 |
| #2 | .2244 | 1.869 | 2.582 | 1.909 | 1.841 | 1.786 | 2.226 | 1.833 |
| #3 | .2236 | 1.867 | 2.583 | 1.911 | 1.831 | 1.784 | 2.228 | 1.830 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.10** | **25.13** | **22.72** | **22.24** | **23.42** | **26.80** | **1.840** | **1.835** |
| Stddev | .07 | .06 | .04 | .06 | .10 | .05 | .002 | .002 |
| %RSD | .3191 | .2384 | .1828 | .2809 | .4244 | .1860 | .1324 | .0890 |
| #1 | 23.05 | 25.09 | 22.68 | 22.17 | 23.36 | 26.76 | 1.843 | 1.837 |
| #2 | 23.07 | 25.09 | 22.71 | 22.27 | 23.35 | 26.78 | 1.839 | 1.835 |
| #3 | 23.19 | 25.20 | 22.76 | 22.28 | 23.53 | 26.85 | 1.839 | 1.834 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2815** | **1.804** | **1.899** | **1.830** | **1.773** | **1.817** | **1.748** | F **-.0312** |
| Stddev | .0013 | .001 | .004 | .002 | .002 | .002 | .005 | .0002 |
| %RSD | .4737 | .0532 | .1994 | .1135 | .0886 | .0846 | .2719 | .5636 |
| #1 | .2829 | 1.804 | 1.896 | 1.832 | 1.774 | 1.816 | 1.753 | -.0310 |
| #2 | .2804 | 1.803 | 1.899 | 1.831 | 1.771 | 1.818 | 1.744 | -.0313 |
| #3 | .2811 | 1.804 | 1.904 | 1.828 | 1.772 | 1.816 | 1.745 | -.0313 |

Zoom In Zoom Out

Sample Name: mp14896-s1 Acquired: 5/9/2019 22:17:20 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0526** | **1.889** |
| Stddev | .0018 | .006 |
| %RSD | 3.331 | .3045 |
| #1 | -.0528 | 1.889 |
| #2 | -.0542 | 1.883 |
| #3 | -.0507 | 1.894 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85331.** | **8874.4** | **5942.8** | **12643.** |
| Stddev | 221. | 26.5 | 3.5 | 9. |
| %RSD | .25942 | .29860 | .05861 | .07386 |
| #1 | 85163. | 8875.2 | 5938.9 | 12632. |
| #2 | 85249. | 8900.5 | 5944.0 | 12649. |
| #3 | 85582. | 8847.5 | 5945.6 | 12647. |



Zoom In Zoom Out

Sample Name: mp14896-s2 Acquired: 5/9/2019 22:22:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.952** | **1.913** | **1.939** | **1.910** | **1.938** | **1.972** | **1.952** | **1.911** |
| Stddev | .032 | .033 | .001 | .003 | .012 | .012 | .005 | .004 |
| %RSD | 1.628 | 1.709 | .0503 | .1508 | .6263 | .6178 | .2586 | .1847 |
| #1 | 1.924 | 1.883 | 1.940 | 1.913 | 1.924 | 1.958 | 1.948 | 1.914 |
| #2 | 1.986 | 1.948 | 1.939 | 1.912 | 1.948 | 1.981 | 1.958 | 1.911 |
| #3 | 1.945 | 1.907 | 1.938 | 1.907 | 1.941 | 1.978 | 1.951 | 1.907 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2323** | **1.940** | **2.580** | **1.969** | **1.934** | **1.878** | **2.264** | **1.901** |
| Stddev | .0018 | .013 | .004 | .001 | .007 | .004 | .006 | .003 |
| %RSD | .7565 | .6521 | .1542 | .0732 | .3444 | .2037 | .2833 | .1472 |
| #1 | .2304 | 1.927 | 2.583 | 1.971 | 1.941 | 1.879 | 2.270 | 1.904 |
| #2 | .2339 | 1.952 | 2.581 | 1.969 | 1.933 | 1.881 | 2.263 | 1.898 |
| #3 | .2327 | 1.943 | 2.575 | 1.968 | 1.927 | 1.874 | 2.258 | 1.901 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.88** | **25.69** | **23.50** | **23.10** | **24.03** | **27.04** | **1.911** | **1.907** |
| Stddev | .41 | .42 | .38 | .39 | .43 | .39 | .001 | .002 |
| %RSD | 1.713 | 1.618 | 1.610 | 1.687 | 1.798 | 1.445 | .0531 | .0851 |
| #1 | 23.51 | 25.30 | 23.16 | 22.75 | 23.67 | 26.70 | 1.911 | 1.909 |
| #2 | 24.32 | 26.13 | 23.91 | 23.52 | 24.51 | 27.47 | 1.912 | 1.906 |
| #3 | 23.80 | 25.65 | 23.42 | 23.02 | 23.92 | 26.96 | 1.910 | 1.906 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2826** | **1.881** | **1.967** | **1.895** | **1.847** | **1.877** | **1.554** | F **-.0327** |
| Stddev | .0017 | .002 | .033 | .013 | .001 | .013 | .002 | .0004 |
| %RSD | .5863 | .0843 | 1.650 | .6727 | .0301 | .6696 | .1280 | 1.221 |
| #1 | .2824 | 1.883 | 1.938 | 1.881 | 1.846 | 1.863 | 1.552 | -.0330 |
| #2 | .2811 | 1.881 | 2.002 | 1.907 | 1.847 | 1.887 | 1.553 | -.0328 |
| #3 | .2844 | 1.880 | 1.962 | 1.896 | 1.847 | 1.881 | 1.556 | -.0322 |



Zoom In Zoom Out

Sample Name: mp14896-s2 Acquired: 5/9/2019 22:22:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0535** | **1.961** |
| Stddev | .0003 | .005 |
| %RSD | .6142 | .2730 |
| #1 | -.0539 | 1.964 |
| #2 | -.0533 | 1.965 |
| #3 | -.0533 | 1.955 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86046.** | **9041.4** | **5948.5** | **12598.** |
| Stddev | 582. | 146.4 | 5.8 | 8. |
| %RSD | .67657 | 1.6191 | .09698 | .06303 |
| #1 | 86681. | 9192.7 | 5949.7 | 12597. |
| #2 | 85918. | 8900.5 | 5953.6 | 12606. |
| #3 | 85538. | 9031.0 | 5942.2 | 12591. |



Zoom In Zoom Out

Sample Name: jc87209-3 Acquired: 5/9/2019 22:27:14 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0034** | **-.0000** | **.0201** | **.0004** | **.0029** | **.0123** | **.0097** | **.0015** |
| Stddev | .0001 | .0001 | .0002 | .0000 | .0002 | .0003 | .0001 | .0003 |
| %RSD | 4.199 | 467.5 | .8387 | 8.035 | 8.131 | 2.591 | .6895 | 22.38 |
| #1 | .0036 | -.0000 | .0201 | .0004 | .0031 | .0120 | .0098 | .0013 |
| #2 | .0033 | -.0001 | .0200 | .0004 | .0027 | .0126 | .0098 | .0019 |
| #3 | .0034 | .0001 | .0203 | .0005 | .0030 | .0123 | .0097 | .0014 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0009** | **.0001** | **.6943** | **.0088** | F **-.0049** | **.0036** | **.0157** | **.0067** |
| Stddev | .0003 | .0003 | .0010 | .0006 | .0011 | .0006 | .0020 | .0003 |
| %RSD | 36.55 | 213.4 | .1442 | 7.158 | 23.43 | 16.52 | 12.79 | 3.913 |
| #1 | -.0007 | .0004 | .6953 | .0083 | -.0051 | .0039 | .0179 | .0066 |
| #2 | -.0013 | -.0002 | .6942 | .0095 | -.0037 | .0040 | .0150 | .0066 |
| #3 | -.0009 | .0001 | .6933 | .0086 | -.0059 | .0029 | .0141 | .0070 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0238** | **2.390** | **.0431** | **.1150** | **.9933** | **4.121** | **.1579** | **.0329** |
| Stddev | .0028 | .016 | .0047 | .0180 | .0287 | .032 | .0016 | .0002 |
| %RSD | 11.87 | .6465 | 10.85 | 15.67 | 2.886 | .7773 | .9920 | .4859 |
| #1 | .0213 | 2.385 | .0485 | .1246 | 1.019 | 4.129 | .1597 | .0330 |
| #2 | .0233 | 2.378 | .0409 | .0942 | .9981 | 4.086 | .1568 | .0327 |
| #3 | .0269 | 2.407 | .0400 | .1262 | .9625 | 4.149 | .1572 | .0329 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2052** | **.0121** | **.0157** | **.0010** | **-.0070** | **.0008** | **1.685** | **.0027** |
| Stddev | .0011 | .0007 | .0001 | .0004 | .0005 | .0001 | .003 | .0010 |
| %RSD | .5405 | 5.971 | .7962 | 39.88 | 6.670 | 6.674 | .1883 | 37.62 |
| #1 | .2063 | .0121 | .0158 | .0015 | -.0067 | .0007 | 1.687 | .0027 |
| #2 | .2052 | .0113 | .0155 | .0008 | -.0075 | .0008 | 1.685 | .0017 |
| #3 | .2040 | .0128 | .0158 | .0007 | -.0067 | .0008 | 1.681 | .0038 |

Zoom In Zoom Out

Sample Name: jc87209-3 Acquired: 5/9/2019 22:27:14 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0145** | **.1045** |
| Stddev | .0008 | .0007 |
| %RSD | 5.663 | .6283 |
| #1 | -.0140 | .1040 |
| #2 | -.0141 | .1043 |
| #3 | -.0155 | .1053 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88116.** | **9119.7** | **6130.5** | **13061.** |
| Stddev | 205. | 51.6 | 9.6 | 16. |
| %RSD | .23309 | .56573 | .15580 | .12155 |
| #1 | 88023. | 9106.7 | 6127.6 | 13045. |
| #2 | 87973. | 9176.5 | 6122.8 | 13060. |
| #3 | 88351. | 9075.8 | 6141.2 | 13077. |



Zoom In Zoom Out

Sample Name: mp14896-sd1 Acquired: 5/9/2019 22:32:15 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **-.0008** | **.0196** | **-.0008** | **.0031** | **.0139** | **.0097** | **.0000** | **-.0038** |
| Stddev | .0010 | .0004 | .0002 | .0004 | .0006 | .0008 | .0005 | .0006 | .0013 |
| %RSD | 42.64 | 57.26 | .9460 | 49.95 | 18.47 | 5.553 | 4.895 | 1793. | 32.71 |
| #1 | .0033 | -.0003 | .0195 | -.0004 | .0036 | .0135 | .0101 | .0006 | -.0025 |
| #2 | .0026 | -.0007 | .0195 | -.0008 | .0025 | .0133 | .0092 | -.0005 | -.0039 |
| #3 | .0013 | -.0012 | .0198 | -.0012 | .0032 | .0147 | .0100 | -.0000 | -.0050 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.6978** | **.0062** | **-.0052** | **.0048** | **.0200** | **.0200** | **.0434** | **2.464** |
| Stddev | .0019 | .0073 | .0069 | .0054 | .0021 | .0057 | .0045 | .0686 | .069 |
| %RSD | 673.5 | 1.051 | 111.6 | 105.0 | 43.63 | 28.54 | 22.68 | 158.2 | 2.792 |
| #1 | -.0018 | .6948 | .0137 | -.0023 | .0036 | .0200 | .0150 | -.0351 | 2.386 |
| #2 | .0008 | .6925 | .0046 | -.0115 | .0073 | .0257 | .0211 | .0735 | 2.518 |
| #3 | .0019 | .7062 | .0002 | -.0018 | .0037 | .0143 | .0238 | .0917 | 2.486 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0423** | **.0111** | **.4546** | **3.550** | **.1614** | **.0326** | **.2418** | **.0141** | **.0158** |
| Stddev | .0098 | .1315 | .1172 | .104 | .0028 | .0005 | .0120 | .0013 | .0001 |
| %RSD | 23.26 | 1189. | 25.78 | 2.931 | 1.710 | 1.417 | 4.977 | 9.422 | .8572 |
| #1 | .0310 | -.0604 | .4066 | 3.448 | .1594 | .0325 | .2320 | .0127 | .0160 |
| #2 | .0465 | -.0692 | .5881 | 3.656 | .1604 | .0331 | .2380 | .0142 | .0159 |
| #3 | .0493 | .1628 | .3690 | 3.544 | .1646 | .0322 | .2552 | .0154 | .0157 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **-.0096** | **.0011** | **1.691** | **.0066** | **-.0822** | **.1106** |
| Stddev | .0009 | .0012 | .0007 | .017 | .0017 | .0078 | .0017 |
| %RSD | 58.62 | 12.06 | 68.67 | .9929 | 25.81 | 9.489 | 1.522 |
| #1 | .0019 | -.0094 | .0004 | 1.685 | .0066 | -.0798 | .1107 |
| #2 | .0022 | -.0109 | .0019 | 1.678 | .0084 | -.0759 | .1089 |
| #3 | .0005 | -.0086 | .0009 | 1.710 | .0050 | -.0910 | .1123 |



Zoom In Zoom Out

Sample Name: mp14896-sd1 Acquired: 5/9/2019 22:32:15 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88096.** | **8985.9** | **6117.7** | **12826.** |
| Stddev | 2768. | 241.5 | 66.2 | 123. |
| %RSD | 3.1422 | 2.6873 | 1.0822 | .95788 |
| #1 | 87227. | 9231.3 | 6153.2 | 12903. |
| #2 | 91194. | 8748.6 | 6158.5 | 12891. |
| #3 | 85867. | 8977.8 | 6041.3 | 12685. |



Zoom In Zoom Out

Sample Name: jc87294-1 Acquired: 5/9/2019 22:37:21 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0120** | **-.0000** | **.0008** | **.0008** | **.0041** | **.1304** | **.1016** | **.0071** |
| Stddev | .0004 | .0000 | .0001 | .0002 | .0001 | .0002 | .0003 | .0004 |
| %RSD | 3.519 | 81.43 | 10.40 | 23.49 | 1.270 | .1711 | .2785 | 5.392 |
| #1 | .0119 | -.0000 | .0008 | .0009 | .0041 | .1304 | .1018 | .0071 |
| #2 | .0116 | -.0000 | .0007 | .0006 | .0041 | .1302 | .1013 | .0074 |
| #3 | .0125 | -.0000 | .0007 | .0009 | .0040 | .1307 | .1016 | .0066 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0014** | **3.941** | **.0254** | F **-.0202** | **.3652** | **.0453** | **.0290** |
| Stddev | .0004 | .0002 | .013 | .0006 | .0004 | .0020 | .0009 | .0017 |
| %RSD | 53.70 | 15.39 | .3355 | 2.548 | 2.108 | .5381 | 2.068 | 5.809 |
| #1 | .0007 | .0016 | 3.949 | .0261 | -.0198 | .3638 | .0447 | .0277 |
| #2 | .0004 | .0013 | 3.926 | .0248 | -.0207 | .3645 | .0464 | .0309 |
| #3 | .0013 | .0012 | 3.948 | .0252 | -.0201 | .3675 | .0448 | .0285 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8487** | **10.00** | **.9614** | **3.126** | **126.6** | **125.2** | F **21.02** | **5.288** |
| Stddev | .0327 | .31 | .0270 | .139 | 3.7 | 3.7 | .09 | .019 |
| %RSD | 3.859 | 3.123 | 2.810 | 4.441 | 2.917 | 2.964 | .4294 | .3672 |
| #1 | .8623 | 10.12 | .9636 | 3.181 | 128.1 | 126.5 | 21.06 | 5.301 |
| #2 | .8113 | 9.646 | .9333 | 2.968 | 122.4 | 121.0 | 20.91 | 5.266 |
| #3 | .8724 | 10.24 | .9872 | 3.229 | 129.3 | 128.0 | 21.07 | 5.297 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.766** | **.0370** | **.0146** | **.0025** | **-.0236** | **.0056** | **9.019** | **.0039** |
| Stddev | .006 | .0007 | .0004 | .0008 | .0012 | .0001 | .031 | .0010 |
| %RSD | .3435 | 1.772 | 2.501 | 30.86 | 4.967 | 2.288 | .3481 | 26.70 |
| #1 | 1.768 | .0375 | .0147 | .0018 | -.0228 | .0056 | 9.040 | .0032 |
| #2 | 1.759 | .0363 | .0142 | .0033 | -.0231 | .0054 | 8.983 | .0051 |
| #3 | 1.770 | .0373 | .0150 | .0025 | -.0249 | .0056 | 9.035 | .0034 |

Zoom In Zoom Out

Sample Name: jc87294-1 Acquired: 5/9/2019 22:37:21 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0032** | F **13.68** |
| Stddev | .0023 | .05 |
| %RSD | 71.76 | .3795 |
| #1 | .0012 | 13.70 |
| #2 | .0027 | 13.62 |
| #3 | .0056 | 13.71 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82280.** | **8478.1** | **5738.3** | **12196.** |
| Stddev | 219. | 219.8 | 18.6 | 31. |
| %RSD | .26596 | 2.5922 | .32392 | .25046 |
| #1 | 82502. | 8436.3 | 5730.9 | 12177. |
| #2 | 82275. | 8715.8 | 5759.4 | 12231. |
| #3 | 82064. | 8282.2 | 5724.6 | 12179. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 22:42:21 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.981** | **1.945** | **1.952** | **1.989** | **1.985** | **1.997** | **1.996** | **1.986** | **.2437** |
| Stddev | .009 | .008 | .002 | .003 | .008 | .006 | .001 | .004 | .0005 |
| %RSD | .4784 | .3908 | .0783 | .1356 | .4056 | .3008 | .0654 | .1778 | .2169 |
| #1 | 1.987 | 1.950 | 1.953 | 1.991 | 1.989 | 2.000 | 1.995 | 1.988 | .2443 |
| #2 | 1.970 | 1.936 | 1.951 | 1.986 | 1.975 | 1.990 | 1.996 | 1.982 | .2433 |
| #3 | 1.985 | 1.949 | 1.953 | 1.990 | 1.989 | 2.000 | 1.998 | 1.987 | .2437 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **1.974** | **1.920** | **2.035** | **1.979** | **1.953** | **1.933** | **39.56** | **38.99** |
| Stddev | .008 | .003 | .004 | .007 | .002 | .003 | .002 | .19 | .14 |
| %RSD | .3982 | .1479 | .2199 | .3426 | .0824 | .1355 | .0889 | .4836 | .3641 |
| #1 | 1.991 | 1.977 | 1.923 | 2.043 | 1.978 | 1.956 | 1.931 | 39.69 | 39.07 |
| #2 | 1.978 | 1.971 | 1.915 | 2.031 | 1.978 | 1.951 | 1.934 | 39.34 | 38.82 |
| #3 | 1.992 | 1.975 | 1.923 | 2.031 | 1.981 | 1.954 | 1.933 | 39.64 | 39.06 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.40** | **38.27** | **38.99** | **38.85** | **1.984** | **1.931** | **4.785** | **1.919** | **1.992** |
| Stddev | .16 | .15 | .18 | .17 | .004 | .003 | .013 | .003 | .009 |
| %RSD | .4181 | .3833 | .4585 | .4504 | .1835 | .1595 | .2743 | .1793 | .4504 |
| #1 | 38.52 | 38.34 | 39.04 | 38.95 | 1.988 | 1.933 | 4.792 | 1.922 | 1.998 |
| #2 | 38.22 | 38.10 | 38.79 | 38.65 | 1.981 | 1.927 | 4.770 | 1.915 | 1.982 |
| #3 | 38.46 | 38.37 | 39.13 | 38.95 | 1.983 | 1.932 | 4.794 | 1.920 | 1.997 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 22:42:21 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.954** | **1.903** | **1.949** | **1.945** | **1.986** | **1.895** | **1.937** |
| Stddev | .009 | .005 | .007 | .002 | .004 | .009 | .003 |
| %RSD | .4331 | .2699 | .3832 | .1077 | .2072 | .4480 | .1311 |
| #1 | 1.958 | 1.908 | 1.952 | 1.946 | 1.990 | 1.900 | 1.939 |
| #2 | 1.944 | 1.898 | 1.940 | 1.942 | 1.982 | 1.885 | 1.934 |
| #3 | 1.959 | 1.902 | 1.953 | 1.945 | 1.985 | 1.900 | 1.937 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83560.** | **8702.3** | **5908.9** | **12130.** |
| Stddev | 242. | 17.7 | 3.0 | 8. |
| %RSD | .28993 | .20302 | .05149 | .06233 |
| #1 | 83403. | 8716.0 | 5906.5 | 12124. |
| #2 | 83839. | 8708.7 | 5912.3 | 12138. |
| #3 | 83438. | 8682.4 | 5908.0 | 12127. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 22:47:21 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **.0001** | **-.0002** | **.0004** | **-.0003** | **.0001** | **.0003** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .0002 | .0002 | .0000 | .0001 |
| %RSD | 236.5 | 59.90 | 183.5 | 154.2 | 51.93 | 73.36 | 13.87 | 26.33 |
| #1 | -.0002 | -.0000 | -.0001 | .0001 | .0005 | -.0002 | .0001 | .0002 |
| #2 | .0002 | -.0001 | .0001 | -.0004 | .0001 | -.0005 | .0001 | .0002 |
| #3 | -.0004 | -.0000 | .0002 | -.0002 | .0005 | -.0001 | .0001 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0009** | **.0000** | **-.0000** | **-.0004** | **.0010** | **-.0001** | **.0020** | **.0011** |
| Stddev | .0002 | .0001 | .0000 | .0009 | .0006 | .0010 | .0009 | .0010 |
| %RSD | 22.08 | 514.1 | 90.26 | 230.5 | 63.94 | 1341. | 44.05 | 93.60 |
| #1 | -.0008 | -.0001 | -.0000 | -.0011 | .0011 | -.0011 | .0014 | .0023 |
| #2 | -.0008 | .0001 | -.0000 | -.0007 | .0015 | .0010 | .0030 | .0008 |
| #3 | -.0011 | .0000 | -.0001 | .0006 | .0003 | -.0002 | .0016 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0107** | **-.0001** | **-.0009** | **.0071** | **.0217** | **-.1003** | F **.0125** | **.0002** |
| Stddev | .0076 | .0025 | .0041 | .0120 | .0365 | .0010 | .0013 | .0002 |
| %RSD | 70.48 | 2575. | 461.1 | 170.5 | 167.7 | 1.020 | 10.30 | 91.25 |
| #1 | -.0100 | .0017 | .0030 | .0147 | .0083 | -.1014 | .0137 | .0003 |
| #2 | -.0036 | -.0029 | -.0052 | .0133 | .0630 | -.0995 | .0125 | .0005 |
| #3 | -.0186 | .0009 | -.0004 | -.0068 | -.0061 | -.0999 | .0112 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | | .0100 | |
| Low Limit | | | | | | | -.0100 | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 22:47:21 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0006** | **.0000** | **-.0001** | **-.0002** | **.0001** | **.0001** | **.0016** |
| Stddev | .0010 | .0004 | .0001 | .0003 | .0005 | .0001 | .0009 | .0002 |
| %RSD | 60.20 | 65.64 | 367.8 | 203.8 | 287.4 | 65.92 | 641.7 | 10.13 |
| #1 | .0022 | .0010 | -.0000 | -.0004 | .0004 | .0001 | .0003 | .0014 |
| #2 | .0005 | .0003 | .0001 | -.0001 | -.0005 | .0002 | .0009 | .0017 |
| #3 | .0023 | .0005 | -.0000 | .0001 | -.0004 | .0000 | -.0008 | .0015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0125** | **.0024** |
| Stddev | .0014 | .0006 |
| %RSD | 11.09 | 22.78 |
| #1 | -.0109 | .0030 |
| #2 | -.0133 | .0020 |
| #3 | -.0133 | .0023 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86637.** | **8796.2** | **6136.6** | **12831.** |
| Stddev | 186. | 38.7 | 22.2 | 38. |
| %RSD | .21464 | .44004 | .36139 | .29881 |
| #1 | 86705. | 8753.0 | 6124.8 | 12805. |
| #2 | 86427. | 8807.7 | 6122.7 | 12813. |
| #3 | 86780. | 8827.8 | 6162.2 | 12875. |



Zoom In Zoom Out

Sample Name: mp14897-mb1 Acquired: 5/9/2019 22:52:32 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **-.0001** | **.0001** | **.0013** | **.0005** | **.0003** | **.0002** | **-.0008** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .0003 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 2492. | 55.95 | 55.44 | 139.7 | 23.15 | 44.36 | 7.361 | 53.06 | 44.05 |
| #1 | .0003 | -.0001 | -.0002 | .0002 | .0011 | .0003 | .0003 | .0004 | -.0005 |
| #2 | -.0003 | -.0000 | -.0001 | -.0001 | .0017 | .0006 | .0003 | .0003 | -.0011 |
| #3 | -.0001 | -.0001 | -.0001 | .0003 | .0012 | .0008 | .0003 | .0001 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0139** | **.0005** | **.0017** | **.0006** | **.0001** | **.0003** | **-.0010** | **.0962** |
| Stddev | .0001 | .0002 | .0003 | .0013 | .0008 | .0006 | .0005 | .0108 | .0034 |
| %RSD | 32.73 | 1.307 | 62.31 | 75.27 | 139.6 | 662.7 | 188.4 | 1080. | 3.552 |
| #1 | .0002 | .0137 | .0009 | .0027 | .0015 | .0008 | -.0003 | .0074 | .0922 |
| #2 | .0002 | .0140 | .0005 | .0022 | -.0000 | -.0003 | .0005 | -.0131 | .0984 |
| #3 | .0003 | .0141 | .0002 | .0003 | .0003 | -.0002 | .0006 | .0027 | .0978 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0151** | **-.0182** | **-.0494** | **-.0226** | **.0097** | **.0003** | **.0254** | **.0154** | **.0007** |
| Stddev | .0013 | .0187 | .0140 | .0038 | .0005 | .0002 | .0020 | .0005 | .0001 |
| %RSD | 8.345 | 103.0 | 28.37 | 16.83 | 5.250 | 81.67 | 7.687 | 3.046 | 16.41 |
| #1 | .0137 | -.0027 | -.0629 | -.0185 | .0100 | .0005 | .0243 | .0149 | .0006 |
| #2 | .0160 | -.0129 | -.0350 | -.0260 | .0099 | .0000 | .0277 | .0158 | .0007 |
| #3 | .0157 | -.0390 | -.0503 | -.0233 | .0091 | .0003 | .0243 | .0155 | .0008 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0005** | **.0005** | **.0074** | **.0025** | **-.0160** | **.0204** |
| Stddev | .0001 | .0003 | .0002 | .0008 | .0017 | .0014 | .0007 |
| %RSD | 28.89 | 60.20 | 41.00 | 11.11 | 68.38 | 8.809 | 3.291 |
| #1 | .0004 | .0008 | .0007 | .0081 | .0041 | -.0168 | .0196 |
| #2 | .0003 | .0006 | .0003 | .0065 | .0007 | -.0168 | .0209 |
| #3 | .0002 | .0002 | .0004 | .0077 | .0026 | -.0144 | .0206 |



Zoom In Zoom Out

Sample Name: mp14897-mb1 Acquired: 5/9/2019 22:52:32 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88081.** | **9032.6** | **6085.7** | **12727.** |
| Stddev | 1142. | 9.1 | 68.5 | 134. |
| %RSD | 1.2967 | .10115 | 1.1261 | 1.0560 |
| #1 | 87389. | 9023.7 | 6142.9 | 12834. |
| #2 | 87456. | 9032.2 | 6009.8 | 12576. |
| #3 | 89400. | 9041.9 | 6104.5 | 12771. |



Zoom In Zoom Out

Sample Name: mp14897-b1 Acquired: 5/9/2019 22:57:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.913** | **1.878** | **1.869** | **1.901** | **1.904** | **1.899** | **1.921** | **1.906** |
| Stddev | .004 | .005 | .003 | .003 | .002 | .002 | .011 | .001 |
| %RSD | .2144 | .2644 | .1330 | .1565 | .1253 | .1176 | .5798 | .0456 |
| #1 | 1.917 | 1.881 | 1.868 | 1.900 | 1.907 | 1.901 | 1.911 | 1.906 |
| #2 | 1.915 | 1.882 | 1.871 | 1.904 | 1.902 | 1.899 | 1.933 | 1.907 |
| #3 | 1.909 | 1.873 | 1.867 | 1.898 | 1.904 | 1.897 | 1.919 | 1.905 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2323** | **1.886** | **1.910** | **1.840** | **1.963** | **1.905** | **1.856** | **1.845** |
| Stddev | .0004 | .002 | .003 | .000 | .005 | .003 | .003 | .003 |
| %RSD | .1907 | .0954 | .1663 | .0116 | .2729 | .1466 | .1346 | .1525 |
| #1 | .2318 | 1.888 | 1.910 | 1.840 | 1.960 | 1.902 | 1.854 | 1.844 |
| #2 | .2326 | 1.884 | 1.913 | 1.840 | 1.969 | 1.908 | 1.859 | 1.848 |
| #3 | .2326 | 1.885 | 1.907 | 1.840 | 1.960 | 1.904 | 1.854 | 1.843 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.78** | **23.53** | **23.21** | **23.01** | **23.49** | **23.62** | **1.825** | **1.823** |
| Stddev | .06 | .06 | .07 | .02 | .08 | .08 | .002 | .003 |
| %RSD | .2710 | .2533 | .2801 | .0838 | .3495 | .3272 | .1098 | .1575 |
| #1 | 23.79 | 23.55 | 23.25 | 23.03 | 23.51 | 23.65 | 1.827 | 1.823 |
| #2 | 23.84 | 23.57 | 23.24 | 23.01 | 23.55 | 23.68 | 1.825 | 1.827 |
| #3 | 23.71 | 23.46 | 23.13 | 22.99 | 23.40 | 23.53 | 1.823 | 1.821 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0637** | **1.872** | **1.918** | **1.873** | **1.133** | **1.863** | **.0015** | F **-.0243** |
| Stddev | .0004 | .005 | .006 | .002 | .001 | .003 | .0011 | .0007 |
| %RSD | .5985 | .2550 | .3321 | .0896 | .1234 | .1381 | 76.13 | 2.946 |
| #1 | .0637 | 1.869 | 1.922 | 1.875 | 1.131 | 1.866 | .0016 | -.0245 |
| #2 | .0640 | 1.877 | 1.922 | 1.872 | 1.133 | 1.864 | .0003 | -.0250 |
| #3 | .0633 | 1.869 | 1.911 | 1.872 | 1.134 | 1.861 | .0026 | -.0236 |

Zoom In Zoom Out

Sample Name: mp14897-b1 Acquired: 5/9/2019 22:57:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0392** | **1.859** |
| Stddev | .0009 | .001 |
| %RSD | 2.330 | .0763 |
| #1 | -.0397 | 1.860 |
| #2 | -.0382 | 1.857 |
| #3 | -.0398 | 1.859 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85178.** | **8772.3** | **6002.7** | **12385.** |
| Stddev | 113. | 12.3 | 5.8 | 20. |
| %RSD | .13252 | .14014 | .09605 | .16118 |
| #1 | 85122. | 8786.3 | 6008.4 | 12406. |
| #2 | 85308. | 8767.1 | 5996.9 | 12366. |
| #3 | 85103. | 8763.3 | 6003.0 | 12383. |



Zoom In Zoom Out

Sample Name: mp14897-s1 Acquired: 5/9/2019 23:02:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.914** | **1.900** | **1.882** | **1.924** | **1.924** | **1.925** | **1.936** | **1.929** |
| Stddev | .001 | .001 | .006 | .004 | .002 | .002 | .007 | .004 |
| %RSD | .0306 | .0498 | .3160 | .2084 | .0928 | .1146 | .3897 | .2152 |
| #1 | 1.914 | 1.901 | 1.885 | 1.926 | 1.923 | 1.924 | 1.944 | 1.930 |
| #2 | 1.914 | 1.899 | 1.875 | 1.919 | 1.922 | 1.924 | 1.931 | 1.924 |
| #3 | 1.913 | 1.899 | 1.886 | 1.927 | 1.926 | 1.927 | 1.932 | 1.932 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2339** | **1.905** | **1.925** | **1.857** | **1.978** | **1.919** | **1.885** | **1.848** |
| Stddev | .0006 | .003 | .005 | .005 | .004 | .003 | .004 | .008 |
| %RSD | .2492 | .1518 | .2742 | .2590 | .1971 | .1625 | .2108 | .4132 |
| #1 | .2332 | 1.905 | 1.926 | 1.860 | 1.979 | 1.920 | 1.887 | 1.854 |
| #2 | .2342 | 1.902 | 1.919 | 1.851 | 1.974 | 1.916 | 1.880 | 1.840 |
| #3 | .2342 | 1.908 | 1.929 | 1.860 | 1.982 | 1.922 | 1.887 | 1.852 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.00** | **23.76** | **23.31** | **23.17** | **23.36** | **23.61** | **1.822** | **1.837** |
| Stddev | .02 | .01 | .02 | .03 | .03 | .03 | .007 | .004 |
| %RSD | .0875 | .0491 | .0924 | .1131 | .1179 | .1359 | .4140 | .2219 |
| #1 | 23.98 | 23.76 | 23.31 | 23.14 | 23.36 | 23.65 | 1.826 | 1.841 |
| #2 | 24.02 | 23.77 | 23.28 | 23.18 | 23.38 | 23.61 | 1.813 | 1.832 |
| #3 | 23.99 | 23.75 | 23.32 | 23.18 | 23.33 | 23.58 | 1.827 | 1.837 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0646** | **1.875** | **1.922** | **1.891** | **1.522** | **1.891** | **.0454** | F **-.0284** |
| Stddev | .0012 | .005 | .001 | .002 | .004 | .002 | .0015 | .0026 |
| %RSD | 1.909 | .2926 | .0335 | .1145 | .2669 | .1105 | 3.337 | 9.076 |
| #1 | .0632 | 1.878 | 1.923 | 1.891 | 1.526 | 1.891 | .0470 | -.0296 |
| #2 | .0651 | 1.869 | 1.922 | 1.889 | 1.518 | 1.888 | .0440 | -.0255 |
| #3 | .0655 | 1.878 | 1.923 | 1.894 | 1.523 | 1.893 | .0453 | -.0302 |



Zoom In Zoom Out

Sample Name: mp14897-s1 Acquired: 5/9/2019 23:02:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0463** | **1.890** |
| Stddev | .0019 | .005 |
| %RSD | 4.021 | .2805 |
| #1 | -.0482 | 1.891 |
| #2 | -.0445 | 1.884 |
| #3 | -.0462 | 1.894 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84820.** | **8974.0** | **6031.6** | **12379.** |
| Stddev | 96. | 15.4 | 20.8 | 40. |
| %RSD | .11372 | .17165 | .34538 | .32015 |
| #1 | 84814. | 8967.1 | 6024.5 | 12372. |
| #2 | 84920. | 8991.7 | 6055.1 | 12422. |
| #3 | 84727. | 8963.3 | 6015.3 | 12344. |



Zoom In Zoom Out

Sample Name: mp14897-s2 Acquired: 5/9/2019 23:07:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.867** | **1.860** | **1.867** | **1.907** | **1.889** | **1.896** | **1.907** | **1.909** |
| Stddev | .006 | .008 | .009 | .009 | .003 | .002 | .004 | .008 |
| %RSD | .3367 | .4463 | .5010 | .4585 | .1672 | .0799 | .1816 | .4247 |
| #1 | 1.870 | 1.863 | 1.860 | 1.904 | 1.886 | 1.895 | 1.904 | 1.905 |
| #2 | 1.859 | 1.851 | 1.877 | 1.916 | 1.891 | 1.897 | 1.910 | 1.918 |
| #3 | 1.871 | 1.867 | 1.862 | 1.900 | 1.891 | 1.897 | 1.905 | 1.903 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2299** | **1.866** | **1.896** | **1.842** | **1.965** | **1.904** | **1.875** | **1.833** |
| Stddev | .0001 | .002 | .009 | .009 | .009 | .008 | .008 | .011 |
| %RSD | .0574 | .1040 | .4779 | .4895 | .4461 | .4098 | .4274 | .6026 |
| #1 | .2300 | 1.864 | 1.891 | 1.835 | 1.964 | 1.901 | 1.873 | 1.827 |
| #2 | .2299 | 1.868 | 1.907 | 1.852 | 1.974 | 1.913 | 1.884 | 1.846 |
| #3 | .2298 | 1.866 | 1.891 | 1.838 | 1.957 | 1.898 | 1.868 | 1.827 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.40** | **23.26** | **22.80** | **22.58** | **22.71** | **22.95** | **1.800** | **1.813** |
| Stddev | .08 | .10 | .03 | .08 | .03 | .08 | .009 | .009 |
| %RSD | .3236 | .4170 | .1528 | .3405 | .1451 | .3647 | .4718 | .4680 |
| #1 | 23.39 | 23.28 | 22.82 | 22.58 | 22.74 | 22.96 | 1.795 | 1.809 |
| #2 | 23.32 | 23.15 | 22.76 | 22.50 | 22.68 | 22.86 | 1.810 | 1.822 |
| #3 | 23.47 | 23.35 | 22.81 | 22.65 | 22.71 | 23.03 | 1.796 | 1.807 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0674** | **1.857** | **1.883** | **1.857** | **1.307** | **1.857** | **.0456** | F **-.0246** |
| Stddev | .0007 | .010 | .006 | .002 | .006 | .002 | .0014 | .0007 |
| %RSD | 1.040 | .5289 | .3228 | .1047 | .5001 | .0876 | 3.116 | 2.936 |
| #1 | .0679 | 1.850 | 1.885 | 1.855 | 1.302 | 1.856 | .0446 | -.0241 |
| #2 | .0677 | 1.868 | 1.877 | 1.857 | 1.314 | 1.859 | .0472 | -.0254 |
| #3 | .0666 | 1.852 | 1.889 | 1.859 | 1.306 | 1.857 | .0450 | -.0243 |

Zoom In Zoom Out

Sample Name: mp14897-s2 Acquired: 5/9/2019 23:07:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0440** | **1.869** |
| Stddev | .0015 | .012 |
| %RSD | 3.352 | .6138 |
| #1 | -.0451 | 1.861 |
| #2 | -.0423 | 1.883 |
| #3 | -.0446 | 1.864 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85390.** | **9006.0** | **6032.2** | **12378.** |
| Stddev | 166. | 42.7 | 25.8 | 42. |
| %RSD | .19480 | .47432 | .42719 | .34333 |
| #1 | 85568. | 8974.6 | 6057.7 | 12416. |
| #2 | 85363. | 9054.6 | 6006.2 | 12332. |
| #3 | 85239. | 8988.7 | 6032.8 | 12387. |



Zoom In Zoom Out

Sample Name: jc87209-2 Acquired: 5/9/2019 23:12:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0000** | **-.0001** | **.0001** | **.0011** | **.0031** | **.0002** | **.0005** | **-.0005** |
| Stddev | .0004 | .0001 | .0001 | .0001 | .0003 | .0002 | .0000 | .0005 | .0003 |
| %RSD | 941.5 | 2100. | 142.6 | 74.92 | 24.20 | 5.282 | 4.642 | 88.53 | 64.57 |
| #1 | .0003 | -.0001 | .0001 | .0002 | .0009 | .0029 | .0002 | .0010 | -.0009 |
| #2 | -.0005 | .0001 | -.0002 | .0000 | .0009 | .0032 | .0002 | .0003 | -.0004 |
| #3 | .0003 | -.0000 | -.0001 | .0001 | .0014 | .0031 | .0002 | .0002 | -.0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0058** | **.0013** | **.0007** | **.0008** | **.0024** | **-.0009** | **.0001** | **.0519** |
| Stddev | .0002 | .0000 | .0006 | .0004 | .0007 | .0004 | .0008 | .0056 | .0015 |
| %RSD | 109.4 | .3759 | 43.65 | 60.54 | 92.69 | 14.41 | 85.01 | 3711. | 2.974 |
| #1 | .0003 | .0058 | .0011 | .0006 | -.0000 | .0022 | -.0004 | .0065 | .0526 |
| #2 | .0000 | .0057 | .0009 | .0004 | .0010 | .0028 | -.0018 | -.0025 | .0529 |
| #3 | .0001 | .0058 | .0020 | .0012 | .0013 | .0023 | -.0005 | -.0036 | .0501 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0157** | **.0188** | **-.0951** | **-.0506** | **.0063** | **.0004** | **.0125** | **.0214** | **.0005** |
| Stddev | .0023 | .0298 | .0156 | .0056 | .0004 | .0002 | .0004 | .0004 | .0002 |
| %RSD | 14.42 | 158.1 | 16.42 | 11.03 | 5.857 | 52.29 | 3.325 | 1.699 | 37.99 |
| #1 | .0176 | .0430 | -.0779 | -.0469 | .0066 | .0005 | .0130 | .0218 | .0005 |
| #2 | .0163 | -.0144 | -.0992 | -.0570 | .0065 | .0001 | .0122 | .0211 | .0007 |
| #3 | .0132 | .0279 | -.1083 | -.0479 | .0059 | .0004 | .0124 | .0215 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0036** | **.0006** | **.0533** | **.0028** | **-.0170** | **.0239** |
| Stddev | .0001 | .0005 | .0001 | .0012 | .0007 | .0025 | .0006 |
| %RSD | 9.368 | 15.21 | 15.74 | 2.209 | 26.26 | 14.76 | 2.617 |
| #1 | .0014 | .0032 | .0006 | .0529 | .0037 | -.0141 | .0244 |
| #2 | .0012 | .0042 | .0006 | .0546 | .0027 | -.0184 | .0242 |
| #3 | .0013 | .0033 | .0005 | .0523 | .0022 | -.0185 | .0232 |



Zoom In Zoom Out

Sample Name: jc87209-2 Acquired: 5/9/2019 23:12:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88040.** | **9035.3** | **6196.1** | **12984.** |
| Stddev | 135. | 56.8 | 10.5 | 30. |
| %RSD | .15313 | .62836 | .16981 | .23338 |
| #1 | 88051. | 8976.6 | 6185.4 | 12958. |
| #2 | 88170. | 9090.0 | 6196.6 | 12978. |
| #3 | 87901. | 9039.3 | 6206.5 | 13018. |



Zoom In Zoom Out

Sample Name: mp14897-sd1 Acquired: 5/9/2019 23:17:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0006** | **-.0006** | **-.0010** | **.0024** | **.0071** | **.0004** | **.0013** | **-.0025** |
| Stddev | .0008 | .0004 | .0005 | .0008 | .0013 | .0014 | .0002 | .0007 | .0017 |
| %RSD | 953.9 | 67.60 | 85.95 | 85.54 | 53.71 | 19.03 | 58.35 | 54.54 | 67.63 |
| #1 | .0005 | -.0009 | -.0001 | -.0019 | .0021 | .0059 | .0002 | .0013 | -.0019 |
| #2 | .0003 | -.0006 | -.0011 | -.0005 | .0039 | .0069 | .0006 | .0005 | -.0043 |
| #3 | -.0010 | -.0002 | -.0006 | -.0005 | .0013 | .0086 | .0003 | .0019 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0160** | **-.0029** | **.0015** | **.0006** | **.0115** | **.0051** | **.0184** | **.1030** |
| Stddev | .0004 | .0006 | .0049 | .0042 | .0018 | .0040 | .0010 | .0243 | .0089 |
| %RSD | 60.16 | 3.605 | 173.1 | 277.9 | 316.8 | 34.83 | 19.44 | 132.3 | 8.657 |
| #1 | .0003 | .0156 | -.0053 | -.0012 | -.0003 | .0156 | .0046 | .0378 | .1044 |
| #2 | .0007 | .0158 | .0028 | -.0006 | .0026 | .0113 | .0062 | .0262 | .1112 |
| #3 | .0012 | .0167 | -.0061 | .0063 | -.0007 | .0076 | .0044 | -.0089 | .0935 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0026** | **-.1120** | **-.6605** | **-.5212** | **.0241** | **.0018** | **.0411** | **.0233** | **.0008** |
| Stddev | .0188 | .0668 | .1206 | .0800 | .0018 | .0011 | .0069 | .0029 | .0007 |
| %RSD | 737.5 | 59.63 | 18.26 | 15.36 | 7.612 | 59.32 | 16.71 | 12.66 | 82.85 |
| #1 | -.0140 | -.0820 | -.7936 | -.6029 | .0232 | .0029 | .0343 | .0213 | .0016 |
| #2 | -.0129 | -.1885 | -.6293 | -.4429 | .0262 | .0007 | .0412 | .0219 | .0002 |
| #3 | .0192 | -.0654 | -.5586 | -.5178 | .0229 | .0019 | .0480 | .0267 | .0007 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0239** | **.0014** | **.0535** | **.0113** | **-.0866** | **.0367** |
| Stddev | .0019 | .0034 | .0006 | .0058 | .0081 | .0062 | .0052 |
| %RSD | 95.65 | 14.18 | 45.10 | 10.93 | 71.50 | 7.115 | 14.29 |
| #1 | .0004 | .0212 | .0021 | .0488 | .0197 | -.0813 | .0370 |
| #2 | .0014 | .0227 | .0009 | .0516 | .0035 | -.0933 | .0313 |
| #3 | .0040 | .0277 | .0012 | .0600 | .0108 | -.0851 | .0418 |

Zoom In Zoom Out

Sample Name: mp14897-sd1 Acquired: 5/9/2019 23:17:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86193.** | **8744.9** | **6084.8** | **12696.** |
| Stddev | 433. | 79.2 | 45.3 | 82. |
| %RSD | .50264 | .90541 | .74393 | .64740 |
| #1 | 86148. | 8765.0 | 6111.8 | 12744. |
| #2 | 85784. | 8657.6 | 6110.0 | 12743. |
| #3 | 86647. | 8812.1 | 6032.5 | 12601. |



Zoom In Zoom Out

Sample Name: jc87209-1 Acquired: 5/9/2019 23:22:56 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **.0000** | **-.0001** | **.0009** | **.0036** | **.0001** | **.0005** | **-.0008** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0003 | .0001 | .0000 | .0002 | .0001 |
| %RSD | 280.9 | 96.91 | 826.0 | 100.3 | 29.10 | 1.658 | 16.14 | 37.01 | 8.703 |
| #1 | .0000 | -.0001 | -.0001 | -.0000 | .0006 | .0036 | .0001 | .0007 | -.0009 |
| #2 | -.0001 | -.0002 | .0000 | -.0002 | .0011 | .0035 | .0001 | .0004 | -.0008 |
| #3 | .0004 | -.0000 | .0001 | -.0001 | .0008 | .0036 | .0001 | .0005 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0034** | **.0018** | **.0007** | **.0007** | **.0007** | **.0000** | **.0122** | **.0581** |
| Stddev | .0002 | .0001 | .0004 | .0004 | .0002 | .0022 | .0007 | .0108 | .0017 |
| %RSD | 95.53 | 2.880 | 23.17 | 51.56 | 22.78 | 305.3 | 4524. | 88.12 | 2.903 |
| #1 | .0001 | .0033 | .0023 | .0003 | .0005 | .0009 | -.0008 | .0119 | .0568 |
| #2 | .0000 | .0034 | .0016 | .0009 | .0008 | .0029 | .0003 | .0016 | .0576 |
| #3 | .0004 | .0035 | .0015 | .0010 | .0008 | -.0016 | .0006 | .0232 | .0600 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0115** | **-.0044** | **-.1025** | **-.0440** | **.0032** | **.0003** | **.0179** | **.0220** | **.0003** |
| Stddev | .0053 | .0124 | .0186 | .0051 | .0001 | .0002 | .0008 | .0005 | .0002 |
| %RSD | 45.88 | 282.0 | 18.20 | 11.60 | 3.173 | 78.24 | 4.276 | 2.383 | 54.51 |
| #1 | .0109 | -.0080 | -.1006 | -.0462 | .0034 | .0006 | .0173 | .0214 | .0004 |
| #2 | .0065 | .0094 | -.1220 | -.0382 | .0032 | .0001 | .0188 | .0221 | .0004 |
| #3 | .0170 | -.0147 | -.0848 | -.0477 | .0032 | .0003 | .0176 | .0225 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0007** | **.0003** | **.0539** | **.0019** | **-.0181** | **.0246** |
| Stddev | .0006 | .0003 | .0001 | .0001 | .0000 | .0004 | .0012 |
| %RSD | 61.64 | 45.69 | 22.30 | .2500 | 1.438 | 1.969 | 4.733 |
| #1 | .0010 | .0008 | .0002 | .0539 | .0019 | -.0178 | .0241 |
| #2 | .0003 | .0003 | .0004 | .0538 | .0019 | -.0185 | .0260 |
| #3 | .0015 | .0010 | .0003 | .0541 | .0019 | -.0182 | .0239 |



Zoom In Zoom Out

Sample Name: jc87209-1 Acquired: 5/9/2019 23:22:56 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87806.** | **9084.2** | **6168.7** | **12929.** |
| Stddev | 416. | 28.8 | 11.4 | 25. |
| %RSD | .47389 | .31659 | .18419 | .19651 |
| #1 | 88286. | 9087.0 | 6160.2 | 12908. |
| #2 | 87575. | 9054.1 | 6164.4 | 12923. |
| #3 | 87556. | 9111.5 | 6181.6 | 12957. |



Zoom In Zoom Out

Sample Name: jc87291-1 Acquired: 5/9/2019 23:28:05 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14840

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1134** | **.0001** | **.0018** | **.0020** | **.0248** | **.3318** | **.0950** | **.0128** | **.0037** |
| Stddev | .0014 | .0001 | .0001 | .0002 | .0003 | .0003 | .0001 | .0001 | .0003 |
| %RSD | 1.237 | 180.7 | 7.399 | 11.61 | 1.181 | .0870 | .1313 | .8737 | 8.214 |
| #1 | .1146 | -.0000 | .0017 | .0022 | .0246 | .3319 | .0952 | .0129 | .0040 |
| #2 | .1136 | .0002 | .0019 | .0018 | .0246 | .3315 | .0950 | .0128 | .0038 |
| #3 | .1119 | .0000 | .0017 | .0019 | .0251 | .3320 | .0950 | .0127 | .0034 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0083** | **.5819** | **.0048** | **.0005** | **.0945** | **.0026** | **.0031** | **2.879** | **9.370** |
| Stddev | .0004 | .0023 | .0010 | .0017 | .0019 | .0006 | .0006 | .015 | .091 |
| %RSD | 5.036 | .3965 | 20.85 | 349.6 | 2.062 | 23.62 | 18.32 | .5200 | .9695 |
| #1 | .0079 | .5840 | .0038 | -.0007 | .0956 | .0022 | .0030 | 2.889 | 9.425 |
| #2 | .0087 | .5794 | .0058 | -.0003 | .0923 | .0024 | .0038 | 2.885 | 9.419 |
| #3 | .0083 | .5821 | .0048 | .0024 | .0957 | .0034 | .0026 | 2.862 | 9.265 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.261** | **4.602** | **4.040** | **3.683** | **.0113** | **.0112** | **.8418** | **.0321** | **.0573** |
| Stddev | .095 | .059 | .053 | .040 | .0005 | .0001 | .0031 | .0003 | .0006 |
| %RSD | 1.022 | 1.289 | 1.320 | 1.077 | 4.116 | .8938 | .3691 | .9833 | 1.061 |
| #1 | 9.336 | 4.618 | 4.037 | 3.704 | .0117 | .0112 | .8452 | .0323 | .0577 |
| #2 | 9.292 | 4.651 | 4.094 | 3.709 | .0108 | .0111 | .8393 | .0322 | .0575 |
| #3 | 9.154 | 4.536 | 3.988 | 3.638 | .0116 | .0113 | .8408 | .0317 | .0566 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1129** | **.0058** | **.0052** | **4.895** | **.0172** | **-.0158** | F **11.46** |
| Stddev | .0008 | .0006 | .0002 | .017 | .0009 | .0021 | .04 |
| %RSD | .7334 | 11.06 | 3.182 | .3368 | 5.399 | 13.40 | .3624 |
| #1 | .1125 | .0051 | .0051 | 4.908 | .0169 | -.0164 | 11.49 |
| #2 | .1139 | .0063 | .0051 | 4.876 | .0165 | -.0176 | 11.41 |
| #3 | .1124 | .0062 | .0054 | 4.900 | .0183 | -.0135 | 11.46 |

Zoom In Zoom Out

Sample Name: jc87291-1 Acquired: 5/9/2019 23:28:05 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14840

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86832.** | **8983.9** | **6142.2** | **12737.** |
| Stddev | 96. | 81.0 | 19.2 | 33. |
| %RSD | .11068 | .90174 | .31329 | .26019 |
| #1 | 86756. | 8940.4 | 6125.9 | 12711. |
| #2 | 86940. | 8933.9 | 6163.4 | 12774. |
| #3 | 86799. | 9077.3 | 6137.3 | 12726. |



Zoom In Zoom Out

Sample Name: jc87291-2 Acquired: 5/9/2019 23:33:09 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1186** | **.0002** | **.0019** | **.0017** | **.0236** | **.3916** | **.1132** | **.0119** | **.0052** |
| Stddev | .0007 | .0001 | .0000 | .0003 | .0002 | .0006 | .0001 | .0003 | .0002 |
| %RSD | .5981 | 51.32 | 2.168 | 15.74 | 1.037 | .1642 | .1010 | 2.125 | 3.988 |
| #1 | .1192 | .0003 | .0019 | .0016 | .0233 | .3911 | .1133 | .0118 | .0049 |
| #2 | .1187 | .0002 | .0019 | .0014 | .0235 | .3923 | .1133 | .0122 | .0053 |
| #3 | .1178 | .0001 | .0020 | .0019 | .0238 | .3912 | .1131 | .0118 | .0052 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0051** | **.5713** | **.0038** | **-.0001** | **.0628** | **.0039** | **.0007** | **2.566** | **10.17** |
| Stddev | .0003 | .0010 | .0008 | .0014 | .0007 | .0013 | .0005 | .009 | .01 |
| %RSD | 4.933 | .1674 | 20.09 | 1686. | 1.141 | 34.21 | 65.68 | .3652 | .1161 |
| #1 | .0052 | .5718 | .0045 | -.0005 | .0634 | .0053 | .0007 | 2.575 | 10.18 |
| #2 | .0053 | .5720 | .0040 | .0015 | .0620 | .0039 | .0002 | 2.565 | 10.18 |
| #3 | .0048 | .5702 | .0030 | -.0013 | .0629 | .0026 | .0011 | 2.557 | 10.16 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.106** | **4.458** | **5.426** | **2.389** | **.0085** | **.0123** | **.9176** | **.0341** | **.0613** |
| Stddev | .018 | .007 | .021 | .007 | .0002 | .0000 | .0004 | .0005 | .0002 |
| %RSD | .2000 | .1533 | .3798 | .2868 | 2.461 | .3733 | .0471 | 1.373 | .3023 |
| #1 | 9.096 | 4.465 | 5.405 | 2.397 | .0087 | .0124 | .9180 | .0336 | .0615 |
| #2 | 9.127 | 4.456 | 5.427 | 2.386 | .0083 | .0123 | .9175 | .0346 | .0612 |
| #3 | 9.095 | 4.452 | 5.446 | 2.384 | .0086 | .0123 | .9172 | .0340 | .0613 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0962** | **.0005** | **.0082** | **6.059** | **.0225** | **-.0166** | F **15.91** |
| Stddev | .0002 | .0006 | .0001 | .002 | .0020 | .0017 | .03 |
| %RSD | .1574 | 116.5 | 1.225 | .0389 | 8.690 | 10.12 | .1799 |
| #1 | .0964 | .0011 | .0083 | 6.061 | .0247 | -.0180 | 15.93 |
| #2 | .0961 | .0005 | .0082 | 6.060 | .0210 | -.0147 | 15.91 |
| #3 | .0962 | -.0001 | .0081 | 6.056 | .0217 | -.0170 | 15.88 |



Zoom In Zoom Out

Sample Name: jc87291-2 Acquired: 5/9/2019 23:33:09 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86316.** | **8947.5** | **6114.8** | **12696.** |
| Stddev | 333. | 19.3 | 12.9 | 27. |
| %RSD | .38612 | .21571 | .21035 | .21650 |
| #1 | 86686. | 8968.4 | 6108.8 | 12679. |
| #2 | 86041. | 8943.5 | 6106.0 | 12680. |
| #3 | 86220. | 8930.5 | 6129.6 | 12727. |



Zoom In Zoom Out

Sample Name: jc87291-3 Acquired: 5/9/2019 23:38:11 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0442** | **.0001** | **.0007** | **.0007** | **.0109** | **.1390** | **.0472** | **.0055** | **.0013** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .0002 | .0005 | .0001 | .0001 | .0002 |
| %RSD | .4711 | 74.17 | 22.35 | 17.22 | 1.945 | .3762 | .1552 | 2.290 | 15.09 |
| #1 | .0444 | .0002 | .0009 | .0006 | .0107 | .1390 | .0473 | .0055 | .0015 |
| #2 | .0440 | .0000 | .0006 | .0008 | .0111 | .1384 | .0471 | .0057 | .0011 |
| #3 | .0443 | .0001 | .0007 | .0006 | .0108 | .1395 | .0472 | .0054 | .0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0030** | **.2130** | **.0018** | **.0011** | **.0268** | **.0014** | **.0004** | **1.077** | **4.671** |
| Stddev | .0002 | .0005 | .0004 | .0005 | .0001 | .0011 | .0005 | .018 | .010 |
| %RSD | 8.206 | .2531 | 18.95 | 45.91 | .4698 | 77.07 | 136.2 | 1.646 | .2200 |
| #1 | .0031 | .2136 | .0021 | .0006 | .0269 | .0010 | .0009 | 1.087 | 4.672 |
| #2 | .0027 | .2125 | .0015 | .0012 | .0267 | .0026 | .0001 | 1.057 | 4.681 |
| #3 | .0032 | .2130 | .0020 | .0016 | .0268 | .0005 | .0001 | 1.089 | 4.660 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.519** | **2.121** | **3.288** | **3.262** | **.0064** | **.0046** | **.6677** | **.0240** | **.0268** |
| Stddev | .006 | .031 | .012 | .008 | .0008 | .0002 | .0015 | .0004 | .0002 |
| %RSD | .1639 | 1.482 | .3660 | .2403 | 12.41 | 3.668 | .2210 | 1.578 | .6647 |
| #1 | 3.513 | 2.135 | 3.291 | 3.258 | .0072 | .0045 | .6692 | .0241 | .0269 |
| #2 | 3.525 | 2.085 | 3.275 | 3.257 | .0056 | .0048 | .6662 | .0243 | .0269 |
| #3 | 3.519 | 2.143 | 3.299 | 3.271 | .0062 | .0045 | .6676 | .0236 | .0266 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0515** | **.0007** | **.0046** | **2.294** | **.0080** | **-.0169** | **6.914** |
| Stddev | .0001 | .0003 | .0000 | .004 | .0008 | .0025 | .009 |
| %RSD | .2431 | 42.41 | .9096 | .1917 | 10.22 | 14.55 | .1359 |
| #1 | .0514 | .0009 | .0047 | 2.299 | .0086 | -.0188 | 6.923 |
| #2 | .0517 | .0010 | .0047 | 2.295 | .0082 | -.0141 | 6.904 |
| #3 | .0515 | .0004 | .0046 | 2.290 | .0071 | -.0179 | 6.915 |

Zoom In Zoom Out

Sample Name: jc87291-3 Acquired: 5/9/2019 23:38:11 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86620.** | **8905.7** | **6111.0** | **12679.** |
| Stddev | 32. | 22.3 | 14.6 | 19. |
| %RSD | .03682 | .25089 | .23919 | .15166 |
| #1 | 86642. | 8893.6 | 6096.2 | 12659. |
| #2 | 86635. | 8931.5 | 6111.3 | 12679. |
| #3 | 86584. | 8892.0 | 6125.4 | 12698. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 23:43:16 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.989** | **1.949** | **1.941** | **1.979** | **1.994** | **1.995** | **2.000** | **1.975** | **.2441** |
| Stddev | .009 | .006 | .003 | .001 | .002 | .002 | .008 | .002 | .0009 |
| %RSD | .4257 | .2898 | .1613 | .0708 | .1031 | .1000 | .4198 | .1238 | .3488 |
| #1 | 1.996 | 1.955 | 1.944 | 1.981 | 1.993 | 1.993 | 1.996 | 1.978 | .2449 |
| #2 | 1.991 | 1.948 | 1.938 | 1.978 | 1.994 | 1.996 | 1.994 | 1.975 | .2432 |
| #3 | 1.980 | 1.944 | 1.940 | 1.978 | 1.997 | 1.995 | 2.009 | 1.973 | .2442 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.998** | **1.966** | **1.909** | **2.025** | **1.973** | **1.943** | **1.918** | **39.72** | **39.27** |
| Stddev | .000 | .003 | .006 | .004 | .001 | .003 | .004 | .16 | .11 |
| %RSD | .0175 | .1250 | .3030 | .1944 | .0569 | .1618 | .1999 | .3907 | .2795 |
| #1 | 1.998 | 1.969 | 1.916 | 2.030 | 1.973 | 1.946 | 1.921 | 39.88 | 39.38 |
| #2 | 1.999 | 1.964 | 1.904 | 2.024 | 1.974 | 1.941 | 1.919 | 39.69 | 39.25 |
| #3 | 1.998 | 1.966 | 1.909 | 2.022 | 1.972 | 1.941 | 1.914 | 39.58 | 39.16 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.32** | **38.49** | **39.06** | **38.91** | **1.962** | **1.923** | **4.765** | **1.913** | **1.995** |
| Stddev | .15 | .12 | .16 | .14 | .006 | .002 | .008 | .004 | .007 |
| %RSD | .4014 | .3139 | .4094 | .3573 | .2856 | .1247 | .1616 | .2104 | .3448 |
| #1 | 38.50 | 38.61 | 39.24 | 39.05 | 1.969 | 1.926 | 4.774 | 1.916 | 2.002 |
| #2 | 38.24 | 38.37 | 39.02 | 38.89 | 1.958 | 1.921 | 4.760 | 1.909 | 1.996 |
| #3 | 38.23 | 38.48 | 38.93 | 38.78 | 1.960 | 1.922 | 4.761 | 1.915 | 1.988 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/9/2019 23:43:16 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.965** | **1.899** | **1.955** | **1.929** | **1.978** | **1.888** | **1.926** |
| Stddev | .001 | .002 | .002 | .001 | .004 | .009 | .004 |
| %RSD | .0408 | .1142 | .1192 | .0702 | .2047 | .4799 | .2178 |
| #1 | 1.964 | 1.900 | 1.952 | 1.930 | 1.983 | 1.897 | 1.930 |
| #2 | 1.965 | 1.901 | 1.955 | 1.928 | 1.977 | 1.888 | 1.922 |
| #3 | 1.965 | 1.897 | 1.957 | 1.930 | 1.975 | 1.879 | 1.926 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83360.** | **8685.4** | **5955.7** | **12222.** |
| Stddev | 346. | 22.6 | 6.7 | 18. |
| %RSD | .41542 | .26045 | .11295 | .14691 |
| #1 | 83514. | 8683.9 | 5950.1 | 12213. |
| #2 | 83602. | 8708.7 | 5953.9 | 12210. |
| #3 | 82963. | 8663.6 | 5963.2 | 12243. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 23:48:16 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **-.0001** | **-.0001** | **.0003** | **-.0002** | **.0001** | **.0002** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .0002 | .0004 | .0001 | .0002 |
| %RSD | 91.82 | 56.86 | 211.2 | 100.5 | 72.52 | 272.7 | 88.22 | 88.43 |
| #1 | -.0001 | -.0001 | -.0003 | -.0002 | .0002 | .0000 | .0000 | .0000 |
| #2 | -.0003 | -.0000 | -.0001 | -.0000 | .0005 | .0001 | .0001 | .0004 |
| #3 | -.0001 | -.0001 | .0001 | -.0001 | .0002 | -.0006 | .0000 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0009** | **-.0003** | **-.0001** | **.0007** | **.0003** | **.0003** | **.0008** | **.0001** |
| Stddev | .0003 | .0003 | .0000 | .0006 | .0014 | .0008 | .0020 | .0008 |
| %RSD | 32.86 | 120.2 | 52.77 | 97.28 | 470.1 | 285.2 | 268.0 | 615.5 |
| #1 | -.0010 | .0001 | -.0000 | .0000 | .0005 | -.0000 | -.0012 | -.0003 |
| #2 | -.0012 | -.0005 | -.0001 | .0007 | -.0012 | -.0003 | .0029 | .0011 |
| #3 | -.0006 | -.0004 | -.0001 | .0013 | .0016 | .0012 | .0006 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0077** | **-.0021** | **.0019** | **-.0052** | **-.0716** | **-.1115** | **.0030** | **.0001** |
| Stddev | .0023 | .0049 | .0021 | .0076 | .0174 | .0107 | .0006 | .0001 |
| %RSD | 29.21 | 233.8 | 113.4 | 146.0 | 24.28 | 9.601 | 18.65 | 122.1 |
| #1 | -.0089 | .0035 | -.0001 | -.0122 | -.0883 | -.1233 | .0026 | .0002 |
| #2 | -.0092 | -.0044 | .0017 | .0030 | -.0536 | -.1024 | .0036 | -.0000 |
| #3 | -.0051 | -.0055 | .0042 | -.0065 | -.0729 | -.1090 | .0028 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/9/2019 23:48:16 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0001** | **.0000** | **-.0001** | **.0018** | **.0002** | **-.0019** | **.0001** |
| Stddev | .0014 | .0006 | .0001 | .0004 | .0003 | .0001 | .0005 | .0018 |
| %RSD | 342.1 | 481.2 | 158.0 | 423.8 | 16.64 | 55.90 | 26.12 | 1470. |
| #1 | .0009 | -.0006 | .0001 | -.0003 | .0016 | .0001 | -.0017 | -.0013 |
| #2 | .0015 | .0006 | .0001 | .0004 | .0018 | .0003 | -.0025 | -.0004 |
| #3 | -.0012 | -.0003 | -.0000 | -.0004 | .0022 | .0003 | -.0016 | .0021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0158** | **.0023** |
| Stddev | .0003 | .0004 |
| %RSD | 1.949 | 18.50 |
| #1 | -.0156 | .0028 |
| #2 | -.0157 | .0022 |
| #3 | -.0161 | .0020 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85238.** | **8666.6** | **6076.1** | **12694.** |
| Stddev | 150. | 39.5 | 22.6 | 41. |
| %RSD | .17575 | .45632 | .37206 | .32391 |
| #1 | 85141. | 8711.8 | 6054.8 | 12661. |
| #2 | 85162. | 8638.6 | 6073.7 | 12681. |
| #3 | 85410. | 8649.4 | 6099.8 | 12740. |



Zoom In Zoom Out

Sample Name: jc87291-4 Acquired: 5/9/2019 23:53:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0735** | **-.0000** | **.0016** | **.0010** | **.0220** | **.2283** | **.0729** | **.0103** | **.0023** |
| Stddev | .0006 | .0001 | .0001 | .0002 | .0001 | .0004 | .0000 | .0003 | .0003 |
| %RSD | .8205 | 224.8 | 5.981 | 19.45 | .4076 | .1811 | .0284 | 2.589 | 11.16 |
| #1 | .0733 | -.0001 | .0015 | .0011 | .0219 | .2281 | .0729 | .0105 | .0023 |
| #2 | .0741 | -.0001 | .0017 | .0008 | .0221 | .2288 | .0730 | .0102 | .0020 |
| #3 | .0730 | .0001 | .0015 | .0012 | .0220 | .2281 | .0730 | .0100 | .0025 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0044** | **.3534** | **.0020** | **.0005** | **.0477** | **.0015** | **.0009** | **1.828** | **7.251** |
| Stddev | .0002 | .0007 | .0003 | .0005 | .0007 | .0007 | .0010 | .009 | .015 |
| %RSD | 3.394 | .1993 | 14.06 | 99.87 | 1.467 | 46.26 | 113.3 | .4881 | .2068 |
| #1 | .0046 | .3526 | .0022 | .0006 | .0476 | .0014 | .0014 | 1.833 | 7.266 |
| #2 | .0043 | .3538 | .0022 | .0009 | .0471 | .0022 | .0016 | 1.817 | 7.237 |
| #3 | .0044 | .3539 | .0017 | -.0000 | .0485 | .0008 | -.0003 | 1.832 | 7.250 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.954** | **3.130** | **4.455** | **3.653** | **.0083** | **.0076** | **.7872** | **.0260** | **.0430** |
| Stddev | .015 | .061 | .041 | .001 | .0002 | .0000 | .0015 | .0004 | .0002 |
| %RSD | .2472 | 1.935 | .9231 | .0338 | 2.619 | .5877 | .1899 | 1.407 | .3765 |
| #1 | 5.950 | 3.180 | 4.412 | 3.652 | .0085 | .0076 | .7875 | .0263 | .0430 |
| #2 | 5.970 | 3.147 | 4.494 | 3.654 | .0081 | .0075 | .7856 | .0256 | .0432 |
| #3 | 5.941 | 3.063 | 4.458 | 3.654 | .0084 | .0076 | .7886 | .0261 | .0429 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0793** | **.0012** | **.0058** | **3.489** | **.0122** | **-.0171** | F **10.12** |
| Stddev | .0009 | .0009 | .0001 | .008 | .0006 | .0001 | .01 |
| %RSD | 1.074 | 71.09 | 2.362 | .2277 | 5.308 | .3255 | .1443 |
| #1 | .0793 | .0022 | .0057 | 3.483 | .0114 | -.0171 | 10.11 |
| #2 | .0802 | .0011 | .0059 | 3.486 | .0127 | -.0170 | 10.12 |
| #3 | .0785 | .0004 | .0057 | 3.498 | .0124 | -.0171 | 10.14 |



Zoom In Zoom Out

Sample Name: jc87291-4 Acquired: 5/9/2019 23:53:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85867.** | **8858.5** | **6088.4** | **12617.** |
| Stddev | 37. | 8.6 | 14.7 | 26. |
| %RSD | .04314 | .09761 | .24082 | .20958 |
| #1 | 85862. | 8868.3 | 6091.8 | 12610. |
| #2 | 85833. | 8852.0 | 6072.3 | 12594. |
| #3 | 85906. | 8855.1 | 6101.0 | 12646. |



Zoom In Zoom Out

Sample Name: jc87291-5 Acquired: 5/9/2019 23:58:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1165** | **-.0000** | **.0018** | **.0019** | **.0254** | **.3524** | **.1110** | **.0126** | **.0040** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0002 | .0002 | .0002 | .0005 | .0003 |
| %RSD | .1220 | 291.8 | 3.281 | 13.82 | .9293 | .0563 | .1643 | 3.664 | 8.408 |
| #1 | .1166 | -.0001 | .0018 | .0021 | .0255 | .3525 | .1112 | .0123 | .0036 |
| #2 | .1166 | -.0002 | .0019 | .0020 | .0255 | .3522 | .1109 | .0124 | .0043 |
| #3 | .1163 | .0001 | .0018 | .0016 | .0251 | .3524 | .1109 | .0132 | .0040 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0078** | **.5405** | **.0037** | **-.0003** | **.0890** | **.0021** | **.0015** | **2.922** | **10.94** |
| Stddev | .0002 | .0054 | .0015 | .0005 | .0006 | .0010 | .0004 | .004 | .02 |
| %RSD | 3.033 | 1.007 | 41.89 | 173.5 | .7201 | 44.99 | 28.44 | .1406 | .2008 |
| #1 | .0081 | .5342 | .0028 | -.0006 | .0885 | .0021 | .0017 | 2.917 | 10.95 |
| #2 | .0076 | .5436 | .0055 | -.0005 | .0887 | .0031 | .0010 | 2.925 | 10.91 |
| #3 | .0078 | .5438 | .0028 | .0003 | .0897 | .0012 | .0017 | 2.924 | 10.95 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.260** | **4.680** | **4.268** | **3.542** | **.0092** | **.0107** | **.9394** | **.0300** | **.0635** |
| Stddev | .014 | .009 | .017 | .006 | .0004 | .0001 | .0079 | .0004 | .0002 |
| %RSD | .1544 | .1962 | .3876 | .1764 | 4.704 | .9934 | .8426 | 1.412 | .3406 |
| #1 | 9.266 | 4.671 | 4.282 | 3.536 | .0087 | .0107 | .9309 | .0296 | .0637 |
| #2 | 9.244 | 4.680 | 4.250 | 3.542 | .0095 | .0106 | .9465 | .0301 | .0634 |
| #3 | 9.270 | 4.689 | 4.272 | 3.548 | .0095 | .0108 | .9408 | .0304 | .0634 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1212** | **-.0004** | **.0053** | **5.077** | **.0190** | **-.0157** | F **12.84** |
| Stddev | .0011 | .0003 | .0002 | .045 | .0010 | .0004 | .12 |
| %RSD | .9249 | 65.19 | 3.201 | .8945 | 5.257 | 2.602 | .9648 |
| #1 | .1208 | -.0005 | .0051 | 5.026 | .0199 | -.0159 | 12.70 |
| #2 | .1224 | -.0006 | .0055 | 5.114 | .0179 | -.0161 | 12.92 |
| #3 | .1203 | -.0001 | .0054 | 5.089 | .0193 | -.0153 | 12.91 |

Zoom In Zoom Out

Sample Name: jc87291-5 Acquired: 5/9/2019 23:58:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86174.** | **8912.0** | **6120.9** | 12671. |
| Stddev | 115. | 46.4 | 49.7 | 87. |
| %RSD | .13378 | .52094 | .81271 | .68486 |
| #1 | 86245. | 8914.9 | 6178.2 | 12771. |
| #2 | 86235. | 8957.0 | 6088.5 | 12616. |
| #3 | 86041. | 8864.2 | 6096.0 | 12626. |



Zoom In Zoom Out

Sample Name: jc87291-6 Acquired: 5/10/2019 0:03:30 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0718** | **.0000** | **.0011** | **.0012** | **.0169** | **.2310** | **.0763** | **.0104** | **.0021** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0002 | .0038 | .0012 | .0003 | .0001 |
| %RSD | .5689 | 535.9 | 9.853 | 13.31 | 1.368 | 1.640 | 1.623 | 2.777 | 5.631 |
| #1 | .0714 | .0001 | .0011 | .0013 | .0171 | .2315 | .0766 | .0103 | .0020 |
| #2 | .0721 | -.0001 | .0009 | .0013 | .0166 | .2270 | .0749 | .0108 | .0020 |
| #3 | .0720 | -.0000 | .0011 | .0010 | .0169 | .2345 | .0773 | .0102 | .0022 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0051** | **.3562** | **.0035** | **.0007** | **.0486** | **.0018** | **.0022** | **1.887** | **7.414** |
| Stddev | .0001 | .0008 | .0008 | .0013 | .0006 | .0012 | .0004 | .008 | .041 |
| %RSD | 1.586 | .2307 | 22.09 | 188.8 | 1.275 | 69.64 | 17.74 | .4451 | .5490 |
| #1 | .0050 | .3561 | .0027 | .0004 | .0483 | .0030 | .0024 | 1.878 | 7.378 |
| #2 | .0051 | .3571 | .0042 | -.0004 | .0493 | .0005 | .0018 | 1.889 | 7.406 |
| #3 | .0051 | .3554 | .0037 | .0022 | .0483 | .0019 | .0025 | 1.894 | 7.458 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.135** | **3.328** | **4.057** | **3.772** | **.0076** | **.0068** | **.7464** | **.0254** | **.0430** |
| Stddev | .024 | .031 | .060 | .016 | .0002 | .0002 | .0039 | .0001 | .0001 |
| %RSD | .3958 | .9267 | 1.482 | .4237 | 2.157 | 2.742 | .5283 | .2442 | .2198 |
| #1 | 6.107 | 3.296 | 4.022 | 3.754 | .0074 | .0068 | .7504 | .0254 | .0429 |
| #2 | 6.146 | 3.328 | 4.126 | 3.786 | .0077 | .0066 | .7462 | .0253 | .0431 |
| #3 | 6.152 | 3.358 | 4.023 | 3.774 | .0076 | .0070 | .7426 | .0254 | .0431 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0830** | **.0008** | **.0052** | **3.515** | **.0121** | **-.0138** | F **9.906** |
| Stddev | .0011 | .0005 | .0002 | .014 | .0003 | .0010 | .039 |
| %RSD | 1.376 | 61.96 | 2.941 | .4106 | 2.105 | 7.419 | .3952 |
| #1 | .0831 | .0011 | .0053 | 3.511 | .0124 | -.0145 | 9.883 |
| #2 | .0819 | .0002 | .0051 | 3.531 | .0121 | -.0143 | 9.951 |
| #3 | .0842 | .0011 | .0053 | 3.503 | .0119 | -.0126 | 9.884 |



Zoom In Zoom Out

Sample Name: jc87291-6 Acquired: 5/10/2019 0:03:30 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86929.** | **8996.8** | **6100.6** | **12627.** |
| Stddev | 1437. | 19.8 | 8.5 | 6. |
| %RSD | 1.6532 | .22051 | .13853 | .04631 |
| #1 | 86791. | 8995.9 | 6105.9 | 12629. |
| #2 | 88431. | 9017.2 | 6090.8 | 12620. |
| #3 | 85566. | 8977.5 | 6105.0 | 12632. |



Zoom In Zoom Out

Sample Name: jc87291-7 Acquired: 5/10/2019 0:08:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0366** | **-.0002** | **.0008** | **.0005** | **.0092** | **.1131** | **.0404** | **.0042** | **.0004** |
| Stddev | .0002 | .0000 | .0000 | .0000 | .0002 | .0003 | .0001 | .0001 | .0001 |
| %RSD | .4904 | 27.28 | 4.836 | 4.277 | 1.984 | .2736 | .1782 | 3.247 | 23.05 |
| #1 | .0364 | -.0001 | .0007 | .0005 | .0092 | .1131 | .0404 | .0044 | .0003 |
| #2 | .0367 | -.0002 | .0008 | .0005 | .0090 | .1128 | .0403 | .0042 | .0004 |
| #3 | .0368 | -.0002 | .0008 | .0005 | .0093 | .1134 | .0403 | .0042 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0023** | **.1794** | **.0014** | **.0013** | **.0241** | **.0017** | **.0008** | **.8915** | **5.394** |
| Stddev | .0002 | .0003 | .0001 | .0010 | .0011 | .0005 | .0003 | .0076 | .006 |
| %RSD | 7.274 | .1606 | 9.733 | 76.09 | 4.755 | 27.17 | 37.49 | .8549 | .1193 |
| #1 | .0022 | .1790 | .0013 | .0013 | .0245 | .0022 | .0009 | .8838 | 5.395 |
| #2 | .0025 | .1795 | .0015 | .0024 | .0228 | .0017 | .0010 | .8917 | 5.399 |
| #3 | .0022 | .1795 | .0015 | .0004 | .0250 | .0013 | .0004 | .8990 | 5.387 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.845** | **1.220** | **5.116** | **4.341** | **.0077** | **.0040** | **.6083** | **.0218** | **.0256** |
| Stddev | .008 | .024 | .035 | .012 | .0009 | .0000 | .0015 | .0009 | .0002 |
| %RSD | .2843 | 1.931 | .6842 | .2851 | 11.56 | .8804 | .2424 | 3.972 | .8463 |
| #1 | 2.847 | 1.225 | 5.077 | 4.351 | .0087 | .0040 | .6072 | .0212 | .0254 |
| #2 | 2.851 | 1.242 | 5.146 | 4.346 | .0070 | .0040 | .6100 | .0215 | .0255 |
| #3 | 2.836 | 1.195 | 5.125 | 4.327 | .0073 | .0040 | .6077 | .0228 | .0259 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0424** | **.0005** | **.0054** | **1.997** | **.0072** | **-.0168** | **5.634** |
| Stddev | .0003 | .0007 | .0001 | .005 | .0009 | .0009 | .010 |
| %RSD | .6830 | 120.5 | 2.636 | .2321 | 12.59 | 5.346 | .1700 |
| #1 | .0422 | .0000 | .0053 | 1.992 | .0063 | -.0174 | 5.623 |
| #2 | .0422 | .0004 | .0055 | 2.001 | .0081 | -.0171 | 5.643 |
| #3 | .0427 | .0013 | .0055 | 1.998 | .0071 | -.0157 | 5.635 |

Zoom In Zoom Out

Sample Name: jc87291-7 Acquired: 5/10/2019 0:08:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86592.** | **8941.7** | **6129.6** | **12686.** |
| Stddev | 155. | 15.1 | 14.8 | 26. |
| %RSD | .17944 | .16940 | .24086 | .20575 |
| #1 | 86422. | 8930.3 | 6146.6 | 12716. |
| #2 | 86727. | 8935.9 | 6120.1 | 12668. |
| #3 | 86628. | 8958.9 | 6122.1 | 12674. |



Zoom In Zoom Out

Sample Name: jc87291-8 Acquired: 5/10/2019 0:13:34 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0742** | **.0000** | **.0013** | **.0014** | **.0182** | **.2338** | **.0824** | **.0090** | **.0022** |
| Stddev | .0005 | .0001 | .0001 | .0001 | .0004 | .0008 | .0003 | .0001 | .0002 |
| %RSD | .6188 | 629.1 | 8.049 | 5.915 | 2.267 | .3593 | .4198 | .6137 | 9.378 |
| #1 | .0743 | .0001 | .0013 | .0013 | .0186 | .2347 | .0827 | .0090 | .0021 |
| #2 | .0745 | .0001 | .0011 | .0014 | .0178 | .2330 | .0820 | .0090 | .0024 |
| #3 | .0737 | -.0001 | .0013 | .0015 | .0182 | .2337 | .0825 | .0091 | .0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **.3726** | **.0030** | **-.0002** | **.0526** | **.0013** | **.0014** | **1.992** | **10.48** |
| Stddev | .0002 | .0004 | .0007 | .0010 | .0004 | .0025 | .0003 | .005 | .03 |
| %RSD | 4.470 | .0994 | 21.55 | 423.3 | .7890 | 187.6 | 22.14 | .2562 | .2873 |
| #1 | .0047 | .3724 | .0026 | -.0003 | .0530 | .0008 | .0011 | 1.986 | 10.49 |
| #2 | .0051 | .3730 | .0038 | -.0013 | .0526 | -.0009 | .0017 | 1.996 | 10.44 |
| #3 | .0051 | .3724 | .0027 | .0008 | .0522 | .0041 | .0016 | 1.994 | 10.49 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.088** | **2.564** | **5.089** | **4.338** | **.0097** | **.0078** | **.7603** | **.0249** | **.0492** |
| Stddev | .017 | .042 | .039 | .012 | .0003 | .0000 | .0040 | .0005 | .0002 |
| %RSD | .2842 | 1.650 | .7566 | .2804 | 3.220 | .0353 | .5324 | 1.910 | .4251 |
| #1 | 6.092 | 2.612 | 5.058 | 4.335 | .0095 | .0077 | .7639 | .0254 | .0494 |
| #2 | 6.069 | 2.535 | 5.077 | 4.328 | .0095 | .0078 | .7611 | .0249 | .0491 |
| #3 | 6.103 | 2.544 | 5.133 | 4.352 | .0100 | .0077 | .7560 | .0245 | .0490 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0884** | **.0000** | **.0056** | **4.050** | **.0145** | **-.0164** | F **9.223** |
| Stddev | .0007 | .0009 | .0000 | .004 | .0020 | .0004 | .003 |
| %RSD | .8111 | 3670. | .8083 | .1121 | 13.64 | 2.445 | .0366 |
| #1 | .0890 | .0008 | .0055 | 4.050 | .0134 | -.0168 | 9.226 |
| #2 | .0876 | -.0010 | .0056 | 4.046 | .0168 | -.0161 | 9.219 |
| #3 | .0884 | .0002 | .0056 | 4.055 | .0134 | -.0161 | 9.223 |



Zoom In Zoom Out

Sample Name: jc87291-8 Acquired: 5/10/2019 0:13:34 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87290.** | **9012.6** | **6136.7** | **12683.** |
| Stddev | 488. | 32.4 | 10.4 | 30. |
| %RSD | .55939 | .35950 | .16980 | .23820 |
| #1 | 86752. | 8976.2 | 6130.2 | 12667. |
| #2 | 87706. | 9038.1 | 6131.1 | 12665. |
| #3 | 87411. | 9023.6 | 6148.7 | 12718. |



Zoom In Zoom Out

Sample Name: jc87291-9 Acquired: 5/10/2019 0:18:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0865** | **.0030** | **.0053** | **.0043** | **.0231** | **.2508** | **.1033** | **.0128** | **.0029** |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0002 | .0005 | .0001 | .0002 | .0001 |
| %RSD | .1293 | 2.418 | 2.413 | 5.182 | .9058 | .2192 | .1044 | 1.800 | 4.669 |
| #1 | .0865 | .0030 | .0054 | .0046 | .0231 | .2514 | .1034 | .0126 | .0028 |
| #2 | .0864 | .0030 | .0052 | .0041 | .0229 | .2508 | .1033 | .0129 | .0029 |
| #3 | .0866 | .0031 | .0052 | .0043 | .0234 | .2503 | .1032 | .0130 | .0030 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0096** | **.3884** | **.0061** | **.0047** | **.0549** | **.0043** | **.0018** | **2.700** | **11.79** |
| Stddev | .0001 | .0017 | .0007 | .0002 | .0003 | .0005 | .0003 | .013 | .02 |
| %RSD | 1.563 | .4414 | 10.98 | 4.714 | .6098 | 11.89 | 17.24 | .4667 | .1878 |
| #1 | .0097 | .3868 | .0066 | .0049 | .0546 | .0048 | .0020 | 2.703 | 11.78 |
| #2 | .0095 | .3881 | .0062 | .0048 | .0549 | .0040 | .0015 | 2.686 | 11.78 |
| #3 | .0094 | .3902 | .0053 | .0045 | .0552 | .0039 | .0020 | 2.711 | 11.82 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.837** | **3.845** | **5.811** | **5.174** | **.0142** | **.0101** | **.7710** | **.0293** | **.0579** |
| Stddev | .018 | .017 | .023 | .008 | .0006 | .0002 | .0036 | .0003 | .0001 |
| %RSD | .2703 | .4367 | .4006 | .1504 | 4.055 | 1.533 | .4695 | 1.130 | .1325 |
| #1 | 6.855 | 3.863 | 5.827 | 5.169 | .0136 | .0100 | .7695 | .0290 | .0580 |
| #2 | 6.818 | 3.831 | 5.784 | 5.183 | .0145 | .0102 | .7684 | .0295 | .0579 |
| #3 | 6.837 | 3.840 | 5.822 | 5.169 | .0146 | .0103 | .7751 | .0295 | .0578 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0954** | **.0032** | **.0076** | **4.432** | **.0141** | **-.0164** | F **10.90** |
| Stddev | .0004 | .0007 | .0001 | .015 | .0016 | .0016 | .05 |
| %RSD | .3837 | 23.03 | 1.236 | .3274 | 11.50 | 9.976 | .4556 |
| #1 | .0952 | .0033 | .0075 | 4.416 | .0149 | -.0147 | 10.86 |
| #2 | .0953 | .0024 | .0076 | 4.434 | .0123 | -.0180 | 10.90 |
| #3 | .0959 | .0039 | .0076 | 4.445 | .0152 | -.0165 | 10.96 |

Zoom In Zoom Out

Sample Name: jc87291-9 Acquired: 5/10/2019 0:18:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86079.** | **8922.9** | **6075.5** | **12578.** |
| Stddev | 296. | 55.8 | 17.2 | 31. |
| %RSD | .34440 | .62532 | .28276 | .24941 |
| #1 | 86075. | 8905.8 | 6093.7 | 12605. |
| #2 | 85785. | 8985.2 | 6073.4 | 12585. |
| #3 | 86378. | 8877.6 | 6059.5 | 12543. |



Zoom In Zoom Out

Sample Name: jc87291-10 Acquired: 5/10/2019 0:23:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0221** | **-.0000** | **.0002** | **.0009** | **.0122** | **.0186** | **.0804** | **.0046** | **-.0005** |
| Stddev | .0006 | .0001 | .0002 | .0002 | .0002 | .0001 | .0000 | .0000 | .0002 |
| %RSD | 2.686 | 307.4 | 116.3 | 20.16 | 2.006 | .6562 | .0622 | 1.004 | 42.20 |
| #1 | .0221 | .0000 | -.0001 | .0007 | .0123 | .0185 | .0804 | .0047 | -.0003 |
| #2 | .0215 | .0000 | .0003 | .0008 | .0123 | .0184 | .0805 | .0046 | -.0006 |
| #3 | .0227 | -.0002 | .0002 | .0011 | .0119 | .0187 | .0804 | .0046 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028** | **.0842** | **.0026** | **.0008** | **.0252** | **.0005** | **.0004** | **1.280** | **15.27** |
| Stddev | .0004 | .0006 | .0008 | .0018 | .0001 | .0008 | .0009 | .010 | .12 |
| %RSD | 13.59 | .7531 | 31.56 | 208.8 | .2715 | 162.6 | 204.2 | .8041 | .7988 |
| #1 | .0026 | .0844 | .0025 | .0002 | .0252 | -.0002 | -.0006 | 1.281 | 15.31 |
| #2 | .0032 | .0848 | .0034 | -.0005 | .0253 | .0013 | .0008 | 1.269 | 15.13 |
| #3 | .0025 | .0836 | .0018 | .0028 | .0253 | .0002 | .0011 | 1.290 | 15.36 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.969** | **1.774** | **10.37** | **7.685** | **.0117** | **.0022** | **.6992** | **.0191** | **.0356** |
| Stddev | .020 | .039 | .08 | .077 | .0004 | .0003 | .0070 | .0008 | .0005 |
| %RSD | .6602 | 2.185 | .7991 | 1.004 | 3.263 | 14.51 | 1.005 | 3.948 | 1.382 |
| #1 | 2.979 | 1.775 | 10.38 | 7.709 | .0113 | .0018 | .7009 | .0183 | .0357 |
| #2 | 2.946 | 1.734 | 10.29 | 7.599 | .0121 | .0023 | .7052 | .0198 | .0351 |
| #3 | 2.981 | 1.812 | 10.45 | 7.748 | .0118 | .0024 | .6915 | .0190 | .0361 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0515** | **.0010** | **.0017** | **2.575** | **.0012** | **-.0161** | **4.174** |
| Stddev | .0001 | .0003 | .0001 | .014 | .0012 | .0010 | .028 |
| %RSD | .1666 | 34.29 | 8.309 | .5534 | 99.68 | 6.074 | .6724 |
| #1 | .0516 | .0014 | .0017 | 2.575 | .0018 | -.0169 | 4.177 |
| #2 | .0514 | .0009 | .0019 | 2.590 | -.0002 | -.0163 | 4.201 |
| #3 | .0514 | .0007 | .0016 | 2.561 | .0020 | -.0150 | 4.145 |



Zoom In Zoom Out

Sample Name: jc87291-10 Acquired: 5/10/2019 0:23:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86513.** | **8995.8** | **6145.5** | **12671.** |
| Stddev | 139. | 70.4 | 42.8 | 73. |
| %RSD | .16021 | .78266 | .69677 | .57409 |
| #1 | 86451. | 9013.2 | 6138.2 | 12656. |
| #2 | 86417. | 9055.8 | 6106.7 | 12607. |
| #3 | 86672. | 8918.3 | 6191.4 | 12750. |



Zoom In Zoom Out

Sample Name: jc87291-11 Acquired: 5/10/2019 0:28:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0168** | **.0000** | **.0001** | **.0004** | **.0164** | **.0250** | **.0551** | **.0040** | **-.0005** |
| Stddev | .0002 | .0000 | .0002 | .0000 | .0001 | .0004 | .0002 | .0002 | .0001 |
| %RSD | 1.113 | 229.3 | 267.3 | 7.600 | .4814 | 1.418 | .4191 | 6.239 | 11.99 |
| #1 | .0168 | -.0000 | -.0001 | .0003 | .0164 | .0246 | .0548 | .0038 | -.0005 |
| #2 | .0166 | .0001 | .0001 | .0004 | .0165 | .0252 | .0552 | .0039 | -.0005 |
| #3 | .0169 | -.0000 | .0002 | .0003 | .0164 | .0253 | .0552 | .0043 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **.0598** | **.0005** | **.0000** | **.0167** | **.0009** | **.0003** | **.5796** | **12.55** |
| Stddev | .0002 | .0001 | .0006 | .0003 | .0003 | .0006 | .0001 | .0060 | .07 |
| %RSD | 15.21 | .1714 | 123.2 | 630.2 | 2.051 | 64.06 | 17.25 | 1.035 | .5186 |
| #1 | .0019 | .0599 | .0009 | .0003 | .0171 | .0007 | .0002 | .5845 | 12.54 |
| #2 | .0014 | .0597 | .0008 | .0000 | .0165 | .0016 | .0003 | .5729 | 12.49 |
| #3 | .0016 | .0597 | -.0002 | -.0002 | .0165 | .0005 | .0003 | .5812 | 12.62 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.569** | **1.271** | **8.642** | **6.642** | **.0095** | **.0019** | **.6086** | **.0188** | **.0297** |
| Stddev | .013 | .050 | .050 | .026 | .0006 | .0001 | .0024 | .0008 | .0002 |
| %RSD | .8394 | 3.923 | .5724 | .3899 | 6.829 | 5.012 | .3963 | 4.198 | .5709 |
| #1 | 1.561 | 1.328 | 8.660 | 6.640 | .0098 | .0018 | .6103 | .0189 | .0295 |
| #2 | 1.562 | 1.245 | 8.586 | 6.617 | .0087 | .0019 | .6058 | .0195 | .0296 |
| #3 | 1.584 | 1.239 | 8.680 | 6.668 | .0098 | .0020 | .6096 | .0179 | .0298 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0307** | **.0053** | **.0019** | **2.470** | **.0041** | **-.0179** | **3.686** |
| Stddev | .0005 | .0013 | .0002 | .004 | .0016 | .0008 | .006 |
| %RSD | 1.673 | 24.20 | 8.862 | .1774 | 38.16 | 4.297 | .1632 |
| #1 | .0312 | .0046 | .0019 | 2.474 | .0023 | -.0179 | 3.692 |
| #2 | .0302 | .0068 | .0020 | 2.465 | .0047 | -.0187 | 3.680 |
| #3 | .0306 | .0045 | .0017 | 2.469 | .0053 | -.0171 | 3.687 |

Zoom In Zoom Out

Sample Name: jc87291-11 Acquired: 5/10/2019 0:28:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87129.** | **9013.4** | **6101.4** | **12652.** |
| Stddev | 344. | 57.6 | 3.7 | 14. |
| %RSD | .39474 | .63899 | .06006 | .11029 |
| #1 | 87427. | 9002.8 | 6102.0 | 12665. |
| #2 | 87207. | 9075.5 | 6104.7 | 12652. |
| #3 | 86753. | 8961.8 | 6097.5 | 12637. |



Zoom In Zoom Out

Sample Name: jc87291-12 Acquired: 5/10/2019 0:33:43 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0128** | **-.0001** | **.0001** | **.0003** | **.0117** | **.0151** | **.0576** | **.0031** | **-.0009** |
| Stddev | .0002 | .0000 | .0000 | .0001 | .0002 | .0001 | .0002 | .0001 | .0003 |
| %RSD | 1.604 | 38.93 | 47.09 | 28.02 | 1.337 | .8704 | .3540 | 4.425 | 34.94 |
| #1 | .0128 | -.0001 | .0000 | .0003 | .0115 | .0151 | .0575 | .0030 | -.0006 |
| #2 | .0130 | -.0001 | .0001 | .0004 | .0117 | .0151 | .0574 | .0032 | -.0012 |
| #3 | .0125 | -.0001 | .0001 | .0003 | .0118 | .0149 | .0578 | .0033 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0692** | **.0016** | **.0001** | **.0082** | **.0003** | **.0005** | **.4926** | **16.57** |
| Stddev | .0002 | .0004 | .0008 | .0006 | .0008 | .0011 | .0011 | .0060 | .05 |
| %RSD | 14.45 | .5304 | 53.00 | 765.6 | 9.658 | 353.3 | 198.5 | 1.224 | .2962 |
| #1 | .0009 | .0695 | .0009 | .0008 | .0090 | .0003 | .0004 | .4911 | 16.55 |
| #2 | .0011 | .0692 | .0025 | -.0001 | .0075 | -.0007 | .0017 | .4874 | 16.54 |
| #3 | .0013 | .0688 | .0013 | -.0004 | .0082 | .0014 | -.0004 | .4992 | 16.63 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7274** | **1.602** | **10.64** | **9.636** | **.0132** | **.0017** | **.6789** | **.0189** | **.0364** |
| Stddev | .0066 | .033 | .04 | .035 | .0005 | .0002 | .0051 | .0008 | .0001 |
| %RSD | .9094 | 2.028 | .3655 | .3673 | 3.410 | 14.72 | .7495 | 3.971 | .1975 |
| #1 | .7247 | 1.627 | 10.64 | 9.658 | .0127 | .0016 | .6816 | .0197 | .0364 |
| #2 | .7226 | 1.566 | 10.60 | 9.595 | .0134 | .0020 | .6821 | .0189 | .0364 |
| #3 | .7350 | 1.614 | 10.68 | 9.655 | .0136 | .0015 | .6730 | .0182 | .0365 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0288** | **.0013** | **.0012** | **3.177** | **.0025** | **-.0183** | **4.199** |
| Stddev | .0002 | .0005 | .0001 | .015 | .0023 | .0004 | .019 |
| %RSD | .7529 | 42.81 | 4.923 | .4552 | 94.18 | 2.300 | .4604 |
| #1 | .0285 | .0012 | .0011 | 3.188 | .0046 | -.0183 | 4.215 |
| #2 | .0289 | .0018 | .0012 | 3.182 | .0028 | -.0179 | 4.204 |
| #3 | .0289 | .0007 | .0011 | 3.161 | -.0000 | -.0187 | 4.177 |



Zoom In Zoom Out

Sample Name: jc87291-12 Acquired: 5/10/2019 0:33:43 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86245.** | **8989.2** | **6112.9** | **12636.** |
| Stddev | 588. | 86.8 | 22.5 | 46. |
| %RSD | .68228 | .96572 | .36782 | .36598 |
| #1 | 86640. | 9033.5 | 6105.4 | 12618. |
| #2 | 86526. | 9044.8 | 6095.0 | 12602. |
| #3 | 85568. | 8889.1 | 6138.1 | 12689. |



Zoom In Zoom Out

Sample Name: jc87511-21 Acquired: 5/10/2019 0:38:46 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8558** | **.0054** | **-.0000** | **.0689** | **.2758** | **.1137** | **.9256** | **.1273** | ***** |
| Stddev | .0023 | .0001 | .0000 | .0004 | .0003 | .0003 | .0002 | .0003 | ----- |
| %RSD | .2634 | 1.132 | 323.7 | .5276 | .1047 | .2926 | .0205 | .2149 | ----- |
| #1 | .8562 | .0054 | -.0000 | .0692 | .2761 | .1141 | .9254 | .1270 | ----- |
| #2 | .8579 | .0054 | -.0000 | .0691 | .2757 | .1136 | .9256 | .1272 | ----- |
| #3 | .8534 | .0053 | .0000 | .0685 | .2755 | .1135 | .9258 | .1276 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4133** | **.2923** | **.1203** | **.0027** | **.1327** | **-.0006** | **-.0000** | **271.2** | **6.303** |
| Stddev | .0007 | .0009 | .0009 | .0002 | .0014 | .0028 | .0003 | .7 | .015 |
| %RSD | .1671 | .3129 | .7842 | 7.660 | 1.020 | 499.3 | 5301. | .2697 | .2300 |
| #1 | .4129 | .2933 | .1193 | .0026 | .1338 | .0016 | .0003 | 271.8 | 6.308 |
| #2 | .4129 | .2916 | .1210 | .0030 | .1312 | .0004 | -.0001 | 271.5 | 6.313 |
| #3 | .4141 | .2919 | .1207 | .0026 | .1332 | -.0037 | -.0002 | 270.4 | 6.286 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **275.6** | **13.25** | **10.88** | **1.094** | **.0384** | **.0086** | **1.936** | **.0135** | **.0655** |
| Stddev | .8 | .06 | .03 | .005 | .0006 | .0006 | .006 | .0012 | .0001 |
| %RSD | .3042 | .4812 | .2789 | .4267 | 1.450 | 7.461 | .3105 | 8.976 | .2140 |
| #1 | 276.3 | 13.26 | 10.91 | 1.099 | .0380 | .0089 | 1.941 | .0148 | .0657 |
| #2 | 275.8 | 13.31 | 10.88 | 1.092 | .0390 | .0090 | 1.929 | .0132 | .0654 |
| #3 | 274.6 | 13.18 | 10.85 | 1.090 | .0381 | .0078 | 1.937 | .0124 | .0654 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.823** | **.0056** | **.0823** | **1.969** | **-.0142** | **.1177** | **3.565** |
| Stddev | .002 | .0016 | .0002 | .006 | .0017 | .0012 | .009 |
| %RSD | .0629 | 28.10 | .2169 | .2871 | 12.07 | 1.051 | .2488 |
| #1 | 2.825 | .0073 | .0822 | 1.972 | -.0122 | .1163 | 3.572 |
| #2 | 2.822 | .0042 | .0821 | 1.963 | -.0155 | .1186 | 3.555 |
| #3 | 2.821 | .0053 | .0825 | 1.974 | -.0148 | .1182 | 3.567 |

Zoom In Zoom Out

Sample Name: jc87511-21 Acquired: 5/10/2019 0:38:46 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89131.** | **9607.0** | **6444.3** | **12734.** |
| Stddev | 195. | 11.6 | 12.1 | 20. |
| %RSD | .21897 | .12086 | .18851 | .15575 |
| #1 | 89354. | 9594.8 | 6432.2 | 12715. |
| #2 | 88993. | 9617.9 | 6456.5 | 12755. |
| #3 | 89045. | 9608.4 | 6444.1 | 12731. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 0:43:41 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **1.943** | **1.953** | **1.989** | **1.991** | **1.999** | **2.005** | **1.987** | **.2444** |
| Stddev | .003 | .003 | .001 | .003 | .003 | .005 | .003 | .004 | .0007 |
| %RSD | .1656 | .1437 | .0515 | .1616 | .1330 | .2323 | .1409 | .2204 | .2841 |
| #1 | 1.984 | 1.940 | 1.954 | 1.993 | 1.994 | 2.003 | 2.008 | 1.991 | .2441 |
| #2 | 1.991 | 1.945 | 1.952 | 1.987 | 1.989 | 2.000 | 2.004 | 1.982 | .2452 |
| #3 | 1.987 | 1.944 | 1.953 | 1.987 | 1.990 | 1.994 | 2.003 | 1.987 | .2439 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.975** | **1.921** | **2.035** | **1.981** | **1.955** | **1.934** | **39.68** | **39.09** |
| Stddev | .001 | .003 | .003 | .005 | .004 | .005 | .005 | .09 | .07 |
| %RSD | .0404 | .1441 | .1414 | .2350 | .1889 | .2777 | .2389 | .2211 | .1700 |
| #1 | 1.995 | 1.978 | 1.922 | 2.037 | 1.985 | 1.960 | 1.939 | 39.58 | 39.02 |
| #2 | 1.995 | 1.972 | 1.918 | 2.030 | 1.978 | 1.949 | 1.934 | 39.74 | 39.14 |
| #3 | 1.993 | 1.974 | 1.923 | 2.038 | 1.980 | 1.956 | 1.930 | 39.71 | 39.13 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.31** | **38.29** | **38.92** | **38.96** | **1.970** | **1.932** | **4.795** | **1.920** | **1.997** |
| Stddev | .14 | .02 | .05 | .02 | .001 | .001 | .003 | .001 | .003 |
| %RSD | .3712 | .0467 | .1282 | .0517 | .0400 | .0687 | .0630 | .0697 | .1268 |
| #1 | 38.17 | 38.28 | 38.91 | 38.96 | 1.971 | 1.933 | 4.798 | 1.919 | 1.994 |
| #2 | 38.46 | 38.31 | 38.98 | 38.99 | 1.969 | 1.931 | 4.792 | 1.922 | 1.999 |
| #3 | 38.29 | 38.28 | 38.88 | 38.95 | 1.970 | 1.931 | 4.796 | 1.919 | 1.998 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 0:43:41 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.961** | **1.911** | **1.954** | **1.946** | **1.991** | **1.888** | **1.938** |
| Stddev | .002 | .004 | .002 | .005 | .005 | .002 | .002 |
| %RSD | .0861 | .2164 | .0932 | .2441 | .2535 | .0826 | .0935 |
| #1 | 1.962 | 1.915 | 1.956 | 1.951 | 1.997 | 1.887 | 1.939 |
| #2 | 1.961 | 1.910 | 1.954 | 1.941 | 1.988 | 1.890 | 1.936 |
| #3 | 1.959 | 1.907 | 1.952 | 1.947 | 1.989 | 1.889 | 1.939 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83769.** | **8721.7** | **5943.6** | **12193.** |
| Stddev | 177. | 45.9 | 6.6 | 21. |
| %RSD | .21162 | .52631 | .11172 | .16871 |
| #1 | 83629. | 8763.6 | 5939.1 | 12172. |
| #2 | 83710. | 8672.6 | 5951.2 | 12213. |
| #3 | 83969. | 8728.8 | 5940.4 | 12196. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 0:48:42 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0001** | **-.0000** | **.0002** | **-.0002** | **.0000** | **.0006** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0001 | .0001 | .0003 |
| %RSD | 511.3 | 53.55 | 106.9 | 187.1 | 103.5 | 57.25 | 834.7 | 54.95 |
| #1 | -.0002 | -.0001 | .0000 | .0000 | -.0000 | -.0003 | -.0000 | .0005 |
| #2 | -.0000 | -.0000 | .0001 | -.0001 | .0004 | -.0003 | .0001 | .0009 |
| #3 | .0001 | -.0000 | .0003 | -.0001 | .0002 | -.0001 | -.0000 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **.0001** | **.0001** | **-.0001** | **.0002** | **.0002** | **.0008** | **.0012** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .0010 | .0010 | .0017 | .0013 |
| %RSD | 42.08 | 41.33 | 93.21 | 215.6 | 514.9 | 517.0 | 202.2 | 114.1 |
| #1 | -.0007 | .0001 | .0001 | .0001 | .0003 | .0005 | -.0011 | .0005 |
| #2 | -.0008 | .0001 | .0002 | -.0001 | -.0009 | .0010 | .0023 | .0027 |
| #3 | -.0003 | .0001 | .0000 | -.0004 | .0011 | -.0009 | .0013 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0055** | **-.0003** | **-.0014** | **-.0107** | **-.1347** | **-.1089** | **.0019** | **.0003** |
| Stddev | .0172 | .0018 | .0016 | .0278 | .0385 | .0048 | .0002 | .0001 |
| %RSD | 313.5 | 517.0 | 114.9 | 259.7 | 28.56 | 4.410 | 10.17 | 54.26 |
| #1 | -.0143 | -.0023 | -.0021 | .0103 | -.1777 | -.1116 | .0020 | .0004 |
| #2 | .0172 | -.0000 | .0004 | -.0002 | -.1034 | -.1118 | .0019 | .0001 |
| #3 | .0135 | .0012 | -.0024 | -.0422 | -.1231 | -.1034 | .0017 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 0:48:42 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0004** | **.0000** | **-.0002** | **.0003** | **-.0000** | **-.0019** | **.0025** |
| Stddev | .0010 | .0004 | .0001 | .0004 | .0002 | .0001 | .0019 | .0019 |
| %RSD | 149.6 | 93.88 | 465.3 | 187.3 | 64.42 | 1263. | 98.86 | 78.55 |
| #1 | .0009 | .0003 | .0001 | -.0006 | .0004 | .0000 | -.0037 | .0033 |
| #2 | .0016 | .0001 | -.0000 | -.0003 | .0001 | -.0001 | .0001 | .0038 |
| #3 | -.0004 | .0008 | -.0001 | .0002 | .0004 | .0000 | -.0022 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0159** | **.0032** |
| Stddev | .0013 | .0003 |
| %RSD | 8.205 | 8.416 |
| #1 | -.0152 | .0029 |
| #2 | -.0150 | .0034 |
| #3 | -.0174 | .0031 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85669.** | **8672.3** | **6085.2** | **12723.** |
| Stddev | 53. | 22.9 | 17.5 | 29. |
| %RSD | .06136 | .26392 | .28796 | .22964 |
| #1 | 85674. | 8648.5 | 6067.0 | 12697. |
| #2 | 85719. | 8694.1 | 6086.6 | 12716. |
| #3 | 85614. | 8674.2 | 6102.0 | 12755. |



Zoom In Zoom Out

Sample Name: jc87511-22 Acquired: 5/10/2019 0:53:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4619** | **.0039** | **-.0001** | **.0402** | **.2489** | **.0986** | **.7302** | **.1106** | **-.0025** |
| Stddev | .0010 | .0001 | .0001 | .0002 | .0013 | .0002 | .0024 | .0008 | .0006 |
| %RSD | .2105 | 1.509 | 100.0 | .5718 | .5104 | .2011 | .3235 | .7642 | 24.19 |
| #1 | .4625 | .0039 | -.0002 | .0403 | .2501 | .0985 | .7316 | .1114 | -.0029 |
| #2 | .4624 | .0039 | -.0003 | .0399 | .2490 | .0988 | .7315 | .1097 | -.0029 |
| #3 | .4608 | .0040 | .0000 | .0403 | .2476 | .0985 | .7275 | .1108 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3781** | **.2534** | **.0808** | **.0039** | **.1050** | **-.0003** | **.0091** | **194.1** | **6.007** |
| Stddev | .0017 | .0019 | .0002 | .0026 | .0001 | .0014 | .0006 | .3 | .021 |
| %RSD | .4505 | .7630 | .3069 | 65.78 | .1315 | 399.0 | 6.473 | .1601 | .3500 |
| #1 | .3794 | .2542 | .0807 | .0059 | .1050 | .0007 | .0098 | 194.3 | 6.031 |
| #2 | .3786 | .2512 | .0811 | .0049 | .1052 | .0002 | .0086 | 194.1 | 5.997 |
| #3 | .3762 | .2548 | .0807 | .0010 | .1049 | -.0019 | .0090 | 193.7 | 5.992 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **216.4** | **14.45** | **11.94** | **.3819** | **.0456** | **.0068** | **1.897** | **.0130** | **.0550** |
| Stddev | .6 | .07 | .04 | .0051 | .0006 | .0001 | .020 | .0001 | .0003 |
| %RSD | .2880 | .4756 | .2980 | 1.346 | 1.324 | 1.828 | 1.047 | .4248 | .5033 |
| #1 | 217.0 | 14.53 | 11.98 | .3860 | .0460 | .0067 | 1.910 | .0130 | .0551 |
| #2 | 216.5 | 14.41 | 11.92 | .3761 | .0449 | .0068 | 1.874 | .0129 | .0552 |
| #3 | 215.7 | 14.41 | 11.92 | .3834 | .0459 | .0069 | 1.905 | .0131 | .0547 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.051** | **.0030** | **.0991** | **1.198** | **-.0095** | **.1158** | **2.443** |
| Stddev | .014 | .0003 | .0002 | .012 | .0002 | .0020 | .023 |
| %RSD | .4639 | 9.797 | .1758 | .9880 | 2.379 | 1.698 | .9246 |
| #1 | 3.060 | .0027 | .0991 | 1.205 | -.0097 | .1172 | 2.457 |
| #2 | 3.059 | .0033 | .0992 | 1.185 | -.0093 | .1136 | 2.417 |
| #3 | 3.035 | .0030 | .0989 | 1.205 | -.0094 | .1168 | 2.455 |



Zoom In Zoom Out

Sample Name: jc87511-22 Acquired: 5/10/2019 0:53:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85361.** | **9086.6** | **6138.4** | **12478.** |
| Stddev | 397. | 36.0 | 45.3 | 84. |
| %RSD | .46487 | .39630 | .73808 | .67286 |
| #1 | 85371. | 9053.5 | 6120.6 | 12447. |
| #2 | 84960. | 9081.4 | 6189.9 | 12573. |
| #3 | 85753. | 9124.9 | 6104.7 | 12414. |



Zoom In Zoom Out

Sample Name: td38519-1b Acquired: 5/10/2019 0:58:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.455** | **.0088** | **.0040** | **.0634** | **.2320** | **.5788** | **3.097** | **.1287** | **-.0023** |
| Stddev | .005 | .0001 | .0001 | .0002 | .0053 | .0126 | .021 | .0005 | .0011 |
| %RSD | .3406 | 1.285 | 2.805 | .3152 | 2.305 | 2.175 | .6893 | .3782 | 49.63 |
| #1 | 1.449 | .0089 | .0039 | .0632 | .2284 | .5711 | 3.075 | .1281 | -.0016 |
| #2 | 1.456 | .0089 | .0041 | .0634 | .2295 | .5721 | 3.098 | .1289 | -.0017 |
| #3 | 1.459 | .0087 | .0040 | .0636 | .2382 | .5934 | 3.118 | .1291 | -.0036 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2911** | **2.070** | **.0300** | **.0039** | **.1329** | **.0080** | **.0015** | **211.6** | **155.4** |
| Stddev | .0059 | .005 | .0010 | .0020 | .0006 | .0030 | .0008 | .3 | .3 |
| %RSD | 2.012 | .2403 | 3.207 | 50.57 | .4393 | 37.57 | 48.77 | .1395 | .1778 |
| #1 | .2869 | 2.066 | .0311 | .0025 | .1334 | .0047 | .0008 | 211.3 | 155.2 |
| #2 | .2887 | 2.070 | .0295 | .0031 | .1331 | .0089 | .0023 | 211.7 | 155.3 |
| #3 | .2978 | 2.076 | .0294 | .0062 | .1323 | .0105 | .0016 | 211.8 | 155.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **131.4** | **36.02** | **50.34** | **5.232** | **.0625** | **.0035** | **2.468** | **.0268** | **.4429** |
| Stddev | .2 | .17 | .14 | .014 | .0007 | .0001 | .009 | .0005 | .0013 |
| %RSD | .1460 | .4808 | .2763 | .2589 | 1.165 | 3.648 | .3460 | 1.995 | .2921 |
| #1 | 131.2 | 35.86 | 50.19 | 5.217 | .0618 | .0034 | 2.464 | .0262 | .4414 |
| #2 | 131.3 | 36.00 | 50.37 | 5.242 | .0632 | .0036 | 2.462 | .0270 | .4437 |
| #3 | 131.6 | 36.20 | 50.46 | 5.237 | .0624 | .0034 | 2.478 | .0272 | .4437 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4240** | **-.0002** | **.0878** | **7.123** | **-.0063** | **.0985** | F **24.14** |
| Stddev | .0091 | .0008 | .0015 | .024 | .0012 | .0008 | .06 |
| %RSD | 2.157 | 384.7 | 1.696 | .3376 | 19.75 | .8174 | .2526 |
| #1 | .4191 | -.0011 | .0870 | 7.102 | -.0052 | .0989 | 24.08 |
| #2 | .4183 | -.0001 | .0870 | 7.117 | -.0077 | .0975 | 24.14 |
| #3 | .4345 | .0006 | .0895 | 7.149 | -.0061 | .0989 | 24.20 |

Zoom In Zoom Out

Sample Name: td38519-1b Acquired: 5/10/2019 0:58:47 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85725.** | **9401.3** | **6188.4** | **11976.** |
| Stddev | 1559. | 37.1 | 24.9 | 52. |
| %RSD | 1.8187 | .39491 | .40210 | .43130 |
| #1 | 86870. | 9423.6 | 6216.0 | 12036. |
| #2 | 86356. | 9421.8 | 6181.5 | 11947. |
| #3 | 83949. | 9358.4 | 6167.6 | 11946. |



Zoom In Zoom Out

Sample Name: td38519-3b Acquired: 5/10/2019 1:03:49 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.496** | **.0110** | **.0006** | **.0530** | **.2601** | **.1372** | **1.912** | **.1426** | **-.0029** |
| Stddev | .007 | .0001 | .0002 | .0002 | .0018 | .0002 | .009 | .0007 | .0008 |
| %RSD | .4961 | 1.024 | 34.56 | .4085 | .7035 | .1628 | .4865 | .4584 | 26.51 |
| #1 | 1.499 | .0110 | .0007 | .0532 | .2596 | .1370 | 1.921 | .1419 | -.0021 |
| #2 | 1.488 | .0108 | .0003 | .0530 | .2586 | .1371 | 1.912 | .1428 | -.0036 |
| #3 | 1.502 | .0111 | .0007 | .0528 | .2622 | .1374 | 1.903 | .1432 | -.0030 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4281** | **.5525** | **.0444** | **.0038** | **.1332** | **-.0009** | **-.0011** | F **304.1** | **58.66** |
| Stddev | .0019 | .0003 | .0012 | .0014 | .0008 | .0010 | .0015 | 1.8 | .38 |
| %RSD | .4435 | .0520 | 2.617 | 37.44 | .5894 | 106.3 | 144.4 | .5774 | .6468 |
| #1 | .4262 | .5526 | .0444 | .0033 | .1333 | -.0003 | .0006 | 304.9 | 58.83 |
| #2 | .4282 | .5527 | .0456 | .0027 | .1339 | -.0004 | -.0013 | 302.1 | 58.22 |
| #3 | .4300 | .5522 | .0433 | .0055 | .1323 | -.0020 | -.0024 | 305.2 | 58.93 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **179.9** | **36.69** | **39.25** | **10.09** | **.0481** | **.0039** | **3.064** | **.0267** | **.2651** |
| Stddev | 1.2 | .25 | .24 | .04 | .0012 | .0002 | .004 | .0004 | .0010 |
| %RSD | .6712 | .6924 | .6207 | .4411 | 2.549 | 5.438 | .1187 | 1.508 | .3630 |
| #1 | 180.4 | 36.88 | 39.40 | 10.11 | .0474 | .0041 | 3.060 | .0271 | .2654 |
| #2 | 178.5 | 36.41 | 38.97 | 10.03 | .0474 | .0037 | 3.067 | .0267 | .2641 |
| #3 | 180.7 | 36.80 | 39.39 | 10.11 | .0495 | .0039 | 3.065 | .0263 | .2660 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4517** | **.0055** | **.1156** | **1.724** | **-.0096** | **.1370** | **4.947** |
| Stddev | .0033 | .0002 | .0004 | .003 | .0011 | .0005 | .004 |
| %RSD | .7263 | 3.022 | .3442 | .1613 | 10.98 | .3466 | .0844 |
| #1 | .4494 | .0053 | .1153 | 1.724 | -.0107 | .1376 | 4.942 |
| #2 | .4503 | .0056 | .1155 | 1.727 | -.0085 | .1366 | 4.950 |
| #3 | .4555 | .0054 | .1161 | 1.721 | -.0097 | .1369 | 4.949 |



Zoom In Zoom Out

Sample Name: td38519-3b Acquired: 5/10/2019 1:03:49 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87154.** | **9391.7** | **6265.7** | **12138.** |
| Stddev | 372. | 91.3 | 5.9 | 8. |
| %RSD | .42684 | .97181 | .09417 | .06410 |
| #1 | 87370. | 9325.4 | 6272.5 | 12147. |
| #2 | 87368. | 9495.8 | 6262.3 | 12137. |
| #3 | 86725. | 9354.0 | 6262.2 | 12131. |



Zoom In Zoom Out

Sample Name: jc87291-6conf Acquired: 5/10/2019 1:08:51 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0726** | **-.0001** | **.0011** | **.0012** | **.0167** | **.2303** | **.0760** | **.0100** | **.0021** |
| Stddev | .0003 | .0001 | .0000 | .0003 | .0002 | .0004 | .0003 | .0004 | .0004 |
| %RSD | .4746 | 248.3 | 1.922 | 25.91 | .9973 | .1802 | .3494 | 3.996 | 17.77 |
| #1 | .0726 | .0000 | .0010 | .0015 | .0165 | .2307 | .0762 | .0101 | .0017 |
| #2 | .0722 | -.0002 | .0011 | .0010 | .0167 | .2299 | .0757 | .0095 | .0020 |
| #3 | .0729 | .0000 | .0011 | .0010 | .0168 | .2305 | .0761 | .0103 | .0025 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0051** | **.3600** | **.0024** | **.0006** | **.0486** | **.0023** | **.0007** | **1.929** | **7.442** |
| Stddev | .0003 | .0003 | .0006 | .0008 | .0004 | .0019 | .0007 | .006 | .024 |
| %RSD | 5.054 | .0926 | 23.75 | 125.1 | .8721 | 82.35 | 90.69 | .3134 | .3164 |
| #1 | .0051 | .3596 | .0020 | -.0001 | .0491 | .0025 | .0013 | 1.922 | 7.416 |
| #2 | .0049 | .3602 | .0030 | .0014 | .0485 | .0041 | .0000 | 1.933 | 7.461 |
| #3 | .0054 | .3601 | .0021 | .0006 | .0483 | .0003 | .0008 | 1.931 | 7.449 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.097** | **3.292** | **3.986** | **3.755** | **.0067** | **.0069** | **.7344** | **.0251** | **.0430** |
| Stddev | .006 | .023 | .003 | .011 | .0008 | .0000 | .0029 | .0004 | .0002 |
| %RSD | .0957 | .6909 | .0651 | .2980 | 11.71 | .6524 | .3975 | 1.519 | .3761 |
| #1 | 6.104 | 3.310 | 3.983 | 3.745 | .0076 | .0069 | .7311 | .0248 | .0429 |
| #2 | 6.093 | 3.300 | 3.985 | 3.754 | .0064 | .0069 | .7363 | .0251 | .0430 |
| #3 | 6.095 | 3.266 | 3.988 | 3.767 | .0061 | .0070 | .7360 | .0255 | .0432 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0796** | **.0008** | **.0057** | **3.474** | **.0135** | **-.0158** | F **9.774** |
| Stddev | .0009 | .0007 | .0001 | .002 | .0016 | .0005 | .015 |
| %RSD | 1.163 | 83.59 | 2.424 | .0514 | 11.53 | 3.077 | .1480 |
| #1 | .0803 | .0012 | .0055 | 3.472 | .0152 | -.0160 | 9.766 |
| #2 | .0786 | .0000 | .0058 | 3.475 | .0132 | -.0161 | 9.791 |
| #3 | .0800 | .0012 | .0057 | 3.476 | .0121 | -.0152 | 9.766 |

Zoom In Zoom Out

Sample Name: jc87291-6conf Acquired: 5/10/2019 1:08:51 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86172.** | **8893.2** | **6098.3** | **12624.** |
| Stddev | 214. | 26.8 | 17.1 | 35. |
| %RSD | .24785 | .30173 | .28043 | .28097 |
| #1 | 85997. | 8918.2 | 6083.2 | 12591. |
| #2 | 86410. | 8864.9 | 6094.9 | 12620. |
| #3 | 86110. | 8896.4 | 6116.9 | 12661. |



Zoom In Zoom Out

Sample Name: mp11922-mb3 7 Acquired: 5/10/2019 1:13:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **-.0001** | **-.0001** | **.0003** | **-.0002** | **.0000** | **.0001** | **-.0008** |
| Stddev | .0001 | .0002 | .0001 | .0001 | .0000 | .0003 | .0000 | .0004 | .0002 |
| %RSD | 58.40 | 248.4 | 171.5 | 92.29 | 1.746 | 132.1 | 23.82 | 347.5 | 25.64 |
| #1 | .0001 | -.0002 | -.0001 | -.0003 | .0004 | .0001 | .0000 | .0002 | -.0006 |
| #2 | .0002 | -.0001 | -.0002 | -.0001 | .0003 | -.0005 | .0000 | -.0003 | -.0010 |
| #3 | .0004 | .0001 | .0000 | -.0001 | .0003 | -.0003 | .0000 | .0004 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0005** | **-.0000** | **-.0000** | **-.0001** | **.0004** | **.0007** | **.0161** | **.0027** |
| Stddev | .0002 | .0001 | .0003 | .0007 | .0006 | .0016 | .0014 | .0065 | .0010 |
| %RSD | 309.6 | 19.51 | 1376. | 4596. | 380.4 | 382.7 | 214.8 | 40.36 | 36.49 |
| #1 | .0002 | .0005 | .0002 | .0001 | -.0005 | .0022 | .0003 | .0126 | .0036 |
| #2 | -.0002 | .0006 | .0001 | .0006 | -.0004 | -.0002 | -.0006 | .0121 | .0029 |
| #3 | .0002 | .0004 | -.0003 | -.0008 | .0005 | -.0007 | .0022 | .0236 | .0016 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **-.0185** | **-.2288** | **-.1173** | **-.0007** | **-.0001** | **.0046** | **-.0000** | **.0001** |
| Stddev | .0040 | .0477 | .0191 | .0050 | .0008 | .0002 | .0014 | .0002 | .0000 |
| %RSD | 677.6 | 258.1 | 8.329 | 4.256 | 104.6 | 386.5 | 30.70 | 852.6 | 29.31 |
| #1 | -.0049 | .0137 | -.2069 | -.1131 | -.0015 | -.0002 | .0060 | -.0002 | .0002 |
| #2 | .0002 | -.0734 | -.2377 | -.1160 | -.0000 | .0002 | .0048 | .0001 | .0001 |
| #3 | .0029 | .0042 | -.2417 | -.1229 | -.0007 | -.0001 | .0031 | .0001 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0011** | **.0002** | **-.0000** | **.0011** | **-.0169** | **.0035** |
| Stddev | .0003 | .0007 | .0001 | .0014 | .0014 | .0001 | .0001 |
| %RSD | 142.5 | 63.17 | 37.07 | 3853. | 131.3 | .5050 | 1.512 |
| #1 | .0000 | .0017 | .0002 | -.0017 | .0027 | -.0168 | .0035 |
| #2 | -.0005 | .0011 | .0001 | .0011 | .0001 | -.0170 | .0035 |
| #3 | -.0001 | .0004 | .0002 | .0005 | .0004 | -.0169 | .0034 |



Zoom In Zoom Out

Sample Name: mp11922-mb3 7 Acquired: 5/10/2019 1:13:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85647.** | **8710.0** | **6092.5** | **12707.** |
| Stddev | 247. | 56.1 | 50.4 | 85. |
| %RSD | .28848 | .64448 | .82693 | .66509 |
| #1 | 85660. | 8685.2 | 6150.7 | 12804. |
| #2 | 85393. | 8670.5 | 6063.0 | 12648. |
| #3 | 85887. | 8774.2 | 6063.8 | 12669. |



Zoom In Zoom Out

Sample Name: mp11922-b3 Acquired: 5/10/2019 1:19:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.998** | **1.939** | **1.942** | **1.988** | **1.984** | **2.000** | **2.017** | **1.977** | **.2535** |
| Stddev | .003 | .004 | .002 | .003 | .005 | .006 | .005 | .003 | .0013 |
| %RSD | .1376 | .1949 | .1008 | .1453 | .2779 | .2836 | .2530 | .1650 | .5253 |
| #1 | 1.997 | 1.936 | 1.944 | 1.991 | 1.986 | 2.003 | 2.021 | 1.980 | .2538 |
| #2 | 2.001 | 1.944 | 1.941 | 1.986 | 1.988 | 2.002 | 2.018 | 1.974 | .2547 |
| #3 | 1.996 | 1.938 | 1.941 | 1.986 | 1.978 | 1.993 | 2.011 | 1.976 | .2521 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.986** | **1.964** | **1.933** | **2.037** | **1.975** | **1.926** | **1.951** | **25.78** | **25.45** |
| Stddev | .006 | .003 | .001 | .007 | .003 | .003 | .003 | .07 | .07 |
| %RSD | .3229 | .1380 | .0360 | .3598 | .1669 | .1576 | .1407 | .2667 | .2704 |
| #1 | 1.987 | 1.967 | 1.932 | 2.044 | 1.978 | 1.927 | 1.954 | 25.75 | 25.38 |
| #2 | 1.992 | 1.962 | 1.933 | 2.030 | 1.971 | 1.929 | 1.950 | 25.86 | 25.51 |
| #3 | 1.979 | 1.962 | 1.934 | 2.037 | 1.975 | 1.923 | 1.949 | 25.73 | 25.45 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.01** | **24.76** | **25.00** | **25.26** | **1.942** | **1.964** | **5.051** | **1.946** | **2.004** |
| Stddev | .04 | .10 | .04 | .05 | .003 | .001 | .003 | .002 | .002 |
| %RSD | .1494 | .3960 | .1789 | .1847 | .1453 | .0569 | .0513 | .0821 | .1112 |
| #1 | 24.97 | 24.68 | 24.97 | 25.20 | 1.946 | 1.965 | 5.052 | 1.948 | 2.003 |
| #2 | 25.05 | 24.87 | 25.05 | 25.28 | 1.942 | 1.963 | 5.048 | 1.945 | 2.006 |
| #3 | 25.00 | 24.73 | 24.97 | 25.28 | 1.940 | 1.964 | 5.052 | 1.945 | 2.002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.988** | **1.826** | **1.980** | **1.992** | **2.106** | **1.975** | **1.908** |
| Stddev | .008 | .007 | .007 | .002 | .002 | .005 | .002 |
| %RSD | .4045 | .3794 | .3508 | .1078 | .0861 | .2441 | .0768 |
| #1 | 1.989 | 1.819 | 1.982 | 1.994 | 2.104 | 1.971 | 1.907 |
| #2 | 1.995 | 1.826 | 1.986 | 1.990 | 2.107 | 1.980 | 1.907 |
| #3 | 1.979 | 1.833 | 1.972 | 1.992 | 2.107 | 1.975 | 1.909 |

Zoom In Zoom Out

Sample Name: mp11922-b3 Acquired: 5/10/2019 1:19:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85018.** | **8952.5** | **6000.0** | **12340.** |
| Stddev | 60. | 31.5 | 12.2 | 25. |
| %RSD | .07049 | .35138 | .20279 | .20325 |
| #1 | 84953. | 8985.4 | 5986.3 | 12312. |
| #2 | 85070. | 8922.7 | 6009.5 | 12361. |
| #3 | 85030. | 8949.4 | 6004.2 | 12347. |



Zoom In Zoom Out

Sample Name: jc85415-7c 7 Acquired: 5/10/2019 1:24:00 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1026** | **.0048** | **.0050** | **.0211** | **.0126** | **.0243** | **.0111** | **.0214** | **.0086** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0002 | .0002 | .0001 | .0002 | .0003 |
| %RSD | .3997 | .7866 | 2.093 | .6680 | 1.287 | .7885 | .5858 | .7759 | 3.631 |
| #1 | .1028 | .0048 | .0049 | .0211 | .0128 | .0241 | .0111 | .0214 | .0083 |
| #2 | .1021 | .0048 | .0050 | .0210 | .0125 | .0243 | .0112 | .0212 | .0089 |
| #3 | .1028 | .0048 | .0051 | .0212 | .0126 | .0244 | .0110 | .0215 | .0088 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0109** | **.0557** | **.0209** | **.0223** | **.0207** | **.0227** | **.0215** | **.5359** | **1.088** |
| Stddev | .0002 | .0000 | .0012 | .0012 | .0012 | .0010 | .0003 | .0042 | .004 |
| %RSD | 1.903 | .0692 | 5.571 | 5.199 | 5.866 | 4.603 | 1.534 | .7800 | .4155 |
| #1 | .0107 | .0556 | .0208 | .0209 | .0200 | .0216 | .0215 | .5315 | 1.093 |
| #2 | .0111 | .0557 | .0220 | .0229 | .0201 | .0236 | .0219 | .5363 | 1.085 |
| #3 | .0108 | .0557 | .0197 | .0230 | .0221 | .0230 | .0213 | .5398 | 1.085 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5375** | **1.022** | **.8198** | **1.003** | **.1008** | **.0210** | **.2175** | **.2133** | **.0119** |
| Stddev | .0055 | .023 | .0401 | .012 | .0005 | .0001 | .0013 | .0011 | .0001 |
| %RSD | 1.029 | 2.208 | 4.893 | 1.177 | .4988 | .6919 | .6140 | .5239 | 1.053 |
| #1 | .5413 | 1.033 | .7751 | .9895 | .1012 | .0211 | .2160 | .2133 | .0120 |
| #2 | .5311 | 1.036 | .8315 | 1.006 | .1009 | .0209 | .2184 | .2144 | .0118 |
| #3 | .5400 | .9958 | .8528 | 1.012 | .1002 | .0211 | .2182 | .2122 | .0119 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0209** | **.0528** | **.0202** | **.1074** | **.0214** | **.0020** | **.0724** |
| Stddev | .0007 | .0016 | .0001 | .0007 | .0003 | .0024 | .0008 |
| %RSD | 3.416 | 2.993 | .5466 | .6364 | 1.522 | 117.1 | 1.081 |
| #1 | .0217 | .0541 | .0201 | .1074 | .0215 | .0047 | .0716 |
| #2 | .0202 | .0533 | .0202 | .1081 | .0217 | .0012 | .0725 |
| #3 | .0209 | .0510 | .0203 | .1067 | .0210 | .0002 | .0731 |



Zoom In Zoom Out

Sample Name: jc85415-7c 7 Acquired: 5/10/2019 1:24:00 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86968.** | **8949.8** | **6137.6** | **12774.** |
| Stddev | 123. | 36.2 | 5.9 | 19. |
| %RSD | .14091 | .40433 | .09597 | .14878 |
| #1 | 87085. | 8918.3 | 6142.5 | 12774. |
| #2 | 86840. | 8941.7 | 6139.1 | 12793. |
| #3 | 86978. | 8989.3 | 6131.1 | 12755. |



Zoom In Zoom Out

Sample Name: mp11919-mb3conf Acquired: 5/10/2019 1:29:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0001** | **-.0000** | **-.0001** | **.0001** | **-.0003** | **.0000** | **.0001** | **-.0006** |
| Stddev | .0002 | .0001 | .0002 | .0002 | .0002 | .0001 | .0000 | .0001 | .0003 |
| %RSD | 593.1 | 70.44 | 460.2 | 157.1 | 346.4 | 31.00 | 280.7 | 126.8 | 42.03 |
| #1 | -.0000 | -.0001 | -.0001 | -.0003 | -.0001 | -.0002 | .0000 | -.0000 | -.0003 |
| #2 | -.0001 | -.0001 | -.0002 | .0001 | .0000 | -.0003 | -.0000 | .0001 | -.0008 |
| #3 | .0002 | -.0003 | .0002 | -.0002 | .0002 | -.0004 | .0000 | .0003 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0004** | **-.0004** | **-.0007** | **.0000** | **.0012** | **.0011** | **-.0088** | **.0023** |
| Stddev | .0000 | .0001 | .0007 | .0006 | .0008 | .0007 | .0004 | .0067 | .0029 |
| %RSD | 13.76 | 16.21 | 184.0 | 84.21 | 2653. | 56.21 | 31.39 | 75.69 | 126.0 |
| #1 | .0001 | .0004 | -.0012 | -.0001 | -.0004 | .0004 | .0015 | -.0035 | -.0010 |
| #2 | .0001 | .0005 | .0001 | -.0008 | .0010 | .0017 | .0010 | -.0066 | .0037 |
| #3 | .0001 | .0004 | -.0000 | -.0013 | -.0005 | .0013 | .0008 | -.0163 | .0041 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0213** | **-.2638** | **-.1067** | **.0005** | **.0003** | **.0076** | **.0004** | **.0001** |
| Stddev | .0055 | .0181 | .0189 | .0039 | .0004 | .0001 | .0006 | .0003 | .0001 |
| %RSD | 1092. | 84.77 | 7.177 | 3.653 | 67.66 | 39.29 | 7.931 | 70.00 | 39.53 |
| #1 | -.0057 | -.0416 | -.2457 | -.1023 | .0006 | .0003 | .0070 | .0001 | .0001 |
| #2 | .0024 | -.0156 | -.2622 | -.1084 | .0001 | .0005 | .0076 | .0005 | .0001 |
| #3 | .0048 | -.0068 | -.2835 | -.1096 | .0008 | .0003 | .0082 | .0005 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0054** | **.0002** | **-.0007** | **.0016** | **-.0175** | **.0035** |
| Stddev | .0003 | .0006 | .0002 | .0008 | .0017 | .0006 | .0005 |
| %RSD | 78.85 | 11.31 | 82.16 | 119.4 | 108.0 | 3.577 | 13.12 |
| #1 | .0004 | .0056 | .0003 | -.0014 | .0020 | -.0170 | .0040 |
| #2 | .0000 | .0047 | .0000 | .0002 | -.0003 | -.0182 | .0031 |
| #3 | .0005 | .0059 | .0003 | -.0009 | .0031 | -.0172 | .0036 |

Zoom In Zoom Out

Sample Name: mp11919-mb3conf Acquired: 5/10/2019 1:29:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84764.** | **8691.3** | **6044.1** | **12612.** |
| Stddev | 934. | 39.0 | 22.6 | 31. |
| %RSD | 1.1019 | .44850 | .37445 | .24400 |
| #1 | 84979. | 8710.4 | 6026.9 | 12585. |
| #2 | 83741. | 8646.4 | 6035.7 | 12604. |
| #3 | 85571. | 8717.0 | 6069.8 | 12645. |



Zoom In Zoom Out

Sample Name: mp11919-b3 7 Acquired: 5/10/2019 1:34:11 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.006** | **1.934** | **1.947** | **1.991** | **1.991** | **2.003** | **2.003** | **1.981** | **.2544** |
| Stddev | .001 | .001 | .001 | .000 | .000 | .004 | .018 | .002 | .0004 |
| %RSD | .0328 | .0388 | .0615 | .0198 | .0063 | .1772 | .9120 | .1214 | .1528 |
| #1 | 2.006 | 1.935 | 1.946 | 1.991 | 1.991 | 2.007 | 1.992 | 1.984 | .2543 |
| #2 | 2.005 | 1.934 | 1.947 | 1.991 | 1.991 | 2.000 | 1.992 | 1.981 | .2540 |
| #3 | 2.006 | 1.934 | 1.948 | 1.991 | 1.992 | 2.003 | 2.024 | 1.979 | .2548 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.968** | **1.937** | **2.039** | **1.978** | **1.929** | **1.959** | **25.83** | **25.43** |
| Stddev | .001 | .002 | .001 | .001 | .003 | .003 | .001 | .02 | .02 |
| %RSD | .0366 | .1185 | .0714 | .0400 | .1432 | .1548 | .0685 | .0683 | .0928 |
| #1 | 1.993 | 1.970 | 1.939 | 2.039 | 1.981 | 1.927 | 1.957 | 25.83 | 25.44 |
| #2 | 1.994 | 1.968 | 1.936 | 2.038 | 1.979 | 1.927 | 1.960 | 25.84 | 25.43 |
| #3 | 1.995 | 1.965 | 1.938 | 2.040 | 1.975 | 1.932 | 1.959 | 25.81 | 25.40 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.02** | **24.83** | **25.15** | **25.38** | **1.949** | **1.969** | **5.033** | **1.948** | **2.006** |
| Stddev | .02 | .06 | .06 | .01 | .003 | .002 | .005 | .001 | .001 |
| %RSD | .0853 | .2456 | .2219 | .0487 | .1311 | .1097 | .0964 | .0305 | .0502 |
| #1 | 25.01 | 24.89 | 25.18 | 25.39 | 1.946 | 1.967 | 5.037 | 1.948 | 2.006 |
| #2 | 25.02 | 24.81 | 25.08 | 25.38 | 1.948 | 1.970 | 5.028 | 1.948 | 2.005 |
| #3 | 25.05 | 24.78 | 25.18 | 25.37 | 1.951 | 1.971 | 5.035 | 1.947 | 2.007 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.869** | **1.979** | **1.993** | **2.113** | **1.987** | **1.911** |
| Stddev | .000 | .004 | .001 | .002 | .001 | .001 | .003 |
| %RSD | .0048 | .2218 | .0242 | .0743 | .0587 | .0574 | .1800 |
| #1 | 1.994 | 1.864 | 1.978 | 1.993 | 2.112 | 1.986 | 1.915 |
| #2 | 1.994 | 1.872 | 1.979 | 1.991 | 2.112 | 1.987 | 1.908 |
| #3 | 1.994 | 1.871 | 1.979 | 1.994 | 2.114 | 1.989 | 1.910 |



Zoom In Zoom Out

Sample Name: mp11919-b3 7 Acquired: 5/10/2019 1:34:11 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84778.** | **8849.6** | **5973.1** | **12291.** |
| Stddev | 261. | 39.7 | 7.2 | 11. |
| %RSD | .30779 | .44827 | .12062 | .08550 |
| #1 | 85076. | 8803.8 | 5981.3 | 12298. |
| #2 | 84664. | 8871.4 | 5967.7 | 12279. |
| #3 | 84593. | 8873.5 | 5970.4 | 12296. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 1:39:10 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.013** | **1.950** | **1.976** | **2.012** | **2.015** | **2.021** | **2.031** | **2.003** | **.2465** |
| Stddev | .003 | .001 | .004 | .003 | .006 | .004 | .007 | .003 | .0009 |
| %RSD | .1374 | .0731 | .1924 | .1541 | .2960 | .2166 | .3446 | .1278 | .3842 |
| #1 | 2.010 | 1.949 | 1.975 | 2.010 | 2.014 | 2.025 | 2.039 | 2.004 | .2468 |
| #2 | 2.013 | 1.949 | 1.979 | 2.015 | 2.009 | 2.016 | 2.030 | 2.006 | .2454 |
| #3 | 2.016 | 1.952 | 1.972 | 2.010 | 2.021 | 2.022 | 2.025 | 2.001 | .2472 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.020** | **1.996** | **1.942** | **2.059** | **2.000** | **1.975** | **1.949** | **40.05** | **39.37** |
| Stddev | .004 | .004 | .005 | .003 | .002 | .006 | .004 | .04 | .02 |
| %RSD | .1969 | .1802 | .2637 | .1386 | .0871 | .2821 | .2220 | .0957 | .0407 |
| #1 | 2.020 | 1.996 | 1.944 | 2.058 | 1.999 | 1.977 | 1.949 | 40.01 | 39.37 |
| #2 | 2.016 | 2.000 | 1.946 | 2.062 | 2.002 | 1.978 | 1.954 | 40.08 | 39.35 |
| #3 | 2.024 | 1.993 | 1.936 | 2.056 | 1.998 | 1.968 | 1.945 | 40.07 | 39.39 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.74** | **38.48** | **39.23** | **39.28** | **1.995** | **1.955** | **4.835** | **1.933** | **2.025** |
| Stddev | .01 | .11 | .03 | .01 | .002 | .003 | .012 | .004 | .002 |
| %RSD | .0192 | .2918 | .0821 | .0226 | .0842 | .1563 | .2395 | .1801 | .1074 |
| #1 | 38.73 | 38.39 | 39.26 | 39.27 | 1.995 | 1.954 | 4.832 | 1.934 | 2.022 |
| #2 | 38.75 | 38.44 | 39.25 | 39.29 | 1.997 | 1.958 | 4.848 | 1.936 | 2.025 |
| #3 | 38.74 | 38.61 | 39.20 | 39.29 | 1.994 | 1.952 | 4.826 | 1.929 | 2.026 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 1:39:10 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **1.947** | **1.973** | **1.966** | **2.022** | **1.916** | **1.948** |
| Stddev | .005 | .004 | .003 | .004 | .004 | .002 | .003 |
| %RSD | .2356 | .1772 | .1471 | .1994 | .2238 | .0823 | .1728 |
| #1 | 1.985 | 1.948 | 1.976 | 1.967 | 2.023 | 1.915 | 1.948 |
| #2 | 1.980 | 1.951 | 1.970 | 1.970 | 2.026 | 1.918 | 1.952 |
| #3 | 1.989 | 1.944 | 1.973 | 1.962 | 2.017 | 1.917 | 1.945 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83049.** | **8654.1** | **5896.4** | **12082.** |
| Stddev | 131. | 27.3 | 12.3 | 17. |
| %RSD | .15771 | .31507 | .20826 | .14410 |
| #1 | 83003. | 8622.6 | 5895.5 | 12078. |
| #2 | 83197. | 8670.1 | 5884.6 | 12067. |
| #3 | 82948. | 8669.5 | 5909.1 | 12101. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 1:44:11 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **.0000** | **-.0001** | **.0003** | **-.0004** | **.0001** | **-.0001** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0001 | .0001 | .0000 | .0001 |
| %RSD | 2192. | 461.3 | 1715. | 128.6 | 40.63 | 38.18 | 34.11 | 100.9 |
| #1 | -.0003 | .0001 | .0000 | .0000 | .0002 | -.0006 | .0001 | -.0002 |
| #2 | .0002 | -.0001 | .0001 | -.0002 | .0004 | -.0003 | .0001 | -.0001 |
| #3 | .0001 | -.0001 | -.0001 | -.0001 | .0004 | -.0003 | .0000 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0008** | **.0003** | **.0001** | **-.0001** | **.0007** | **-.0001** | **.0014** | **.0004** |
| Stddev | .0003 | .0001 | .0000 | .0008 | .0009 | .0004 | .0017 | .0004 |
| %RSD | 32.03 | 47.19 | 10.52 | 579.6 | 134.7 | 304.8 | 121.4 | 126.4 |
| #1 | -.0006 | .0001 | .0001 | -.0003 | .0008 | .0003 | -.0006 | -.0000 |
| #2 | -.0011 | .0003 | .0001 | .0007 | .0015 | -.0001 | .0022 | .0009 |
| #3 | -.0006 | .0004 | .0001 | -.0008 | -.0003 | -.0005 | .0027 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0108** | **.0003** | **.0016** | **.0104** | **-.1899** | **-.1025** | **.0033** | **.0004** |
| Stddev | .0184 | .0021 | .0046 | .0088 | .0238 | .0144 | .0003 | .0002 |
| %RSD | 171.3 | 761.6 | 280.9 | 84.35 | 12.56 | 14.03 | 9.494 | 53.88 |
| #1 | .0083 | -.0002 | .0069 | .0167 | -.1840 | -.0890 | .0034 | .0006 |
| #2 | -.0063 | .0025 | -.0012 | .0141 | -.1696 | -.1009 | .0035 | .0002 |
| #3 | .0303 | -.0015 | -.0008 | .0004 | -.2161 | -.1176 | .0029 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 1:44:11 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0004** | **.0002** | **-.0003** | F **.0058** | **.0002** | **-.0028** | **.0016** |
| Stddev | .0006 | .0004 | .0001 | .0001 | .0005 | .0002 | .0011 | .0016 |
| %RSD | 112.5 | 112.6 | 63.33 | 18.17 | 8.093 | 103.6 | 40.66 | 98.33 |
| #1 | .0000 | .0002 | .0002 | -.0003 | .0058 | -.0000 | -.0026 | .0021 |
| #2 | .0004 | .0000 | .0002 | -.0004 | .0063 | .0003 | -.0017 | .0029 |
| #3 | .0011 | .0009 | .0000 | -.0003 | .0053 | .0002 | -.0040 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | .0054 | | | |
| Low Limit | | | | | -.0054 | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0145** | **.0030** |
| Stddev | .0007 | .0010 |
| %RSD | 4.659 | 33.84 |
| #1 | -.0138 | .0035 |
| #2 | -.0146 | .0036 |
| #3 | -.0152 | .0018 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85633.** | **8722.0** | **6076.2** | **12676.** |
| Stddev | 367. | 17.6 | 20.2 | 32. |
| %RSD | .42880 | .20153 | .33193 | .25583 |
| #1 | 85289. | 8734.0 | 6061.7 | 12664. |
| #2 | 85591. | 8730.2 | 6067.5 | 12650. |
| #3 | 86019. | 8701.9 | 6099.2 | 12712. |



Zoom In Zoom Out

Sample Name: mp14842-mb1 Acquired: 5/10/2019 1:49:22 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0002** | **-.0001** | **-.0002** | **.0005** | **-.0005** | **.0000** | **.0000** | **-.0010** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .0002 | .0003 | .0000 | .0002 | .0003 |
| %RSD | 63.04 | 49.85 | 412.6 | 70.56 | 34.82 | 64.29 | 40.54 | 769.7 | 28.69 |
| #1 | .0004 | -.0001 | -.0003 | -.0001 | .0006 | -.0002 | .0000 | .0002 | -.0007 |
| #2 | .0002 | -.0003 | .0001 | -.0003 | .0005 | -.0004 | .0000 | .0001 | -.0012 |
| #3 | .0001 | -.0002 | .0000 | -.0001 | .0003 | -.0008 | .0000 | -.0002 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0018** | **.0003** | **-.0006** | **.0000** | **.0004** | **.0004** | **.0088** | **.0019** |
| Stddev | .0001 | .0000 | .0002 | .0003 | .0010 | .0010 | .0006 | .0140 | .0017 |
| %RSD | 50.63 | 2.121 | 72.65 | 46.08 | 2174. | 219.1 | 150.0 | 159.3 | 86.77 |
| #1 | .0004 | .0018 | .0002 | -.0004 | .0012 | .0005 | -.0003 | .0043 | .0015 |
| #2 | .0002 | .0018 | .0005 | -.0004 | -.0007 | .0014 | .0006 | .0245 | .0038 |
| #3 | .0001 | .0017 | .0001 | -.0009 | -.0004 | -.0005 | .0008 | -.0024 | .0005 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0070** | **.0017** | **-.2464** | **-.0973** | **.0021** | **.0003** | **.0062** | **.0005** | **.0001** |
| Stddev | .0027 | .0308 | .0402 | .0067 | .0006 | .0003 | .0008 | .0004 | .0001 |
| %RSD | 38.56 | 1787. | 16.29 | 6.909 | 30.22 | 89.38 | 13.02 | 76.68 | 171.0 |
| #1 | .0095 | -.0289 | -.2475 | -.0899 | .0018 | .0006 | .0067 | .0003 | .0001 |
| #2 | .0072 | .0013 | -.2861 | -.1031 | .0029 | .0002 | .0066 | .0009 | .0002 |
| #3 | .0041 | .0328 | -.2058 | -.0988 | .0017 | .0001 | .0053 | .0002 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0046** | **.0002** | **-.0016** | **.0010** | **-.0155** | **.0037** |
| Stddev | .0002 | .0003 | .0001 | .0006 | .0003 | .0009 | .0005 |
| %RSD | 134.4 | 7.353 | 40.48 | 35.88 | 25.81 | 5.553 | 12.33 |
| #1 | .0000 | .0043 | .0003 | -.0022 | .0013 | -.0145 | .0041 |
| #2 | .0004 | .0045 | .0002 | -.0011 | .0009 | -.0161 | .0037 |
| #3 | .0001 | .0050 | .0002 | -.0015 | .0009 | -.0159 | .0032 |

Zoom In Zoom Out

Sample Name: mp14842-mb1 Acquired: 5/10/2019 1:49:22 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86266.** | **8872.2** | **6017.4** | **12545.** |
| Stddev | 209. | 44.1 | 90.0 | 166. |
| %RSD | .24229 | .49705 | 1.4959 | 1.3226 |
| #1 | 86371. | 8911.5 | 5913.6 | 12354. |
| #2 | 86026. | 8880.6 | 6065.3 | 12635. |
| #3 | 86402. | 8824.5 | 6073.4 | 12647. |



Zoom In Zoom Out

Sample Name: mp14842-b1 Acquired: 5/10/2019 1:54:33 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **1.975** | **1.978** | **2.024** | **2.023** | **2.037** | **2.009** | **2.010** |
| Stddev | .019 | .018 | .001 | .002 | .003 | .002 | .007 | .001 |
| %RSD | .9248 | .9196 | .0706 | .1085 | .1585 | .0846 | .3297 | .0557 |
| #1 | 2.039 | 1.980 | 1.977 | 2.026 | 2.019 | 2.036 | 2.010 | 2.009 |
| #2 | 2.015 | 1.954 | 1.979 | 2.022 | 2.025 | 2.039 | 2.014 | 2.012 |
| #3 | 2.053 | 1.990 | 1.980 | 2.023 | 2.024 | 2.037 | 2.001 | 2.010 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2449** | **2.028** | **1.999** | **1.937** | **2.074** | **2.010** | **1.953** | **1.953** |
| Stddev | .0004 | .002 | .001 | .002 | .001 | .003 | .002 | .002 |
| %RSD | .1489 | .0964 | .0247 | .0829 | .0521 | .1278 | .1147 | .0963 |
| #1 | .2447 | 2.026 | 1.998 | 1.935 | 2.073 | 2.012 | 1.952 | 1.952 |
| #2 | .2454 | 2.029 | 1.999 | 1.937 | 2.075 | 2.010 | 1.956 | 1.952 |
| #3 | .2447 | 2.029 | 1.999 | 1.938 | 2.074 | 2.007 | 1.952 | 1.955 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.33** | **24.99** | **24.58** | **24.35** | **24.43** | **24.77** | **1.974** | **1.967** |
| Stddev | .26 | .23 | .22 | .25 | .20 | .25 | .003 | .001 |
| %RSD | 1.038 | .9341 | .8846 | 1.017 | .8076 | .9976 | .1465 | .0499 |
| #1 | 25.38 | 25.02 | 24.63 | 24.41 | 24.45 | 24.81 | 1.972 | 1.967 |
| #2 | 25.05 | 24.74 | 24.34 | 24.07 | 24.22 | 24.51 | 1.977 | 1.966 |
| #3 | 25.56 | 25.20 | 24.77 | 24.56 | 24.61 | 25.00 | 1.973 | 1.967 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1430** | **1.939** | **2.040** | **1.993** | **1.871** | **1.978** | **-.0161** | F **-.0338** |
| Stddev | .0020 | .002 | .019 | .002 | .001 | .002 | .0004 | .0005 |
| %RSD | 1.411 | .0821 | .9180 | .0957 | .0423 | .0944 | 2.232 | 1.524 |
| #1 | .1413 | 1.940 | 2.044 | 1.991 | 1.870 | 1.978 | -.0165 | -.0336 |
| #2 | .1425 | 1.941 | 2.020 | 1.995 | 1.872 | 1.980 | -.0159 | -.0333 |
| #3 | .1452 | 1.938 | 2.056 | 1.993 | 1.871 | 1.977 | -.0159 | -.0343 |



Zoom In Zoom Out

Sample Name: mp14842-b1 Acquired: 5/10/2019 1:54:33 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0531** | **1.935** |
| Stddev | .0001 | .004 |
| %RSD | .2103 | .1811 |
| #1 | -.0531 | 1.932 |
| #2 | -.0530 | 1.939 |
| #3 | -.0532 | 1.935 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85544.** | **8906.0** | **6006.5** | **12335.** |
| Stddev | 106. | 67.8 | 8.5 | 20. |
| %RSD | .12365 | .76185 | .14084 | .16598 |
| #1 | 85622. | 8878.6 | 6002.9 | 12321. |
| #2 | 85423. | 8983.3 | 6000.4 | 12326. |
| #3 | 85586. | 8856.1 | 6016.2 | 12359. |



Zoom In Zoom Out

Sample Name: mp14842-mb2 Acquired: 5/10/2019 1:59:33 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0001** | **-.0001** | **-.0001** | **.0001** | **.0011** | **.0003** | **.0004** | **-.0011** |
| Stddev | .0003 | .0000 | .0000 | .0001 | .0002 | .0003 | .0000 | .0003 | .0004 |
| %RSD | 104.2 | 47.75 | 78.41 | 235.5 | 294.8 | 29.87 | 16.60 | 68.62 | 36.44 |
| #1 | -.0001 | -.0001 | -.0000 | -.0002 | -.0001 | .0007 | .0003 | .0002 | -.0014 |
| #2 | .0004 | -.0001 | -.0001 | .0000 | -.0000 | .0014 | .0002 | .0003 | -.0006 |
| #3 | .0005 | -.0001 | -.0001 | .0000 | .0003 | .0012 | .0003 | .0007 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0080** | **.0007** | **.0023** | **.0004** | **-.0011** | **-.0012** | **.0119** | **.0243** |
| Stddev | .0001 | .0000 | .0008 | .0010 | .0002 | .0006 | .0006 | .0047 | .0006 |
| %RSD | 49.38 | .3996 | 125.0 | 41.38 | 49.34 | 50.96 | 52.00 | 39.55 | 2.411 |
| #1 | .0002 | .0080 | -.0003 | .0012 | .0004 | -.0009 | -.0006 | .0164 | .0247 |
| #2 | .0001 | .0080 | .0013 | .0030 | .0002 | -.0007 | -.0011 | .0071 | .0245 |
| #3 | .0003 | .0080 | .0009 | .0027 | .0006 | -.0018 | -.0018 | .0120 | .0236 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0061** | **-.0118** | **-.2364** | **-.0873** | **.0033** | **-.0000** | **.0055** | **-.0001** | **.0003** |
| Stddev | .0102 | .0241 | .0335 | .0031 | .0005 | .0001 | .0005 | .0004 | .0001 |
| %RSD | 168.1 | 203.6 | 14.17 | 3.509 | 15.96 | 835.5 | 9.035 | 304.0 | 28.32 |
| #1 | .0173 | -.0355 | -.2422 | -.0906 | .0028 | -.0001 | .0050 | .0003 | .0002 |
| #2 | -.0027 | .0127 | -.2004 | -.0868 | .0033 | .0000 | .0056 | -.0002 | .0003 |
| #3 | .0036 | -.0127 | -.2666 | -.0845 | .0039 | .0001 | .0060 | -.0005 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0007** | **.0003** | **.0064** | **.0029** | **-.0143** | **.0047** |
| Stddev | .0001 | .0003 | .0001 | .0011 | .0007 | .0005 | .0002 |
| %RSD | 203.1 | 42.48 | 36.24 | 17.28 | 24.44 | 3.760 | 3.848 |
| #1 | .0001 | .0006 | .0002 | .0051 | .0022 | -.0146 | .0045 |
| #2 | -.0001 | .0010 | .0004 | .0071 | .0036 | -.0137 | .0048 |
| #3 | .0001 | .0004 | .0003 | .0069 | .0030 | -.0146 | .0048 |

Zoom In Zoom Out

Sample Name: mp14842-mb2 Acquired: 5/10/2019 1:59:33 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85763.** | **8890.4** | **6119.4** | **12775.** |
| Stddev | 80. | 27.0 | 28.4 | 48. |
| %RSD | .09319 | .30349 | .46387 | .37698 |
| #1 | 85847. | 8863.5 | 6097.6 | 12741. |
| #2 | 85689. | 8917.5 | 6109.1 | 12753. |
| #3 | 85752. | 8890.2 | 6151.5 | 12830. |



Zoom In Zoom Out

Sample Name: mp14842-b2 Acquired: 5/10/2019 2:04:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **1.980** | **2.026** | **2.040** | **2.038** | **2.034** | **2.044** | **2.031** |
| Stddev | .001 | .002 | .002 | .003 | .003 | .001 | .007 | .003 |
| %RSD | .0673 | .1003 | .0918 | .1346 | .1466 | .0630 | .3634 | .1462 |
| #1 | 2.036 | 1.979 | 2.024 | 2.037 | 2.035 | 2.033 | 2.047 | 2.028 |
| #2 | 2.034 | 1.982 | 2.028 | 2.042 | 2.038 | 2.035 | 2.049 | 2.033 |
| #3 | 2.037 | 1.978 | 2.025 | 2.041 | 2.041 | 2.033 | 2.035 | 2.033 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2525** | **2.038** | **2.047** | **2.009** | **2.113** | **2.038** | **2.112** | **2.011** |
| Stddev | .0006 | .002 | .002 | .002 | .002 | .002 | .004 | .001 |
| %RSD | .2363 | .0819 | .1145 | .1218 | .1143 | .0968 | .2001 | .0589 |
| #1 | .2518 | 2.036 | 2.044 | 2.006 | 2.116 | 2.036 | 2.108 | 2.012 |
| #2 | .2527 | 2.039 | 2.047 | 2.009 | 2.113 | 2.038 | 2.116 | 2.010 |
| #3 | .2530 | 2.039 | 2.049 | 2.011 | 2.111 | 2.040 | 2.112 | 2.012 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.68** | **25.29** | **24.89** | **24.72** | **24.94** | **25.17** | **2.068** | **1.974** |
| Stddev | .01 | .01 | .00 | .03 | .02 | .02 | .002 | .002 |
| %RSD | .0269 | .0249 | .0100 | .1352 | .0629 | .0868 | .0794 | .0994 |
| #1 | 25.68 | 25.29 | 24.89 | 24.68 | 24.94 | 25.17 | 2.067 | 1.973 |
| #2 | 25.68 | 25.29 | 24.89 | 24.74 | 24.93 | 25.14 | 2.070 | 1.976 |
| #3 | 25.69 | 25.30 | 24.89 | 24.74 | 24.96 | 25.19 | 2.066 | 1.972 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0951** | **1.967** | **2.039** | **2.014** | **1.837** | **1.996** | **-.0091** | F **-.0306** |
| Stddev | .0021 | .005 | .001 | .002 | .006 | .000 | .0005 | .0008 |
| %RSD | 2.156 | .2446 | .0477 | .1085 | .3227 | .0100 | 5.573 | 2.580 |
| #1 | .0967 | 1.962 | 2.039 | 2.012 | 1.831 | 1.996 | -.0095 | -.0315 |
| #2 | .0960 | 1.969 | 2.038 | 2.014 | 1.841 | 1.996 | -.0091 | -.0305 |
| #3 | .0928 | 1.971 | 2.040 | 2.017 | 1.840 | 1.996 | -.0085 | -.0300 |



Zoom In Zoom Out

Sample Name: mp14842-b2 Acquired: 5/10/2019 2:04:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0538** | **2.012** |
| Stddev | .0013 | .002 |
| %RSD | 2.469 | .0907 |
| #1 | -.0525 | 2.012 |
| #2 | -.0537 | 2.013 |
| #3 | -.0552 | 2.010 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83576.** | **8727.6** | **5942.5** | **12214.** |
| Stddev | 30. | 9.7 | 2.5 | 9. |
| %RSD | .03622 | .11147 | .04256 | .07126 |
| #1 | 83543. | 8736.5 | 5942.6 | 12220. |
| #2 | 83582. | 8729.2 | 5945.0 | 12217. |
| #3 | 83602. | 8717.2 | 5940.0 | 12204. |



Zoom In Zoom Out

Sample Name: mp14842-s1 Acquired: 5/10/2019 2:09:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.416** | **2.006** | **2.024** | **2.051** | **2.014** | **2.108** | **2.015** | **2.158** |
| Stddev | .003 | .001 | .018 | .017 | .001 | .002 | .011 | .019 |
| %RSD | .1058 | .0513 | .8924 | .8421 | .0266 | .0759 | .5370 | .8684 |
| #1 | 2.418 | 2.006 | 2.037 | 2.067 | 2.014 | 2.106 | 2.006 | 2.175 |
| #2 | 2.413 | 2.005 | 2.003 | 2.033 | 2.015 | 2.110 | 2.012 | 2.138 |
| #3 | 2.417 | 2.007 | 2.031 | 2.054 | 2.014 | 2.108 | 2.027 | 2.162 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2549** | **2.057** | **1.984** | **1.994** | **2.056** | **2.019** | **2.014** | **1.994** |
| Stddev | .0004 | .001 | .018 | .017 | .017 | .017 | .020 | .018 |
| %RSD | .1698 | .0604 | .9293 | .8320 | .8117 | .8196 | .9927 | .9254 |
| #1 | .2554 | 2.056 | 2.000 | 2.006 | 2.069 | 2.032 | 2.032 | 2.009 |
| #2 | .2545 | 2.056 | 1.964 | 1.975 | 2.037 | 2.001 | 1.992 | 1.973 |
| #3 | .2549 | 2.058 | 1.988 | 2.000 | 2.062 | 2.025 | 2.019 | 2.000 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **28.75** | **188.6** | **25.13** | **23.71** | **130.5** | F **256.9** | **2.023** | **2.001** |
| Stddev | .02 | .3 | .01 | .07 | .2 | 1.2 | .020 | .018 |
| %RSD | .0791 | .1423 | .0485 | .2936 | .1899 | .4556 | .9663 | .9181 |
| #1 | 28.74 | 188.4 | 25.14 | 23.66 | 130.8 | 256.8 | 2.042 | 2.014 |
| #2 | 28.73 | 188.6 | 25.12 | 23.69 | 130.3 | 258.1 | 2.003 | 1.980 |
| #3 | 28.78 | 188.9 | 25.12 | 23.79 | 130.5 | 255.8 | 2.026 | 2.009 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.786** | **1.909** | **5.921** | **2.019** | **1.940** | **2.002** | **5.089** | F **-.0336** |
| Stddev | .015 | .018 | .090 | .000 | .019 | .000 | .053 | .0017 |
| %RSD | .8282 | .9322 | 1.514 | .0124 | .9664 | .0124 | 1.034 | 5.168 |
| #1 | 1.798 | 1.925 | 6.013 | 2.019 | 1.957 | 2.002 | 5.138 | -.0349 |
| #2 | 1.770 | 1.890 | 5.833 | 2.019 | 1.920 | 2.002 | 5.034 | -.0317 |
| #3 | 1.791 | 1.912 | 5.918 | 2.019 | 1.942 | 2.003 | 5.096 | -.0344 |

Zoom In Zoom Out

Sample Name: mp14842-s1 Acquired: 5/10/2019 2:09:41 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0412** | **2.044** |
| Stddev | .0021 | .023 |
| %RSD | 5.111 | 1.142 |
| #1 | -.0434 | 2.065 |
| #2 | -.0411 | 2.019 |
| #3 | -.0392 | 2.049 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81819.** | **8666.5** | **5758.3** | **11527.** |
| Stddev | 169. | 47.1 | 49.0 | 89. |
| %RSD | .20595 | .54389 | .85060 | .77525 |
| #1 | 81875. | 8709.0 | 5719.1 | 11447. |
| #2 | 81952. | 8674.6 | 5813.2 | 11624. |
| #3 | 81630. | 8615.8 | 5742.6 | 11510. |



Zoom In Zoom Out

Sample Name: mp14842-s2 Acquired: 5/10/2019 2:14:56 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.421** | **2.017** | **2.064** | **2.089** | **2.027** | **2.122** | **2.030** | **2.197** |
| Stddev | .017 | .017 | .001 | .003 | .015 | .015 | .024 | .003 |
| %RSD | .6812 | .8404 | .0346 | .1449 | .7405 | .7255 | 1.179 | .1278 |
| #1 | 2.426 | 2.024 | 2.064 | 2.091 | 2.037 | 2.132 | 2.051 | 2.197 |
| #2 | 2.435 | 2.029 | 2.063 | 2.091 | 2.033 | 2.130 | 2.035 | 2.200 |
| #3 | 2.403 | 1.997 | 2.064 | 2.086 | 2.010 | 2.104 | 2.004 | 2.194 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2578** | **2.068** | **2.022** | **2.033** | **2.092** | **2.055** | **2.056** | **2.034** |
| Stddev | .0023 | .017 | .002 | .000 | .005 | .002 | .005 | .003 |
| %RSD | .8771 | .8033 | .1027 | .0190 | .2241 | .0731 | .2215 | .1364 |
| #1 | .2597 | 2.080 | 2.019 | 2.033 | 2.096 | 2.056 | 2.052 | 2.031 |
| #2 | .2586 | 2.075 | 2.023 | 2.033 | 2.087 | 2.056 | 2.055 | 2.033 |
| #3 | .2553 | 2.049 | 2.023 | 2.033 | 2.092 | 2.054 | 2.061 | 2.037 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **28.95** | **189.1** | **25.24** | **24.02** | **128.2** | F **250.4** | **2.061** | **2.036** |
| Stddev | .23 | 1.5 | .29 | .17 | 1.1 | 3.6 | .002 | .001 |
| %RSD | .8109 | .7807 | 1.133 | .6867 | .8504 | 1.434 | .0991 | .0464 |
| #1 | 29.06 | 189.6 | 25.39 | 24.15 | 128.8 | 253.4 | 2.060 | 2.035 |
| #2 | 29.11 | 190.2 | 25.42 | 24.07 | 128.9 | 251.3 | 2.059 | 2.036 |
| #3 | 28.68 | 187.4 | 24.91 | 23.84 | 127.0 | 246.4 | 2.063 | 2.036 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.835** | **1.943** | **5.865** | **2.029** | **1.982** | **2.012** | **5.165** | F **-.0370** |
| Stddev | .002 | .005 | .033 | .015 | .001 | .014 | .008 | .0013 |
| %RSD | .1046 | .2468 | .5591 | .7397 | .0420 | .6771 | .1553 | 3.595 |
| #1 | 1.834 | 1.940 | 5.893 | 2.041 | 1.982 | 2.022 | 5.172 | -.0356 |
| #2 | 1.834 | 1.941 | 5.874 | 2.035 | 1.981 | 2.019 | 5.167 | -.0372 |
| #3 | 1.837 | 1.949 | 5.829 | 2.012 | 1.983 | 1.997 | 5.157 | -.0382 |



Zoom In Zoom Out

Sample Name: mp14842-s2 Acquired: 5/10/2019 2:14:56 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0382** | **2.081** |
| Stddev | .0005 | .001 |
| %RSD | 1.332 | .0685 |
| #1 | -.0379 | 2.080 |
| #2 | -.0388 | 2.082 |
| #3 | -.0380 | 2.080 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81855.** | **8761.8** | **5707.9** | **11446.** |
| Stddev | 472. | 53.0 | 17.4 | 26. |
| %RSD | .57617 | .60533 | .30521 | .22335 |
| #1 | 81483. | 8738.6 | 5727.5 | 11475. |
| #2 | 81698. | 8724.4 | 5701.9 | 11426. |
| #3 | 82386. | 8822.5 | 5694.2 | 11437. |



Zoom In Zoom Out

Sample Name: jc87136-10 Acquired: 5/10/2019 2:20:11 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3536** | **-.0001** | **.0004** | **.0053** | **.0020** | **.0092** | **.0022** | **.1308** | **-.0008** |
| Stddev | .0006 | .0002 | .0001 | .0004 | .0002 | .0001 | .0000 | .0016 | .0002 |
| %RSD | .1712 | 193.0 | 20.39 | 7.933 | 7.468 | 1.455 | .5882 | 1.198 | 23.01 |
| #1 | .3540 | -.0001 | .0004 | .0057 | .0022 | .0091 | .0022 | .1326 | -.0008 |
| #2 | .3540 | .0001 | .0003 | .0049 | .0019 | .0094 | .0022 | .1297 | -.0006 |
| #3 | .3529 | -.0002 | .0005 | .0052 | .0021 | .0092 | .0022 | .1302 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0049** | **.0085** | **.0033** | **.0021** | **.0012** | **.0011** | **.0008** | **3.113** | **163.2** |
| Stddev | .0001 | .0001 | .0007 | .0020 | .0007 | .0006 | .0005 | .015 | .2 |
| %RSD | 2.724 | 1.321 | 20.93 | 93.55 | 53.88 | 48.48 | 61.86 | .4750 | .1185 |
| #1 | .0047 | .0087 | .0041 | .0017 | .0019 | .0006 | .0003 | 3.115 | 163.4 |
| #2 | .0049 | .0084 | .0029 | .0042 | .0006 | .0017 | .0009 | 3.126 | 163.3 |
| #3 | .0050 | .0085 | .0029 | .0004 | .0011 | .0011 | .0013 | 3.097 | 163.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6540** | **.0714** | **103.3** | F **225.1** | **.0122** | **.0303** | **1.816** | **-.0002** | **3.873** |
| Stddev | .0055 | .0420 | .1 | 2.7 | .0005 | .0003 | .017 | .0007 | .004 |
| %RSD | .8349 | 58.84 | .0500 | 1.193 | 3.972 | 1.036 | .9172 | 383.9 | .0955 |
| #1 | .6510 | .0747 | 103.4 | 227.2 | .0125 | .0306 | 1.835 | .0004 | 3.876 |
| #2 | .6508 | .0279 | 103.3 | 222.1 | .0123 | .0301 | 1.810 | -.0010 | 3.874 |
| #3 | .6603 | .1118 | 103.3 | 225.9 | .0116 | .0301 | 1.804 | .0000 | 3.869 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0046** | **.0056** | **-.0005** | **5.077** | **.0007** | **-.0008** | **.0291** |
| Stddev | .0003 | .0008 | .0001 | .051 | .0006 | .0013 | .0007 |
| %RSD | 6.363 | 13.83 | 27.45 | 1.010 | 84.02 | 162.2 | 2.526 |
| #1 | .0048 | .0062 | -.0007 | 5.136 | .0008 | -.0009 | .0299 |
| #2 | .0043 | .0059 | -.0004 | 5.050 | .0012 | .0005 | .0286 |
| #3 | .0046 | .0047 | -.0005 | 5.045 | .0001 | -.0020 | .0287 |

Zoom In Zoom Out

Sample Name: jc87136-10 Acquired: 5/10/2019 2:20:11 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82501.** | **8661.0** | **5783.0** | **11515.** |
| Stddev | 131. | 34.7 | 45.4 | 77. |
| %RSD | .15821 | .40111 | .78499 | .67084 |
| #1 | 82361. | 8686.0 | 5732.5 | 11427. |
| #2 | 82619. | 8675.7 | 5796.3 | 11548. |
| #3 | 82522. | 8621.3 | 5820.3 | 11571. |



Zoom In Zoom Out

Sample Name: mp14842-sd1 Acquired: 5/10/2019 2:25:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3611** | **-.0005** | **.0005** | **.0035** | **.0041** | **.0088** | **.0022** | **.1315** | **-.0059** |
| Stddev | .0007 | .0006 | .0004 | .0005 | .0018 | .0006 | .0002 | .0010 | .0017 |
| %RSD | .1986 | 127.9 | 83.57 | 12.85 | 43.61 | 6.474 | 6.937 | .7705 | 29.36 |
| #1 | .3619 | -.0006 | .0010 | .0037 | .0049 | .0092 | .0022 | .1317 | -.0046 |
| #2 | .3607 | -.0011 | .0002 | .0039 | .0021 | .0089 | .0023 | .1324 | -.0051 |
| #3 | .3606 | .0002 | .0003 | .0030 | .0054 | .0081 | .0020 | .1304 | -.0078 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0066** | **.0091** | **.0015** | **.0008** | **.0058** | **-.0005** | **.0005** | **3.192** | **167.9** |
| Stddev | .0013 | .0004 | .0011 | .0072 | .0045 | .0023 | .0033 | .051 | .1 |
| %RSD | 20.56 | 3.956 | 69.61 | 886.6 | 77.05 | 450.1 | 625.1 | 1.600 | .0735 |
| #1 | .0081 | .0088 | .0004 | .0080 | .0103 | -.0012 | -.0029 | 3.226 | 168.0 |
| #2 | .0060 | .0090 | .0026 | -.0064 | .0058 | .0021 | .0038 | 3.133 | 168.0 |
| #3 | .0056 | .0095 | .0016 | .0008 | .0013 | -.0024 | .0007 | 3.216 | 167.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6711** | **.0451** | **103.9** | **244.3** | **.0242** | **.0316** | **1.823** | **-.0012** | **3.986** |
| Stddev | .0173 | .0509 | .2 | .2 | .0032 | .0005 | .004 | .0021 | .003 |
| %RSD | 2.575 | 112.9 | .2322 | .0702 | 13.14 | 1.481 | .2013 | 173.4 | .0718 |
| #1 | .6608 | -.0111 | 103.9 | 244.2 | .0277 | .0311 | 1.826 | .0012 | 3.990 |
| #2 | .6911 | .0581 | 103.6 | 244.2 | .0213 | .0317 | 1.823 | -.0029 | 3.984 |
| #3 | .6615 | .0882 | 104.1 | 244.5 | .0237 | .0320 | 1.819 | -.0020 | 3.985 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0056** | **.0110** | **.0001** | **4.992** | **.0044** | **-.0547** | **.0442** |
| Stddev | .0009 | .0010 | .0006 | .031 | .0021 | .0031 | .0011 |
| %RSD | 17.00 | 9.096 | 477.4 | .6180 | 48.01 | 5.653 | 2.550 |
| #1 | .0051 | .0100 | -.0004 | 5.022 | .0057 | -.0528 | .0455 |
| #2 | .0067 | .0120 | .0000 | 4.994 | .0056 | -.0530 | .0439 |
| #3 | .0050 | .0110 | .0007 | 4.960 | .0020 | -.0582 | .0433 |



Zoom In Zoom Out

Sample Name: mp14842-sd1 Acquired: 5/10/2019 2:25:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84166.** | **8732.1** | **5997.0** | **12214.** |
| Stddev | 123. | 18.8 | 21.3 | 45. |
| %RSD | .14640 | .21534 | .35587 | .36497 |
| #1 | 84200. | 8732.0 | 5975.7 | 12172. |
| #2 | 84269. | 8751.0 | 5996.8 | 12208. |
| #3 | 84029. | 8713.4 | 6018.4 | 12261. |



Zoom In Zoom Out

Sample Name: jc87136-7 Acquired: 5/10/2019 2:30:29 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1610** | **-.0002** | **.0001** | **.0008** | **.0019** | **.0018** | **.7078** | **.0570** | **-.0011** |
| Stddev | .0054 | .0001 | .0001 | .0002 | .0002 | .0002 | .0023 | .0006 | .0002 |
| %RSD | 3.366 | 35.97 | 81.99 | 23.70 | 10.32 | 9.222 | .3218 | .9874 | 15.94 |
| #1 | .1548 | -.0002 | .0000 | .0010 | .0021 | .0016 | .7076 | .0576 | -.0013 |
| #2 | .1646 | -.0003 | .0001 | .0006 | .0017 | .0019 | .7056 | .0567 | -.0009 |
| #3 | .1638 | -.0002 | .0002 | .0009 | .0019 | .0019 | .7101 | .0567 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0385** | **.0058** | **.0009** | **.0001** | **.0001** | **.0005** | **.0237** | **82.74** |
| Stddev | .0002 | .0004 | .0005 | .0017 | .0002 | .0018 | .0010 | .0129 | 2.79 |
| %RSD | 12.29 | 1.055 | 8.809 | 184.4 | 180.9 | 2692. | 187.7 | 54.49 | 3.366 |
| #1 | .0019 | .0389 | .0063 | -.0009 | .0004 | .0021 | .0007 | .0373 | 79.54 |
| #2 | .0015 | .0386 | .0056 | .0024 | .0001 | -.0008 | -.0005 | .0222 | 84.58 |
| #3 | .0017 | .0381 | .0053 | .0012 | -.0001 | -.0011 | .0015 | .0116 | 84.12 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **21.51** | **27.87** | **15.47** | **100.5** | **.1911** | **.0029** | **14.22** | **.0003** | **.2104** |
| Stddev | .71 | .92 | .48 | 3.4 | .0011 | .0001 | .09 | .0004 | .0077 |
| %RSD | 3.288 | 3.306 | 3.077 | 3.350 | .5508 | 4.343 | .6074 | 111.0 | 3.671 |
| #1 | 20.70 | 26.81 | 14.92 | 96.59 | .1919 | .0030 | 14.30 | .0002 | .2016 |
| #2 | 22.00 | 28.50 | 15.77 | 102.7 | .1914 | .0030 | 14.21 | .0000 | .2157 |
| #3 | 21.82 | 28.30 | 15.72 | 102.1 | .1899 | .0028 | 14.13 | .0007 | .2140 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0039** | **.0060** | **-.0083** | **3.624** | **-.0006** | **-.0092** | **.7370** |
| Stddev | .0001 | .0014 | .0002 | .022 | .0015 | .0007 | .0062 |
| %RSD | 3.591 | 23.82 | 2.749 | .6011 | 235.3 | 7.368 | .8424 |
| #1 | .0037 | .0071 | -.0085 | 3.645 | -.0016 | -.0086 | .7440 |
| #2 | .0040 | .0044 | -.0081 | 3.627 | .0011 | -.0099 | .7352 |
| #3 | .0039 | .0065 | -.0084 | 3.601 | -.0014 | -.0091 | .7320 |

Zoom In Zoom Out

Sample Name: jc87136-7 Acquired: 5/10/2019 2:30:29 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83631.** | **8852.8** | **5874.6** | **11927.** |
| Stddev | 380. | 211.6 | 24.3 | 36. |
| %RSD | .45475 | 2.3899 | .41413 | .29933 |
| #1 | 83383. | 9097.0 | 5851.3 | 11898. |
| #2 | 84069. | 8723.7 | 5872.7 | 11917. |
| #3 | 83441. | 8737.7 | 5899.9 | 11967. |



Zoom In Zoom Out

Sample Name: jc87136-8 Acquired: 5/10/2019 2:35:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0330** | **-.0001** | **.0003** | **.0008** | **.0063** | **.0064** | **.2880** | **.0405** | **-.0010** |
| Stddev | .0002 | .0000 | .0002 | .0000 | .0001 | .0002 | .0002 | .0001 | .0001 |
| %RSD | .6659 | 51.27 | 70.62 | 5.893 | 1.033 | 3.489 | .0653 | .2850 | 11.10 |
| #1 | .0331 | -.0001 | .0001 | .0008 | .0063 | .0062 | .2880 | .0406 | -.0011 |
| #2 | .0327 | -.0001 | .0003 | .0008 | .0063 | .0067 | .2878 | .0405 | -.0009 |
| #3 | .0331 | -.0001 | .0004 | .0009 | .0064 | .0064 | .2882 | .0404 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0338** | **.0208** | **.0128** | **.0000** | **.0021** | **.0008** | **.0024** | **1.554** | **29.90** |
| Stddev | .0002 | .0000 | .0006 | .0019 | .0005 | .0010 | .0007 | .011 | .02 |
| %RSD | .6450 | .2106 | 4.713 | 6674. | 21.84 | 112.7 | 29.37 | .7141 | .0774 |
| #1 | .0339 | .0208 | .0123 | .0017 | .0021 | .0014 | .0024 | 1.542 | 29.89 |
| #2 | .0339 | .0208 | .0135 | -.0020 | .0025 | -.0003 | .0031 | 1.564 | 29.88 |
| #3 | .0335 | .0207 | .0127 | .0004 | .0016 | .0014 | .0017 | 1.557 | 29.92 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.459** | **5.597** | **83.82** | **121.8** | **.1012** | **.0099** | **13.08** | **.0001** | **.4465** |
| Stddev | .010 | .012 | .08 | .1 | .0009 | .0002 | .02 | .0002 | .0011 |
| %RSD | .2284 | .2169 | .1000 | .1099 | .8424 | 2.219 | .1314 | 332.9 | .2402 |
| #1 | 4.449 | 5.611 | 83.81 | 121.7 | .1019 | .0100 | 13.08 | -.0000 | .4452 |
| #2 | 4.459 | 5.593 | 83.91 | 121.9 | .1003 | .0096 | 13.10 | .0003 | .4469 |
| #3 | 4.469 | 5.588 | 83.74 | 121.9 | .1016 | .0100 | 13.06 | -.0001 | .4473 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0307** | **.0049** | **-.0075** | **4.810** | **-.0003** | **-.0079** | **1.895** |
| Stddev | .0004 | .0003 | .0002 | .008 | .0003 | .0014 | .002 |
| %RSD | 1.199 | 6.902 | 2.080 | .1576 | 81.59 | 17.14 | .1139 |
| #1 | .0302 | .0052 | -.0074 | 4.813 | -.0007 | -.0080 | 1.893 |
| #2 | .0309 | .0049 | -.0075 | 4.816 | -.0001 | -.0093 | 1.897 |
| #3 | .0309 | .0045 | -.0077 | 4.802 | -.0002 | -.0065 | 1.894 |



Zoom In Zoom Out

Sample Name: jc87136-8 Acquired: 5/10/2019 2:35:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83501.** | **8753.7** | **5910.3** | **11942.** |
| Stddev | 94. | 13.5 | 7.8 | 13. |
| %RSD | .11314 | .15393 | .13114 | .10840 |
| #1 | 83610. | 8743.0 | 5904.2 | 11930. |
| #2 | 83449. | 8749.3 | 5907.6 | 11940. |
| #3 | 83445. | 8768.8 | 5919.0 | 11956. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 2:40:32 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.002** | **1.929** | **1.961** | **2.004** | **2.005** | **2.023** | **2.004** | **1.981** | **.2457** |
| Stddev | .007 | .006 | .003 | .001 | .010 | .007 | .025 | .000 | .0015 |
| %RSD | .3621 | .2950 | .1517 | .0566 | .4815 | .3542 | 1.270 | .0215 | .5926 |
| #1 | 1.995 | 1.925 | 1.964 | 2.004 | 1.999 | 2.018 | 1.978 | 1.982 | .2443 |
| #2 | 2.009 | 1.935 | 1.961 | 2.006 | 2.000 | 2.020 | 2.004 | 1.981 | .2456 |
| #3 | 2.000 | 1.926 | 1.958 | 2.004 | 2.016 | 2.031 | 2.029 | 1.981 | .2472 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.015** | **1.977** | **1.923** | **2.046** | **1.988** | **1.951** | **1.929** | **39.71** | **39.05** |
| Stddev | .009 | .003 | .004 | .006 | .001 | .006 | .004 | .13 | .10 |
| %RSD | .4392 | .1523 | .2015 | .2974 | .0507 | .2865 | .1891 | .3180 | .2669 |
| #1 | 2.009 | 1.981 | 1.926 | 2.042 | 1.989 | 1.958 | 1.932 | 39.59 | 38.98 |
| #2 | 2.010 | 1.976 | 1.922 | 2.053 | 1.987 | 1.947 | 1.930 | 39.84 | 39.17 |
| #3 | 2.025 | 1.975 | 1.919 | 2.043 | 1.988 | 1.950 | 1.925 | 39.70 | 39.02 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.13** | **38.10** | **39.03** | **38.47** | **1.986** | **1.940** | **4.771** | **1.907** | **2.009** |
| Stddev | .07 | .17 | .18 | .13 | .003 | .003 | .008 | .003 | .007 |
| %RSD | .1947 | .4452 | .4559 | .3506 | .1565 | .1336 | .1671 | .1768 | .3352 |
| #1 | 38.09 | 37.97 | 38.93 | 38.37 | 1.988 | 1.942 | 4.779 | 1.910 | 2.003 |
| #2 | 38.21 | 38.29 | 39.24 | 38.62 | 1.987 | 1.941 | 4.771 | 1.907 | 2.017 |
| #3 | 38.08 | 38.04 | 38.93 | 38.40 | 1.983 | 1.937 | 4.763 | 1.904 | 2.008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 2:40:32 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.978** | **1.923** | **1.958** | **1.960** | **2.012** | **1.907** | **1.921** |
| Stddev | .007 | .004 | .008 | .002 | .004 | .004 | .004 |
| %RSD | .3684 | .1868 | .4047 | .1018 | .1991 | .2281 | .2012 |
| #1 | 1.973 | 1.926 | 1.953 | 1.960 | 2.016 | 1.904 | 1.926 |
| #2 | 1.975 | 1.925 | 1.955 | 1.961 | 2.011 | 1.912 | 1.921 |
| #3 | 1.986 | 1.919 | 1.967 | 1.957 | 2.009 | 1.906 | 1.918 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83013.** | **8666.1** | **5925.8** | **12094.** |
| Stddev | 426. | 49.8 | 14.1 | 17. |
| %RSD | .51326 | .57456 | .23796 | .13941 |
| #1 | 83274. | 8688.2 | 5912.1 | 12083. |
| #2 | 83242. | 8609.0 | 5925.1 | 12086. |
| #3 | 82521. | 8701.0 | 5940.3 | 12113. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 2:45:33 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0001** | **-.0000** | **-.0001** | **.0001** | **-.0003** | **.0000** | **.0001** |
| Stddev | .0003 | .0001 | .0000 | .0001 | .0002 | .0001 | .0000 | .0003 |
| %RSD | 659.1 | 148.2 | 143.1 | 47.97 | 246.1 | 21.35 | 102.5 | 588.5 |
| #1 | -.0002 | .0000 | .0000 | -.0002 | .0000 | -.0003 | .0001 | .0002 |
| #2 | .0003 | -.0001 | -.0000 | -.0001 | .0003 | -.0003 | .0000 | .0002 |
| #3 | -.0000 | -.0000 | -.0001 | -.0001 | -.0001 | -.0004 | -.0000 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0012** | **.0003** | **.0001** | **.0004** | **.0017** | **-.0001** | **.0006** | **.0004** |
| Stddev | .0004 | .0001 | .0000 | .0014 | .0009 | .0010 | .0014 | .0009 |
| %RSD | 32.94 | 30.02 | 38.57 | 321.3 | 56.92 | 1255. | 242.8 | 234.5 |
| #1 | -.0016 | .0003 | .0001 | -.0011 | .0028 | -.0011 | .0003 | .0014 |
| #2 | -.0011 | .0003 | .0001 | .0007 | .0011 | .0000 | .0021 | -.0002 |
| #3 | -.0008 | .0002 | .0001 | .0016 | .0011 | .0009 | -.0007 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0017** | **-.0014** | **.0014** | **.0181** | **-.1306** | **-.0443** | **.0030** | **.0003** |
| Stddev | .0069 | .0012 | .0021 | .0151 | .0301 | .0112 | .0004 | .0001 |
| %RSD | 399.8 | 86.04 | 153.3 | 83.91 | 23.07 | 25.29 | 14.56 | 34.82 |
| #1 | .0023 | -.0003 | .0026 | .0264 | -.1007 | -.0313 | .0034 | .0004 |
| #2 | -.0097 | -.0027 | .0026 | .0006 | -.1610 | -.0503 | .0025 | .0002 |
| #3 | .0022 | -.0012 | -.0011 | .0272 | -.1301 | -.0511 | .0030 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 2:45:33 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0003** | **.0002** | **-.0000** | **.0013** | **.0001** | **.0001** | **.0014** |
| Stddev | .0004 | .0006 | .0000 | .0001 | .0004 | .0002 | .0007 | .0016 |
| %RSD | 71.63 | 217.9 | 25.73 | 723.4 | 31.37 | 164.7 | 578.6 | 113.1 |
| #1 | .0004 | .0009 | .0002 | .0001 | .0015 | .0004 | -.0000 | .0009 |
| #2 | .0002 | -.0003 | .0002 | -.0001 | .0008 | .0001 | .0009 | .0001 |
| #3 | .0009 | .0002 | .0001 | -.0001 | .0016 | -.0001 | -.0005 | .0031 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0140** | **.0035** |
| Stddev | .0019 | .0005 |
| %RSD | 13.75 | 14.27 |
| #1 | -.0137 | .0035 |
| #2 | -.0161 | .0041 |
| #3 | -.0123 | .0030 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85583.** | **8761.8** | **6123.0** | **12725.** |
| Stddev | 450. | 25.7 | 15.2 | 27. |
| %RSD | .52532 | .29304 | .24868 | .20838 |
| #1 | 85838. | 8783.8 | 6107.2 | 12701. |
| #2 | 85064. | 8768.0 | 6137.6 | 12753. |
| #3 | 85846. | 8733.6 | 6124.2 | 12722. |



Zoom In Zoom Out

Sample Name: jc87136-9 Acquired: 5/10/2019 2:50:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2703** | **-.0001** | **.0001** | **-.0001** | **.0017** | **.0008** | **.2904** | **.1054** | **-.0010** |
| Stddev | .0004 | .0000 | .0001 | .0002 | .0002 | .0003 | .0015 | .0001 | .0003 |
| %RSD | .1587 | 24.96 | 70.16 | 157.9 | 13.23 | 42.57 | .5243 | .1151 | 34.24 |
| #1 | .2707 | -.0001 | .0002 | .0001 | .0018 | .0009 | .2915 | .1055 | -.0006 |
| #2 | .2699 | -.0001 | .0000 | -.0001 | .0015 | .0011 | .2910 | .1055 | -.0012 |
| #3 | .2702 | -.0001 | .0002 | -.0003 | .0019 | .0004 | .2886 | .1053 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0179** | **.0037** | **.0007** | **-.0006** | **-.0003** | **.0008** | **.0224** | **91.58** |
| Stddev | .0001 | .0001 | .0001 | .0011 | .0001 | .0018 | .0008 | .0137 | .24 |
| %RSD | 10.05 | .3771 | 3.860 | 161.8 | 9.333 | 511.9 | 98.52 | 60.97 | .2584 |
| #1 | .0012 | .0180 | .0038 | -.0005 | -.0006 | .0005 | .0008 | .0372 | 91.85 |
| #2 | .0011 | .0179 | .0035 | .0009 | -.0007 | .0008 | .0017 | .0102 | 91.42 |
| #3 | .0010 | .0178 | .0037 | .0017 | -.0006 | -.0024 | .0000 | .0198 | 91.46 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.226** | **43.01** | **8.758** | **114.7** | **.2637** | **.0034** | **11.18** | **-.0011** | **.2514** |
| Stddev | .021 | .19 | .023 | .3 | .0010 | .0002 | .05 | .0006 | .0002 |
| %RSD | .5028 | .4408 | .2629 | .2234 | .3738 | 4.661 | .4077 | 52.19 | .0909 |
| #1 | 4.249 | 43.22 | 8.781 | 115.0 | .2642 | .0035 | 11.20 | -.0007 | .2517 |
| #2 | 4.208 | 42.88 | 8.735 | 114.5 | .2644 | .0035 | 11.20 | -.0009 | .2513 |
| #3 | 4.220 | 42.92 | 8.759 | 114.6 | .2626 | .0032 | 11.12 | -.0018 | .2513 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0031** | **.0020** | **-.0066** | **1.821** | **-.0007** | **-.0090** | **.7782** |
| Stddev | .0002 | .0006 | .0002 | .007 | .0012 | .0018 | .0013 |
| %RSD | 7.094 | 32.49 | 2.593 | .3874 | 182.3 | 19.91 | .1617 |
| #1 | .0029 | .0013 | -.0066 | 1.824 | .0004 | -.0089 | .7796 |
| #2 | .0030 | .0026 | -.0068 | 1.825 | -.0020 | -.0108 | .7780 |
| #3 | .0033 | .0021 | -.0064 | 1.813 | -.0004 | -.0072 | .7771 |

Zoom In Zoom Out

Sample Name: jc87136-9 Acquired: 5/10/2019 2:50:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82808.** | **8627.9** | **5830.3** | **11819.** |
| Stddev | 334. | 5.7 | 14.1 | 29. |
| %RSD | .40357 | .06602 | .24262 | .24304 |
| #1 | 82572. | 8621.5 | 5819.6 | 11788. |
| #2 | 82661. | 8632.3 | 5825.0 | 11823. |
| #3 | 83190. | 8629.9 | 5846.3 | 11845. |



Zoom In Zoom Out

Sample Name: jc87136-11 Acquired: 5/10/2019 2:55:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **-.0001** | **.0000** | **-.0002** | **.0005** | **-.0000** | **.0001** | **.0001** | **-.0010** |
| Stddev | .0003 | .0001 | .0002 | .0003 | .0003 | .0003 | .0000 | .0001 | .0003 |
| %RSD | 34.87 | 84.47 | 6053. | 121.1 | 47.26 | 1075. | 7.951 | 88.79 | 32.88 |
| #1 | .0010 | -.0001 | .0000 | -.0003 | .0003 | -.0001 | .0001 | .0001 | -.0009 |
| #2 | .0011 | -.0002 | -.0002 | .0001 | .0008 | .0003 | .0002 | .0003 | -.0008 |
| #3 | .0005 | -.0000 | .0002 | -.0005 | .0005 | -.0003 | .0001 | .0001 | -.0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0012** | **-.0005** | **-.0007** | **.0005** | **.0006** | **.0009** | **.0269** | **.0070** |
| Stddev | .0003 | .0001 | .0005 | .0016 | .0005 | .0019 | .0005 | .0130 | .0037 |
| %RSD | 151.5 | 5.908 | 102.5 | 223.7 | 112.4 | 295.6 | 53.66 | 48.24 | 52.62 |
| #1 | .0004 | .0013 | .0000 | -.0015 | .0002 | .0003 | .0004 | .0317 | .0093 |
| #2 | -.0001 | .0012 | -.0004 | .0012 | .0010 | .0027 | .0009 | .0122 | .0090 |
| #3 | .0003 | .0011 | -.0010 | -.0019 | .0001 | -.0010 | .0013 | .0369 | .0028 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **.0057** | **-.1370** | **-.0231** | **.0033** | **.0003** | **.0823** | **.0000** | **.0010** |
| Stddev | .0048 | .0146 | .0050 | .0048 | .0002 | .0001 | .0014 | .0005 | .0001 |
| %RSD | 502.3 | 257.5 | 3.654 | 20.95 | 6.970 | 53.44 | 1.646 | 1965. | 14.48 |
| #1 | -.0064 | .0096 | -.1348 | -.0177 | .0032 | .0004 | .0818 | -.0000 | .0010 |
| #2 | .0006 | .0179 | -.1334 | -.0270 | .0032 | .0003 | .0812 | .0006 | .0008 |
| #3 | .0029 | -.0105 | -.1427 | -.0246 | .0036 | .0001 | .0838 | -.0005 | .0011 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0020** | **.0002** | **.0339** | **.0008** | **-.0153** | **.0049** |
| Stddev | .0004 | .0008 | .0001 | .0016 | .0005 | .0013 | .0002 |
| %RSD | 172.2 | 40.13 | 31.91 | 4.632 | 61.38 | 8.665 | 3.475 |
| #1 | .0000 | .0011 | .0003 | .0357 | .0003 | -.0147 | .0049 |
| #2 | -.0000 | .0025 | .0002 | .0335 | .0013 | -.0168 | .0050 |
| #3 | .0007 | .0024 | .0002 | .0327 | .0008 | -.0143 | .0047 |



Zoom In Zoom Out

Sample Name: jc87136-11 Acquired: 5/10/2019 2:55:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86466.** | **8901.1** | **6113.9** | **12701.** |
| Stddev | 271. | 143.7 | 34.2 | 57. |
| %RSD | .31310 | 1.6144 | .55961 | .45259 |
| #1 | 86190. | 8849.1 | 6122.1 | 12712. |
| #2 | 86475. | 8790.6 | 6143.2 | 12752. |
| #3 | 86731. | 9063.5 | 6076.3 | 12639. |



Zoom In Zoom Out

Sample Name: jc87136-13 Acquired: 5/10/2019 3:00:54 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0406** | **-.0002** | **.0001** | **-.0002** | **.0007** | **.0015** | **.0004** | **.0566** | **-.0008** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0003 | .0000 | .0000 | .0000 | .0003 |
| %RSD | 1.036 | 25.28 | 138.9 | 121.4 | 37.93 | 2.456 | 7.557 | .0728 | 34.43 |
| #1 | .0405 | -.0003 | .0001 | -.0001 | .0007 | .0015 | .0004 | .0565 | -.0006 |
| #2 | .0410 | -.0002 | -.0000 | -.0005 | .0004 | .0015 | .0004 | .0566 | -.0011 |
| #3 | .0402 | -.0002 | .0001 | -.0000 | .0009 | .0015 | .0004 | .0566 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0037** | **.0029** | **.0065** | **.0007** | **.0004** | **-.0006** | **.0023** | **.9566** | **73.89** |
| Stddev | .0006 | .0001 | .0005 | .0018 | .0008 | .0019 | .0007 | .0074 | .17 |
| %RSD | 15.61 | 3.154 | 7.410 | 283.1 | 215.6 | 335.1 | 28.68 | .7728 | .2327 |
| #1 | .0032 | .0030 | .0069 | -.0012 | .0002 | .0011 | .0018 | .9543 | 73.94 |
| #2 | .0034 | .0030 | .0066 | .0025 | .0012 | -.0002 | .0030 | .9649 | 74.03 |
| #3 | .0043 | .0028 | .0059 | .0006 | -.0003 | -.0027 | .0020 | .9507 | 73.70 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0211** | **-.0069** | **38.02** | **196.6** | **.0792** | **.0706** | **11.82** | **-.0002** | **1.094** |
| Stddev | .0015 | .0441 | .03 | .3 | .0003 | .0003 | .02 | .0005 | .002 |
| %RSD | 7.041 | 634.5 | .0734 | .1386 | .3808 | .3824 | .1982 | 226.0 | .1351 |
| #1 | .0224 | .0123 | 38.05 | 196.9 | .0789 | .0704 | 11.83 | .0001 | 1.092 |
| #2 | .0195 | -.0574 | 38.00 | 196.6 | .0795 | .0706 | 11.79 | .0001 | 1.095 |
| #3 | .0215 | .0242 | 38.00 | 196.3 | .0793 | .0709 | 11.84 | -.0008 | 1.093 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **.0069** | **-.0065** | **4.553** | **.0001** | **-.0125** | **.0552** |
| Stddev | .0003 | .0005 | .0001 | .017 | .0009 | .0027 | .0003 |
| %RSD | 14.59 | 6.485 | 1.427 | .3770 | 1158. | 21.68 | .6001 |
| #1 | .0016 | .0073 | -.0065 | 4.555 | .0009 | -.0155 | .0553 |
| #2 | .0021 | .0071 | -.0064 | 4.534 | .0002 | -.0114 | .0555 |
| #3 | .0016 | .0064 | -.0065 | 4.568 | -.0008 | -.0105 | .0549 |

Zoom In Zoom Out

Sample Name: jc87136-13 Acquired: 5/10/2019 3:00:54 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83034.** | **8684.6** | **5869.2** | **11785.** |
| Stddev | 243. | 14.5 | 10.5 | 16. |
| %RSD | .29228 | .16753 | .17823 | .13193 |
| #1 | 82770. | 8694.0 | 5857.2 | 11771. |
| #2 | 83084. | 8692.1 | 5876.3 | 11783. |
| #3 | 83247. | 8667.9 | 5874.1 | 11802. |



Zoom In Zoom Out

Sample Name: jc87136-14 Acquired: 5/10/2019 3:06:08 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2580** | **-.0001** | **.0003** | **.0013** | **.0016** | **.0079** | **.0039** | **.0744** | **-.0004** |
| Stddev | .0007 | .0000 | .0002 | .0003 | .0002 | .0001 | .0000 | .0001 | .0002 |
| %RSD | .2795 | 39.62 | 53.43 | 22.27 | 13.80 | 1.105 | .8692 | .0990 | 39.84 |
| #1 | .2583 | -.0002 | .0003 | .0013 | .0017 | .0079 | .0039 | .0745 | -.0003 |
| #2 | .2584 | -.0001 | .0005 | .0010 | .0017 | .0080 | .0040 | .0745 | -.0003 |
| #3 | .2571 | -.0001 | .0002 | .0015 | .0013 | .0078 | .0039 | .0743 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **.0169** | **.0023** | **.0004** | **-.0000** | **.0021** | **-.0002** | **.8803** | **169.0** |
| Stddev | .0002 | .0001 | .0004 | .0008 | .0002 | .0013 | .0010 | .0097 | .5 |
| %RSD | 7.369 | .8749 | 17.08 | 181.2 | 1310. | 62.21 | 458.2 | 1.101 | .2830 |
| #1 | .0023 | .0171 | .0020 | -.0004 | -.0002 | .0018 | .0008 | .8713 | 169.0 |
| #2 | .0024 | .0168 | .0028 | .0011 | .0001 | .0035 | -.0011 | .8906 | 169.5 |
| #3 | .0026 | .0169 | .0021 | .0007 | .0001 | .0009 | -.0004 | .8790 | 168.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5510** | **.0780** | **147.2** | F **314.5** | **.1212** | **.0332** | **4.599** | **-.0001** | **5.614** |
| Stddev | .0084 | .0073 | .7 | 4.5 | .0009 | .0002 | .027 | .0001 | .103 |
| %RSD | 1.531 | 9.363 | .4421 | 1.418 | .7520 | .4633 | .5850 | 275.0 | 1.829 |
| #1 | .5477 | .0702 | 147.5 | 309.4 | .1222 | .0331 | 4.621 | -.0001 | 5.550 |
| #2 | .5606 | .0847 | 147.5 | 316.5 | .1204 | .0333 | 4.569 | .0001 | 5.732 |
| #3 | .5447 | .0791 | 146.4 | 317.6 | .1209 | .0334 | 4.608 | -.0002 | 5.559 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **.0061** | **-.0024** | **29.90** | **.0015** | **.0382** | **.0403** |
| Stddev | .0003 | .0009 | .0001 | .14 | .0006 | .0007 | .0002 |
| %RSD | 6.120 | 14.05 | 5.035 | .4637 | 40.38 | 1.812 | .5184 |
| #1 | .0054 | .0070 | -.0024 | 29.98 | .0022 | .0390 | .0404 |
| #2 | .0048 | .0059 | -.0023 | 29.74 | .0010 | .0377 | .0401 |
| #3 | .0052 | .0054 | -.0025 | 29.97 | .0013 | .0379 | .0405 |



Zoom In Zoom Out

Sample Name: jc87136-14 Acquired: 5/10/2019 3:06:08 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81272.** | **8555.8** | **5731.4** | **11412.** |
| Stddev | 274. | 50.6 | 31.9 | 54. |
| %RSD | .33658 | .59151 | .55599 | .47709 |
| #1 | 81359. | 8579.7 | 5719.8 | 11393. |
| #2 | 80966. | 8497.7 | 5767.5 | 11474. |
| #3 | 81492. | 8590.0 | 5707.0 | 11370. |



Zoom In Zoom Out

Sample Name: jc87136-15 Acquired: 5/10/2019 3:11:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7082** | **-.0001** | **.0000** | **.0028** | **.0048** | **.0158** | **.0190** | **.0294** | **.0001** |
| Stddev | .0015 | .0002 | .0002 | .0001 | .0004 | .0001 | .0002 | .0003 | .0001 |
| %RSD | .2056 | 232.2 | 1009. | 3.667 | 7.381 | .5289 | .8373 | 1.179 | 167.0 |
| #1 | .7068 | -.0002 | .0002 | .0029 | .0052 | .0159 | .0191 | .0293 | -.0001 |
| #2 | .7097 | .0000 | -.0002 | .0028 | .0048 | .0158 | .0190 | .0292 | .0001 |
| #3 | .7080 | .0000 | -.0000 | .0027 | .0044 | .0158 | .0188 | .0298 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0545** | **-.0005** | **.0023** | **.0056** | **.0036** | **-.0017** | **.5408** | F **725.3** |
| Stddev | .0001 | .0003 | .0009 | .0002 | .0007 | .0022 | .0009 | .0142 | 5.0 |
| %RSD | 6.434 | .5332 | 185.2 | 9.178 | 11.81 | 63.07 | 51.49 | 2.632 | .6916 |
| #1 | .0017 | .0548 | .0004 | .0026 | .0051 | .0010 | -.0019 | .5541 | 719.5 |
| #2 | .0015 | .0542 | -.0005 | .0022 | .0054 | .0046 | -.0024 | .5258 | 728.3 |
| #3 | .0017 | .0544 | -.0013 | .0023 | .0064 | .0051 | -.0007 | .5426 | 728.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.038** | **.3043** | **51.33** | **163.1** | **.0056** | **.0124** | **1.228** | **-.0011** | **3.958** |
| Stddev | .007 | .0328 | .11 | .4 | .0007 | .0002 | .002 | .0004 | .012 |
| %RSD | .3614 | 10.78 | .2227 | .2161 | 12.45 | 1.914 | .1647 | 38.97 | .3012 |
| #1 | 2.045 | .2692 | 51.21 | 162.9 | .0049 | .0126 | 1.230 | -.0015 | 3.947 |
| #2 | 2.037 | .3342 | 51.44 | 163.5 | .0057 | .0124 | 1.226 | -.0007 | 3.971 |
| #3 | 2.031 | .3095 | 51.33 | 162.9 | .0063 | .0121 | 1.228 | -.0010 | 3.957 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0341** | **.0029** | **.0011** | **1.356** | **-.0014** | **.0249** | **.0272** |
| Stddev | .0005 | .0013 | .0001 | .005 | .0005 | .0013 | .0004 |
| %RSD | 1.330 | 45.59 | 10.14 | .3545 | 36.11 | 5.191 | 1.653 |
| #1 | .0347 | .0024 | .0010 | 1.361 | -.0020 | .0256 | .0270 |
| #2 | .0338 | .0019 | .0011 | 1.352 | -.0013 | .0257 | .0269 |
| #3 | .0339 | .0044 | .0012 | 1.356 | -.0010 | .0234 | .0277 |

Zoom In Zoom Out

Sample Name: jc87136-15 Acquired: 5/10/2019 3:11:28 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **79935.** | **8466.1** | **5526.3** | **11074.** |
| Stddev | 680. | 5.9 | 10.1 | 13. |
| %RSD | .85095 | .06929 | .18331 | .12039 |
| #1 | 79423. | 8459.4 | 5518.5 | 11069. |
| #2 | 79675. | 8468.8 | 5537.8 | 11090. |
| #3 | 80707. | 8470.3 | 5522.7 | 11064. |



Zoom In Zoom Out

Sample Name: jc87136-16 Acquired: 5/10/2019 3:16:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2666** | **-.0002** | **.0002** | **-.0002** | **.0014** | **.0003** | **.6591** | **.0157** | **-.0007** |
| Stddev | .0002 | .0001 | .0000 | .0003 | .0003 | .0002 | .0003 | .0003 | .0001 |
| %RSD | .0601 | 56.00 | 22.17 | 164.0 | 20.71 | 50.24 | .0412 | 2.184 | 19.18 |
| #1 | .2666 | -.0001 | .0002 | -.0001 | .0016 | .0005 | .6591 | .0153 | -.0009 |
| #2 | .2668 | -.0003 | .0001 | -.0006 | .0011 | .0002 | .6594 | .0159 | -.0006 |
| #3 | .2665 | -.0001 | .0002 | .0001 | .0016 | .0003 | .6589 | .0158 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0029** | **.0011** | **-.0007** | **-.0008** | **.0001** | **.0002** | **-.0009** | **81.01** |
| Stddev | .0003 | .0002 | .0005 | .0006 | .0009 | .0013 | .0012 | .0134 | .05 |
| %RSD | 28.57 | 5.433 | 43.05 | 88.95 | 116.2 | 1460. | 503.3 | 1406. | .0634 |
| #1 | .0007 | .0029 | .0011 | -.0008 | -.0006 | .0005 | .0006 | .0119 | 80.99 |
| #2 | .0010 | .0028 | .0006 | -.0001 | -.0018 | .0012 | -.0011 | .0000 | 81.07 |
| #3 | .0013 | .0031 | .0016 | -.0013 | .0000 | -.0014 | .0012 | -.0148 | 80.97 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.352** | **31.47** | **5.901** | **30.85** | **.1059** | **.0029** | **12.41** | **-.0005** | **.2351** |
| Stddev | .003 | .07 | .029 | .05 | .0010 | .0003 | .06 | .0004 | .0004 |
| %RSD | .2453 | .2376 | .4844 | .1462 | .9196 | 8.949 | .4808 | 72.53 | .1514 |
| #1 | 1.352 | 31.53 | 5.927 | 30.83 | .1051 | .0031 | 12.34 | -.0001 | .2349 |
| #2 | 1.356 | 31.39 | 5.906 | 30.91 | .1070 | .0026 | 12.46 | -.0006 | .2355 |
| #3 | 1.349 | 31.49 | 5.870 | 30.83 | .1057 | .0030 | 12.42 | -.0009 | .2348 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **.0013** | **-.0073** | **3.785** | **-.0013** | **-.0094** | **.0659** |
| Stddev | .0005 | .0012 | .0002 | .015 | .0007 | .0011 | .0005 |
| %RSD | 19.79 | 88.43 | 2.183 | .3871 | 52.97 | 11.44 | .6995 |
| #1 | .0019 | .0019 | -.0072 | 3.769 | -.0005 | -.0084 | .0657 |
| #2 | .0028 | .0021 | -.0072 | 3.798 | -.0018 | -.0093 | .0656 |
| #3 | .0025 | -.0000 | -.0075 | 3.786 | -.0017 | -.0106 | .0664 |



Zoom In Zoom Out

Sample Name: jc87136-16 Acquired: 5/10/2019 3:16:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84665.** | **8789.5** | **5963.2** | **12141.** |
| Stddev | 192. | 50.7 | 30.0 | 50. |
| %RSD | .22729 | .57691 | .50289 | .41373 |
| #1 | 84491. | 8765.0 | 5993.5 | 12192. |
| #2 | 84632. | 8755.6 | 5933.6 | 12091. |
| #3 | 84872. | 8847.8 | 5962.5 | 12139. |



Zoom In Zoom Out

Sample Name: jc87136-17 Acquired: 5/10/2019 3:21:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0667** | **-.0001** | **-.0000** | **.0002** | **.0022** | **.0027** | **.0035** | **.0440** | **-.0009** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0001 | .0003 | .0001 | .0002 | .0002 |
| %RSD | .2983 | 71.51 | 3141. | 53.20 | 4.947 | 10.07 | 2.192 | .4204 | 21.53 |
| #1 | .0665 | -.0001 | .0002 | .0003 | .0023 | .0025 | .0035 | .0442 | -.0008 |
| #2 | .0669 | -.0000 | -.0002 | .0002 | .0022 | .0030 | .0034 | .0440 | -.0007 |
| #3 | .0666 | -.0000 | -.0000 | .0001 | .0021 | .0025 | .0036 | .0438 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028** | **.0101** | **.0171** | **.0008** | **.0005** | **-.0010** | **.0015** | **1.114** | **62.91** |
| Stddev | .0005 | .0001 | .0005 | .0016 | .0012 | .0009 | .0013 | .011 | .08 |
| %RSD | 17.31 | .7291 | 3.140 | 200.9 | 216.4 | 89.35 | 89.13 | .9989 | .1224 |
| #1 | .0027 | .0101 | .0168 | -.0005 | .0013 | -.0008 | .0030 | 1.106 | 62.84 |
| #2 | .0033 | .0101 | .0168 | .0025 | -.0008 | -.0003 | .0006 | 1.127 | 62.99 |
| #3 | .0024 | .0100 | .0178 | .0003 | .0011 | -.0020 | .0009 | 1.109 | 62.89 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2262** | **.1398** | **34.89** | F **355.5** | **.0627** | **.0823** | **11.94** | **-.0001** | **1.080** |
| Stddev | .0048 | .0200 | .08 | 2.1 | .0006 | .0006 | .08 | .0004 | .001 |
| %RSD | 2.135 | 14.33 | .2318 | .5980 | 1.008 | .7042 | .6512 | 402.7 | .1178 |
| #1 | .2222 | .1167 | 34.96 | 357.6 | .0634 | .0826 | 12.00 | .0002 | 1.081 |
| #2 | .2316 | .1519 | 34.91 | 355.5 | .0624 | .0826 | 11.97 | -.0006 | 1.081 |
| #3 | .2248 | .1510 | 34.80 | 353.4 | .0622 | .0816 | 11.86 | .0001 | 1.079 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0057** | **.0035** | **-.0067** | **15.00** | **.0003** | **-.0059** | **.0713** |
| Stddev | .0002 | .0007 | .0001 | .10 | .0014 | .0019 | .0003 |
| %RSD | 3.276 | 19.23 | 1.146 | .6616 | 502.6 | 31.75 | .4045 |
| #1 | .0055 | .0032 | -.0067 | 15.08 | .0003 | -.0074 | .0713 |
| #2 | .0057 | .0030 | -.0067 | 15.03 | .0017 | -.0038 | .0710 |
| #3 | .0059 | .0043 | -.0068 | 14.89 | -.0012 | -.0065 | .0716 |

Zoom In Zoom Out

Sample Name: jc87136-17 Acquired: 5/10/2019 3:21:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82315.** | **8648.8** | **5761.7** | **11496.** |
| Stddev | 90. | 36.2 | 43.2 | 81. |
| %RSD | .10991 | .41851 | .74919 | .70424 |
| #1 | 82227. | 8690.5 | 5724.5 | 11430. |
| #2 | 82408. | 8626.2 | 5751.5 | 11473. |
| #3 | 82310. | 8629.5 | 5809.0 | 11586. |



Zoom In Zoom Out

Sample Name: jc87136-7f Acquired: 5/10/2019 3:26:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1033** | **-.0001** | **.0002** | **.0008** | **.0005** | **.0005** | **.6331** | **.0538** | **-.0008** |
| Stddev | .0018 | .0001 | .0002 | .0001 | .0002 | .0001 | .0008 | .0005 | .0004 |
| %RSD | 1.716 | 66.87 | 99.24 | 6.668 | 45.27 | 31.43 | .1298 | .8944 | 44.72 |
| #1 | .1051 | -.0002 | -.0000 | .0007 | .0006 | .0004 | .6341 | .0543 | -.0004 |
| #2 | .1015 | -.0001 | .0002 | .0008 | .0003 | .0004 | .6327 | .0538 | -.0011 |
| #3 | .1033 | -.0000 | .0003 | .0008 | .0007 | .0006 | .6326 | .0533 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0043** | **.0018** | **-.0006** | **-.0009** | **-.0012** | **.0012** | **-.0131** | **80.13** |
| Stddev | .0002 | .0000 | .0001 | .0008 | .0002 | .0007 | .0008 | .0032 | 1.22 |
| %RSD | 20.77 | .4081 | 7.495 | 135.8 | 19.20 | 56.29 | 63.77 | 23.97 | 1.526 |
| #1 | .0011 | .0043 | .0019 | .0001 | -.0010 | -.0004 | .0008 | -.0104 | 81.30 |
| #2 | .0007 | .0043 | .0017 | -.0016 | -.0010 | -.0017 | .0021 | -.0166 | 78.86 |
| #3 | .0009 | .0043 | .0019 | -.0004 | -.0007 | -.0014 | .0008 | -.0124 | 80.24 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5434** | **27.11** | **15.22** | **97.57** | **.1790** | **.0024** | **12.17** | **.0001** | **.2005** |
| Stddev | .0048 | .33 | .24 | 1.36 | .0009 | .0001 | .07 | .0001 | .0034 |
| %RSD | .8778 | 1.202 | 1.585 | 1.398 | .4944 | 5.334 | .5378 | 129.9 | 1.708 |
| #1 | .5481 | 27.39 | 15.46 | 98.80 | .1793 | .0023 | 12.20 | .0000 | .2038 |
| #2 | .5385 | 26.76 | 14.98 | 96.11 | .1797 | .0025 | 12.21 | .0000 | .1970 |
| #3 | .5435 | 27.20 | 15.22 | 97.81 | .1780 | .0023 | 12.09 | .0003 | .2006 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0042** | **-.0072** | **3.388** | **.0003** | **-.0105** | **.0233** |
| Stddev | .0006 | .0003 | .0001 | .014 | .0008 | .0014 | .0006 |
| %RSD | 32.04 | 7.546 | .8795 | .4218 | 273.7 | 13.43 | 2.579 |
| #1 | .0023 | .0045 | -.0071 | 3.391 | .0006 | -.0116 | .0235 |
| #2 | .0016 | .0040 | -.0072 | 3.400 | .0008 | -.0109 | .0237 |
| #3 | .0013 | .0040 | -.0072 | 3.372 | -.0006 | -.0089 | .0226 |



Zoom In Zoom Out

Sample Name: jc87136-7f Acquired: 5/10/2019 3:26:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84267.** | **8679.0** | **5940.4** | **12043.** |
| Stddev | 66. | 69.3 | 11.4 | 27. |
| %RSD | .07839 | .79814 | .19119 | .22260 |
| #1 | 84194. | 8612.5 | 5942.3 | 12053. |
| #2 | 84283. | 8750.8 | 5928.2 | 12013. |
| #3 | 84323. | 8673.7 | 5950.7 | 12063. |



Zoom In Zoom Out

Sample Name: jc87136-8f Acquired: 5/10/2019 3:32:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0074** | **-.0001** | **.0002** | **.0003** | **.0005** | **.0010** | **.0421** | **.0369** | **-.0009** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0003 | .0002 | .0001 | .0004 | .0004 |
| %RSD | 4.847 | 109.1 | 43.78 | 67.00 | 65.13 | 18.66 | .2463 | .9589 | 42.58 |
| #1 | .0076 | -.0000 | .0001 | .0004 | .0001 | .0011 | .0420 | .0365 | -.0009 |
| #2 | .0070 | -.0001 | .0001 | .0001 | .0008 | .0012 | .0423 | .0372 | -.0013 |
| #3 | .0076 | -.0002 | .0002 | .0004 | .0006 | .0008 | .0421 | .0371 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0242** | **.0073** | **.0119** | **.0000** | **-.0007** | **.0013** | **.0024** | **.2769** | **22.27** |
| Stddev | .0003 | .0001 | .0002 | .0021 | .0004 | .0010 | .0003 | .0088 | .02 |
| %RSD | 1.099 | 1.937 | 1.438 | 9098. | 50.71 | 76.12 | 14.18 | 3.180 | .0772 |
| #1 | .0239 | .0074 | .0119 | -.0006 | -.0004 | .0022 | .0020 | .2823 | 22.26 |
| #2 | .0243 | .0072 | .0118 | .0024 | -.0011 | .0015 | .0026 | .2818 | 22.26 |
| #3 | .0244 | .0072 | .0121 | -.0017 | -.0006 | .0002 | .0025 | .2668 | 22.29 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1143** | **4.694** | **84.10** | **122.8** | **.0985** | **.0100** | **9.861** | **.0003** | **.3259** |
| Stddev | .0041 | .026 | .20 | .1 | .0003 | .0000 | .006 | .0008 | .0006 |
| %RSD | 3.610 | .5542 | .2365 | .0984 | .2672 | .4966 | .0644 | 260.1 | .1845 |
| #1 | .1190 | 4.678 | 84.17 | 122.9 | .0984 | .0100 | 9.854 | .0007 | .3258 |
| #2 | .1123 | 4.681 | 83.87 | 122.7 | .0988 | .0101 | 9.867 | -.0006 | .3253 |
| #3 | .1115 | 4.724 | 84.25 | 122.9 | .0984 | .0100 | 9.861 | .0008 | .3265 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0034** | **-.0058** | **4.731** | **.0019** | **-.0100** | **.3177** |
| Stddev | .0003 | .0003 | .0001 | .004 | .0006 | .0014 | .0011 |
| %RSD | 51.99 | 8.735 | 1.497 | .0761 | 31.47 | 13.62 | .3573 |
| #1 | .0008 | .0037 | -.0059 | 4.735 | .0014 | -.0116 | .3190 |
| #2 | .0003 | .0031 | -.0058 | 4.730 | .0017 | -.0094 | .3170 |
| #3 | .0004 | .0033 | -.0057 | 4.728 | .0025 | -.0091 | .3171 |

Zoom In Zoom Out

Sample Name: jc87136-8f Acquired: 5/10/2019 3:32:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83728.** | **8675.6** | **5920.3** | **11965.** |
| Stddev | 239. | 33.8 | 2.4 | 5. |
| %RSD | .28520 | .38943 | .04007 | .04026 |
| #1 | 84003. | 8658.5 | 5921.4 | 11970. |
| #2 | 83575. | 8714.5 | 5917.6 | 11961. |
| #3 | 83605. | 8653.7 | 5922.0 | 11965. |



Zoom In Zoom Out

Sample Name: jc87136-9f Acquired: 5/10/2019 3:37:06 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2027** | **-.0002** | **-.0000** | **.0001** | **.0010** | **.0005** | **.2722** | **.1061** | **-.0008** |
| Stddev | .0007 | .0001 | .0000 | .0000 | .0002 | .0001 | .0000 | .0012 | .0005 |
| %RSD | .3382 | 53.21 | 718.4 | 29.19 | 22.93 | 15.51 | .0026 | 1.151 | 66.35 |
| #1 | .2035 | -.0002 | .0000 | .0001 | .0010 | .0004 | .2722 | .1053 | -.0004 |
| #2 | .2022 | -.0001 | -.0000 | .0002 | .0007 | .0006 | .2722 | .1054 | -.0005 |
| #3 | .2023 | -.0003 | -.0000 | .0001 | .0012 | .0005 | .2722 | .1075 | -.0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0041** | **.0016** | **-.0004** | **-.0015** | **-.0007** | **.0017** | **-.0125** | **89.89** |
| Stddev | .0003 | .0001 | .0004 | .0018 | .0006 | .0010 | .0012 | .0128 | .10 |
| %RSD | 28.96 | 1.907 | 26.65 | 431.7 | 43.79 | 139.5 | 69.42 | 102.5 | .1132 |
| #1 | .0007 | .0040 | .0013 | -.0024 | -.0010 | .0000 | .0026 | .0020 | 89.92 |
| #2 | .0012 | .0042 | .0014 | .0009 | -.0022 | -.0019 | .0022 | -.0172 | 89.77 |
| #3 | .0009 | .0041 | .0021 | .0002 | -.0012 | -.0003 | .0004 | -.0224 | 89.96 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3187** | **42.51** | **8.839** | **112.9** | **.2619** | **.0034** | **10.99** | **-.0005** | **.2442** |
| Stddev | .0043 | .10 | .024 | .1 | .0034 | .0002 | .15 | .0001 | .0002 |
| %RSD | 1.345 | .2246 | .2691 | .1002 | 1.286 | 5.091 | 1.344 | 24.44 | .0668 |
| #1 | .3171 | 42.46 | 8.838 | 113.0 | .2605 | .0033 | 10.91 | -.0006 | .2443 |
| #2 | .3235 | 42.62 | 8.863 | 112.9 | .2595 | .0034 | 10.90 | -.0005 | .2443 |
| #3 | .3154 | 42.45 | 8.815 | 112.9 | .2658 | .0036 | 11.16 | -.0004 | .2440 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0004** | **-.0067** | **1.839** | **-.0001** | **-.0095** | **.0373** |
| Stddev | .0002 | .0001 | .0000 | .022 | .0026 | .0004 | .0001 |
| %RSD | 10.02 | 25.16 | .4333 | 1.200 | 2120. | 3.699 | .2263 |
| #1 | .0021 | .0003 | -.0066 | 1.824 | -.0016 | -.0091 | .0374 |
| #2 | .0019 | .0005 | -.0066 | 1.829 | -.0016 | -.0098 | .0373 |
| #3 | .0017 | .0005 | -.0067 | 1.864 | .0028 | -.0095 | .0373 |



Zoom In Zoom Out

Sample Name: jc87136-9f Acquired: 5/10/2019 3:37:06 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83565.** | **8525.6** | **5811.7** | **11794.** |
| Stddev | 203. | 16.6 | 77.5 | 145. |
| %RSD | .24249 | .19451 | 1.3338 | 1.2268 |
| #1 | 83411. | 8510.0 | 5845.6 | 11858. |
| #2 | 83490. | 8543.0 | 5866.5 | 11896. |
| #3 | 83795. | 8523.8 | 5723.0 | 11628. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 3:42:11 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.977** | **1.907** | **1.942** | **1.981** | **1.978** | **1.995** | **1.981** | **1.966** | **.2433** |
| Stddev | .014 | .015 | .006 | .005 | .001 | .003 | .017 | .007 | .0002 |
| %RSD | .6984 | .7649 | .2880 | .2449 | .0479 | .1534 | .8459 | .3740 | .0788 |
| #1 | 1.989 | 1.917 | 1.942 | 1.978 | 1.979 | 1.998 | 1.990 | 1.965 | .2432 |
| #2 | 1.982 | 1.914 | 1.948 | 1.986 | 1.978 | 1.992 | 1.962 | 1.975 | .2435 |
| #3 | 1.962 | 1.891 | 1.936 | 1.977 | 1.977 | 1.994 | 1.991 | 1.960 | .2433 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **1.958** | **1.905** | **2.025** | **1.968** | **1.935** | **1.916** | **39.25** | **38.52** |
| Stddev | .002 | .008 | .006 | .002 | .006 | .008 | .005 | .35 | .35 |
| %RSD | .0883 | .4219 | .3051 | .1037 | .3217 | .3949 | .2840 | .8815 | .9189 |
| #1 | 1.989 | 1.957 | 1.906 | 2.023 | 1.968 | 1.934 | 1.914 | 39.49 | 38.82 |
| #2 | 1.987 | 1.967 | 1.910 | 2.027 | 1.975 | 1.944 | 1.922 | 39.41 | 38.62 |
| #3 | 1.986 | 1.951 | 1.899 | 2.024 | 1.963 | 1.929 | 1.911 | 38.86 | 38.13 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.28** | **37.38** | **38.75** | **38.19** | **1.961** | **1.918** | **4.742** | **1.894** | **1.985** |
| Stddev | .27 | .33 | .26 | .31 | .005 | .006 | .010 | .008 | .015 |
| %RSD | .7272 | .8698 | .6835 | .8035 | .2735 | .3029 | .2166 | .4242 | .7460 |
| #1 | 37.45 | 37.64 | 38.94 | 38.42 | 1.958 | 1.916 | 4.738 | 1.895 | 1.998 |
| #2 | 37.43 | 37.48 | 38.87 | 38.31 | 1.967 | 1.924 | 4.754 | 1.902 | 1.990 |
| #3 | 36.97 | 37.01 | 38.45 | 37.84 | 1.958 | 1.913 | 4.735 | 1.886 | 1.969 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 3:42:11 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.953** | **1.903** | **1.934** | **1.938** | **1.992** | **1.888** | **1.910** |
| Stddev | .003 | .007 | .003 | .006 | .006 | .014 | .005 |
| %RSD | .1326 | .3613 | .1747 | .3374 | .2843 | .7197 | .2845 |
| #1 | 1.956 | 1.900 | 1.937 | 1.935 | 1.990 | 1.900 | 1.911 |
| #2 | 1.952 | 1.910 | 1.930 | 1.946 | 1.998 | 1.892 | 1.914 |
| #3 | 1.951 | 1.897 | 1.934 | 1.934 | 1.987 | 1.873 | 1.904 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84184.** | **8744.9** | **5964.0** | **12185.** |
| Stddev | 122. | 83.8 | 12.1 | 23. |
| %RSD | .14534 | .95860 | .20332 | .18792 |
| #1 | 84155. | 8674.1 | 5965.3 | 12194. |
| #2 | 84318. | 8723.2 | 5951.3 | 12159. |
| #3 | 84078. | 8837.5 | 5975.5 | 12202. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 3:47:11 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **-.0000** | **-.0002** | **.0002** | **-.0003** | **.0000** | **.0002** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0001 | .0002 | .0000 | .0003 |
| %RSD | 451.5 | 4564. | 1659. | 63.35 | 37.13 | 62.00 | 88.23 | 183.3 |
| #1 | .0002 | .0001 | .0001 | -.0001 | .0002 | -.0004 | .0001 | -.0002 |
| #2 | -.0003 | .0001 | .0000 | -.0002 | .0002 | -.0004 | .0001 | .0003 |
| #3 | -.0001 | -.0001 | -.0001 | -.0003 | .0003 | -.0001 | .0000 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0012** | **.0005** | **.0000** | **-.0002** | **.0008** | **.0002** | **-.0010** | **.0016** |
| Stddev | .0004 | .0002 | .0002 | .0012 | .0016 | .0001 | .0006 | .0018 |
| %RSD | 29.08 | 42.93 | 431.3 | 518.2 | 201.3 | 51.68 | 55.56 | 109.5 |
| #1 | -.0010 | .0003 | .0002 | -.0005 | -.0007 | .0003 | -.0012 | .0029 |
| #2 | -.0016 | .0004 | -.0000 | .0011 | .0025 | .0001 | -.0004 | -.0004 |
| #3 | -.0011 | .0007 | -.0001 | -.0012 | .0005 | .0002 | -.0015 | .0024 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0112** | **-.0007** | **.0064** | **-.0056** | **-.1490** | **-.0172** | **.0022** | **.0001** |
| Stddev | .0048 | .0028 | .0069 | .0202 | .0223 | .0070 | .0007 | .0003 |
| %RSD | 43.19 | 392.8 | 108.3 | 362.3 | 14.97 | 40.88 | 33.75 | 392.4 |
| #1 | .0167 | -.0022 | .0108 | .0045 | -.1233 | -.0114 | .0030 | -.0000 |
| #2 | .0086 | -.0025 | .0098 | .0076 | -.1639 | -.0152 | .0021 | .0004 |
| #3 | .0081 | .0025 | -.0016 | -.0288 | -.1597 | -.0250 | .0015 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 3:47:11 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0007** | **.0001** | **.0003** | **.0004** | **.0002** | **-.0007** | **.0010** |
| Stddev | .0006 | .0006 | .0001 | .0001 | .0007 | .0001 | .0015 | .0013 |
| %RSD | 63.21 | 90.02 | 217.0 | 29.65 | 151.4 | 26.16 | 217.7 | 130.5 |
| #1 | .0004 | .0003 | .0002 | .0004 | .0007 | .0003 | .0005 | .0014 |
| #2 | .0010 | .0004 | -.0001 | .0003 | -.0003 | .0002 | -.0002 | -.0005 |
| #3 | .0016 | .0013 | .0001 | .0002 | .0009 | .0002 | -.0023 | .0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0157** | **.0037** |
| Stddev | .0005 | .0005 |
| %RSD | 3.440 | 13.62 |
| #1 | -.0156 | .0032 |
| #2 | -.0153 | .0042 |
| #3 | -.0163 | .0036 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85558.** | **8672.5** | **6042.3** | **12582.** |
| Stddev | 174. | 42.9 | 27.0 | 46. |
| %RSD | .20327 | .49480 | .44765 | .36595 |
| #1 | 85485. | 8625.4 | 6052.8 | 12589. |
| #2 | 85757. | 8709.4 | 6062.5 | 12624. |
| #3 | 85433. | 8682.7 | 6011.6 | 12533. |



Zoom In Zoom Out

Sample Name: jc87136-10f Acquired: 5/10/2019 3:52:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3657** | **-.0001** | **.0002** | **.0055** | **.0008** | **.0089** | **.0004** | **.1314** | **-.0008** |
| Stddev | .0007 | .0000 | .0001 | .0004 | .0003 | .0001 | .0000 | .0005 | .0002 |
| %RSD | .1843 | 20.23 | 24.06 | 7.036 | 33.51 | 1.655 | 5.724 | .4082 | 28.58 |
| #1 | .3649 | -.0001 | .0002 | .0059 | .0005 | .0090 | .0004 | .1309 | -.0005 |
| #2 | .3660 | -.0001 | .0002 | .0052 | .0010 | .0088 | .0004 | .1313 | -.0010 |
| #3 | .3661 | -.0001 | .0003 | .0054 | .0009 | .0091 | .0004 | .1319 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0044** | **.0051** | **.0028** | **.0023** | **.0002** | **.0017** | **.0014** | **3.065** | **167.4** |
| Stddev | .0002 | .0000 | .0009 | .0006 | .0009 | .0013 | .0010 | .009 | .3 |
| %RSD | 3.948 | .6432 | 32.90 | 27.79 | 412.2 | 75.47 | 70.28 | .3089 | .1948 |
| #1 | .0045 | .0051 | .0034 | .0028 | -.0004 | .0026 | .0007 | 3.054 | 167.0 |
| #2 | .0042 | .0051 | .0017 | .0016 | .0013 | .0022 | .0026 | 3.068 | 167.6 |
| #3 | .0045 | .0051 | .0032 | .0024 | -.0003 | .0002 | .0010 | 3.073 | 167.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5687** | **.0088** | **107.0** | F **232.7** | **.0078** | **.0302** | **1.732** | **.0000** | **4.035** |
| Stddev | .0049 | .0510 | .2 | 2.5 | .0001 | .0005 | .013 | .0003 | .006 |
| %RSD | .8604 | 581.9 | .1667 | 1.057 | .9031 | 1.632 | .7558 | 12030. | .1401 |
| #1 | .5656 | -.0121 | 106.8 | 233.2 | .0078 | .0298 | 1.717 | -.0001 | 4.029 |
| #2 | .5660 | -.0285 | 107.2 | 230.0 | .0078 | .0302 | 1.738 | -.0002 | 4.040 |
| #3 | .5743 | .0668 | 106.9 | 234.9 | .0077 | .0308 | 1.741 | .0003 | 4.036 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **.0026** | **-.0006** | **5.029** | **-.0009** | **-.0076** | **.0259** |
| Stddev | .0004 | .0002 | .0002 | .027 | .0011 | .0023 | .0012 |
| %RSD | 16.55 | 7.587 | 26.53 | .5438 | 126.0 | 30.45 | 4.547 |
| #1 | .0019 | .0024 | -.0005 | 4.997 | -.0010 | -.0102 | .0249 |
| #2 | .0025 | .0028 | -.0005 | 5.046 | .0003 | -.0059 | .0255 |
| #3 | .0026 | .0026 | -.0008 | 5.044 | -.0020 | -.0067 | .0272 |

Zoom In Zoom Out

Sample Name: jc87136-10f Acquired: 5/10/2019 3:52:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82948.** | **8657.6** | **5809.4** | **11558.** |
| Stddev | 250. | 17.0 | 34.4 | 56. |
| %RSD | .30188 | .19593 | .59290 | .48032 |
| #1 | 82707. | 8673.4 | 5848.6 | 11615. |
| #2 | 82932. | 8659.8 | 5795.8 | 11554. |
| #3 | 83207. | 8639.7 | 5783.9 | 11505. |



Zoom In Zoom Out

Sample Name: jc87136-13f Acquired: 5/10/2019 3:57:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0395** | **-.0001** | **.0000** | **-.0001** | **.0005** | **.0012** | **.0001** | **.0566** | **-.0009** |
| Stddev | .0004 | .0000 | .0001 | .0003 | .0002 | .0003 | .0001 | .0002 | .0003 |
| %RSD | 1.027 | 20.82 | 193.2 | 385.2 | 30.59 | 26.51 | 34.81 | .3931 | 34.06 |
| #1 | .0391 | -.0000 | -.0000 | .0001 | .0005 | .0009 | .0002 | .0568 | -.0006 |
| #2 | .0394 | -.0001 | .0001 | -.0004 | .0007 | .0011 | .0001 | .0564 | -.0010 |
| #3 | .0399 | -.0001 | .0000 | .0001 | .0003 | .0015 | .0002 | .0565 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0039** | **.0045** | **.0067** | **.0012** | **-.0005** | **.0017** | **.0011** | **.9116** | **72.22** |
| Stddev | .0002 | .0001 | .0001 | .0005 | .0002 | .0005 | .0011 | .0113 | .22 |
| %RSD | 4.356 | 1.314 | .8335 | 42.93 | 40.16 | 31.33 | 103.1 | 1.240 | .3078 |
| #1 | .0040 | .0045 | .0067 | .0007 | -.0004 | .0014 | .0005 | .9212 | 72.24 |
| #2 | .0038 | .0044 | .0068 | .0017 | -.0008 | .0015 | .0024 | .8991 | 72.42 |
| #3 | .0037 | .0045 | .0067 | .0011 | -.0004 | .0023 | .0004 | .9145 | 71.98 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0097** | **-.0279** | **37.86** | **193.1** | **.0788** | **.0703** | **12.03** | **-.0004** | **1.080** |
| Stddev | .0032 | .0035 | .08 | 2.3 | .0004 | .0001 | .03 | .0002 | .004 |
| %RSD | 32.68 | 12.66 | .2126 | 1.203 | .4846 | .1643 | .2876 | 38.75 | .3245 |
| #1 | .0061 | -.0319 | 37.87 | 195.2 | .0785 | .0702 | 12.00 | -.0006 | 1.081 |
| #2 | .0122 | -.0267 | 37.93 | 193.3 | .0792 | .0703 | 12.03 | -.0003 | 1.083 |
| #3 | .0109 | -.0251 | 37.77 | 190.6 | .0788 | .0704 | 12.07 | -.0004 | 1.076 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0043** | **-.0071** | **4.898** | **-.0006** | **-.0136** | **.0461** |
| Stddev | .0002 | .0002 | .0001 | .012 | .0008 | .0015 | .0003 |
| %RSD | 17.55 | 4.730 | 1.336 | .2346 | 129.1 | 11.37 | .5881 |
| #1 | .0011 | .0045 | -.0073 | 4.886 | -.0004 | -.0126 | .0462 |
| #2 | .0015 | .0041 | -.0071 | 4.901 | .0000 | -.0154 | .0458 |
| #3 | .0011 | .0042 | -.0071 | 4.908 | -.0015 | -.0127 | .0463 |



Zoom In Zoom Out

Sample Name: jc87136-13f Acquired: 5/10/2019 3:57:35 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83335.** | **8707.2** | **5851.5** | **11759.** |
| Stddev | 76. | 25.8 | 16.1 | 32. |
| %RSD | .09139 | .29584 | .27585 | .27619 |
| #1 | 83386. | 8726.4 | 5866.2 | 11786. |
| #2 | 83372. | 8677.9 | 5854.0 | 11769. |
| #3 | 83248. | 8717.3 | 5834.3 | 11723. |



Zoom In Zoom Out

Sample Name: jc87136-14f Acquired: 5/10/2019 4:02:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2956** | **-.0001** | **.0003** | **.0016** | **.0007** | **.0058** | **.0002** | **.0749** | **-.0005** |
| Stddev | .0008 | .0001 | .0002 | .0002 | .0002 | .0001 | .0000 | .0004 | .0004 |
| %RSD | .2697 | 68.32 | 73.05 | 12.45 | 35.13 | 1.470 | 25.26 | .5148 | 89.93 |
| #1 | .2949 | -.0001 | .0001 | .0017 | .0005 | .0059 | .0001 | .0747 | -.0004 |
| #2 | .2964 | -.0002 | .0003 | .0013 | .0005 | .0058 | .0002 | .0754 | -.0001 |
| #3 | .2956 | -.0000 | .0005 | .0016 | .0009 | .0058 | .0002 | .0747 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0038** | **.0021** | **.0016** | **.0004** | **.0015** | **-.0001** | **.6317** | **192.5** |
| Stddev | .0001 | .0001 | .0008 | .0021 | .0004 | .0014 | .0010 | .0121 | .5 |
| %RSD | 4.410 | 1.928 | 36.26 | 135.2 | 99.09 | 89.59 | 711.2 | 1.922 | .2626 |
| #1 | .0018 | .0038 | .0013 | .0027 | .0001 | .0017 | .0008 | .6433 | 192.0 |
| #2 | .0019 | .0039 | .0022 | -.0009 | .0003 | .0001 | .0000 | .6329 | 193.0 |
| #3 | .0020 | .0038 | .0028 | .0030 | .0007 | .0028 | -.0012 | .6191 | 192.3 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0664** | **.0284** | **157.2** | F **308.8** | **.0975** | **.0303** | **3.372** | **-.0001** | **6.534** |
| Stddev | .0016 | .0048 | .6 | 2.4 | .0008 | .0004 | .013 | .0004 | .090 |
| %RSD | 2.357 | 16.78 | .3631 | .7856 | .8475 | 1.404 | .3947 | 370.9 | 1.385 |
| #1 | .0665 | .0339 | 157.1 | 311.2 | .0974 | .0304 | 3.378 | -.0005 | 6.477 |
| #2 | .0679 | .0251 | 157.7 | 306.4 | .0983 | .0307 | 3.382 | .0000 | 6.486 |
| #3 | .0648 | .0263 | 156.6 | 308.8 | .0967 | .0298 | 3.357 | .0002 | 6.638 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **.0045** | **-.0014** | **24.29** | **.0002** | **.0415** | **.0235** |
| Stddev | .0003 | .0003 | .0001 | .08 | .0010 | .0020 | .0008 |
| %RSD | 12.22 | 6.735 | 4.728 | .3284 | 639.7 | 4.910 | 3.514 |
| #1 | .0027 | .0041 | -.0014 | 24.32 | .0008 | .0412 | .0245 |
| #2 | .0024 | .0046 | -.0014 | 24.34 | -.0010 | .0436 | .0230 |
| #3 | .0021 | .0046 | -.0013 | 24.20 | .0007 | .0396 | .0232 |

Zoom In Zoom Out

Sample Name: jc87136-14f Acquired: 5/10/2019 4:02:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81458.** | **8563.3** | **5739.1** | **11409.** |
| Stddev | 143. | 20.6 | 13.6 | 28. |
| %RSD | .17607 | .24035 | .23647 | .24236 |
| #1 | 81550. | 8580.2 | 5738.8 | 11408. |
| #2 | 81293. | 8569.5 | 5725.6 | 11382. |
| #3 | 81531. | 8540.4 | 5752.7 | 11438. |



Zoom In Zoom Out

Sample Name: jc87136-15f Acquired: 5/10/2019 4:08:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6984** | **-.0001** | **-.0000** | **.0024** | **.0003** | **.0104** | **.0003** | **.0272** | **.0000** |
| Stddev | .0023 | .0001 | .0002 | .0002 | .0003 | .0000 | .0001 | .0001 | .0004 |
| %RSD | .3337 | 138.9 | 651.3 | 6.798 | 77.66 | .3731 | 27.00 | .4233 | 4769. |
| #1 | .6988 | .0000 | -.0002 | .0025 | .0005 | .0104 | .0002 | .0273 | -.0004 |
| #2 | .7005 | -.0000 | .0000 | .0025 | .0000 | .0104 | .0003 | .0271 | .0000 |
| #3 | .6959 | -.0001 | .0001 | .0022 | .0005 | .0105 | .0004 | .0273 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0012** | **-.0006** | **.0011** | **.0038** | **.0026** | **-.0006** | **.0724** | F **717.4** |
| Stddev | .0003 | .0000 | .0008 | .0005 | .0010 | .0018 | .0003 | .0111 | 15.6 |
| %RSD | 75.98 | 2.560 | 121.6 | 51.20 | 25.98 | 68.85 | 52.37 | 15.32 | 2.167 |
| #1 | .0001 | .0012 | -.0008 | .0011 | .0049 | .0025 | -.0006 | .0816 | 726.1 |
| #2 | .0008 | .0012 | .0002 | .0016 | .0031 | .0044 | -.0008 | .0756 | 726.7 |
| #3 | .0005 | .0012 | -.0013 | .0005 | .0033 | .0009 | -.0003 | .0601 | 699.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0028** | **-.0033** | **51.52** | **162.8** | **.0051** | **.0120** | **.2056** | **-.0008** | **3.945** |
| Stddev | .0017 | .0235 | .23 | .7 | .0005 | .0001 | .0008 | .0006 | .012 |
| %RSD | 60.37 | 721.8 | .4512 | .4094 | 10.22 | .9344 | .4106 | 77.37 | .3103 |
| #1 | -.0033 | -.0113 | 51.66 | 163.4 | .0051 | .0118 | .2065 | -.0015 | 3.952 |
| #2 | -.0043 | .0232 | 51.65 | 163.1 | .0056 | .0121 | .2055 | -.0004 | 3.952 |
| #3 | -.0009 | -.0217 | 51.25 | 162.1 | .0045 | .0119 | .2048 | -.0005 | 3.931 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0078** | **.0006** | **.0011** | **1.285** | **-.0009** | **.0208** | **.0122** |
| Stddev | .0002 | .0005 | .0001 | .004 | .0013 | .0018 | .0006 |
| %RSD | 2.025 | 85.97 | 6.494 | .3049 | 137.1 | 8.437 | 5.247 |
| #1 | .0076 | .0006 | .0011 | 1.287 | .0002 | .0189 | .0126 |
| #2 | .0079 | .0012 | .0011 | 1.287 | -.0007 | .0213 | .0126 |
| #3 | .0078 | .0001 | .0012 | 1.280 | -.0023 | .0223 | .0115 |



Zoom In Zoom Out

Sample Name: jc87136-15f Acquired: 5/10/2019 4:08:10 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **80093.** | **8319.6** | **5559.1** | **11155.** |
| Stddev | 35. | 52.5 | 17.7 | 33. |
| %RSD | .04326 | .63107 | .31835 | .29783 |
| #1 | 80109. | 8264.1 | 5539.3 | 11119. |
| #2 | 80053. | 8326.1 | 5564.4 | 11161. |
| #3 | 80117. | 8368.5 | 5573.5 | 11184. |



Zoom In Zoom Out

Sample Name: jc87136-16f Acquired: 5/10/2019 4:13:24 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2554** | **-.0001** | **.0001** | **.0000** | **.0008** | **.0002** | **.6401** | **.0158** | **-.0008** |
| Stddev | .0009 | .0001 | .0002 | .0003 | .0002 | .0001 | .0026 | .0003 | .0004 |
| %RSD | .3625 | 58.38 | 247.7 | 599.7 | 25.82 | 45.77 | .4056 | 1.892 | 45.71 |
| #1 | .2564 | -.0001 | .0001 | .0002 | .0011 | .0001 | .6414 | .0155 | -.0007 |
| #2 | .2549 | -.0001 | -.0001 | .0002 | .0008 | .0003 | .6418 | .0157 | -.0005 |
| #3 | .2547 | -.0002 | .0002 | -.0003 | .0007 | .0002 | .6371 | .0161 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0039** | **.0010** | **-.0004** | **.0002** | **.0002** | **.0014** | **-.0174** | **80.51** |
| Stddev | .0000 | .0001 | .0005 | .0010 | .0004 | .0008 | .0004 | .0056 | .17 |
| %RSD | 2.997 | 2.954 | 53.98 | 227.3 | 212.9 | 334.0 | 30.63 | 31.90 | .2135 |
| #1 | .0012 | .0040 | .0013 | -.0010 | .0001 | .0005 | .0011 | -.0193 | 80.68 |
| #2 | .0012 | .0038 | .0012 | -.0010 | .0006 | -.0007 | .0013 | -.0112 | 80.34 |
| #3 | .0012 | .0039 | .0004 | .0007 | -.0002 | .0009 | .0019 | -.0218 | 80.52 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0654** | **31.29** | **5.980** | **31.01** | **.1054** | **.0027** | **12.26** | **-.0008** | **.2335** |
| Stddev | .0032 | .17 | .001 | .07 | .0010 | .0001 | .08 | .0005 | .0006 |
| %RSD | 4.902 | .5510 | .0227 | .2288 | .9741 | 5.442 | .6242 | 57.34 | .2449 |
| #1 | .0671 | 31.34 | 5.981 | 31.05 | .1055 | .0028 | 12.23 | -.0003 | .2341 |
| #2 | .0674 | 31.10 | 5.979 | 30.93 | .1043 | .0027 | 12.20 | -.0010 | .2329 |
| #3 | .0617 | 31.44 | 5.981 | 31.06 | .1063 | .0025 | 12.34 | -.0012 | .2334 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0011** | **-.0075** | **3.846** | **-.0011** | **-.0103** | **.0107** |
| Stddev | .0001 | .0010 | .0001 | .027 | .0005 | .0013 | .0001 |
| %RSD | 6.436 | 94.86 | .8612 | .6985 | 42.38 | 12.49 | .7732 |
| #1 | .0018 | .0016 | -.0074 | 3.831 | -.0005 | -.0105 | .0107 |
| #2 | .0016 | -.0001 | -.0075 | 3.831 | -.0013 | -.0114 | .0107 |
| #3 | .0018 | .0018 | -.0075 | 3.877 | -.0014 | -.0089 | .0108 |

Zoom In Zoom Out

Sample Name: jc87136-16f Acquired: 5/10/2019 4:13:24 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85423.** | **8829.0** | **5962.3** | **12141.** |
| Stddev | 193. | 48.2 | 27.0 | 39. |
| %RSD | .22555 | .54594 | .45312 | .31794 |
| #1 | 85303. | 8868.9 | 5974.1 | 12158. |
| #2 | 85321. | 8842.7 | 5981.4 | 12167. |
| #3 | 85645. | 8775.4 | 5931.4 | 12096. |



Zoom In Zoom Out

Sample Name: jc87136-17f Acquired: 5/10/2019 4:18:30 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0649** | **-.0001** | **-.0000** | **.0000** | **.0005** | **.0011** | **.0002** | **.0442** | **-.0006** |
| Stddev | .0003 | .0001 | .0000 | .0003 | .0000 | .0002 | .0000 | .0003 | .0002 |
| %RSD | .4409 | 66.11 | 162.0 | 655.5 | 3.472 | 16.93 | 3.705 | .6071 | 28.30 |
| #1 | .0647 | -.0001 | .0000 | -.0001 | .0005 | .0012 | .0002 | .0439 | -.0004 |
| #2 | .0649 | -.0002 | -.0000 | .0004 | .0005 | .0009 | .0001 | .0445 | -.0008 |
| #3 | .0652 | -.0001 | -.0000 | -.0002 | .0005 | .0011 | .0002 | .0442 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028** | **.0022** | **.0167** | **.0000** | **-.0003** | **.0004** | **.0021** | **1.066** | **62.91** |
| Stddev | .0002 | .0001 | .0012 | .0002 | .0006 | .0002 | .0009 | .006 | .02 |
| %RSD | 6.258 | 4.733 | 6.958 | 607.5 | 196.9 | 36.21 | 43.83 | .6047 | .0261 |
| #1 | .0027 | .0022 | .0162 | .0002 | .0003 | .0003 | .0010 | 1.074 | 62.92 |
| #2 | .0028 | .0023 | .0180 | -.0000 | -.0008 | .0006 | .0027 | 1.061 | 62.89 |
| #3 | .0030 | .0021 | .0159 | -.0001 | -.0003 | .0005 | .0024 | 1.064 | 62.91 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0148** | **.0092** | **34.95** | F **340.1** | **.0611** | **.0787** | **11.90** | **-.0004** | **1.102** |
| Stddev | .0063 | .0087 | .09 | 4.7 | .0002 | .0002 | .02 | .0005 | .001 |
| %RSD | 42.55 | 94.46 | .2434 | 1.378 | .4055 | .2753 | .1559 | 120.8 | .0965 |
| #1 | .0173 | -.0000 | 34.96 | 345.4 | .0610 | .0785 | 11.88 | -.0008 | 1.103 |
| #2 | .0195 | .0103 | 34.86 | 336.9 | .0609 | .0786 | 11.91 | -.0007 | 1.101 |
| #3 | .0076 | .0173 | 35.03 | 337.8 | .0614 | .0789 | 11.92 | .0002 | 1.101 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015** | **.0041** | **-.0071** | **14.36** | **-.0013** | **-.0091** | **.0633** |
| Stddev | .0004 | .0006 | .0001 | .02 | .0011 | .0016 | .0003 |
| %RSD | 27.40 | 15.37 | .7084 | .1698 | 85.74 | 17.19 | .3960 |
| #1 | .0012 | .0036 | -.0072 | 14.33 | -.0022 | -.0109 | .0636 |
| #2 | .0020 | .0039 | -.0071 | 14.36 | -.0001 | -.0081 | .0631 |
| #3 | .0013 | .0048 | -.0071 | 14.38 | -.0014 | -.0083 | .0633 |



Zoom In Zoom Out

Sample Name: jc87136-17f Acquired: 5/10/2019 4:18:30 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83210.** | **8702.1** | **5841.8** | **11649.** |
| Stddev | 387. | 34.8 | 16.2 | 24. |
| %RSD | .46532 | .40002 | .27710 | .20616 |
| #1 | 83345. | 8686.6 | 5860.4 | 11676. |
| #2 | 82774. | 8742.0 | 5834.3 | 11632. |
| #3 | 83512. | 8677.7 | 5830.7 | 11638. |



Zoom In Zoom Out

Sample Name: jc87563-1 Acquired: 5/10/2019 4:23:43 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14898

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0864** | **.0016** | **.0001** | **.0458** | **.0917** | **.0472** | **1.389** | **.0967** | **-.0026** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0006 | .0003 | .006 | .0004 | .0004 |
| %RSD | .3717 | 9.053 | 102.9 | .3206 | .6139 | .6398 | .4193 | .4179 | 14.18 |
| #1 | .0860 | .0014 | -.0000 | .0457 | .0924 | .0475 | 1.392 | .0970 | -.0024 |
| #2 | .0864 | .0016 | .0001 | .0459 | .0915 | .0469 | 1.392 | .0969 | -.0030 |
| #3 | .0867 | .0016 | .0001 | .0456 | .0913 | .0471 | 1.382 | .0962 | -.0024 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1064** | **.1946** | **.0759** | **.0026** | **.0249** | **-.0022** | **.0065** | **50.15** | **5.674** |
| Stddev | .0005 | .0004 | .0006 | .0009 | .0010 | .0012 | .0018 | .06 | .017 |
| %RSD | .4386 | .2148 | .8376 | 35.71 | 4.188 | 52.97 | 27.61 | .1218 | .2966 |
| #1 | .1065 | .1950 | .0758 | .0023 | .0239 | -.0021 | .0075 | 50.22 | 5.692 |
| #2 | .1068 | .1944 | .0766 | .0037 | .0248 | -.0011 | .0075 | 50.10 | 5.659 |
| #3 | .1059 | .1943 | .0753 | .0019 | .0260 | -.0035 | .0044 | 50.12 | 5.670 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **129.6** | **25.27** | **3.787** | **.5766** | **.0007** | **.0031** | **1.403** | **.0148** | **.0356** |
| Stddev | .1 | .06 | .034 | .0075 | .0006 | .0001 | .010 | .0003 | .0003 |
| %RSD | .0827 | .2429 | .8859 | 1.297 | 87.14 | 2.048 | .7217 | 1.861 | .7364 |
| #1 | 129.7 | 25.29 | 3.824 | .5836 | .0014 | .0030 | 1.413 | .0148 | .0359 |
| #2 | 129.5 | 25.32 | 3.781 | .5774 | .0002 | .0031 | 1.404 | .0151 | .0356 |
| #3 | 129.5 | 25.20 | 3.758 | .5687 | .0004 | .0031 | 1.393 | .0145 | .0354 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.833** | **.0006** | **.0268** | **.0615** | **-.0016** | **.0671** | **2.183** |
| Stddev | .007 | .0004 | .0001 | .0010 | .0014 | .0013 | .001 |
| %RSD | .3695 | 66.91 | .3534 | 1.612 | 87.17 | 1.930 | .0559 |
| #1 | 1.835 | .0001 | .0267 | .0612 | -.0023 | .0665 | 2.182 |
| #2 | 1.838 | .0009 | .0267 | .0607 | .0000 | .0686 | 2.183 |
| #3 | 1.825 | .0008 | .0269 | .0626 | -.0024 | .0663 | 2.184 |

Zoom In Zoom Out

Sample Name: jc87563-1 Acquired: 5/10/2019 4:23:43 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14898

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86274.** | **8846.8** | **6131.8** | **12541.** |
| Stddev | 301. | 19.8 | 9.6 | 26. |
| %RSD | .34913 | .22374 | .15660 | .21113 |
| #1 | 86032. | 8824.0 | 6121.9 | 12513. |
| #2 | 86178. | 8857.1 | 6132.3 | 12543. |
| #3 | 86611. | 8859.3 | 6141.1 | 12566. |



Zoom In Zoom Out

Sample Name: jc87563-2 Acquired: 5/10/2019 4:28:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2616** | **.0027** | **.0003** | **.0734** | **.1870** | **.1705** | **3.615** | **.1911** | **-.0029** |
| Stddev | .0006 | .0001 | .0001 | .0009 | .0003 | .0000 | .023 | .0022 | .0002 |
| %RSD | .2177 | 1.936 | 41.98 | 1.247 | .1782 | .0103 | .6252 | 1.156 | 6.669 |
| #1 | .2610 | .0027 | .0004 | .0739 | .1873 | .1705 | 3.613 | .1928 | -.0029 |
| #2 | .2622 | .0027 | .0003 | .0723 | .1870 | .1705 | 3.593 | .1886 | -.0031 |
| #3 | .2617 | .0028 | .0001 | .0739 | .1867 | .1705 | 3.638 | .1918 | -.0027 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2041** | **.5577** | **.0428** | **.0020** | **.0695** | **-.0033** | **.0167** | **104.9** | **14.53** |
| Stddev | .0005 | .0062 | .0004 | .0013 | .0005 | .0007 | .0003 | .1 | .02 |
| %RSD | .2467 | 1.114 | .9183 | 62.43 | .6563 | 20.92 | 1.563 | .0981 | .1254 |
| #1 | .2044 | .5620 | .0432 | .0022 | .0698 | -.0041 | .0167 | 104.8 | 14.51 |
| #2 | .2035 | .5506 | .0424 | .0007 | .0696 | -.0028 | .0169 | 105.0 | 14.55 |
| #3 | .2044 | .5605 | .0428 | .0032 | .0690 | -.0029 | .0164 | 104.8 | 14.53 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **157.5** | **42.75** | **9.987** | **1.398** | **.0036** | **.0039** | **1.639** | **.0104** | **.0839** |
| Stddev | .2 | .08 | .008 | .001 | .0004 | .0002 | .022 | .0004 | .0001 |
| %RSD | .1283 | .1849 | .0810 | .0776 | 11.70 | 3.987 | 1.325 | 3.456 | .1734 |
| #1 | 157.3 | 42.78 | 9.984 | 1.399 | .0040 | .0039 | 1.653 | .0100 | .0838 |
| #2 | 157.7 | 42.66 | 9.996 | 1.398 | .0031 | .0037 | 1.614 | .0107 | .0840 |
| #3 | 157.6 | 42.81 | 9.980 | 1.397 | .0037 | .0040 | 1.650 | .0106 | .0838 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.789** | **.0016** | **.0321** | **.3563** | **-.0036** | **.1322** | **4.420** |
| Stddev | .003 | .0010 | .0002 | .0040 | .0016 | .0014 | .052 |
| %RSD | .0715 | 63.22 | .5449 | 1.130 | 44.00 | 1.081 | 1.171 |
| #1 | 4.792 | .0028 | .0319 | .3600 | -.0039 | .1314 | 4.456 |
| #2 | 4.791 | .0011 | .0322 | .3520 | -.0019 | .1339 | 4.361 |
| #3 | 4.786 | .0010 | .0322 | .3568 | -.0051 | .1314 | 4.444 |



Zoom In Zoom Out

Sample Name: jc87563-2 Acquired: 5/10/2019 4:28:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87420.** | **9090.4** | **6244.9** | **12471.** |
| Stddev | 191. | 36.2 | 49.0 | 96. |
| %RSD | .21887 | .39829 | .78469 | .76957 |
| #1 | 87361. | 9059.7 | 6227.9 | 12413. |
| #2 | 87634. | 9130.4 | 6300.2 | 12582. |
| #3 | 87265. | 9081.2 | 6206.7 | 12418. |



Zoom In Zoom Out

Sample Name: jc87563-3 Acquired: 5/10/2019 4:33:51 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1296** | **.0014** | **-.0002** | **.0535** | **.1240** | **.0560** | **1.424** | **.1241** | **-.0023** |
| Stddev | .0006 | .0001 | .0002 | .0004 | .0005 | .0003 | .006 | .0008 | .0002 |
| %RSD | .4879 | 6.638 | 88.04 | .6743 | .3699 | .5591 | .4132 | .6434 | 9.047 |
| #1 | .1293 | .0014 | -.0003 | .0533 | .1245 | .0563 | 1.430 | .1237 | -.0025 |
| #2 | .1292 | .0015 | .0000 | .0539 | .1236 | .0559 | 1.419 | .1250 | -.0022 |
| #3 | .1303 | .0013 | -.0002 | .0533 | .1238 | .0557 | 1.423 | .1235 | -.0022 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1106** | **.2177** | **.0564** | **.0012** | **.0252** | **-.0017** | **.0087** | **51.46** | **5.960** |
| Stddev | .0006 | .0014 | .0012 | .0005 | .0009 | .0006 | .0010 | .09 | .004 |
| %RSD | .5032 | .6463 | 2.112 | 37.64 | 3.546 | 36.14 | 11.84 | .1666 | .0629 |
| #1 | .1112 | .2167 | .0578 | .0012 | .0245 | -.0022 | .0099 | 51.37 | 5.957 |
| #2 | .1104 | .2193 | .0561 | .0008 | .0262 | -.0010 | .0079 | 51.46 | 5.959 |
| #3 | .1101 | .2170 | .0554 | .0017 | .0248 | -.0021 | .0083 | 51.54 | 5.964 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **120.4** | **26.30** | **5.253** | **.4377** | **.0009** | **.0072** | **1.333** | **.0158** | **.0566** |
| Stddev | .3 | .11 | .079 | .0046 | .0007 | .0002 | .013 | .0004 | .0000 |
| %RSD | .2201 | .4126 | 1.496 | 1.048 | 72.48 | 2.447 | .9774 | 2.492 | .0679 |
| #1 | 120.1 | 26.18 | 5.164 | .4390 | .0010 | .0074 | 1.339 | .0157 | .0566 |
| #2 | 120.5 | 26.37 | 5.315 | .4415 | .0016 | .0072 | 1.342 | .0155 | .0566 |
| #3 | 120.7 | 26.36 | 5.278 | .4326 | .0002 | .0070 | 1.318 | .0162 | .0567 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.479** | **.0022** | **.0285** | **.0517** | **-.0007** | **.0701** | **1.491** |
| Stddev | .009 | .0003 | .0002 | .0011 | .0026 | .0007 | .008 |
| %RSD | .3591 | 12.58 | .8511 | 2.102 | 375.9 | .9738 | .5533 |
| #1 | 2.489 | .0024 | .0287 | .0513 | .0017 | .0697 | 1.487 |
| #2 | 2.472 | .0023 | .0283 | .0530 | -.0034 | .0697 | 1.500 |
| #3 | 2.477 | .0018 | .0284 | .0509 | -.0004 | .0709 | 1.485 |

Zoom In Zoom Out

Sample Name: jc87563-3 Acquired: 5/10/2019 4:33:51 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87150.** | **8931.0** | **6194.6** | **12600.** |
| Stddev | 210. | 26.7 | 31.9 | 52. |
| %RSD | .24078 | .29946 | .51556 | .40911 |
| #1 | 86930. | 8956.5 | 6199.8 | 12607. |
| #2 | 87173. | 8903.2 | 6160.4 | 12545. |
| #3 | 87348. | 8933.2 | 6223.7 | 12647. |



Zoom In Zoom Out

Sample Name: jc87563-4 Acquired: 5/10/2019 4:38:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3972** | **.0035** | **.0010** | **.0826** | **.2159** | **.1908** | **3.866** | **.2171** | **-.0039** |
| Stddev | .0006 | .0001 | .0002 | .0004 | .0006 | .0003 | .036 | .0006 | .0006 |
| %RSD | .1420 | 1.448 | 16.91 | .4654 | .3007 | .1737 | .9443 | .2908 | 14.81 |
| #1 | .3967 | .0035 | .0011 | .0822 | .2151 | .1908 | 3.846 | .2176 | -.0032 |
| #2 | .3971 | .0036 | .0009 | .0829 | .2163 | .1912 | 3.909 | .2171 | -.0042 |
| #3 | .3978 | .0035 | .0012 | .0828 | .2163 | .1905 | 3.844 | .2164 | -.0042 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2301** | **.6121** | **.0515** | **.0044** | **.1153** | **-.0041** | **.0182** | **120.7** | **59.01** |
| Stddev | .0004 | .0014 | .0009 | .0007 | .0011 | .0006 | .0019 | .1 | .08 |
| %RSD | .1521 | .2302 | 1.773 | 15.40 | .9561 | 15.07 | 10.22 | .0669 | .1379 |
| #1 | .2297 | .6135 | .0505 | .0050 | .1166 | -.0048 | .0177 | 120.7 | 58.92 |
| #2 | .2303 | .6121 | .0517 | .0045 | .1146 | -.0037 | .0167 | 120.6 | 59.02 |
| #3 | .2304 | .6107 | .0523 | .0037 | .1148 | -.0039 | .0203 | 120.8 | 59.09 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **170.8** | **44.60** | **10.06** | **.9750** | **.0089** | **.0050** | **3.175** | **.0110** | **.3033** |
| Stddev | .1 | .10 | .04 | .0036 | .0003 | .0002 | .015 | .0004 | .0001 |
| %RSD | .0699 | .2154 | .3941 | .3689 | 3.184 | 3.589 | .4841 | 3.474 | .0480 |
| #1 | 170.7 | 44.50 | 10.05 | .9726 | .0088 | .0049 | 3.193 | .0105 | .3032 |
| #2 | 170.8 | 44.61 | 10.11 | .9734 | .0086 | .0049 | 3.167 | .0111 | .3032 |
| #3 | 170.9 | 44.69 | 10.03 | .9792 | .0092 | .0052 | 3.165 | .0113 | .3035 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.968** | **.0029** | **.0190** | **2.018** | **-.0053** | **.1423** | **5.106** |
| Stddev | .005 | .0003 | .0003 | .003 | .0006 | .0007 | .009 |
| %RSD | .1115 | 11.07 | 1.730 | .1650 | 10.73 | .4614 | .1842 |
| #1 | 4.963 | .0030 | .0192 | 2.020 | -.0057 | .1425 | 5.114 |
| #2 | 4.974 | .0031 | .0192 | 2.019 | -.0055 | .1416 | 5.109 |
| #3 | 4.966 | .0025 | .0186 | 2.014 | -.0046 | .1428 | 5.096 |



Zoom In Zoom Out

Sample Name: jc87563-4 Acquired: 5/10/2019 4:38:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86714.** | **9114.4** | **6156.8** | **12254.** |
| Stddev | 243. | 20.2 | 2.4 | 12. |
| %RSD | .28034 | .22152 | .03878 | .10164 |
| #1 | 86959. | 9101.1 | 6154.1 | 12245. |
| #2 | 86473. | 9137.6 | 6158.1 | 12249. |
| #3 | 86709. | 9104.3 | 6158.4 | 12268. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 4:44:00 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.019** | **1.930** | **1.964** | **1.999** | **2.009** | **2.018** | **1.994** | **1.984** | **.2473** |
| Stddev | .002 | .004 | .009 | .007 | .002 | .005 | .013 | .007 | .0003 |
| %RSD | .0906 | .2117 | .4696 | .3549 | .1154 | .2267 | .6656 | .3623 | .1358 |
| #1 | 2.020 | 1.928 | 1.970 | 2.003 | 2.009 | 2.022 | 2.000 | 1.988 | .2476 |
| #2 | 2.017 | 1.926 | 1.969 | 2.003 | 2.012 | 2.020 | 1.979 | 1.988 | .2472 |
| #3 | 2.021 | 1.934 | 1.954 | 1.991 | 2.008 | 2.013 | 2.004 | 1.976 | .2470 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.015** | **1.976** | **1.928** | **2.040** | **1.982** | **1.953** | **1.934** | **39.86** | **39.02** |
| Stddev | .001 | .005 | .008 | .008 | .006 | .009 | .008 | .02 | .07 |
| %RSD | .0711 | .2807 | .4192 | .3834 | .2858 | .4581 | .4018 | .0524 | .1799 |
| #1 | 2.014 | 1.978 | 1.932 | 2.047 | 1.986 | 1.959 | 1.939 | 39.85 | 38.99 |
| #2 | 2.017 | 1.980 | 1.934 | 2.040 | 1.985 | 1.956 | 1.937 | 39.85 | 38.98 |
| #3 | 2.015 | 1.970 | 1.919 | 2.032 | 1.976 | 1.942 | 1.925 | 39.89 | 39.10 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.45** | **37.69** | **39.51** | **38.92** | **1.980** | **1.938** | **4.785** | **1.908** | **2.020** |
| Stddev | .05 | .04 | .06 | .04 | .010 | .009 | .023 | .005 | .002 |
| %RSD | .1229 | .0971 | .1514 | .1148 | .5063 | .4541 | .4813 | .2429 | .1185 |
| #1 | 37.42 | 37.68 | 39.51 | 38.88 | 1.988 | 1.944 | 4.800 | 1.911 | 2.020 |
| #2 | 37.43 | 37.67 | 39.45 | 38.91 | 1.984 | 1.943 | 4.798 | 1.910 | 2.018 |
| #3 | 37.51 | 37.74 | 39.57 | 38.96 | 1.969 | 1.928 | 4.759 | 1.903 | 2.023 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 4:44:00 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.980** | **1.922** | **1.957** | **1.957** | **2.015** | **1.918** | **1.925** |
| Stddev | .001 | .009 | .002 | .007 | .008 | .001 | .008 |
| %RSD | .0690 | .4644 | .1222 | .3451 | .3823 | .0399 | .4367 |
| #1 | 1.981 | 1.927 | 1.958 | 1.962 | 2.020 | 1.917 | 1.930 |
| #2 | 1.981 | 1.927 | 1.958 | 1.961 | 2.019 | 1.918 | 1.930 |
| #3 | 1.979 | 1.911 | 1.954 | 1.949 | 2.006 | 1.919 | 1.915 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83332.** | **8648.0** | **5911.1** | **12095.** |
| Stddev | 48. | 11.1 | 15.4 | 27. |
| %RSD | .05736 | .12866 | .25989 | .22447 |
| #1 | 83375. | 8651.1 | 5905.2 | 12085. |
| #2 | 83281. | 8657.1 | 5899.6 | 12075. |
| #3 | 83341. | 8635.6 | 5928.5 | 12126. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 4:49:01 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **.0000** | **-.0001** | **.0002** | **-.0006** | **.0001** | **.0003** |
| Stddev | .0004 | .0000 | .0001 | .0003 | .0003 | .0002 | .0000 | .0001 |
| %RSD | 179.9 | 16.88 | 2245. | 271.0 | 158.5 | 38.52 | 55.96 | 23.48 |
| #1 | .0007 | -.0001 | -.0000 | -.0003 | .0004 | -.0005 | .0000 | .0003 |
| #2 | .0001 | -.0001 | .0001 | .0002 | -.0001 | -.0005 | .0001 | .0004 |
| #3 | -.0001 | -.0001 | -.0000 | -.0002 | .0001 | -.0009 | .0001 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **.0001** | **.0001** | **-.0003** | **.0001** | **-.0001** | **.0002** | **.0012** |
| Stddev | .0002 | .0001 | .0001 | .0006 | .0008 | .0010 | .0009 | .0006 |
| %RSD | 12.20 | 99.50 | 88.13 | 222.6 | 539.4 | 1045. | 383.0 | 48.57 |
| #1 | -.0012 | -.0000 | .0001 | -.0006 | .0004 | .0001 | -.0008 | .0007 |
| #2 | -.0015 | .0002 | -.0000 | .0004 | -.0007 | -.0012 | .0006 | .0011 |
| #3 | -.0014 | .0002 | .0001 | -.0006 | .0007 | .0008 | .0009 | .0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0023** | **.0009** | **.0025** | **-.0017** | **-.1929** | **-.0460** | **.0016** | **.0000** |
| Stddev | .0029 | .0049 | .0005 | .0154 | .0065 | .0075 | .0005 | .0001 |
| %RSD | 125.9 | 570.2 | 19.45 | 892.9 | 3.353 | 16.27 | 30.98 | 227.2 |
| #1 | .0024 | -.0004 | .0019 | -.0149 | -.1928 | -.0380 | .0010 | .0000 |
| #2 | .0051 | -.0033 | .0026 | .0152 | -.1993 | -.0528 | .0019 | .0001 |
| #3 | -.0007 | .0062 | .0028 | -.0054 | -.1864 | -.0473 | .0018 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 4:49:01 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0005** | **.0001** | **-.0000** | **.0000** | **.0001** | **-.0012** | **.0007** |
| Stddev | .0004 | .0007 | .0002 | .0002 | .0006 | .0002 | .0017 | .0003 |
| %RSD | 46.88 | 146.1 | 214.9 | 599.0 | 9776. | 210.0 | 138.4 | 35.52 |
| #1 | .0004 | .0001 | .0003 | -.0002 | .0005 | .0003 | -.0020 | .0009 |
| #2 | .0012 | .0000 | -.0002 | -.0001 | -.0006 | .0002 | -.0025 | .0004 |
| #3 | .0010 | .0012 | .0002 | .0002 | .0001 | -.0001 | .0007 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0160** | **.0034** |
| Stddev | .0004 | .0002 |
| %RSD | 2.731 | 7.100 |
| #1 | -.0165 | .0037 |
| #2 | -.0159 | .0033 |
| #3 | -.0156 | .0032 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86331.** | **8685.3** | **6113.0** | **12725.** |
| Stddev | 17. | 18.0 | 22.9 | 34. |
| %RSD | .01955 | .20776 | .37465 | .26938 |
| #1 | 86333. | 8669.7 | 6120.2 | 12736. |
| #2 | 86347. | 8705.0 | 6087.4 | 12687. |
| #3 | 86314. | 8681.1 | 6131.5 | 12753. |



Zoom In Zoom Out

Sample Name: jc87563-5 Acquired: 5/10/2019 4:54:13 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3454** | **.0024** | **.0035** | **.0711** | **.3814** | **.1961** | **4.030** | **.2979** |
| Stddev | .0002 | .0000 | .0002 | .0002 | .0011 | .0006 | .039 | .0005 |
| %RSD | .0567 | 1.587 | 7.010 | .2663 | .2822 | .2883 | .9600 | .1821 |
| #1 | .3455 | .0024 | .0033 | .0713 | .3804 | .1955 | 3.993 | .2978 |
| #2 | .3452 | .0024 | .0034 | .0710 | .3826 | .1964 | 4.027 | .2974 |
| #3 | .3456 | .0023 | .0038 | .0710 | .3813 | .1965 | 4.070 | .2985 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0063** | **.2176** | **.8256** | **.0394** | **.0034** | **.1796** | **-.0058** | **.0068** |
| Stddev | .0002 | .0008 | .0012 | .0016 | .0005 | .0017 | .0016 | .0002 |
| %RSD | 3.406 | .3462 | .1434 | 3.997 | 13.52 | .9636 | 28.29 | 2.619 |
| #1 | -.0064 | .2174 | .8262 | .0378 | .0031 | .1814 | -.0063 | .0066 |
| #2 | -.0064 | .2185 | .8242 | .0409 | .0039 | .1792 | -.0070 | .0069 |
| #3 | -.0060 | .2170 | .8263 | .0393 | .0032 | .1780 | -.0039 | .0068 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **87.77** | **32.87** | **166.9** | **43.76** | **10.22** | **.7793** | **.0152** | **.0112** |
| Stddev | .11 | .08 | .4 | .24 | .04 | .0090 | .0007 | .0002 |
| %RSD | .1286 | .2466 | .2385 | .5559 | .3798 | 1.156 | 4.444 | 1.884 |
| #1 | 87.64 | 32.78 | 166.4 | 43.52 | 10.24 | .7759 | .0151 | .0113 |
| #2 | 87.82 | 32.92 | 167.0 | 43.74 | 10.26 | .7895 | .0146 | .0113 |
| #3 | 87.85 | 32.92 | 167.2 | 44.01 | 10.18 | .7724 | .0160 | .0110 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.547** | **.0150** | **.1087** | **3.744** | **.0042** | **.0280** | **2.231** | **-.0044** |
| Stddev | .019 | .0007 | .0001 | .007 | .0014 | .0001 | .004 | .0011 |
| %RSD | 1.215 | 4.704 | .1235 | .1938 | 32.51 | .2682 | .1659 | 24.11 |
| #1 | 1.534 | .0158 | .1087 | 3.742 | .0049 | .0280 | 2.229 | -.0033 |
| #2 | 1.538 | .0146 | .1086 | 3.753 | .0026 | .0281 | 2.229 | -.0047 |
| #3 | 1.569 | .0145 | .1089 | 3.739 | .0051 | .0280 | 2.235 | -.0053 |

Zoom In Zoom Out

Sample Name: jc87563-5 Acquired: 5/10/2019 4:54:13 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1274** | **3.538** |
| Stddev | .0014 | .002 |
| %RSD | 1.074 | .0424 |
| #1 | .1260 | 3.537 |
| #2 | .1288 | 3.538 |
| #3 | .1273 | 3.540 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86386.** | **9065.8** | **6135.5** | **12401.** |
| Stddev | 127. | 52.5 | 2.3 | 15. |
| %RSD | .14673 | .57895 | .03784 | .12430 |
| #1 | 86522. | 9125.9 | 6133.5 | 12385. |
| #2 | 86271. | 9028.9 | 6138.1 | 12416. |
| #3 | 86365. | 9042.7 | 6135.0 | 12403. |



Zoom In Zoom Out

Sample Name: jc87563-6 Acquired: 5/10/2019 4:59:20 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2235** | **.0026** | **-.0000** | **.0635** | **.1415** | **.1164** | **2.840** | **.1541** |
| Stddev | .0001 | .0001 | .0003 | .0003 | .0016 | .0012 | .042 | .0005 |
| %RSD | .0660 | 2.172 | 1804. | .4372 | 1.154 | 1.001 | 1.480 | .3488 |
| #1 | .2235 | .0025 | .0000 | .0638 | .1407 | .1157 | 2.806 | .1542 |
| #2 | .2237 | .0026 | .0002 | .0634 | .1405 | .1157 | 2.827 | .1546 |
| #3 | .2234 | .0025 | -.0003 | .0633 | .1434 | .1177 | 2.887 | .1535 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0051** | **.1748** | **.2713** | **.0319** | **.0018** | **.0421** | **-.0041** | **.0122** |
| Stddev | .0008 | .0019 | .0001 | .0005 | .0011 | .0005 | .0012 | .0017 |
| %RSD | 16.26 | 1.084 | .0272 | 1.494 | 58.04 | 1.179 | 28.52 | 13.80 |
| #1 | -.0045 | .1738 | .2712 | .0315 | .0017 | .0416 | -.0047 | .0104 |
| #2 | -.0048 | .1737 | .2714 | .0319 | .0029 | .0426 | -.0027 | .0126 |
| #3 | -.0060 | .1770 | .2713 | .0325 | .0009 | .0420 | -.0048 | .0137 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **82.08** | **13.21** | **122.4** | **31.78** | **8.251** | **.9327** | **.0039** | **.0023** |
| Stddev | .10 | .02 | .0 | .04 | .016 | .0098 | .0005 | .0003 |
| %RSD | .1218 | .1806 | .0325 | .1361 | .1954 | 1.046 | 11.70 | 11.24 |
| #1 | 82.08 | 13.22 | 122.4 | 31.81 | 8.237 | .9259 | .0035 | .0023 |
| #2 | 82.18 | 13.22 | 122.4 | 31.80 | 8.268 | .9439 | .0044 | .0025 |
| #3 | 81.98 | 13.18 | 122.4 | 31.73 | 8.247 | .9284 | .0039 | .0020 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.382** | **.0111** | **.0862** | **4.741** | **.0021** | **.0377** | **.1171** | **-.0088** |
| Stddev | .010 | .0003 | .0003 | .055 | .0001 | .0005 | .0010 | .0022 |
| %RSD | .7391 | 2.878 | .4046 | 1.156 | 5.804 | 1.437 | .8592 | 25.42 |
| #1 | 1.371 | .0112 | .0862 | 4.705 | .0020 | .0371 | .1172 | -.0107 |
| #2 | 1.391 | .0107 | .0858 | 4.714 | .0021 | .0378 | .1180 | -.0094 |
| #3 | 1.384 | .0113 | .0865 | 4.804 | .0022 | .0382 | .1160 | -.0063 |



Zoom In Zoom Out

Sample Name: jc87563-6 Acquired: 5/10/2019 4:59:20 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0998** | **4.282** |
| Stddev | .0004 | .004 |
| %RSD | .4454 | .0829 |
| #1 | .1000 | 4.284 |
| #2 | .1000 | 4.284 |
| #3 | .0992 | 4.278 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87429.** | **9057.1** | **6231.4** | **12393.** |
| Stddev | 1108. | 5.0 | 15.9 | 40. |
| %RSD | 1.2673 | .05473 | .25534 | .32347 |
| #1 | 88240. | 9052.3 | 6213.3 | 12347. |
| #2 | 87879. | 9062.2 | 6237.7 | 12410. |
| #3 | 86166. | 9056.6 | 6243.2 | 12421. |



Zoom In Zoom Out

Sample Name: jc87563-8 Acquired: 5/10/2019 5:04:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2930** | **.0023** | **.0005** | **.0718** | **.1585** | **.1313** | **3.761** | **.1722** |
| Stddev | .0003 | .0000 | .0001 | .0007 | .0007 | .0004 | .005 | .0002 |
| %RSD | .1037 | .6206 | 25.53 | 1.001 | .4329 | .2898 | .1284 | .1262 |
| #1 | .2933 | .0023 | .0004 | .0710 | .1590 | .1310 | 3.764 | .1719 |
| #2 | .2931 | .0023 | .0006 | .0723 | .1577 | .1317 | 3.755 | .1723 |
| #3 | .2927 | .0023 | .0005 | .0720 | .1588 | .1313 | 3.763 | .1723 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0061** | **.2106** | **.3932** | **.0338** | **.0013** | **.0731** | **-.0028** | **.0058** |
| Stddev | .0004 | .0002 | .0012 | .0005 | .0007 | .0014 | .0012 | .0005 |
| %RSD | 7.331 | .0777 | .3049 | 1.382 | 52.15 | 1.947 | 43.61 | 9.137 |
| #1 | -.0063 | .2104 | .3921 | .0342 | .0015 | .0736 | -.0014 | .0055 |
| #2 | -.0063 | .2107 | .3945 | .0338 | .0019 | .0742 | -.0035 | .0055 |
| #3 | -.0056 | .2106 | .3930 | .0333 | .0006 | .0715 | -.0035 | .0064 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **78.24** | **16.82** | **142.3** | **33.09** | **6.564** | **1.495** | **.0176** | **.0031** |
| Stddev | .05 | .04 | .1 | .02 | .032 | .006 | .0001 | .0003 |
| %RSD | .0692 | .2193 | .0889 | .0473 | .4863 | .4019 | .6805 | 8.715 |
| #1 | 78.22 | 16.79 | 142.2 | 33.07 | 6.561 | 1.489 | .0175 | .0029 |
| #2 | 78.30 | 16.80 | 142.4 | 33.09 | 6.597 | 1.496 | .0177 | .0030 |
| #3 | 78.20 | 16.86 | 142.4 | 33.10 | 6.533 | 1.501 | .0175 | .0035 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.572** | **.0133** | **.0611** | **3.788** | **.0010** | **.0284** | **.8953** | **-.0062** |
| Stddev | .009 | .0006 | .0001 | .001 | .0002 | .0001 | .0047 | .0008 |
| %RSD | .5676 | 4.882 | .1902 | .0172 | 19.49 | .2809 | .5297 | 12.66 |
| #1 | 1.562 | .0140 | .0610 | 3.788 | .0009 | .0284 | .8914 | -.0071 |
| #2 | 1.580 | .0129 | .0612 | 3.787 | .0009 | .0283 | .9005 | -.0056 |
| #3 | 1.574 | .0129 | .0611 | 3.788 | .0013 | .0284 | .8938 | -.0060 |

Zoom In Zoom Out

Sample Name: jc87563-8 Acquired: 5/10/2019 5:04:31 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1049** | **3.761** |
| Stddev | .0011 | .014 |
| %RSD | 1.058 | .3599 |
| #1 | .1049 | 3.749 |
| #2 | .1060 | 3.776 |
| #3 | .1038 | 3.760 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86652.** | **8985.2** | **6160.2** | **12392.** |
| Stddev | 135. | 26.1 | 15.3 | 26. |
| %RSD | .15558 | .29030 | .24860 | .21330 |
| #1 | 86721. | 8977.5 | 6175.4 | 12418. |
| #2 | 86497. | 9014.3 | 6144.8 | 12365. |
| #3 | 86739. | 8963.9 | 6160.4 | 12393. |



Zoom In Zoom Out

Sample Name: jc87563-9 Acquired: 5/10/2019 5:09:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2182** | **.0021** | **-.0001** | **.0584** | **.1196** | **.0828** | **1.698** | **.1348** | **-.0043** |
| Stddev | .0005 | .0000 | .0001 | .0004 | .0006 | .0002 | .001 | .0012 | .0002 |
| %RSD | .2326 | 1.966 | 71.26 | .6363 | .4703 | .2491 | .0850 | .9102 | 4.420 |
| #1 | .2186 | .0021 | -.0001 | .0580 | .1190 | .0830 | 1.699 | .1335 | -.0041 |
| #2 | .2183 | .0021 | -.0002 | .0586 | .1201 | .0826 | 1.699 | .1359 | -.0043 |
| #3 | .2176 | .0020 | -.0001 | .0586 | .1198 | .0827 | 1.696 | .1349 | -.0045 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1439** | **.2258** | **.0321** | **.0016** | **.0327** | **-.0038** | **.0087** | **66.81** | **10.08** |
| Stddev | .0002 | .0019 | .0010 | .0011 | .0012 | .0001 | .0007 | .26 | .04 |
| %RSD | .1619 | .8218 | 3.153 | 72.46 | 3.529 | 3.334 | 7.567 | .3921 | .3728 |
| #1 | .1439 | .2238 | .0315 | .0008 | .0330 | -.0039 | .0086 | 67.08 | 10.12 |
| #2 | .1436 | .2274 | .0333 | .0029 | .0315 | -.0036 | .0081 | 66.78 | 10.08 |
| #3 | .1441 | .2263 | .0315 | .0010 | .0337 | -.0037 | .0094 | 66.56 | 10.04 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **105.0** | **26.41** | **5.903** | **1.166** | **.0019** | **.0025** | **1.405** | **.0126** | **.0592** |
| Stddev | .4 | .16 | .054 | .011 | .0007 | .0002 | .004 | .0007 | .0003 |
| %RSD | .3509 | .5950 | .9175 | .9014 | 36.87 | 8.364 | .2587 | 5.932 | .4232 |
| #1 | 105.3 | 26.54 | 5.907 | 1.178 | .0018 | .0023 | 1.403 | .0118 | .0595 |
| #2 | 105.0 | 26.47 | 5.955 | 1.161 | .0026 | .0026 | 1.409 | .0133 | .0592 |
| #3 | 104.6 | 26.24 | 5.847 | 1.159 | .0013 | .0027 | 1.402 | .0126 | .0590 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.705** | **.0017** | **.0311** | **2.506** | **-.0047** | **.0819** | **3.508** |
| Stddev | .003 | .0002 | .0003 | .020 | .0012 | .0016 | .028 |
| %RSD | .0912 | 9.465 | .8107 | .7806 | 26.08 | 1.943 | .7948 |
| #1 | 3.707 | .0019 | .0314 | 2.483 | -.0036 | .0836 | 3.476 |
| #2 | 3.707 | .0018 | .0311 | 2.515 | -.0060 | .0813 | 3.530 |
| #3 | 3.701 | .0016 | .0309 | 2.519 | -.0044 | .0806 | 3.517 |



Zoom In Zoom Out

Sample Name: jc87563-9 Acquired: 5/10/2019 5:09:39 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86521.** | **8968.5** | **6190.7** | **12425.** |
| Stddev | 9. | 18.7 | 40.0 | 86. |
| %RSD | .01085 | .20800 | .64622 | .69131 |
| #1 | 86526. | 8948.9 | 6236.5 | 12521. |
| #2 | 86528. | 8970.7 | 6162.4 | 12357. |
| #3 | 86511. | 8986.0 | 6173.3 | 12396. |



Zoom In Zoom Out

Sample Name: jc87563-11 Acquired: 5/10/2019 5:14:38 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1765** | **.0029** | **.0006** | **.0615** | **.1552** | **.1953** | **2.513** | **.1596** | **-.0035** |
| Stddev | .0002 | .0001 | .0001 | .0003 | .0004 | .0002 | .011 | .0000 | .0002 |
| %RSD | .1363 | 3.945 | 12.95 | .4100 | .2567 | .1003 | .4288 | .0268 | 6.108 |
| #1 | .1763 | .0030 | .0006 | .0618 | .1551 | .1955 | 2.509 | .1596 | -.0037 |
| #2 | .1767 | .0028 | .0006 | .0613 | .1550 | .1951 | 2.526 | .1595 | -.0035 |
| #3 | .1766 | .0030 | .0007 | .0615 | .1557 | .1954 | 2.505 | .1596 | -.0032 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2318** | **.7993** | **.0689** | **.0015** | **.1453** | **-.0019** | **.0161** | **113.5** | **10.56** |
| Stddev | .0005 | .0019 | .0002 | .0005 | .0014 | .0029 | .0004 | .1 | .02 |
| %RSD | .2068 | .2323 | .3244 | 35.20 | .9676 | 155.6 | 2.189 | .0796 | .2068 |
| #1 | .2313 | .7976 | .0688 | .0015 | .1444 | .0015 | .0162 | 113.5 | 10.55 |
| #2 | .2323 | .7989 | .0688 | .0009 | .1470 | -.0040 | .0158 | 113.5 | 10.55 |
| #3 | .2317 | .8013 | .0692 | .0020 | .1447 | -.0031 | .0165 | 113.6 | 10.59 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **170.9** | **32.18** | **6.070** | **5.803** | **.0177** | **.0055** | **1.569** | **.0117** | **.0633** |
| Stddev | .3 | .16 | .007 | .007 | .0005 | .0004 | .009 | .0009 | .0001 |
| %RSD | .1482 | .4817 | .1204 | .1157 | 2.632 | 7.826 | .5702 | 7.521 | .2152 |
| #1 | 170.8 | 32.10 | 6.069 | 5.800 | .0174 | .0059 | 1.558 | .0119 | .0632 |
| #2 | 170.7 | 32.07 | 6.063 | 5.811 | .0182 | .0057 | 1.574 | .0124 | .0633 |
| #3 | 171.2 | 32.35 | 6.077 | 5.798 | .0174 | .0051 | 1.574 | .0107 | .0634 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.155** | **.0009** | **.0091** | **1.953** | **-.0024** | **.1202** | **5.390** |
| Stddev | .001 | .0000 | .0000 | .003 | .0012 | .0008 | .008 |
| %RSD | .0277 | 2.388 | .4489 | .1475 | 49.55 | .6922 | .1523 |
| #1 | 4.155 | .0009 | .0091 | 1.950 | -.0011 | .1193 | 5.382 |
| #2 | 4.155 | .0009 | .0091 | 1.952 | -.0027 | .1203 | 5.390 |
| #3 | 4.157 | .0009 | .0090 | 1.956 | -.0035 | .1210 | 5.398 |

Zoom In Zoom Out

Sample Name: jc87563-11 Acquired: 5/10/2019 5:14:38 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86380.** | **9017.2** | **6128.0** | **12370.** |
| Stddev | 161. | 58.5 | 6.0 | 12. |
| %RSD | .18614 | .64865 | .09718 | .09751 |
| #1 | 86535. | 9015.5 | 6133.8 | 12375. |
| #2 | 86214. | 9076.6 | 6128.2 | 12357. |
| #3 | 86391. | 8959.6 | 6121.9 | 12379. |



Zoom In Zoom Out

Sample Name: jc87563-13 Acquired: 5/10/2019 5:19:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2320** | **.0022** | **.0016** | **.0746** | **.1543** | **.1704** | **2.860** | **.1796** |
| Stddev | .0006 | .0001 | .0003 | .0010 | .0003 | .0001 | .029 | .0022 |
| %RSD | .2569 | 2.552 | 15.76 | 1.327 | .1625 | .0797 | 1.021 | 1.201 |
| #1 | .2325 | .0022 | .0014 | .0750 | .1542 | .1703 | 2.881 | .1806 |
| #2 | .2322 | .0022 | .0019 | .0753 | .1541 | .1705 | 2.871 | .1812 |
| #3 | .2313 | .0021 | .0016 | .0735 | .1546 | .1705 | 2.827 | .1772 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0072** | **.2352** | **2.395** | **.0515** | **.0028** | **.1166** | **-.0035** | **.0045** |
| Stddev | .0005 | .0001 | .028 | .0004 | .0011 | .0017 | .0019 | .0022 |
| %RSD | 7.389 | .0492 | 1.172 | .8294 | 41.57 | 1.445 | 52.85 | 50.02 |
| #1 | -.0072 | .2353 | 2.409 | .0518 | .0028 | .1173 | -.0030 | .0070 |
| #2 | -.0067 | .2351 | 2.414 | .0518 | .0039 | .1178 | -.0056 | .0034 |
| #3 | -.0077 | .2353 | 2.363 | .0511 | .0016 | .1146 | -.0020 | .0029 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **90.26** | **44.69** | **173.8** | **42.50** | **7.228** | **1.425** | **.0198** | **.0043** |
| Stddev | .35 | .18 | .7 | .21 | .046 | .010 | .0007 | .0002 |
| %RSD | .3858 | .3950 | .3771 | .4932 | .6396 | .7171 | 3.390 | 4.382 |
| #1 | 90.48 | 44.80 | 174.2 | 42.65 | 7.245 | 1.418 | .0201 | .0043 |
| #2 | 90.45 | 44.79 | 174.2 | 42.59 | 7.263 | 1.437 | .0203 | .0045 |
| #3 | 89.86 | 44.49 | 173.1 | 42.27 | 7.175 | 1.420 | .0191 | .0041 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.630** | **.0130** | **.1281** | **3.390** | **.0025** | **.0407** | **1.204** | **-.0038** |
| Stddev | .019 | .0002 | .0003 | .004 | .0006 | .0003 | .011 | .0015 |
| %RSD | 1.189 | 1.801 | .2536 | .1182 | 22.46 | .6723 | .9448 | 40.72 |
| #1 | 1.650 | .0132 | .1282 | 3.393 | .0018 | .0406 | 1.209 | -.0036 |
| #2 | 1.627 | .0129 | .1284 | 3.385 | .0029 | .0410 | 1.212 | -.0054 |
| #3 | 1.612 | .0128 | .1278 | 3.392 | .0027 | .0405 | 1.191 | -.0023 |



Zoom In Zoom Out

Sample Name: jc87563-13 Acquired: 5/10/2019 5:19:45 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1524** | **3.208** |
| Stddev | .0019 | .039 |
| %RSD | 1.255 | 1.210 |
| #1 | .1532 | 3.226 |
| #2 | .1537 | 3.235 |
| #3 | .1502 | 3.164 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85956.** | **9010.3** | **6116.6** | **12390.** |
| Stddev | 326. | 35.3 | 67.9 | 130. |
| %RSD | .37922 | .39130 | 1.1099 | 1.0496 |
| #1 | 85583. | 8985.8 | 6080.0 | 12318. |
| #2 | 86185. | 8994.5 | 6074.8 | 12311. |
| #3 | 86099. | 9050.7 | 6194.9 | 12540. |



Zoom In Zoom Out

Sample Name: jc87563-14 Acquired: 5/10/2019 5:24:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3027** | **.0024** | **-.0002** | **.0626** | **.1355** | **.1124** | **2.918** | **.1521** |
| Stddev | .0017 | .0001 | .0003 | .0000 | .0012 | .0006 | .016 | .0009 |
| %RSD | .5719 | 3.559 | 160.1 | .0329 | .8531 | .5355 | .5565 | .6193 |
| #1 | .3014 | .0023 | -.0003 | .0626 | .1345 | .1120 | 2.901 | .1531 |
| #2 | .3020 | .0024 | -.0003 | .0625 | .1352 | .1122 | 2.920 | .1513 |
| #3 | .3047 | .0024 | .0001 | .0626 | .1367 | .1131 | 2.934 | .1517 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0058** | **.1756** | **.3006** | **.0375** | **.0014** | **.0458** | **-.0044** | **.0088** |
| Stddev | .0003 | .0013 | .0018 | .0005 | .0013 | .0007 | .0017 | .0010 |
| %RSD | 4.341 | .7155 | .6055 | 1.420 | 90.82 | 1.428 | 38.14 | 11.71 |
| #1 | -.0061 | .1751 | .3020 | .0370 | .0028 | .0462 | -.0035 | .0079 |
| #2 | -.0056 | .1747 | .2985 | .0380 | .0003 | .0450 | -.0063 | .0099 |
| #3 | -.0057 | .1770 | .3013 | .0376 | .0012 | .0460 | -.0033 | .0084 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **80.60** | **13.20** | **132.3** | **32.09** | **8.995** | **1.565** | **.0020** | **.0031** |
| Stddev | .64 | .11 | 1.1 | .27 | .050 | .014 | .0009 | .0002 |
| %RSD | .7986 | .8150 | .8110 | .8258 | .5564 | .9158 | 47.24 | 5.228 |
| #1 | 80.15 | 13.13 | 131.6 | 31.87 | 8.940 | 1.552 | .0027 | .0032 |
| #2 | 80.32 | 13.16 | 131.9 | 32.01 | 9.009 | 1.564 | .0023 | .0029 |
| #3 | 81.34 | 13.33 | 133.6 | 32.38 | 9.038 | 1.580 | .0009 | .0033 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.713** | **.0096** | **.0731** | **3.912** | **.0013** | **.0262** | **.1495** | **-.0076** |
| Stddev | .022 | .0011 | .0006 | .027 | .0009 | .0002 | .0004 | .0008 |
| %RSD | 1.316 | 11.96 | .8408 | .6798 | 64.86 | .6688 | .2857 | 9.901 |
| #1 | 1.739 | .0107 | .0727 | 3.901 | .0017 | .0263 | .1499 | -.0074 |
| #2 | 1.703 | .0084 | .0728 | 3.893 | .0020 | .0261 | .1492 | -.0085 |
| #3 | 1.697 | .0097 | .0738 | 3.943 | .0004 | .0264 | .1493 | -.0070 |

Zoom In Zoom Out

Sample Name: jc87563-14 Acquired: 5/10/2019 5:24:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1016** | **4.026** |
| Stddev | .0021 | .026 |
| %RSD | 2.064 | .6531 |
| #1 | .0995 | 4.049 |
| #2 | .1017 | 3.997 |
| #3 | .1037 | 4.031 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88403.** | **9353.9** | **6324.7** | **12587.** |
| Stddev | 527. | 67.2 | 33.2 | 61. |
| %RSD | .59604 | .71891 | .52526 | .48468 |
| #1 | 88456. | 9394.3 | 6304.8 | 12550. |
| #2 | 88902. | 9391.2 | 6363.0 | 12657. |
| #3 | 87852. | 9276.3 | 6306.2 | 12553. |



Zoom In Zoom Out

Sample Name: jc87692-1 Acquired: 5/10/2019 5:30:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6953** | **.0047** | **.0004** | **.0163** | **.3579** | **.1728** | **.2637** | **.0591** | **-.0047** |
| Stddev | .0008 | .0000 | .0001 | .0003 | .0011 | .0002 | .0004 | .0004 | .0001 |
| %RSD | .1147 | .5683 | 13.08 | 1.771 | .3003 | .0957 | .1471 | .6646 | 3.116 |
| #1 | .6945 | .0046 | .0004 | .0166 | .3584 | .1730 | .2638 | .0592 | -.0046 |
| #2 | .6961 | .0047 | .0004 | .0160 | .3566 | .1727 | .2632 | .0594 | -.0047 |
| #3 | .6952 | .0047 | .0003 | .0163 | .3586 | .1728 | .2640 | .0586 | -.0049 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0965** | **.3077** | **.0611** | **.0004** | **.3877** | **-.0014** | **-.0011** | **76.91** | **31.76** |
| Stddev | .0001 | .0005 | .0012 | .0006 | .0010 | .0006 | .0002 | .15 | .05 |
| %RSD | .1385 | .1503 | 1.916 | 127.0 | .2700 | 46.10 | 18.18 | .1911 | .1674 |
| #1 | .0966 | .3083 | .0624 | -.0001 | .3882 | -.0015 | -.0009 | 76.74 | 31.70 |
| #2 | .0966 | .3075 | .0601 | .0010 | .3884 | -.0020 | -.0010 | 77.02 | 31.80 |
| #3 | .0964 | .3074 | .0607 | .0004 | .3865 | -.0007 | -.0013 | 76.97 | 31.78 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **90.67** | **23.51** | **25.71** | **3.701** | **.0994** | **.0284** | **1.922** | **.0120** | **.6482** |
| Stddev | .17 | .05 | .04 | .010 | .0004 | .0003 | .011 | .0005 | .0011 |
| %RSD | .1850 | .2227 | .1705 | .2681 | .4382 | .9876 | .5672 | 4.097 | .1699 |
| #1 | 90.48 | 23.45 | 25.66 | 3.690 | .0989 | .0282 | 1.922 | .0124 | .6469 |
| #2 | 90.79 | 23.54 | 25.75 | 3.707 | .0997 | .0288 | 1.933 | .0114 | .6490 |
| #3 | 90.75 | 23.53 | 25.71 | 3.708 | .0997 | .0284 | 1.911 | .0121 | .6486 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3209** | **.0014** | **.0194** | **4.225** | **-.0043** | **.0551** | **2.507** |
| Stddev | .0003 | .0007 | .0002 | .004 | .0010 | .0007 | .003 |
| %RSD | .1056 | 50.26 | 1.039 | .0903 | 23.35 | 1.283 | .1184 |
| #1 | .3211 | .0010 | .0195 | 4.221 | -.0047 | .0546 | 2.506 |
| #2 | .3205 | .0022 | .0191 | 4.227 | -.0032 | .0548 | 2.504 |
| #3 | .3212 | .0009 | .0195 | 4.228 | -.0050 | .0559 | 2.510 |



Zoom In Zoom Out

Sample Name: jc87692-1 Acquired: 5/10/2019 5:30:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86485.** | **9050.0** | **6111.8** | **12290.** |
| Stddev | 150. | 22.3 | 3.9 | 15. |
| %RSD | .17331 | .24656 | .06390 | .12155 |
| #1 | 86535. | 9033.9 | 6110.6 | 12277. |
| #2 | 86604. | 9040.7 | 6108.6 | 12285. |
| #3 | 86317. | 9075.5 | 6116.1 | 12306. |



Zoom In Zoom Out

Sample Name: mp14873-b1 Acquired: 5/10/2019 5:35:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.095** | **1.996** | **2.027** | **2.083** | **2.072** | **2.103** | **2.086** | **2.054** |
| Stddev | .005 | .005 | .009 | .007 | .010 | .006 | .024 | .009 |
| %RSD | .2347 | .2677 | .4337 | .3501 | .4864 | .2884 | 1.140 | .4293 |
| #1 | 2.101 | 2.001 | 2.026 | 2.083 | 2.080 | 2.109 | 2.087 | 2.054 |
| #2 | 2.094 | 1.995 | 2.019 | 2.075 | 2.075 | 2.104 | 2.109 | 2.045 |
| #3 | 2.092 | 1.991 | 2.037 | 2.090 | 2.060 | 2.097 | 2.061 | 2.062 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2514** | **2.085** | **2.041** | **1.978** | **2.128** | **2.058** | **2.003** | **1.998** |
| Stddev | .0014 | .009 | .009 | .011 | .007 | .007 | .012 | .012 |
| %RSD | .5724 | .4090 | .4387 | .5418 | .3220 | .3616 | .5768 | .5822 |
| #1 | .2527 | 2.092 | 2.039 | 1.976 | 2.125 | 2.058 | 2.004 | 1.994 |
| #2 | .2518 | 2.089 | 2.032 | 1.968 | 2.123 | 2.051 | 1.991 | 1.990 |
| #3 | .2498 | 2.076 | 2.050 | 1.989 | 2.136 | 2.066 | 2.014 | 2.012 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.72** | **25.06** | **24.18** | **23.99** | **24.89** | **25.24** | **2.031** | **2.019** |
| Stddev | .05 | .07 | .11 | .13 | .09 | .07 | .010 | .010 |
| %RSD | .2067 | .2989 | .4462 | .5231 | .3428 | .2624 | .5104 | .4763 |
| #1 | 25.78 | 25.14 | 24.30 | 24.11 | 24.99 | 25.32 | 2.030 | 2.018 |
| #2 | 25.69 | 25.02 | 24.12 | 23.98 | 24.86 | 25.21 | 2.021 | 2.011 |
| #3 | 25.69 | 25.01 | 24.11 | 23.86 | 24.83 | 25.19 | 2.041 | 2.030 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1344** | **1.973** | **2.099** | **2.045** | **1.964** | **2.034** | **-.0145** | F **-.0332** |
| Stddev | .0015 | .005 | .005 | .008 | .010 | .007 | .0006 | .0007 |
| %RSD | 1.085 | .2453 | .2447 | .3724 | .4914 | .3436 | 4.217 | 2.026 |
| #1 | .1342 | 1.970 | 2.105 | 2.051 | 1.964 | 2.039 | -.0143 | -.0332 |
| #2 | .1331 | 1.970 | 2.097 | 2.047 | 1.954 | 2.036 | -.0152 | -.0325 |
| #3 | .1360 | 1.978 | 2.096 | 2.036 | 1.973 | 2.026 | -.0140 | -.0338 |

Sample Name: mp14873-b1 Acquired: 5/10/2019 5:35:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0573** | **1.972** |
| Stddev | .0005 | .011 |
| %RSD | .8664 | .5541 |
| #1 | -.0579 | 1.966 |
| #2 | -.0570 | 1.966 |
| #3 | -.0570 | 1.985 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84035.** | **8730.4** | **5934.3** | **12165.** |
| Stddev | 449. | 36.9 | 22.2 | 34. |
| %RSD | .53452 | .42229 | .37449 | .28016 |
| #1 | 83807. | 8692.2 | 5936.7 | 12152. |
| #2 | 83745. | 8765.8 | 5955.2 | 12203. |
| #3 | 84552. | 8733.4 | 5910.9 | 12138. |



Sample Name: mp14873-mb1 Acquired: 5/10/2019 5:40:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0002** | **.0000** | **-.0003** | **.0004** | **-.0003** | **.0000** | **-.0000** | **-.0010** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0002 | .0000 | .0002 | .0001 |
| %RSD | 237.6 | 17.42 | 582.7 | 39.80 | 43.77 | 61.28 | 76.01 | 1046. | 12.70 |
| #1 | -.0001 | -.0002 | -.0001 | -.0003 | .0002 | -.0003 | .0000 | -.0002 | -.0011 |
| #2 | .0002 | -.0002 | .0001 | -.0004 | .0005 | -.0001 | .0000 | .0001 | -.0010 |
| #3 | .0001 | -.0001 | .0000 | -.0002 | .0005 | -.0004 | .0000 | .0001 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0015** | **-.0007** | **-.0007** | **-.0001** | **.0005** | **.0009** | **-.0010** | **.0041** |
| Stddev | .0002 | .0000 | .0008 | .0011 | .0007 | .0005 | .0006 | .0141 | .0039 |
| %RSD | 49.42 | 1.934 | 121.9 | 159.6 | 476.3 | 109.2 | 68.69 | 1381. | 96.19 |
| #1 | .0005 | .0015 | -.0010 | .0004 | .0006 | .0002 | .0013 | .0119 | .0086 |
| #2 | .0004 | .0015 | .0003 | -.0007 | -.0004 | .0011 | .0012 | .0011 | .0023 |
| #3 | .0002 | .0015 | -.0012 | -.0017 | -.0006 | .0002 | .0002 | -.0161 | .0013 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **-.0297** | **-.3535** | **-.0543** | **.0024** | **.0004** | **.0065** | **-.0000** | **.0000** |
| Stddev | .0062 | .0319 | .0238 | .0075 | .0005 | .0001 | .0007 | .0002 | .0001 |
| %RSD | 643.1 | 107.3 | 6.727 | 13.75 | 19.40 | 30.86 | 10.87 | 366.2 | 147.2 |
| #1 | -.0051 | -.0663 | -.3271 | -.0488 | .0028 | .0005 | .0073 | -.0001 | .0001 |
| #2 | .0008 | -.0153 | -.3733 | -.0628 | .0019 | .0003 | .0060 | -.0002 | -.0000 |
| #3 | .0073 | -.0076 | -.3599 | -.0513 | .0025 | .0005 | .0063 | .0001 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0034** | **.0004** | **-.0017** | **.0015** | **-.0142** | **.0044** |
| Stddev | .0001 | .0006 | .0002 | .0010 | .0011 | .0025 | .0009 |
| %RSD | 87.66 | 17.42 | 39.38 | 55.60 | 77.16 | 17.26 | 20.57 |
| #1 | .0002 | .0037 | .0005 | -.0008 | .0004 | -.0128 | .0041 |
| #2 | .0003 | .0027 | .0005 | -.0016 | .0027 | -.0128 | .0038 |
| #3 | .0000 | .0038 | .0002 | -.0027 | .0013 | -.0170 | .0055 |



Sample Name: mp14873-mb1 Acquired: 5/10/2019 5:40:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88037.** | **8950.0** | **6185.3** | **12833.** |
| Stddev | 471. | 36.5 | 58.5 | 117. |
| %RSD | .53555 | .40802 | .94589 | .90787 |
| #1 | 88576. | 8989.9 | 6143.7 | 12742. |
| #2 | 87700. | 8941.8 | 6252.2 | 12964. |
| #3 | 87836. | 8918.3 | 6159.9 | 12793. |



Sample Name: ccv Acquired: 5/10/2019 5:45:12 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.017** | **1.921** | **1.965** | **2.003** | **2.007** | **2.029** | **2.015** | **1.980** | **.2462** |
| Stddev | .005 | .003 | .003 | .005 | .004 | .004 | .007 | .003 | .0001 |
| %RSD | .2526 | .1327 | .1707 | .2294 | .1945 | .2045 | .3511 | .1367 | .0305 |
| #1 | 2.022 | 1.922 | 1.961 | 1.998 | 2.003 | 2.024 | 2.011 | 1.978 | .2461 |
| #2 | 2.018 | 1.922 | 1.967 | 2.007 | 2.010 | 2.030 | 2.011 | 1.983 | .2461 |
| #3 | 2.012 | 1.918 | 1.967 | 2.004 | 2.009 | 2.032 | 2.023 | 1.980 | .2463 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.019** | **1.977** | **1.924** | **2.044** | **1.986** | **1.952** | **1.934** | **39.83** | **38.82** |
| Stddev | .003 | .002 | .002 | .004 | .004 | .001 | .004 | .05 | .03 |
| %RSD | .1627 | .1058 | .1216 | .1761 | .2106 | .0355 | .2241 | .1238 | .0682 |
| #1 | 2.015 | 1.975 | 1.922 | 2.040 | 1.981 | 1.952 | 1.930 | 39.86 | 38.82 |
| #2 | 2.020 | 1.977 | 1.926 | 2.047 | 1.987 | 1.952 | 1.939 | 39.86 | 38.85 |
| #3 | 2.022 | 1.979 | 1.924 | 2.044 | 1.989 | 1.953 | 1.933 | 39.78 | 38.80 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.22** | **37.38** | **38.97** | **39.05** | **1.989** | **1.944** | **4.779** | **1.903** | **2.024** |
| Stddev | .03 | .12 | .06 | .04 | .004 | .004 | .008 | .004 | .002 |
| %RSD | .0841 | .3209 | .1471 | .0991 | .1762 | .1832 | .1599 | .1920 | .0893 |
| #1 | 37.19 | 37.42 | 38.99 | 39.07 | 1.985 | 1.940 | 4.770 | 1.900 | 2.026 |
| #2 | 37.25 | 37.46 | 39.01 | 39.08 | 1.992 | 1.947 | 4.784 | 1.903 | 2.025 |
| #3 | 37.21 | 37.24 | 38.90 | 39.01 | 1.991 | 1.946 | 4.782 | 1.907 | 2.022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 5:45:12 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.981** | **1.925** | **1.968** | **1.956** | **2.017** | **1.918** | **1.924** |
| Stddev | .002 | .003 | .004 | .003 | .004 | .002 | .004 |
| %RSD | .0861 | .1287 | .1862 | .1263 | .2090 | .1180 | .1900 |
| #1 | 1.979 | 1.923 | 1.963 | 1.953 | 2.013 | 1.919 | 1.920 |
| #2 | 1.982 | 1.925 | 1.969 | 1.958 | 2.017 | 1.919 | 1.928 |
| #3 | 1.981 | 1.928 | 1.970 | 1.957 | 2.021 | 1.915 | 1.924 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82695.** | **8632.7** | **5873.0** | **12010.** |
| Stddev | 513. | 23.5 | 5.1 | 9. |
| %RSD | .62008 | .27280 | .08617 | .07137 |
| #1 | 83241. | 8659.6 | 5873.9 | 12018. |
| #2 | 82619. | 8615.7 | 5877.5 | 12012. |
| #3 | 82224. | 8622.7 | 5867.5 | 12001. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 5:50:13 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0001** | **.0000** | **-.0000** | **.0000** | **-.0005** | **.0001** | **.0000** |
| Stddev | .0001 | .0000 | .0001 | .0002 | .0001 | .0001 | .0000 | .0005 |
| %RSD | 31.41 | 10.18 | 374.0 | 1100. | 456.5 | 22.54 | 81.38 | 3330. |
| #1 | .0003 | -.0001 | -.0001 | .0001 | .0000 | -.0004 | .0001 | -.0004 |
| #2 | .0005 | -.0001 | .0001 | -.0003 | .0002 | -.0005 | .0000 | -.0001 |
| #3 | .0003 | -.0002 | .0001 | .0001 | -.0001 | -.0006 | .0000 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **.0003** | **.0001** | **.0003** | **.0010** | **-.0002** | **.0017** | **.0001** |
| Stddev | .0002 | .0001 | .0000 | .0003 | .0002 | .0010 | .0007 | .0008 |
| %RSD | 23.66 | 30.29 | 76.61 | 91.03 | 19.60 | 656.9 | 44.30 | 1336. |
| #1 | -.0012 | .0003 | .0000 | .0006 | .0008 | .0009 | .0025 | .0010 |
| #2 | -.0011 | .0002 | .0001 | .0001 | .0012 | -.0002 | .0016 | -.0005 |
| #3 | -.0008 | .0003 | .0000 | .0001 | .0011 | -.0011 | .0010 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0077** | **-.0016** | **.0010** | **-.0021** | **-.3554** | **-.0622** | **.0024** | **.0002** |
| Stddev | .0075 | .0016 | .0035 | .0117 | .0145 | .0061 | .0003 | .0001 |
| %RSD | 98.24 | 104.9 | 341.2 | 549.7 | 4.075 | 9.832 | 12.03 | 39.78 |
| #1 | .0011 | -.0001 | -.0017 | .0085 | -.3682 | -.0617 | .0024 | .0001 |
| #2 | .0159 | -.0033 | .0049 | -.0002 | -.3397 | -.0685 | .0027 | .0002 |
| #3 | .0060 | -.0013 | -.0002 | -.0147 | -.3583 | -.0563 | .0021 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 5:50:13 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0001** | **-.0001** | **.0011** | **.0002** | **-.0028** | **.0004** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0000 | .0005 | .0006 |
| %RSD | 479.4 | 99.73 | 170.0 | 227.8 | 19.79 | 16.96 | 18.51 | 135.6 |
| #1 | -.0002 | .0001 | -.0001 | .0000 | .0013 | .0002 | -.0026 | -.0001 |
| #2 | .0002 | .0001 | .0002 | .0000 | .0008 | .0002 | -.0025 | .0003 |
| #3 | .0001 | -.0000 | .0001 | -.0003 | .0011 | .0002 | -.0034 | .0011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0144** | **.0034** |
| Stddev | .0024 | .0003 |
| %RSD | 16.65 | 8.158 |
| #1 | -.0162 | .0032 |
| #2 | -.0153 | .0034 |
| #3 | -.0117 | .0037 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86673.** | **8765.5** | **6136.4** | **12754.** |
| Stddev | 47. | 27.6 | 5.6 | 11. |
| %RSD | .05411 | .31493 | .09159 | .08700 |
| #1 | 86726. | 8797.3 | 6130.5 | 12741. |
| #2 | 86658. | 8750.7 | 6137.3 | 12756. |
| #3 | 86636. | 8748.4 | 6141.6 | 12763. |



Zoom In Zoom Out

Sample Name: mp14873-b2 Acquired: 5/10/2019 5:55:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.032** | **1.941** | **1.976** | **2.027** | **2.005** | **2.023** | **2.004** | **2.002** |
| Stddev | .002 | .002 | .004 | .005 | .029 | .029 | .020 | .002 |
| %RSD | .0996 | .0967 | .1955 | .2254 | 1.427 | 1.440 | 1.017 | .1134 |
| #1 | 2.034 | 1.944 | 1.972 | 2.022 | 2.021 | 2.041 | 2.008 | 2.000 |
| #2 | 2.030 | 1.940 | 1.980 | 2.030 | 2.022 | 2.039 | 2.022 | 2.004 |
| #3 | 2.033 | 1.941 | 1.976 | 2.029 | 1.972 | 1.990 | 1.982 | 2.001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2425** | **2.012** | **1.994** | **1.919** | **2.074** | **2.006** | **1.947** | **1.941** |
| Stddev | .0030 | .028 | .003 | .003 | .007 | .004 | .003 | .002 |
| %RSD | 1.254 | 1.410 | .1455 | .1476 | .3390 | .2063 | .1281 | .1242 |
| #1 | .2446 | 2.028 | 1.991 | 1.916 | 2.068 | 2.002 | 1.945 | 1.938 |
| #2 | .2440 | 2.028 | 1.996 | 1.922 | 2.082 | 2.010 | 1.949 | 1.943 |
| #3 | .2390 | 1.979 | 1.995 | 1.919 | 2.073 | 2.007 | 1.947 | 1.941 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.87** | **24.28** | **23.35** | **23.29** | **23.96** | **24.38** | **1.980** | **1.958** |
| Stddev | .02 | .04 | .04 | .13 | .07 | .03 | .006 | .004 |
| %RSD | .0849 | .1671 | .1866 | .5683 | .2733 | .1141 | .3103 | .1843 |
| #1 | 24.89 | 24.33 | 23.38 | 23.42 | 23.93 | 24.40 | 1.974 | 1.954 |
| #2 | 24.88 | 24.28 | 23.36 | 23.30 | 23.91 | 24.39 | 1.986 | 1.960 |
| #3 | 24.85 | 24.24 | 23.30 | 23.15 | 24.03 | 24.35 | 1.981 | 1.960 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1553** | **1.919** | **2.038** | **1.965** | **1.892** | **1.949** | **-.0137** | F **-.0335** |
| Stddev | .0022 | .004 | .001 | .029 | .004 | .030 | .0011 | .0009 |
| %RSD | 1.404 | .2363 | .0603 | 1.483 | .2293 | 1.556 | 7.662 | 2.580 |
| #1 | .1532 | 1.914 | 2.039 | 1.983 | 1.888 | 1.968 | -.0129 | -.0342 |
| #2 | .1553 | 1.923 | 2.037 | 1.981 | 1.896 | 1.966 | -.0149 | -.0325 |
| #3 | .1575 | 1.920 | 2.038 | 1.932 | 1.894 | 1.914 | -.0133 | -.0337 |

Zoom In Zoom Out

Sample Name: mp14873-b2 Acquired: 5/10/2019 5:55:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0539** | **1.924** |
| Stddev | .0015 | .004 |
| %RSD | 2.790 | .1875 |
| #1 | -.0534 | 1.921 |
| #2 | -.0526 | 1.928 |
| #3 | -.0555 | 1.924 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85034.** | **8761.5** | **5936.6** | **12178.** |
| Stddev | 1060. | 47.0 | 12.2 | 28. |
| %RSD | 1.2462 | .53605 | .20487 | .22965 |
| #1 | 84433. | 8735.4 | 5950.4 | 12210. |
| #2 | 84411. | 8733.5 | 5927.3 | 12156. |
| #3 | 86257. | 8815.7 | 5932.1 | 12168. |



Zoom In Zoom Out

Sample Name: mp14873-s1 Acquired: 5/10/2019 6:00:24 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.409** | **1.950** | **1.985** | **2.016** | **2.008** | **2.057** | **2.055** | **1.990** |
| Stddev | .005 | .001 | .004 | .004 | .007 | .010 | .016 | .004 |
| %RSD | .2068 | .0676 | .1964 | .1923 | .3745 | .4670 | .7705 | .2158 |
| #1 | 2.415 | 1.950 | 1.989 | 2.020 | 2.012 | 2.066 | 2.042 | 1.995 |
| #2 | 2.409 | 1.951 | 1.982 | 2.013 | 1.999 | 2.047 | 2.049 | 1.987 |
| #3 | 2.405 | 1.948 | 1.985 | 2.015 | 2.012 | 2.058 | 2.073 | 1.988 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2460** | **2.025** | **1.988** | **1.927** | **2.063** | **1.997** | **1.935** | **1.948** |
| Stddev | .0010 | .008 | .004 | .003 | .002 | .005 | .002 | .002 |
| %RSD | .4147 | .3808 | .1769 | .1514 | .0806 | .2427 | .1210 | .1241 |
| #1 | .2471 | 2.032 | 1.991 | 1.928 | 2.065 | 2.002 | 1.937 | 1.951 |
| #2 | .2450 | 2.017 | 1.984 | 1.924 | 2.063 | 1.994 | 1.932 | 1.947 |
| #3 | .2459 | 2.026 | 1.989 | 1.930 | 2.062 | 1.994 | 1.935 | 1.947 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.09** | **65.99** | **23.63** | **41.27** | **25.81** | **44.05** | **2.086** | **1.960** |
| Stddev | .00 | .12 | .11 | .05 | .07 | .07 | .004 | .004 |
| %RSD | .0191 | .1842 | .4634 | .1217 | .2788 | .1515 | .1703 | .2278 |
| #1 | 25.08 | 66.01 | 23.65 | 41.22 | 25.89 | 44.12 | 2.090 | 1.962 |
| #2 | 25.09 | 66.10 | 23.73 | 41.32 | 25.80 | 44.05 | 2.082 | 1.954 |
| #3 | 25.09 | 65.86 | 23.51 | 41.27 | 25.74 | 43.99 | 2.086 | 1.962 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **11.07** | **1.907** | **2.784** | **1.984** | **1.917** | **1.963** | **.2896** | F **-.0334** |
| Stddev | .02 | .001 | .004 | .009 | .002 | .008 | .0028 | .0018 |
| %RSD | .1992 | .0734 | .1531 | .4596 | .0967 | .4098 | .9652 | 5.474 |
| #1 | 11.09 | 1.908 | 2.789 | 1.992 | 1.918 | 1.968 | .2902 | -.0354 |
| #2 | 11.04 | 1.906 | 2.783 | 1.974 | 1.915 | 1.953 | .2866 | -.0330 |
| #3 | 11.06 | 1.907 | 2.780 | 1.986 | 1.917 | 1.966 | .2921 | -.0319 |



Zoom In Zoom Out

Sample Name: mp14873-s1 Acquired: 5/10/2019 6:00:24 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0394** | **1.948** |
| Stddev | .0014 | .005 |
| %RSD | 3.465 | .2497 |
| #1 | -.0409 | 1.954 |
| #2 | -.0382 | 1.947 |
| #3 | -.0391 | 1.944 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83753.** | **8650.3** | **5885.1** | **12004.** |
| Stddev | 226. | 13.8 | 12.1 | 30. |
| %RSD | .27006 | .15915 | .20643 | .25281 |
| #1 | 83666. | 8660.8 | 5871.5 | 11969. |
| #2 | 84009. | 8634.7 | 5894.6 | 12020. |
| #3 | 83583. | 8655.4 | 5889.3 | 12023. |



Zoom In Zoom Out

Sample Name: mp14873-s2 Acquired: 5/10/2019 6:05:24 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.400** | **1.935** | **1.967** | **2.000** | **1.989** | **2.041** | **2.036** | **1.969** |
| Stddev | .003 | .005 | .002 | .002 | .019 | .019 | .017 | .001 |
| %RSD | .1314 | .2464 | .0973 | .1152 | .9555 | .9387 | .8525 | .0391 |
| #1 | 2.403 | 1.940 | 1.967 | 2.002 | 2.006 | 2.060 | 2.049 | 1.969 |
| #2 | 2.400 | 1.934 | 1.969 | 1.998 | 1.992 | 2.042 | 2.043 | 1.968 |
| #3 | 2.396 | 1.931 | 1.966 | 2.000 | 1.969 | 2.022 | 2.017 | 1.969 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2435** | **2.003** | **1.974** | **1.915** | **2.040** | **1.977** | **1.911** | **1.929** |
| Stddev | .0026 | .019 | .002 | .003 | .002 | .002 | .001 | .002 |
| %RSD | 1.048 | .9349 | .0969 | .1475 | .0989 | .1135 | .0525 | .1101 |
| #1 | .2453 | 2.020 | 1.972 | 1.914 | 2.040 | 1.976 | 1.912 | 1.927 |
| #2 | .2446 | 2.007 | 1.975 | 1.919 | 2.038 | 1.975 | 1.911 | 1.931 |
| #3 | .2406 | 1.983 | 1.974 | 1.914 | 2.042 | 1.979 | 1.910 | 1.929 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.07** | **66.62** | **23.68** | **41.38** | **25.80** | **44.29** | **2.070** | **1.941** |
| Stddev | .04 | .12 | .03 | .13 | .03 | .03 | .001 | .003 |
| %RSD | .1542 | .1758 | .1114 | .3099 | .1244 | .0715 | .0454 | .1334 |
| #1 | 25.10 | 66.76 | 23.70 | 41.52 | 25.82 | 44.30 | 2.069 | 1.942 |
| #2 | 25.08 | 66.54 | 23.67 | 41.26 | 25.76 | 44.31 | 2.070 | 1.943 |
| #3 | 25.02 | 66.57 | 23.65 | 41.35 | 25.81 | 44.25 | 2.071 | 1.938 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **11.18** | **1.881** | **2.791** | **1.964** | **1.900** | **1.945** | **.2966** | F **-.0324** |
| Stddev | .01 | .001 | .004 | .018 | .001 | .020 | .0007 | .0012 |
| %RSD | .0495 | .0660 | .1422 | .9321 | .0737 | 1.008 | .2308 | 3.623 |
| #1 | 11.19 | 1.881 | 2.794 | 1.980 | 1.901 | 1.964 | .2959 | -.0334 |
| #2 | 11.19 | 1.883 | 2.792 | 1.969 | 1.899 | 1.948 | .2973 | -.0327 |
| #3 | 11.18 | 1.880 | 2.786 | 1.944 | 1.899 | 1.925 | .2966 | -.0311 |

Zoom In Zoom Out

Sample Name: mp14873-s2 Acquired: 5/10/2019 6:05:24 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0379** | **1.923** |
| Stddev | .0002 | .006 |
| %RSD | .6595 | .3081 |
| #1 | -.0377 | 1.919 |
| #2 | -.0381 | 1.930 |
| #3 | -.0377 | 1.921 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84176.** | **8669.2** | **5924.8** | **12066.** |
| Stddev | 649. | 17.5 | 6.1 | 16. |
| %RSD | .77073 | .20151 | .10213 | .12918 |
| #1 | 83572. | 8682.3 | 5931.4 | 12074. |
| #2 | 84093. | 8675.9 | 5923.8 | 12076. |
| #3 | 84862. | 8649.4 | 5919.4 | 12048. |



Zoom In Zoom Out

Sample Name: jc87604-1 Acquired: 5/10/2019 6:10:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3556** | **-.0001** | **.0003** | **-.0003** | **.0078** | **.0011** | **.0652** | **.0050** | **-.0013** |
| Stddev | .0003 | .0001 | .0002 | .0002 | .0003 | .0003 | .0002 | .0003 | .0001 |
| %RSD | .0806 | 203.5 | 47.35 | 51.57 | 3.601 | 26.15 | .2670 | 5.568 | 9.982 |
| #1 | .3555 | .0000 | .0005 | -.0001 | .0080 | .0014 | .0652 | .0047 | -.0013 |
| #2 | .3554 | -.0002 | .0003 | -.0004 | .0075 | .0012 | .0653 | .0050 | -.0014 |
| #3 | .3559 | .0000 | .0002 | -.0003 | .0079 | .0008 | .0650 | .0052 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0224** | **.0016** | **.0000** | **-.0005** | **-.0007** | **.0011** | **.0284** | **41.66** |
| Stddev | .0002 | .0000 | .0007 | .0005 | .0005 | .0013 | .0011 | .0073 | .05 |
| %RSD | 36.79 | .1575 | 41.10 | 31180. | 103.3 | 179.3 | 101.9 | 25.80 | .1268 |
| #1 | .0006 | .0224 | .0014 | .0005 | .0000 | -.0004 | .0003 | .0365 | 41.72 |
| #2 | .0004 | .0224 | .0024 | -.0006 | -.0005 | .0004 | .0007 | .0263 | 41.64 |
| #3 | .0008 | .0225 | .0011 | .0001 | -.0010 | -.0022 | .0024 | .0223 | 41.62 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2275** | **17.96** | **.8796** | **19.18** | **.0992** | **.0023** | **11.02** | **.0013** | **.7431** |
| Stddev | .0051 | .07 | .0639 | .01 | .0002 | .0002 | .04 | .0001 | .0013 |
| %RSD | 2.237 | .4060 | 7.259 | .0429 | .1745 | 6.844 | .3970 | 9.671 | .1684 |
| #1 | .2327 | 18.00 | .9385 | 19.18 | .0992 | .0022 | 11.03 | .0013 | .7430 |
| #2 | .2225 | 18.00 | .8117 | 19.17 | .0993 | .0025 | 10.97 | .0015 | .7418 |
| #3 | .2273 | 17.87 | .8888 | 19.19 | .0990 | .0024 | 11.05 | .0012 | .7443 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **.0082** | **-.0066** | **.4229** | **.0005** | **.0004** | **.0266** |
| Stddev | .0001 | .0005 | .0001 | .0015 | .0011 | .0008 | .0008 |
| %RSD | 2.962 | 5.812 | 1.085 | .3642 | 240.7 | 190.8 | 2.825 |
| #1 | .0019 | .0087 | -.0065 | .4212 | -.0008 | .0013 | .0266 |
| #2 | .0018 | .0077 | -.0065 | .4243 | .0013 | .0004 | .0258 |
| #3 | .0018 | .0082 | -.0066 | .4230 | .0009 | -.0004 | .0273 |



Zoom In Zoom Out

Sample Name: jc87604-1 Acquired: 5/10/2019 6:10:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84573.** | **8692.6** | **5983.3** | **12253.** |
| Stddev | 284. | 44.9 | 18.3 | 36. |
| %RSD | .33543 | .51615 | .30524 | .29643 |
| #1 | 84893. | 8644.1 | 5973.5 | 12229. |
| #2 | 84352. | 8701.0 | 6004.4 | 12295. |
| #3 | 84474. | 8732.7 | 5972.1 | 12236. |



Zoom In Zoom Out

Sample Name: mp14873-sd1 Acquired: 5/10/2019 6:15:27 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3552** | **-.0003** | **.0006** | **-.0010** | **.0085** | **-.0003** | **.0659** | **.0065** | **-.0054** |
| Stddev | .0018 | .0004 | .0002 | .0012 | .0018 | .0013 | .0002 | .0011 | .0006 |
| %RSD | .5039 | 129.9 | 39.13 | 123.1 | 20.98 | 424.0 | .2343 | 16.65 | 11.44 |
| #1 | .3564 | -.0006 | .0005 | -.0024 | .0065 | -.0016 | .0660 | .0066 | -.0048 |
| #2 | .3531 | .0001 | .0004 | -.0004 | .0099 | .0010 | .0657 | .0075 | -.0054 |
| #3 | .3561 | -.0004 | .0008 | -.0002 | .0090 | -.0004 | .0659 | .0053 | -.0061 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0037** | **.0331** | **.0016** | **.0047** | **.0011** | **-.0020** | **.0043** | **-.0022** | **41.72** |
| Stddev | .0009 | .0003 | .0017 | .0038 | .0023 | .0038 | .0027 | .0129 | .07 |
| %RSD | 24.25 | .9761 | 107.3 | 82.23 | 199.1 | 183.6 | 62.63 | 576.3 | .1771 |
| #1 | .0037 | .0335 | .0013 | .0022 | -.0014 | .0012 | .0019 | .0009 | 41.79 |
| #2 | .0046 | .0328 | .0000 | .0027 | .0029 | -.0062 | .0037 | .0088 | 41.65 |
| #3 | .0028 | .0332 | .0033 | .0091 | .0019 | -.0012 | .0072 | -.0165 | 41.72 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2488** | **17.96** | **-.7304** | **18.72** | **.1069** | **.0025** | **10.84** | **.0036** | **.7371** |
| Stddev | .0252 | .25 | .1138 | .09 | .0020 | .0014 | .01 | .0010 | .0028 |
| %RSD | 10.13 | 1.391 | 15.58 | .4969 | 1.837 | 55.10 | .1342 | 28.26 | .3846 |
| #1 | .2608 | 18.24 | -.8508 | 18.82 | .1088 | .0037 | 10.82 | .0043 | .7403 |
| #2 | .2199 | 17.85 | -.6246 | 18.63 | .1049 | .0029 | 10.85 | .0025 | .7350 |
| #3 | .2657 | 17.78 | -.7158 | 18.70 | .1072 | .0010 | 10.85 | .0042 | .7359 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0039** | **.0106** | **-.0057** | **.4099** | **.0016** | **-.0575** | **.0418** |
| Stddev | .0011 | .0026 | .0007 | .0059 | .0094 | .0073 | .0012 |
| %RSD | 27.07 | 24.07 | 12.21 | 1.431 | 579.3 | 12.76 | 2.879 |
| #1 | .0050 | .0136 | -.0054 | .4031 | .0101 | -.0639 | .0412 |
| #2 | .0028 | .0090 | -.0065 | .4135 | -.0085 | -.0590 | .0432 |
| #3 | .0040 | .0093 | -.0052 | .4130 | .0033 | -.0495 | .0410 |

Zoom In Zoom Out

Sample Name: mp14873-sd1 Acquired: 5/10/2019 6:15:27 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87049.** | **8796.9** | **6132.0** | **12691.** |
| Stddev | 144. | 37.1 | 8.8 | 20. |
| %RSD | .16531 | .42160 | .14289 | .15983 |
| #1 | 87210. | 8754.3 | 6142.1 | 12714. |
| #2 | 87005. | 8821.6 | 6126.5 | 12674. |
| #3 | 86933. | 8814.9 | 6127.3 | 12686. |



Zoom In Zoom Out

Sample Name: jc87604-2 Acquired: 5/10/2019 6:20:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1686** | **-.0001** | **.0001** | **-.0006** | **.0027** | **.0002** | **.0250** | **.0011** | **-.0012** |
| Stddev | .0005 | .0001 | .0001 | .0002 | .0001 | .0000 | .0000 | .0001 | .0001 |
| %RSD | .3237 | 51.62 | 108.1 | 33.11 | 5.419 | 4.044 | .1260 | 12.96 | 4.193 |
| #1 | .1683 | -.0002 | -.0000 | -.0004 | .0029 | .0002 | .0250 | .0011 | -.0012 |
| #2 | .1692 | -.0001 | .0002 | -.0008 | .0027 | .0002 | .0250 | .0012 | -.0011 |
| #3 | .1682 | -.0002 | .0002 | -.0006 | .0026 | .0002 | .0250 | .0010 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0087** | **.0073** | **.0003** | **.0000** | **.0005** | **.0004** | **.0032** | **30.87** |
| Stddev | .0003 | .0000 | .0005 | .0008 | .0004 | .0005 | .0002 | .0100 | .04 |
| %RSD | 68.09 | .5609 | 6.593 | 257.1 | 1804. | 102.0 | 54.05 | 309.1 | .1306 |
| #1 | .0001 | .0087 | .0079 | -.0006 | -.0002 | .0007 | .0002 | .0147 | 30.85 |
| #2 | .0006 | .0088 | .0071 | .0010 | -.0002 | .0007 | .0006 | -.0020 | 30.91 |
| #3 | .0008 | .0087 | .0071 | .0006 | .0005 | -.0001 | .0004 | -.0031 | 30.84 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0717** | **16.62** | **.6680** | **17.06** | **.0719** | **.0309** | **8.290** | **.0006** | **.4798** |
| Stddev | .0024 | .01 | .0106 | .04 | .0002 | .0001 | .006 | .0006 | .0011 |
| %RSD | 3.396 | .0584 | 1.591 | .2625 | .2704 | .2221 | .0686 | 106.7 | .2352 |
| #1 | .0738 | 16.62 | .6757 | 17.05 | .0718 | .0308 | 8.296 | .0009 | .4796 |
| #2 | .0723 | 16.63 | .6725 | 17.11 | .0721 | .0309 | 8.284 | -.0001 | .4810 |
| #3 | .0690 | 16.61 | .6559 | 17.03 | .0718 | .0309 | 8.290 | .0010 | .4788 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0083** | **-.0048** | **8.319** | **.0013** | **-.0064** | **.0448** |
| Stddev | .0002 | .0003 | .0001 | .006 | .0008 | .0017 | .0011 |
| %RSD | 14.72 | 3.815 | 3.033 | .0668 | 56.99 | 25.89 | 2.474 |
| #1 | .0009 | .0080 | -.0047 | 8.325 | .0021 | -.0045 | .0440 |
| #2 | .0012 | .0086 | -.0047 | 8.314 | .0013 | -.0076 | .0444 |
| #3 | .0011 | .0084 | -.0050 | 8.318 | .0006 | -.0071 | .0461 |



Zoom In Zoom Out

Sample Name: jc87604-2 Acquired: 5/10/2019 6:20:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85165.** | **8666.1** | **6008.6** | **12328.** |
| Stddev | 219. | 36.7 | 10.0 | 34. |
| %RSD | .25712 | .42364 | .16708 | .27477 |
| #1 | 85130. | 8672.5 | 6020.1 | 12367. |
| #2 | 84966. | 8626.6 | 6001.8 | 12312. |
| #3 | 85399. | 8699.1 | 6004.0 | 12305. |



Zoom In Zoom Out

Sample Name: jc87604-3 Acquired: 5/10/2019 6:25:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1489** | **-.0002** | **.0001** | **-.0004** | **.0043** | **.0005** | **.0427** | **.0026** | **-.0012** |
| Stddev | .0006 | .0001 | .0000 | .0002 | .0000 | .0001 | .0002 | .0002 | .0002 |
| %RSD | .4207 | 44.42 | 24.12 | 42.96 | .5070 | 20.97 | .5516 | 8.870 | 19.59 |
| #1 | .1483 | -.0003 | .0001 | -.0004 | .0042 | .0005 | .0425 | .0025 | -.0013 |
| #2 | .1490 | -.0002 | .0002 | -.0003 | .0043 | .0004 | .0429 | .0029 | -.0014 |
| #3 | .1495 | -.0001 | .0002 | -.0006 | .0043 | .0007 | .0426 | .0024 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0129** | **.0041** | **-.0004** | **.0004** | **.0003** | **.0016** | **.0111** | **32.86** |
| Stddev | .0001 | .0001 | .0005 | .0004 | .0009 | .0002 | .0004 | .0055 | .04 |
| %RSD | 9.809 | .8059 | 11.42 | 90.61 | 219.6 | 76.16 | 25.34 | 49.63 | .1145 |
| #1 | .0007 | .0129 | .0036 | -.0006 | .0012 | .0002 | .0015 | .0051 | 32.83 |
| #2 | .0008 | .0128 | .0044 | .0000 | -.0006 | .0001 | .0012 | .0160 | 32.84 |
| #3 | .0007 | .0130 | .0044 | -.0007 | .0007 | .0005 | .0020 | .0121 | 32.90 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0837** | **19.81** | **.9153** | **18.00** | **.0542** | **.0223** | **7.542** | **.0007** | **.5467** |
| Stddev | .0061 | .06 | .0177 | .02 | .0008 | .0003 | .059 | .0003 | .0009 |
| %RSD | 7.299 | .3095 | 1.928 | .1240 | 1.502 | 1.253 | .7857 | 40.07 | .1669 |
| #1 | .0778 | 19.76 | .9174 | 17.98 | .0552 | .0223 | 7.518 | .0004 | .5457 |
| #2 | .0900 | 19.80 | .8967 | 18.02 | .0538 | .0220 | 7.499 | .0006 | .5474 |
| #3 | .0832 | 19.88 | .9319 | 17.99 | .0537 | .0225 | 7.609 | .0010 | .5472 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **.0369** | **-.0045** | **8.148** | **-.0001** | **-.0074** | **.0407** |
| Stddev | .0002 | .0004 | .0001 | .070 | .0003 | .0003 | .0003 |
| %RSD | 14.64 | 1.098 | 3.326 | .8534 | 668.2 | 4.071 | .7055 |
| #1 | .0015 | .0368 | -.0045 | 8.118 | .0003 | -.0076 | .0409 |
| #2 | .0019 | .0366 | -.0047 | 8.099 | -.0002 | -.0071 | .0408 |
| #3 | .0014 | .0374 | -.0044 | 8.228 | -.0003 | -.0076 | .0404 |

Zoom In Zoom Out

Sample Name: jc87604-3 Acquired: 5/10/2019 6:25:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84360.** | **8557.0** | **5963.2** | **12200.** |
| Stddev | 444. | 16.1 | 38.6 | 75. |
| %RSD | .52574 | .18828 | .64794 | .61451 |
| #1 | 84866. | 8575.6 | 5979.6 | 12222. |
| #2 | 84038. | 8548.6 | 5991.0 | 12261. |
| #3 | 84177. | 8546.8 | 5919.1 | 12116. |



Zoom In Zoom Out

Sample Name: mp14911-b1 3 Acquired: 5/10/2019 6:30:43 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | **1.893** | **1.929** | **1.983** | **1.982** | **2.002** | **1.967** | **1.959** |
| Stddev | .009 | .007 | .008 | .005 | .003 | .003 | .002 | .005 |
| %RSD | .4696 | .3525 | .4015 | .2673 | .1364 | .1557 | .1121 | .2596 |
| #1 | 1.994 | 1.887 | 1.934 | 1.985 | 1.979 | 2.004 | 1.969 | 1.961 |
| #2 | 2.013 | 1.900 | 1.933 | 1.987 | 1.982 | 2.004 | 1.965 | 1.962 |
| #3 | 2.004 | 1.893 | 1.920 | 1.977 | 1.984 | 1.999 | 1.967 | 1.953 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2423** | **1.995** | **2.018** | **1.893** | **2.028** | **1.962** | **1.908** | **1.907** |
| Stddev | .0009 | .001 | .007 | .009 | .007 | .004 | .008 | .007 |
| %RSD | .3661 | .0501 | .3526 | .4858 | .3662 | .2218 | .4277 | .3693 |
| #1 | .2416 | 1.994 | 2.021 | 1.896 | 2.032 | 1.962 | 1.910 | 1.909 |
| #2 | .2433 | 1.995 | 2.023 | 1.900 | 2.033 | 1.967 | 1.914 | 1.913 |
| #3 | .2420 | 1.995 | 2.010 | 1.883 | 2.020 | 1.958 | 1.899 | 1.899 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.53** | **24.68** | **23.20** | **23.11** | **23.65** | **24.08** | **1.932** | **1.922** |
| Stddev | .11 | .09 | .11 | .03 | .13 | .13 | .008 | .008 |
| %RSD | .4487 | .3642 | .4816 | .1211 | .5456 | .5240 | .3994 | .4055 |
| #1 | 24.45 | 24.59 | 23.11 | 23.08 | 23.56 | 23.99 | 1.937 | 1.926 |
| #2 | 24.66 | 24.77 | 23.33 | 23.12 | 23.80 | 24.22 | 1.936 | 1.928 |
| #3 | 24.48 | 24.67 | 23.17 | 23.14 | 23.60 | 24.02 | 1.923 | 1.913 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5852** | **1.882** | **2.019** | **1.962** | **1.893** | **1.936** | **.4167** | F **-.0301** |
| Stddev | .0033 | .006 | .007 | .001 | .008 | .002 | .0031 | .0021 |
| %RSD | .5651 | .3384 | .3469 | .0494 | .4053 | .1261 | .7408 | 6.957 |
| #1 | .5858 | 1.884 | 2.013 | 1.961 | 1.899 | 1.938 | .4189 | -.0325 |
| #2 | .5882 | 1.887 | 2.027 | 1.962 | 1.897 | 1.936 | .4181 | -.0290 |
| #3 | .5817 | 1.875 | 2.017 | 1.963 | 1.885 | 1.933 | .4132 | -.0288 |



Zoom In Zoom Out

Sample Name: mp14911-b1 3 Acquired: 5/10/2019 6:30:43 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0531** | **1.876** |
| Stddev | .0016 | .006 |
| %RSD | 3.011 | .3442 |
| #1 | -.0531 | 1.877 |
| #2 | -.0515 | 1.881 |
| #3 | -.0547 | 1.869 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84658.** | **8775.5** | **6010.8** | **12275.** |
| Stddev | 134. | 27.3 | 12.5 | 13. |
| %RSD | .15808 | .31104 | .20825 | .10777 |
| #1 | 84601. | 8788.2 | 5998.6 | 12261. |
| #2 | 84811. | 8744.2 | 6010.2 | 12276. |
| #3 | 84562. | 8794.1 | 6023.6 | 12287. |



Zoom In Zoom Out

Sample Name: mp14911-mb1 3 Acquired: 5/10/2019 6:35:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0079** | **-.0001** | **.0000** | **.0004** | **.0003** | **.0006** | **.0017** | **.0047** | **-.0016** |
| Stddev | .0002 | .0000 | .0001 | .0002 | .0001 | .0001 | .0001 | .0002 | .0001 |
| %RSD | 2.650 | 37.73 | 137.8 | 49.60 | 53.43 | 11.34 | 3.139 | 3.854 | 6.439 |
| #1 | .0081 | -.0001 | .0000 | .0004 | .0003 | .0006 | .0017 | .0048 | -.0016 |
| #2 | .0078 | -.0002 | .0001 | .0002 | .0004 | .0007 | .0016 | .0048 | -.0014 |
| #3 | .0077 | -.0001 | .0000 | .0006 | .0001 | .0006 | .0017 | .0045 | -.0016 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0778** | **-.0006** | **-.0004** | **-.0002** | **.0007** | **.0006** | **.0178** | **.7020** |
| Stddev | .0001 | .0002 | .0005 | .0009 | .0010 | .0014 | .0007 | .0068 | .0036 |
| %RSD | 23.52 | .3146 | 94.03 | 230.1 | 422.9 | 196.2 | 104.6 | 38.00 | .5064 |
| #1 | .0005 | .0775 | -.0011 | .0001 | -.0009 | -.0001 | .0014 | .0256 | .6981 |
| #2 | .0004 | .0779 | -.0005 | -.0015 | -.0008 | .0024 | .0001 | .0151 | .7049 |
| #3 | .0003 | .0779 | -.0001 | .0002 | .0009 | -.0001 | .0004 | .0129 | .7032 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0500** | **-.4132** | **.0260** | **.0038** | **.0002** | **.5279** | **-.0001** | **.0156** |
| Stddev | .0004 | .0378 | .0359 | .0110 | .0010 | .0002 | .0025 | .0005 | .0001 |
| %RSD | 265.8 | 75.66 | 8.679 | 42.20 | 27.12 | 99.26 | .4751 | 373.4 | .7544 |
| #1 | .0003 | .0808 | -.3925 | .0225 | .0046 | .0003 | .5257 | -.0007 | .0154 |
| #2 | -.0002 | .0078 | -.4546 | .0383 | .0041 | .0003 | .5274 | .0001 | .0157 |
| #3 | -.0005 | .0613 | -.3924 | .0172 | .0026 | -.0000 | .5306 | .0001 | .0156 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0026** | **.0001** | **.4367** | **.0020** | **-.0137** | **.0056** |
| Stddev | .0001 | .0012 | .0002 | .0015 | .0003 | .0019 | .0004 |
| %RSD | 21.57 | 46.11 | 255.0 | .3362 | 17.31 | 13.79 | 7.715 |
| #1 | .0004 | .0039 | .0003 | .4351 | .0022 | -.0124 | .0052 |
| #2 | .0005 | .0020 | -.0001 | .4379 | .0023 | -.0159 | .0055 |
| #3 | .0004 | .0018 | -.0000 | .4371 | .0016 | -.0128 | .0060 |

Zoom In Zoom Out

Sample Name: mp14911-mb1 3 Acquired: 5/10/2019 6:35:40 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86810.** | **8823.5** | **6132.9** | **12704.** |
| Stddev | 355. | 23.0 | 31.5 | 50. |
| %RSD | .40901 | .26034 | .51295 | .39677 |
| #1 | 86501. | 8846.6 | 6165.6 | 12754. |
| #2 | 86730. | 8823.1 | 6130.2 | 12705. |
| #3 | 87198. | 8800.7 | 6102.9 | 12653. |



Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/10/2019 6:40:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **1.927** | **1.976** | **2.020** | **2.017** | **2.039** | **2.025** | **1.991** | **.2466** |
| Stddev | .002 | .001 | .003 | .002 | .006 | .003 | .012 | .002 | .0009 |
| %RSD | .0988 | .0735 | .1714 | .1123 | .3148 | .1411 | .6141 | .1155 | .3505 |
| #1 | 2.045 | 1.928 | 1.980 | 2.022 | 2.023 | 2.042 | 2.018 | 1.993 | .2476 |
| #2 | 2.044 | 1.926 | 1.974 | 2.018 | 2.016 | 2.039 | 2.018 | 1.988 | .2459 |
| #3 | 2.041 | 1.927 | 1.975 | 2.021 | 2.011 | 2.036 | 2.040 | 1.990 | .2463 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.034** | **1.990** | **1.937** | **2.061** | **1.999** | **1.968** | **1.944** | **40.19** | **38.96** |
| Stddev | .008 | .004 | .003 | .000 | .004 | .004 | .006 | .04 | .02 |
| %RSD | .3836 | .2163 | .1380 | .0115 | .2057 | .2054 | .2922 | .0949 | .0557 |
| #1 | 2.042 | 1.995 | 1.940 | 2.061 | 2.003 | 1.973 | 1.950 | 40.18 | 38.99 |
| #2 | 2.032 | 1.987 | 1.935 | 2.061 | 1.995 | 1.965 | 1.939 | 40.15 | 38.94 |
| #3 | 2.027 | 1.989 | 1.937 | 2.061 | 2.000 | 1.967 | 1.942 | 40.22 | 38.97 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.53** | **37.54** | **39.62** | **39.78** | **2.002** | **1.955** | **4.801** | **1.913** | **2.047** |
| Stddev | .09 | .08 | .04 | .03 | .003 | .003 | .010 | .004 | .002 |
| %RSD | .2511 | .2238 | .1000 | .0850 | .1350 | .1734 | .2164 | .2253 | .1008 |
| #1 | 37.60 | 37.64 | 39.66 | 39.82 | 2.004 | 1.959 | 4.811 | 1.918 | 2.050 |
| #2 | 37.42 | 37.49 | 39.60 | 39.76 | 1.999 | 1.952 | 4.790 | 1.910 | 2.046 |
| #3 | 37.56 | 37.49 | 39.59 | 39.76 | 2.002 | 1.955 | 4.801 | 1.912 | 2.046 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/10/2019 6:40:46 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.941** | **1.978** | **1.969** | **2.035** | **1.965** | **1.933** |
| Stddev | .006 | .002 | .003 | .003 | .005 | .004 | .003 |
| %RSD | .3015 | .0962 | .1722 | .1635 | .2652 | .1927 | .1434 |
| #1 | 2.000 | 1.942 | 1.981 | 1.972 | 2.041 | 1.969 | 1.936 |
| #2 | 1.993 | 1.939 | 1.978 | 1.970 | 2.030 | 1.961 | 1.932 |
| #3 | 1.988 | 1.941 | 1.974 | 1.966 | 2.034 | 1.965 | 1.930 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82533.** | **8478.6** | **5872.5** | **11977.** |
| Stddev | 212. | 14.2 | 17.4 | 26. |
| %RSD | .25732 | .16726 | .29639 | .21762 |
| #1 | 82415. | 8471.5 | 5854.5 | 11954. |
| #2 | 82405. | 8495.0 | 5873.7 | 11973. |
| #3 | 82778. | 8469.4 | 5889.3 | 12005. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 6:45:47 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0001** | **.0001** | **-.0001** | **.0002** | **-.0001** | **.0001** | **.0001** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0003 | .0001 | .0000 | .0002 |
| %RSD | 56.56 | 105.3 | 125.4 | 76.59 | 170.3 | 61.59 | 57.57 | 208.8 |
| #1 | .0007 | -.0001 | .0001 | -.0002 | .0004 | -.0002 | .0000 | .0002 |
| #2 | .0002 | .0000 | -.0000 | -.0001 | .0000 | -.0000 | .0001 | .0001 |
| #3 | .0003 | -.0001 | .0001 | -.0000 | -.0000 | -.0002 | .0001 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **-.0003** | **.0000** | **.0002** | **.0010** | **.0004** | **.0019** | **.0004** |
| Stddev | .0003 | .0002 | .0000 | .0004 | .0006 | .0010 | .0007 | .0010 |
| %RSD | 31.98 | 62.97 | 147.5 | 200.2 | 64.95 | 251.1 | 39.17 | 218.2 |
| #1 | -.0014 | -.0001 | .0000 | .0006 | .0003 | .0013 | .0020 | .0009 |
| #2 | -.0007 | -.0002 | .0000 | -.0002 | .0015 | .0006 | .0026 | -.0007 |
| #3 | -.0009 | -.0005 | .0001 | .0002 | .0012 | -.0007 | .0011 | .0011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0091** | **.0005** | **.0048** | **-.0028** | **-.4586** | **-.0633** | **.0033** | **.0000** |
| Stddev | .0064 | .0021 | .0035 | .0254 | .0265 | .0033 | .0004 | .0001 |
| %RSD | 70.73 | 391.2 | 72.59 | 900.6 | 5.775 | 5.226 | 10.93 | 305.6 |
| #1 | .0026 | -.0019 | .0078 | .0175 | -.4369 | -.0613 | .0035 | .0002 |
| #2 | .0155 | .0018 | .0055 | -.0313 | -.4881 | -.0615 | .0028 | -.0000 |
| #3 | .0092 | .0016 | .0010 | .0053 | -.4507 | -.0671 | .0034 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 6:45:47 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **.0004** | **.0000** | **-.0002** | **.0013** | **.0000** | **-.0025** | **.0021** |
| Stddev | .0010 | .0007 | .0002 | .0004 | .0004 | .0001 | .0010 | .0023 |
| %RSD | 65.66 | 162.9 | 1120. | 227.4 | 29.17 | 384.0 | 38.33 | 111.0 |
| #1 | .0027 | -.0003 | -.0001 | .0002 | .0009 | .0001 | -.0030 | .0013 |
| #2 | .0014 | .0004 | -.0001 | -.0006 | .0014 | .0001 | -.0032 | .0002 |
| #3 | .0006 | .0011 | .0003 | -.0002 | .0016 | -.0001 | -.0014 | .0046 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0128** | **.0044** |
| Stddev | .0019 | .0002 |
| %RSD | 14.62 | 4.072 |
| #1 | -.0133 | .0046 |
| #2 | -.0108 | .0042 |
| #3 | -.0144 | .0045 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84689.** | **8474.5** | **6033.0** | **12504.** |
| Stddev | 56. | 4.7 | 5.6 | 12. |
| %RSD | .06556 | .05579 | .09261 | .09221 |
| #1 | 84647. | 8477.0 | 6037.3 | 12511. |
| #2 | 84667. | 8477.4 | 6035.1 | 12510. |
| #3 | 84752. | 8469.0 | 6026.7 | 12491. |



Zoom In Zoom Out

Sample Name: mp14911-s1 3 Acquired: 5/10/2019 6:50:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **1.801** | **1.842** | **1.883** | **2.109** | **1.930** | **1.870** | **1.848** |
| Stddev | .010 | .007 | .020 | .018 | .017 | .016 | .006 | .017 |
| %RSD | .4969 | .4076 | 1.082 | .9797 | .7990 | .8209 | .3476 | .8976 |
| #1 | 2.011 | 1.798 | 1.860 | 1.899 | 2.127 | 1.947 | 1.864 | 1.863 |
| #2 | 2.001 | 1.796 | 1.821 | 1.863 | 2.093 | 1.916 | 1.870 | 1.830 |
| #3 | 2.021 | 1.810 | 1.847 | 1.887 | 2.108 | 1.927 | 1.877 | 1.850 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2302** | **1.900** | **1.880** | **1.816** | **1.928** | **1.948** | **1.822** | **1.803** |
| Stddev | .0020 | .015 | .019 | .016 | .012 | .019 | .018 | .017 |
| %RSD | .8794 | .7962 | 1.017 | .8797 | .6381 | .9644 | 1.010 | .9351 |
| #1 | .2323 | 1.917 | 1.896 | 1.829 | 1.938 | 1.964 | 1.840 | 1.819 |
| #2 | .2283 | 1.888 | 1.859 | 1.798 | 1.914 | 1.927 | 1.803 | 1.785 |
| #3 | .2299 | 1.894 | 1.886 | 1.820 | 1.931 | 1.952 | 1.825 | 1.804 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.98** | **28.77** | **25.08** | **22.69** | **23.60** | **34.23** | **1.995** | **1.822** |
| Stddev | .13 | .12 | .15 | .19 | .12 | .15 | .021 | .020 |
| %RSD | .5030 | .4040 | .6107 | .8526 | .5179 | .4436 | 1.031 | 1.113 |
| #1 | 24.98 | 28.76 | 25.00 | 22.67 | 23.62 | 34.19 | 2.014 | 1.839 |
| #2 | 24.85 | 28.65 | 24.99 | 22.50 | 23.46 | 34.10 | 1.973 | 1.799 |
| #3 | 25.10 | 28.88 | 25.26 | 22.89 | 23.70 | 34.40 | 1.999 | 1.826 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.884** | **1.786** | **1.978** | **1.919** | **1.780** | **1.854** | **7.878** | F **-.0281** |
| Stddev | .048 | .017 | .009 | .015 | .017 | .015 | .075 | .0005 |
| %RSD | .9726 | .9380 | .4743 | .7847 | .9423 | .7860 | .9486 | 1.852 |
| #1 | 4.925 | 1.800 | 1.975 | 1.936 | 1.794 | 1.870 | 7.946 | -.0280 |
| #2 | 4.832 | 1.768 | 1.970 | 1.907 | 1.761 | 1.842 | 7.798 | -.0287 |
| #3 | 4.894 | 1.790 | 1.988 | 1.915 | 1.784 | 1.850 | 7.891 | -.0277 |



Zoom In Zoom Out

Sample Name: mp14911-s1 3 Acquired: 5/10/2019 6:50:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0485** | **1.847** |
| Stddev | .0014 | .018 |
| %RSD | 2.951 | .9877 |
| #1 | -.0489 | 1.863 |
| #2 | -.0496 | 1.827 |
| #3 | -.0469 | 1.851 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83725.** | **8682.9** | **5953.2** | **12151.** |
| Stddev | 662. | 43.1 | 65.2 | 113. |
| %RSD | .79060 | .49669 | 1.0948 | .93386 |
| #1 | 83017. | 8680.7 | 5896.2 | 12052. |
| #2 | 84329. | 8727.1 | 6024.3 | 12275. |
| #3 | 83829. | 8641.0 | 5939.0 | 12126. |



Zoom In Zoom Out

Sample Name: mp14911-s2 Acquired: 5/10/2019 6:55:55 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.046** | **1.823** | **1.892** | **1.938** | **2.206** | **1.985** | **1.940** | **1.899** |
| Stddev | .020 | .020 | .007 | .006 | .002 | .001 | .013 | .005 |
| %RSD | .9691 | 1.075 | .3591 | .3189 | .0964 | .0497 | .6788 | .2564 |
| #1 | 2.023 | 1.801 | 1.896 | 1.943 | 2.205 | 1.984 | 1.950 | 1.902 |
| #2 | 2.061 | 1.839 | 1.895 | 1.940 | 2.209 | 1.986 | 1.925 | 1.902 |
| #3 | 2.054 | 1.830 | 1.884 | 1.931 | 2.206 | 1.986 | 1.945 | 1.894 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2365** | **1.950** | **1.946** | **1.881** | **1.983** | **2.007** | **1.867** | **1.866** |
| Stddev | .0004 | .002 | .007 | .007 | .005 | .007 | .008 | .006 |
| %RSD | .1541 | .0848 | .3878 | .3721 | .2635 | .3623 | .4378 | .3407 |
| #1 | .2364 | 1.952 | 1.951 | 1.886 | 1.988 | 2.012 | 1.873 | 1.868 |
| #2 | .2368 | 1.948 | 1.950 | 1.883 | 1.984 | 2.010 | 1.869 | 1.871 |
| #3 | .2361 | 1.951 | 1.937 | 1.873 | 1.978 | 1.998 | 1.857 | 1.859 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.54** | **29.51** | **25.78** | **23.10** | **24.36** | **35.41** | **2.061** | **1.887** |
| Stddev | .25 | .29 | .27 | .25 | .20 | .34 | .007 | .006 |
| %RSD | .9916 | .9956 | 1.050 | 1.073 | .8254 | .9476 | .3496 | .3188 |
| #1 | 25.25 | 29.18 | 25.47 | 22.81 | 24.13 | 35.04 | 2.062 | 1.890 |
| #2 | 25.74 | 29.75 | 25.99 | 23.26 | 24.50 | 35.70 | 2.068 | 1.891 |
| #3 | 25.62 | 29.59 | 25.87 | 23.22 | 24.44 | 35.50 | 2.053 | 1.880 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.276** | **1.845** | **2.013** | **1.991** | **1.845** | **1.919** | **8.437** | F **-.0293** |
| Stddev | .016 | .007 | .020 | .001 | .008 | .001 | .035 | .0021 |
| %RSD | .3054 | .3842 | .9941 | .0526 | .4555 | .0471 | .4101 | 7.264 |
| #1 | 5.289 | 1.850 | 1.990 | 1.991 | 1.850 | 1.918 | 8.464 | -.0286 |
| #2 | 5.280 | 1.849 | 2.028 | 1.990 | 1.850 | 1.919 | 8.449 | -.0318 |
| #3 | 5.258 | 1.837 | 2.021 | 1.992 | 1.835 | 1.919 | 8.398 | -.0277 |

Zoom In Zoom Out

Sample Name: mp14911-s2 Acquired: 5/10/2019 6:55:55 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0497** | **1.897** |
| Stddev | .0001 | .010 |
| %RSD | .2014 | .5371 |
| #1 | -.0498 | 1.902 |
| #2 | -.0496 | 1.905 |
| #3 | -.0497 | 1.886 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83549.** | **8717.1** | **5931.0** | **12087.** |
| Stddev | 196. | 54.3 | 12.6 | 16. |
| %RSD | .23442 | .62290 | .21204 | .12920 |
| #1 | 83767. | 8779.8 | 5927.3 | 12083. |
| #2 | 83494. | 8684.2 | 5920.7 | 12073. |
| #3 | 83387. | 8687.4 | 5945.0 | 12104. |



Zoom In Zoom Out

Sample Name: jc87492-3a Acquired: 5/10/2019 7:00:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1171** | **.0004** | **.0006** | **.0006** | **.2353** | **.0104** | **.0057** | **.0027** | **-.0015** |
| Stddev | .0004 | .0001 | .0001 | .0001 | .0021 | .0003 | .0000 | .0002 | .0003 |
| %RSD | .3356 | 27.63 | 23.38 | 11.27 | .9049 | 3.003 | .4498 | 7.312 | 17.09 |
| #1 | .1176 | .0004 | .0004 | .0007 | .2344 | .0107 | .0057 | .0025 | -.0013 |
| #2 | .1170 | .0005 | .0006 | .0006 | .2337 | .0101 | .0057 | .0029 | -.0016 |
| #3 | .1168 | .0003 | .0007 | .0005 | .2377 | .0106 | .0057 | .0027 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **.0353** | **.0102** | **.0001** | **.0857** | **.0018** | **.0044** | **1.163** | **6.028** |
| Stddev | .0002 | .0002 | .0007 | .0008 | .0005 | .0014 | .0007 | .020 | .015 |
| %RSD | 3.295 | .5646 | 6.795 | 1037. | .5631 | 75.49 | 16.23 | 1.679 | .2429 |
| #1 | .0048 | .0355 | .0104 | -.0005 | .0852 | .0021 | .0043 | 1.169 | 6.012 |
| #2 | .0051 | .0353 | .0108 | -.0002 | .0862 | .0003 | .0052 | 1.141 | 6.034 |
| #3 | .0050 | .0351 | .0095 | .0010 | .0856 | .0030 | .0037 | 1.178 | 6.039 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.981** | **.7698** | **.7137** | **11.36** | **.1518** | **.0018** | **4.180** | **.0024** | **.0693** |
| Stddev | .016 | .0078 | .0187 | .02 | .0003 | .0003 | .033 | .0003 | .0001 |
| %RSD | .5223 | 1.009 | 2.618 | .1579 | .2189 | 14.04 | .7962 | 13.02 | .0847 |
| #1 | 2.967 | .7614 | .7338 | 11.36 | .1515 | .0019 | 4.200 | .0021 | .0692 |
| #2 | 2.998 | .7713 | .6969 | 11.35 | .1521 | .0016 | 4.199 | .0024 | .0692 |
| #3 | 2.980 | .7767 | .7103 | 11.38 | .1519 | .0021 | 4.142 | .0027 | .0693 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0545** | **.0021** | **-.0008** | **7.807** | **.0005** | **-.0109** | **.0684** |
| Stddev | .0015 | .0012 | .0001 | .053 | .0001 | .0007 | .0008 |
| %RSD | 2.842 | 55.93 | 15.84 | .6821 | 13.26 | 6.689 | 1.237 |
| #1 | .0550 | .0033 | -.0007 | 7.827 | .0006 | -.0107 | .0691 |
| #2 | .0528 | .0018 | -.0009 | 7.847 | .0005 | -.0117 | .0687 |
| #3 | .0557 | .0010 | -.0010 | 7.746 | .0005 | -.0103 | .0675 |



Zoom In Zoom Out

Sample Name: jc87492-3a Acquired: 5/10/2019 7:00:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84898.** | **8623.8** | **6044.3** | **12467.** |
| Stddev | 414. | 38.2 | 40.5 | 95. |
| %RSD | .48757 | .44264 | .66940 | .76196 |
| #1 | 84715. | 8635.1 | 6016.6 | 12404. |
| #2 | 85372. | 8654.9 | 6025.5 | 12420. |
| #3 | 84607. | 8581.2 | 6090.7 | 12576. |



Zoom In Zoom Out

Sample Name: mp14911-sd1 Acquired: 5/10/2019 7:05:56 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1212** | **-.0000** | **.0001** | **.0002** | **.2401** | **.0096** | **.0060** | **.0031** | **-.0088** |
| Stddev | .0003 | .0003 | .0005 | .0007 | .0034 | .0013 | .0001 | .0009 | .0019 |
| %RSD | .2255 | 908.0 | 560.1 | 359.3 | 1.425 | 13.46 | 2.130 | 28.86 | 21.16 |
| #1 | .1214 | .0001 | -.0000 | -.0003 | .2441 | .0081 | .0059 | .0034 | -.0109 |
| #2 | .1212 | -.0004 | .0006 | -.0001 | .2383 | .0105 | .0061 | .0039 | -.0073 |
| #3 | .1209 | .0002 | -.0003 | .0010 | .2380 | .0102 | .0059 | .0021 | -.0083 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **.0394** | **.0086** | **-.0009** | **.0855** | **.0008** | **.0068** | **1.217** | **6.158** |
| Stddev | .0010 | .0012 | .0061 | .0037 | .0015 | .0096 | .0054 | .012 | .018 |
| %RSD | 20.61 | 2.974 | 71.11 | 422.5 | 1.712 | 1263. | 79.75 | .9532 | .2901 |
| #1 | .0060 | .0394 | .0119 | .0032 | .0869 | .0003 | .0013 | 1.230 | 6.163 |
| #2 | .0049 | .0383 | .0016 | -.0040 | .0857 | -.0086 | .0070 | 1.210 | 6.173 |
| #3 | .0040 | .0406 | .0125 | -.0019 | .0840 | .0106 | .0121 | 1.211 | 6.138 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.039** | **.8507** | **-1.196** | **11.19** | **.1653** | **.0023** | **4.238** | **.0056** | **.0705** |
| Stddev | .005 | .1372 | .036 | .07 | .0020 | .0011 | .113 | .0037 | .0005 |
| %RSD | .1638 | 16.13 | 3.001 | .6181 | 1.189 | 48.99 | 2.660 | 65.63 | .7599 |
| #1 | 3.037 | .7551 | -1.160 | 11.22 | .1662 | .0028 | 4.172 | .0093 | .0711 |
| #2 | 3.045 | 1.008 | -1.197 | 11.24 | .1630 | .0030 | 4.174 | .0019 | .0700 |
| #3 | 3.036 | .7891 | -1.232 | 11.11 | .1666 | .0010 | 4.368 | .0055 | .0705 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0547** | **.0054** | **.0001** | **7.918** | **.0054** | **-.0675** | **.0909** |
| Stddev | .0023 | .0020 | .0005 | .197 | .0042 | .0031 | .0033 |
| %RSD | 4.234 | 37.15 | 439.4 | 2.487 | 78.96 | 4.555 | 3.605 |
| #1 | .0525 | .0057 | .0007 | 7.797 | .0100 | -.0654 | .0881 |
| #2 | .0571 | .0032 | -.0001 | 7.813 | .0017 | -.0662 | .0901 |
| #3 | .0544 | .0072 | -.0003 | 8.146 | .0044 | -.0711 | .0945 |

Zoom In Zoom Out

Sample Name: mp14911-sd1 Acquired: 5/10/2019 7:05:56 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84892.** | **8638.5** | **5962.0** | **12363.** |
| Stddev | 19. | 9.9 | 137.1 | 260. |
| %RSD | .02182 | .11463 | 2.2995 | 2.1003 |
| #1 | 84872. | 8639.8 | 6052.0 | 12518. |
| #2 | 84909. | 8647.8 | 6029.7 | 12508. |
| #3 | 84894. | 8628.1 | 5804.2 | 12064. |



Zoom In Zoom Out

Sample Name: jc87492-1a Acquired: 5/10/2019 7:11:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0440** | **.0001** | **.0002** | **.0011** | **.0229** | **.0144** | **.0174** | **.0052** | **-.0017** |
| Stddev | .0002 | .0001 | .0000 | .0002 | .0002 | .0000 | .0001 | .0002 | .0001 |
| %RSD | .5240 | 89.87 | 15.60 | 16.78 | .6618 | .3058 | .4930 | 4.616 | 7.938 |
| #1 | .0438 | .0000 | .0002 | .0010 | .0228 | .0144 | .0174 | .0052 | -.0017 |
| #2 | .0441 | .0002 | .0002 | .0010 | .0231 | .0144 | .0175 | .0049 | -.0018 |
| #3 | .0442 | .0001 | .0002 | .0013 | .0230 | .0143 | .0174 | .0054 | -.0016 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0324** | **.0324** | **.0132** | **-.0008** | **.0150** | **.0007** | **.0025** | **8.697** | **2.637** |
| Stddev | .0002 | .0002 | .0004 | .0016 | .0008 | .0006 | .0002 | .065 | .015 |
| %RSD | .6384 | .4754 | 2.807 | 196.7 | 5.555 | 85.09 | 6.994 | .7484 | .5739 |
| #1 | .0322 | .0324 | .0136 | .0009 | .0157 | .0001 | .0026 | 8.682 | 2.647 |
| #2 | .0324 | .0322 | .0132 | -.0022 | .0141 | .0006 | .0023 | 8.768 | 2.644 |
| #3 | .0326 | .0325 | .0129 | -.0012 | .0152 | .0013 | .0024 | 8.640 | 2.619 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **18.13** | **1.060** | **1.820** | **18.28** | **.2709** | **.0249** | **14.39** | **.0004** | **.0373** |
| Stddev | .12 | .013 | .018 | .11 | .0017 | .0004 | .07 | .0002 | .0004 |
| %RSD | .6853 | 1.236 | 1.003 | .6001 | .6192 | 1.521 | .4796 | 37.64 | 1.005 |
| #1 | 18.14 | 1.075 | 1.830 | 18.29 | .2710 | .0249 | 14.35 | .0003 | .0374 |
| #2 | 18.25 | 1.051 | 1.799 | 18.39 | .2693 | .0245 | 14.36 | .0004 | .0376 |
| #3 | 18.00 | 1.053 | 1.831 | 18.17 | .2726 | .0252 | 14.47 | .0006 | .0369 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1839** | **.0031** | **-.0015** | **1.930** | **-.0012** | **-.0051** | **.3986** |
| Stddev | .0010 | .0014 | .0002 | .010 | .0012 | .0023 | .0017 |
| %RSD | .5643 | 46.52 | 13.80 | .5361 | 97.48 | 44.88 | .4245 |
| #1 | .1837 | .0020 | -.0014 | 1.926 | -.0009 | -.0027 | .3967 |
| #2 | .1830 | .0047 | -.0017 | 1.923 | -.0002 | -.0054 | .3992 |
| #3 | .1851 | .0025 | -.0013 | 1.942 | -.0026 | -.0073 | .3999 |



Zoom In Zoom Out

Sample Name: jc87492-1a Acquired: 5/10/2019 7:11:02 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85741.** | **8820.5** | **6105.5** | **12466.** |
| Stddev | 144. | 62.8 | 15.1 | 19. |
| %RSD | .16743 | .71180 | .24765 | .15009 |
| #1 | 85865. | 8821.7 | 6103.2 | 12455. |
| #2 | 85584. | 8757.1 | 6121.6 | 12488. |
| #3 | 85775. | 8882.6 | 6091.6 | 12457. |



Zoom In Zoom Out

Sample Name: jc87492-2a Acquired: 5/10/2019 7:16:04 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0480** | **.0000** | **.0004** | **.0017** | **.0237** | **.0298** | **.0503** | **.0086** | **-.0014** |
| Stddev | .0005 | .0001 | .0001 | .0003 | .0005 | .0001 | .0004 | .0004 | .0001 |
| %RSD | 1.076 | 266.5 | 21.37 | 16.19 | 1.981 | .4207 | .7854 | 5.159 | 9.251 |
| #1 | .0475 | -.0000 | .0005 | .0018 | .0237 | .0299 | .0504 | .0081 | -.0015 |
| #2 | .0480 | .0000 | .0003 | .0014 | .0232 | .0296 | .0498 | .0088 | -.0014 |
| #3 | .0486 | .0001 | .0004 | .0019 | .0241 | .0298 | .0505 | .0089 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0441** | **.0870** | **.0139** | **-.0008** | **.0329** | **.0017** | **.0064** | **10.11** | **2.644** |
| Stddev | .0001 | .0014 | .0006 | .0014 | .0009 | .0013 | .0013 | .14 | .039 |
| %RSD | .1303 | 1.666 | 4.012 | 166.4 | 2.828 | 78.09 | 19.74 | 1.384 | 1.476 |
| #1 | .0441 | .0867 | .0135 | -.0008 | .0330 | .0013 | .0052 | 10.06 | 2.625 |
| #2 | .0441 | .0858 | .0137 | .0005 | .0319 | .0006 | .0061 | 9.992 | 2.617 |
| #3 | .0442 | .0886 | .0146 | -.0022 | .0337 | .0032 | .0077 | 10.26 | 2.688 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **18.38** | **1.514** | **1.865** | **27.51** | **.3852** | **.0049** | **16.50** | **.0017** | **.0228** |
| Stddev | .27 | .025 | .030 | .39 | .0066 | .0003 | .27 | .0003 | .0004 |
| %RSD | 1.452 | 1.670 | 1.610 | 1.431 | 1.710 | 6.756 | 1.622 | 19.44 | 1.783 |
| #1 | 18.29 | 1.496 | 1.897 | 27.36 | .3847 | .0049 | 16.45 | .0020 | .0225 |
| #2 | 18.17 | 1.502 | 1.838 | 27.22 | .3788 | .0046 | 16.26 | .0014 | .0227 |
| #3 | 18.68 | 1.543 | 1.859 | 27.96 | .3920 | .0053 | 16.79 | .0016 | .0233 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2170** | **.0037** | **-.0039** | **2.874** | **-.0006** | **-.0071** | **.4137** |
| Stddev | .0005 | .0003 | .0000 | .046 | .0006 | .0004 | .0068 |
| %RSD | .2482 | 7.552 | .3282 | 1.614 | 95.08 | 5.537 | 1.638 |
| #1 | .2170 | .0036 | -.0040 | 2.861 | -.0008 | -.0067 | .4134 |
| #2 | .2164 | .0040 | -.0039 | 2.836 | .0000 | -.0074 | .4071 |
| #3 | .2175 | .0035 | -.0039 | 2.926 | -.0011 | -.0073 | .4207 |

Zoom In Zoom Out

Sample Name: jc87492-2a Acquired: 5/10/2019 7:16:04 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86215.** | **8708.3** | **6085.5** | **12400.** |
| Stddev | 267. | 136.2 | 85.8 | 149. |
| %RSD | .30948 | 1.5643 | 1.4099 | 1.1999 |
| #1 | 86014. | 8746.5 | 6115.6 | 12451. |
| #2 | 86518. | 8821.3 | 6152.1 | 12517. |
| #3 | 86113. | 8557.0 | 5988.7 | 12233. |



Zoom In Zoom Out

Sample Name: jc87492-4a Acquired: 5/10/2019 7:21:06 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0617** | **-.0000** | **.0001** | **.0006** | **.0226** | **.0094** | **.0393** | **.0184** | **-.0013** |
| Stddev | .0007 | .0001 | .0000 | .0002 | .0004 | .0002 | .0001 | .0003 | .0003 |
| %RSD | 1.139 | 238.8 | 39.48 | 37.09 | 1.589 | 1.749 | .3538 | 1.416 | 22.59 |
| #1 | .0619 | -.0001 | .0002 | .0007 | .0230 | .0092 | .0393 | .0187 | -.0012 |
| #2 | .0623 | -.0001 | .0001 | .0007 | .0227 | .0094 | .0391 | .0183 | -.0010 |
| #3 | .0609 | .0001 | .0001 | .0003 | .0223 | .0095 | .0394 | .0183 | -.0016 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0187** | **.0169** | **.0076** | **-.0017** | **.0183** | **.0020** | **.0016** | **5.253** | **5.325** |
| Stddev | .0002 | .0001 | .0007 | .0021 | .0006 | .0009 | .0012 | .020 | .023 |
| %RSD | .8506 | .4844 | 9.812 | 126.1 | 3.321 | 45.12 | 75.66 | .3724 | .4373 |
| #1 | .0186 | .0170 | .0082 | -.0029 | .0188 | .0030 | .0002 | 5.241 | 5.314 |
| #2 | .0186 | .0168 | .0079 | .0008 | .0184 | .0014 | .0021 | 5.276 | 5.352 |
| #3 | .0188 | .0169 | .0068 | -.0030 | .0176 | .0016 | .0026 | 5.243 | 5.309 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.74** | **.7160** | **1.902** | **34.63** | **.3026** | **.0026** | **9.917** | **.0017** | **.3700** |
| Stddev | .04 | .0073 | .031 | .14 | .0007 | .0001 | .007 | .0002 | .0010 |
| %RSD | .3623 | 1.014 | 1.644 | .4080 | .2157 | 2.166 | .0752 | 12.71 | .2673 |
| #1 | 10.70 | .7243 | 1.880 | 34.53 | .3025 | .0027 | 9.916 | .0017 | .3696 |
| #2 | 10.78 | .7123 | 1.938 | 34.80 | .3019 | .0026 | 9.925 | .0020 | .3712 |
| #3 | 10.73 | .7112 | 1.888 | 34.58 | .3032 | .0026 | 9.910 | .0015 | .3694 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1447** | **.0018** | **-.0015** | **2.630** | **.0005** | **.0123** | **.4132** |
| Stddev | .0005 | .0006 | .0002 | .002 | .0006 | .0008 | .0007 |
| %RSD | .3331 | 35.45 | 11.83 | .0836 | 119.4 | 6.484 | .1709 |
| #1 | .1443 | .0023 | -.0013 | 2.630 | .0008 | .0132 | .4134 |
| #2 | .1452 | .0021 | -.0017 | 2.627 | .0010 | .0120 | .4138 |
| #3 | .1445 | .0011 | -.0016 | 2.632 | -.0002 | .0117 | .4124 |



Zoom In Zoom Out

Sample Name: jc87492-4a Acquired: 5/10/2019 7:21:06 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86519.** | **8804.3** | **6143.1** | **12485.** |
| Stddev | 120. | 48.9 | 8.5 | 17. |
| %RSD | .13823 | .55487 | .13838 | .13533 |
| #1 | 86537. | 8854.1 | 6138.0 | 12475. |
| #2 | 86628. | 8756.4 | 6152.9 | 12504. |
| #3 | 86391. | 8802.3 | 6138.3 | 12475. |



Zoom In Zoom Out

Sample Name: jc87604-4 7 Acquired: 5/10/2019 7:26:09 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1311** | **-.0001** | **.0000** | **-.0004** | **.0027** | **.0014** | **.1533** | **.0021** | **-.0012** |
| Stddev | .0003 | .0001 | .0001 | .0002 | .0001 | .0001 | .0005 | .0003 | .0003 |
| %RSD | .2192 | 49.73 | 420.1 | 59.79 | 2.584 | 4.405 | .3347 | 15.48 | 24.31 |
| #1 | .1308 | -.0001 | -.0000 | -.0004 | .0027 | .0014 | .1527 | .0021 | -.0013 |
| #2 | .1314 | -.0002 | -.0000 | -.0001 | .0027 | .0014 | .1535 | .0025 | -.0015 |
| #3 | .1312 | -.0001 | .0001 | -.0006 | .0028 | .0015 | .1536 | .0018 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0143** | **.0064** | **-.0010** | **-.0005** | **-.0004** | **.0009** | **.0205** | **27.98** |
| Stddev | .0002 | .0001 | .0007 | .0015 | .0009 | .0014 | .0008 | .0025 | .02 |
| %RSD | 26.75 | .3803 | 11.65 | 145.0 | 192.6 | 372.0 | 80.29 | 12.36 | .0619 |
| #1 | .0005 | .0143 | .0066 | -.0017 | -.0014 | -.0012 | .0009 | .0216 | 27.98 |
| #2 | .0009 | .0142 | .0070 | .0007 | -.0004 | -.0011 | .0002 | .0222 | 28.00 |
| #3 | .0007 | .0143 | .0055 | -.0021 | .0004 | .0012 | .0017 | .0176 | 27.96 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0619** | **16.07** | **1.115** | **18.29** | **.0594** | **.0200** | **7.978** | **-.0000** | **.4087** |
| Stddev | .0024 | .05 | .032 | .06 | .0006 | .0003 | .014 | .0002 | .0005 |
| %RSD | 3.922 | .2975 | 2.831 | .3171 | .9958 | 1.432 | .1786 | 356.4 | .1281 |
| #1 | .0628 | 16.03 | 1.145 | 18.23 | .0588 | .0197 | 7.963 | -.0002 | .4081 |
| #2 | .0638 | 16.06 | 1.082 | 18.33 | .0600 | .0203 | 7.991 | .0001 | .4091 |
| #3 | .0592 | 16.12 | 1.117 | 18.32 | .0595 | .0199 | 7.981 | -.0001 | .4089 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0169** | **-.0046** | **7.044** | **.0009** | **-.0068** | **.0480** |
| Stddev | .0002 | .0010 | .0001 | .015 | .0002 | .0010 | .0004 |
| %RSD | 15.60 | 5.693 | 1.703 | .2088 | 23.95 | 14.47 | .8744 |
| #1 | .0011 | .0165 | -.0045 | 7.027 | .0007 | -.0060 | .0477 |
| #2 | .0012 | .0181 | -.0045 | 7.055 | .0011 | -.0079 | .0479 |
| #3 | .0014 | .0163 | -.0047 | 7.051 | .0008 | -.0065 | .0485 |

Zoom In Zoom Out

Sample Name: jc87604-4 7 Acquired: 5/10/2019 7:26:09 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84754.** | **8649.7** | **6023.8** | **12303.** |
| Stddev | 301. | 14.9 | 16.5 | 24. |
| %RSD | .35514 | .17194 | .27356 | .19186 |
| #1 | 85101. | 8661.9 | 6038.8 | 12319. |
| #2 | 84560. | 8633.2 | 6026.6 | 12314. |
| #3 | 84601. | 8654.1 | 6006.2 | 12276. |



Zoom In Zoom Out

Sample Name: jc87604-5 Acquired: 5/10/2019 7:31:15 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4271** | **-.0001** | **.0002** | **-.0003** | **.0038** | **.0015** | **.4254** | **.0024** | **-.0012** |
| Stddev | .0006 | .0000 | .0002 | .0002 | .0004 | .0001 | .0004 | .0003 | .0003 |
| %RSD | .1419 | 13.46 | 94.15 | 59.03 | 9.450 | 4.650 | .0858 | 11.54 | 25.10 |
| #1 | .4266 | -.0001 | .0001 | -.0005 | .0038 | .0016 | .4250 | .0025 | -.0016 |
| #2 | .4278 | -.0001 | .0005 | -.0002 | .0041 | .0015 | .4257 | .0021 | -.0012 |
| #3 | .4269 | -.0001 | .0002 | -.0002 | .0034 | .0015 | .4254 | .0026 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0183** | **.0010** | **.0005** | **-.0005** | **-.0019** | **.0015** | **.0318** | **35.66** |
| Stddev | .0002 | .0002 | .0002 | .0011 | .0014 | .0014 | .0016 | .0079 | .02 |
| %RSD | 16.33 | 1.069 | 24.90 | 213.4 | 266.4 | 72.57 | 105.1 | 24.84 | .0610 |
| #1 | .0011 | .0185 | .0007 | -.0004 | -.0018 | -.0003 | .0029 | .0336 | 35.63 |
| #2 | .0009 | .0182 | .0010 | .0017 | .0009 | -.0028 | .0019 | .0386 | 35.67 |
| #3 | .0009 | .0181 | .0012 | .0002 | -.0007 | -.0025 | -.0002 | .0231 | 35.66 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1010** | **16.58** | **2.557** | **22.70** | **.0373** | **.0020** | **9.846** | **-.0002** | **.3594** |
| Stddev | .0041 | .07 | .020 | .03 | .0006 | .0000 | .026 | .0006 | .0001 |
| %RSD | 4.032 | .4200 | .7982 | .1112 | 1.715 | 2.025 | .2655 | 304.0 | .0352 |
| #1 | .0996 | 16.52 | 2.576 | 22.67 | .0377 | .0021 | 9.857 | -.0003 | .3592 |
| #2 | .0978 | 16.56 | 2.536 | 22.70 | .0377 | .0020 | 9.865 | .0005 | .3595 |
| #3 | .1056 | 16.66 | 2.558 | 22.72 | .0366 | .0021 | 9.816 | -.0007 | .3594 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **.0020** | **-.0010** | **6.375** | **-.0011** | **.0134** | **.0475** |
| Stddev | .0001 | .0005 | .0000 | .014 | .0006 | .0012 | .0004 |
| %RSD | 7.206 | 25.73 | 4.887 | .2184 | 60.30 | 9.128 | .8137 |
| #1 | .0016 | .0024 | -.0010 | 6.383 | -.0009 | .0131 | .0478 |
| #2 | .0017 | .0014 | -.0009 | 6.384 | -.0005 | .0147 | .0475 |
| #3 | .0015 | .0022 | -.0010 | 6.359 | -.0018 | .0124 | .0470 |



Zoom In Zoom Out

Sample Name: jc87604-5 Acquired: 5/10/2019 7:31:15 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84484.** | **8642.5** | **6001.6** | **12244.** |
| Stddev | 133. | 8.4 | 7.4 | 13. |
| %RSD | .15727 | .09700 | .12271 | .10792 |
| #1 | 84624. | 8652.1 | 5995.4 | 12228. |
| #2 | 84467. | 8638.8 | 5999.8 | 12250. |
| #3 | 84360. | 8636.7 | 6009.8 | 12252. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 7:36:22 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.028** | **1.913** | **1.971** | **2.015** | **2.019** | **2.039** | **2.011** | **1.980** | **.2465** |
| Stddev | .001 | .001 | .001 | .002 | .005 | .002 | .007 | .001 | .0001 |
| %RSD | .0405 | .0546 | .0733 | .0866 | .2263 | .0828 | .3656 | .0336 | .0531 |
| #1 | 2.027 | 1.911 | 1.973 | 2.017 | 2.014 | 2.038 | 2.011 | 1.981 | .2464 |
| #2 | 2.028 | 1.913 | 1.971 | 2.014 | 2.021 | 2.041 | 2.004 | 1.980 | .2466 |
| #3 | 2.029 | 1.913 | 1.971 | 2.013 | 2.021 | 2.038 | 2.019 | 1.980 | .2464 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.031** | **1.981** | **1.931** | **2.052** | **1.995** | **1.955** | **1.932** | **39.91** | **38.94** |
| Stddev | .003 | .000 | .001 | .001 | .003 | .003 | .000 | .04 | .01 |
| %RSD | .1312 | .0180 | .0489 | .0558 | .1402 | .1750 | .0177 | .0958 | .0345 |
| #1 | 2.028 | 1.981 | 1.930 | 2.052 | 1.998 | 1.952 | 1.932 | 39.90 | 38.95 |
| #2 | 2.033 | 1.981 | 1.932 | 2.051 | 1.992 | 1.955 | 1.931 | 39.88 | 38.93 |
| #3 | 2.033 | 1.981 | 1.932 | 2.053 | 1.994 | 1.959 | 1.932 | 39.95 | 38.93 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.48** | **37.58** | **39.10** | **39.13** | **2.001** | **1.945** | **4.760** | **1.892** | **2.040** |
| Stddev | .01 | .07 | .03 | .03 | .001 | .002 | .001 | .002 | .002 |
| %RSD | .0254 | .1904 | .0883 | .0677 | .0227 | .1001 | .0236 | .0881 | .1133 |
| #1 | 37.48 | 37.55 | 39.14 | 39.15 | 2.002 | 1.947 | 4.760 | 1.894 | 2.041 |
| #2 | 37.47 | 37.66 | 39.09 | 39.10 | 2.001 | 1.943 | 4.761 | 1.892 | 2.038 |
| #3 | 37.49 | 37.54 | 39.07 | 39.15 | 2.001 | 1.946 | 4.759 | 1.891 | 2.043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 7:36:22 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.991** | **1.933** | **1.967** | **1.967** | **2.034** | **1.942** | **1.915** |
| Stddev | .003 | .003 | .002 | .002 | .003 | .003 | .005 |
| %RSD | .1712 | .1483 | .0936 | .1210 | .1289 | .1288 | .2679 |
| #1 | 1.988 | 1.936 | 1.966 | 1.968 | 2.036 | 1.944 | 1.919 |
| #2 | 1.994 | 1.932 | 1.970 | 1.964 | 2.034 | 1.939 | 1.909 |
| #3 | 1.990 | 1.930 | 1.967 | 1.969 | 2.031 | 1.943 | 1.916 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82227.** | **8441.6** | **5862.9** | **11927.** |
| Stddev | 265. | 29.4 | 4.9 | 10. |
| %RSD | .32247 | .34821 | .08368 | .08684 |
| #1 | 82529. | 8429.6 | 5860.2 | 11921. |
| #2 | 82032. | 8420.1 | 5868.5 | 11939. |
| #3 | 82119. | 8475.1 | 5859.8 | 11921. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 7:41:24 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0000** | **-.0000** | **-.0002** | **.0003** | **-.0005** | **.0001** | **.0003** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0004 | .0000 | .0000 | .0001 |
| %RSD | 63.87 | 44.76 | 3146. | 26.61 | 157.3 | 2.200 | 38.56 | 29.17 |
| #1 | .0004 | -.0001 | -.0001 | -.0002 | .0005 | -.0005 | .0001 | .0003 |
| #2 | .0004 | -.0000 | -.0001 | -.0003 | .0005 | -.0005 | .0001 | .0003 |
| #3 | .0010 | -.0001 | .0002 | -.0002 | -.0002 | -.0005 | .0001 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **.0002** | **.0000** | **.0003** | **.0007** | **.0000** | **.0019** | **-.0003** |
| Stddev | .0000 | .0002 | .0000 | .0004 | .0011 | .0005 | .0017 | .0005 |
| %RSD | 1.576 | 80.33 | 126.2 | 165.5 | 158.4 | 1691. | 86.16 | 190.3 |
| #1 | -.0013 | .0001 | .0000 | -.0001 | .0008 | -.0005 | .0004 | .0003 |
| #2 | -.0013 | .0001 | -.0000 | .0002 | .0017 | .0004 | .0037 | -.0006 |
| #3 | -.0013 | .0004 | .0001 | .0007 | -.0004 | .0002 | .0017 | -.0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **-.0039** | **.0005** | **-.0106** | **-.4567** | **-.0526** | **.0022** | **-.0000** |
| Stddev | .0053 | .0002 | .0010 | .0229 | .0228 | .0042 | .0009 | .0002 |
| %RSD | 845.6 | 5.496 | 195.4 | 217.5 | 4.987 | 8.043 | 38.63 | 6341. |
| #1 | -.0039 | -.0041 | -.0005 | -.0357 | -.4759 | -.0478 | .0026 | .0002 |
| #2 | -.0035 | -.0036 | .0006 | .0093 | -.4315 | -.0541 | .0012 | -.0003 |
| #3 | .0055 | -.0039 | .0015 | -.0053 | -.4628 | -.0559 | .0028 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 7:41:24 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0006** | **.0001** | **.0002** | **.0009** | **.0002** | **-.0024** | **.0008** |
| Stddev | .0009 | .0004 | .0000 | .0002 | .0007 | .0001 | .0005 | .0009 |
| %RSD | 123.1 | 77.08 | 88.69 | 90.38 | 83.91 | 45.91 | 18.63 | 102.7 |
| #1 | .0017 | .0001 | .0000 | .0004 | .0000 | .0001 | -.0019 | .0013 |
| #2 | .0004 | .0005 | .0001 | .0001 | .0014 | .0002 | -.0028 | -.0002 |
| #3 | .0000 | .0010 | .0000 | .0001 | .0011 | .0003 | -.0025 | .0014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0119** | **.0045** |
| Stddev | .0006 | .0006 |
| %RSD | 4.835 | 12.84 |
| #1 | -.0115 | .0039 |
| #2 | -.0126 | .0050 |
| #3 | -.0117 | .0045 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85197.** | **8568.7** | **6074.8** | **12582.** |
| Stddev | 167. | 29.9 | 3.8 | 10. |
| %RSD | .19547 | .34838 | .06207 | .08081 |
| #1 | 85332. | 8594.2 | 6074.5 | 12594. |
| #2 | 85248. | 8535.9 | 6078.7 | 12580. |
| #3 | 85011. | 8576.0 | 6071.2 | 12574. |



Zoom In Zoom Out

Sample Name: jc87604-6 Acquired: 5/10/2019 7:46:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3967** | **-.0001** | **.0001** | **-.0003** | **.0044** | **.0028** | **.2312** | **.0042** | **-.0013** |
| Stddev | .0019 | .0000 | .0001 | .0002 | .0002 | .0002 | .0004 | .0002 | .0002 |
| %RSD | .4677 | 10.38 | 70.84 | 75.87 | 4.267 | 6.414 | .1544 | 5.187 | 13.45 |
| #1 | .3950 | -.0001 | .0000 | -.0001 | .0043 | .0028 | .2316 | .0040 | -.0011 |
| #2 | .3965 | -.0001 | .0001 | -.0003 | .0044 | .0026 | .2313 | .0043 | -.0012 |
| #3 | .3987 | -.0001 | .0001 | -.0006 | .0046 | .0029 | .2309 | .0044 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0176** | **.0011** | **-.0005** | **-.0010** | **-.0010** | **.0019** | **.1720** | **31.22** |
| Stddev | .0001 | .0000 | .0004 | .0005 | .0010 | .0003 | .0006 | .0042 | .18 |
| %RSD | 14.14 | .0660 | 38.06 | 92.45 | 98.12 | 25.73 | 29.86 | 2.424 | .5631 |
| #1 | .0008 | .0175 | .0006 | .0000 | -.0022 | -.0013 | .0021 | .1714 | 31.04 |
| #2 | .0010 | .0176 | .0014 | -.0007 | -.0005 | -.0008 | .0024 | .1764 | 31.24 |
| #3 | .0010 | .0176 | .0011 | -.0009 | -.0004 | -.0008 | .0013 | .1681 | 31.39 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3109** | **15.61** | **3.308** | **22.47** | **.0362** | **.0022** | **9.875** | **.0003** | **.3479** |
| Stddev | .0014 | .04 | .050 | .12 | .0002 | .0002 | .021 | .0003 | .0014 |
| %RSD | .4424 | .2324 | 1.516 | .5292 | .6674 | 8.052 | .2162 | 88.46 | .4021 |
| #1 | .3097 | 15.57 | 3.282 | 22.33 | .0359 | .0020 | 9.868 | .0000 | .3464 |
| #2 | .3105 | 15.63 | 3.276 | 22.51 | .0363 | .0024 | 9.858 | .0003 | .3482 |
| #3 | .3124 | 15.63 | 3.365 | 22.56 | .0363 | .0022 | 9.899 | .0006 | .3492 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0051** | **.0011** | **-.0057** | **5.849** | **-.0000** | **.0133** | **.0582** |
| Stddev | .0004 | .0004 | .0001 | .014 | .0016 | .0008 | .0007 |
| %RSD | 8.483 | 35.21 | 1.170 | .2452 | 10880. | 6.138 | 1.244 |
| #1 | .0055 | .0009 | -.0057 | 5.842 | -.0017 | .0143 | .0588 |
| #2 | .0049 | .0009 | -.0058 | 5.841 | .0014 | .0127 | .0574 |
| #3 | .0047 | .0015 | -.0057 | 5.866 | .0002 | .0131 | .0584 |

Zoom In Zoom Out

Sample Name: jc87604-6 Acquired: 5/10/2019 7:46:36 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84812.** | **8685.0** | **6007.4** | **12255.** |
| Stddev | 29. | 74.1 | 15.0 | 31. |
| %RSD | .03400 | .85344 | .25016 | .24953 |
| #1 | 84844. | 8762.5 | 6007.6 | 12260. |
| #2 | 84804. | 8677.7 | 6022.3 | 12283. |
| #3 | 84788. | 8614.8 | 5992.2 | 12222. |



Zoom In Zoom Out

Sample Name: jc87604-7 Acquired: 5/10/2019 7:51:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4121** | **-.0001** | **.0001** | **-.0004** | **.0045** | **.0002** | **.2558** | **.0034** | **-.0013** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0002 | .0005 | .0003 | .0001 |
| %RSD | .0545 | 48.26 | 56.05 | 52.71 | 4.733 | 77.00 | .1926 | 8.428 | 8.556 |
| #1 | .4123 | -.0002 | .0002 | -.0002 | .0047 | .0000 | .2564 | .0036 | -.0012 |
| #2 | .4119 | -.0002 | .0002 | -.0006 | .0042 | .0003 | .2555 | .0035 | -.0014 |
| #3 | .4121 | -.0001 | .0000 | -.0003 | .0045 | .0004 | .2555 | .0031 | -.0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0125** | **.0012** | **-.0004** | **.0010** | **-.0020** | **.0010** | **.0105** | **31.92** |
| Stddev | .0003 | .0000 | .0003 | .0012 | .0000 | .0013 | .0012 | .0029 | .08 |
| %RSD | 55.99 | .3016 | 22.72 | 308.9 | 1.865 | 66.53 | 115.5 | 27.21 | .2542 |
| #1 | .0003 | .0125 | .0013 | .0007 | .0010 | -.0006 | .0023 | .0133 | 32.00 |
| #2 | .0009 | .0126 | .0009 | -.0002 | .0010 | -.0021 | .0001 | .0107 | 31.91 |
| #3 | .0004 | .0125 | .0014 | -.0016 | .0010 | -.0032 | .0006 | .0076 | 31.84 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2642** | **15.05** | **3.393** | **22.76** | **.0362** | **.0021** | **9.456** | **-.0004** | **.3612** |
| Stddev | .0034 | .06 | .032 | .02 | .0004 | .0002 | .024 | .0004 | .0003 |
| %RSD | 1.280 | .4167 | .9398 | .0829 | .9722 | 11.09 | .2560 | 107.7 | .0825 |
| #1 | .2609 | 15.12 | 3.408 | 22.78 | .0364 | .0023 | 9.433 | -.0008 | .3614 |
| #2 | .2677 | 15.01 | 3.414 | 22.74 | .0364 | .0020 | 9.481 | -.0004 | .3609 |
| #3 | .2641 | 15.02 | 3.356 | 22.76 | .0358 | .0019 | 9.453 | .0000 | .3613 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0004** | **-.0050** | **6.030** | **.0007** | **.0109** | **.0664** |
| Stddev | .0002 | .0007 | .0001 | .018 | .0004 | .0019 | .0001 |
| %RSD | 14.04 | 170.0 | 2.638 | .2933 | 60.24 | 17.10 | .1999 |
| #1 | .0013 | -.0004 | -.0048 | 6.011 | .0002 | .0101 | .0664 |
| #2 | .0012 | .0008 | -.0050 | 6.046 | .0010 | .0095 | .0665 |
| #3 | .0016 | .0008 | -.0051 | 6.033 | .0008 | .0130 | .0662 |



Zoom In Zoom Out

Sample Name: jc87604-7 Acquired: 5/10/2019 7:51:42 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84729.** | **8659.9** | **6004.5** | **12249.** |
| Stddev | 151. | 50.1 | 10.8 | 13. |
| %RSD | .17823 | .57873 | .17925 | .10470 |
| #1 | 84640. | 8615.1 | 6016.5 | 12263. |
| #2 | 84904. | 8714.0 | 6001.2 | 12240. |
| #3 | 84644. | 8650.7 | 5995.7 | 12243. |



Zoom In Zoom Out

Sample Name: jc87604-8 Acquired: 5/10/2019 7:56:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1138** | **-.0001** | **.0002** | **-.0004** | **.0038** | **.0000** | **.0107** | **.0024** | **-.0014** |
| Stddev | .0005 | .0000 | .0001 | .0003 | .0002 | .0002 | .0001 | .0005 | .0004 |
| %RSD | .4369 | 18.40 | 42.54 | 69.93 | 5.306 | 2521. | .5807 | 20.70 | 27.72 |
| #1 | .1134 | -.0001 | .0002 | -.0008 | .0041 | .0001 | .0107 | .0022 | -.0018 |
| #2 | .1144 | -.0001 | .0002 | -.0002 | .0037 | -.0003 | .0107 | .0021 | -.0015 |
| #3 | .1138 | -.0001 | .0001 | -.0003 | .0038 | .0002 | .0108 | .0030 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0147** | **.0236** | **.0002** | **.0000** | **-.0003** | **-.0000** | **.0067** | **14.09** |
| Stddev | .0003 | .0001 | .0007 | .0006 | .0007 | .0020 | .0005 | .0103 | .07 |
| %RSD | 45.34 | .6469 | 3.172 | 379.7 | 2700. | 615.8 | 998.2 | 152.5 | .4627 |
| #1 | .0005 | .0147 | .0243 | .0005 | .0005 | -.0025 | -.0000 | .0090 | 14.01 |
| #2 | .0004 | .0147 | .0228 | -.0006 | .0003 | .0014 | -.0006 | .0157 | 14.11 |
| #3 | .0009 | .0146 | .0237 | .0006 | -.0007 | .0001 | .0004 | -.0045 | 14.14 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0360** | **6.263** | **1.002** | **25.57** | **.7464** | **.0234** | **7.449** | **.0006** | **.2626** |
| Stddev | .0032 | .031 | .013 | .09 | .0029 | .0001 | .031 | .0004 | .0005 |
| %RSD | 8.782 | .4910 | 1.253 | .3631 | .3873 | .4810 | .4106 | 74.75 | .1714 |
| #1 | .0367 | 6.234 | 1.004 | 25.47 | .7497 | .0234 | 7.484 | .0001 | .2621 |
| #2 | .0388 | 6.261 | .9879 | 25.63 | .7454 | .0235 | 7.437 | .0009 | .2628 |
| #3 | .0326 | 6.295 | 1.013 | 25.63 | .7442 | .0233 | 7.427 | .0008 | .2630 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0024** | **-.0038** | **5.541** | **-.0005** | **-.0072** | **.0539** |
| Stddev | .0002 | .0003 | .0003 | .031 | .0002 | .0009 | .0004 |
| %RSD | 25.84 | 11.32 | 6.652 | .5550 | 47.29 | 12.28 | .7579 |
| #1 | .0005 | .0022 | -.0041 | 5.576 | -.0008 | -.0080 | .0543 |
| #2 | .0009 | .0027 | -.0036 | 5.526 | -.0003 | -.0063 | .0535 |
| #3 | .0009 | .0022 | -.0037 | 5.520 | -.0005 | -.0075 | .0539 |

Zoom In Zoom Out

Sample Name: jc87604-8 Acquired: 5/10/2019 7:56:48 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85742.** | **8770.2** | **6038.4** | **12371.** |
| Stddev | 391. | 62.7 | 16.3 | 36. |
| %RSD | .45655 | .71447 | .26994 | .28722 |
| #1 | 85973. | 8841.1 | 6021.4 | 12334. |
| #2 | 85963. | 8746.8 | 6040.0 | 12374. |
| #3 | 85290. | 8722.5 | 6053.8 | 12405. |



Zoom In Zoom Out

Sample Name: jc87604-9 Acquired: 5/10/2019 8:01:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1335** | **-.0002** | **.0000** | **-.0005** | **.0030** | **-.0001** | **.0128** | **.0014** | **-.0012** |
| Stddev | .0004 | .0001 | .0002 | .0003 | .0004 | .0001 | .0001 | .0002 | .0003 |
| %RSD | .3122 | 54.62 | 432.8 | 57.68 | 14.34 | 229.8 | .4339 | 11.05 | 23.64 |
| #1 | .1338 | -.0002 | -.0001 | -.0003 | .0036 | -.0002 | .0128 | .0014 | -.0009 |
| #2 | .1330 | -.0002 | .0002 | -.0009 | .0028 | -.0001 | .0128 | .0015 | -.0015 |
| #3 | .1336 | -.0001 | .0001 | -.0004 | .0028 | .0001 | .0129 | .0012 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0079** | **.0300** | **-.0003** | **-.0003** | **-.0005** | **.0001** | **.0235** | **20.76** |
| Stddev | .0001 | .0001 | .0004 | .0011 | .0007 | .0014 | .0002 | .0038 | .02 |
| %RSD | 14.67 | .7695 | 1.485 | 432.3 | 210.9 | 250.0 | 411.3 | 16.13 | .1174 |
| #1 | .0006 | .0080 | .0295 | -.0015 | -.0011 | -.0021 | -.0001 | .0195 | 20.76 |
| #2 | .0007 | .0079 | .0304 | -.0002 | .0002 | .0001 | -.0000 | .0241 | 20.78 |
| #3 | .0008 | .0079 | .0301 | .0008 | -.0001 | .0003 | .0003 | .0270 | 20.73 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0383** | **8.943** | **.9637** | **19.43** | **.9887** | **.0135** | **10.41** | **.0009** | **.3272** |
| Stddev | .0014 | .018 | .0089 | .03 | .0029 | .0002 | .05 | .0002 | .0008 |
| %RSD | 3.743 | .2062 | .9230 | .1467 | .2980 | 1.682 | .4557 | 16.96 | .2453 |
| #1 | .0392 | 8.929 | .9740 | 19.42 | .9920 | .0137 | 10.46 | .0011 | .3264 |
| #2 | .0366 | 8.964 | .9587 | 19.47 | .9866 | .0135 | 10.40 | .0008 | .3271 |
| #3 | .0391 | 8.937 | .9584 | 19.41 | .9873 | .0132 | 10.37 | .0008 | .3280 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0047** | **-.0060** | **.4637** | **.0000** | **-.0075** | **.0497** |
| Stddev | .0001 | .0009 | .0001 | .0028 | .0006 | .0008 | .0002 |
| %RSD | 3.477 | 20.12 | 1.620 | .6055 | 3019. | 10.45 | .4825 |
| #1 | .0016 | .0055 | -.0060 | .4661 | -.0002 | -.0071 | .0496 |
| #2 | .0017 | .0036 | -.0061 | .4643 | .0007 | -.0084 | .0495 |
| #3 | .0017 | .0049 | -.0059 | .4606 | -.0005 | -.0070 | .0499 |



Zoom In Zoom Out

Sample Name: jc87604-9 Acquired: 5/10/2019 8:01:53 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86024.** | **8814.0** | **6065.5** | **12397.** |
| Stddev | 321. | 57.2 | 18.3 | 29. |
| %RSD | .37312 | .64877 | .30220 | .23119 |
| #1 | 86325. | 8762.4 | 6044.7 | 12364. |
| #2 | 85686. | 8804.1 | 6072.0 | 12414. |
| #3 | 86063. | 8875.5 | 6079.6 | 12413. |



Zoom In Zoom Out

Sample Name: jc87604-10 Acquired: 5/10/2019 8:06:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1151** | **-.0001** | **.0001** | **-.0004** | **.0026** | **.0001** | **.0117** | **.0011** | **-.0016** |
| Stddev | .0005 | .0001 | .0002 | .0001 | .0002 | .0002 | .0001 | .0006 | .0002 |
| %RSD | .4716 | 51.89 | 192.7 | 30.72 | 6.591 | 165.9 | .5387 | 52.84 | 10.71 |
| #1 | .1156 | -.0002 | .0001 | -.0005 | .0026 | -.0001 | .0116 | .0010 | -.0017 |
| #2 | .1150 | -.0001 | -.0001 | -.0004 | .0024 | .0002 | .0116 | .0018 | -.0017 |
| #3 | .1146 | -.0001 | .0003 | -.0003 | .0027 | .0002 | .0117 | .0006 | -.0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0079** | **.0171** | **-.0003** | **.0002** | **-.0010** | **.0005** | **-.0001** | **17.40** |
| Stddev | .0004 | .0001 | .0009 | .0012 | .0003 | .0007 | .0009 | .0017 | .04 |
| %RSD | 30.66 | 1.784 | 5.530 | 364.5 | 106.4 | 62.42 | 195.4 | 1586. | .2239 |
| #1 | .0017 | .0080 | .0180 | .0010 | .0002 | -.0017 | .0014 | -.0016 | 17.42 |
| #2 | .0011 | .0080 | .0161 | -.0013 | .0000 | -.0004 | .0004 | -.0005 | 17.43 |
| #3 | .0010 | .0078 | .0174 | -.0008 | .0005 | -.0010 | -.0004 | .0017 | 17.36 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0133** | **8.028** | **.8619** | **19.50** | **.4296** | **.0093** | **10.38** | **.0000** | **.2899** |
| Stddev | .0054 | .020 | .0357 | .04 | .0005 | .0002 | .01 | .0001 | .0007 |
| %RSD | 40.95 | .2485 | 4.137 | .2252 | .1193 | 1.896 | .1329 | 571.2 | .2434 |
| #1 | .0118 | 8.051 | .8864 | 19.53 | .4298 | .0093 | 10.40 | .0001 | .2897 |
| #2 | .0088 | 8.013 | .8210 | 19.52 | .4291 | .0095 | 10.38 | -.0001 | .2907 |
| #3 | .0193 | 8.021 | .8782 | 19.45 | .4300 | .0092 | 10.37 | -.0000 | .2893 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0042** | **-.0063** | **5.223** | **-.0004** | **-.0091** | **.0565** |
| Stddev | .0002 | .0002 | .0001 | .007 | .0003 | .0007 | .0007 |
| %RSD | 25.53 | 5.432 | .9802 | .1342 | 67.31 | 7.261 | 1.254 |
| #1 | .0007 | .0042 | -.0063 | 5.231 | -.0001 | -.0097 | .0571 |
| #2 | .0010 | .0040 | -.0063 | 5.220 | -.0006 | -.0084 | .0567 |
| #3 | .0012 | .0044 | -.0062 | 5.218 | -.0006 | -.0093 | .0557 |

Zoom In Zoom Out

Sample Name: jc87604-10 Acquired: 5/10/2019 8:06:58 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84999.** | **8654.4** | **6027.7** | **12355.** |
| Stddev | 509. | 14.0 | 20.9 | 35. |
| %RSD | .59840 | .16188 | .34670 | .28527 |
| #1 | 85057. | 8656.3 | 6004.8 | 12316. |
| #2 | 85476. | 8639.5 | 6045.8 | 12384. |
| #3 | 84464. | 8667.3 | 6032.4 | 12365. |



Zoom In Zoom Out

Sample Name: jc87604-11 Acquired: 5/10/2019 8:12:05 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1047** | **-.0001** | **.0001** | **-.0004** | **.0025** | **.0006** | **.0166** | **.0019** | **-.0017** |
| Stddev | .0018 | .0000 | .0001 | .0002 | .0002 | .0002 | .0001 | .0003 | .0001 |
| %RSD | 1.691 | 41.26 | 158.5 | 51.43 | 7.622 | 34.75 | .4171 | 15.40 | 8.031 |
| #1 | .1036 | -.0001 | .0000 | -.0002 | .0026 | .0009 | .0165 | .0021 | -.0018 |
| #2 | .1037 | -.0002 | .0002 | -.0003 | .0026 | .0006 | .0166 | .0021 | -.0016 |
| #3 | .1067 | -.0001 | -.0000 | -.0006 | .0023 | .0004 | .0165 | .0016 | -.0017 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0096** | **.0146** | **-.0007** | **-.0010** | **.0003** | **.0021** | **.0007** | **18.97** |
| Stddev | .0002 | .0001 | .0002 | .0005 | .0010 | .0007 | .0006 | .0041 | .32 |
| %RSD | 83.03 | .5342 | 1.355 | 73.48 | 94.47 | 246.4 | 28.46 | 598.5 | 1.683 |
| #1 | .0001 | .0095 | .0148 | -.0003 | -.0014 | -.0005 | .0019 | -.0038 | 18.72 |
| #2 | .0004 | .0096 | .0146 | -.0006 | .0001 | .0003 | .0028 | .0016 | 18.85 |
| #3 | .0001 | .0095 | .0144 | -.0013 | -.0017 | .0010 | .0016 | .0043 | 19.33 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0224** | **7.938** | **.9533** | **17.77** | **.9396** | **.0152** | **10.08** | **.0005** | **.2792** |
| Stddev | .0050 | .105 | .0636 | .28 | .0013 | .0001 | .01 | .0002 | .0045 |
| %RSD | 22.33 | 1.324 | 6.673 | 1.604 | .1356 | .8277 | .1245 | 44.43 | 1.613 |
| #1 | .0239 | 7.832 | .8929 | 17.54 | .9383 | .0151 | 10.07 | .0006 | .2759 |
| #2 | .0168 | 7.942 | .9473 | 17.68 | .9408 | .0153 | 10.08 | .0007 | .2774 |
| #3 | .0264 | 8.042 | 1.020 | 18.09 | .9398 | .0151 | 10.10 | .0003 | .2843 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0039** | **-.0059** | **3.963** | **.0010** | **-.0112** | **.0746** |
| Stddev | .0002 | .0002 | .0002 | .005 | .0016 | .0007 | .0006 |
| %RSD | 17.92 | 6.126 | 2.830 | .1336 | 150.7 | 6.465 | .7427 |
| #1 | .0009 | .0041 | -.0057 | 3.957 | -.0008 | -.0118 | .0745 |
| #2 | .0011 | .0036 | -.0060 | 3.964 | .0017 | -.0114 | .0752 |
| #3 | .0013 | .0040 | -.0058 | 3.968 | .0021 | -.0104 | .0742 |



Zoom In Zoom Out

Sample Name: jc87604-11 Acquired: 5/10/2019 8:12:05 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84568.** | **8804.8** | **5992.9** | **12285.** |
| Stddev | 283. | 144.6 | 5.4 | 5. |
| %RSD | .33430 | 1.6418 | .08952 | .04061 |
| #1 | 84291. | 8896.4 | 5999.0 | 12291. |
| #2 | 84856. | 8879.7 | 5989.0 | 12283. |
| #3 | 84558. | 8638.1 | 5990.6 | 12282. |



Zoom In Zoom Out

Sample Name: jc87604-12 Acquired: 5/10/2019 8:17:12 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0951** | **-.0002** | **.0001** | **-.0005** | **.0046** | **-.0000** | **.0166** | **.0022** | **-.0014** |
| Stddev | .0009 | .0001 | .0002 | .0002 | .0001 | .0001 | .0000 | .0001 | .0004 |
| %RSD | .9180 | 41.31 | 314.6 | 37.25 | 2.922 | 711.2 | .1568 | 2.470 | 31.97 |
| #1 | .0955 | -.0001 | .0003 | -.0005 | .0047 | -.0001 | .0166 | .0022 | -.0013 |
| #2 | .0956 | -.0002 | .0000 | -.0008 | .0045 | .0001 | .0165 | .0021 | -.0018 |
| #3 | .0941 | -.0002 | -.0001 | -.0004 | .0047 | .0000 | .0166 | .0023 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0112** | **.0249** | **.0003** | **-.0005** | **-.0009** | **-.0002** | **.0297** | **21.21** |
| Stddev | .0001 | .0001 | .0010 | .0008 | .0009 | .0020 | .0027 | .0110 | .20 |
| %RSD | 18.42 | .7492 | 3.884 | 247.4 | 200.4 | 220.3 | 1509. | 37.04 | .9251 |
| #1 | .0005 | .0113 | .0243 | -.0005 | -.0008 | .0001 | -.0032 | .0180 | 21.30 |
| #2 | .0005 | .0111 | .0245 | .0011 | -.0011 | .0004 | .0016 | .0398 | 21.34 |
| #3 | .0004 | .0112 | .0260 | .0003 | .0006 | -.0032 | .0011 | .0314 | 20.98 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0686** | **8.627** | **.7941** | **16.57** | **1.135** | **.0213** | **10.93** | **.0004** | **.2821** |
| Stddev | .0016 | .067 | .0352 | .18 | .014 | .0004 | .13 | .0003 | .0029 |
| %RSD | 2.287 | .7705 | 4.433 | 1.070 | 1.187 | 1.874 | 1.196 | 71.85 | 1.026 |
| #1 | .0692 | 8.655 | .7997 | 16.67 | 1.149 | .0215 | 11.06 | .0005 | .2836 |
| #2 | .0668 | 8.675 | .8262 | 16.66 | 1.122 | .0209 | 10.80 | .0005 | .2839 |
| #3 | .0698 | 8.551 | .7565 | 16.36 | 1.135 | .0215 | 10.93 | .0001 | .2788 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0028** | **-.0061** | **1.967** | **.0009** | **-.0059** | **.0413** |
| Stddev | .0004 | .0006 | .0001 | .022 | .0011 | .0010 | .0005 |
| %RSD | 24.45 | 20.62 | .9645 | 1.125 | 126.7 | 16.30 | 1.235 |
| #1 | .0013 | .0023 | -.0061 | 1.990 | .0006 | -.0048 | .0413 |
| #2 | .0017 | .0028 | -.0060 | 1.946 | .0021 | -.0066 | .0407 |
| #3 | .0021 | .0034 | -.0061 | 1.967 | -.0001 | -.0062 | .0417 |

Zoom In Zoom Out

Sample Name: jc87604-12 Acquired: 5/10/2019 8:17:12 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84839.** | **8734.2** | **6071.5** | **12408.** |
| Stddev | 207. | 52.5 | 65.3 | 100. |
| %RSD | .24447 | .60117 | 1.0759 | .80259 |
| #1 | 84616. | 8729.4 | 6013.4 | 12327. |
| #2 | 84876. | 8684.3 | 6142.2 | 12519. |
| #3 | 85025. | 8789.0 | 6058.9 | 12378. |



Zoom In Zoom Out

Sample Name: jc87604-13 Acquired: 5/10/2019 8:22:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1461** | **-.0001** | **.0001** | **-.0002** | **.0028** | **-.0000** | **.0114** | **.0018** |
| Stddev | .0004 | .0001 | .0002 | .0001 | .0003 | .0001 | .0000 | .0008 |
| %RSD | .2461 | 154.5 | 192.6 | 49.99 | 9.445 | 908.2 | .1493 | 43.69 |
| #1 | .1459 | -.0002 | .0002 | -.0002 | .0025 | .0001 | .0114 | .0022 |
| #2 | .1465 | -.0000 | .0002 | -.0004 | .0030 | -.0001 | .0114 | .0022 |
| #3 | .1459 | .0000 | -.0001 | -.0001 | .0028 | -.0001 | .0113 | .0009 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **.0063** | **.0142** | **.0180** | F **-.0022** | F **-.0032** | **.0049** | **.0020** |
| Stddev | .0005 | .0003 | .0000 | .0011 | .0019 | .0006 | .0016 | .0008 |
| %RSD | 35.37 | 4.438 | .2129 | 6.339 | 85.08 | 20.03 | 32.85 | 41.16 |
| #1 | -.0018 | .0064 | .0141 | .0185 | -.0000 | -.0032 | .0062 | .0017 |
| #2 | -.0010 | .0066 | .0142 | .0188 | -.0034 | -.0025 | .0054 | .0028 |
| #3 | -.0010 | .0060 | .0142 | .0167 | -.0031 | -.0038 | .0031 | .0013 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0330** | **29.63** | **.0465** | **11.61** | **1.306** | **13.97** | **.0563** | **.0100** |
| Stddev | .0099 | .03 | .0051 | .06 | .038 | .01 | .0010 | .0001 |
| %RSD | 29.99 | .0898 | 10.97 | .4919 | 2.883 | .0888 | 1.860 | 1.481 |
| #1 | .0235 | 29.63 | .0496 | 11.67 | 1.348 | 13.98 | .0569 | .0099 |
| #2 | .0322 | 29.61 | .0406 | 11.55 | 1.293 | 13.98 | .0569 | .0102 |
| #3 | .0432 | 29.66 | .0493 | 11.61 | 1.276 | 13.96 | .0551 | .0100 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **10.05** | **-.0006** | **.3275** | **.0018** | **.5889** | **-.0058** | **4.911** | **.0004** |
| Stddev | .04 | .0006 | .0003 | .0003 | .0028 | .0001 | .027 | .0006 |
| %RSD | .3964 | 102.6 | .0799 | 16.99 | .4773 | 1.836 | .5516 | 148.1 |
| #1 | 10.08 | -.0009 | .3277 | .0020 | .5909 | -.0059 | 4.927 | -.0002 |
| #2 | 10.07 | .0001 | .3272 | .0020 | .5902 | -.0057 | 4.926 | .0004 |
| #3 | 10.01 | -.0010 | .3276 | .0014 | .5857 | -.0057 | 4.880 | .0010 |



Zoom In Zoom Out

Sample Name: jc87604-13 Acquired: 5/10/2019 8:22:17 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0155** | **.1132** |
| Stddev | .0012 | .0005 |
| %RSD | 7.546 | .4001 |
| #1 | -.0160 | .1138 |
| #2 | -.0141 | .1130 |
| #3 | -.0162 | .1129 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84500.** | **8664.0** | **6017.8** | **12298.** |
| Stddev | 176. | 29.8 | 26.6 | 48. |
| %RSD | .20870 | .34367 | .44233 | .39108 |
| #1 | 84616. | 8651.7 | 5995.8 | 12259. |
| #2 | 84297. | 8697.9 | 6010.2 | 12282. |
| #3 | 84587. | 8642.3 | 6047.4 | 12352. |



Zoom In Zoom Out

Sample Name: jc87604-14 Acquired: 5/10/2019 8:27:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1411** | **-.0002** | **.0002** | **-.0004** | **.0029** | **.0158** | **.0014** | **.0046** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0001 | .0003 | .0000 | .0002 |
| %RSD | .1595 | 39.14 | 68.91 | 51.01 | 5.113 | 2.042 | 3.171 | 4.020 |
| #1 | .1408 | -.0003 | .0001 | -.0002 | .0028 | .0161 | .0014 | .0048 |
| #2 | .1413 | -.0001 | .0003 | -.0005 | .0031 | .0157 | .0015 | .0044 |
| #3 | .1411 | -.0003 | .0002 | -.0006 | .0028 | .0155 | .0014 | .0045 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **.0103** | **.0123** | **.0201** | F **-.0022** | F **-.0031** | **.0039** | **.0008** |
| Stddev | .0003 | .0000 | .0001 | .0005 | .0008 | .0011 | .0018 | .0001 |
| %RSD | 22.25 | .3837 | .6152 | 2.624 | 35.41 | 34.83 | 47.19 | 14.29 |
| #1 | -.0011 | .0102 | .0123 | .0207 | -.0015 | -.0043 | .0018 | .0009 |
| #2 | -.0017 | .0103 | .0122 | .0197 | -.0021 | -.0022 | .0048 | .0007 |
| #3 | -.0013 | .0103 | .0124 | .0200 | -.0030 | -.0028 | .0051 | .0008 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0136** | **29.52** | **.0196** | **12.12** | **1.282** | **12.93** | **.0512** | **.0059** |
| Stddev | .0108 | .06 | .0028 | .05 | .009 | .00 | .0003 | .0001 |
| %RSD | 79.33 | .1989 | 14.48 | .4514 | .7023 | .0300 | .5712 | 2.371 |
| #1 | .0036 | 29.52 | .0206 | 12.06 | 1.271 | 12.93 | .0515 | .0060 |
| #2 | .0122 | 29.46 | .0219 | 12.17 | 1.286 | 12.92 | .0511 | .0059 |
| #3 | .0250 | 29.57 | .0165 | 12.13 | 1.288 | 12.93 | .0509 | .0057 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **11.31** | **-.0000** | **.3217** | **.0013** | **.5172** | **-.0069** | **4.483** | **-.0014** |
| Stddev | .02 | .0003 | .0007 | .0005 | .0014 | .0002 | .006 | .0013 |
| %RSD | .1352 | 2215. | .2229 | 41.76 | .2776 | 2.511 | .1449 | 89.54 |
| #1 | 11.30 | -.0001 | .3215 | .0007 | .5184 | -.0071 | 4.488 | -.0011 |
| #2 | 11.30 | .0004 | .3212 | .0018 | .5156 | -.0069 | 4.476 | -.0028 |
| #3 | 11.32 | -.0003 | .3226 | .0014 | .5176 | -.0067 | 4.485 | -.0004 |

Zoom In Zoom Out

Sample Name: jc87604-14 Acquired: 5/10/2019 8:27:23 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0140** | **.0590** |
| Stddev | .0011 | .0007 |
| %RSD | 8.096 | 1.157 |
| #1 | -.0128 | .0595 |
| #2 | -.0142 | .0583 |
| #3 | -.0150 | .0593 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84969.** | **8671.1** | **6020.6** | **12306.** |
| Stddev | 110. | 19.6 | 2.2 | 10. |
| %RSD | .12937 | .22638 | .03677 | .07977 |
| #1 | 84878. | 8675.9 | 6020.5 | 12302. |
| #2 | 85091. | 8688.0 | 6018.5 | 12299. |
| #3 | 84937. | 8649.6 | 6022.9 | 12317. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 8:32:30 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.035** | **1.918** | **1.972** | **2.012** | **2.018** | **2.042** | **2.012** | **1.984** | **.2480** |
| Stddev | .001 | .003 | .002 | .002 | .004 | .003 | .005 | .003 | .0005 |
| %RSD | .0687 | .1454 | .1151 | .0862 | .1932 | .1570 | .2288 | .1352 | .2203 |
| #1 | 2.034 | 1.915 | 1.972 | 2.010 | 2.014 | 2.045 | 2.012 | 1.982 | .2484 |
| #2 | 2.035 | 1.918 | 1.974 | 2.014 | 2.019 | 2.044 | 2.007 | 1.987 | .2474 |
| #3 | 2.037 | 1.920 | 1.969 | 2.012 | 2.022 | 2.039 | 2.016 | 1.985 | .2481 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **1.981** | **1.935** | **2.050** | **1.991** | **1.955** | **1.937** | **39.85** | **39.02** |
| Stddev | .002 | .002 | .001 | .006 | .001 | .002 | .003 | .05 | .08 |
| %RSD | .0741 | .0788 | .0249 | .2917 | .0493 | .1087 | .1577 | .1203 | .2083 |
| #1 | 2.035 | 1.982 | 1.936 | 2.051 | 1.990 | 1.956 | 1.933 | 39.81 | 38.94 |
| #2 | 2.035 | 1.980 | 1.935 | 2.055 | 1.991 | 1.955 | 1.939 | 39.90 | 39.00 |
| #3 | 2.038 | 1.982 | 1.935 | 2.044 | 1.991 | 1.952 | 1.938 | 39.85 | 39.11 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.34** | **37.47** | **38.79** | **39.12** | **1.995** | **1.944** | **4.784** | **1.901** | **2.043** |
| Stddev | .10 | .08 | .10 | .05 | .001 | .001 | .004 | .003 | .003 |
| %RSD | .2577 | .2081 | .2646 | .1392 | .0354 | .0423 | .0871 | .1753 | .1652 |
| #1 | 37.24 | 37.53 | 38.68 | 39.07 | 1.995 | 1.944 | 4.788 | 1.904 | 2.039 |
| #2 | 37.43 | 37.38 | 38.84 | 39.18 | 1.996 | 1.943 | 4.782 | 1.901 | 2.046 |
| #3 | 37.35 | 37.50 | 38.86 | 39.12 | 1.995 | 1.944 | 4.780 | 1.898 | 2.045 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 8:32:30 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.997** | **1.932** | **1.964** | **1.975** | **2.038** | **1.940** | **1.923** |
| Stddev | .002 | .002 | .001 | .006 | .002 | .003 | .005 |
| %RSD | .1225 | .0858 | .0337 | .3083 | .0850 | .1430 | .2496 |
| #1 | 1.996 | 1.931 | 1.964 | 1.979 | 2.036 | 1.937 | 1.924 |
| #2 | 1.996 | 1.931 | 1.964 | 1.977 | 2.040 | 1.942 | 1.928 |
| #3 | 2.000 | 1.934 | 1.963 | 1.968 | 2.039 | 1.941 | 1.918 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82765.** | **8531.8** | **5894.9** | **12000.** |
| Stddev | 94. | 51.8 | 9.2 | 12. |
| %RSD | .11331 | .60672 | .15635 | .10144 |
| #1 | 82658. | 8574.1 | 5884.4 | 11985. |
| #2 | 82835. | 8474.1 | 5901.6 | 12007. |
| #3 | 82800. | 8547.2 | 5898.6 | 12007. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 8:37:31 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0000** | **-.0001** | **.0001** | **.0000** | **-.0005** | **.0001** | **-.0000** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0001 | .0001 | .0000 | .0003 |
| %RSD | 122.6 | 581.3 | 114.4 | 125.1 | 254.5 | 28.89 | 30.51 | 566.5 |
| #1 | .0004 | -.0001 | -.0001 | -.0000 | -.0000 | -.0003 | .0002 | -.0001 |
| #2 | -.0001 | .0001 | .0000 | .0002 | .0002 | -.0006 | .0001 | .0003 |
| #3 | .0005 | -.0000 | -.0002 | .0001 | .0000 | -.0005 | .0001 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0015** | **.0004** | **.0001** | **.0001** | **.0003** | **.0002** | **.0005** | **.0001** |
| Stddev | .0004 | .0002 | .0000 | .0012 | .0004 | .0000 | .0012 | .0011 |
| %RSD | 26.05 | 47.69 | 50.79 | 1109. | 152.6 | 26.86 | 256.5 | 1996. |
| #1 | -.0020 | .0003 | .0001 | .0004 | -.0002 | .0001 | .0015 | -.0002 |
| #2 | -.0013 | .0006 | .0000 | -.0012 | .0007 | .0002 | .0008 | -.0009 |
| #3 | -.0013 | .0003 | .0001 | .0012 | .0003 | .0002 | -.0009 | .0013 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | .0014 | | | | | | | |
| Low Limit | -.0014 | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0185** | **.0001** | **.0032** | **-.0198** | **-.4171** | **-.0631** | **.0028** | **.0001** |
| Stddev | .0069 | .0026 | .0014 | .0212 | .0178 | .0184 | .0003 | .0001 |
| %RSD | 37.00 | 1722. | 42.97 | 107.1 | 4.256 | 29.13 | 11.22 | 100.2 |
| #1 | .0187 | -.0005 | .0032 | -.0376 | -.4105 | -.0526 | .0024 | .0002 |
| #2 | .0116 | -.0021 | .0046 | .0037 | -.4372 | -.0843 | .0030 | .0002 |
| #3 | .0253 | .0029 | .0018 | -.0255 | -.4035 | -.0524 | .0029 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 8:37:31 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0001** | **.0001** | **.0002** | **.0005** | **.0001** | **-.0013** | **.0008** |
| Stddev | .0006 | .0006 | .0001 | .0003 | .0001 | .0000 | .0007 | .0011 |
| %RSD | 167.0 | 431.8 | 190.6 | 198.6 | 27.60 | 22.04 | 52.07 | 144.5 |
| #1 | .0003 | -.0002 | .0002 | .0005 | .0005 | .0001 | -.0020 | -.0001 |
| #2 | -.0002 | .0008 | .0001 | .0002 | .0003 | .0001 | -.0013 | .0003 |
| #3 | .0010 | -.0002 | -.0001 | -.0002 | .0006 | .0002 | -.0006 | .0020 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0135** | **.0047** |
| Stddev | .0011 | .0008 |
| %RSD | 7.784 | 17.15 |
| #1 | -.0146 | .0041 |
| #2 | -.0135 | .0044 |
| #3 | -.0125 | .0056 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85755.** | **8686.7** | **6108.5** | **12643.** |
| Stddev | 152. | 25.9 | 14.0 | 32. |
| %RSD | .17688 | .29841 | .22929 | .25332 |
| #1 | 85897. | 8707.8 | 6094.7 | 12611. |
| #2 | 85772. | 8657.8 | 6122.7 | 12675. |
| #3 | 85595. | 8694.7 | 6108.2 | 12642. |



Zoom In Zoom Out

Sample Name: jc87604-15 Acquired: 5/10/2019 8:42:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4814** | **-.0002** | **.0005** | **.0391** | **.0073** | **.0023** | **.4067** | **.0607** | **-.0013** |
| Stddev | .0017 | .0001 | .0003 | .0000 | .0002 | .0002 | .0004 | .0002 | .0004 |
| %RSD | .3557 | 48.83 | 46.46 | .1084 | 2.713 | 6.933 | .0958 | .4053 | 30.96 |
| #1 | .4794 | -.0002 | .0004 | .0391 | .0074 | .0025 | .4071 | .0608 | -.0010 |
| #2 | .4826 | -.0001 | .0008 | .0390 | .0075 | .0022 | .4064 | .0604 | -.0012 |
| #3 | .4821 | -.0001 | .0004 | .0391 | .0071 | .0022 | .4064 | .0608 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0238** | **.0006** | **.0010** | **-.0000** | **.0000** | **.0007** | **.0466** | **87.12** |
| Stddev | .0002 | .0002 | .0006 | .0010 | .0003 | .0026 | .0008 | .0102 | .24 |
| %RSD | 15.30 | .7277 | 108.7 | 97.26 | 2469. | 100400. | 121.8 | 21.93 | .2789 |
| #1 | .0014 | .0238 | .0001 | .0018 | -.0003 | -.0017 | -.0002 | .0446 | 86.92 |
| #2 | .0013 | .0239 | .0003 | .0014 | .0004 | .0030 | .0009 | .0577 | 87.39 |
| #3 | .0010 | .0236 | .0012 | -.0001 | -.0001 | -.0013 | .0014 | .0376 | 87.04 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0904** | **30.74** | **2.052** | **35.94** | **.0326** | **.0030** | **9.782** | **.0002** | **.5684** |
| Stddev | .0040 | .14 | .031 | .10 | .0006 | .0003 | .007 | .0004 | .0017 |
| %RSD | 4.446 | .4446 | 1.507 | .2669 | 1.894 | 8.244 | .0727 | 281.7 | .3040 |
| #1 | .0881 | 30.66 | 2.058 | 35.88 | .0324 | .0033 | 9.783 | -.0002 | .5668 |
| #2 | .0950 | 30.90 | 2.079 | 36.05 | .0333 | .0030 | 9.789 | .0006 | .5703 |
| #3 | .0879 | 30.67 | 2.018 | 35.90 | .0322 | .0028 | 9.775 | .0001 | .5681 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0034** | **.0027** | **-.0056** | **5.958** | **.0009** | **.0173** | **.1136** |
| Stddev | .0003 | .0006 | .0000 | .011 | .0005 | .0006 | .0006 |
| %RSD | 8.436 | 20.50 | .8686 | .1905 | 53.67 | 3.551 | .5655 |
| #1 | .0037 | .0032 | -.0056 | 5.956 | .0006 | .0176 | .1138 |
| #2 | .0034 | .0021 | -.0056 | 5.970 | .0015 | .0177 | .1128 |
| #3 | .0031 | .0029 | -.0056 | 5.947 | .0007 | .0166 | .1140 |



Zoom In Zoom Out

Sample Name: jc87604-15 Acquired: 5/10/2019 8:42:44 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84155.** | **8641.9** | **5934.8** | **12033.** |
| Stddev | 22. | 67.8 | 2.8 | 18. |
| %RSD | .02671 | .78444 | .04794 | .15231 |
| #1 | 84137. | 8697.2 | 5937.1 | 12048. |
| #2 | 84149. | 8566.3 | 5931.6 | 12013. |
| #3 | 84180. | 8662.2 | 5935.7 | 12039. |



Zoom In Zoom Out

Sample Name: jc87604-16 Acquired: 5/10/2019 8:47:49 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **-.0001** | **.0000** | **-.0002** | **.0007** | **-.0004** | **.0002** | **.0001** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0002 | .0003 | .0001 | .0005 |
| %RSD | 8.410 | 148.3 | 132.5 | 177.8 | 26.94 | 71.76 | 32.75 | 413.6 |
| #1 | .0009 | -.0001 | .0001 | -.0002 | .0005 | -.0007 | .0002 | .0005 |
| #2 | .0008 | -.0001 | .0001 | -.0004 | .0007 | -.0002 | .0001 | .0002 |
| #3 | .0009 | .0000 | -.0000 | .0001 | .0009 | -.0003 | .0002 | -.0004 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **.0005** | **.0029** | **.0001** | **-.0005** | **-.0006** | **.0008** | **.0009** |
| Stddev | .0001 | .0003 | .0001 | .0008 | .0012 | .0010 | .0013 | .0014 |
| %RSD | 5.547 | 61.25 | 4.784 | 1236. | 211.2 | 177.3 | 160.4 | 152.4 |
| #1 | -.0013 | .0001 | .0028 | .0003 | .0007 | -.0015 | -.0002 | .0002 |
| #2 | -.0013 | .0006 | .0030 | -.0008 | -.0016 | -.0008 | .0023 | .0026 |
| #3 | -.0014 | .0007 | .0029 | .0007 | -.0008 | .0005 | .0003 | -.0000 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0285** | **.0123** | **.0049** | **-.0066** | W **-.5450** | **-.0170** | **.0021** | **.0002** |
| Stddev | .0066 | .0031 | .0028 | .0438 | .0375 | .0053 | .0003 | .0000 |
| %RSD | 23.17 | 25.15 | 57.73 | 658.7 | 6.883 | 31.40 | 15.70 | 23.96 |
| #1 | .0233 | .0119 | .0042 | .0291 | -.5812 | -.0132 | .0017 | .0002 |
| #2 | .0262 | .0094 | .0025 | .0065 | -.5063 | -.0231 | .0024 | .0001 |
| #3 | .0359 | .0156 | .0080 | -.0555 | -.5474 | -.0147 | .0021 | .0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0339** | **.0004** | **.0003** | **.0006** | **.0001** | **.0002** | **.0094** | **.0017** |
| Stddev | .0002 | .0003 | .0001 | .0001 | .0003 | .0001 | .0008 | .0004 |
| %RSD | .6342 | 88.16 | 51.09 | 22.06 | 516.6 | 41.37 | 8.908 | 25.38 |
| #1 | .0339 | -.0000 | .0002 | .0007 | -.0001 | .0001 | .0099 | .0021 |
| #2 | .0337 | .0006 | .0004 | .0005 | -.0002 | .0003 | .0084 | .0016 |
| #3 | .0341 | .0005 | .0003 | .0006 | .0005 | .0001 | .0097 | .0013 |

Zoom In Zoom Out

Sample Name: jc87604-16 Acquired: 5/10/2019 8:47:49 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0100** | **.0051** |
| Stddev | .0019 | .0003 |
| %RSD | 18.73 | 6.672 |
| #1 | -.0103 | .0054 |
| #2 | -.0116 | .0051 |
| #3 | -.0080 | .0048 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87177.** | **8806.6** | **6135.0** | **12693.** |
| Stddev | 178. | 23.1 | 32.2 | 71. |
| %RSD | .20381 | .26194 | .52552 | .55707 |
| #1 | 87032. | 8791.3 | 6139.2 | 12702. |
| #2 | 87375. | 8795.3 | 6100.9 | 12619. |
| #3 | 87124. | 8833.1 | 6164.9 | 12760. |



Zoom In Zoom Out

Sample Name: jc87643-2 Acquired: 5/10/2019 8:53:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0780** | **-.0001** | **-.0000** | **-.0003** | **.0048** | **.0010** | **.5301** | **.0002** | **-.0009** |
| Stddev | .0005 | .0001 | .0002 | .0002 | .0001 | .0004 | .0007 | .0002 | .0001 |
| %RSD | .6944 | 36.14 | 1250. | 70.43 | 1.541 | 38.86 | .1372 | 93.39 | 8.563 |
| #1 | .0783 | -.0002 | -.0002 | -.0001 | .0047 | .0006 | .5295 | .0001 | -.0010 |
| #2 | .0783 | -.0002 | -.0001 | -.0005 | .0048 | .0010 | .5309 | .0001 | -.0009 |
| #3 | .0774 | -.0001 | .0002 | -.0004 | .0047 | .0013 | .5298 | .0005 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0060** | **.0003** | **.0001** | **-.0008** | **.0016** | **.0008** | **.0059** | **65.28** |
| Stddev | .0002 | .0000 | .0009 | .0015 | .0007 | .0003 | .0006 | .0103 | .10 |
| %RSD | 17.39 | .5998 | 279.6 | 1467. | 85.89 | 21.17 | 72.30 | 176.7 | .1519 |
| #1 | .0008 | .0059 | .0000 | .0016 | -.0014 | .0015 | .0014 | .0019 | 65.39 |
| #2 | .0012 | .0060 | -.0004 | -.0013 | -.0010 | .0013 | .0004 | -.0020 | 65.21 |
| #3 | .0010 | .0059 | .0014 | -.0000 | -.0000 | .0020 | .0005 | .0176 | 65.23 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1808** | **16.61** | **7.052** | **148.1** | **.0765** | **.0010** | **6.739** | **-.0004** | **.3136** |
| Stddev | .0054 | .10 | .019 | .4 | .0009 | .0003 | .067 | .0002 | .0009 |
| %RSD | 3.005 | .6055 | .2648 | .2565 | 1.159 | 29.68 | 1.001 | 59.39 | .2955 |
| #1 | .1779 | 16.52 | 7.058 | 148.6 | .0768 | .0007 | 6.752 | -.0003 | .3147 |
| #2 | .1775 | 16.60 | 7.031 | 147.9 | .0772 | .0009 | 6.799 | -.0007 | .3132 |
| #3 | .1871 | 16.72 | 7.067 | 147.9 | .0755 | .0013 | 6.666 | -.0003 | .3130 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0020** | **.0020** | **-.0030** | **11.29** | **-.0002** | **-.0054** | **.1485** |
| Stddev | .0004 | .0007 | .0001 | .12 | .0005 | .0020 | .0023 |
| %RSD | 18.50 | 36.92 | 3.790 | 1.057 | 281.6 | 36.73 | 1.523 |
| #1 | .0016 | .0022 | -.0031 | 11.31 | .0001 | -.0032 | .1477 |
| #2 | .0020 | .0012 | -.0029 | 11.39 | .0001 | -.0062 | .1511 |
| #3 | .0024 | .0026 | -.0031 | 11.15 | -.0007 | -.0069 | .1468 |



Zoom In Zoom Out

Sample Name: jc87643-2 Acquired: 5/10/2019 8:53:01 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83821.** | **8649.1** | **5908.7** | **11946.** |
| Stddev | 250. | 13.5 | 53.6 | 100. |
| %RSD | .29843 | .15634 | .90788 | .83848 |
| #1 | 83908. | 8633.7 | 5904.7 | 11944. |
| #2 | 83540. | 8654.6 | 5857.1 | 11847. |
| #3 | 84017. | 8659.1 | 5964.2 | 12047. |



Zoom In Zoom Out

Sample Name: jc87668-1 Acquired: 5/10/2019 8:58:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9777** | **-.0002** | **.0001** | **.0007** | **.0023** | **.0143** | **.4286** | **.0028** | **-.0010** |
| Stddev | .0022 | .0001 | .0001 | .0002 | .0001 | .0001 | .0006 | .0003 | .0002 |
| %RSD | .2201 | 56.12 | 221.3 | 25.33 | 2.886 | .5777 | .1400 | 10.63 | 20.05 |
| #1 | .9753 | -.0003 | -.0000 | .0005 | .0022 | .0144 | .4291 | .0025 | -.0008 |
| #2 | .9794 | -.0002 | -.0000 | .0007 | .0024 | .0143 | .4288 | .0029 | -.0011 |
| #3 | .9785 | -.0001 | .0002 | .0009 | .0023 | .0142 | .4279 | .0031 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0136** | **.0146** | **.0012** | **.0010** | **.0016** | **-.0027** | **-.0001** | **.3000** | **100.6** |
| Stddev | .0004 | .0001 | .0004 | .0005 | .0010 | .0007 | .0008 | .0011 | .3 |
| %RSD | 2.645 | .7920 | 31.00 | 49.21 | 66.31 | 26.58 | 857.0 | .3643 | .3295 |
| #1 | .0132 | .0147 | .0014 | .0008 | .0006 | -.0022 | -.0003 | .2990 | 100.2 |
| #2 | .0140 | .0145 | .0008 | .0007 | .0027 | -.0035 | -.0008 | .2998 | 100.8 |
| #3 | .0136 | .0145 | .0013 | .0016 | .0014 | -.0024 | .0008 | .3012 | 100.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.844** | **30.55** | **3.241** | **24.15** | **.0562** | **.0016** | **14.34** | **.0005** | **.7809** |
| Stddev | .038 | .26 | .031 | .09 | .0002 | .0001 | .06 | .0011 | .0025 |
| %RSD | .4345 | .8620 | .9646 | .3629 | .3660 | 6.528 | .4506 | 244.0 | .3227 |
| #1 | 8.806 | 30.26 | 3.215 | 24.05 | .0563 | .0017 | 14.34 | .0002 | .7781 |
| #2 | 8.883 | 30.61 | 3.232 | 24.21 | .0559 | .0015 | 14.27 | .0017 | .7829 |
| #3 | 8.843 | 30.77 | 3.276 | 24.19 | .0562 | .0016 | 14.40 | -.0005 | .7816 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0228** | **.0002** | **-.0083** | **4.313** | **-.0008** | **-.0028** | **.0634** |
| Stddev | .0003 | .0008 | .0002 | .023 | .0010 | .0018 | .0015 |
| %RSD | 1.297 | 373.5 | 2.800 | .5272 | 133.7 | 63.81 | 2.327 |
| #1 | .0231 | -.0007 | -.0082 | 4.315 | -.0018 | -.0027 | .0619 |
| #2 | .0225 | .0008 | -.0082 | 4.289 | -.0009 | -.0046 | .0633 |
| #3 | .0229 | .0004 | -.0086 | 4.334 | .0003 | -.0010 | .0649 |

Zoom In Zoom Out

Sample Name: jc87668-1 Acquired: 5/10/2019 8:58:07 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84968.** | **8683.4** | **5929.0** | **12087.** |
| Stddev | 36. | 46.2 | 29.0 | 49. |
| %RSD | .04181 | .53219 | .48869 | .40599 |
| #1 | 84969. | 8736.4 | 5927.1 | 12088. |
| #2 | 84932. | 8662.1 | 5958.8 | 12135. |
| #3 | 85003. | 8651.6 | 5901.0 | 12037. |



Zoom In Zoom Out

Sample Name: jc87668-2 Acquired: 5/10/2019 9:03:13 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9411** | **-.0000** | **.0001** | **.0003** | **.0017** | **.0045** | **.4091** | **.0013** | **-.0007** |
| Stddev | .0018 | .0001 | .0002 | .0001 | .0001 | .0002 | .0016 | .0002 | .0002 |
| %RSD | .1964 | 181.3 | 139.5 | 24.95 | 3.096 | 4.334 | .3893 | 19.02 | 35.68 |
| #1 | .9403 | -.0001 | .0002 | .0003 | .0017 | .0044 | .4087 | .0016 | -.0006 |
| #2 | .9432 | .0000 | .0002 | .0003 | .0018 | .0047 | .4108 | .0012 | -.0005 |
| #3 | .9398 | -.0001 | -.0001 | .0004 | .0018 | .0044 | .4077 | .0011 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0064** | **.0049** | **.0008** | **.0000** | **.0002** | **-.0010** | **.0006** | **.0731** | **104.6** |
| Stddev | .0002 | .0002 | .0008 | .0008 | .0011 | .0013 | .0011 | .0084 | .2 |
| %RSD | 2.424 | 3.234 | 103.5 | 1751. | 484.6 | 138.6 | 173.4 | 11.46 | .2255 |
| #1 | .0064 | .0047 | .0005 | -.0007 | -.0010 | -.0007 | -.0001 | .0710 | 104.3 |
| #2 | .0065 | .0049 | .0002 | .0009 | .0010 | .0002 | .0019 | .0660 | 104.8 |
| #3 | .0062 | .0050 | .0017 | -.0000 | .0008 | -.0024 | .0001 | .0823 | 104.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.359** | **32.47** | **3.390** | **25.63** | **.0568** | **.0012** | **13.67** | **-.0002** | **.8099** |
| Stddev | .007 | .09 | .025 | .04 | .0001 | .0002 | .01 | .0003 | .0012 |
| %RSD | .1985 | .2906 | .7326 | .1610 | .2528 | 19.21 | .0392 | 153.6 | .1424 |
| #1 | 3.355 | 32.38 | 3.370 | 25.60 | .0567 | .0015 | 13.68 | .0001 | .8087 |
| #2 | 3.356 | 32.57 | 3.418 | 25.68 | .0567 | .0010 | 13.67 | -.0002 | .8110 |
| #3 | 3.367 | 32.45 | 3.382 | 25.62 | .0570 | .0013 | 13.68 | -.0005 | .8101 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0081** | **.0001** | **-.0082** | **4.267** | **-.0004** | **-.0021** | **.0328** |
| Stddev | .0001 | .0004 | .0000 | .004 | .0021 | .0020 | .0003 |
| %RSD | 1.523 | 340.1 | .3826 | .0930 | 502.6 | 93.01 | .8269 |
| #1 | .0080 | .0004 | -.0082 | 4.270 | .0019 | -.0039 | .0325 |
| #2 | .0082 | -.0003 | -.0082 | 4.262 | -.0012 | -.0000 | .0330 |
| #3 | .0082 | .0003 | -.0082 | 4.268 | -.0019 | -.0024 | .0329 |



Zoom In Zoom Out

Sample Name: jc87668-2 Acquired: 5/10/2019 9:03:13 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84155.** | **8605.5** | **5865.1** | **11978.** |
| Stddev | 576. | 16.9 | 10.2 | 29. |
| %RSD | .68389 | .19611 | .17336 | .24259 |
| #1 | 84475. | 8624.8 | 5854.2 | 11948. |
| #2 | 83491. | 8593.4 | 5866.8 | 11979. |
| #3 | 84500. | 8598.5 | 5874.3 | 12006. |



Zoom In Zoom Out

Sample Name: jc87682-1f Acquired: 5/10/2019 9:08:19 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1128** | **-.0002** | **-.0000** | **-.0006** | **.0007** | **-.0010** | **1.732** | **.0022** | **-.0018** |
| Stddev | .0004 | .0000 | .0001 | .0000 | .0004 | .0003 | .015 | .0003 | .0005 |
| %RSD | .3412 | 31.40 | 397.2 | 5.415 | 54.69 | 24.88 | .8471 | 12.91 | 29.98 |
| #1 | .1129 | -.0001 | -.0001 | -.0005 | .0009 | -.0012 | 1.749 | .0025 | -.0024 |
| #2 | .1131 | -.0002 | -.0001 | -.0006 | .0011 | -.0012 | 1.727 | .0019 | -.0017 |
| #3 | .1124 | -.0002 | .0001 | -.0006 | .0003 | -.0007 | 1.721 | .0023 | -.0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0028** | **-.0001** | **.0008** | **.0003** | **-.0019** | **-.0030** | **-.0018** | **53.48** |
| Stddev | .0000 | .0001 | .0006 | .0019 | .0008 | .0023 | .0007 | .0035 | .12 |
| %RSD | 3.819 | 2.673 | 490.6 | 244.2 | 242.4 | 116.4 | 25.10 | 196.5 | .2228 |
| #1 | .0005 | .0027 | .0004 | .0029 | -.0005 | -.0028 | -.0027 | -.0021 | 53.36 |
| #2 | .0005 | .0029 | .0000 | -.0003 | .0010 | .0006 | -.0024 | .0019 | 53.60 |
| #3 | .0005 | .0027 | -.0008 | -.0003 | .0005 | -.0037 | -.0038 | -.0052 | 53.48 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **52.69** | **13.95** | **12.77** | F **348.2** | **.0204** | **.0007** | **8.616** | **-.0009** | **.3703** |
| Stddev | .15 | .08 | .06 | 3.2 | .0001 | .0002 | .018 | .0005 | .0010 |
| %RSD | .2788 | .5509 | .4467 | .9222 | .2797 | 28.29 | .2068 | 58.44 | .2714 |
| #1 | 52.52 | 13.86 | 12.70 | 346.5 | .0203 | .0009 | 8.619 | -.0005 | .3692 |
| #2 | 52.76 | 13.99 | 12.80 | 351.9 | .0204 | .0007 | 8.631 | -.0015 | .3710 |
| #3 | 52.79 | 13.99 | 12.80 | 346.2 | .0204 | .0005 | 8.596 | -.0006 | .3707 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0002** | **-.0047** | **1.587** | **.0004** | **-.0065** | **.0418** |
| Stddev | .0001 | .0008 | .0002 | .004 | .0012 | .0008 | .0004 |
| %RSD | 15.28 | 325.4 | 3.577 | .2547 | 314.2 | 11.70 | .9989 |
| #1 | .0009 | .0011 | -.0048 | 1.584 | -.0008 | -.0072 | .0418 |
| #2 | .0010 | -.0004 | -.0048 | 1.592 | .0003 | -.0065 | .0414 |
| #3 | .0007 | .0000 | -.0045 | 1.587 | .0017 | -.0057 | .0422 |

Zoom In Zoom Out

Sample Name: jc87682-1f Acquired: 5/10/2019 9:08:19 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82534.** | **8588.4** | **5770.1** | **11645.** |
| Stddev | 606. | 37.5 | 7.2 | 13. |
| %RSD | .73401 | .43644 | .12402 | .11264 |
| #1 | 81836. | 8618.9 | 5778.0 | 11657. |
| #2 | 82916. | 8546.6 | 5768.2 | 11647. |
| #3 | 82851. | 8599.7 | 5764.1 | 11631. |



Zoom In Zoom Out

Sample Name: jc87535-1conf Acquired: 5/10/2019 9:21:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4208** | **.0042** | **.0057** | **.0789** | **.1583** | **1.800** | **2.833** | **.1748** | **-.0099** |
| Stddev | .0007 | .0004 | .0000 | .0004 | .0012 | .002 | .002 | .0010 | .0010 |
| %RSD | .1734 | 8.507 | .3025 | .5490 | .7756 | .0902 | .0773 | .5759 | 9.797 |
| #1 | .4200 | .0038 | .0056 | .0794 | .1569 | 1.802 | 2.835 | .1755 | -.0102 |
| #2 | .4212 | .0044 | .0057 | .0787 | .1590 | 1.800 | 2.832 | .1753 | -.0106 |
| #3 | .4212 | .0043 | .0057 | .0786 | .1590 | 1.798 | 2.830 | .1737 | -.0088 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2072** | **3.507** | **.0967** | **.0037** | **.3345** | **-.0017** | **.0123** | **85.37** | **21.59** |
| Stddev | .0013 | .009 | .0046 | .0035 | .0030 | .0040 | .0008 | .19 | .06 |
| %RSD | .6307 | .2574 | 4.748 | 95.76 | .9116 | 238.5 | 6.240 | .2218 | .2739 |
| #1 | .2073 | 3.513 | .0916 | .0048 | .3336 | -.0020 | .0115 | 85.17 | 21.53 |
| #2 | .2085 | 3.511 | .1005 | -.0003 | .3378 | -.0054 | .0126 | 85.54 | 21.64 |
| #3 | .2059 | 3.497 | .0979 | .0065 | .3319 | .0025 | .0129 | 85.41 | 21.59 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **408.8** | **5.868** | **5.166** | **.4883** | **.0693** | **.0084** | **2.965** | **.1419** | **.2197** |
| Stddev | .7 | .131 | .067 | .0356 | .0015 | .0011 | .008 | .0011 | .0001 |
| %RSD | .1775 | 2.238 | 1.293 | 7.287 | 2.154 | 12.73 | .2695 | .7749 | .0619 |
| #1 | 408.0 | 5.782 | 5.091 | .5294 | .0679 | .0081 | 2.974 | .1406 | .2195 |
| #2 | 409.3 | 6.019 | 5.187 | .4657 | .0693 | .0075 | 2.962 | .1427 | .2198 |
| #3 | 409.1 | 5.803 | 5.219 | .4700 | .0709 | .0096 | 2.958 | .1423 | .2197 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.684** | **-.0050** | **.0579** | **31.28** | **.0068** | **.0513** | **4.758** |
| Stddev | .002 | .0046 | .0004 | .07 | .0027 | .0047 | .011 |
| %RSD | .0894 | 93.47 | .6200 | .2249 | 39.96 | 9.081 | .2397 |
| #1 | 1.685 | -.0070 | .0576 | 31.32 | .0088 | .0517 | 4.762 |
| #2 | 1.684 | .0004 | .0583 | 31.33 | .0037 | .0465 | 4.766 |
| #3 | 1.682 | -.0082 | .0579 | 31.20 | .0080 | .0558 | 4.745 |



Zoom In Zoom Out

Sample Name: jc87535-1conf Acquired: 5/10/2019 9:21:52 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85694.** | **8806.4** | **6077.6** | **12640.** |
| Stddev | 422. | 26.8 | 15.0 | 21. |
| %RSD | .49264 | .30397 | .24683 | .16454 |
| #1 | 86052. | 8821.8 | 6065.1 | 12625. |
| #2 | 85802. | 8775.5 | 6073.6 | 12630. |
| #3 | 85228. | 8822.0 | 6094.2 | 12664. |



Zoom In Zoom Out

Sample Name: jc87535-1 Acquired: 5/10/2019 9:28:37 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4305** | **.0043** | **.0059** | **.0794** | **.1626** | **1.848** | **2.885** | **.1769** | **-.0118** |
| Stddev | .0009 | .0002 | .0002 | .0002 | .0004 | .002 | .001 | .0014 | .0003 |
| %RSD | .2008 | 3.825 | 2.895 | .2453 | .2670 | .0990 | .0340 | .7843 | 2.478 |
| #1 | .4295 | .0041 | .0057 | .0794 | .1631 | 1.846 | 2.884 | .1780 | -.0121 |
| #2 | .4309 | .0043 | .0059 | .0792 | .1623 | 1.849 | 2.886 | .1754 | -.0115 |
| #3 | .4310 | .0045 | .0060 | .0796 | .1623 | 1.850 | 2.886 | .1773 | -.0116 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2123** | **3.546** | **.0974** | **.0012** | **.3343** | **-.0030** | **.0117** | **86.65** | **21.89** |
| Stddev | .0004 | .035 | .0039 | .0035 | .0040 | .0035 | .0040 | .28 | .09 |
| %RSD | .1719 | 1.001 | 4.000 | 282.5 | 1.187 | 116.1 | 34.18 | .3219 | .3948 |
| #1 | .2126 | 3.561 | .1014 | .0036 | .3348 | -.0067 | .0088 | 86.46 | 21.83 |
| #2 | .2125 | 3.506 | .0936 | -.0028 | .3301 | -.0026 | .0162 | 86.97 | 21.99 |
| #3 | .2119 | 3.572 | .0973 | .0028 | .3380 | .0003 | .0100 | 86.53 | 21.85 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **417.2** | **5.935** | **5.041** | **.4778** | **.0708** | **.0087** | **3.010** | **.1414** | **.2240** |
| Stddev | .8 | .067 | .145 | .0114 | .0011 | .0009 | .027 | .0013 | .0011 |
| %RSD | .1884 | 1.134 | 2.868 | 2.378 | 1.582 | 10.31 | .8924 | .9412 | .4700 |
| #1 | 416.6 | 6.012 | 5.046 | .4827 | .0714 | .0082 | 3.033 | .1427 | .2230 |
| #2 | 418.1 | 5.911 | 5.183 | .4858 | .0695 | .0082 | 2.980 | .1400 | .2251 |
| #3 | 416.9 | 5.884 | 4.894 | .4648 | .0715 | .0097 | 3.017 | .1415 | .2239 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.719** | **-.0040** | **.0586** | **31.78** | **.0076** | **.0535** | **4.806** |
| Stddev | .003 | .0015 | .0003 | .32 | .0061 | .0015 | .058 |
| %RSD | .1657 | 38.98 | .5731 | 1.016 | 80.73 | 2.883 | 1.201 |
| #1 | 1.719 | -.0031 | .0585 | 31.95 | .0138 | .0524 | 4.834 |
| #2 | 1.716 | -.0057 | .0590 | 31.40 | .0016 | .0528 | 4.740 |
| #3 | 1.722 | -.0030 | .0584 | 31.97 | .0074 | .0552 | 4.845 |

Zoom In Zoom Out

Sample Name: jc87535-1 Acquired: 5/10/2019 9:28:37 Type: Unk
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85090.** | **8673.4** | **6078.6** | **12602.** |
| Stddev | 106. | 5.3 | 50.9 | 91. |
| %RSD | .12457 | .06122 | .83700 | .72184 |
| #1 | 85199. | 8679.2 | 6068.5 | 12584. |
| #2 | 84987. | 8668.8 | 6133.8 | 12701. |
| #3 | 85085. | 8672.2 | 6033.6 | 12521. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 9:33:40 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.023** | **1.904** | **1.958** | **2.006** | **1.994** | **2.028** | **1.999** | **1.970** | **.2445** |
| Stddev | .007 | .006 | .002 | .002 | .029 | .030 | .033 | .001 | .0034 |
| %RSD | .3544 | .2988 | .0765 | .1113 | 1.442 | 1.484 | 1.633 | .0677 | 1.387 |
| #1 | 2.019 | 1.900 | 1.958 | 2.007 | 1.994 | 2.031 | 1.977 | 1.971 | .2443 |
| #2 | 2.031 | 1.910 | 1.956 | 2.004 | 1.965 | 1.997 | 1.983 | 1.969 | .2412 |
| #3 | 2.018 | 1.901 | 1.959 | 2.008 | 2.022 | 2.057 | 2.037 | 1.971 | .2480 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **1.962** | **1.920** | **2.040** | **1.979** | **1.942** | **1.923** | **39.65** | **38.55** |
| Stddev | .029 | .001 | .003 | .003 | .002 | .002 | .006 | .12 | .08 |
| %RSD | 1.468 | .0699 | .1448 | .1575 | .0751 | .1188 | .3050 | .2993 | .2096 |
| #1 | 2.013 | 1.962 | 1.920 | 2.043 | 1.981 | 1.944 | 1.921 | 39.57 | 38.53 |
| #2 | 1.981 | 1.961 | 1.916 | 2.037 | 1.978 | 1.940 | 1.918 | 39.79 | 38.64 |
| #3 | 2.040 | 1.964 | 1.922 | 2.039 | 1.979 | 1.940 | 1.929 | 39.60 | 38.49 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **36.78** | **36.88** | **38.54** | **39.08** | **1.987** | **1.936** | **4.750** | **1.888** | **2.036** |
| Stddev | .07 | .03 | .13 | .12 | .004 | .002 | .006 | .002 | .007 |
| %RSD | .1898 | .0709 | .3266 | .3040 | .2229 | .0874 | .1210 | .1213 | .3247 |
| #1 | 36.72 | 36.89 | 38.48 | 39.02 | 1.987 | 1.936 | 4.754 | 1.890 | 2.033 |
| #2 | 36.86 | 36.85 | 38.69 | 39.21 | 1.983 | 1.935 | 4.743 | 1.888 | 2.044 |
| #3 | 36.76 | 36.89 | 38.46 | 38.99 | 1.992 | 1.938 | 4.752 | 1.886 | 2.032 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 9:33:40 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.975** | **1.924** | **1.956** | **1.961** | **2.030** | **1.933** | **1.905** |
| Stddev | .028 | .004 | .029 | .002 | .004 | .007 | .001 |
| %RSD | 1.409 | .1813 | 1.502 | .0810 | .1858 | .3753 | .0748 |
| #1 | 1.978 | 1.922 | 1.961 | 1.962 | 2.030 | 1.933 | 1.906 |
| #2 | 1.946 | 1.921 | 1.924 | 1.961 | 2.026 | 1.941 | 1.904 |
| #3 | 2.001 | 1.927 | 1.983 | 1.959 | 2.034 | 1.926 | 1.904 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83097.** | **8620.9** | **5906.4** | **11997.** |
| Stddev | 1041. | 18.0 | 2.1 | 2. |
| %RSD | 1.2524 | .20827 | .03602 | .01820 |
| #1 | 83015. | 8628.6 | 5904.4 | 11999. |
| #2 | 84177. | 8633.7 | 5908.6 | 11997. |
| #3 | 82100. | 8600.4 | 5906.3 | 11995. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 9:38:41 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0000** | **.0001** | **.0000** | **.0002** | **-.0004** | **.0001** | **.0003** |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0001 | .0001 | .0000 | .0002 |
| %RSD | 16.32 | 9040. | 117.6 | 514.4 | 56.54 | 32.43 | 28.06 | 70.91 |
| #1 | .0007 | .0000 | .0002 | -.0002 | .0002 | -.0005 | .0001 | .0001 |
| #2 | .0006 | -.0002 | .0001 | .0001 | .0003 | -.0005 | .0002 | .0004 |
| #3 | .0005 | .0001 | -.0000 | .0002 | .0001 | -.0002 | .0001 | .0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0012** | **.0002** | **.0001** | **.0004** | **-.0003** | **.0009** | **.0004** | **.0007** |
| Stddev | .0003 | .0005 | .0001 | .0009 | .0007 | .0010 | .0009 | .0012 |
| %RSD | 27.39 | 326.1 | 87.83 | 220.8 | 215.1 | 106.8 | 238.7 | 182.4 |
| #1 | -.0011 | -.0000 | .0001 | -.0006 | -.0012 | -.0002 | .0014 | .0006 |
| #2 | -.0015 | .0007 | .0000 | .0009 | .0001 | .0015 | -.0003 | -.0005 |
| #3 | -.0009 | -.0002 | .0001 | .0010 | .0001 | .0016 | .0001 | .0020 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0126** | **-.0010** | **.0018** | **-.0233** | **-.4842** | **-.0448** | **.0018** | **.0003** |
| Stddev | .0121 | .0024 | .0009 | .0161 | .0549 | .0014 | .0001 | .0002 |
| %RSD | 95.75 | 227.6 | 52.76 | 69.27 | 11.34 | 3.078 | 7.989 | 76.11 |
| #1 | .0109 | -.0034 | .0028 | -.0249 | -.5321 | -.0447 | .0019 | .0003 |
| #2 | .0015 | -.0010 | .0016 | -.0064 | -.4963 | -.0462 | .0019 | .0000 |
| #3 | .0254 | .0013 | .0009 | -.0386 | -.4243 | -.0435 | .0016 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In
Zoom Out

Sample Name: ccb Acquired: 5/10/2019 9:38:41 Type: QC
Method: SGS NO VALVE3(v365) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0003** | **.0002** | **.0001** | **.0003** | **.0002** | **-.0012** | **.0024** |
| Stddev | .0005 | .0004 | .0001 | .0003 | .0005 | .0002 | .0011 | .0012 |
| %RSD | 104.7 | 171.2 | 29.60 | 272.9 | 178.9 | 99.77 | 87.68 | 51.46 |
| #1 | -.0001 | .0005 | .0002 | .0004 | .0009 | .0001 | -.0023 | .0010 |
| #2 | .0006 | -.0003 | .0002 | .0001 | .0002 | .0004 | -.0001 | .0031 |
| #3 | .0008 | .0005 | .0001 | -.0002 | -.0002 | .0000 | -.0012 | .0031 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0123** | F **.0055** |
| Stddev | .0017 | .0007 |
| %RSD | 13.61 | 13.24 |
| #1 | -.0107 | .0060 |
| #2 | -.0123 | .0057 |
| #3 | -.0140 | .0047 |
| Check ? | Chk Fail | Chk Fail |
| High Limit | .0048 | .0054 |
| Low Limit | -.0048 | -.0054 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85063.** | **8555.4** | **6046.3** | **12549.** |
| Stddev | 249. | 20.6 | 26.0 | 46. |
| %RSD | .29291 | .24109 | .42932 | .36998 |
| #1 | 84783. | 8572.8 | 6016.3 | 12496. |
| #2 | 85262. | 8532.6 | 6059.5 | 12570. |
| #3 | 85142. | 8560.9 | 6063.0 | 12581. |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 2 | Al | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000824 | 0.000000 | No |
| Be 313.042 {108} | 1 | 11 | V | 0.002018 | 0.000000 | No |
| | | | Mo | -0.000040 | 0.000000 | No |
| | | | Ti | -0.000120 | 0.000000 | No |
| | | | Mn | 0.000016 | 0.000000 | No |
| | | | Ba | -0.000013 | 0.000000 | No |
| | | | Zn | 0.000010 | 0.000000 | No |
| | | | Sb | -0.000021 | 0.000000 | No |
| | | | Ag | 0.000060 | 0.000000 | No |
| | | | Sn | 0.000010 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| Cd 228.802 {448} | 1 | 14 | As | 0.011300 | 0.000000 | No |
| | | | Ni | -0.000277 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ba | 0.000100 | 0.000000 | No |
| | | | Co | -0.001036 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Mn | -0.000014 | 0.000000 | No |
| | | | Ti | 0.000051 | 0.000000 | No |
| | | | Cu | 0.000009 | 0.000000 | No |
| | | | Sr | -0.000050 | 0.000000 | No |
| | | | W | -0.000194 | 0.000000 | No |
| | | | Cr | 0.000010 | 0.000000 | No |
| Co 228.616 {448} | 1 | 5 | Fe | -0.000001 | 0.000000 | No |
| | | | Ca | -0.000003 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ti | 0.001922 | 0.000000 | No |
| | | | Mo | -0.000963 | 0.000000 | No |
| Cr 267.716 {126} | 1 | 8 | Mn | 0.000098 | 0.000000 | No |
| | | | Mo | -0.000053 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Sn | 0.000032 | 0.000000 | No |
| | | | Ti | 0.000042 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| Cu 324.754 {104}2 | 1 | 12 | Cr | 0.000055 | 0.000000 | No |
| | | | Mo | 0.000395 | 0.000000 | No |
| | | | Ti | -0.000174 | 0.000000 | No |
| | | | Mn | -0.000130 | 0.000000 | No |
| | | | Co | -0.000902 | 0.000000 | No |
| | | | Zn | 0.000037 | 0.000000 | No |
| | | | Fe | -0.000162 | 0.000000 | No |
| | | | Zr | -0.000007 | 0.000000 | No |
| | | | V | -0.000457 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Ni | 0.000032 | 0.000000 | No |
| | | | W | 0.000097 | 0.000000 | No |
| Mn 257.610 {131} | 1 | 2 | Fe | -0.000126 | 0.000000 | No |
| | | | Mo | 0.000011 | 0.000000 | No |
| Ni 231.604 {446} | 1 | 7 | Cr | -0.000028 | 0.000000 | No |
| | | | Mo | -0.000041 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Zn | 0.000017 | 0.000000 | No |
| | | | | Co | -0.000329 | 0.000000 | No |
| | | | | Ti | 0.000010 | 0.000000 | No |
| | | | | W | -0.000073 | 0.000000 | No |
| | Ag 328.068 {103} | 1 | 15 | Mn | 0.000056 | 0.000000 | No |
| | | | | Mo | -0.000279 | 0.000000 | No |
| | | | | Ti | -0.000866 | 0.000000 | No |
| | | | | V | -0.000959 | 0.000000 | No |
| | | | | Zr | 0.005343 | 0.000000 | No |
| | | | | Sb | -0.000013 | 0.000000 | No |
| | | | | Mg | -0.000003 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Fe | -0.000334 | 0.000000 | No |
| | | | | Al | -0.000003 | 0.000000 | No |
| | | | | Zn | -0.000090 | 0.000000 | No |
| | | | | Ba | -0.000087 | 0.000000 | No |
| | | | | Ni | -0.000021 | 0.000000 | No |
| | | | | Cr | 0.000013 | 0.000000 | No |
| | | | | As | 0.000081 | 0.000000 | No |
| | V 292.402 {115} | 1 | 6 | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | 0.000746 | 0.000000 | No |
| | | | | Mo | -0.000244 | 0.000000 | No |
| | | | | Co | 0.000015 | 0.000000 | No |
| | | | | Cr | -0.007890 | 0.000000 | No |
| | | | | Mn | -0.000920 | 0.000000 | No |
| | Zn 206.200 {464} | 1 | 13 | Cr | -0.000600 | 0.000000 | No |
| | | | | Mo | -0.000376 | 0.000000 | No |
| | | | | Fe | 0.000011 | 0.000000 | No |
| | | | | Co | 0.000122 | 0.000000 | No |
| | | | | Ni | 0.000058 | 0.000000 | No |
| | | | | Se | 0.000849 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Ti | 0.000131 | 0.000000 | No |
| | | | | Sn | 0.000068 | 0.000000 | No |
| | | | | V | -0.000012 | 0.000000 | No |
| | | | | Al | 0.000001 | 0.000000 | No |
| | | | | Si | 0.000017 | 0.000000 | No |
| | | | | Zr | 0.000269 | 0.000000 | No |
| | As 189.042 {478} | 1 | 22 | Al | 0.000003 | 0.000000 | No |
| | | | | Fe | -0.000020 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Mn | -0.000048 | 0.000000 | No |
| | | | | Mo | 0.000980 | 0.000000 | No |
| | | | | Cr | 0.000509 | 0.000000 | No |
| | | | | Co | -0.000050 | 0.000000 | No |
| | | | | Si | -0.000047 | 0.000000 | No |
| | | | | Cu | 0.000120 | 0.000000 | No |
| | | | | Mg | 0.000001 | 0.000000 | No |
| | | | | Cd | -0.000103 | 0.000000 | No |
| | | | | Sn | -0.000017 | 0.000000 | No |
| | | | | Zn | -0.000045 | 0.000000 | No |
| | | | | Zr | -0.000145 | 0.000000 | No |
| | | | | Sb | 0.000022 | 0.000000 | No |
| | | | | Ti | 0.000017 | 0.000000 | No |
| | | | | Ni | -0.000069 | 0.000000 | No |
| | | | | W | 0.001510 | 0.000000 | No |
| | | | | S | -0.000010 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Ba | -0.000070 | 0.000000 | No |
| | | | | Sr | 0.000000 | 0.000000 | No |
| | | | | V | -0.000014 | 0.000000 | No |
| | Tl 190.856 {477} | 1 | 30 | Cr | 0.000416 | 0.000000 | No |
| | | | | Mo | -0.009600 | 0.000000 | No |
| | | | | Al | 0.000008 | 0.000000 | No |
| | | | | V | -0.026220 | 0.000000 | No |
| | | | | Mn | 0.001718 | 0.000000 | No |
| | | | | Si | -0.000021 | 0.000000 | No |
| | | | | Ca | 0.000005 | 0.000000 | No |
| | | | | Ti | -0.002032 | 0.000000 | No |
| | | | | Cu | 0.000040 | 0.000000 | No |
| | | | | Co | 0.004940 | 0.000000 | No |
| | | | | Sr | -0.000233 | 0.000000 | No |
| | | | | Zn | -0.000131 | 0.000000 | No |
| | | | | Pb | -0.000116 | 0.000000 | No |
| | | | | Mg | 0.000005 | 0.000000 | No |
| | | | | Ba | -0.000014 | 0.000000 | No |
| | | | | W | -0.030000 | 0.000000 | No |
| | | | | B | 0.000151 | 0.000000 | No |
| | | | | Ni | -0.000034 | 0.000000 | No |
| | | | | Sn | 0.000110 | 0.000000 | No |
| | | | | Fe | -0.000049 | 0.000000 | No |
| | | | | Li | -0.000199 | 0.000000 | No |
| | | | | S | 0.000013 | 0.000000 | No |
| | | | | As | 0.000056 | 0.000000 | No |
| | | | | Bi | -0.000040 | 0.000000 | No |
| | | | | P | 0.000021 | 0.000000 | No |
| | | | | Cd | 0.000117 | 0.000000 | No |
| | | | | Sb | 0.000034 | 0.000000 | No |
| | | | | K | 0.000000 | 0.000000 | No |
| | | | | Zr | 0.000059 | 0.000000 | No |
| | | | | Be | -0.000289 | 0.000000 | No |
| | Pb 220.353 {453} | 1 | 20 | Al | -0.000159 | 0.000000 | No |
| | | | | Ca | -0.000008 | 0.000000 | No |
| | | | | Mn | 0.000066 | 0.000000 | No |
| | | | | Zn | 0.000027 | 0.000000 | No |
| | | | | Mo | -0.000610 | 0.000000 | No |
| | | | | Ni | 0.000436 | 0.000000 | No |
| | | | | Cu | 0.000381 | 0.000000 | No |
| | | | | V | -0.000103 | 0.000000 | No |
| | | | | Co | 0.000016 | 0.000000 | No |
| | | | | Ti | -0.000225 | 0.000000 | No |
| | | | | Si | 0.000124 | 0.000000 | No |
| | | | | Mg | 0.000014 | 0.000000 | No |
| | | | | Sb | 0.000041 | 0.000000 | No |
| | | | | Cr | -0.000028 | 0.000000 | No |
| | | | | Sn | 0.000130 | 0.000000 | No |
| | | | | Fe | 0.000046 | 0.000000 | No |
| | | | | W | 0.000000 | 0.000000 | No |
| | | | | Sr | -0.000036 | 0.000000 | No |
| | | | | Zr | -0.000181 | 0.000000 | No |
| | | | | S | 0.000012 | 0.000000 | No |
| | Se 196.090 {472} | 1 | 18 | Al | 0.000005 | 0.000000 | No |
| | | | | Ca | -0.000010 | 0.000000 | No |
| | | | | Mn | 0.000649 | 0.000000 | No |
| | | | | Mo | 0.000066 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Co | -0.000296 | 0.000000 | No |
| | | | | Cu | -0.000107 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | Ti | -0.000093 | 0.000000 | No |
| | | | | Zn | -0.000077 | 0.000000 | No |
| | | | | Fe | -0.000192 | 0.000000 | No |
| | | | | Si | 0.000068 | 0.000000 | No |
| | | | | B | -0.000043 | 0.000000 | No |
| | | | | Ba | 0.000050 | 0.000000 | No |
| | | | | S | 0.000000 | 0.000000 | No |
| | | | | Zr | -0.000206 | 0.000000 | No |
| | | | | V | 0.000082 | 0.000000 | No |
| | | | | W | 0.000000 | 0.000000 | No |
| | | | | Sn | -0.000113 | 0.000000 | No |
| | Sb 206.833 {463} | 1 | 17 | Fe | -0.000030 | 0.000000 | No |
| | | | | Al | 0.000044 | 0.000000 | No |
| | | | | Ca | 0.000006 | 0.000000 | No |
| | | | | Ni | -0.000683 | 0.000000 | No |
| | | | | Cr | 0.015000 | 0.000000 | No |
| | | | | V | -0.003439 | 0.000000 | No |
| | | | | Zn | -0.000104 | 0.000000 | No |
| | | | | Mo | 0.001310 | 0.000000 | No |
| | | | | Ti | -0.003963 | 0.000000 | No |
| | | | | Sn | -0.007500 | 0.000000 | No |
| | | | | Mn | -0.000040 | 0.000000 | No |
| | | | | Co | -0.000036 | 0.000000 | No |
| | | | | Se | -0.000075 | 0.000000 | No |
| | | | | Zr | 0.000000 | 0.000000 | No |
| | | | | W | 0.000000 | 0.000000 | No |
| | | | | Mg | -0.000001 | 0.000000 | No |
| | | | | S | 0.000018 | 0.000000 | No |
| | Al 396.152 { 85} | 1 | 8 | Ca | 0.000067 | 0.000000 | No |
| | | | | Mo | 0.054823 | 0.000000 | No |
| | | | | Ti | 0.000037 | 0.000000 | No |
| | | | | Si | 0.000228 | 0.000000 | No |
| | | | | Co | -0.000115 | 0.000000 | No |
| | | | | Li | -0.001000 | 0.000000 | No |
| | | | | Ba | 0.000725 | 0.000000 | No |
| | | | | Zr | 0.004878 | 0.000000 | No |
| | Ca 317.933 {106} | 1 | 5 | Al | 0.000043 | 0.000000 | No |
| | | | | Fe | 0.000046 | 0.000000 | No |
| | | | | Mg | 0.000071 | 0.000000 | No |
| | | | | Ti | -0.000042 | 0.000000 | No |
| | | | | Co | 0.001523 | 0.000000 | No |
| | Fe 259.940 {130} | 1 | 11 | Cr | 0.000237 | 0.000000 | No |
| | | | | Zn | 0.000466 | 0.000000 | No |
| | | | | Al | 0.000022 | 0.000000 | No |
| | | | | Co | 0.000318 | 0.000000 | No |
| | | | | Cd | 0.000700 | 0.000000 | No |
| | | | | Sn | -0.000019 | 0.000000 | No |
| | | | | Ti | -0.000710 | 0.000000 | No |
| | | | | Si | 0.000053 | 0.000000 | No |
| | | | | Ca | 0.000012 | 0.000000 | No |
| | | | | Ba | 0.000400 | 0.000000 | No |
| | | | | Mn | -0.000272 | 0.000000 | No |
| | Mg 279.079 {121} | 1 | 3 | Mo | -0.021115 | 0.000000 | No |
| | | | | Pb | -0.000017 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Fe | -0.000081 | 0.000000 | No |
| K 766.490 { 44} | 1 | None | | | | |
| Na 589.592 { 57} | 1 | 1 | Al | 0.000039 | 0.000000 | No |
| B 208.959 {462} | 1 | 1 | Mo | 0.040842 | 0.000000 | No |
| Mo 202.030 {467} | 1 | 6 | Ti | 0.000050 | 0.000000 | No |
| | | | Mg | -0.000005 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Fe | -0.000006 | 0.000000 | No |
| | | | V | -0.000100 | 0.000000 | No |
| | | | W | -0.000612 | 0.000000 | No |
| Si 212.412 {459} | 1 | 12 | Mn | 0.000152 | 0.000000 | No |
| | | | Fe | 0.000021 | 0.000000 | No |
| | | | Ca | 0.000041 | 0.000000 | No |
| | | | Ni | 0.000391 | 0.000000 | No |
| | | | Cd | 0.001794 | 0.000000 | No |
| | | | Cr | 0.001112 | 0.000000 | No |
| | | | Mo | 0.029007 | 0.000000 | No |
| | | | Ti | 0.007395 | 0.000000 | No |
| | | | Ba | 0.000825 | 0.000000 | No |
| | | | Sn | 0.005204 | 0.000000 | No |
| | | | V | 0.001738 | 0.000000 | No |
| | | | Zr | 0.001561 | 0.000000 | No |
| Sn 189.989 {478} | 1 | 4 | Ti | -0.002059 | 0.000000 | No |
| | | | Fe | 0.000017 | 0.000000 | No |
| | | | Mo | 0.000058 | 0.000000 | No |
| | | | Zr | 0.000976 | 0.000000 | No |
| Sr 407.771 { 83} | 1 | 2 | Ca | 0.000019 | 0.000000 | No |
| | | | Zr | -0.000004 | 0.000000 | No |
| Ti 334.904 {101} | 1 | 5 | Cr | 0.000072 | 0.000000 | No |
| | | | Mo | 0.002014 | 0.000000 | No |
| | | | Zr | 0.000002 | 0.000000 | No |
| | | | W | 0.000004 | 0.000000 | No |
| | | | V | 0.000064 | 0.000000 | No |
| Y 360.073 { 94}* | 1 | None | | | | |
| Y 371.030 { 91}* | 1 | None | | | | |
| Y 224.306 {451}* | 1 | None | | | | |
| In 230.606 {446}* | 1 | None | | | | |
| W 207.911 {462} | 1 | 3 | V | 0.000064 | 0.000000 | No |
| | | | Zn | 0.016225 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| Zr 339.198 { 99} | 1 | 14 | Fe | -0.000087 | 0.000000 | No |
| | | | Si | 0.000631 | 0.000000 | No |
| | | | Ba | -0.000049 | 0.000000 | No |
| | | | Sn | 0.000046 | 0.000000 | No |
| | | | Sb | -0.000067 | 0.000000 | No |
| | | | V | 0.000226 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Ti | 0.000007 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Li | -0.000097 | 0.000000 | No |
| | | | Bi | 0.000607 | 0.000000 | No |
| | | | Mn | 0.000059 | 0.000000 | No |
| | | | Mo | 0.000401 | 0.000000 | No |
| S 182.034 {485} | 1 | 10 | Ca | 0.000060 | 0.000000 | No |
| | | | Mo | 0.000978 | 0.000000 | No |
| | | | Al | -0.000024 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000008 | 0.000000 | No |
| | | | | Mn | 0.002516 | 0.000000 | No |
| | | | | W | -0.018006 | 0.000000 | No |
| | | | | Mg | 0.000012 | 0.000000 | No |
| | | | | Cr | 0.000119 | 0.000000 | No |
| | | | | V | 0.000018 | 0.000000 | No |
| | | | | B | -0.000196 | 0.000000 | No |
| | Bi 223.061 {451} | 1 | 7 | Fe | 0.000158 | 0.000000 | No |
| | | | | Ti | -0.017590 | 0.000000 | No |
| | | | | Co | -0.003172 | 0.000000 | No |
| | | | | Cr | 0.003172 | 0.000000 | No |
| | | | | Cu | -0.001562 | 0.000000 | No |
| | | | | V | -0.000498 | 0.000000 | No |
| | | | | W | 0.015000 | 0.000000 | No |
| | Li 670.784 { 50} | 1 | 2 | Ca | 0.000062 | 0.000000 | No |
| | | | | W | 0.021000 | 0.000000 | No |
| | P 177.495 {490} | 1 | 2 | Mn | -0.001748 | 0.000000 | No |
| | | | | Cu | 0.004091 | 0.000000 | No |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|---|
| | Ba 455.403 { 74} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.004976 | 3.132692 | 0.000000 | 1.000000 |
| | Be 313.042 {108} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000716 | 2.588328 | 0.000000 | 1.000000 |
| | Cd 228.802 {448} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000057 | 1.196296 | 0.000000 | 1.000000 |
| | Co 228.616 {448} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000093 | 0.610810 | 0.000000 | 1.000000 |
| | Cr 267.716 {126} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000020 | 0.261991 | 0.000000 | 1.000000 |
| | Cu 324.754 {104}2 | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.009898 | 0.435201 | 0.000000 | 1.000000 |
| | Mn 257.610 {131} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000048 | 0.575576 | 0.000000 | 1.000000 |
| | Ni 231.604 {446} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000367 | 0.406487 | 0.000000 | 1.000000 |
| | Ag 328.068 {103} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.001498 | 0.277262 | 0.000000 | 1.000000 |
| | V 292.402 {115} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000817 | 0.358534 | 0.000000 | 1.000000 |
| | Zn 206.200 {464} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000709 | 1.561146 | 0.000000 | 1.000000 |
| | As 189.042 {478} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000485 | 0.163202 | 0.000000 | 1.000000 |
| | Tl 190.856 {477} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000098 | 0.067308 | 0.000000 | 1.000000 |
| | Pb 220.353 {453} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000150 | 0.199585 | 0.000000 | 1.000000 |
| | Se 196.090 {472} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000360 | 0.116832 | 0.000000 | 1.000000 |
| | Sb 206.833 {463} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.002271 | 0.191561 | 0.000000 | 1.000000 |
| | Al 396.152 { 85} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.001168 | 0.054343 | 0.000000 | 1.000000 |
| | Ca 317.933 {106} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.005429 | 0.086820 | 0.000000 | 1.000000 |
| | Fe 259.940 {130} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000022 | 0.033232 | 0.000000 | 1.000000 |
| | Mg 279.079 {121} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000179 | 0.006564 | 0.000000 | 1.000000 |
| | K 766.490 { 44} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.016790 | 0.044124 | 0.000000 | 1.000000 |
| | Na 589.592 { 57} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.007221 | 0.155739 | 0.000000 | 1.000000 |
| | B 208.959 {462} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000754 | 0.252867 | 0.000000 | 1.000000 |
| | Mo 202.030 {467} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000345 | 0.897490 | 0.000000 | 1.000000 |
| | Si 212.412 {459} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.002364 | 0.214551 | 0.000000 | 1.000000 |
| | Sn 189.989 {478} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000234 | 0.189597 | 0.000000 | 1.000000 |
| | Sr 407.771 { 83} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000415 | 2.505961 | 0.000000 | 1.000000 |
| | Ti 334.904 {101} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.001577 | 0.372073 | 0.000000 | 1.000000 |
| | Y 360.073 { 94}* | 5/10/2019 9:58:08 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 371.030 { 91}* | 5/10/2019 9:58:08 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 224.306 {451}* | 5/10/2019 9:58:08 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | In 230.606 {446}* | 5/10/2019 9:58:08 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | W 207.911 {462} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.002801 | 0.460894 | 0.000000 | 1.000000 |
| | Zr 339.198 { 99} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.001019 | 0.816341 | 0.000000 | 1.000000 |
| | S 182.034 {485} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.000660 | 0.102874 | 0.000000 | 1.000000 |
| | Bi 223.061 {451} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | -0.000327 | 0.220461 | 0.000000 | 1.000000 |
| | Li 670.784 { 50} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | None | 0.008871 | 1.143701 | 0.000000 | 1.000000 |
| | P 177.495 {490} | 5/10/2019 9:58:08 | 5/9/2019 12:27:54 | Linear | 1/Conc | -0.004080 | 0.180703 | 0.000000 | 1.000000 |

| | Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Slope | Y-int | Slope factor | Offset |
| | Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000319 | 0.001065 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | 1.000000 | 0.000000 | 0.000110 | 0.000367 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000184 | 0.000612 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {448} | 1.000000 | 0.000000 | 0.000271 | 0.000902 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000283 | 0.000943 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000271 | 0.000903 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000046 | 0.000153 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000360 | 0.001201 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000409 | 0.001362 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | 1.000000 | 0.000000 | 0.000346 | 0.001153 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000115 | 0.000382 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 189.042 {478} | 1.000000 | 0.000000 | 0.000904 | 0.003013 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001545 | 0.005151 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001051 | 0.003503 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | 1.000000 | 0.000000 | 0.001645 | 0.005484 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001276 | 0.004253 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | 1.000000 | 0.000000 | 0.013427 | 0.044757 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | 1.000000 | 0.000000 | 0.003850 | 0.012833 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {130} | 1.000000 | 0.000000 | 0.004511 | 0.015035 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | 1.000000 | 0.000000 | 0.028875 | 0.096252 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | 1.000000 | 0.000000 | 0.039316 | 0.131053 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | 1.000000 | 0.000000 | 0.010542 | 0.035141 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 208.959 {462} | 1.000000 | 0.000000 | 0.000641 | 0.002137 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000234 | 0.000779 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 212.412 {459} | 1.000000 | 0.000000 | 0.001103 | 0.003678 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000633 | 0.002109 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000151 | 0.000504 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000376 | 0.001255 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 360.073 { 94}* | 0.000000 | 0.000000 | 0.000796 | 0.002654 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | 0.000000 | 0.000000 | 0.002186 | 0.007287 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451}* | 0.000000 | 0.000000 | 0.004215 | 0.014050 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | W 207.911 {462} | 1.000000 | 0.000000 | 0.000926 | 0.003085 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000171 | 0.000570 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | 1.000000 | 0.000000 | 0.001553 | 0.005178 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001548 | 0.005161 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001538 | 0.005128 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 177.495 {490} | 1.000000 | 0.000000 | 0.000815 | 0.002717 | OK. | 1.000000 | 0.000000 | 1 | 0 |

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/10/2019 11:40:59 Type: Cal
Method: SGS NO VALVE3(v367) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0062** | **-.0011** | **-.0000** | **-.0001** | **.0000** | **.0095** | **-.0000** | **-.0003** | **-.0018** |
| Stddev | .0003 | .0002 | .0001 | .0000 | .0000 | .0001 | .0000 | .0001 | .0000 |
| %RSD | 5.073 | 18.45 | 433.8 | 40.42 | 115.6 | .8094 | 67.16 | 20.42 | 2.401 |
| #1 | .0059 | -.0011 | -.0001 | -.0001 | .0001 | .0096 | -.0000 | -.0004 | -.0018 |
| #2 | .0065 | -.0008 | .0001 | -.0001 | .0000 | .0094 | -.0000 | -.0003 | -.0018 |
| #3 | .0063 | -.0012 | -.0000 | -.0001 | .0000 | .0095 | -.0001 | -.0003 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.0008** | **.0010** | **-.0005** | **-.0000** | **-.0001** | **.0003** | **.0023** | **-.0008** | **.0048** |
| Stddev | .0001 | .0003 | .0001 | .0000 | .0002 | .0003 | .0002 | .0004 | .0003 |
| %RSD | 7.638 | 26.37 | 28.15 | 87.70 | 227.5 | 97.68 | 10.55 | 51.67 | 6.294 |
| #1 | -.0007 | .0011 | -.0007 | -.0000 | -.0000 | -.0000 | .0026 | -.0013 | .0045 |
| #2 | -.0008 | .0012 | -.0004 | -.0001 | -.0002 | .0003 | .0023 | -.0005 | .0051 |
| #3 | -.0007 | .0007 | -.0004 | -.0001 | .0000 | .0005 | .0021 | -.0007 | .0047 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0001** | **.0001** | **-.0132** | **-.0015** | **.0005** | **.0005** | **.0023** | **.0002** | **-.0004** |
| Stddev | .0001 | .0002 | .0010 | .0006 | .0001 | .0001 | .0001 | .0001 | .0005 |
| %RSD | 126.5 | 374.7 | 7.732 | 43.22 | 21.55 | 16.49 | 5.556 | 35.10 | 121.4 |
| #1 | -.0000 | .0003 | -.0140 | -.0020 | .0005 | .0006 | .0022 | .0003 | -.0009 |
| #2 | .0002 | .0000 | -.0135 | -.0017 | .0004 | .0004 | .0025 | .0001 | -.0002 |
| #3 | .0001 | -.0002 | -.0120 | -.0008 | .0005 | .0005 | .0024 | .0003 | -.0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.0016** | **.0026** | **-.0009** | **.0006** | **-.0006** | **-.0001** | **-.0034** |
| Stddev | .0000 | .0007 | .0001 | .0001 | .0003 | .0030 | .0001 |
| %RSD | 2.494 | 27.19 | 11.38 | 11.63 | 44.34 | 5819. | 1.916 |
| #1 | -.0017 | .0029 | -.0009 | .0006 | -.0008 | -.0027 | -.0034 |
| #2 | -.0016 | .0018 | -.0008 | .0007 | -.0003 | -.0008 | -.0034 |
| #3 | -.0016 | .0030 | -.0010 | .0005 | -.0006 | .0033 | -.0035 |



Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/10/2019 11:40:59 Type: Cal
Method: SGS NO VALVE3(v367) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87261.** | **8717.2** | **6172.3** | **12749.** |
| Stddev | 179. | 21.4 | 11.4 | 10. |
| %RSD | .20538 | .24557 | .18495 | .07500 |
| #1 | 87467. | 8708.7 | 6165.2 | 12743. |
| #2 | 87170. | 8701.3 | 6166.3 | 12744. |
| #3 | 87145. | 8741.5 | 6185.5 | 12760. |



Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 5/10/2019 11:46:07 Type: Cal
Method: SGS NO VALVE3(v367) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **12.46** | **9.642** | **4.674** | **2.405** | **1.033** | **1.731** | **2.198** | **1.569** | **.1309** |
| Stddev | .01 | .010 | .005 | .002 | .004 | .006 | .006 | .001 | .0004 |
| %RSD | .0811 | .1068 | .1092 | .0864 | .3576 | .3301 | .2668 | .0697 | .3178 |
| #1 | 12.45 | 9.638 | 4.677 | 2.407 | 1.036 | 1.736 | 2.193 | 1.570 | .1311 |
| #2 | 12.45 | 9.634 | 4.676 | 2.405 | 1.029 | 1.724 | 2.204 | 1.569 | .1304 |
| #3 | 12.47 | 9.654 | 4.668 | 2.403 | 1.034 | 1.732 | 2.196 | 1.568 | .1312 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.407** | **5.982** | **.6233** | **.2471** | **.7770** | **.4459** | **.7286** | **4.179** | **6.501** |
| Stddev | .004 | .009 | .0007 | .0004 | .0006 | .0003 | .0014 | .002 | .011 |
| %RSD | .3100 | .1545 | .1080 | .1703 | .0770 | .0570 | .1866 | .0472 | .1732 |
| #1 | 1.411 | 5.987 | .6239 | .2469 | .7775 | .4461 | .7296 | 4.180 | 6.499 |
| #2 | 1.402 | 5.988 | .6234 | .2476 | .7772 | .4460 | .7292 | 4.179 | 6.491 |
| #3 | 1.408 | 5.972 | .6226 | .2468 | .7763 | .4456 | .7271 | 4.176 | 6.513 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **2.314** | **.4198** | **3.435** | **11.87** | **1.021** | **3.392** | **2.059** | **.6957** | **9.856** |
| Stddev | .002 | .0010 | .003 | .01 | .001 | .005 | .003 | .0017 | .007 |
| %RSD | .0773 | .2311 | .0895 | .1077 | .0616 | .1406 | .1310 | .2421 | .0718 |
| #1 | 2.316 | .4192 | 3.435 | 11.88 | 1.021 | 3.394 | 2.060 | .6969 | 9.861 |
| #2 | 2.312 | .4194 | 3.432 | 11.85 | 1.022 | 3.395 | 2.060 | .6964 | 9.848 |
| #3 | 2.314 | .4210 | 3.438 | 11.87 | 1.021 | 3.386 | 2.056 | .6938 | 9.860 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **1.449** | **1.792** | **3.092** | **.3986** | **.8669** | **4.510** | **.6807** |
| Stddev | .004 | .001 | .012 | .0001 | .0006 | .010 | .0006 |
| %RSD | .3042 | .0587 | .4021 | .0286 | .0652 | .2228 | .0809 |
| #1 | 1.453 | 1.792 | 3.094 | .3986 | .8666 | 4.512 | .6811 |
| #2 | 1.444 | 1.794 | 3.104 | .3985 | .8675 | 4.499 | .6809 |
| #3 | 1.450 | 1.792 | 3.079 | .3988 | .8665 | 4.519 | .6801 |



Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 5/10/2019 11:46:07 Type: Cal
Method: SGS NO VALVE3(v367) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82656.** | **8686.5** | **5863.7** | **11928.** |
| Stddev | 272. | 18.4 | 2.1 | 9. |
| %RSD | .32877 | .21225 | .03561 | .07919 |
| #1 | 82441. | 8689.7 | 5861.5 | 11922. |
| #2 | 82962. | 8703.2 | 5865.6 | 11939. |
| #3 | 82566. | 8666.7 | 5864.2 | 11924. |

Zoom In Zoom Out

Sample Name: ccvconf Acquired: 5/10/2019 11:51:21 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **2.033** | **2.009** | **2.023** | **2.044** | **2.006** | **2.062** | **2.035** | **.2519** |
| Stddev | .002 | .003 | .002 | .001 | .008 | .010 | .012 | .002 | .0012 |
| %RSD | .1052 | .1494 | .0894 | .0353 | .3750 | .5088 | .5890 | .1154 | .4649 |
| #1 | 2.033 | 2.030 | 2.011 | 2.023 | 2.036 | 2.001 | 2.053 | 2.034 | .2513 |
| #2 | 2.037 | 2.034 | 2.009 | 2.024 | 2.051 | 2.018 | 2.058 | 2.037 | .2533 |
| #3 | 2.037 | 2.036 | 2.007 | 2.023 | 2.044 | 2.000 | 2.076 | 2.033 | .2511 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.033** | **2.045** | **1.978** | **2.057** | **2.024** | **1.991** | **1.976** | **40.44** | **40.84** |
| Stddev | .008 | .002 | .001 | .001 | .001 | .002 | .002 | .06 | .07 |
| %RSD | .4128 | .0787 | .0542 | .0554 | .0349 | .0752 | .1150 | .1471 | .1608 |
| #1 | 2.027 | 2.047 | 1.979 | 2.058 | 2.024 | 1.991 | 1.977 | 40.37 | 40.77 |
| #2 | 2.042 | 2.044 | 1.978 | 2.056 | 2.025 | 1.992 | 1.978 | 40.48 | 40.84 |
| #3 | 2.030 | 2.044 | 1.977 | 2.058 | 2.025 | 1.989 | 1.974 | 40.46 | 40.90 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.03** | **40.92** | **40.33** | **40.58** | **2.023** | **1.994** | **5.045** | **2.004** | **2.037** |
| Stddev | .07 | .07 | .13 | .05 | .004 | .002 | .006 | .002 | .003 |
| %RSD | .1790 | .1728 | .3140 | .1146 | .1978 | .0788 | .1244 | .0924 | .1609 |
| #1 | 40.95 | 40.85 | 40.19 | 40.52 | 2.021 | 1.993 | 5.048 | 2.005 | 2.033 |
| #2 | 41.04 | 40.99 | 40.43 | 40.61 | 2.027 | 1.996 | 5.049 | 2.005 | 2.040 |
| #3 | 41.10 | 40.91 | 40.38 | 40.59 | 2.020 | 1.993 | 5.038 | 2.002 | 2.038 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccvconf Acquired: 5/10/2019 11:51:21 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.006** | **1.957** | **2.008** | **1.968** | **2.014** | **2.026** | **1.993** |
| Stddev | .007 | .001 | .009 | .002 | .004 | .000 | .002 |
| %RSD | .3527 | .0418 | .4284 | .1148 | .2183 | .0188 | .1057 |
| #1 | 2.001 | 1.957 | 2.003 | 1.970 | 2.016 | 2.026 | 1.994 |
| #2 | 2.014 | 1.958 | 2.018 | 1.968 | 2.017 | 2.025 | 1.994 |
| #3 | 2.003 | 1.956 | 2.003 | 1.965 | 2.009 | 2.026 | 1.990 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82751.** | **8443.1** | **5885.5** | **11929.** |
| Stddev | 132. | 52.9 | 8.7 | 17. |
| %RSD | .15943 | .62701 | .14794 | .14322 |
| #1 | 82903. | 8504.1 | 5882.6 | 11939. |
| #2 | 82673. | 8408.5 | 5895.3 | 11939. |
| #3 | 82676. | 8416.8 | 5878.7 | 11909. |



Zoom In Zoom Out

Sample Name: ccbconf Acquired: 5/10/2019 11:56:22 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **-.0001** | **.0001** | **-.0002** | **-.0009** | **.0000** | **-.0001** | **-.0006** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .0002 | .0002 | .0000 | .0002 | .0003 |
| %RSD | 1537. | 157.4 | 160.1 | 61.08 | 105.3 | 23.61 | 529.7 | 168.3 | 51.36 |
| #1 | .0002 | -.0001 | -.0001 | .0001 | .0000 | -.0009 | -.0000 | .0001 | -.0008 |
| #2 | -.0002 | -.0001 | .0001 | .0001 | -.0003 | -.0007 | -.0000 | -.0004 | -.0007 |
| #3 | .0000 | .0000 | -.0004 | .0002 | -.0002 | -.0011 | .0001 | -.0001 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0000** | **.0006** | **.0004** | **-.0004** | **.0021** | **.0010** | **-.0005** | **.0042** |
| Stddev | .0002 | .0001 | .0009 | .0007 | .0003 | .0018 | .0018 | .0040 | .0043 |
| %RSD | 44.73 | 306.5 | 153.9 | 181.1 | 70.82 | 88.74 | 186.0 | 841.1 | 103.6 |
| #1 | .0004 | -.0001 | -.0003 | .0003 | -.0006 | .0001 | .0030 | -.0035 | .0084 |
| #2 | .0005 | .0000 | .0014 | -.0002 | -.0005 | .0024 | -.0004 | .0041 | .0043 |
| #3 | .0002 | -.0000 | .0006 | .0012 | -.0001 | .0038 | .0003 | -.0020 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0034** | **.0179** | **.1588** | **-.0028** | **.0048** | **-.0001** | **.0003** | **.0006** | **.0001** |
| Stddev | .0063 | .0309 | .0117 | .0224 | .0006 | .0001 | .0005 | .0004 | .0001 |
| %RSD | 187.9 | 172.8 | 7.358 | 810.3 | 12.75 | 76.06 | 165.2 | 72.68 | 183.8 |
| #1 | -.0097 | -.0033 | .1597 | .0103 | .0049 | -.0000 | .0007 | .0004 | .0000 |
| #2 | -.0034 | .0534 | .1467 | .0101 | .0053 | -.0001 | -.0002 | .0011 | -.0000 |
| #3 | .0029 | .0036 | .1701 | -.0287 | .0041 | -.0001 | .0004 | .0003 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccbconf Acquired: 5/10/2019 11:56:22 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0002** | **.0000** | **.0009** | **.0004** | **.0017** | **.0020** |
| Stddev | .0004 | .0010 | .0000 | .0025 | .0018 | .0009 | .0005 |
| %RSD | 131.2 | 442.9 | 102.5 | 270.7 | 424.8 | 56.18 | 26.62 |
| #1 | .0007 | .0004 | -.0000 | .0032 | -.0017 | .0017 | .0015 |
| #2 | .0003 | -.0009 | .0000 | .0012 | .0013 | .0007 | .0025 |
| #3 | -.0001 | .0011 | .0000 | -.0017 | .0017 | .0026 | .0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84824.** | **8463.7** | **6069.0** | **12505.** |
| Stddev | 399. | 16.0 | 12.2 | 20. |
| %RSD | .47017 | .18922 | .20113 | .16180 |
| #1 | 84807. | 8447.8 | 6060.1 | 12496. |
| #2 | 84434. | 8479.8 | 6063.9 | 12491. |
| #3 | 85231. | 8463.7 | 6082.9 | 12528. |

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/10/2019 12:01:33 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.980** | **1.965** | **2.015** | **1.966** | **1.965** | **1.979** | **1.966** | **.2469** |
| Stddev | .005 | .003 | .004 | .004 | .001 | .001 | .014 | .005 | .0008 |
| %RSD | .2422 | .1355 | .2038 | .2211 | .0624 | .0685 | .6925 | .2345 | .3337 |
| #1 | 1.999 | 1.983 | 1.969 | 2.020 | 1.966 | 1.966 | 1.971 | 1.972 | .2479 |
| #2 | 1.991 | 1.979 | 1.961 | 2.011 | 1.964 | 1.965 | 1.972 | 1.964 | .2463 |
| #3 | 1.991 | 1.978 | 1.964 | 2.013 | 1.966 | 1.963 | 1.995 | 1.964 | .2466 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.976** | **1.966** | **1.944** | **1.994** | **1.960** | **1.930** | **1.914** | **39.77** | **39.75** |
| Stddev | .002 | .005 | .005 | .005 | .005 | .006 | .004 | .05 | .07 |
| %RSD | .0846 | .2355 | .2612 | .2375 | .2411 | .2942 | .2334 | .1157 | .1720 |
| #1 | 1.978 | 1.971 | 1.949 | 1.999 | 1.966 | 1.936 | 1.919 | 39.83 | 39.83 |
| #2 | 1.974 | 1.965 | 1.939 | 1.994 | 1.957 | 1.925 | 1.911 | 39.74 | 39.69 |
| #3 | 1.976 | 1.962 | 1.944 | 1.989 | 1.958 | 1.930 | 1.912 | 39.76 | 39.74 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.71** | **40.01** | **39.93** | **39.98** | **1.984** | **1.939** | **4.939** | **1.921** | **2.002** |
| Stddev | .06 | .06 | .04 | .07 | .003 | .004 | .012 | .007 | .004 |
| %RSD | .1527 | .1497 | .1073 | .1631 | .1567 | .2273 | .2319 | .3506 | .1836 |
| #1 | 40.78 | 40.00 | 39.97 | 40.06 | 1.987 | 1.944 | 4.952 | 1.928 | 2.006 |
| #2 | 40.68 | 39.95 | 39.94 | 39.96 | 1.982 | 1.935 | 4.933 | 1.921 | 2.000 |
| #3 | 40.66 | 40.07 | 39.89 | 39.93 | 1.982 | 1.938 | 4.932 | 1.915 | 2.000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/10/2019 12:01:33 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.956** | **1.901** | **1.953** | **1.944** | **1.985** | **2.045** | **1.965** |
| Stddev | .001 | .005 | .001 | .004 | .003 | .003 | .006 |
| %RSD | .0574 | .2781 | .0383 | .2140 | .1652 | .1617 | .2982 |
| #1 | 1.957 | 1.906 | 1.954 | 1.949 | 1.989 | 2.048 | 1.971 |
| #2 | 1.955 | 1.896 | 1.952 | 1.942 | 1.983 | 2.041 | 1.961 |
| #3 | 1.957 | 1.900 | 1.953 | 1.941 | 1.984 | 2.045 | 1.962 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82854.** | **8431.9** | **5924.6** | **11948.** |
| Stddev | 209. | 16.9 | 5.2 | 8. |
| %RSD | .25269 | .19992 | .08818 | .06711 |
| #1 | 83021. | 8449.9 | 5921.7 | 11941. |
| #2 | 82921. | 8429.2 | 5921.5 | 11945. |
| #3 | 82619. | 8416.5 | 5930.7 | 11957. |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/10/2019 12:06:35 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0000** | **-.0002** | **.0004** | **.0001** | **-.0009** | **.0000** | **.0004** | **-.0010** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0003 | .0002 | .0000 | .0002 | .0002 |
| %RSD | 97.52 | 660.7 | 80.46 | 24.96 | 216.3 | 19.97 | 130.3 | 63.68 | 25.15 |
| #1 | .0002 | .0001 | -.0001 | .0003 | .0004 | -.0011 | .0001 | .0006 | -.0011 |
| #2 | .0000 | -.0001 | -.0001 | .0006 | -.0001 | -.0009 | -.0000 | .0001 | -.0007 |
| #3 | .0003 | -.0000 | -.0003 | .0004 | .0001 | -.0007 | .0000 | .0005 | -.0011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0002** | **-.0016** | **-.0007** | **.0015** | **.0003** | **-.0035** | **.0046** |
| Stddev | .0002 | .0001 | .0002 | .0016 | .0006 | .0009 | .0009 | .0112 | .0039 |
| %RSD | 5209. | 270.6 | 87.94 | 96.73 | 86.16 | 58.79 | 277.9 | 319.8 | 85.15 |
| #1 | -.0002 | .0000 | .0000 | -.0006 | -.0006 | .0006 | .0013 | -.0061 | .0027 |
| #2 | -.0001 | -.0000 | .0002 | -.0009 | -.0013 | .0015 | -.0004 | .0088 | .0092 |
| #3 | .0002 | .0001 | .0004 | -.0034 | -.0001 | .0023 | .0000 | -.0131 | .0020 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0303** | **.0682** | **.0238** | **.0043** | **-.0001** | **-.0000** | **.0002** | **-.0001** |
| Stddev | .0079 | .0168 | .0088 | .0114 | .0009 | .0001 | .0007 | .0004 | .0000 |
| %RSD | 638.4 | 55.54 | 12.96 | 47.66 | 21.60 | 108.5 | 2121. | 175.1 | 57.45 |
| #1 | -.0076 | .0487 | .0739 | .0174 | .0042 | -.0002 | .0007 | .0005 | -.0001 |
| #2 | .0076 | .0262 | .0726 | .0369 | .0053 | -.0001 | -.0005 | -.0002 | -.0001 |
| #3 | .0037 | .0159 | .0580 | .0172 | .0034 | -.0000 | -.0003 | .0004 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/10/2019 12:06:35 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0020** | **-.0000** | **-.0000** | **.0013** | **.0044** | **.0015** |
| Stddev | .0003 | .0001 | .0001 | .0012 | .0009 | .0010 | .0009 |
| %RSD | 1891. | 5.755 | 209.4 | 2548. | 65.52 | 23.91 | 61.74 |
| #1 | .0003 | .0020 | .0000 | .0008 | .0016 | .0037 | .0022 |
| #2 | -.0001 | .0021 | -.0001 | .0004 | .0020 | .0038 | .0018 |
| #3 | -.0002 | .0018 | -.0001 | -.0014 | .0003 | .0056 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85784.** | **8501.2** | **6095.0** | **12526.** |
| Stddev | 436. | 6.7 | 7.6 | 15. |
| %RSD | .50848 | .07923 | .12459 | .12336 |
| #1 | 86242. | 8503.5 | 6088.4 | 12518. |
| #2 | 85373. | 8506.5 | 6103.3 | 12544. |
| #3 | 85736. | 8493.6 | 6093.2 | 12517. |

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/10/2019 12:12:27 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **2.020** | **2.012** | **2.037** | **2.043** | **2.023** | **2.034** | **2.027** | **.2510** |
| Stddev | .003 | .003 | .004 | .005 | .006 | .003 | .017 | .006 | .0007 |
| %RSD | .1455 | .1623 | .1906 | .2418 | .2959 | .1439 | .8460 | .2888 | .2634 |
| #1 | 2.038 | 2.023 | 2.012 | 2.036 | 2.041 | 2.024 | 2.054 | 2.028 | .2508 |
| #2 | 2.032 | 2.017 | 2.017 | 2.044 | 2.039 | 2.023 | 2.027 | 2.034 | .2502 |
| #3 | 2.038 | 2.022 | 2.010 | 2.033 | 2.039 | 2.018 | 2.040 | 2.021 | .2511 |
| #4 | 2.034 | 2.017 | 2.008 | 2.035 | 2.052 | 2.025 | 2.014 | 2.023 | .2518 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.034** | **2.045** | **1.983** | **2.060** | **2.030** | **1.994** | **1.969** | **40.39** | **40.74** |
| Stddev | .004 | .004 | .004 | .003 | .006 | .002 | .006 | .07 | .11 |
| %RSD | .2220 | .2038 | .2232 | .1629 | .3106 | .1030 | .2974 | .1619 | .2600 |
| #1 | 2.033 | 2.046 | 1.983 | 2.059 | 2.033 | 1.996 | 1.971 | 40.48 | 40.86 |
| #2 | 2.033 | 2.050 | 1.989 | 2.065 | 2.037 | 1.996 | 1.977 | 40.33 | 40.61 |
| #3 | 2.030 | 2.041 | 1.983 | 2.058 | 2.023 | 1.995 | 1.966 | 40.40 | 40.78 |
| #4 | 2.041 | 2.041 | 1.978 | 2.057 | 2.025 | 1.991 | 1.963 | 40.35 | 40.71 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/10/2019 12:12:27 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.52** | **40.32** | **40.48** | **40.50** | **2.031** | **1.995** | **5.008** | **1.984** | **2.049** |
| Stddev | .11 | .15 | .06 | .07 | .002 | .003 | .010 | .004 | .003 |
| %RSD | .2606 | .3613 | .1475 | .1715 | .1115 | .1414 | .2008 | .2262 | .1448 |
| #1 | 41.66 | 40.41 | 40.53 | 40.58 | 2.029 | 1.995 | 5.010 | 1.987 | 2.052 |
| #2 | 41.41 | 40.13 | 40.40 | 40.48 | 2.034 | 1.998 | 5.022 | 1.987 | 2.047 |
| #3 | 41.53 | 40.46 | 40.47 | 40.52 | 2.031 | 1.994 | 5.003 | 1.983 | 2.051 |
| #4 | 41.47 | 40.28 | 40.53 | 40.41 | 2.032 | 1.992 | 4.999 | 1.978 | 2.046 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.999** | **1.967** | **2.004** | **1.984** | **2.028** | **2.035** | **1.979** |
| Stddev | .005 | .004 | .003 | .004 | .004 | .003 | .008 |
| %RSD | .2344 | .1996 | .1542 | .2184 | .1912 | .1319 | .4047 |
| #1 | 1.998 | 1.963 | 2.005 | 1.980 | 2.027 | 2.038 | 1.979 |
| #2 | 1.997 | 1.972 | 2.003 | 1.987 | 2.032 | 2.032 | 1.989 |
| #3 | 1.996 | 1.966 | 2.001 | 1.987 | 2.031 | 2.036 | 1.978 |
| #4 | 2.006 | 1.966 | 2.008 | 1.980 | 2.024 | 2.035 | 1.970 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/10/2019 12:12:27 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82814.** | **8456.4** | **5920.4** | **11933.** |
| Stddev | 190. | 36.3 | 14.9 | 36. |
| %RSD | .22883 | .42984 | .25150 | .30232 |
| #1 | 82676. | 8404.1 | 5921.9 | 11932. |
| #2 | 82803. | 8476.6 | 5898.9 | 11883. |
| #3 | 83085. | 8484.8 | 5930.6 | 11967. |
| #4 | 82690. | 8460.2 | 5930.1 | 11949. |



Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/10/2019 12:22:20 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0002** | **.0001** | **.0000** | **-.0009** | **.0000** | **.0001** | **-.0008** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0001 | .0001 | .0000 | .0004 |
| %RSD | 175.5 | 77.68 | 88.54 | 128.2 | 523.4 | 7.620 | 172.7 | 29.48 | 45.30 |
| #1 | -.0001 | -.0001 | -.0003 | .0003 | -.0001 | -.0009 | .0001 | .0001 | -.0012 |
| #2 | .0002 | -.0001 | -.0002 | -.0000 | -.0001 | -.0008 | -.0000 | .0001 | -.0004 |
| #3 | .0003 | -.0000 | .0000 | .0001 | .0003 | -.0010 | .0000 | .0001 | -.0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0001** | **.0009** | **-.0007** | **-.0000** | **.0012** | **.0003** | **.0009** | **.0056** |
| Stddev | .0002 | .0001 | .0007 | .0009 | .0010 | .0010 | .0006 | .0063 | .0051 |
| %RSD | 58.18 | 58.45 | 82.66 | 123.8 | 3981. | 81.30 | 182.8 | 716.9 | 91.48 |
| #1 | .0004 | -.0001 | .0004 | -.0005 | .0011 | .0006 | -.0001 | .0081 | -.0003 |
| #2 | .0005 | -.0000 | .0006 | -.0017 | -.0005 | .0024 | .0000 | -.0026 | .0090 |
| #3 | .0001 | -.0002 | .0017 | .0001 | -.0007 | .0007 | .0010 | -.0029 | .0081 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **.0043** | **.0298** | **.0188** | **.0037** | **-.0001** | **.0008** | **.0001** | **.0000** |
| Stddev | .0019 | .0244 | .0397 | .0129 | .0004 | .0002 | .0009 | .0009 | .0001 |
| %RSD | 318.8 | 567.0 | 133.2 | 68.32 | 10.89 | 141.0 | 121.3 | 796.5 | 477.6 |
| #1 | -.0026 | -.0230 | .0146 | .0290 | .0033 | -.0003 | -.0003 | -.0003 | .0001 |
| #2 | -.0001 | .0118 | -.0000 | .0044 | .0041 | -.0002 | .0015 | -.0005 | -.0001 |
| #3 | .0010 | .0241 | .0749 | .0232 | .0038 | .0001 | .0012 | .0012 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/10/2019 12:22:20 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0001** | **-.0008** | **.0014** | F **.0052** | **.0021** |
| Stddev | .0004 | .0003 | .0001 | .0005 | .0006 | .0014 | .0011 |
| %RSD | 584.2 | 539.0 | 101.8 | 64.10 | 46.10 | 26.52 | 50.19 |
| #1 | .0005 | -.0002 | -.0001 | -.0005 | .0008 | .0067 | .0011 |
| #2 | -.0000 | -.0003 | -.0002 | -.0006 | .0021 | .0052 | .0020 |
| #3 | -.0002 | .0003 | .0000 | -.0014 | .0013 | .0039 | .0032 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85079.** | **8497.3** | **6096.2** | **12533.** |
| Stddev | 414. | 53.9 | 10.5 | 29. |
| %RSD | .48626 | .63424 | .17259 | .22811 |
| #1 | 85455. | 8511.2 | 6092.9 | 12539. |
| #2 | 85146. | 8437.8 | 6107.9 | 12558. |
| #3 | 84636. | 8542.9 | 6087.7 | 12502. |



Zoom In Zoom Out

Sample Name: crid 7 Acquired: 5/10/2019 12:28:19 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0040** | **.0009** | F **.0008** | **.0031** | **.0019** | F **-.0009** | **.0031** | **.0041** |
| Stddev | .0005 | .0001 | .0001 | .0003 | .0002 | .0003 | .0000 | .0004 |
| %RSD | 13.25 | 14.68 | 8.475 | 9.420 | 11.31 | 29.59 | .7540 | 9.448 |
| #1 | .0034 | .0009 | .0009 | .0035 | .0018 | -.0012 | .0031 | .0038 |
| #2 | .0041 | .0011 | .0007 | .0029 | .0018 | -.0007 | .0032 | .0046 |
| #3 | .0044 | .0009 | .0008 | .0030 | .0022 | -.0007 | .0032 | .0040 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | .0010 | | | .0020 | | |
| Range | | | -20.00% | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0009** | **.0022** | **.0102** | **.0032** | F **.0026** | F **.0007** | **.0058** | F **.0000** |
| Stddev | .0002 | .0003 | .0001 | .0007 | .0008 | .0003 | .0013 | .0016 |
| %RSD | 22.23 | 12.37 | .5443 | 22.76 | 31.67 | 43.41 | 22.90 | 3861. |
| #1 | -.0012 | .0022 | .0102 | .0035 | .0017 | .0003 | .0062 | .0016 |
| #2 | -.0007 | .0024 | .0102 | .0036 | .0027 | .0008 | .0043 | -.0016 |
| #3 | -.0009 | .0019 | .0103 | .0023 | .0033 | .0009 | .0069 | .0001 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1171** | **1.069** | **.0016** | **.1118** | **2.025** | **1.056** | **.0025** | **-.0002** |
| Stddev | .0087 | .004 | .0031 | .0316 | .047 | .015 | .0005 | .0001 |
| %RSD | 7.445 | .3246 | 190.0 | 28.23 | 2.327 | 1.431 | 19.72 | 26.84 |
| #1 | .1078 | 1.072 | .0018 | .0962 | 2.069 | 1.073 | .0030 | -.0002 |
| #2 | .1184 | 1.065 | .0046 | .0910 | 2.032 | 1.044 | .0024 | -.0002 |
| #3 | .1251 | 1.069 | -.0015 | .1481 | 1.975 | 1.052 | .0021 | -.0001 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: crid 7 Acquired: 5/10/2019 12:28:19 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0006** | **.0001** | **.0001** | **.0004** | **-.0001** | **-.0009** | **.0006** |
| Stddev | .0008 | .0005 | .0001 | .0002 | .0007 | .0003 | .0005 | .0004 |
| %RSD | 181.7 | 81.56 | 92.99 | 121.9 | 189.8 | 251.4 | 50.23 | 64.35 |
| #1 | .0013 | .0002 | .0000 | -.0000 | .0002 | -.0004 | -.0006 | .0002 |
| #2 | .0003 | .0012 | .0001 | .0003 | .0012 | -.0000 | -.0007 | .0008 |
| #3 | -.0003 | .0004 | .0003 | .0001 | -.0002 | .0001 | -.0014 | .0009 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0036** | **.0024** |
| Stddev | .0007 | .0004 |
| %RSD | 20.36 | 17.42 |
| #1 | .0028 | .0022 |
| #2 | .0037 | .0029 |
| #3 | .0042 | .0021 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85240.** | **8515.8** | **6122.6** | **12555.** |
| Stddev | 53. | 34.6 | 4.3 | 8. |
| %RSD | .06212 | .40630 | .07099 | .06139 |
| #1 | 85292. | 8553.7 | 6119.3 | 12546. |
| #2 | 85186. | 8508.0 | 6120.9 | 12556. |
| #3 | 85242. | 8485.8 | 6127.5 | 12562. |



Zoom In Zoom Out

Sample Name: cri Acquired: 5/10/2019 12:33:30 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1999** | **.0019** | **.0029** | **.0499** | **.0101** | **.0092** | **.0157** | **.0100** | **.0046** |
| Stddev | .0006 | .0001 | .0001 | .0001 | .0004 | .0001 | .0001 | .0001 | .0003 |
| %RSD | .3074 | 3.838 | 2.256 | .1312 | 3.536 | 1.487 | .6137 | 1.350 | 6.892 |
| #1 | .2001 | .0018 | .0030 | .0498 | .0102 | .0094 | .0157 | .0099 | .0049 |
| #2 | .1992 | .0018 | .0028 | .0499 | .0104 | .0091 | .0158 | .0100 | .0044 |
| #3 | .2004 | .0020 | .0029 | .0499 | .0097 | .0092 | .0156 | .0101 | .0043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0506** | **.0203** | **.0091** | **.0100** | **.0031** | **.0118** | **.0066** | **.2115** | **5.270** |
| Stddev | .0001 | .0001 | .0006 | .0005 | .0008 | .0020 | .0002 | .0091 | .007 |
| %RSD | .1953 | .5637 | 6.447 | 4.773 | 27.03 | 17.33 | 2.796 | 4.290 | .1393 |
| #1 | .0508 | .0203 | .0095 | .0095 | .0024 | .0132 | .0068 | .2076 | 5.277 |
| #2 | .0506 | .0201 | .0084 | .0100 | .0040 | .0094 | .0065 | .2219 | 5.262 |
| #3 | .0506 | .0203 | .0093 | .0105 | .0028 | .0127 | .0066 | .2051 | 5.270 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1045** | **5.268** | **5.026** | **5.138** | **.1006** | **.0200** | **.2120** | **.0107** | **.0104** |
| Stddev | .0022 | .015 | .064 | .005 | .0004 | .0003 | .0011 | .0005 | .0000 |
| %RSD | 2.079 | .2908 | 1.269 | .0992 | .3577 | 1.706 | .5059 | 4.605 | .3686 |
| #1 | .1044 | 5.267 | 4.988 | 5.133 | .1009 | .0198 | .2110 | .0109 | .0104 |
| #2 | .1023 | 5.283 | 4.990 | 5.143 | .1002 | .0199 | .2119 | .0101 | .0104 |
| #3 | .1067 | 5.253 | 5.099 | 5.136 | .1006 | .0204 | .2131 | .0110 | .0104 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: cri Acquired: 5/10/2019 12:33:30 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0104** | **.0504** | **.0103** | **.0526** | **.0225** | **.0575** | **.0503** |
| Stddev | .0002 | .0010 | .0001 | .0013 | .0019 | .0025 | .0003 |
| %RSD | 1.950 | 1.930 | .9820 | 2.464 | 8.561 | 4.355 | .6181 |
| #1 | .0104 | .0501 | .0104 | .0520 | .0242 | .0556 | .0502 |
| #2 | .0106 | .0496 | .0103 | .0518 | .0204 | .0603 | .0500 |
| #3 | .0102 | .0515 | .0102 | .0541 | .0229 | .0565 | .0506 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85431.** | **8580.8** | **6116.5** | **12472.** |
| Stddev | 412. | 6.8 | 14.4 | 20. |
| %RSD | .48189 | .07912 | .23586 | .16227 |
| #1 | 85693. | 8578.7 | 6131.9 | 12491. |
| #2 | 84956. | 8588.4 | 6103.3 | 12451. |
| #3 | 85644. | 8575.4 | 6114.5 | 12474. |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/10/2019 12:38:34 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **-.0003** | **-.0004** | **.0010** | **.0008** | **-.0006** | **-.0014** | **.0026** | **.0011** |
| Stddev | .0001 | .0001 | .0002 | .0001 | .0002 | .0003 | .0003 | .0004 | .0009 |
| %RSD | 10.90 | 27.80 | 44.93 | 15.58 | 24.37 | 49.50 | 22.32 | 15.23 | 86.74 |
| #1 | .0011 | -.0002 | -.0004 | .0010 | .0010 | -.0008 | -.0017 | .0030 | .0002 |
| #2 | .0013 | -.0004 | -.0006 | .0008 | .0006 | -.0008 | -.0014 | .0022 | .0010 |
| #3 | .0014 | -.0003 | -.0002 | .0010 | .0007 | -.0003 | -.0011 | .0026 | .0020 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0021** | **-.0016** | **-.0008** | **-.0001** | **-.0012** | **-.0031** | **-.0030** | **504.2** | **387.8** |
| Stddev | .0003 | .0000 | .0010 | .0017 | .0012 | .0012 | .0032 | 5.0 | 4.1 |
| %RSD | 12.62 | 1.974 | 124.8 | 1936. | 100.2 | 39.83 | 104.5 | .9951 | 1.069 |
| #1 | .0021 | -.0016 | -.0005 | .0011 | -.0019 | -.0045 | -.0013 | 499.9 | 383.0 |
| #2 | .0024 | -.0016 | -.0020 | .0006 | -.0018 | -.0023 | -.0067 | 502.9 | 390.7 |
| #3 | .0019 | -.0016 | -.0000 | -.0020 | .0002 | -.0024 | -.0011 | 509.7 | 389.7 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **195.0** | **495.6** | **.0466** | **.0293** | **.0030** | **.0036** | **-.0109** | **-.0042** | **-.0006** |
| Stddev | 1.9 | 6.2 | .0400 | .0073 | .0008 | .0002 | .0008 | .0007 | .0001 |
| %RSD | .9964 | 1.242 | 85.84 | 24.95 | 26.04 | 5.669 | 7.061 | 15.70 | 22.97 |
| #1 | 193.4 | 490.6 | .0007 | .0231 | .0023 | .0036 | -.0111 | -.0037 | -.0005 |
| #2 | 194.3 | 493.6 | .0648 | .0274 | .0030 | .0038 | -.0115 | -.0040 | -.0007 |
| #3 | 197.1 | 502.4 | .0744 | .0373 | .0039 | .0034 | -.0100 | -.0050 | -.0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/10/2019 12:38:34 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0049** | **.0102** | **.0022** | **.0164** | **-.0082** | **-.0090** | **.0230** |
| Stddev | .0004 | .0006 | .0005 | .0039 | .0011 | .0007 | .0004 |
| %RSD | 8.503 | 5.860 | 20.29 | 23.65 | 12.80 | 7.636 | 1.618 |
| #1 | .0044 | .0101 | .0018 | .0189 | -.0071 | -.0092 | .0227 |
| #2 | .0050 | .0097 | .0023 | .0119 | -.0085 | -.0095 | .0234 |
| #3 | .0053 | .0108 | .0027 | .0183 | -.0091 | -.0082 | .0230 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **78184.** | **8275.7** | **5559.5** | **11175.** |
| Stddev | 123. | 61.9 | 20.2 | 34. |
| %RSD | .15673 | .74785 | .36298 | .30316 |
| #1 | 78316. | 8337.1 | 5578.8 | 11205. |
| #2 | 78074. | 8276.6 | 5561.0 | 11181. |
| #3 | 78162. | 8213.4 | 5538.6 | 11138. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/10/2019 12:43:38 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4894** | **.4782** | **.9862** | **.4663** | **.4772** | **.5210** | **.4879** | **.9296** | **1.059** |
| Stddev | .0002 | .0009 | .0017 | .0011 | .0013 | .0007 | .0002 | .0004 | .001 |
| %RSD | .0416 | .1864 | .1719 | .2322 | .2639 | .1375 | .0500 | .0388 | .0427 |
| #1 | .4892 | .4792 | .9880 | .4675 | .4785 | .5207 | .4879 | .9294 | 1.059 |
| #2 | .4894 | .4782 | .9858 | .4658 | .4773 | .5218 | .4882 | .9300 | 1.060 |
| #3 | .4896 | .4774 | .9847 | .4655 | .4759 | .5205 | .4877 | .9294 | 1.059 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4890** | **.9271** | **1.044** | **.9546** | **.9262** | **.9881** | **1.008** | **515.1** | **387.8** |
| Stddev | .0008 | .0009 | .001 | .0055 | .0035 | .0004 | .003 | .5 | 4.1 |
| %RSD | .1689 | .0925 | .1366 | .5763 | .3748 | .0422 | .2501 | .0903 | 1.070 |
| #1 | .4899 | .9272 | 1.045 | .9564 | .9242 | .9884 | 1.011 | 515.6 | 390.4 |
| #2 | .4889 | .9279 | 1.042 | .9589 | .9302 | .9883 | 1.007 | 514.6 | 390.0 |
| #3 | .4882 | .9262 | 1.044 | .9484 | .9242 | .9876 | 1.006 | 515.2 | 383.0 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **193.5** | **498.7** | **.2244** | **-.0125** | **.4864** | **.4757** | **.4876** | **.4673** | **.4982** |
| Stddev | .2 | .9 | .0438 | .0120 | .0000 | .0005 | .0014 | .0005 | .0004 |
| %RSD | .0869 | .1811 | 19.51 | 96.59 | .0035 | .0977 | .2944 | .1118 | .0741 |
| #1 | 193.5 | 499.6 | .2689 | -.0016 | .4865 | .4763 | .4874 | .4673 | .4980 |
| #2 | 193.4 | 498.6 | .2229 | -.0254 | .4864 | .4755 | .4891 | .4668 | .4980 |
| #3 | 193.7 | 497.8 | .1814 | -.0103 | .4864 | .4754 | .4863 | .4679 | .4987 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/10/2019 12:43:38 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4990** | **.4802** | **.4969** | **.5049** | **.5055** | **.5105** | **.5330** |
| Stddev | .0005 | .0007 | .0006 | .0016 | .0011 | .0024 | .0010 |
| %RSD | .1072 | .1355 | .1223 | .3226 | .2116 | .4658 | .1959 |
| #1 | .4983 | .4808 | .4970 | .5055 | .5043 | .5078 | .5342 |
| #2 | .4993 | .4804 | .4975 | .5031 | .5062 | .5119 | .5322 |
| #3 | .4992 | .4795 | .4963 | .5062 | .5060 | .5119 | .5326 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **76838.** | **8191.7** | **5519.7** | **11109.** |
| Stddev | 106. | 25.8 | 11.9 | 18. |
| %RSD | .13852 | .31524 | .21557 | .16233 |
| #1 | 76754. | 8164.9 | 5510.2 | 11091. |
| #2 | 76958. | 8216.5 | 5515.8 | 11108. |
| #3 | 76803. | 8193.6 | 5533.1 | 11127. |



Zoom In Zoom Out

Sample Name: hstd 7 Acquired: 5/10/2019 12:48:37 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.098** | **8.050** | **8.009** | **8.163** | **8.306** | **8.112** | **7.940** | **8.046** | **.5979** |
| Stddev | .126 | .034 | .002 | .004 | .021 | .018 | .045 | .003 | .0007 |
| %RSD | 1.555 | .4196 | .0271 | .0468 | .2572 | .2189 | .5651 | .0338 | .1235 |
| #1 | 8.029 | 8.019 | 8.011 | 8.167 | 8.331 | 8.093 | 7.946 | 8.048 | .5988 |
| #2 | 8.244 | 8.046 | 8.007 | 8.162 | 8.295 | 8.127 | 7.892 | 8.047 | .5975 |
| #3 | 8.022 | 8.086 | 8.008 | 8.159 | 8.292 | 8.116 | 7.981 | 8.043 | .5976 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.097** | **8.301** | **7.966** | **8.192** | **8.187** | **7.949** | **7.974** | **.0814** | **.0268** |
| Stddev | .079 | .011 | .004 | .004 | .004 | .005 | .007 | .0099 | .0004 |
| %RSD | .9749 | .1261 | .0548 | .0447 | .0508 | .0578 | .0866 | 12.21 | 1.666 |
| #1 | 8.185 | 8.289 | 7.961 | 8.192 | 8.187 | 7.944 | 7.974 | .0699 | .0271 |
| #2 | 8.031 | 8.303 | 7.969 | 8.195 | 8.191 | 7.953 | 7.980 | .0868 | .0269 |
| #3 | 8.076 | 8.310 | 7.969 | 8.188 | 8.183 | 7.949 | 7.967 | .0874 | .0263 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0120** | **-.0746** | **.1008** | **.0300** | **8.022** | **8.096** | **25.11** | **8.097** | **8.059** |
| Stddev | .0037 | .0069 | .0310 | .0076 | .000 | .001 | .01 | .004 | .087 |
| %RSD | 31.08 | 9.290 | 30.77 | 25.38 | .0013 | .0134 | .0535 | .0460 | 1.084 |
| #1 | -.0091 | -.0753 | .0658 | .0386 | 8.022 | 8.096 | 25.10 | 8.093 | 7.963 |
| #2 | -.0162 | -.0673 | .1250 | .0271 | 8.022 | 8.095 | 25.13 | 8.100 | 8.133 |
| #3 | -.0107 | -.0811 | .1115 | .0242 | 8.022 | 8.097 | 25.10 | 8.098 | 8.082 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: hstd 7 Acquired: 5/10/2019 12:48:37 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.999** | **8.319** | **7.981** | **97.70** | **8.217** | **8.058** | **7.861** |
| Stddev | .040 | .010 | .044 | .02 | .008 | .029 | .005 |
| %RSD | .4967 | .1152 | .5561 | .0234 | .0983 | .3634 | .0687 |
| #1 | 8.044 | 8.317 | 7.963 | 97.68 | 8.226 | 8.033 | 7.860 |
| #2 | 7.968 | 8.311 | 7.949 | 97.73 | 8.214 | 8.051 | 7.857 |
| #3 | 7.984 | 8.330 | 8.032 | 97.70 | 8.211 | 8.090 | 7.867 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84411.** | **8568.9** | **5986.3** | **12584.** |
| Stddev | 349. | 39.6 | 11.2 | 20. |
| %RSD | .41336 | .46225 | .18708 | .16076 |
| #1 | 84022. | 8612.1 | 5988.9 | 12583. |
| #2 | 84696. | 8560.2 | 5995.9 | 12605. |
| #3 | 84516. | 8534.4 | 5974.0 | 12565. |



Zoom In Zoom Out

Sample Name: hstd Acquired: 5/10/2019 12:54:30 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0002** | **-.0002** | **.0004** | **.0007** | **.0004** | **-.0010** | **.0028** | **.0010** |
| Stddev | .0001 | .0001 | .0002 | .0002 | .0003 | .0002 | .0002 | .0003 | .0007 |
| %RSD | 8.704 | 57.10 | 99.80 | 58.67 | 38.84 | 63.38 | 16.33 | 11.82 | 74.04 |
| #1 | .0010 | .0003 | -.0003 | .0003 | .0005 | .0001 | -.0012 | .0024 | .0002 |
| #2 | .0009 | .0001 | -.0003 | .0007 | .0006 | .0004 | -.0009 | .0027 | .0017 |
| #3 | .0009 | .0003 | .0000 | .0003 | .0010 | .0006 | -.0009 | .0031 | .0011 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **-.0014** | **.0003** | **.0006** | **-.0001** | **-.0033** | **.0002** | **321.3** | **205.3** |
| Stddev | .0004 | .0003 | .0003 | .0011 | .0007 | .0022 | .0009 | 1.7 | 1.2 |
| %RSD | 20.03 | 19.35 | 83.80 | 194.5 | 775.2 | 66.07 | 504.2 | .5443 | .5925 |
| #1 | .0014 | -.0013 | .0005 | .0018 | -.0007 | -.0053 | -.0008 | 319.6 | 204.0 |
| #2 | .0020 | -.0012 | .0000 | -.0001 | -.0002 | -.0035 | .0011 | 321.3 | 205.3 |
| #3 | .0021 | -.0017 | .0003 | -.0000 | .0007 | -.0010 | .0002 | 323.1 | 206.5 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **205.3** | **305.7** | **205.6** | **200.6** | **.0094** | **.0022** | **.0016** | **-.0035** | **-.0004** |
| Stddev | 1.3 | 1.9 | .4 | .9 | .0000 | .0004 | .0022 | .0004 | .0001 |
| %RSD | .6118 | .6247 | .1793 | .4239 | .2695 | 17.26 | 132.8 | 12.50 | 21.06 |
| #1 | 204.1 | 303.7 | 205.2 | 199.6 | .0094 | .0020 | .0042 | -.0039 | -.0004 |
| #2 | 205.4 | 305.9 | 205.6 | 201.1 | .0094 | .0027 | .0001 | -.0030 | -.0004 |
| #3 | 206.6 | 307.5 | 205.9 | 200.9 | .0094 | .0020 | .0007 | -.0037 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: hstd Acquired: 5/10/2019 12:54:30 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033** | **.0076** | **.0028** | **.0189** | **-.0067** | **.0170** | **.0161** |
| Stddev | .0005 | .0007 | .0002 | .0019 | .0020 | .0014 | .0007 |
| %RSD | 15.51 | 9.484 | 6.463 | 9.930 | 29.69 | 8.497 | 4.399 |
| #1 | .0028 | .0076 | .0026 | .0191 | -.0048 | .0181 | .0169 |
| #2 | .0038 | .0084 | .0029 | .0170 | -.0065 | .0176 | .0156 |
| #3 | .0034 | .0069 | .0029 | .0207 | -.0088 | .0154 | .0159 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **79337.** | **8353.5** | **5665.8** | **11259.** |
| Stddev | 184. | 41.6 | 16.8 | 28. |
| %RSD | .23152 | .49790 | .29654 | .25192 |
| #1 | 79201. | 8390.4 | 5668.4 | 11268. |
| #2 | 79546. | 8361.8 | 5681.2 | 11281. |
| #3 | 79263. | 8308.4 | 5647.9 | 11227. |



Zoom In Zoom Out

Sample Name: feconf Acquired: 5/10/2019 12:59:32 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **-.0002** | **-.0004** | **.0003** | **.0010** | **-.0012** | **.0003** | **.0023** | **.0010** |
| Stddev | .0001 | .0002 | .0000 | .0002 | .0003 | .0001 | .0001 | .0002 | .0004 |
| %RSD | 13.52 | 70.12 | 4.237 | 81.31 | 29.34 | 4.718 | 23.93 | 7.329 | 43.96 |
| #1 | .0009 | -.0001 | -.0004 | .0005 | .0014 | -.0011 | .0002 | .0023 | .0005 |
| #2 | .0008 | -.0002 | -.0004 | .0001 | .0009 | -.0012 | .0003 | .0021 | .0010 |
| #3 | .0007 | -.0004 | -.0004 | .0002 | .0008 | -.0012 | .0004 | .0024 | .0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **-.0004** | **.0001** | **.0005** | **-.0005** | **-.0018** | **-.0004** | **.0036** | **-.0051** |
| Stddev | .0003 | .0002 | .0006 | .0009 | .0006 | .0018 | .0008 | .0030 | .0070 |
| %RSD | 20.21 | 37.56 | 692.8 | 162.1 | 132.3 | 99.51 | 202.6 | 82.50 | 138.6 |
| #1 | .0016 | -.0006 | .0004 | -.0000 | -.0012 | .0002 | -.0012 | .0061 | -.0053 |
| #2 | .0011 | -.0003 | -.0006 | .0015 | .0000 | -.0022 | .0003 | .0045 | .0021 |
| #3 | .0012 | -.0003 | .0005 | .0001 | -.0002 | -.0034 | -.0003 | .0003 | -.0120 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **203.1** | **-.0543** | **.1798** | **.0604** | **.0045** | **.0002** | **.0033** | **-.0020** | **-.0001** |
| Stddev | .1 | .0353 | .0477 | .0080 | .0003 | .0003 | .0012 | .0008 | .0000 |
| %RSD | .0457 | 64.97 | 26.55 | 13.28 | 7.453 | 155.5 | 37.47 | 40.53 | 27.45 |
| #1 | 203.2 | -.0139 | .2119 | .0621 | .0049 | .0005 | .0019 | -.0029 | -.0001 |
| #2 | 203.0 | -.0703 | .2025 | .0517 | .0044 | .0000 | .0040 | -.0015 | -.0001 |
| #3 | 203.1 | -.0788 | .1249 | .0674 | .0043 | .0000 | .0039 | -.0015 | -.0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0007** | **.0034** | **.0035** | **-.0023** | **.0087** | **.0050** |
| Stddev | .0001 | .0007 | .0002 | .0008 | .0009 | .0012 | .0004 |
| %RSD | 52.82 | 105.4 | 6.395 | 22.80 | 38.91 | 14.23 | 8.728 |
| #1 | .0004 | .0004 | .0032 | .0031 | -.0015 | .0090 | .0051 |
| #2 | .0001 | .0002 | .0035 | .0044 | -.0021 | .0097 | .0054 |
| #3 | .0002 | .0015 | .0036 | .0030 | -.0033 | .0073 | .0045 |



Zoom In Zoom Out

Sample Name: feconf Acquired: 5/10/2019 12:59:32 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84885.** | **8564.2** | **6076.7** | **12741.** |
| Stddev | 241. | 10.6 | 5.2 | 17. |
| %RSD | .28444 | .12357 | .08616 | .13695 |
| #1 | 85097. | 8552.7 | 6082.5 | 12761. |
| #2 | 84622. | 8566.4 | 6075.2 | 12730. |
| #3 | 84936. | 8573.6 | 6072.4 | 12732. |



Zoom In Zoom Out

Sample Name: crconf Acquired: 5/10/2019 13:04:41 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0001** | **-.0007** | F **10.21** | **-.0012** | **-.0009** | **.0002** |
| Stddev | .0000 | .0000 | .0002 | .0000 | .02 | .0002 | .0000 | .0002 |
| %RSD | 48.53 | 18.65 | 147.7 | 5.763 | .1589 | 16.77 | 4.781 | 121.2 |
| #1 | .0001 | -.0001 | -.0003 | -.0007 | 10.19 | -.0014 | -.0010 | -.0000 |
| #2 | .0001 | -.0001 | -.0001 | -.0008 | 10.22 | -.0011 | -.0009 | .0005 |
| #3 | .0001 | -.0001 | .0001 | -.0007 | 10.21 | -.0010 | -.0009 | .0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0044** | **-.0002** | **-.0005** | **-.0020** | **-.0001** | **.0013** | **.0007** |
| Stddev | .0004 | .0003 | .0001 | .0008 | .0006 | .0001 | .0010 | .0011 |
| %RSD | 36.57 | 6.612 | 55.78 | 168.4 | 31.41 | 107.5 | 76.90 | 153.5 |
| #1 | -.0015 | .0041 | -.0003 | .0002 | -.0013 | -.0000 | .0024 | .0018 |
| #2 | -.0010 | .0046 | -.0001 | -.0003 | -.0025 | -.0002 | .0006 | .0006 |
| #3 | -.0007 | .0044 | -.0002 | -.0013 | -.0022 | -.0001 | .0008 | -.0003 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0078** | **.0113** | **-.0010** | **.0018** | **.0742** | **.0386** | **.0045** | **.0006** |
| Stddev | .0120 | .0006 | .0051 | .0066 | .0300 | .0075 | .0003 | .0001 |
| %RSD | 154.4 | 5.594 | 490.2 | 358.8 | 40.42 | 19.50 | 6.583 | 10.20 |
| #1 | .0097 | .0111 | -.0069 | -.0048 | .1066 | .0405 | .0042 | .0006 |
| #2 | -.0051 | .0120 | .0013 | .0020 | .0474 | .0450 | .0045 | .0005 |
| #3 | .0187 | .0108 | .0024 | .0083 | .0687 | .0303 | .0048 | .0007 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0052** | **-.0000** | **.0000** | **.0010** | **.0007** | F **-.0126** | **-.0018** | **-.0151** |
| Stddev | .0006 | .0004 | .0000 | .0003 | .0005 | .0002 | .0013 | .0001 |
| %RSD | 11.17 | 4273. | 48.44 | 25.18 | 73.35 | 1.789 | 69.01 | .6657 |
| #1 | -.0058 | .0001 | .0001 | .0011 | .0012 | -.0128 | -.0033 | -.0150 |
| #2 | -.0049 | .0003 | .0000 | .0012 | .0002 | -.0123 | -.0009 | -.0152 |
| #3 | -.0047 | -.0004 | .0000 | .0007 | .0007 | -.0126 | -.0013 | -.0150 |

Zoom In Zoom Out

Sample Name: crconf Acquired: 5/10/2019 13:04:41 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0076** | **.0016** |
| Stddev | .0006 | .0001 |
| %RSD | 8.392 | 7.403 |
| #1 | .0079 | .0016 |
| #2 | .0081 | .0015 |
| #3 | .0069 | .0017 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85369.** | **8571.4** | **5962.0** | **12558.** |
| Stddev | 149. | 36.2 | 5.3 | 12. |
| %RSD | .17465 | .42210 | .08875 | .09432 |
| #1 | 85374. | 8612.3 | 5965.2 | 12563. |
| #2 | 85515. | 8558.7 | 5955.9 | 12545. |
| #3 | 85217. | 8543.4 | 5964.9 | 12567. |



Zoom In Zoom Out

Sample Name: asconf Acquired: 5/10/2019 13:10:00 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0006** | **.0002** | **.0001** | **-.0013** | **.0000** | **-.0002** | **-.0013** |
| Stddev | .0001 | .0000 | .0002 | .0002 | .0002 | .0001 | .0000 | .0003 | .0003 |
| %RSD | 2136. | 61.98 | 28.43 | 125.8 | 196.2 | 10.98 | 78.20 | 111.5 | 23.30 |
| #1 | .0000 | -.0000 | .0007 | .0004 | -.0001 | -.0012 | .0000 | -.0004 | -.0012 |
| #2 | -.0001 | -.0001 | .0005 | -.0000 | .0003 | -.0013 | .0001 | -.0004 | -.0011 |
| #3 | .0001 | -.0001 | .0004 | .0002 | .0001 | -.0015 | .0001 | .0001 | -.0017 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0003** | **5.151** | **-.0012** | **-.0002** | **.0016** | **.0008** | **-.0008** | **.0007** |
| Stddev | .0004 | .0000 | .006 | .0009 | .0003 | .0012 | .0012 | .0037 | .0026 |
| %RSD | 112.1 | 13.55 | .1233 | 74.48 | 167.3 | 75.04 | 149.8 | 461.5 | 357.4 |
| #1 | -.0000 | -.0004 | 5.156 | -.0014 | .0001 | .0027 | .0020 | .0034 | -.0022 |
| #2 | .0004 | -.0003 | 5.153 | -.0020 | -.0005 | .0003 | -.0004 | -.0038 | .0028 |
| #3 | .0007 | -.0004 | 5.144 | -.0002 | -.0001 | .0017 | .0008 | -.0020 | .0015 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0057** | **.0355** | **.0125** | **.0033** | **-.0001** | **.0026** | **.0007** | **.0000** |
| Stddev | .0052 | .0220 | .0526 | .0089 | .0006 | .0001 | .0009 | .0001 | .0002 |
| %RSD | 473.6 | 388.0 | 148.2 | 71.46 | 19.03 | 128.1 | 36.51 | 10.25 | 741.6 |
| #1 | -.0036 | .0202 | .0960 | .0131 | .0032 | -.0003 | .0034 | .0007 | -.0000 |
| #2 | .0003 | -.0197 | .0001 | .0212 | .0027 | -.0001 | .0016 | .0008 | .0002 |
| #3 | .0066 | .0165 | .0105 | .0033 | .0040 | -.0000 | .0028 | .0007 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0007** | **.0002** | **-.0007** | **.0011** | **.0034** | **.0035** |
| Stddev | .0001 | .0005 | .0001 | .0001 | .0003 | .0016 | .0008 |
| %RSD | 249.5 | 77.99 | 55.79 | 16.05 | 29.39 | 47.06 | 23.71 |
| #1 | -.0001 | .0001 | .0001 | -.0006 | .0015 | .0039 | .0028 |
| #2 | .0000 | .0008 | .0002 | -.0007 | .0010 | .0046 | .0032 |
| #3 | .0002 | .0012 | .0004 | -.0008 | .0009 | .0016 | .0044 |



Zoom In Zoom Out

Sample Name: asconf Acquired: 5/10/2019 13:10:00 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85372.** | **8524.7** | **6089.9** | **12506.** |
| Stddev | 224. | 31.3 | 5.4 | 12. |
| %RSD | .26256 | .36733 | .08885 | .09526 |
| #1 | 85124. | 8533.0 | 6095.2 | 12515. |
| #2 | 85560. | 8550.9 | 6084.4 | 12492. |
| #3 | 85433. | 8490.0 | 6090.0 | 12509. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 13:15:08 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.051** | **2.009** | **2.014** | **2.036** | **2.070** | **2.059** | **2.024** | **2.011** | **.2551** |
| Stddev | .009 | .009 | .003 | .002 | .027 | .032 | .014 | .003 | .0040 |
| %RSD | .4651 | .4247 | .1545 | .1030 | 1.288 | 1.539 | .6681 | .1500 | 1.585 |
| #1 | 2.051 | 2.008 | 2.012 | 2.036 | 2.053 | 2.038 | 2.009 | 2.008 | .2522 |
| #2 | 2.060 | 2.019 | 2.012 | 2.034 | 2.101 | 2.095 | 2.031 | 2.010 | .2597 |
| #3 | 2.041 | 2.002 | 2.018 | 2.039 | 2.057 | 2.043 | 2.033 | 2.014 | .2534 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.064** | **2.030** | **1.980** | **2.052** | **2.021** | **1.980** | **1.962** | **40.34** | **40.83** |
| Stddev | .028 | .003 | .003 | .003 | .002 | .003 | .002 | .19 | .19 |
| %RSD | 1.341 | .1669 | .1720 | .1482 | .1104 | .1655 | .1090 | .4678 | .4607 |
| #1 | 2.048 | 2.028 | 1.977 | 2.050 | 2.019 | 1.978 | 1.960 | 40.36 | 40.86 |
| #2 | 2.096 | 2.027 | 1.979 | 2.052 | 2.023 | 1.978 | 1.962 | 40.51 | 41.00 |
| #3 | 2.049 | 2.033 | 1.983 | 2.056 | 2.022 | 1.984 | 1.964 | 40.14 | 40.63 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.28** | **39.87** | **40.33** | **39.82** | **2.032** | **1.988** | **4.977** | **1.956** | **2.054** |
| Stddev | .14 | .19 | .19 | .18 | .005 | .004 | .014 | .003 | .009 |
| %RSD | .3440 | .4785 | .4828 | .4425 | .2467 | .2041 | .2773 | .1509 | .4166 |
| #1 | 41.20 | 39.95 | 40.36 | 39.83 | 2.031 | 1.987 | 4.969 | 1.953 | 2.053 |
| #2 | 41.44 | 40.00 | 40.51 | 39.99 | 2.028 | 1.985 | 4.969 | 1.956 | 2.063 |
| #3 | 41.19 | 39.65 | 40.12 | 39.64 | 2.038 | 1.993 | 4.993 | 1.959 | 2.045 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 13:15:08 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.023** | **1.967** | **2.016** | **1.983** | **2.040** | **2.018** | **1.963** |
| Stddev | .028 | .005 | .029 | .002 | .004 | .010 | .004 |
| %RSD | 1.382 | .2523 | 1.412 | .1052 | .2217 | .4973 | .2054 |
| #1 | 2.005 | 1.966 | 1.996 | 1.982 | 2.038 | 2.019 | 1.963 |
| #2 | 2.055 | 1.963 | 2.048 | 1.982 | 2.037 | 2.028 | 1.959 |
| #3 | 2.008 | 1.973 | 2.002 | 1.985 | 2.045 | 2.008 | 1.967 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82025.** | **8481.3** | **5943.7** | **11936.** |
| Stddev | 694. | 23.4 | 13.4 | 21. |
| %RSD | .84591 | .27633 | .22506 | .17794 |
| #1 | 82333. | 8472.5 | 5941.8 | 11926. |
| #2 | 81230. | 8463.6 | 5957.9 | 11960. |
| #3 | 82511. | 8507.9 | 5931.4 | 11922. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 13:20:09 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0001** | **.0003** | **-.0001** | **-.0014** | **.0000** | **.0002** | **-.0013** |
| Stddev | .0005 | .0001 | .0001 | .0003 | .0001 | .0001 | .0000 | .0003 | .0003 |
| %RSD | 1080. | 152.9 | 140.1 | 118.5 | 121.8 | 9.533 | 58.96 | 173.0 | 22.73 |
| #1 | -.0004 | -.0001 | .0001 | .0005 | -.0002 | -.0014 | .0001 | .0002 | -.0010 |
| #2 | .0005 | -.0002 | -.0000 | .0005 | -.0002 | -.0016 | .0000 | .0005 | -.0015 |
| #3 | -.0002 | .0001 | .0002 | -.0001 | .0000 | -.0013 | .0000 | -.0001 | -.0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0002** | **.0011** | **.0002** | **-.0006** | **.0004** | **-.0004** | **.0012** | **.0026** |
| Stddev | .0002 | .0001 | .0001 | .0009 | .0005 | .0014 | .0003 | .0132 | .0014 |
| %RSD | 84.24 | 52.82 | 11.95 | 404.8 | 88.46 | 321.1 | 83.41 | 1085. | 56.49 |
| #1 | .0002 | -.0001 | .0010 | .0012 | -.0011 | .0020 | -.0006 | -.0140 | .0014 |
| #2 | .0006 | -.0001 | .0010 | .0001 | -.0001 | -.0005 | -.0005 | .0102 | .0021 |
| #3 | .0001 | -.0002 | .0012 | -.0006 | -.0005 | -.0002 | -.0000 | .0074 | .0042 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0019** | **.0112** | **.0829** | **.0240** | **.0045** | **.0001** | **-.0002** | **.0002** | **.0002** |
| Stddev | .0018 | .0317 | .0305 | .0138 | .0006 | .0001 | .0004 | .0004 | .0002 |
| %RSD | 96.63 | 283.3 | 36.74 | 57.53 | 12.22 | 203.3 | 241.6 | 159.2 | 98.55 |
| #1 | .0002 | .0004 | .1176 | .0359 | .0042 | -.0001 | .0003 | .0002 | .0003 |
| #2 | -.0034 | -.0137 | .0603 | .0272 | .0052 | .0002 | -.0005 | .0006 | .0003 |
| #3 | -.0025 | .0469 | .0709 | .0089 | .0042 | .0001 | -.0002 | -.0001 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 13:20:09 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0000** | **-.0001** | **-.0004** | **.0010** | F **.0055** | **.0025** |
| Stddev | .0001 | .0010 | .0000 | .0011 | .0014 | .0007 | .0002 |
| %RSD | 114.6 | 2478. | 73.89 | 272.1 | 136.4 | 13.23 | 8.974 |
| #1 | .0000 | .0003 | -.0000 | .0007 | .0025 | .0047 | .0027 |
| #2 | .0000 | .0007 | -.0000 | -.0004 | -.0002 | .0061 | .0023 |
| #3 | .0002 | -.0012 | -.0001 | -.0014 | .0007 | .0056 | .0024 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85739.** | **8586.1** | **6113.1** | **12521.** |
| Stddev | 145. | 15.7 | 12.8 | 25. |
| %RSD | .16883 | .18308 | .20915 | .19855 |
| #1 | 85657. | 8580.6 | 6104.2 | 12499. |
| #2 | 85906. | 8603.9 | 6107.3 | 12514. |
| #3 | 85654. | 8573.9 | 6127.7 | 12548. |



Zoom In Zoom Out

Sample Name: 5p-1conf Acquired: 5/10/2019 13:25:18 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.638** | **.3166** | **.5330** | **.0252** | **.5992** | **4.327** | **2.956** | **.4899** | **.3469** |
| Stddev | .000 | .0004 | .0004 | .0003 | .0020 | .007 | .005 | .0013 | .0008 |
| %RSD | .0155 | .1353 | .0765 | 1.369 | .3309 | .1683 | .1777 | .2644 | .2215 |
| #1 | 2.638 | .3163 | .5335 | .0251 | .5979 | 4.322 | 2.951 | .4904 | .3460 |
| #2 | 2.638 | .3164 | .5328 | .0250 | .6014 | 4.336 | 2.956 | .4908 | .3473 |
| #3 | 2.639 | .3171 | .5328 | .0256 | .5982 | 4.324 | 2.962 | .4884 | .3474 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1338** | **4.576** | **.4974** | **.2589** | **.5476** | **.5028** | **.2900** | **27.83** | F **228.1** |
| Stddev | .0003 | .007 | .0017 | .0024 | .0010 | .0014 | .0012 | .04 | .2 |
| %RSD | .1888 | .1630 | .3330 | .9236 | .1856 | .2728 | .4101 | .1548 | .0797 |
| #1 | .1335 | 4.574 | .4987 | .2570 | .5472 | .5025 | .2886 | 27.80 | 228.0 |
| #2 | .1340 | 4.585 | .4955 | .2616 | .5487 | .5044 | .2908 | 27.88 | 228.1 |
| #3 | .1339 | 4.571 | .4978 | .2582 | .5468 | .5017 | .2906 | 27.82 | 228.3 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **122.0** | **21.08** | **8.080** | **3.907** | **.1099** | **.4711** | **2.880** | **.3055** | **4.270** |
| Stddev | .1 | .05 | .020 | .012 | .0001 | .0006 | .007 | .0016 | .004 |
| %RSD | .1155 | .2524 | .2422 | .3058 | .0797 | .1343 | .2475 | .5312 | .0907 |
| #1 | 121.9 | 21.02 | 8.081 | 3.919 | .1098 | .4710 | 2.879 | .3037 | 4.266 |
| #2 | 122.1 | 21.12 | 8.060 | 3.896 | .1098 | .4718 | 2.888 | .3062 | 4.270 |
| #3 | 122.1 | 21.12 | 8.099 | 3.905 | .1100 | .4706 | 2.874 | .3067 | 4.273 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2906** | **.0075** | **.0371** | **75.27** | **.2895** | **.0044** | F **112.5** |
| Stddev | .0015 | .0006 | .0003 | .08 | .0010 | .0015 | .2 |
| %RSD | .5111 | 7.903 | .8636 | .1014 | .3451 | 34.83 | .1939 |
| #1 | .2892 | .0080 | .0375 | 75.27 | .2884 | .0030 | 112.6 |
| #2 | .2921 | .0076 | .0368 | 75.35 | .2903 | .0041 | 112.7 |
| #3 | .2904 | .0068 | .0370 | 75.20 | .2898 | .0061 | 112.2 |

Zoom In Zoom Out

Sample Name: 5p-1conf Acquired: 5/10/2019 13:25:18 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83173.** | **8788.6** | **5875.6** | **11883.** |
| Stddev | 279. | 5.6 | 12.0 | 27. |
| %RSD | .33534 | .06373 | .20362 | .22378 |
| #1 | 83352. | 8788.0 | 5878.4 | 11897. |
| #2 | 82852. | 8783.4 | 5862.4 | 11853. |
| #3 | 83315. | 8794.5 | 5885.8 | 11900. |



Zoom In Zoom Out

Sample Name: 6p-5conf Acquired: 5/10/2019 13:30:16 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.065** | **.3850** | **1.067** | **.4469** | **1.381** | **.9209** | **2.733** | **1.154** | **.2967** |
| Stddev | .006 | .0011 | .001 | .0002 | .000 | .0003 | .005 | .001 | .0003 |
| %RSD | .1924 | .2815 | .0530 | .0409 | .0148 | .0337 | .1702 | .0573 | .1044 |
| #1 | 3.062 | .3844 | 1.067 | .4468 | 1.381 | .9206 | 2.733 | 1.154 | .2967 |
| #2 | 3.062 | .3844 | 1.067 | .4467 | 1.381 | .9212 | 2.738 | 1.153 | .2965 |
| #3 | 3.072 | .3863 | 1.066 | .4470 | 1.381 | .9209 | 2.729 | 1.154 | .2971 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.655** | **1.968** | **.9230** | **1.048** | **.9948** | **.8470** | **.5322** | **92.90** | **46.30** |
| Stddev | .001 | .002 | .0019 | .001 | .0014 | .0009 | .0016 | .26 | .06 |
| %RSD | .0423 | .0775 | .2053 | .1080 | .1365 | .1047 | .2920 | .2746 | .1364 |
| #1 | 1.656 | 1.967 | .9220 | 1.048 | .9963 | .8480 | .5339 | 92.82 | 46.29 |
| #2 | 1.654 | 1.969 | .9252 | 1.048 | .9937 | .8464 | .5319 | 92.69 | 46.23 |
| #3 | 1.655 | 1.966 | .9219 | 1.050 | .9944 | .8466 | .5309 | 93.19 | 46.36 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **147.6** | **23.53** | **21.32** | **1.450** | **1.304** | **.7157** | **2.941** | **.8966** | **.7085** |
| Stddev | .4 | .13 | .08 | .012 | .000 | .0007 | .018 | .0023 | .0019 |
| %RSD | .2643 | .5508 | .3695 | .8253 | .0336 | .0921 | .6292 | .2522 | .2669 |
| #1 | 147.3 | 23.39 | 21.29 | 1.448 | 1.303 | .7164 | 2.938 | .8955 | .7078 |
| #2 | 147.4 | 23.58 | 21.25 | 1.440 | 1.304 | .7151 | 2.961 | .8992 | .7070 |
| #3 | 148.0 | 23.64 | 21.40 | 1.463 | 1.304 | .7158 | 2.924 | .8950 | .7106 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.747** | **-.0009** | **.0707** | **.8020** | **-.0154** | **.0795** | **4.864** |
| Stddev | .003 | .0010 | .0001 | .0036 | .0021 | .0016 | .003 |
| %RSD | .0530 | 108.5 | .1154 | .4476 | 13.45 | 1.964 | .0588 |
| #1 | 5.749 | -.0012 | .0706 | .7984 | -.0130 | .0785 | 4.861 |
| #2 | 5.749 | .0002 | .0706 | .8056 | -.0168 | .0786 | 4.866 |
| #3 | 5.743 | -.0017 | .0708 | .8019 | -.0163 | .0813 | 4.864 |



Zoom In Zoom Out

Sample Name: 6p-5conf Acquired: 5/10/2019 13:30:16 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87699.** | **9066.0** | **6309.8** | **12286.** |
| Stddev | 90. | 11.9 | 9.9 | 14. |
| %RSD | .10226 | .13074 | .15674 | .11665 |
| #1 | 87604. | 9052.3 | 6302.6 | 12271. |
| #2 | 87782. | 9072.8 | 6305.8 | 12287. |
| #3 | 87711. | 9072.9 | 6321.1 | 12300. |



Zoom In Zoom Out

Sample Name: 5p-2conf Acquired: 5/10/2019 13:35:13 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.488** | **.3048** | **.4981** | **.0236** | **.5656** | **4.169** | **2.839** | **.4662** | **.3286** |
| Stddev | .006 | .0007 | .0017 | .0001 | .0010 | .010 | .020 | .0014 | .0009 |
| %RSD | .2613 | .2156 | .3480 | .2870 | .1814 | .2351 | .7054 | .3067 | .2643 |
| #1 | 2.481 | .3041 | .5001 | .0236 | .5667 | 4.181 | 2.862 | .4678 | .3293 |
| #2 | 2.489 | .3050 | .4970 | .0235 | .5655 | 4.164 | 2.826 | .4652 | .3288 |
| #3 | 2.494 | .3054 | .4972 | .0237 | .5647 | 4.163 | 2.829 | .4656 | .3276 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1274** | **4.290** | **.4651** | **.2417** | **.5137** | **.4679** | **.2747** | **26.64** | F **216.3** |
| Stddev | .0003 | .013 | .0023 | .0015 | .0015 | .0012 | .0027 | .09 | .6 |
| %RSD | .2490 | .3066 | .4870 | .6164 | .2922 | .2598 | .9656 | .3261 | .2859 |
| #1 | .1278 | 4.305 | .4677 | .2407 | .5154 | .4689 | .2745 | 26.59 | 215.7 |
| #2 | .1272 | 4.286 | .4639 | .2434 | .5131 | .4682 | .2721 | 26.58 | 216.2 |
| #3 | .1273 | 4.280 | .4637 | .2410 | .5125 | .4666 | .2774 | 26.74 | 216.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **115.5** | **20.08** | **7.670** | **3.741** | **.1038** | **.4432** | **3.008** | **.2838** | **4.058** |
| Stddev | .4 | .04 | .054 | .025 | .0006 | .0018 | .016 | .0012 | .013 |
| %RSD | .3692 | .2168 | .7088 | .6650 | .5803 | .4126 | .5228 | .4054 | .3143 |
| #1 | 115.2 | 20.04 | 7.612 | 3.721 | .1041 | .4453 | 3.024 | .2849 | 4.045 |
| #2 | 115.4 | 20.07 | 7.678 | 3.732 | .1032 | .4427 | 3.008 | .2826 | 4.058 |
| #3 | 116.0 | 20.13 | 7.720 | 3.768 | .1043 | .4417 | 2.993 | .2837 | 4.070 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2885** | **.0059** | **.0390** | **70.65** | **.2641** | **.0039** | F **106.2** |
| Stddev | .0026 | .0006 | .0003 | .24 | .0020 | .0010 | .3 |
| %RSD | .9126 | 9.598 | .6811 | .3395 | .7427 | 26.38 | .2964 |
| #1 | .2915 | .0063 | .0392 | 70.91 | .2658 | .0044 | 106.5 |
| #2 | .2865 | .0062 | .0387 | 70.62 | .2644 | .0027 | 106.1 |
| #3 | .2875 | .0052 | .0391 | 70.43 | .2620 | .0046 | 105.9 |

Zoom In Zoom Out

Sample Name: 5p-2conf Acquired: 5/10/2019 13:35:13 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83661.** | **8749.4** | **5941.5** | **12007.** |
| Stddev | 145. | 41.3 | 9.9 | 31. |
| %RSD | .17362 | .47163 | .16674 | .25555 |
| #1 | 83497. | 8761.9 | 5934.0 | 11996. |
| #2 | 83717. | 8783.0 | 5952.7 | 12042. |
| #3 | 83771. | 8703.3 | 5937.8 | 11983. |



Zoom In Zoom Out

Sample Name: 5p-3conf Acquired: 5/10/2019 13:40:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.595** | **.3049** | **.5157** | **.0242** | **.5785** | **4.272** | **2.905** | **.4783** | **.3451** |
| Stddev | .102 | .0118 | .0045 | .0002 | .0031 | .027 | .020 | .0045 | .0018 |
| %RSD | 3.927 | 3.878 | .8631 | 1.028 | .5282 | .6342 | .6755 | .9469 | .5308 |
| #1 | 2.587 | .3037 | .5185 | .0244 | .5751 | 4.244 | 2.884 | .4812 | .3431 |
| #2 | 2.498 | .2937 | .5181 | .0243 | .5808 | 4.298 | 2.908 | .4806 | .3454 |
| #3 | 2.701 | .3172 | .5106 | .0239 | .5798 | 4.274 | 2.923 | .4731 | .3467 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1298** | **4.458** | **.4787** | **.2514** | **.5225** | **.4843** | **.2786** | **27.75** | F **227.0** |
| Stddev | .0005 | .040 | .0047 | .0020 | .0032 | .0041 | .0043 | 1.11 | 8.8 |
| %RSD | .3675 | .8932 | .9780 | .7855 | .6157 | .8468 | 1.527 | 4.008 | 3.870 |
| #1 | .1292 | 4.487 | .4826 | .2524 | .5239 | .4873 | .2813 | 27.64 | 226.0 |
| #2 | .1302 | 4.475 | .4800 | .2526 | .5247 | .4860 | .2807 | 26.69 | 218.7 |
| #3 | .1299 | 4.413 | .4735 | .2491 | .5188 | .4796 | .2737 | 28.91 | 236.2 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **120.9** | **20.87** | **7.950** | **3.890** | **.1057** | **.4577** | **2.954** | **.2922** | **4.250** |
| Stddev | 4.8 | .80 | .294 | .148 | .0017 | .0053 | .027 | .0036 | .169 |
| %RSD | 4.010 | 3.856 | 3.699 | 3.796 | 1.640 | 1.156 | .9273 | 1.221 | 3.973 |
| #1 | 120.4 | 20.78 | 7.927 | 3.880 | .1058 | .4620 | 2.977 | .2946 | 4.234 |
| #2 | 116.2 | 20.11 | 7.668 | 3.747 | .1074 | .4592 | 2.961 | .2939 | 4.089 |
| #3 | 125.9 | 21.72 | 8.255 | 4.042 | .1040 | .4518 | 2.924 | .2881 | 4.426 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2872** | **.0051** | **.0428** | **72.56** | **.2783** | **.0049** | F **109.4** |
| Stddev | .0014 | .0005 | .0005 | .64 | .0027 | .0006 | 1.0 |
| %RSD | .4785 | 9.848 | 1.240 | .8834 | .9770 | 12.10 | .9297 |
| #1 | .2877 | .0050 | .0427 | 72.97 | .2791 | .0043 | 110.2 |
| #2 | .2856 | .0056 | .0424 | 72.89 | .2805 | .0055 | 109.9 |
| #3 | .2882 | .0046 | .0434 | 71.82 | .2753 | .0050 | 108.3 |



Zoom In Zoom Out

Sample Name: 5p-3conf Acquired: 5/10/2019 13:40:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83128.** | **8579.8** | **5902.6** | **11944.** |
| Stddev | 468. | 299.6 | 54.4 | 97. |
| %RSD | .56349 | 3.4920 | .92199 | .81327 |
| #1 | 83625. | 8641.6 | 5865.8 | 11882. |
| #2 | 82695. | 8843.8 | 5876.9 | 11893. |
| #3 | 83063. | 8254.2 | 5965.1 | 12056. |



Zoom In Zoom Out

Sample Name: 5p-4conf1gram Acquired: 5/10/2019 13:45:08 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.081** | **.6148** | **1.043** | **.0479** | **1.153** | F **8.613** | **5.713** | **.9396** | F **.6833** |
| Stddev | .066 | .0082 | .003 | .0003 | .010 | .089 | .051 | .0010 | .0058 |
| %RSD | 1.295 | 1.338 | .2716 | .5604 | .8336 | 1.037 | .8895 | .1025 | .8509 |
| #1 | 5.146 | .6234 | 1.044 | .0476 | 1.160 | 8.715 | 5.771 | .9402 | .6866 |
| #2 | 5.083 | .6142 | 1.040 | .0479 | 1.156 | 8.570 | 5.693 | .9385 | .6867 |
| #3 | 5.014 | .6070 | 1.045 | .0482 | 1.142 | 8.553 | 5.675 | .9401 | .6766 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2599** | F **8.632** | **.9793** | **.4860** | **1.042** | **.9958** | **.5823** | **53.78** | F **430.0** |
| Stddev | .0022 | .021 | .0038 | .0005 | .002 | .0026 | .0022 | .70 | 8.2 |
| %RSD | .8568 | .2370 | .3869 | .0998 | .1974 | .2577 | .3846 | 1.304 | 1.913 |
| #1 | .2616 | 8.641 | .9831 | .4862 | 1.040 | .9974 | .5839 | 54.45 | 434.2 |
| #2 | .2607 | 8.609 | .9755 | .4864 | 1.043 | .9929 | .5797 | 53.84 | 435.3 |
| #3 | .2573 | 8.647 | .9794 | .4855 | 1.044 | .9972 | .5832 | 53.06 | 420.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **231.5** | **40.37** | **15.77** | **7.646** | **.2056** | **.9131** | **4.995** | **.5683** | F **8.338** |
| Stddev | 3.2 | .62 | .23 | .089 | .0012 | .0016 | .011 | .0012 | .050 |
| %RSD | 1.363 | 1.547 | 1.451 | 1.162 | .6055 | .1760 | .2162 | .2132 | .6018 |
| #1 | 234.8 | 40.95 | 15.98 | 7.735 | .2047 | .9139 | 4.996 | .5695 | 8.395 |
| #2 | 231.3 | 40.46 | 15.80 | 7.644 | .2050 | .9112 | 4.984 | .5671 | 8.308 |
| #3 | 228.5 | 39.71 | 15.52 | 7.557 | .2070 | .9141 | 5.005 | .5683 | 8.309 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5744** | **.0156** | **.0624** | F **147.8** | **.5554** | **.0062** | F **185.2** |
| Stddev | .0121 | .0009 | .0026 | .3 | .0018 | .0004 | .4 |
| %RSD | 2.105 | 5.774 | 4.129 | .2093 | .3169 | 6.197 | .2422 |
| #1 | .5850 | .0163 | .0653 | 147.8 | .5545 | .0057 | 185.4 |
| #2 | .5770 | .0160 | .0618 | 147.6 | .5542 | .0064 | 184.7 |
| #3 | .5613 | .0146 | .0602 | 148.2 | .5574 | .0064 | 185.6 |

Zoom In Zoom Out

Sample Name: 5p-4conf1gram Acquired: 5/10/2019 13:45:08 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **80317.** | **8502.6** | **5690.6** | **11602.** |
| Stddev | 635. | 113.9 | 15.6 | 23. |
| %RSD | .79063 | 1.3399 | .27369 | .20200 |
| #1 | 79737. | 8393.8 | 5684.8 | 11593. |
| #2 | 80218. | 8493.0 | 5708.2 | 11628. |
| #3 | 80995. | 8621.1 | 5678.7 | 11584. |



Zoom In Zoom Out

Sample Name: 6p-6conf Acquired: 5/10/2019 13:50:32 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.994** | **.3763** | **1.022** | **.4357** | **1.350** | **.8803** | **2.601** | **1.123** | **.2849** |
| Stddev | .007 | .0009 | .001 | .0004 | .013 | .0087 | .009 | .001 | .0025 |
| %RSD | .2202 | .2451 | .1030 | .1008 | .9892 | .9890 | .3447 | .1050 | .8612 |
| #1 | 2.987 | .3753 | 1.024 | .4353 | 1.360 | .8861 | 2.611 | 1.125 | .2866 |
| #2 | 3.000 | .3766 | 1.022 | .4356 | 1.355 | .8844 | 2.595 | 1.123 | .2861 |
| #3 | 2.995 | .3771 | 1.022 | .4362 | 1.335 | .8703 | 2.596 | 1.123 | .2821 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.611** | **1.896** | **.8962** | **1.001** | **.9594** | **.8201** | **.5187** | **91.41** | **45.19** |
| Stddev | .016 | .005 | .0018 | .001 | .0013 | .0035 | .0017 | .30 | .09 |
| %RSD | 1.001 | .2819 | .2031 | .0983 | .1339 | .4243 | .3196 | .3235 | .2066 |
| #1 | 1.624 | 1.902 | .8968 | 1.002 | .9608 | .8232 | .5205 | 91.07 | 45.08 |
| #2 | 1.617 | 1.893 | .8976 | 1.000 | .9585 | .8163 | .5172 | 91.63 | 45.25 |
| #3 | 1.593 | 1.893 | .8941 | .9999 | .9587 | .8209 | .5184 | 91.51 | 45.24 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **141.5** | **22.49** | **20.56** | **1.402** | **1.273** | **.7044** | **3.156** | **.8730** | **.6787** |
| Stddev | .4 | .08 | .03 | .006 | .004 | .0011 | .028 | .0019 | .0015 |
| %RSD | .2937 | .3378 | .1367 | .4271 | .2783 | .1609 | .8951 | .2193 | .2209 |
| #1 | 141.1 | 22.41 | 20.53 | 1.405 | 1.277 | .7057 | 3.186 | .8749 | .6770 |
| #2 | 141.7 | 22.50 | 20.57 | 1.406 | 1.270 | .7036 | 3.129 | .8731 | .6798 |
| #3 | 141.8 | 22.56 | 20.58 | 1.396 | 1.272 | .7039 | 3.153 | .8711 | .6793 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.716** | **-.0022** | **.0700** | **.7607** | **-.0165** | **.0746** | **4.802** |
| Stddev | .057 | .0010 | .0005 | .0029 | .0001 | .0014 | .014 |
| %RSD | .9907 | 46.04 | .6959 | .3791 | .7667 | 1.844 | .2886 |
| #1 | 5.757 | -.0013 | .0703 | .7641 | -.0165 | .0730 | 4.817 |
| #2 | 5.740 | -.0033 | .0702 | .7591 | -.0166 | .0751 | 4.790 |
| #3 | 5.651 | -.0021 | .0694 | .7590 | -.0163 | .0756 | 4.800 |



Zoom In Zoom Out

Sample Name: 6p-6conf Acquired: 5/10/2019 13:50:32 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88950.** | **9258.0** | **6380.2** | **12392.** |
| Stddev | 571. | 23.1 | 10.8 | 11. |
| %RSD | .64168 | .24920 | .16986 | .08825 |
| #1 | 88447. | 9283.2 | 6367.7 | 12380. |
| #2 | 88833. | 9253.1 | 6387.1 | 12399. |
| #3 | 89571. | 9237.8 | 6385.8 | 12398. |



Zoom In Zoom Out

Sample Name: 6p-7conf Acquired: 5/10/2019 13:55:31 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.096** | **.3985** | **1.096** | **.4597** | **1.417** | **.9264** | **2.711** | **1.188** |
| Stddev | .033 | .0045 | .002 | .0010 | .010 | .0065 | .023 | .002 |
| %RSD | 1.066 | 1.123 | .1698 | .2255 | .7035 | .6989 | .8507 | .1749 |
| #1 | 3.081 | .3954 | 1.097 | .4593 | 1.426 | .9337 | 2.732 | 1.189 |
| #2 | 3.134 | .4037 | 1.094 | .4589 | 1.407 | .9213 | 2.686 | 1.186 |
| #3 | 3.073 | .3965 | 1.098 | .4608 | 1.417 | .9244 | 2.715 | 1.190 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2968** | **1.681** | **1.989** | **.9328** | **1.048** | **.9947** | **.8570** | **.5406** |
| Stddev | .0014 | .010 | .005 | .0014 | .005 | .0005 | .0028 | .0006 |
| %RSD | .4576 | .5940 | .2418 | .1476 | .4950 | .0501 | .3259 | .1176 |
| #1 | .2982 | 1.691 | 1.990 | .9339 | 1.047 | .9953 | .8576 | .5413 |
| #2 | .2954 | 1.672 | 1.983 | .9313 | 1.044 | .9945 | .8593 | .5401 |
| #3 | .2969 | 1.680 | 1.993 | .9333 | 1.054 | .9944 | .8539 | .5405 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **93.83** | **47.65** | **143.3** | **23.03** | **21.06** | **1.491** | **1.319** | **.7385** |
| Stddev | 1.02 | .53 | 1.6 | .26 | .25 | .011 | .002 | .0016 |
| %RSD | 1.087 | 1.117 | 1.148 | 1.116 | 1.174 | .7603 | .1174 | .2194 |
| #1 | 93.27 | 47.40 | 142.3 | 22.88 | 20.90 | 1.482 | 1.319 | .7396 |
| #2 | 95.01 | 48.26 | 145.2 | 23.32 | 21.34 | 1.504 | 1.318 | .7367 |
| #3 | 93.22 | 47.29 | 142.3 | 22.87 | 20.92 | 1.487 | 1.321 | .7393 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.994** | **.9005** | **.7197** | **5.654** | **-.0034** | **.0725** | **.7954** | F **-.0206** |
| Stddev | .027 | .0018 | .0079 | .039 | .0005 | .0003 | .0003 | .0008 |
| %RSD | .8936 | .1966 | 1.099 | .6888 | 15.74 | .4065 | .0365 | 3.939 |
| #1 | 3.023 | .9016 | .7158 | 5.694 | -.0030 | .0728 | .7956 | -.0197 |
| #2 | 2.987 | .8985 | .7289 | 5.616 | -.0032 | .0724 | .7954 | -.0208 |
| #3 | 2.971 | .9015 | .7146 | 5.652 | -.0040 | .0722 | .7951 | -.0213 |

Zoom In Zoom Out

Sample Name: 6p-7conf Acquired: 5/10/2019 13:55:31 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0775** | **4.831** |
| Stddev | .0013 | .010 |
| %RSD | 1.684 | .2068 |
| #1 | .0776 | 4.837 |
| #2 | .0787 | 4.819 |
| #3 | .0761 | 4.836 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86506.** | **8953.8** | **6194.5** | **12065.** |
| Stddev | 617. | 104.3 | 24.7 | 49. |
| %RSD | .71315 | 1.1654 | .39809 | .40217 |
| #1 | 85983. | 8997.2 | 6181.5 | 12045. |
| #2 | 87186. | 8834.7 | 6223.0 | 12120. |
| #3 | 86349. | 9029.4 | 6179.1 | 12029. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 14:00:31 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.033** | **1.999** | **2.007** | **2.036** | **2.039** | **2.039** | **2.028** | **2.011** | **.2510** |
| Stddev | .007 | .006 | .006 | .004 | .007 | .006 | .016 | .003 | .0011 |
| %RSD | .3428 | .2796 | .2995 | .2228 | .3440 | .2838 | .7698 | .1481 | .4348 |
| #1 | 2.036 | 2.000 | 2.013 | 2.041 | 2.040 | 2.045 | 2.021 | 2.014 | .2520 |
| #2 | 2.038 | 2.004 | 2.007 | 2.036 | 2.046 | 2.040 | 2.046 | 2.011 | .2513 |
| #3 | 2.025 | 1.993 | 2.001 | 2.032 | 2.032 | 2.033 | 2.017 | 2.008 | .2498 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.038** | **2.024** | **1.973** | **2.058** | **2.022** | **1.986** | **1.961** | **40.12** | **40.46** |
| Stddev | .007 | .006 | .009 | .008 | .005 | .006 | .006 | .13 | .11 |
| %RSD | .3430 | .2817 | .4815 | .3943 | .2470 | .3103 | .3101 | .3187 | .2655 |
| #1 | 2.041 | 2.029 | 1.983 | 2.067 | 2.028 | 1.992 | 1.967 | 40.15 | 40.52 |
| #2 | 2.044 | 2.026 | 1.974 | 2.055 | 2.021 | 1.985 | 1.963 | 40.23 | 40.52 |
| #3 | 2.030 | 2.018 | 1.964 | 2.051 | 2.018 | 1.980 | 1.955 | 39.98 | 40.33 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.17** | **39.39** | **39.85** | **40.06** | **2.031** | **1.986** | **4.973** | **1.948** | **2.055** |
| Stddev | .14 | .08 | .12 | .14 | .003 | .005 | .017 | .008 | .006 |
| %RSD | .3365 | .1938 | .3109 | .3614 | .1680 | .2775 | .3404 | .4085 | .3101 |
| #1 | 41.25 | 39.39 | 39.88 | 40.12 | 2.034 | 1.991 | 4.991 | 1.956 | 2.055 |
| #2 | 41.25 | 39.46 | 39.96 | 40.16 | 2.032 | 1.988 | 4.970 | 1.945 | 2.061 |
| #3 | 41.01 | 39.31 | 39.72 | 39.89 | 2.028 | 1.980 | 4.957 | 1.941 | 2.048 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 14:00:31 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.001** | **1.962** | **2.000** | **1.981** | **2.042** | **2.017** | **1.952** |
| Stddev | .005 | .005 | .006 | .004 | .004 | .010 | .005 |
| %RSD | .2418 | .2643 | .2825 | .2279 | .1893 | .5049 | .2715 |
| #1 | 2.003 | 1.968 | 2.003 | 1.985 | 2.047 | 2.022 | 1.954 |
| #2 | 2.004 | 1.961 | 2.004 | 1.983 | 2.041 | 2.025 | 1.956 |
| #3 | 1.995 | 1.957 | 1.994 | 1.976 | 2.039 | 2.006 | 1.946 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83434.** | **8616.6** | **5999.4** | **12030.** |
| Stddev | 348. | 17.0 | 10.5 | 16. |
| %RSD | .41699 | .19774 | .17488 | .13104 |
| #1 | 83541. | 8634.5 | 5992.7 | 12015. |
| #2 | 83045. | 8600.6 | 5994.0 | 12030. |
| #3 | 83716. | 8614.8 | 6011.5 | 12047. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 14:05:31 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0001** | **.0001** | **-.0000** | **-.0011** | **.0001** | **.0003** | **-.0012** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0000 | .0001 | .0004 | .0008 |
| %RSD | 141.1 | 223.5 | 79.03 | 188.7 | 446.0 | 2.194 | 117.1 | 160.9 | 65.77 |
| #1 | -.0000 | .0001 | -.0002 | .0001 | .0001 | -.0012 | .0001 | .0006 | -.0004 |
| #2 | .0001 | -.0001 | -.0001 | -.0001 | .0000 | -.0011 | .0001 | .0004 | -.0020 |
| #3 | .0003 | -.0001 | -.0000 | .0003 | -.0003 | -.0011 | -.0000 | -.0002 | -.0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0001** | **.0004** | **-.0007** | **.0005** | **.0016** | **.0009** | **-.0105** | **.0037** |
| Stddev | .0004 | .0001 | .0007 | .0007 | .0010 | .0019 | .0010 | .0172 | .0041 |
| %RSD | 94.89 | 129.9 | 169.4 | 87.85 | 210.6 | 114.1 | 116.1 | 163.4 | 110.7 |
| #1 | .0006 | -.0001 | -.0002 | -.0005 | -.0003 | .0021 | .0001 | -.0299 | -.0005 |
| #2 | -.0000 | -.0001 | .0003 | -.0015 | .0017 | .0032 | .0020 | .0030 | .0039 |
| #3 | .0006 | .0000 | .0012 | -.0003 | .0001 | -.0004 | .0005 | -.0047 | .0077 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0024** | **.0129** | **.0039** | **.0310** | **.0045** | **-.0001** | **.0021** | **.0002** | **.0001** |
| Stddev | .0040 | .0155 | .0048 | .0202 | .0003 | .0001 | .0015 | .0004 | .0001 |
| %RSD | 169.4 | 120.4 | 123.8 | 65.10 | 6.106 | 91.46 | 73.13 | 197.0 | 49.39 |
| #1 | .0004 | .0012 | .0019 | .0243 | .0048 | -.0001 | .0013 | .0007 | .0001 |
| #2 | -.0070 | .0305 | .0094 | .0537 | .0043 | -.0000 | .0011 | -.0001 | .0002 |
| #3 | -.0005 | .0069 | .0004 | .0150 | .0044 | -.0002 | .0038 | .0001 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 14:05:31 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0004** | **.0001** | **.0013** | **.0007** | F **.0094** | **.0045** |
| Stddev | .0002 | .0007 | .0001 | .0016 | .0004 | .0008 | .0006 |
| %RSD | 161.4 | 190.0 | 66.99 | 121.2 | 56.81 | 8.369 | 13.65 |
| #1 | .0002 | -.0004 | .0002 | .0030 | .0003 | .0100 | .0053 |
| #2 | -.0001 | .0010 | .0001 | -.0002 | .0011 | .0085 | .0042 |
| #3 | .0002 | .0004 | .0000 | .0011 | .0008 | .0096 | .0041 |

| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
|---|---|---|---|---|---|---|---|
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84586.** | **8507.0** | **6097.0** | **12488.** |
| Stddev | 281. | 48.2 | 2.4 | 4. |
| %RSD | .33191 | .56605 | .03965 | .03082 |
| #1 | 84809. | 8451.4 | 6096.1 | 12488. |
| #2 | 84678. | 8533.7 | 6099.8 | 12492. |
| #3 | 84270. | 8535.8 | 6095.2 | 12484. |



Zoom In Zoom Out

Sample Name: mp14924-mb1 7 Acquired: 5/10/2019 14:10:43 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0000** | **-.0002** | **.0002** | **.0007** | **.0000** | **.0008** | **.0003** | **-.0009** |
| Stddev | .0001 | .0002 | .0001 | .0002 | .0003 | .0001 | .0000 | .0003 | .0002 |
| %RSD | 177.6 | 559.0 | 62.06 | 140.1 | 40.08 | 230.1 | 5.836 | 83.80 | 21.20 |
| #1 | .0000 | .0001 | -.0003 | .0002 | .0006 | .0000 | .0009 | .0006 | -.0009 |
| #2 | .0002 | .0001 | -.0002 | -.0001 | .0011 | .0001 | .0008 | .0004 | -.0012 |
| #3 | -.0000 | -.0001 | -.0001 | .0004 | .0005 | -.0000 | .0008 | .0000 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0031** | **.0017** | **.0004** | **.0002** | **-.0003** | **-.0017** | **.0017** | **.0687** |
| Stddev | .0002 | .0001 | .0002 | .0002 | .0005 | .0007 | .0010 | .0045 | .0039 |
| %RSD | 4043. | 3.393 | 14.47 | 45.58 | 268.4 | 273.0 | 60.36 | 271.4 | 5.637 |
| #1 | .0001 | .0030 | .0020 | .0002 | .0004 | .0005 | -.0006 | -.0017 | .0716 |
| #2 | .0001 | .0031 | .0018 | .0004 | -.0004 | -.0005 | -.0019 | .0068 | .0703 |
| #3 | -.0002 | .0032 | .0015 | .0005 | .0006 | -.0008 | -.0026 | -.0001 | .0643 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0143** | **.0361** | **.0455** | **.0961** | **.0039** | **.0001** | **.0072** | **.0181** | **.0004** |
| Stddev | .0037 | .0055 | .0247 | .0099 | .0005 | .0001 | .0014 | .0003 | .0002 |
| %RSD | 25.81 | 15.17 | 54.29 | 10.29 | 12.15 | 99.02 | 19.09 | 1.694 | 49.51 |
| #1 | .0103 | .0302 | .0489 | .1074 | .0041 | .0001 | .0073 | .0184 | .0004 |
| #2 | .0176 | .0410 | .0192 | .0889 | .0042 | .0000 | .0085 | .0180 | .0006 |
| #3 | .0151 | .0370 | .0683 | .0920 | .0034 | .0003 | .0057 | .0179 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0001** | **.0000** | **.0078** | **.0010** | **.0059** | **.0224** |
| Stddev | .0002 | .0011 | .0000 | .0008 | .0009 | .0006 | .0002 |
| %RSD | 40.79 | 781.5 | 100.3 | 9.979 | 95.31 | 9.703 | 1.083 |
| #1 | .0006 | -.0008 | .0000 | .0069 | .0005 | .0064 | .0226 |
| #2 | .0003 | .0014 | .0000 | .0081 | .0004 | .0060 | .0221 |
| #3 | .0006 | -.0002 | .0001 | .0084 | .0021 | .0053 | .0225 |



Zoom In Zoom Out

Sample Name: mp14924-mb1 7 Acquired: 5/10/2019 14:10:43 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86396.** | **8643.6** | **6138.7** | **12585.** |
| Stddev | 1068. | 21.1 | 8.4 | 17. |
| %RSD | 1.2359 | .24435 | .13716 | .13654 |
| #1 | 85720. | 8667.4 | 6137.6 | 12574. |
| #2 | 85841. | 8636.3 | 6147.7 | 12605. |
| #3 | 87627. | 8627.2 | 6130.9 | 12577. |



Zoom In Zoom Out

Sample Name: mp14924-b1 Acquired: 5/10/2019 14:15:54 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.969** | **1.954** | **1.939** | **1.974** | **1.974** | **1.972** | **1.972** | **1.958** |
| Stddev | .002 | .001 | .002 | .002 | .001 | .004 | .003 | .001 |
| %RSD | .1087 | .0592 | .0780 | .1232 | .0533 | .1767 | .1303 | .0391 |
| #1 | 1.968 | 1.954 | 1.938 | 1.975 | 1.974 | 1.974 | 1.973 | 1.957 |
| #2 | 1.972 | 1.956 | 1.941 | 1.976 | 1.976 | 1.975 | 1.970 | 1.958 |
| #3 | 1.968 | 1.953 | 1.939 | 1.972 | 1.973 | 1.968 | 1.975 | 1.959 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2444** | **1.959** | **1.968** | **1.971** | **2.016** | **2.107** | **1.921** | **1.967** |
| Stddev | .0002 | .001 | .001 | .002 | .005 | .004 | .004 | .004 |
| %RSD | .0863 | .0505 | .0522 | .0945 | .2493 | .1776 | .2277 | .1773 |
| #1 | .2442 | 1.958 | 1.968 | 1.969 | 2.010 | 2.108 | 1.924 | 1.966 |
| #2 | .2446 | 1.960 | 1.969 | 1.973 | 2.020 | 2.110 | 1.923 | 1.971 |
| #3 | .2444 | 1.960 | 1.967 | 1.972 | 2.017 | 2.103 | 1.916 | 1.964 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.25** | **25.59** | **25.99** | **24.74** | **24.66** | **25.31** | **1.905** | **1.965** |
| Stddev | .02 | .00 | .01 | .02 | .02 | .02 | .002 | .001 |
| %RSD | .0945 | .0123 | .0319 | .0756 | .0888 | .0917 | .0979 | .0625 |
| #1 | 25.22 | 25.59 | 25.98 | 24.72 | 24.64 | 25.32 | 1.907 | 1.965 |
| #2 | 25.27 | 25.59 | 26.00 | 24.74 | 24.65 | 25.33 | 1.904 | 1.967 |
| #3 | 25.24 | 25.59 | 25.99 | 24.75 | 24.68 | 25.29 | 1.903 | 1.964 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0439** | **1.985** | **1.993** | **1.992** | **1.431** | **2.003** | **.0038** | F **-.0203** |
| Stddev | .0004 | .002 | .000 | .002 | .004 | .001 | .0015 | .0006 |
| %RSD | .9724 | .1006 | .0139 | .0826 | .2824 | .0303 | 37.86 | 3.131 |
| #1 | .0434 | 1.983 | 1.992 | 1.992 | 1.427 | 2.003 | .0022 | -.0198 |
| #2 | .0442 | 1.987 | 1.993 | 1.991 | 1.433 | 2.002 | .0049 | -.0202 |
| #3 | .0441 | 1.985 | 1.992 | 1.994 | 1.434 | 2.003 | .0044 | -.0210 |

Zoom In Zoom Out

Sample Name: mp14924-b1 Acquired: 5/10/2019 14:15:54 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0240** | **1.904** |
| Stddev | .0003 | .001 |
| %RSD | 1.429 | .0575 |
| #1 | -.0238 | 1.903 |
| #2 | -.0244 | 1.903 |
| #3 | -.0239 | 1.905 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83991.** | **8704.9** | **6027.5** | **12161.** |
| Stddev | 20. | 25.1 | 7.6 | 13. |
| %RSD | .02348 | .28885 | .12630 | .10959 |
| #1 | 84003. | 8699.5 | 6034.2 | 12170. |
| #2 | 84000. | 8732.3 | 6019.2 | 12146. |
| #3 | 83968. | 8682.9 | 6029.0 | 12167. |



Zoom In Zoom Out

Sample Name: mp14924-s1 Acquired: 5/10/2019 14:20:54 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.450** | **1.892** | **1.902** | **1.976** | **2.010** | **2.133** | **3.127** | **2.001** | **.2433** |
| Stddev | .001 | .001 | .002 | .003 | .002 | .004 | .017 | .002 | .0006 |
| %RSD | .0421 | .0496 | .1085 | .1271 | .0865 | .2072 | .5466 | .1107 | .2415 |
| #1 | 2.450 | 1.893 | 1.899 | 1.974 | 2.012 | 2.138 | 3.143 | 1.999 | .2432 |
| #2 | 2.450 | 1.891 | 1.903 | 1.979 | 2.008 | 2.129 | 3.130 | 2.001 | .2439 |
| #3 | 2.452 | 1.893 | 1.902 | 1.977 | 2.011 | 2.131 | 3.109 | 2.004 | .2427 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.054** | **3.873** | **1.954** | **1.959** | **2.430** | **1.858** | **1.346** | **118.0** | **49.61** |
| Stddev | .002 | .002 | .001 | .006 | .006 | .004 | .001 | .0 | .02 |
| %RSD | .1106 | .0618 | .0535 | .2970 | .2532 | .2253 | .1051 | .0207 | .0368 |
| #1 | 2.056 | 3.875 | 1.954 | 1.961 | 2.427 | 1.854 | 1.346 | 118.0 | 49.59 |
| #2 | 2.051 | 3.874 | 1.956 | 1.953 | 2.427 | 1.862 | 1.344 | 118.0 | 49.62 |
| #3 | 2.054 | 3.870 | 1.954 | 1.964 | 2.437 | 1.858 | 1.347 | 118.0 | 49.62 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **126.1** | **39.14** | **33.96** | **25.91** | **1.880** | **1.874** | **3.485** | **1.873** | **2.054** |
| Stddev | .1 | .08 | .01 | .03 | .001 | .000 | .041 | .002 | .000 |
| %RSD | .0805 | .2035 | .0426 | .1063 | .0656 | .0092 | 1.186 | .1096 | .0073 |
| #1 | 126.2 | 39.14 | 33.98 | 25.92 | 1.881 | 1.874 | 3.528 | 1.874 | 2.054 |
| #2 | 126.1 | 39.06 | 33.97 | 25.92 | 1.879 | 1.874 | 3.480 | 1.875 | 2.054 |
| #3 | 126.0 | 39.22 | 33.95 | 25.87 | 1.881 | 1.874 | 3.446 | 1.871 | 2.054 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.386** | **1.014** | **1.804** | **6.648** | **-.0192** | **.0862** | F **8.160** |
| Stddev | .004 | .004 | .005 | .007 | .0008 | .0023 | .003 |
| %RSD | .1097 | .3497 | .3021 | .1028 | 4.061 | 2.686 | .0372 |
| #1 | 3.385 | 1.013 | 1.810 | 6.640 | -.0201 | .0848 | 8.157 |
| #2 | 3.383 | 1.018 | 1.801 | 6.651 | -.0186 | .0889 | 8.160 |
| #3 | 3.390 | 1.011 | 1.799 | 6.653 | -.0191 | .0850 | 8.163 |



Zoom In Zoom Out

Sample Name: mp14924-s1 Acquired: 5/10/2019 14:20:54 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85103.** | **8852.9** | **6102.6** | **12032.** |
| Stddev | 355. | 37.2 | 2.9 | 4. |
| %RSD | .41763 | .42070 | .04793 | .03454 |
| #1 | 85248. | 8818.3 | 6099.2 | 12034. |
| #2 | 85363. | 8848.1 | 6104.5 | 12034. |
| #3 | 84698. | 8892.3 | 6104.0 | 12027. |



Zoom In Zoom Out

Sample Name: mp14924-s2 Acquired: 5/10/2019 14:25:53 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.476** | **1.877** | **1.894** | **1.975** | **2.042** | **2.178** | **3.245** | **1.990** | **.2453** |
| Stddev | .002 | .001 | .003 | .003 | .041 | .044 | .095 | .003 | .0039 |
| %RSD | .0641 | .0492 | .1787 | .1286 | 2.012 | 2.025 | 2.928 | .1474 | 1.599 |
| #1 | 2.477 | 1.878 | 1.894 | 1.976 | 2.019 | 2.152 | 3.220 | 1.990 | .2427 |
| #2 | 2.476 | 1.878 | 1.897 | 1.978 | 2.018 | 2.153 | 3.164 | 1.992 | .2434 |
| #3 | 2.474 | 1.876 | 1.890 | 1.973 | 2.090 | 2.229 | 3.349 | 1.987 | .2498 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.089** | **3.841** | **1.942** | **1.957** | **2.449** | **1.841** | **1.324** | **119.2** | **46.86** |
| Stddev | .044 | .004 | .006 | .005 | .004 | .003 | .003 | .1 | .06 |
| %RSD | 2.115 | .1032 | .2868 | .2427 | .1597 | .1771 | .1918 | .0941 | .1217 |
| #1 | 2.063 | 3.842 | 1.937 | 1.952 | 2.447 | 1.839 | 1.324 | 119.3 | 46.84 |
| #2 | 2.063 | 3.845 | 1.948 | 1.962 | 2.454 | 1.845 | 1.326 | 119.3 | 46.92 |
| #3 | 2.140 | 3.837 | 1.941 | 1.957 | 2.448 | 1.840 | 1.321 | 119.1 | 46.81 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **127.4** | **39.24** | **34.13** | **25.81** | **1.880** | **1.863** | **3.109** | **1.854** | **2.043** |
| Stddev | .1 | .10 | .05 | .03 | .001 | .004 | .040 | .004 | .000 |
| %RSD | .0528 | .2547 | .1519 | .1026 | .0731 | .2072 | 1.278 | .2317 | .0105 |
| #1 | 127.4 | 39.12 | 34.16 | 25.80 | 1.878 | 1.864 | 3.129 | 1.856 | 2.043 |
| #2 | 127.4 | 39.30 | 34.15 | 25.84 | 1.881 | 1.867 | 3.135 | 1.856 | 2.043 |
| #3 | 127.3 | 39.29 | 34.07 | 25.79 | 1.879 | 1.859 | 3.064 | 1.849 | 2.044 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.459** | **1.009** | **1.844** | **6.443** | **-.0164** | **.0873** | **7.342** |
| Stddev | .070 | .004 | .037 | .013 | .0020 | .0011 | .015 |
| %RSD | 2.031 | .3590 | 2.013 | .1984 | 12.20 | 1.219 | .2068 |
| #1 | 3.420 | 1.012 | 1.821 | 6.437 | -.0161 | .0884 | 7.336 |
| #2 | 3.417 | 1.010 | 1.824 | 6.457 | -.0186 | .0863 | 7.359 |
| #3 | 3.541 | 1.005 | 1.887 | 6.434 | -.0146 | .0871 | 7.331 |

Zoom In Zoom Out

Sample Name: mp14924-s2 Acquired: 5/10/2019 14:25:53 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83047.** | **8755.2** | **6090.5** | **11972.** |
| Stddev | 1782. | 25.9 | 9.2 | 15. |
| %RSD | 2.1463 | .29640 | .15172 | .12453 |
| #1 | 83983. | 8783.1 | 6085.4 | 11963. |
| #2 | 84167. | 8731.8 | 6084.9 | 11965. |
| #3 | 80992. | 8750.8 | 6101.1 | 11989. |



Zoom In Zoom Out

Sample Name: jc87843-4a Acquired: 5/10/2019 14:30:56 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5052** | **.0030** | **.0005** | **.0395** | **.0947** | **.1818** | **1.767** | **.0842** | **.0001** |
| Stddev | .0038 | .0001 | .0000 | .0004 | .0005 | .0000 | .012 | .0003 | .0005 |
| %RSD | .7599 | 1.952 | 5.197 | .9093 | .5774 | .0034 | .6591 | .3502 | 440.4 |
| #1 | .5077 | .0029 | .0005 | .0397 | .0941 | .1818 | 1.778 | .0840 | -.0001 |
| #2 | .5071 | .0030 | .0005 | .0391 | .0950 | .1819 | 1.755 | .0845 | .0007 |
| #3 | .5007 | .0030 | .0005 | .0397 | .0950 | .1819 | 1.770 | .0841 | -.0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1397** | **3.386** | **.0499** | **.0001** | **.3704** | **.0006** | **.0027** | **69.89** | **24.09** |
| Stddev | .0001 | .006 | .0007 | .0025 | .0011 | .0014 | .0004 | .40 | .18 |
| %RSD | .0925 | .1875 | 1.346 | 1826. | .3086 | 247.6 | 14.72 | .5743 | .7273 |
| #1 | .1396 | 3.393 | .0493 | .0028 | .3709 | -.0010 | .0031 | 70.14 | 24.20 |
| #2 | .1398 | 3.380 | .0506 | -.0020 | .3712 | .0011 | .0023 | 70.09 | 24.18 |
| #3 | .1397 | 3.385 | .0498 | -.0005 | .3691 | .0017 | .0028 | 69.42 | 23.89 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **123.0** | **12.91** | **4.306** | **1.083** | **.0502** | **.0041** | **2.648** | **.0325** | **.1067** |
| Stddev | .7 | .16 | .018 | .009 | .0004 | .0001 | .017 | .0005 | .0007 |
| %RSD | .5918 | 1.245 | .4207 | .8477 | .7200 | 2.886 | .6267 | 1.509 | .6767 |
| #1 | 123.3 | 12.90 | 4.292 | 1.089 | .0505 | .0039 | 2.667 | .0325 | .1072 |
| #2 | 123.5 | 13.08 | 4.326 | 1.073 | .0498 | .0041 | 2.643 | .0319 | .1069 |
| #3 | 122.2 | 12.76 | 4.299 | 1.088 | .0501 | .0041 | 2.635 | .0329 | .1058 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.175** | **-.0032** | **.0318** | **7.543** | **-.0045** | **.0949** | **6.665** |
| Stddev | .005 | .0002 | .0000 | .021 | .0005 | .0019 | .015 |
| %RSD | .4286 | 6.503 | .1508 | .2770 | 10.07 | 1.990 | .2300 |
| #1 | 1.169 | -.0034 | .0319 | 7.552 | -.0040 | .0960 | 6.673 |
| #2 | 1.177 | -.0031 | .0318 | 7.519 | -.0047 | .0927 | 6.647 |
| #3 | 1.178 | -.0031 | .0318 | 7.557 | -.0048 | .0959 | 6.674 |



Zoom In Zoom Out

Sample Name: jc87843-4a Acquired: 5/10/2019 14:30:56 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86088.** | **8908.2** | **6231.6** | **12291.** |
| Stddev | 115. | 68.1 | 12.7 | 20. |
| %RSD | .13407 | .76462 | .20441 | .16428 |
| #1 | 85968. | 8882.1 | 6229.6 | 12283. |
| #2 | 86097. | 8856.9 | 6245.3 | 12313. |
| #3 | 86199. | 8985.4 | 6220.1 | 12275. |



Zoom In Zoom Out

Sample Name: mp14924-sd1 Acquired: 5/10/2019 14:36:04 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5079** | **.0026** | **.0004** | **.0410** | **.0964** | **.1735** | **1.788** | **.0859** | **-.0048** |
| Stddev | .0039 | .0005 | .0006 | .0010 | .0014 | .0006 | .004 | .0004 | .0010 |
| %RSD | .7725 | 18.12 | 143.9 | 2.447 | 1.413 | .3697 | .2465 | .5204 | 21.32 |
| #1 | .5034 | .0027 | -.0002 | .0399 | .0950 | .1741 | 1.786 | .0861 | -.0037 |
| #2 | .5093 | .0031 | .0010 | .0419 | .0977 | .1728 | 1.784 | .0853 | -.0050 |
| #3 | .5109 | .0021 | .0004 | .0411 | .0965 | .1736 | 1.793 | .0861 | -.0057 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1418** | **3.522** | **.0541** | **-.0017** | **.3727** | **.0068** | **.0022** | **70.24** | **24.46** |
| Stddev | .0023 | .034 | .0030 | .0043 | .0064 | .0066 | .0017 | .47 | .14 |
| %RSD | 1.599 | .9698 | 5.545 | 251.3 | 1.721 | 96.30 | 74.51 | .6719 | .5706 |
| #1 | .1401 | 3.496 | .0553 | -.0008 | .3795 | -.0002 | .0040 | 69.80 | 24.35 |
| #2 | .1410 | 3.510 | .0506 | -.0064 | .3720 | .0127 | .0006 | 70.19 | 24.43 |
| #3 | .1444 | 3.561 | .0562 | .0021 | .3667 | .0080 | .0022 | 70.74 | 24.62 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **125.5** | **13.12** | **4.048** | **1.205** | **.0686** | **.0043** | **2.605** | **.0376** | **.1076** |
| Stddev | .7 | .19 | .069 | .021 | .0022 | .0006 | .060 | .0022 | .0016 |
| %RSD | .5607 | 1.461 | 1.706 | 1.774 | 3.201 | 15.05 | 2.316 | 5.950 | 1.497 |
| #1 | 124.7 | 12.91 | 4.102 | 1.181 | .0704 | .0038 | 2.661 | .0400 | .1059 |
| #2 | 125.8 | 13.27 | 3.970 | 1.212 | .0662 | .0050 | 2.612 | .0355 | .1077 |
| #3 | 126.0 | 13.19 | 4.072 | 1.222 | .0692 | .0040 | 2.541 | .0374 | .1091 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.175** | **.0114** | **.0333** | **7.545** | **-.0014** | **.1271** | **6.816** |
| Stddev | .012 | .0008 | .0010 | .079 | .0022 | .0065 | .064 |
| %RSD | 1.015 | 6.797 | 3.017 | 1.045 | 163.9 | 5.094 | .9387 |
| #1 | 1.180 | .0115 | .0339 | 7.501 | .0012 | .1226 | 6.773 |
| #2 | 1.162 | .0121 | .0321 | 7.498 | -.0030 | .1345 | 6.786 |
| #3 | 1.184 | .0106 | .0339 | 7.636 | -.0022 | .1241 | 6.889 |

Zoom In Zoom Out

Sample Name: mp14924-sd1 Acquired: 5/10/2019 14:36:04 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85342.** | **8551.8** | **6154.8** | **12424.** |
| Stddev | 418. | 7.4 | 27.2 | 39. |
| %RSD | .48939 | .08604 | .44226 | .31424 |
| #1 | 84877. | 8544.7 | 6137.4 | 12389. |
| #2 | 85686. | 8559.4 | 6186.2 | 12466. |
| #3 | 85463. | 8551.2 | 6140.7 | 12419. |



Zoom In Zoom Out

Sample Name: jc86965-13r Acquired: 5/10/2019 14:41:04 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4475** | **.0057** | **.0006** | **.0527** | **.2532** | **.0934** | **1.174** | **.1012** | **-.0008** |
| Stddev | .0008 | .0000 | .0003 | .0004 | .0008 | .0003 | .002 | .0006 | .0004 |
| %RSD | .1729 | .4056 | 49.62 | .8276 | .3023 | .3345 | .2010 | .6141 | 45.47 |
| #1 | .4478 | .0057 | .0006 | .0522 | .2531 | .0935 | 1.172 | .1013 | -.0005 |
| #2 | .4480 | .0057 | .0009 | .0529 | .2539 | .0937 | 1.176 | .1018 | -.0012 |
| #3 | .4466 | .0057 | .0003 | .0530 | .2524 | .0931 | 1.174 | .1006 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3605** | **.3927** | **.0561** | **.0023** | **.1255** | **-.0013** | **.0020** | **166.9** | **12.59** |
| Stddev | .0009 | .0015 | .0007 | .0003 | .0011 | .0004 | .0016 | .2 | .01 |
| %RSD | .2549 | .3806 | 1.337 | 13.84 | .8790 | 33.52 | 80.57 | .0963 | .0557 |
| #1 | .3595 | .3912 | .0555 | .0024 | .1259 | -.0018 | .0027 | 166.9 | 12.59 |
| #2 | .3609 | .3942 | .0557 | .0026 | .1242 | -.0010 | .0031 | 167.1 | 12.59 |
| #3 | .3612 | .3926 | .0569 | .0020 | .1263 | -.0012 | .0002 | 166.8 | 12.60 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **194.2** | **21.59** | **13.87** | **2.689** | **.0491** | **.0084** | **2.361** | **.0106** | **.1335** |
| Stddev | .3 | .14 | .03 | .006 | .0005 | .0003 | .029 | .0004 | .0005 |
| %RSD | .1327 | .6638 | .2191 | .2106 | 1.099 | 2.982 | 1.244 | 3.817 | .3550 |
| #1 | 194.4 | 21.73 | 13.89 | 2.692 | .0495 | .0081 | 2.394 | .0111 | .1339 |
| #2 | 194.4 | 21.45 | 13.84 | 2.693 | .0485 | .0086 | 2.337 | .0103 | .1336 |
| #3 | 193.9 | 21.60 | 13.88 | 2.683 | .0493 | .0086 | 2.353 | .0104 | .1330 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.649** | **.0050** | **.1005** | **10.95** | **-.0000** | **.1370** | **2.978** |
| Stddev | .010 | .0011 | .0001 | .05 | .0016 | .0023 | .013 |
| %RSD | .2147 | 22.12 | .0863 | .4198 | 4911. | 1.649 | .4196 |
| #1 | 4.639 | .0061 | .1006 | 10.90 | -.0018 | .1396 | 2.965 |
| #2 | 4.658 | .0039 | .1005 | 10.99 | .0004 | .1362 | 2.989 |
| #3 | 4.651 | .0050 | .1004 | 10.97 | .0013 | .1353 | 2.981 |



Zoom In Zoom Out

Sample Name: jc86965-13r Acquired: 5/10/2019 14:41:04 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85754.** | **8916.1** | **6229.5** | **12298.** |
| Stddev | 198. | 37.3 | 26.8 | 49. |
| %RSD | .23084 | .41818 | .43058 | .39990 |
| #1 | 85900. | 8931.7 | 6259.9 | 12351. |
| #2 | 85529. | 8873.5 | 6209.1 | 12255. |
| #3 | 85834. | 8943.0 | 6219.5 | 12286. |



Zoom In Zoom Out

Sample Name: jc87843-2a Acquired: 5/10/2019 14:45:59 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3244** | **.0026** | **.0002** | **.0320** | **.0760** | **.0582** | **.6068** | **.0446** | **-.0005** |
| Stddev | .0002 | .0002 | .0001 | .0003 | .0000 | .0000 | .0008 | .0001 | .0004 |
| %RSD | .0684 | 6.936 | 59.85 | .7997 | .0555 | .0483 | .1270 | .2996 | 78.31 |
| #1 | .3245 | .0025 | .0001 | .0322 | .0760 | .0582 | .6076 | .0446 | -.0003 |
| #2 | .3244 | .0025 | .0002 | .0321 | .0761 | .0582 | .6064 | .0445 | -.0010 |
| #3 | .3241 | .0028 | .0004 | .0317 | .0760 | .0582 | .6062 | .0448 | -.0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1214** | **.2427** | **.0264** | **.0005** | **.2235** | **-.0001** | **-.0003** | **48.57** | **8.386** |
| Stddev | .0004 | .0010 | .0005 | .0007 | .0020 | .0011 | .0008 | .08 | .002 |
| %RSD | .3226 | .3981 | 1.735 | 155.0 | .9049 | 967.1 | 270.6 | .1684 | .0228 |
| #1 | .1212 | .2437 | .0258 | .0001 | .2252 | .0011 | .0003 | 48.65 | 8.384 |
| #2 | .1211 | .2426 | .0266 | -.0000 | .2240 | -.0002 | .0001 | 48.49 | 8.388 |
| #3 | .1218 | .2417 | .0267 | .0013 | .2213 | -.0012 | -.0012 | 48.59 | 8.385 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **83.29** | **8.482** | **2.408** | **.6876** | **.0290** | **.0035** | **2.591** | **.0355** | **.0462** |
| Stddev | .12 | .009 | .028 | .0132 | .0003 | .0001 | .038 | .0003 | .0001 |
| %RSD | .1443 | .1123 | 1.163 | 1.917 | 1.163 | 3.986 | 1.466 | .7955 | .1611 |
| #1 | 83.42 | 8.492 | 2.408 | .6870 | .0287 | .0034 | 2.635 | .0357 | .0462 |
| #2 | 83.18 | 8.473 | 2.436 | .6748 | .0289 | .0035 | 2.573 | .0356 | .0461 |
| #3 | 83.28 | 8.481 | 2.380 | .7011 | .0294 | .0036 | 2.566 | .0352 | .0462 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.004** | **.0039** | **.0231** | **4.165** | **-.0035** | **.0715** | **3.152** |
| Stddev | .003 | .0003 | .0002 | .022 | .0015 | .0001 | .013 |
| %RSD | .3343 | 8.181 | .8400 | .5342 | 44.58 | .1239 | .4111 |
| #1 | 1.006 | .0042 | .0231 | 4.183 | -.0029 | .0715 | 3.162 |
| #2 | 1.005 | .0039 | .0228 | 4.172 | -.0052 | .0715 | 3.156 |
| #3 | .9998 | .0035 | .0232 | 4.140 | -.0023 | .0714 | 3.137 |

Zoom In Zoom Out

Sample Name: jc87843-2a Acquired: 5/10/2019 14:45:59 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86422.** | **8876.2** | **6222.4** | **12335.** |
| Stddev | 107. | 28.9 | 34.4 | 50. |
| %RSD | .12437 | .32516 | .55278 | .40919 |
| #1 | 86300. | 8891.5 | 6191.0 | 12289. |
| #2 | 86501. | 8894.2 | 6217.0 | 12327. |
| #3 | 86466. | 8842.9 | 6259.2 | 12389. |



Zoom In Zoom Out

Sample Name: jc87843-3a Acquired: 5/10/2019 14:50:58 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4399** | **.0027** | **.0002** | **.0367** | **.1203** | **.1497** | **.9990** | **.1349** | **-.0002** |
| Stddev | .0038 | .0001 | .0001 | .0001 | .0004 | .0011 | .0032 | .0006 | .0005 |
| %RSD | .8666 | 2.022 | 81.82 | .2420 | .3731 | .7110 | .3199 | .4808 | 241.2 |
| #1 | .4431 | .0028 | .0002 | .0366 | .1199 | .1488 | .9971 | .1353 | -.0001 |
| #2 | .4357 | .0026 | .0003 | .0367 | .1203 | .1495 | .9972 | .1342 | -.0008 |
| #3 | .4409 | .0027 | .0000 | .0368 | .1208 | .1509 | 1.003 | .1353 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1234** | **.4688** | **.0362** | **.0016** | **.3178** | **-.0002** | **.0004** | **75.39** | **14.28** |
| Stddev | .0004 | .0025 | .0006 | .0005 | .0004 | .0007 | .0018 | .45 | .09 |
| %RSD | .3211 | .5267 | 1.729 | 28.62 | .1174 | 382.6 | 464.7 | .5902 | .6490 |
| #1 | .1232 | .4711 | .0357 | .0014 | .3178 | .0001 | .0015 | 75.68 | 14.32 |
| #2 | .1232 | .4662 | .0369 | .0013 | .3174 | -.0010 | -.0017 | 74.87 | 14.18 |
| #3 | .1239 | .4691 | .0359 | .0021 | .3182 | .0003 | .0014 | 75.61 | 14.35 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **97.53** | **13.40** | **3.567** | **2.449** | **.0507** | **.0029** | **3.355** | **.0275** | **.0751** |
| Stddev | .58 | .06 | .043 | .017 | .0002 | .0002 | .122 | .0004 | .0004 |
| %RSD | .5982 | .4327 | 1.202 | .6817 | .3299 | 5.483 | 3.631 | 1.593 | .5990 |
| #1 | 97.91 | 13.45 | 3.615 | 2.464 | .0505 | .0027 | 3.492 | .0271 | .0754 |
| #2 | 96.86 | 13.34 | 3.532 | 2.431 | .0508 | .0029 | 3.314 | .0273 | .0746 |
| #3 | 97.82 | 13.41 | 3.556 | 2.452 | .0507 | .0030 | 3.259 | .0279 | .0752 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.107** | **.0018** | **.0246** | **4.599** | **-.0031** | **.1055** | **3.650** |
| Stddev | .002 | .0008 | .0001 | .022 | .0009 | .0028 | .016 |
| %RSD | .1934 | 44.74 | .4761 | .4818 | 28.93 | 2.618 | .4435 |
| #1 | 1.107 | .0023 | .0248 | 4.620 | -.0021 | .1081 | 3.668 |
| #2 | 1.105 | .0009 | .0246 | 4.576 | -.0031 | .1059 | 3.636 |
| #3 | 1.109 | .0022 | .0245 | 4.601 | -.0039 | .1026 | 3.647 |



Zoom In Zoom Out

Sample Name: jc87843-3a Acquired: 5/10/2019 14:50:58 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87560.** | **8968.0** | **6271.5** | **12291.** |
| Stddev | 269. | 92.6 | 25.3 | 37. |
| %RSD | .30734 | 1.0320 | .40397 | .30046 |
| #1 | 87762. | 8941.8 | 6249.6 | 12260. |
| #2 | 87664. | 9070.8 | 6299.2 | 12332. |
| #3 | 87255. | 8891.3 | 6265.7 | 12280. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 14:56:00 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.066** | **2.026** | **2.020** | **2.047** | **2.048** | **2.044** | **2.037** | **2.019** | **.2519** |
| Stddev | .008 | .004 | .004 | .003 | .010 | .008 | .005 | .003 | .0008 |
| %RSD | .4052 | .1874 | .1852 | .1682 | .5051 | .3945 | .2374 | .1467 | .3029 |
| #1 | 2.075 | 2.030 | 2.015 | 2.044 | 2.057 | 2.053 | 2.036 | 2.017 | .2521 |
| #2 | 2.064 | 2.025 | 2.022 | 2.051 | 2.049 | 2.042 | 2.043 | 2.022 | .2525 |
| #3 | 2.058 | 2.022 | 2.022 | 2.047 | 2.037 | 2.037 | 2.033 | 2.017 | .2510 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.049** | **2.032** | **1.984** | **2.064** | **2.032** | **1.993** | **1.971** | **40.62** | **40.99** |
| Stddev | .010 | .004 | .004 | .002 | .006 | .004 | .001 | .10 | .08 |
| %RSD | .4996 | .1848 | .2180 | .1058 | .2991 | .1761 | .0338 | .2526 | .1833 |
| #1 | 2.057 | 2.028 | 1.982 | 2.062 | 2.029 | 1.989 | 1.971 | 40.70 | 41.07 |
| #2 | 2.052 | 2.035 | 1.989 | 2.066 | 2.039 | 1.996 | 1.972 | 40.66 | 40.97 |
| #3 | 2.037 | 2.032 | 1.981 | 2.064 | 2.028 | 1.993 | 1.970 | 40.50 | 40.92 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.44** | **39.77** | **40.21** | **40.67** | **2.040** | **2.000** | **4.988** | **1.956** | **2.085** |
| Stddev | .09 | .11 | .19 | .12 | .003 | .004 | .007 | .001 | .007 |
| %RSD | .2281 | .2785 | .4680 | .2968 | .1290 | .2057 | .1345 | .0559 | .3507 |
| #1 | 41.54 | 39.89 | 40.42 | 40.79 | 2.037 | 1.995 | 4.981 | 1.955 | 2.092 |
| #2 | 41.42 | 39.67 | 40.18 | 40.65 | 2.043 | 2.001 | 4.995 | 1.956 | 2.085 |
| #3 | 41.35 | 39.75 | 40.05 | 40.55 | 2.040 | 2.003 | 4.988 | 1.958 | 2.077 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 14:56:00 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.008** | **1.978** | **2.011** | **1.993** | **2.052** | **2.052** | **1.958** |
| Stddev | .011 | .007 | .010 | .002 | .002 | .006 | .003 |
| %RSD | .5332 | .3470 | .4782 | .0967 | .0776 | .3137 | .1404 |
| #1 | 2.018 | 1.972 | 2.020 | 1.993 | 2.051 | 2.060 | 1.955 |
| #2 | 2.008 | 1.985 | 2.010 | 1.995 | 2.054 | 2.049 | 1.959 |
| #3 | 1.997 | 1.978 | 2.001 | 1.991 | 2.051 | 2.049 | 1.960 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83590.** | **8521.1** | **5972.8** | **11976.** |
| Stddev | 575. | 13.9 | 13.4 | 24. |
| %RSD | .68781 | .16360 | .22444 | .19802 |
| #1 | 82992. | 8507.6 | 5988.2 | 12003. |
| #2 | 83640. | 8535.4 | 5966.6 | 11960. |
| #3 | 84138. | 8520.3 | 5963.6 | 11964. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 15:01:01 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0001** | **.0001** | **-.0001** | **-.0010** | **.0000** | **.0002** | **-.0013** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0000 | .0003 | .0000 | .0001 | .0003 |
| %RSD | 1029. | 136.7 | 287.2 | 301.8 | 39.90 | 25.83 | 74.24 | 57.55 | 26.57 |
| #1 | -.0001 | -.0001 | .0002 | -.0001 | -.0002 | -.0009 | .0000 | .0001 | -.0011 |
| #2 | .0004 | .0000 | -.0001 | .0002 | -.0001 | -.0012 | .0000 | .0002 | -.0016 |
| #3 | -.0003 | -.0002 | .0000 | .0002 | -.0001 | -.0008 | .0000 | .0003 | -.0010 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0002** | **.0006** | **-.0002** | **.0001** | **.0020** | **-.0005** | **-.0113** | **-.0012** |
| Stddev | .0000 | .0000 | .0006 | .0009 | .0010 | .0004 | .0014 | .0161 | .0037 |
| %RSD | 5.940 | 13.85 | 95.14 | 432.1 | 871.5 | 21.42 | 282.8 | 142.1 | 301.2 |
| #1 | .0003 | -.0003 | .0001 | .0008 | -.0008 | .0016 | -.0013 | -.0298 | -.0048 |
| #2 | .0003 | -.0002 | .0012 | -.0005 | .0012 | .0019 | -.0013 | -.0012 | -.0015 |
| #3 | .0003 | -.0002 | .0006 | -.0010 | -.0000 | .0024 | .0011 | -.0029 | .0026 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **-.0018** | **-.0379** | **.0534** | **.0040** | **-.0001** | **-.0003** | **.0003** | **.0001** |
| Stddev | .0019 | .0162 | .0034 | .0042 | .0002 | .0001 | .0012 | .0002 | .0001 |
| %RSD | 154.8 | 884.5 | 9.048 | 7.877 | 6.198 | 58.55 | 354.6 | 90.28 | 254.5 |
| #1 | -.0004 | -.0206 | -.0408 | .0577 | .0040 | -.0002 | -.0012 | .0004 | .0000 |
| #2 | .0034 | .0081 | -.0388 | .0531 | .0043 | -.0001 | .0011 | .0005 | -.0001 |
| #3 | .0008 | .0069 | -.0341 | .0493 | .0038 | -.0000 | -.0010 | -.0000 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 15:01:01 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0014** | **-.0001** | **-.0020** | **.0011** | F **.0117** | **.0033** |
| Stddev | .0002 | .0003 | .0001 | .0007 | .0006 | .0007 | .0004 |
| %RSD | 372.0 | 18.94 | 105.1 | 37.73 | 53.96 | 5.796 | 12.36 |
| #1 | -.0001 | .0013 | -.0001 | -.0016 | .0017 | .0118 | .0029 |
| #2 | .0003 | .0016 | -.0001 | -.0015 | .0012 | .0109 | .0032 |
| #3 | -.0001 | .0011 | -.0000 | -.0028 | .0005 | .0123 | .0037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85560.** | **8522.6** | **6102.7** | **12475.** |
| Stddev | 75. | 15.2 | 8.6 | 10. |
| %RSD | .08776 | .17874 | .14074 | .07749 |
| #1 | 85637. | 8506.4 | 6098.5 | 12474. |
| #2 | 85487. | 8536.7 | 6112.5 | 12486. |
| #3 | 85557. | 8524.5 | 6096.9 | 12466. |



Zoom In Zoom Out

Sample Name: jc87843-5a Acquired: 5/10/2019 15:06:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3459** | **.0020** | **.0004** | **.0336** | **.0688** | **.1640** | **1.102** | **.0732** | **-.0008** |
| Stddev | .0014 | .0001 | .0001 | .0001 | .0002 | .0003 | .002 | .0002 | .0005 |
| %RSD | .3950 | 5.457 | 14.58 | .4014 | .3553 | .1866 | .1595 | .2737 | 60.95 |
| #1 | .3460 | .0019 | .0004 | .0335 | .0690 | .1644 | 1.103 | .0731 | -.0009 |
| #2 | .3446 | .0019 | .0004 | .0336 | .0689 | .1638 | 1.102 | .0734 | -.0011 |
| #3 | .3473 | .0021 | .0005 | .0338 | .0685 | .1638 | 1.100 | .0730 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1040** | **.5908** | **.0326** | **.0000** | **.2878** | **.0004** | **.0009** | **53.12** | **14.94** |
| Stddev | .0002 | .0011 | .0003 | .0020 | .0012 | .0011 | .0008 | .20 | .06 |
| %RSD | .2185 | .1852 | .8004 | 12340. | .4020 | 272.7 | 81.24 | .3683 | .3945 |
| #1 | .1038 | .5910 | .0328 | -.0022 | .2865 | -.0001 | .0008 | 53.08 | 14.96 |
| #2 | .1042 | .5896 | .0323 | .0016 | .2882 | -.0003 | .0018 | 52.95 | 14.88 |
| #3 | .1041 | .5917 | .0325 | .0007 | .2888 | .0017 | .0002 | 53.34 | 14.99 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **92.63** | **11.22** | **3.866** | **1.097** | **.0442** | **.0040** | **2.396** | **.0255** | **.0700** |
| Stddev | .34 | .08 | .054 | .002 | .0008 | .0001 | .101 | .0005 | .0003 |
| %RSD | .3654 | .6976 | 1.400 | .1828 | 1.879 | 3.032 | 4.221 | 1.838 | .3760 |
| #1 | 92.61 | 11.15 | 3.877 | 1.095 | .0442 | .0039 | 2.475 | .0250 | .0701 |
| #2 | 92.30 | 11.22 | 3.807 | 1.099 | .0451 | .0041 | 2.431 | .0259 | .0696 |
| #3 | 92.98 | 11.30 | 3.914 | 1.096 | .0434 | .0041 | 2.282 | .0255 | .0701 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.097** | **.0015** | **.0335** | **23.84** | **-.0019** | **.1001** | **2.906** |
| Stddev | .004 | .0007 | .0000 | .03 | .0015 | .0004 | .006 |
| %RSD | .4002 | 47.34 | .0784 | .1275 | 79.33 | .4177 | .1961 |
| #1 | 1.097 | .0013 | .0335 | 23.87 | -.0037 | .0999 | 2.908 |
| #2 | 1.101 | .0010 | .0335 | 23.81 | -.0012 | .0998 | 2.900 |
| #3 | 1.093 | .0024 | .0335 | 23.84 | -.0009 | .1005 | 2.911 |

Zoom In Zoom Out

Sample Name: jc87843-5a Acquired: 5/10/2019 15:06:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86232.** | **8909.3** | **6217.6** | **12381.** |
| Stddev | 51. | 44.2 | 2.1 | 11. |
| %RSD | .05859 | .49604 | .03339 | .08874 |
| #1 | 86190. | 8945.6 | 6217.3 | 12388. |
| #2 | 86219. | 8922.2 | 6219.9 | 12368. |
| #3 | 86288. | 8860.1 | 6215.8 | 12386. |



Zoom In Zoom Out

Sample Name: jc87843-6a Acquired: 5/10/2019 15:11:10 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4631** | **.0028** | **.0006** | **.0455** | **.0912** | **.2213** | **2.086** | **.0888** | **.0001** |
| Stddev | .0011 | .0000 | .0001 | .0001 | .0001 | .0013 | .002 | .0002 | .0003 |
| %RSD | .2403 | 1.416 | 15.77 | .2408 | .1251 | .5993 | .0982 | .1752 | 441.1 |
| #1 | .4619 | .0029 | .0007 | .0454 | .0911 | .2218 | 2.087 | .0887 | .0003 |
| #2 | .4641 | .0028 | .0005 | .0456 | .0913 | .2223 | 2.084 | .0889 | -.0003 |
| #3 | .4633 | .0028 | .0006 | .0454 | .0913 | .2198 | 2.086 | .0886 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1407** | **.7292** | **.0296** | **.0005** | **.3851** | **.0024** | **.0026** | **75.36** | **19.59** |
| Stddev | .0008 | .0009 | .0006 | .0016 | .0011 | .0005 | .0010 | .17 | .06 |
| %RSD | .5363 | .1242 | 2.093 | 315.2 | .2851 | 19.97 | 38.07 | .2301 | .2916 |
| #1 | .1405 | .7299 | .0302 | -.0013 | .3843 | .0020 | .0035 | 75.35 | 19.61 |
| #2 | .1415 | .7296 | .0289 | .0016 | .3863 | .0029 | .0015 | 75.54 | 19.64 |
| #3 | .1400 | .7282 | .0296 | .0011 | .3846 | .0023 | .0027 | 75.20 | 19.53 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **107.9** | **14.71** | **4.919** | **1.272** | **.0573** | **.0036** | **2.727** | **.0316** | **.0916** |
| Stddev | .3 | .08 | .008 | .009 | .0004 | .0004 | .026 | .0003 | .0003 |
| %RSD | .2705 | .5646 | .1544 | .7191 | .7089 | 9.780 | .9391 | .8925 | .2939 |
| #1 | 107.9 | 14.76 | 4.926 | 1.261 | .0576 | .0039 | 2.746 | .0315 | .0914 |
| #2 | 108.1 | 14.75 | 4.911 | 1.279 | .0568 | .0037 | 2.736 | .0319 | .0919 |
| #3 | 107.5 | 14.61 | 4.921 | 1.274 | .0574 | .0032 | 2.698 | .0314 | .0916 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.313** | **.0007** | **.0381** | **14.65** | **-.0039** | **.1265** | **4.595** |
| Stddev | .003 | .0005 | .0004 | .00 | .0003 | .0010 | .009 |
| %RSD | .2180 | 64.41 | 1.058 | .0159 | 8.301 | .7802 | .1916 |
| #1 | 1.314 | .0012 | .0383 | 14.65 | -.0036 | .1256 | 4.604 |
| #2 | 1.316 | .0007 | .0383 | 14.64 | -.0043 | .1264 | 4.593 |
| #3 | 1.310 | .0003 | .0376 | 14.64 | -.0039 | .1275 | 4.587 |



Zoom In Zoom Out

Sample Name: jc87843-6a Acquired: 5/10/2019 15:11:10 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86779.** | **8901.6** | **6260.3** | **12302.** |
| Stddev | 203. | 80.1 | 14.0 | 26. |
| %RSD | .23337 | .89953 | .22435 | .21269 |
| #1 | 86587. | 8832.8 | 6246.5 | 12273. |
| #2 | 86760. | 8882.5 | 6259.9 | 12309. |
| #3 | 86991. | 8989.5 | 6274.6 | 12324. |



Zoom In Zoom Out

Sample Name: mp14839-mb1conf Acquired: 5/10/2019 15:16:19 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0002** | **.0003** | **.0001** | **.0014** | **.0003** | **.0004** | **.0009** | **-.0010** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0001 | .0001 | .0000 | .0004 | .0003 |
| %RSD | 116.9 | 11.32 | 36.54 | 87.06 | 4.868 | 27.24 | 6.672 | 40.84 | 34.07 |
| #1 | -.0001 | .0002 | .0002 | .0001 | .0014 | .0002 | .0004 | .0006 | -.0006 |
| #2 | .0003 | .0002 | .0003 | .0002 | .0014 | .0004 | .0005 | .0008 | -.0010 |
| #3 | .0002 | .0001 | .0004 | .0000 | .0013 | .0004 | .0005 | .0013 | -.0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0091** | **.0004** | **-.0014** | **-.0003** | **.0009** | **.0006** | **.0136** | **.0675** |
| Stddev | .0002 | .0001 | .0005 | .0010 | .0008 | .0009 | .0008 | .0137 | .0035 |
| %RSD | 162.2 | .6802 | 118.7 | 71.66 | 244.4 | 103.8 | 134.7 | 101.3 | 5.194 |
| #1 | .0002 | .0091 | .0005 | -.0026 | .0003 | .0009 | .0001 | .0294 | .0647 |
| #2 | .0003 | .0091 | .0008 | -.0010 | -.0011 | .0018 | .0014 | .0055 | .0663 |
| #3 | -.0001 | .0092 | -.0001 | -.0006 | -.0001 | -.0001 | .0002 | .0058 | .0714 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0250** | **.0206** | **-.0223** | **.1234** | **.0028** | **.0006** | **.0096** | **.0190** | **.0006** |
| Stddev | .0060 | .0455 | .0065 | .0179 | .0003 | .0000 | .0015 | .0004 | .0001 |
| %RSD | 23.91 | 220.8 | 29.09 | 14.52 | 11.05 | 6.460 | 15.40 | 1.987 | 18.27 |
| #1 | .0314 | .0583 | -.0284 | .1336 | .0031 | .0006 | .0079 | .0186 | .0006 |
| #2 | .0239 | .0333 | -.0229 | .1027 | .0025 | .0007 | .0106 | .0193 | .0005 |
| #3 | .0196 | -.0299 | -.0155 | .1340 | .0028 | .0007 | .0104 | .0192 | .0007 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0051** | **.0001** | **.0063** | **-.0013** | **.0097** | **.0233** |
| Stddev | .0007 | .0004 | .0000 | .0009 | .0010 | .0013 | .0004 |
| %RSD | 95.24 | 7.515 | 47.26 | 14.22 | 78.17 | 13.37 | 1.506 |
| #1 | -.0001 | .0054 | .0001 | .0073 | -.0002 | .0104 | .0231 |
| #2 | .0012 | .0047 | .0001 | .0060 | -.0014 | .0082 | .0237 |
| #3 | .0009 | .0051 | .0000 | .0056 | -.0022 | .0104 | .0232 |

Zoom In Zoom Out

Sample Name: mp14839-mb1conf Acquired: 5/10/2019 15:16:19 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86098.** | **8762.7** | **6167.6** | **12582.** |
| Stddev | 429. | 35.8 | 17.2 | 34. |
| %RSD | .49824 | .40800 | .27950 | .26745 |
| #1 | 85690. | 8784.9 | 6155.3 | 12552. |
| #2 | 86059. | 8721.4 | 6187.3 | 12618. |
| #3 | 86545. | 8781.7 | 6160.2 | 12574. |



Zoom In Zoom Out

Sample Name: mp14839-ps1 Acquired: 5/10/2019 15:21:28 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.856** | **2.015** | **2.038** | **2.173** | **2.314** | **2.391** | F **9.057** | **2.215** |
| Stddev | .007 | .008 | .001 | .001 | .008 | .010 | .067 | .001 |
| %RSD | .2568 | .4058 | .0415 | .0661 | .3459 | .4003 | .7338 | .0236 |
| #1 | 2.861 | 2.018 | 2.037 | 2.172 | 2.305 | 2.380 | 8.982 | 2.215 |
| #2 | 2.847 | 2.005 | 2.038 | 2.174 | 2.320 | 2.396 | 9.108 | 2.216 |
| #3 | 2.859 | 2.020 | 2.039 | 2.174 | 2.318 | 2.398 | 9.081 | 2.216 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2187** | **2.404** | **2.608** | **2.104** | **2.023** | **2.223** | **1.960** | **2.022** |
| Stddev | .0012 | .009 | .004 | .001 | .002 | .002 | .004 | .001 |
| %RSD | .5413 | .3745 | .1433 | .0600 | .0734 | .0801 | .2253 | .0649 |
| #1 | .2177 | 2.394 | 2.606 | 2.103 | 2.021 | 2.221 | 1.964 | 2.024 |
| #2 | .2185 | 2.409 | 2.606 | 2.106 | 2.022 | 2.223 | 1.956 | 2.022 |
| #3 | .2200 | 2.409 | 2.612 | 2.104 | 2.024 | 2.224 | 1.960 | 2.022 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **277.6** | **33.10** | F **375.6** | **54.12** | **51.37** | **26.42** | **2.140** | **2.001** |
| Stddev | 1.0 | .14 | 1.7 | .11 | .11 | .10 | .001 | .001 |
| %RSD | .3426 | .4089 | .4645 | .2009 | .2208 | .3677 | .0368 | .0414 |
| #1 | 278.0 | 33.18 | 376.3 | 54.13 | 51.41 | 26.44 | 2.141 | 2.001 |
| #2 | 276.6 | 32.95 | 373.7 | 54.01 | 51.25 | 26.31 | 2.141 | 2.002 |
| #3 | 278.3 | 33.18 | 377.0 | 54.23 | 51.47 | 26.50 | 2.139 | 2.000 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.881** | **1.958** | **2.149** | **6.618** | **1.932** | **2.148** | **.7235** | F **-.0358** |
| Stddev | .006 | .003 | .007 | .023 | .001 | .009 | .0048 | .0012 |
| %RSD | .2044 | .1569 | .3506 | .3472 | .0480 | .4040 | .6647 | 3.366 |
| #1 | 2.886 | 1.959 | 2.154 | 6.592 | 1.931 | 2.138 | .7190 | -.0367 |
| #2 | 2.883 | 1.961 | 2.140 | 6.635 | 1.932 | 2.154 | .7286 | -.0344 |
| #3 | 2.874 | 1.955 | 2.152 | 6.627 | 1.932 | 2.152 | .7228 | -.0362 |



Zoom In Zoom Out

Sample Name: mp14839-ps1 Acquired: 5/10/2019 15:21:28 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2705** | **4.582** |
| Stddev | .0030 | .003 |
| %RSD | 1.094 | .0642 |
| #1 | .2733 | 4.585 |
| #2 | .2674 | 4.583 |
| #3 | .2708 | 4.579 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84913.** | **8946.8** | **6114.0** | **12231.** |
| Stddev | 326. | 48.3 | 10.0 | 21. |
| %RSD | .38408 | .54018 | .16419 | .17334 |
| #1 | 85286. | 8962.1 | 6125.5 | 12256. |
| #2 | 84684. | 8985.7 | 6109.1 | 12220. |
| #3 | 84768. | 8892.7 | 6107.3 | 12218. |



Zoom In Zoom Out

Sample Name: jc87435-3 Acquired: 5/10/2019 15:26:25 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.607** | **.0037** | **.0054** | **.0668** | **.3006** | **.5076** | **.9826** | **.1694** | **-.0013** |
| Stddev | .010 | .0002 | .0001 | .0017 | .0012 | .0029 | .0050 | .0032 | .0004 |
| %RSD | .6119 | 5.607 | 2.021 | 2.508 | .4139 | .5656 | .5065 | 1.898 | 32.93 |
| #1 | 1.597 | .0035 | .0055 | .0653 | .2994 | .5057 | .9777 | .1658 | -.0012 |
| #2 | 1.609 | .0039 | .0053 | .0666 | .3007 | .5063 | .9825 | .1705 | -.0018 |
| #3 | 1.616 | .0038 | .0054 | .0686 | .3019 | .5109 | .9876 | .1719 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1751** | **1.628** | **.0582** | **.0002** | **1.846** | **.0040** | **.0053** | **61.69** | **18.90** |
| Stddev | .0005 | .029 | .0007 | .0036 | .034 | .0033 | .0025 | .36 | .11 |
| %RSD | .2768 | 1.776 | 1.181 | 2153. | 1.829 | 82.79 | 47.57 | .5904 | .5597 |
| #1 | .1747 | 1.597 | .0574 | .0043 | 1.808 | .0071 | .0057 | 61.31 | 18.79 |
| #2 | .1750 | 1.635 | .0584 | -.0025 | 1.855 | .0043 | .0026 | 61.73 | 18.92 |
| #3 | .1756 | 1.653 | .0587 | -.0013 | 1.874 | .0005 | .0077 | 62.03 | 19.00 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **229.0** | **3.022** | **13.20** | **2.269** | **.0351** | **.0196** | **2.524** | **.4229** | **.3213** |
| Stddev | 1.0 | .034 | .17 | .022 | .0012 | .0003 | .043 | .0082 | .0017 |
| %RSD | .4516 | 1.139 | 1.309 | .9870 | 3.343 | 1.776 | 1.699 | 1.936 | .5255 |
| #1 | 228.1 | 2.982 | 13.00 | 2.275 | .0350 | .0199 | 2.476 | .4139 | .3204 |
| #2 | 228.7 | 3.042 | 13.32 | 2.245 | .0339 | .0197 | 2.536 | .4250 | .3204 |
| #3 | 230.1 | 3.041 | 13.28 | 2.288 | .0362 | .0192 | 2.560 | .4299 | .3233 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5109** | **.0158** | **.0365** | **11.60** | **-.0101** | **.1714** | **2.922** |
| Stddev | .0029 | .0015 | .0003 | .20 | .0024 | .0007 | .050 |
| %RSD | .5702 | 9.405 | .7947 | 1.694 | 24.29 | .3880 | 1.700 |
| #1 | .5081 | .0175 | .0362 | 11.38 | -.0073 | .1710 | 2.869 |
| #2 | .5108 | .0146 | .0367 | 11.67 | -.0120 | .1722 | 2.931 |
| #3 | .5139 | .0153 | .0366 | 11.76 | -.0109 | .1710 | 2.967 |

Zoom In Zoom Out

Sample Name: jc87435-3 Acquired: 5/10/2019 15:26:25 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85160.** | **8700.9** | **6133.8** | **12406.** |
| Stddev | 91. | 17.7 | 18.7 | 37. |
| %RSD | .10636 | .20352 | .30567 | .30092 |
| #1 | 85056. | 8713.8 | 6148.4 | 12431. |
| #2 | 85202. | 8680.7 | 6112.7 | 12363. |
| #3 | 85222. | 8708.1 | 6140.4 | 12423. |



Zoom In Zoom Out

Sample Name: jc87520-1 Acquired: 5/10/2019 15:31:24 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.173** | **.0073** | **-.0006** | **.1482** | **.3398** | **.3464** | **4.114** | **.3083** | **-.0033** |
| Stddev | .002 | .0004 | .0008 | .0006 | .0014 | .0004 | .025 | .0009 | .0002 |
| %RSD | .2032 | 5.695 | 129.1 | .3845 | .4190 | .1258 | .5965 | .2861 | 6.571 |
| #1 | 1.175 | .0077 | -.0014 | .1484 | .3383 | .3469 | 4.142 | .3093 | -.0035 |
| #2 | 1.170 | .0073 | .0001 | .1476 | .3412 | .3461 | 4.102 | .3078 | -.0031 |
| #3 | 1.173 | .0069 | -.0004 | .1487 | .3398 | .3462 | 4.097 | .3078 | -.0032 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4183** | **.8208** | **.0843** | **.0032** | **.2750** | **-.0045** | **.0157** | **209.1** | **42.60** |
| Stddev | .0008 | .0011 | .0012 | .0049 | .0017 | .0043 | .0010 | .4 | .07 |
| %RSD | .1802 | .1343 | 1.391 | 154.5 | .6261 | 97.01 | 6.584 | .2117 | .1567 |
| #1 | .4191 | .8215 | .0856 | .0068 | .2749 | -.0089 | .0165 | 209.6 | 42.67 |
| #2 | .4181 | .8213 | .0836 | .0052 | .2733 | -.0003 | .0161 | 208.7 | 42.59 |
| #3 | .4176 | .8195 | .0836 | -.0024 | .2767 | -.0042 | .0145 | 209.0 | 42.54 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **279.2** | **96.79** | **74.18** | **7.899** | **.0186** | **.0203** | **2.056** | **.0060** | **.1919** |
| Stddev | .4 | .20 | .08 | .031 | .0016 | .0007 | .004 | .0016 | .0003 |
| %RSD | .1537 | .2086 | .1056 | .3869 | 8.740 | 3.526 | .2000 | 25.79 | .1817 |
| #1 | 279.7 | 97.01 | 74.22 | 7.925 | .0187 | .0204 | 2.055 | .0055 | .1923 |
| #2 | 278.9 | 96.73 | 74.09 | 7.908 | .0202 | .0195 | 2.061 | .0078 | .1918 |
| #3 | 278.9 | 96.62 | 74.24 | 7.865 | .0170 | .0209 | 2.053 | .0048 | .1917 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **16.32** | **.0119** | **.0323** | **.8943** | **.0286** | **.3974** | **5.280** |
| Stddev | .05 | .0028 | .0002 | .0047 | .0028 | .0030 | .004 |
| %RSD | .3348 | 23.14 | .7365 | .5300 | 9.938 | .7443 | .0700 |
| #1 | 16.32 | .0124 | .0321 | .8907 | .0255 | .4000 | 5.282 |
| #2 | 16.38 | .0089 | .0324 | .8997 | .0310 | .3980 | 5.283 |
| #3 | 16.27 | .0144 | .0325 | .8925 | .0294 | .3942 | 5.276 |



Zoom In Zoom Out

Sample Name: jc87520-1 Acquired: 5/10/2019 15:31:24 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **87046.** | **9038.7** | **6265.2** | **12082.** |
| Stddev | 96. | 35.4 | 9.1 | 18. |
| %RSD | .11039 | .39110 | .14466 | .14772 |
| #1 | 86957. | 9074.1 | 6260.3 | 12061. |
| #2 | 87033. | 9003.4 | 6259.8 | 12089. |
| #3 | 87148. | 9038.6 | 6275.7 | 12094. |



Zoom In Zoom Out

Sample Name: jc87423-5a Acquired: 5/10/2019 15:36:40 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1830** | **.0031** | **.0048** | **.0320** | **.2433** | **.3453** | **.9556** | **.1032** | **.0023** |
| Stddev | .0005 | .0000 | .0001 | .0001 | .0024 | .0040 | .0116 | .0002 | .0005 |
| %RSD | .2905 | 1.140 | 2.472 | .1573 | .9920 | 1.164 | 1.217 | .1662 | 20.13 |
| #1 | .1828 | .0031 | .0049 | .0319 | .2461 | .3500 | .9690 | .1033 | .0018 |
| #2 | .1836 | .0031 | .0046 | .0320 | .2417 | .3429 | .9488 | .1030 | .0027 |
| #3 | .1827 | .0030 | .0048 | .0320 | .2422 | .3432 | .9489 | .1034 | .0024 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2238** | **.9009** | **.0628** | **.0004** | **.3410** | **.0005** | **.0002** | **66.08** | **66.59** |
| Stddev | .0026 | .0032 | .0007 | .0016 | .0008 | .0011 | .0003 | .17 | .13 |
| %RSD | 1.158 | .3543 | 1.184 | 358.5 | .2383 | 213.5 | 186.6 | .2577 | .1926 |
| #1 | .2268 | .8975 | .0621 | .0006 | .3402 | .0004 | .0003 | 66.03 | 66.56 |
| #2 | .2225 | .9039 | .0627 | -.0012 | .3408 | .0016 | -.0002 | 66.27 | 66.74 |
| #3 | .2221 | .9014 | .0636 | .0019 | .3418 | -.0005 | .0004 | 65.95 | 66.49 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **129.7** | **26.30** | **14.55** | **20.77** | **.1373** | **.0111** | **2.604** | **.0263** | **.3673** |
| Stddev | .2 | .07 | .05 | .04 | .0009 | .0002 | .008 | .0009 | .0010 |
| %RSD | .1662 | .2490 | .3673 | .2138 | .6520 | 1.732 | .2916 | 3.386 | .2629 |
| #1 | 129.6 | 26.30 | 14.52 | 20.75 | .1366 | .0111 | 2.597 | .0253 | .3667 |
| #2 | 130.0 | 26.36 | 14.61 | 20.82 | .1369 | .0113 | 2.612 | .0269 | .3684 |
| #3 | 129.6 | 26.23 | 14.51 | 20.74 | .1383 | .0109 | 2.603 | .0268 | .3668 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.070** | **.0019** | **.0739** | **79.59** | **.0033** | **.1205** | **3.213** |
| Stddev | .040 | .0013 | .0009 | .23 | .0019 | .0015 | .008 |
| %RSD | 1.298 | 70.94 | 1.162 | .2914 | 56.57 | 1.254 | .2581 |
| #1 | 3.116 | .0006 | .0749 | 79.32 | .0040 | .1217 | 3.203 |
| #2 | 3.047 | .0032 | .0736 | 79.67 | .0012 | .1211 | 3.219 |
| #3 | 3.047 | .0018 | .0733 | 79.77 | .0048 | .1188 | 3.215 |

Zoom In Zoom Out

Sample Name: jc87423-5a Acquired: 5/10/2019 15:36:40 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86716.** | **8909.1** | **6203.6** | **12291.** |
| Stddev | 1012. | 48.3 | 18.3 | 34. |
| %RSD | 1.1666 | .54183 | .29442 | .27755 |
| #1 | 85559. | 8876.6 | 6221.8 | 12319. |
| #2 | 87160. | 8886.1 | 6185.2 | 12253. |
| #3 | 87431. | 8964.5 | 6203.7 | 12302. |



Zoom In Zoom Out

Sample Name: mp14918-mb1 Acquired: 5/10/2019 15:41:38 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0001** | **-.0001** | **.0008** | **-.0000** | **.0002** | **.0006** | **-.0016** |
| Stddev | .0002 | .0001 | .0000 | .0002 | .0001 | .0003 | .0000 | .0004 | .0002 |
| %RSD | 147.0 | 99.18 | 23.33 | 213.1 | 10.43 | 1037. | 10.50 | 69.32 | 13.82 |
| #1 | .0002 | -.0001 | -.0001 | -.0002 | .0008 | .0001 | .0003 | .0001 | -.0017 |
| #2 | .0003 | .0000 | -.0001 | -.0002 | .0008 | .0001 | .0002 | .0009 | -.0014 |
| #3 | -.0001 | -.0002 | -.0001 | .0001 | .0007 | -.0003 | .0002 | .0009 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0017** | **.0002** | **-.0002** | **.0005** | **.0014** | **-.0007** | **.0218** | **.0713** |
| Stddev | .0002 | .0001 | .0008 | .0001 | .0010 | .0002 | .0003 | .0132 | .0057 |
| %RSD | 33.58 | 3.683 | 354.7 | 46.51 | 191.5 | 15.22 | 43.49 | 60.67 | 7.941 |
| #1 | .0004 | .0018 | .0009 | -.0003 | .0015 | .0016 | -.0005 | .0068 | .0649 |
| #2 | .0007 | .0017 | .0005 | -.0002 | -.0004 | .0014 | -.0010 | .0270 | .0739 |
| #3 | .0007 | .0017 | -.0007 | -.0001 | .0004 | .0011 | -.0006 | .0317 | .0753 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0202** | **.0191** | **-.0167** | **.1292** | **.0036** | **.0005** | **.0093** | **.0174** | **.0005** |
| Stddev | .0019 | .0390 | .0253 | .0125 | .0006 | .0002 | .0033 | .0005 | .0001 |
| %RSD | 9.461 | 204.2 | 151.9 | 9.679 | 17.12 | 32.73 | 35.38 | 2.644 | 25.15 |
| #1 | .0182 | .0221 | -.0284 | .1430 | .0039 | .0007 | .0130 | .0172 | .0004 |
| #2 | .0203 | -.0213 | -.0340 | .1187 | .0028 | .0003 | .0083 | .0179 | .0005 |
| #3 | .0220 | .0566 | .0124 | .1259 | .0039 | .0006 | .0066 | .0171 | .0007 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0020** | **.0006** | **.0107** | **.0009** | **.0094** | **.0235** |
| Stddev | .0000 | .0008 | .0002 | .0011 | .0010 | .0003 | .0005 |
| %RSD | 6.902 | 40.33 | 28.49 | 10.77 | 115.2 | 2.766 | 1.978 |
| #1 | .0008 | .0020 | .0008 | .0114 | .0007 | .0091 | .0229 |
| #2 | .0007 | .0012 | .0007 | .0112 | .0020 | .0096 | .0237 |
| #3 | .0007 | .0028 | .0005 | .0093 | -.0000 | .0096 | .0238 |



Zoom In Zoom Out

Sample Name: mp14918-mb1 Acquired: 5/10/2019 15:41:38 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86333.** | **8732.9** | **6154.5** | **12556.** |
| Stddev | 96. | 20.9 | 30.5 | 46. |
| %RSD | .11123 | .23898 | .49558 | .36998 |
| #1 | 86440. | 8721.1 | 6156.1 | 12556. |
| #2 | 86255. | 8757.0 | 6184.3 | 12603. |
| #3 | 86305. | 8720.7 | 6123.3 | 12510. |



Zoom In Zoom Out

Sample Name: mp14918-b1 Acquired: 5/10/2019 15:46:48 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.041** | **1.988** | **1.939** | **1.974** | **2.007** | **2.003** | **1.984** | **1.950** |
| Stddev | .086 | .085 | .001 | .001 | .040 | .037 | .047 | .001 |
| %RSD | 4.205 | 4.280 | .0571 | .0567 | 1.997 | 1.864 | 2.371 | .0308 |
| #1 | 1.987 | 1.936 | 1.940 | 1.974 | 1.997 | 1.996 | 1.966 | 1.950 |
| #2 | 1.995 | 1.941 | 1.938 | 1.972 | 2.051 | 2.043 | 2.038 | 1.949 |
| #3 | 2.140 | 2.086 | 1.940 | 1.975 | 1.972 | 1.970 | 1.949 | 1.950 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2489** | **1.997** | **1.964** | **1.954** | **2.008** | **2.099** | **1.895** | **1.950** |
| Stddev | .0045 | .038 | .001 | .001 | .004 | .001 | .003 | .003 |
| %RSD | 1.797 | 1.923 | .0489 | .0411 | .1927 | .0651 | .1711 | .1658 |
| #1 | .2476 | 1.987 | 1.964 | 1.955 | 2.004 | 2.100 | 1.895 | 1.947 |
| #2 | .2539 | 2.039 | 1.965 | 1.954 | 2.012 | 2.098 | 1.892 | 1.949 |
| #3 | .2452 | 1.964 | 1.963 | 1.953 | 2.008 | 2.100 | 1.899 | 1.953 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.77** | **26.15** | **26.35** | **25.08** | **25.35** | **26.02** | **1.899** | **1.960** |
| Stddev | 1.11 | 1.11 | 1.13 | 1.06 | .90 | 1.04 | .002 | .004 |
| %RSD | 4.308 | 4.239 | 4.281 | 4.219 | 3.546 | 3.982 | .0896 | .1920 |
| #1 | 25.09 | 25.45 | 25.63 | 24.44 | 24.76 | 25.38 | 1.897 | 1.957 |
| #2 | 25.16 | 25.56 | 25.77 | 24.50 | 24.91 | 25.45 | 1.900 | 1.958 |
| #3 | 27.05 | 27.43 | 27.65 | 26.30 | 26.39 | 27.21 | 1.900 | 1.964 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0563** | **1.953** | **2.052** | **2.017** | **1.591** | **2.004** | **-.0006** | F **-.0215** |
| Stddev | .0010 | .001 | .086 | .039 | .006 | .038 | .0014 | .0002 |
| %RSD | 1.844 | .0390 | 4.211 | 1.934 | .4015 | 1.881 | 245.1 | 1.115 |
| #1 | .0568 | 1.954 | 1.998 | 2.006 | 1.585 | 1.997 | -.0011 | -.0218 |
| #2 | .0551 | 1.952 | 2.007 | 2.060 | 1.591 | 2.045 | -.0016 | -.0213 |
| #3 | .0569 | 1.954 | 2.152 | 1.984 | 1.598 | 1.971 | .0010 | -.0214 |

Zoom In Zoom Out

Sample Name: mp14918-b1 Acquired: 5/10/2019 15:46:48 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0205** | **1.884** |
| Stddev | .0005 | .001 |
| %RSD | 2.290 | .0664 |
| #1 | -.0200 | 1.884 |
| #2 | -.0210 | 1.883 |
| #3 | -.0206 | 1.886 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83769.** | **8484.1** | **6053.6** | **12197.** |
| Stddev | 1615. | 318.1 | 11.4 | 24. |
| %RSD | 1.9282 | 3.7489 | .18870 | .19816 |
| #1 | 84257. | 8682.7 | 6042.4 | 12173. |
| #2 | 81967. | 8652.3 | 6053.3 | 12197. |
| #3 | 85085. | 8117.2 | 6065.2 | 12222. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 15:51:47 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.070** | **2.028** | **2.036** | **2.064** | **2.071** | **2.071** | **2.051** | **2.032** | **.2545** |
| Stddev | .012 | .012 | .003 | .001 | .008 | .003 | .015 | .001 | .0009 |
| %RSD | .5877 | .6129 | .1452 | .0308 | .4076 | .1416 | .7154 | .0543 | .3349 |
| #1 | 2.056 | 2.014 | 2.040 | 2.064 | 2.076 | 2.072 | 2.058 | 2.033 | .2551 |
| #2 | 2.078 | 2.038 | 2.034 | 2.064 | 2.077 | 2.073 | 2.061 | 2.031 | .2550 |
| #3 | 2.075 | 2.033 | 2.035 | 2.065 | 2.062 | 2.068 | 2.034 | 2.032 | .2535 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.072** | **2.049** | **1.999** | **2.085** | **2.043** | **2.009** | **1.991** | **40.72** | **41.15** |
| Stddev | .005 | .002 | .003 | .001 | .002 | .000 | .002 | .24 | .23 |
| %RSD | .2625 | .1161 | .1653 | .0675 | .1107 | .0093 | .1045 | .5999 | .5621 |
| #1 | 2.076 | 2.051 | 2.003 | 2.086 | 2.045 | 2.009 | 1.993 | 40.45 | 40.89 |
| #2 | 2.075 | 2.046 | 1.999 | 2.084 | 2.041 | 2.009 | 1.991 | 40.93 | 41.32 |
| #3 | 2.066 | 2.050 | 1.996 | 2.086 | 2.042 | 2.010 | 1.989 | 40.78 | 41.25 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.45** | **39.79** | **40.23** | **40.73** | **2.062** | **2.014** | **5.024** | **1.968** | **2.095** |
| Stddev | .22 | .28 | .19 | .21 | .002 | .003 | .007 | .002 | .013 |
| %RSD | .5332 | .6965 | .4687 | .5215 | .0897 | .1445 | .1307 | .1121 | .6112 |
| #1 | 41.22 | 39.49 | 40.01 | 40.50 | 2.064 | 2.017 | 5.031 | 1.969 | 2.080 |
| #2 | 41.65 | 40.03 | 40.32 | 40.92 | 2.061 | 2.012 | 5.020 | 1.965 | 2.104 |
| #3 | 41.48 | 39.86 | 40.35 | 40.78 | 2.061 | 2.012 | 5.020 | 1.969 | 2.100 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 15:51:47 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.031** | **2.005** | **2.025** | **2.009** | **2.080** | **2.061** | **1.969** |
| Stddev | .005 | .002 | .004 | .003 | .004 | .012 | .002 |
| %RSD | .2378 | .1048 | .1953 | .1501 | .1777 | .5638 | .1168 |
| #1 | 2.033 | 2.006 | 2.026 | 2.012 | 2.084 | 2.048 | 1.970 |
| #2 | 2.034 | 2.002 | 2.028 | 2.008 | 2.079 | 2.071 | 1.966 |
| #3 | 2.026 | 2.006 | 2.020 | 2.006 | 2.076 | 2.064 | 1.970 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82909.** | **8521.9** | **5948.5** | **11921.** |
| Stddev | 382. | 34.0 | 11.0 | 12. |
| %RSD | .46128 | .39853 | .18422 | .10313 |
| #1 | 82644. | 8551.9 | 5935.9 | 11907. |
| #2 | 82735. | 8485.0 | 5955.7 | 11929. |
| #3 | 83348. | 8528.6 | 5953.8 | 11928. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 15:56:48 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0001** | **-.0001** | **.0003** | **.0001** | **-.0013** | **.0001** | **.0002** |
| Stddev | .0003 | .0001 | .0002 | .0002 | .0003 | .0002 | .0001 | .0003 |
| %RSD | 88.88 | 73.24 | 156.7 | 65.54 | 452.8 | 14.07 | 104.4 | 117.0 |
| #1 | -.0004 | -.0002 | -.0000 | .0001 | -.0002 | -.0015 | .0001 | .0005 |
| #2 | -.0000 | -.0000 | -.0003 | .0004 | .0001 | -.0012 | .0000 | -.0000 |
| #3 | -.0006 | -.0001 | .0000 | .0003 | .0003 | -.0012 | .0003 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0018** | **.0005** | **-.0002** | **-.0006** | **-.0007** | **-.0005** | **.0020** | **.0001** |
| Stddev | .0002 | .0003 | .0001 | .0007 | .0007 | .0003 | .0003 | .0004 |
| %RSD | 13.64 | 61.17 | 64.34 | 112.4 | 103.5 | 65.49 | 17.04 | 258.2 |
| #1 | -.0016 | .0002 | -.0002 | .0002 | -.0011 | -.0002 | .0022 | .0001 |
| #2 | -.0021 | .0006 | -.0001 | -.0010 | -.0012 | -.0004 | .0020 | -.0002 |
| #3 | -.0018 | .0007 | -.0003 | -.0011 | .0001 | -.0008 | .0016 | .0005 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | .0014 | | | | | | | |
| Low Limit | -.0014 | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0071** | **-.0019** | **-.0001** | **.0176** | **.0007** | **.0626** | **.0045** | **.0002** |
| Stddev | .0099 | .0037 | .0028 | .0098 | .0300 | .0103 | .0007 | .0002 |
| %RSD | 140.0 | 191.6 | 4728. | 55.67 | 4076. | 16.49 | 15.27 | 141.0 |
| #1 | -.0173 | .0020 | -.0008 | .0075 | -.0339 | .0621 | .0040 | .0004 |
| #2 | -.0064 | -.0053 | -.0024 | .0182 | .0174 | .0732 | .0053 | -.0001 |
| #3 | .0025 | -.0025 | .0031 | .0270 | .0187 | .0525 | .0043 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 15:56:48 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0008** | **.0001** | **.0003** | **.0041** | **.0001** | **-.0006** | **.0003** |
| Stddev | .0019 | .0006 | .0000 | .0002 | .0007 | .0002 | .0005 | .0007 |
| %RSD | 1795. | 65.43 | 75.02 | 56.59 | 17.95 | 335.4 | 92.64 | 254.3 |
| #1 | .0001 | .0014 | .0001 | .0005 | .0043 | -.0001 | -.0001 | .0005 |
| #2 | .0020 | .0009 | .0000 | .0001 | .0033 | .0003 | -.0005 | -.0005 |
| #3 | -.0018 | .0003 | .0001 | .0003 | .0048 | -.0000 | -.0011 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **.0140** | **.0038** |
| Stddev | .0022 | .0006 |
| %RSD | 15.77 | 15.42 |
| #1 | .0120 | .0035 |
| #2 | .0136 | .0045 |
| #3 | .0164 | .0035 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85515.** | **8527.9** | **6107.8** | **12486.** |
| Stddev | 402. | 44.5 | 12.8 | 23. |
| %RSD | .47029 | .52140 | .21037 | .18025 |
| #1 | 85060. | 8476.6 | 6114.1 | 12505. |
| #2 | 85662. | 8553.7 | 6116.2 | 12492. |
| #3 | 85824. | 8553.5 | 6093.0 | 12461. |



Zoom In Zoom Out

Sample Name: mp14926-mb1 Acquired: 5/10/2019 16:02:00 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **-.0001** | **-.0001** | **.0002** | **.0002** | **-.0010** | **.0001** | **.0003** |
| Stddev | .0003 | .0001 | .0002 | .0001 | .0003 | .0002 | .0000 | .0003 |
| %RSD | 71.55 | 169.3 | 181.8 | 74.74 | 120.6 | 18.86 | 15.42 | 103.0 |
| #1 | -.0008 | -.0002 | .0000 | .0004 | .0000 | -.0010 | .0001 | .0000 |
| #2 | -.0003 | .0000 | -.0003 | .0001 | .0006 | -.0011 | .0001 | .0006 |
| #3 | -.0002 | -.0001 | -.0000 | .0001 | .0002 | -.0008 | .0001 | .0003 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0005** | **.0023** | **.0003** | F **-.0021** | **-.0004** | **.0018** | **-.0003** |
| Stddev | .0002 | .0002 | .0001 | .0002 | .0012 | .0009 | .0008 | .0015 |
| %RSD | 21.20 | 38.33 | 4.101 | 59.40 | 56.28 | 222.2 | 44.20 | 421.1 |
| #1 | -.0011 | .0004 | .0024 | .0004 | -.0009 | -.0007 | .0024 | -.0017 |
| #2 | -.0009 | .0004 | .0022 | .0005 | -.0022 | -.0011 | .0009 | -.0005 |
| #3 | -.0014 | .0008 | .0024 | .0001 | -.0033 | .0006 | .0020 | .0012 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0058** | **-.0057** | **.0167** | **-.0512** | **.0567** | **.0031** | **.0003** |
| Stddev | .0204 | .0015 | .0011 | .0122 | .0408 | .0065 | .0002 | .0002 |
| %RSD | 8059. | 25.62 | 20.12 | 72.76 | 79.64 | 11.44 | 5.708 | 79.85 |
| #1 | -.0195 | .0076 | -.0054 | .0065 | -.0812 | .0603 | .0031 | .0006 |
| #2 | -.0010 | .0048 | -.0048 | .0302 | -.0676 | .0605 | .0029 | .0002 |
| #3 | .0212 | .0052 | -.0070 | .0134 | -.0048 | .0492 | .0032 | .0001 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **.0001** | **-.0000** | **.0001** | **.0031** | **.0004** | **-.0000** | **.0003** |
| Stddev | .0014 | .0004 | .0001 | .0001 | .0006 | .0001 | .0012 | .0015 |
| %RSD | 26.86 | 494.3 | 107.1 | 55.65 | 20.09 | 19.61 | 9123. | 488.2 |
| #1 | .0046 | -.0002 | .0000 | .0002 | .0037 | .0003 | .0008 | -.0002 |
| #2 | .0042 | -.0001 | -.0001 | .0001 | .0029 | .0004 | -.0014 | .0020 |
| #3 | .0068 | .0006 | -.0001 | .0001 | .0025 | .0003 | .0006 | -.0009 |



Zoom In Zoom Out

Sample Name: mp14926-mb1 Acquired: 5/10/2019 16:02:00 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0125** | **.0034** |
| Stddev | .0017 | .0003 |
| %RSD | 13.46 | 8.630 |
| #1 | .0145 | .0033 |
| #2 | .0118 | .0031 |
| #3 | .0113 | .0037 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86436.** | **8686.9** | **6124.0** | **12498.** |
| Stddev | 184. | 52.9 | 7.4 | 19. |
| %RSD | .21234 | .60870 | .12012 | .15129 |
| #1 | 86269. | 8641.8 | 6120.3 | 12501. |
| #2 | 86632. | 8673.9 | 6132.5 | 12515. |
| #3 | 86407. | 8745.1 | 6119.3 | 12478. |



Zoom In Zoom Out

Sample Name: mp14926-b1 Acquired: 5/10/2019 16:07:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.015** | **1.955** | **1.962** | **2.000** | **1.995** | **2.013** | **1.981** | **1.967** |
| Stddev | .002 | .002 | .005 | .003 | .006 | .003 | .016 | .004 |
| %RSD | .1080 | .0852 | .2575 | .1603 | .2991 | .1493 | .8106 | .1910 |
| #1 | 2.018 | 1.957 | 1.968 | 2.004 | 1.990 | 2.011 | 1.969 | 1.971 |
| #2 | 2.014 | 1.955 | 1.958 | 2.000 | 1.994 | 2.012 | 1.975 | 1.964 |
| #3 | 2.014 | 1.954 | 1.960 | 1.998 | 2.002 | 2.017 | 2.000 | 1.965 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2499** | **2.002** | **1.980** | **2.007** | **2.027** | **2.193** | **1.928** | **2.011** |
| Stddev | .0015 | .004 | .006 | .004 | .007 | .002 | .003 | .007 |
| %RSD | .6046 | .2072 | .3263 | .2195 | .3680 | .1012 | .1575 | .3337 |
| #1 | .2493 | 1.999 | 1.987 | 2.012 | 2.035 | 2.195 | 1.932 | 2.018 |
| #2 | .2488 | 2.001 | 1.977 | 2.004 | 2.026 | 2.192 | 1.926 | 2.005 |
| #3 | .2517 | 2.007 | 1.975 | 2.005 | 2.020 | 2.191 | 1.927 | 2.009 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.55** | **25.85** | **26.19** | **24.73** | **25.15** | **25.73** | **1.967** | **2.014** |
| Stddev | .01 | .04 | .04 | .07 | .06 | .05 | .007 | .005 |
| %RSD | .0396 | .1637 | .1592 | .2647 | .2233 | .1946 | .3520 | .2703 |
| #1 | 25.56 | 25.90 | 26.24 | 24.76 | 25.22 | 25.79 | 1.975 | 2.020 |
| #2 | 25.56 | 25.81 | 26.17 | 24.78 | 25.14 | 25.69 | 1.966 | 2.011 |
| #3 | 25.54 | 25.85 | 26.16 | 24.66 | 25.11 | 25.72 | 1.961 | 2.011 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0702** | **1.982** | **2.032** | **2.037** | **1.998** | **2.043** | **-.0096** | F **-.0270** |
| Stddev | .0008 | .008 | .002 | .005 | .005 | .004 | .0010 | .0012 |
| %RSD | 1.134 | .4106 | .1069 | .2375 | .2594 | .1871 | 10.38 | 4.531 |
| #1 | .0694 | 1.991 | 2.034 | 2.033 | 2.003 | 2.040 | -.0090 | -.0284 |
| #2 | .0709 | 1.975 | 2.030 | 2.035 | 1.993 | 2.042 | -.0090 | -.0263 |
| #3 | .0702 | 1.979 | 2.033 | 2.042 | 1.997 | 2.047 | -.0107 | -.0262 |

Zoom In Zoom Out

Sample Name: mp14926-b1 Acquired: 5/10/2019 16:07:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0300** | **1.884** |
| Stddev | .0010 | .007 |
| %RSD | 3.304 | .3623 |
| #1 | -.0306 | 1.891 |
| #2 | -.0306 | 1.883 |
| #3 | -.0289 | 1.878 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84169.** | **8623.2** | **6022.3** | **12088.** |
| Stddev | 332. | 39.0 | 19.5 | 24. |
| %RSD | .39476 | .45231 | .32423 | .19934 |
| #1 | 84517. | 8581.9 | 5999.8 | 12060. |
| #2 | 84135. | 8628.2 | 6033.1 | 12102. |
| #3 | 83856. | 8659.5 | 6034.1 | 12102. |



Zoom In Zoom Out

Sample Name: jc87843-1a Acquired: 5/10/2019 16:12:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0021** | **-.0001** | **.0000** | **-.0000** | **.0001** | **.0038** | **.0003** | **.0034** | **-.0016** |
| Stddev | .0006 | .0001 | .0002 | .0001 | .0000 | .0004 | .0001 | .0003 | .0001 |
| %RSD | 29.48 | 99.73 | 649.5 | 202.7 | 7.477 | 11.63 | 16.23 | 7.579 | 8.939 |
| #1 | .0025 | .0000 | .0001 | -.0001 | .0001 | .0042 | .0003 | .0037 | -.0018 |
| #2 | .0014 | -.0001 | -.0002 | .0000 | .0001 | .0038 | .0004 | .0032 | -.0015 |
| #3 | .0024 | -.0001 | .0002 | -.0000 | .0001 | .0033 | .0003 | .0033 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0024** | **.0003** | **.0002** | **-.0007** | **.0006** | **.0008** | **.0065** | **1.382** |
| Stddev | .0002 | .0001 | .0003 | .0005 | .0007 | .0009 | .0011 | .0026 | .011 |
| %RSD | 61.68 | 3.220 | 105.2 | 279.3 | 103.6 | 147.5 | 128.5 | 40.40 | .7693 |
| #1 | .0001 | .0023 | .0006 | .0005 | -.0016 | .0009 | -.0004 | .0036 | 1.386 |
| #2 | .0005 | .0024 | .0001 | -.0004 | -.0005 | -.0004 | .0015 | .0087 | 1.391 |
| #3 | .0005 | .0024 | .0001 | .0004 | -.0001 | .0014 | .0014 | .0072 | 1.370 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0087** | **.0638** | **.0676** | **.1271** | **.0071** | **.0001** | **.3057** | **-.0001** | **.0029** |
| Stddev | .0066 | .0122 | .0341 | .0116 | .0006 | .0000 | .0053 | .0003 | .0002 |
| %RSD | 76.59 | 19.04 | 50.39 | 9.156 | 8.418 | 51.54 | 1.726 | 222.1 | 5.825 |
| #1 | .0128 | .0605 | .0324 | .1148 | .0075 | .0000 | .3116 | -.0002 | .0030 |
| #2 | .0010 | .0773 | .1004 | .1285 | .0075 | .0001 | .3040 | -.0004 | .0027 |
| #3 | .0123 | .0536 | .0700 | .1380 | .0064 | .0001 | .3015 | .0002 | .0030 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0047** | **.0001** | **.0468** | **.0013** | **.0092** | **.0061** |
| Stddev | .0003 | .0010 | .0001 | .0013 | .0007 | .0015 | .0005 |
| %RSD | 55.35 | 20.49 | 71.78 | 2.743 | 50.08 | 16.50 | 8.060 |
| #1 | .0008 | .0058 | .0000 | .0482 | .0008 | .0085 | .0066 |
| #2 | .0004 | .0041 | .0001 | .0467 | .0021 | .0109 | .0056 |
| #3 | .0003 | .0041 | .0002 | .0456 | .0011 | .0081 | .0061 |



Zoom In Zoom Out

Sample Name: jc87843-1a Acquired: 5/10/2019 16:12:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86151.** | **8692.8** | **6079.2** | **12429.** |
| Stddev | 632. | 62.3 | 63.3 | 124. |
| %RSD | .73386 | .71639 | 1.0410 | .99802 |
| #1 | 86101. | 8649.3 | 6006.1 | 12286. |
| #2 | 85546. | 8665.1 | 6116.3 | 12496. |
| #3 | 86807. | 8764.2 | 6115.2 | 12504. |



Zoom In Zoom Out

Sample Name: jc87582-2q Acquired: 5/10/2019 16:17:21 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0001** | **-.0002** | **.0000** | **-.0002** | **-.0007** | **.0002** | **.0007** | **-.0010** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0005 | .0001 | .0000 | .0003 | .0003 |
| %RSD | 26.27 | 86.25 | 53.11 | 1589. | 310.2 | 19.85 | 8.253 | 42.54 | 29.72 |
| #1 | .0008 | -.0000 | -.0001 | -.0001 | .0003 | -.0008 | .0002 | .0011 | -.0009 |
| #2 | .0014 | -.0001 | -.0004 | .0001 | -.0002 | -.0008 | .0002 | .0006 | -.0013 |
| #3 | .0012 | -.0003 | -.0002 | .0000 | -.0006 | -.0006 | .0002 | .0005 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0003** | **.0023** | **.0017** | **-.0000** | **.0001** | **-.0035** | **.0096** | **.7070** |
| Stddev | .0004 | .0000 | .0009 | .0007 | .0010 | .0016 | .0009 | .0012 | .0075 |
| %RSD | 159.5 | 9.496 | 38.63 | 40.41 | 2183. | 1665. | 26.89 | 12.54 | 1.067 |
| #1 | -.0001 | .0003 | .0016 | .0025 | .0006 | .0008 | -.0037 | .0085 | .7008 |
| #2 | .0002 | .0003 | .0020 | .0013 | .0005 | .0012 | -.0043 | .0109 | .7154 |
| #3 | .0008 | .0002 | .0033 | .0013 | -.0012 | -.0018 | -.0025 | .0094 | .7048 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0019** | **.0002** | **-.0577** | **.0938** | **.0045** | **-.0003** | **.4168** | **.0001** | **.0020** |
| Stddev | .0008 | .0113 | .0290 | .0023 | .0002 | .0002 | .0006 | .0011 | .0001 |
| %RSD | 42.63 | 5025. | 50.29 | 2.497 | 5.090 | 47.91 | .1336 | 1580. | 5.022 |
| #1 | -.0015 | -.0010 | -.0242 | .0927 | .0047 | -.0005 | .4174 | -.0010 | .0020 |
| #2 | -.0014 | .0121 | -.0729 | .0965 | .0044 | -.0003 | .4163 | .0002 | .0020 |
| #3 | -.0028 | -.0104 | -.0759 | .0923 | .0043 | -.0002 | .4166 | .0011 | .0021 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0003** | **-.0003** | **.0289** | **.0035** | **.0049** | **.0052** |
| Stddev | .0003 | .0014 | .0001 | .0007 | .0011 | .0012 | .0005 |
| %RSD | 61.19 | 486.7 | 42.43 | 2.549 | 31.17 | 25.01 | 9.909 |
| #1 | .0007 | -.0013 | -.0003 | .0296 | .0045 | .0041 | .0055 |
| #2 | .0002 | .0011 | -.0005 | .0281 | .0024 | .0043 | .0046 |
| #3 | .0006 | .0010 | -.0002 | .0288 | .0035 | .0063 | .0055 |

Zoom In Zoom Out

Sample Name: jc87582-2q Acquired: 5/10/2019 16:17:21 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86322.** | **8642.1** | **6230.6** | **12848.** |
| Stddev | 498. | 48.4 | 8.9 | 11. |
| %RSD | .57662 | .55991 | .14209 | .08818 |
| #1 | 86572. | 8692.3 | 6229.2 | 12840. |
| #2 | 86645. | 8595.8 | 6240.0 | 12861. |
| #3 | 85749. | 8638.2 | 6222.5 | 12842. |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/10/2019 16:22:29 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **-.0003** | **-.0003** | **.0007** | **.0006** | **-.0002** | **-.0021** | **.0029** | **-.0023** |
| Stddev | .0005 | .0000 | .0001 | .0001 | .0001 | .0001 | .0001 | .0001 | .0002 |
| %RSD | 44.03 | 8.237 | 20.89 | 9.469 | 19.13 | 30.85 | 3.303 | 2.692 | 6.847 |
| #1 | .0011 | -.0003 | -.0004 | .0007 | .0007 | -.0002 | -.0021 | .0028 | -.0025 |
| #2 | .0007 | -.0003 | -.0002 | .0006 | .0005 | -.0002 | -.0020 | .0030 | -.0022 |
| #3 | .0018 | -.0003 | -.0003 | .0008 | .0005 | -.0003 | -.0021 | .0030 | -.0022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028** | **-.0017** | **-.0012** | **-.0031** | **.0021** | **-.0034** | **-.0020** | **511.2** | **397.3** |
| Stddev | .0004 | .0002 | .0015 | .0016 | .0024 | .0013 | .0006 | .4 | 3.8 |
| %RSD | 15.42 | 12.47 | 123.3 | 50.90 | 118.2 | 40.12 | 28.42 | .0726 | .9663 |
| #1 | .0024 | -.0019 | -.0019 | -.0020 | -.0007 | -.0047 | -.0022 | 511.3 | 397.8 |
| #2 | .0032 | -.0017 | -.0022 | -.0024 | .0031 | -.0033 | -.0025 | 511.5 | 400.9 |
| #3 | .0028 | -.0015 | .0005 | -.0049 | .0038 | -.0020 | -.0014 | 510.8 | 393.3 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **194.8** | **491.8** | **-.0684** | **.0478** | **.0034** | **.0035** | **-.0113** | **-.0041** | **-.0005** |
| Stddev | .2 | .3 | .0197 | .0105 | .0006 | .0000 | .0023 | .0006 | .0002 |
| %RSD | .0908 | .0601 | 28.84 | 22.01 | 18.47 | 1.151 | 20.43 | 14.83 | 41.37 |
| #1 | 195.0 | 491.4 | -.0840 | .0427 | .0035 | .0035 | -.0125 | -.0044 | -.0008 |
| #2 | 194.9 | 492.0 | -.0462 | .0408 | .0040 | .0035 | -.0127 | -.0034 | -.0004 |
| #3 | 194.6 | 491.8 | -.0749 | .0599 | .0028 | .0035 | -.0086 | -.0045 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/10/2019 16:22:29 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **.0151** | **.0020** | **.0148** | **-.0094** | **-.0024** | **.0238** |
| Stddev | .0004 | .0006 | .0002 | .0035 | .0014 | .0006 | .0004 |
| %RSD | 7.770 | 3.782 | 9.877 | 23.94 | 15.37 | 25.78 | 1.732 |
| #1 | .0053 | .0157 | .0021 | .0181 | -.0100 | -.0018 | .0234 |
| #2 | .0050 | .0145 | .0020 | .0154 | -.0104 | -.0030 | .0242 |
| #3 | .0046 | .0150 | .0017 | .0110 | -.0078 | -.0022 | .0237 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **77400.** | **8194.1** | **5439.0** | **10911.** |
| Stddev | 271. | 26.5 | 5.6 | 9. |
| %RSD | .35072 | .32401 | .10260 | .08456 |
| #1 | 77375. | 8205.6 | 5442.0 | 10913. |
| #2 | 77142. | 8163.8 | 5442.4 | 10918. |
| #3 | 77683. | 8213.1 | 5432.5 | 10900. |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/10/2019 16:27:32 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5090** | **.4742** | **.9959** | **.4694** | **.4817** | **.5337** | **.4841** | **.9285** | **1.081** |
| Stddev | .0005 | .0004 | .0034 | .0016 | .0020 | .0024 | .0018 | .0023 | .004 |
| %RSD | .1000 | .0883 | .3382 | .3482 | .4093 | .4445 | .3657 | .2483 | .3340 |
| #1 | .5095 | .4742 | .9983 | .4695 | .4834 | .5351 | .4852 | .9288 | 1.084 |
| #2 | .5091 | .4746 | .9973 | .4710 | .4820 | .5350 | .4852 | .9307 | 1.082 |
| #3 | .5085 | .4738 | .9920 | .4677 | .4795 | .5310 | .4821 | .9261 | 1.077 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4963** | **.9210** | **1.050** | **.9586** | **.9261** | **.9836** | **1.015** | **520.1** | **386.7** |
| Stddev | .0014 | .0041 | .004 | .0053 | .0037 | .0032 | .002 | .4 | 5.3 |
| %RSD | .2741 | .4489 | .4136 | .5569 | .4026 | .3265 | .1616 | .0739 | 1.361 |
| #1 | .4969 | .9247 | 1.051 | .9642 | .9296 | .9846 | 1.015 | 520.5 | 390.0 |
| #2 | .4972 | .9218 | 1.054 | .9579 | .9264 | .9861 | 1.017 | 519.9 | 380.6 |
| #3 | .4947 | .9166 | 1.046 | .9536 | .9222 | .9800 | 1.014 | 519.8 | 389.4 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **190.6** | **485.5** | **-.0166** | **.0325** | **.4913** | **.4777** | **.4895** | **.4582** | **.5136** |
| Stddev | .1 | 1.6 | .0267 | .0050 | .0020 | .0013 | .0035 | .0029 | .0007 |
| %RSD | .0421 | .3330 | 160.7 | 15.53 | .4094 | .2788 | .7073 | .6428 | .1323 |
| #1 | 190.6 | 487.3 | -.0418 | .0379 | .4931 | .4787 | .4907 | .4591 | .5144 |
| #2 | 190.7 | 484.4 | -.0195 | .0316 | .4918 | .4782 | .4921 | .4605 | .5131 |
| #3 | 190.5 | 484.7 | .0114 | .0279 | .4891 | .4762 | .4856 | .4549 | .5134 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/10/2019 16:27:32 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5059** | **.4839** | **.4992** | **.5091** | **.5175** | **.5318** | **.5290** |
| Stddev | .0018 | .0011 | .0019 | .0041 | .0013 | .0017 | .0028 |
| %RSD | .3616 | .2272 | .3783 | .7999 | .2592 | .3196 | .5315 |
| #1 | .5066 | .4849 | .5000 | .5131 | .5173 | .5298 | .5321 |
| #2 | .5072 | .4839 | .5005 | .5092 | .5190 | .5326 | .5282 |
| #3 | .5038 | .4827 | .4970 | .5050 | .5163 | .5329 | .5267 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **76044.** | **8131.3** | **5498.0** | **11015.** |
| Stddev | 344. | 31.1 | 26.4 | 37. |
| %RSD | .45202 | .38214 | .48060 | .33276 |
| #1 | 75838. | 8098.3 | 5472.0 | 10979. |
| #2 | 75854. | 8160.0 | 5497.2 | 11014. |
| #3 | 76441. | 8135.7 | 5524.8 | 11052. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 16:32:32 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.102** | **2.021** | **2.052** | **2.072** | **2.098** | **2.089** | **2.047** | **2.032** | **.2588** |
| Stddev | .006 | .004 | .012 | .009 | .013 | .009 | .020 | .008 | .0012 |
| %RSD | .2914 | .1799 | .5597 | .4488 | .6145 | .4543 | .9682 | .4153 | .4535 |
| #1 | 2.102 | 2.021 | 2.040 | 2.062 | 2.111 | 2.097 | 2.067 | 2.023 | .2601 |
| #2 | 2.108 | 2.025 | 2.053 | 2.072 | 2.085 | 2.078 | 2.028 | 2.032 | .2578 |
| #3 | 2.096 | 2.018 | 2.063 | 2.081 | 2.099 | 2.090 | 2.046 | 2.040 | .2586 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.093** | **2.053** | **2.014** | **2.084** | **2.046** | **2.007** | **1.993** | **40.78** | **41.22** |
| Stddev | .011 | .013 | .012 | .008 | .010 | .011 | .007 | .08 | .08 |
| %RSD | .5468 | .6508 | .6131 | .4010 | .5033 | .5347 | .3711 | .1956 | .1936 |
| #1 | 2.105 | 2.039 | 2.000 | 2.076 | 2.035 | 1.997 | 1.986 | 40.78 | 41.20 |
| #2 | 2.083 | 2.053 | 2.016 | 2.084 | 2.048 | 2.007 | 1.993 | 40.86 | 41.31 |
| #3 | 2.092 | 2.066 | 2.024 | 2.093 | 2.055 | 2.018 | 2.000 | 40.71 | 41.15 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.14** | **39.73** | **40.79** | **40.44** | **2.067** | **2.016** | **5.045** | **1.968** | **2.100** |
| Stddev | .08 | .13 | .13 | .13 | .011 | .011 | .027 | .014 | .005 |
| %RSD | .2008 | .3281 | .3214 | .3129 | .5529 | .5641 | .5417 | .7255 | .2519 |
| #1 | 41.07 | 39.64 | 40.77 | 40.41 | 2.057 | 2.004 | 5.016 | 1.954 | 2.099 |
| #2 | 41.23 | 39.87 | 40.93 | 40.58 | 2.066 | 2.015 | 5.047 | 1.967 | 2.106 |
| #3 | 41.13 | 39.66 | 40.67 | 40.33 | 2.079 | 2.027 | 5.071 | 1.983 | 2.096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 16:32:32 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.048** | **2.006** | **2.029** | **2.023** | **2.095** | **2.051** | **1.977** |
| Stddev | .011 | .011 | .011 | .013 | .011 | .008 | .013 |
| %RSD | .5533 | .5622 | .5530 | .6423 | .5388 | .3830 | .6751 |
| #1 | 2.059 | 1.994 | 2.040 | 2.010 | 2.082 | 2.055 | 1.965 |
| #2 | 2.037 | 2.007 | 2.017 | 2.022 | 2.097 | 2.056 | 1.975 |
| #3 | 2.047 | 2.016 | 2.029 | 2.036 | 2.105 | 2.042 | 1.992 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82195.** | **8487.0** | **5917.5** | **11847.** |
| Stddev | 759. | 24.9 | 22.3 | 32. |
| %RSD | .92331 | .29340 | .37745 | .27278 |
| #1 | 81372. | 8477.9 | 5943.1 | 11884. |
| #2 | 82866. | 8467.8 | 5907.9 | 11827. |
| #3 | 82349. | 8515.1 | 5901.6 | 11829. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 16:37:33 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **.0000** | **.0002** | **.0003** | **-.0015** | **.0001** | **.0003** |
| Stddev | .0000 | .0000 | .0001 | .0000 | .0001 | .0002 | .0000 | .0002 |
| %RSD | 8.985 | 38.38 | 1838. | 9.807 | 22.10 | 12.16 | 37.74 | 59.99 |
| #1 | -.0002 | -.0001 | .0001 | .0001 | .0002 | -.0017 | .0000 | .0002 |
| #2 | -.0002 | -.0001 | -.0001 | .0001 | .0003 | -.0013 | .0001 | .0005 |
| #3 | -.0002 | -.0001 | -.0001 | .0002 | .0003 | -.0014 | .0001 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0015** | **.0005** | **-.0002** | **.0007** | **.0000** | **.0003** | **.0008** | **.0000** |
| Stddev | .0005 | .0003 | .0001 | .0005 | .0009 | .0005 | .0010 | .0005 |
| %RSD | 32.07 | 64.40 | 37.25 | 66.92 | 2075. | 165.5 | 118.1 | 4047. |
| #1 | -.0012 | .0008 | -.0003 | .0012 | -.0002 | .0004 | .0002 | -.0006 |
| #2 | -.0012 | .0004 | -.0001 | .0007 | .0011 | .0007 | .0003 | .0002 |
| #3 | -.0020 | .0002 | -.0003 | .0003 | -.0007 | -.0003 | .0019 | .0005 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | .0014 | | | | | | | |
| Low Limit | -.0014 | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0039** | **-.0024** | **-.0189** | **.0518** | **.0118** | **.0037** | **-.0001** |
| Stddev | .0093 | .0022 | .0030 | .0205 | .0311 | .0153 | .0002 | .0003 |
| %RSD | 958.0 | 56.18 | 124.0 | 108.5 | 59.97 | 130.0 | 5.817 | 396.6 |
| #1 | -.0094 | .0065 | -.0051 | -.0378 | .0224 | .0115 | .0039 | .0002 |
| #2 | .0040 | .0029 | .0008 | -.0218 | .0843 | -.0034 | .0037 | -.0001 |
| #3 | .0084 | .0025 | -.0029 | .0029 | .0489 | .0273 | .0035 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 16:37:33 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0003** | **.0001** | **.0002** | **.0019** | **.0002** | **-.0021** | **.0009** |
| Stddev | .0008 | .0003 | .0000 | .0004 | .0010 | .0000 | .0013 | .0020 |
| %RSD | 176.2 | 79.86 | 46.80 | 165.5 | 53.26 | 21.90 | 63.87 | 223.1 |
| #1 | -.0002 | -.0005 | .0001 | .0006 | .0020 | .0002 | -.0016 | .0031 |
| #2 | .0003 | -.0000 | .0001 | -.0002 | .0028 | .0002 | -.0011 | .0005 |
| #3 | .0014 | -.0004 | .0000 | .0003 | .0008 | .0001 | -.0036 | -.0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **.0055** | **.0037** |
| Stddev | .0008 | .0011 |
| %RSD | 14.05 | 29.64 |
| #1 | .0047 | .0029 |
| #2 | .0063 | .0050 |
| #3 | .0056 | .0033 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0048 | |
| Low Limit | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83654.** | **8513.0** | **6042.3** | **12348.** |
| Stddev | 395. | 32.5 | 14.5 | 22. |
| %RSD | .47160 | .38166 | .24078 | .17519 |
| #1 | 83372. | 8475.8 | 6056.0 | 12368. |
| #2 | 84105. | 8527.4 | 6043.9 | 12351. |
| #3 | 83484. | 8535.8 | 6027.0 | 12325. |



Zoom In Zoom Out

Sample Name: alconf Acquired: 5/10/2019 16:42:47 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0001** | **-.0002** | **.0002** | **.0000** | **-.0006** | **-.0015** | **-.0003** | **-.0002** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0003 | .0001 | .0000 | .0004 | .0005 |
| %RSD | 147.3 | 108.3 | 78.83 | 73.09 | 824.4 | 22.73 | .9330 | 115.0 | 194.5 |
| #1 | .0001 | -.0000 | -.0001 | .0003 | .0003 | -.0007 | -.0015 | -.0004 | -.0001 |
| #2 | -.0002 | -.0000 | -.0001 | .0003 | -.0002 | -.0005 | -.0015 | .0001 | -.0008 |
| #3 | -.0003 | -.0002 | -.0003 | .0000 | .0000 | -.0005 | -.0015 | -.0006 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0003** | **-.0001** | **.0021** | **-.0014** | **.0022** | **-.0027** | F **533.7** | **.0005** |
| Stddev | .0001 | .0001 | .0023 | .0015 | .0018 | .0016 | .0007 | .4 | .0029 |
| %RSD | 33.14 | 29.23 | 3323. | 73.11 | 126.0 | 73.23 | 23.88 | .0712 | 622.0 |
| #1 | .0001 | .0002 | -.0010 | .0005 | -.0031 | .0013 | -.0030 | 533.6 | .0029 |
| #2 | .0002 | .0004 | -.0017 | .0022 | -.0016 | .0012 | -.0032 | 533.4 | -.0027 |
| #3 | .0002 | .0004 | .0025 | .0035 | .0004 | .0040 | -.0020 | 534.2 | .0012 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0126** | **-.0065** | **.0010** | **.0132** | **.0035** | **.0002** | **.0049** | **-.0002** | **.0002** |
| Stddev | .0033 | .0119 | .0302 | .0032 | .0004 | .0003 | .0010 | .0010 | .0001 |
| %RSD | 26.65 | 182.0 | 3124. | 23.94 | 11.12 | 197.3 | 20.30 | 410.9 | 50.48 |
| #1 | -.0144 | .0047 | -.0131 | .0156 | .0033 | .0003 | .0041 | -.0004 | .0002 |
| #2 | -.0146 | -.0189 | .0356 | .0145 | .0039 | .0004 | .0046 | -.0012 | .0001 |
| #3 | -.0087 | -.0053 | -.0196 | .0096 | .0032 | -.0002 | .0060 | .0008 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0129** | **-.0006** | **.0255** | **-.0042** | **.0077** | **.0170** |
| Stddev | .0007 | .0011 | .0001 | .0009 | .0008 | .0013 | .0008 |
| %RSD | 354.0 | 8.816 | 20.32 | 3.407 | 20.10 | 16.71 | 4.638 |
| #1 | -.0002 | .0136 | -.0007 | .0264 | -.0047 | .0063 | .0175 |
| #2 | -.0002 | .0116 | -.0005 | .0246 | -.0032 | .0089 | .0161 |
| #3 | .0011 | .0136 | -.0005 | .0254 | -.0046 | .0078 | .0173 |



Zoom In Zoom Out

Sample Name: alconf Acquired: 5/10/2019 16:42:47 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81013.** | **8707.5** | **6081.5** | **11762.** |
| Stddev | 315. | 26.2 | 13.0 | 18. |
| %RSD | .38940 | .30118 | .21353 | .15726 |
| #1 | 81004. | 8682.6 | 6080.2 | 11765. |
| #2 | 81333. | 8734.9 | 6095.1 | 11779. |
| #3 | 80702. | 8705.1 | 6069.3 | 11742. |



Zoom In Zoom Out

Sample Name: caconf Acquired: 5/10/2019 16:47:50 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0001** | **-.0001** | **.0012** | **.0004** | **-.0007** | **.0004** | **.0003** | **-.0009** |
| Stddev | .0003 | .0001 | .0001 | .0003 | .0003 | .0001 | .0000 | .0001 | .0003 |
| %RSD | 39.52 | 46.93 | 83.09 | 24.73 | 71.34 | 15.92 | 3.964 | 39.00 | 29.63 |
| #1 | .0004 | -.0002 | -.0000 | .0015 | .0006 | -.0006 | .0004 | .0002 | -.0011 |
| #2 | .0009 | -.0002 | -.0001 | .0012 | .0001 | -.0008 | .0004 | .0003 | -.0006 |
| #3 | .0006 | -.0001 | -.0000 | .0009 | .0004 | -.0006 | .0004 | .0004 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **.0011** | **.0013** | **-.0001** | **.0006** | **-.0015** | **-.0643** | F **419.4** |
| Stddev | .0001 | .0001 | .0009 | .0010 | .0006 | .0014 | .0011 | .0079 | 2.8 |
| %RSD | 31.88 | 149.9 | 83.58 | 77.02 | 467.7 | 245.3 | 69.77 | 12.24 | .6600 |
| #1 | .0002 | -.0002 | .0021 | .0003 | .0003 | .0021 | -.0005 | -.0599 | 419.4 |
| #2 | .0001 | -.0001 | .0003 | .0014 | -.0008 | .0005 | -.0015 | -.0734 | 416.6 |
| #3 | .0003 | .0000 | .0009 | .0023 | .0001 | -.0008 | -.0026 | -.0595 | 422.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0038** | **.0096** | **-.0208** | **.0489** | **.0028** | **.0003** | **-.0124** | **-.0009** | **-.0006** |
| Stddev | .0036 | .0113 | .0326 | .0042 | .0007 | .0001 | .0014 | .0006 | .0002 |
| %RSD | 95.65 | 117.1 | 156.6 | 8.681 | 26.37 | 40.78 | 11.32 | 65.04 | 24.21 |
| #1 | .0008 | -.0031 | .0118 | .0456 | .0032 | .0002 | -.0115 | -.0008 | -.0008 |
| #2 | .0078 | .0183 | -.0209 | .0474 | .0019 | .0003 | -.0140 | -.0014 | -.0005 |
| #3 | .0027 | .0138 | -.0534 | .0537 | .0032 | .0005 | -.0118 | -.0003 | -.0006 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **.0012** | **.0004** | **-.0010** | **-.0012** | **-.0098** | **.0097** |
| Stddev | .0002 | .0013 | .0001 | .0001 | .0005 | .0012 | .0010 |
| %RSD | 4.408 | 105.5 | 17.05 | 8.787 | 43.58 | 12.12 | 10.36 |
| #1 | .0052 | .0026 | .0004 | -.0010 | -.0011 | -.0108 | .0088 |
| #2 | .0055 | .0010 | .0003 | -.0010 | -.0017 | -.0100 | .0096 |
| #3 | .0050 | .0001 | .0004 | -.0011 | -.0007 | -.0085 | .0108 |

Zoom In Zoom Out

Sample Name: caconf Acquired: 5/10/2019 16:47:50 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **81165.** | **8304.7** | **5773.1** | **11485.** |
| Stddev | 608. | 28.8 | 3.2 | 10. |
| %RSD | .74883 | .34714 | .05544 | .08337 |
| #1 | 80689. | 8337.3 | 5771.0 | 11483. |
| #2 | 80956. | 8294.3 | 5776.8 | 11496. |
| #3 | 81849. | 8282.6 | 5771.6 | 11477. |



Zoom In Zoom Out

Sample Name: bconf Acquired: 5/10/2019 16:53:08 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0002** | **.0001** | **.0001** | **-.0010** | **-.0000** | **.0004** |
| Stddev | .0006 | .0001 | .0001 | .0001 | .0003 | .0001 | .0000 | .0003 |
| %RSD | 404.6 | 87.47 | 56.89 | 155.8 | 390.9 | 8.426 | 1305. | 63.08 |
| #1 | -.0005 | -.0000 | -.0002 | .0000 | .0004 | -.0010 | .0000 | .0002 |
| #2 | .0006 | -.0002 | -.0003 | .0000 | -.0002 | -.0009 | -.0001 | .0007 |
| #3 | .0004 | -.0002 | -.0001 | .0002 | .0001 | -.0010 | .0000 | .0003 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0015** | **.0004** | **.0001** | **.0009** | F **-.0024** | **-.0000** | **.0011** | **-.0008** |
| Stddev | .0002 | .0002 | .0001 | .0001 | .0008 | .0009 | .0006 | .0014 |
| %RSD | 15.54 | 50.25 | 99.41 | 10.07 | 34.04 | 5810. | 61.41 | 168.3 |
| #1 | -.0015 | .0006 | .0000 | .0010 | -.0033 | .0008 | .0003 | .0001 |
| #2 | -.0013 | .0002 | .0001 | .0009 | -.0021 | -.0009 | .0015 | -.0002 |
| #3 | -.0018 | .0005 | .0003 | .0008 | -.0018 | .0001 | .0014 | -.0024 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **.0175** | **-.0019** | **.0124** | **-.0556** | **.0319** | F **10.39** | **.0000** |
| Stddev | .0064 | .0017 | .0010 | .0101 | .0259 | .0067 | .05 | .0001 |
| %RSD | 123.6 | 9.872 | 54.34 | 81.68 | 46.63 | 21.09 | .4846 | 217.9 |
| #1 | .0103 | .0160 | -.0007 | .0240 | -.0569 | .0386 | 10.45 | .0001 |
| #2 | .0071 | .0193 | -.0025 | .0056 | -.0808 | .0251 | 10.36 | -.0001 |
| #3 | -.0020 | .0171 | -.0024 | .0075 | -.0290 | .0320 | 10.36 | .0001 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0021** | **.0009** | **.0000** | **.0002** | **.0039** | **.0005** | **.0048** | **.0001** |
| Stddev | .0007 | .0008 | .0002 | .0001 | .0007 | .0003 | .0010 | .0009 |
| %RSD | 31.07 | 87.90 | 624.6 | 72.90 | 18.22 | 60.00 | 21.70 | 1120. |
| #1 | .0029 | .0013 | .0002 | .0003 | .0032 | .0002 | .0051 | -.0006 |
| #2 | .0017 | .0015 | -.0000 | .0000 | .0046 | .0006 | .0036 | .0011 |
| #3 | .0019 | -.0000 | -.0001 | .0002 | .0038 | .0008 | .0056 | -.0003 |



Zoom In Zoom Out

Sample Name: bconf Acquired: 5/10/2019 16:53:08 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0057** | **.0041** |
| Stddev | .0027 | .0003 |
| %RSD | 47.12 | 6.184 |
| #1 | .0029 | .0042 |
| #2 | .0059 | .0043 |
| #3 | .0082 | .0038 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85354.** | **8608.2** | **6154.1** | **12572.** |
| Stddev | 233. | 14.7 | 29.2 | 50. |
| %RSD | .27267 | .17032 | .47524 | .39464 |
| #1 | 85101. | 8592.0 | 6124.0 | 12528. |
| #2 | 85401. | 8612.0 | 6182.4 | 12626. |
| #3 | 85560. | 8620.6 | 6155.8 | 12563. |



Zoom In Zoom Out

Sample Name: mnconf Acquired: 5/10/2019 16:58:19 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0003** | **.0002** | **.0001** | **.0008** | **.0002** | F **9.806** | **-.0003** | **-.0010** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0002 | .0000 | .050 | .0002 | .0001 |
| %RSD | 124.7 | 52.29 | 33.27 | 207.4 | 21.82 | 18.87 | .5109 | 61.28 | 13.50 |
| #1 | .0001 | -.0004 | .0001 | .0002 | .0007 | .0003 | 9.766 | -.0004 | -.0010 |
| #2 | .0000 | -.0001 | .0002 | -.0000 | .0008 | .0002 | 9.862 | -.0002 | -.0011 |
| #3 | .0004 | -.0003 | .0002 | -.0000 | .0010 | .0002 | 9.789 | -.0001 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0035** | **.0002** | **-.0006** | **.0020** | **.0002** | **.0028** | **-.0001** | **-.0020** | **.0123** |
| Stddev | .0002 | .0001 | .0005 | .0013 | .0008 | .0003 | .0008 | .0115 | .0015 |
| %RSD | 6.648 | 67.85 | 96.00 | 65.15 | 305.2 | 8.988 | 980.6 | 567.6 | 12.50 |
| #1 | -.0036 | .0001 | -.0010 | .0025 | -.0005 | .0031 | -.0001 | .0112 | .0110 |
| #2 | -.0036 | .0001 | .0001 | .0005 | .0003 | .0026 | -.0008 | -.0073 | .0140 |
| #3 | -.0032 | .0004 | -.0008 | .0029 | .0010 | .0027 | .0007 | -.0100 | .0119 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0083** | **-.0435** | **.0330** | **-.0041** | **.0110** | **-.0002** | **.0032** | **.0021** | **.0001** |
| Stddev | .0015 | .0301 | .0415 | .0051 | .0004 | .0001 | .0013 | .0002 | .0001 |
| %RSD | 18.48 | 69.28 | 126.0 | 123.4 | 3.664 | 31.54 | 40.70 | 9.513 | 268.8 |
| #1 | -.0101 | -.0150 | .0290 | -.0097 | .0114 | -.0002 | .0020 | .0019 | -.0000 |
| #2 | -.0076 | -.0404 | -.0064 | -.0028 | .0106 | -.0001 | .0029 | .0023 | -.0000 |
| #3 | -.0073 | -.0750 | .0764 | .0002 | .0109 | -.0002 | .0046 | .0021 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0023** | **-.0005** | **.0196** | **.0007** | **.0014** | **.0125** |
| Stddev | .0003 | .0005 | .0001 | .0012 | .0008 | .0011 | .0004 |
| %RSD | 86.34 | 21.51 | 27.02 | 5.953 | 111.4 | 80.84 | 3.596 |
| #1 | .0002 | .0018 | -.0004 | .0185 | .0015 | .0001 | .0129 |
| #2 | .0002 | .0021 | -.0004 | .0195 | .0008 | .0022 | .0125 |
| #3 | .0007 | .0028 | -.0006 | .0208 | -.0001 | .0018 | .0120 |

Zoom In Zoom Out

Sample Name: mnconf Acquired: 5/10/2019 16:58:19 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84136.** | **8551.4** | **5986.7** | **12220.** |
| Stddev | 176. | 28.2 | 72.3 | 144. |
| %RSD | .20904 | .33001 | 1.2085 | 1.1803 |
| #1 | 84335. | 8542.0 | 6011.7 | 12283. |
| #2 | 84072. | 8529.1 | 6043.2 | 12322. |
| #3 | 84001. | 8583.1 | 5905.2 | 12055. |



Zoom In Zoom Out

Sample Name: siconf Acquired: 5/10/2019 17:03:41 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0001** | **-.0001** | **.0005** | **-.0013** | **.0001** | **.0005** | **-.0016** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0003 | .0001 | .0000 | .0005 | .0002 |
| %RSD | 472.0 | 137.2 | 98.88 | 298.0 | 53.69 | 8.540 | 31.91 | 105.8 | 14.98 |
| #1 | -.0003 | .0000 | -.0003 | -.0003 | .0006 | -.0012 | .0002 | .0009 | -.0018 |
| #2 | .0000 | -.0000 | -.0000 | .0001 | .0007 | -.0013 | .0002 | -.0001 | -.0013 |
| #3 | .0005 | -.0002 | -.0001 | .0000 | .0002 | -.0014 | .0001 | .0006 | -.0016 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0007** | **.0007** | **-.0011** | **-.0009** | **-.0001** | **-.0005** | **.0150** | **.0215** |
| Stddev | .0002 | .0001 | .0008 | .0005 | .0007 | .0008 | .0004 | .0071 | .0018 |
| %RSD | 52.41 | 16.62 | 107.1 | 45.80 | 79.16 | 805.8 | 81.57 | 47.57 | 8.235 |
| #1 | .0004 | .0006 | .0007 | -.0017 | -.0016 | -.0006 | -.0007 | .0141 | .0224 |
| #2 | .0006 | .0008 | .0015 | -.0007 | -.0002 | -.0005 | -.0000 | .0225 | .0194 |
| #3 | .0002 | .0007 | -.0001 | -.0010 | -.0008 | .0008 | -.0009 | .0084 | .0226 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0343** | **-.0285** | **.0047** | **.0068** | **-.0002** | **9.279** | **.0010** | **.0001** |
| Stddev | .0047 | .0147 | .0540 | .0204 | .0004 | .0002 | .021 | .0010 | .0001 |
| %RSD | 1224. | 42.84 | 189.4 | 434.1 | 6.116 | 84.21 | .2224 | 93.23 | 121.5 |
| #1 | -.0015 | .0472 | -.0819 | .0248 | .0072 | -.0003 | 9.256 | .0012 | -.0000 |
| #2 | -.0030 | .0183 | -.0299 | .0054 | .0065 | -.0000 | 9.288 | .0000 | .0001 |
| #3 | .0057 | .0372 | .0262 | -.0161 | .0066 | -.0004 | 9.294 | .0019 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0023** | **-.0038** | **-.0006** | **-.0007** | **.0012** | **.0051** |
| Stddev | .0004 | .0003 | .0001 | .0009 | .0015 | .0015 | .0006 |
| %RSD | 118.9 | 12.20 | 2.887 | 151.6 | 214.3 | 124.3 | 12.71 |
| #1 | .0008 | .0019 | -.0037 | -.0005 | -.0017 | .0028 | .0053 |
| #2 | .0000 | .0024 | -.0039 | .0003 | .0010 | -.0002 | .0043 |
| #3 | .0002 | .0024 | -.0039 | -.0015 | -.0014 | .0011 | .0055 |



Zoom In Zoom Out

Sample Name: siconf Acquired: 5/10/2019 17:03:41 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84143.** | **8353.2** | **5991.2** | **12229.** |
| Stddev | 599. | 30.6 | 8.1 | 13. |
| %RSD | .71201 | .36671 | .13598 | .10553 |
| #1 | 83696. | 8320.0 | 5992.7 | 12230. |
| #2 | 83909. | 8359.3 | 5998.6 | 12242. |
| #3 | 84824. | 8380.4 | 5982.5 | 12216. |



Zoom In Zoom Out

Sample Name: sconf Acquired: 5/10/2019 17:08:52 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **-.0002** | **-.0001** | **-.0002** | **-.0013** | **.0001** | **.0003** | **-.0016** |
| Stddev | .0002 | .0001 | .0000 | .0001 | .0003 | .0000 | .0001 | .0002 | .0004 |
| %RSD | 13170. | 76.40 | 17.65 | 55.58 | 168.7 | 2.615 | 50.52 | 49.20 | 23.68 |
| #1 | .0001 | -.0002 | -.0002 | -.0002 | .0001 | -.0013 | .0002 | .0003 | -.0013 |
| #2 | -.0003 | -.0000 | -.0002 | -.0001 | -.0003 | -.0013 | .0001 | .0005 | -.0020 |
| #3 | .0002 | -.0001 | -.0001 | -.0000 | -.0003 | -.0013 | .0001 | .0002 | -.0016 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0003** | **.0013** | **-.0016** | **-.0017** | **.0011** | **-.0024** | **.0014** | **.0101** |
| Stddev | .0002 | .0001 | .0014 | .0008 | .0010 | .0008 | .0008 | .0109 | .0037 |
| %RSD | 59.55 | 35.81 | 103.1 | 51.15 | 58.99 | 69.65 | 32.92 | 797.9 | 36.30 |
| #1 | .0005 | .0003 | .0015 | -.0024 | -.0025 | .0019 | -.0021 | .0024 | .0127 |
| #2 | .0001 | .0004 | .0026 | -.0017 | -.0021 | .0003 | -.0018 | .0117 | .0059 |
| #3 | .0002 | .0002 | -.0001 | -.0008 | -.0006 | .0012 | -.0034 | -.0100 | .0117 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0058** | **.0039** | **-.0058** | **-.0067** | **.0055** | **-.0000** | **.0011** | **.0001** | **.0000** |
| Stddev | .0029 | .0165 | .0067 | .0108 | .0006 | .0001 | .0017 | .0004 | .0001 |
| %RSD | 50.08 | 424.7 | 115.9 | 162.7 | 11.53 | 284.4 | 161.1 | 685.6 | 590.5 |
| #1 | -.0024 | -.0012 | -.0066 | .0050 | .0062 | -.0000 | -.0007 | .0004 | .0000 |
| #2 | -.0073 | .0223 | .0013 | -.0163 | .0053 | .0001 | .0012 | -.0004 | -.0001 |
| #3 | -.0075 | -.0095 | -.0121 | -.0087 | .0050 | -.0001 | .0027 | .0002 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0009** | **.0001** | **92.52** | **.0013** | **.0004** | **.0049** |
| Stddev | .0002 | .0005 | .0001 | .29 | .0006 | .0011 | .0003 |
| %RSD | 37.77 | 54.85 | 94.91 | .3139 | 48.79 | 285.6 | 6.304 |
| #1 | .0008 | .0006 | .0001 | 92.21 | .0020 | .0003 | .0046 |
| #2 | .0004 | .0006 | .0000 | 92.79 | .0007 | -.0007 | .0052 |
| #3 | .0005 | .0014 | .0001 | 92.56 | .0013 | .0015 | .0049 |

Zoom In Zoom Out

Sample Name: sconf Acquired: 5/10/2019 17:08:52 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85340.** | **8622.2** | **6099.9** | **12458.** |
| Stddev | 194. | 22.6 | 21.7 | 34. |
| %RSD | .22681 | .26180 | .35596 | .27053 |
| #1 | 85441. | 8601.1 | 6111.8 | 12472. |
| #2 | 85463. | 8619.7 | 6074.8 | 12420. |
| #3 | 85117. | 8646.0 | 6113.0 | 12484. |



Zoom In Zoom Out

Sample Name: moconf Acquired: 5/10/2019 17:14:04 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0001** | **.0002** | **.0015** | **-.0004** | **-.0001** | **-.0001** | **-.0008** | **.0007** |
| Stddev | .0001 | .0000 | .0002 | .0002 | .0002 | .0002 | .0000 | .0001 | .0002 |
| %RSD | 43.51 | 48.00 | 129.3 | 9.952 | 43.98 | 169.9 | 37.63 | 11.34 | 23.59 |
| #1 | -.0004 | .0001 | .0004 | .0017 | -.0003 | .0001 | -.0001 | -.0008 | .0006 |
| #2 | -.0002 | .0000 | .0000 | .0014 | -.0003 | -.0003 | -.0001 | -.0007 | .0009 |
| #3 | -.0004 | .0000 | .0001 | .0015 | -.0005 | -.0001 | -.0001 | -.0008 | .0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0025** | **-.0004** | **.0009** | **-.0009** | **.0010** | **.0044** | **.0072** | **.0369** |
| Stddev | .0001 | .0001 | .0005 | .0021 | .0006 | .0024 | .0010 | .0102 | .0032 |
| %RSD | 79.82 | 2.850 | 107.7 | 221.3 | 67.84 | 231.7 | 22.72 | 142.6 | 8.760 |
| #1 | .0000 | .0024 | -.0006 | -.0007 | -.0003 | .0035 | .0045 | -.0028 | .0402 |
| #2 | .0002 | .0025 | .0001 | .0033 | -.0009 | -.0013 | .0034 | .0177 | .0337 |
| #3 | .0001 | .0025 | -.0008 | .0002 | -.0016 | .0009 | .0054 | .0067 | .0367 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0087** | **.0312** | **-.0595** | **.0621** | **.0170** | F **9.357** | **.1145** | **-.0004** | **.0001** |
| Stddev | .0066 | .0417 | .0250 | .0059 | .0011 | .018 | .0012 | .0002 | .0001 |
| %RSD | 76.15 | 133.6 | 41.98 | 9.513 | 6.635 | .1873 | 1.029 | 54.06 | 46.05 |
| #1 | .0062 | -.0028 | -.0308 | .0586 | .0157 | 9.348 | .1132 | -.0006 | .0001 |
| #2 | .0037 | .0777 | -.0716 | .0588 | .0175 | 9.347 | .1156 | -.0005 | .0002 |
| #3 | .0163 | .0187 | -.0762 | .0689 | .0178 | 9.378 | .1147 | -.0002 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014** | **.0015** | **.0119** | **.0181** | **-.0004** | **.0072** | **.0055** |
| Stddev | .0002 | .0011 | .0001 | .0017 | .0006 | .0010 | .0012 |
| %RSD | 11.97 | 77.43 | .9531 | 9.143 | 137.1 | 14.17 | 21.85 |
| #1 | .0013 | .0023 | .0120 | .0189 | .0001 | .0065 | .0059 |
| #2 | .0016 | .0020 | .0119 | .0192 | -.0011 | .0083 | .0042 |
| #3 | .0013 | .0002 | .0117 | .0162 | -.0003 | .0067 | .0065 |



Zoom In Zoom Out

Sample Name: moconf Acquired: 5/10/2019 17:14:04 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85739.** | **8597.1** | **6161.4** | **12584.** |
| Stddev | 215. | 60.4 | 8.0 | 6. |
| %RSD | .25035 | .70257 | .12909 | .04733 |
| #1 | 85547. | 8652.8 | 6169.5 | 12591. |
| #2 | 85971. | 8532.9 | 6161.2 | 12580. |
| #3 | 85700. | 8605.6 | 6153.6 | 12582. |



Zoom In Zoom Out

Sample Name: ticonf Acquired: 5/10/2019 17:19:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0004** | **-.0004** | **-.0004** | **-.0008** | **-.0010** | **.0000** | **.0001** |
| Stddev | .0004 | .0001 | .0001 | .0002 | .0002 | .0001 | .0000 | .0004 |
| %RSD | 446.8 | 31.23 | 19.01 | 45.83 | 24.58 | 10.82 | 63.88 | 743.4 |
| #1 | -.0002 | .0003 | -.0004 | -.0002 | -.0006 | -.0011 | .0001 | .0003 |
| #2 | -.0005 | .0004 | -.0003 | -.0005 | -.0007 | -.0011 | .0000 | -.0004 |
| #3 | .0004 | .0006 | -.0005 | -.0006 | -.0010 | -.0009 | .0000 | .0003 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0028** | **.0003** | **-.0018** | **.0006** | F **-.0030** | **-.0006** | **.0018** | **.0097** |
| Stddev | .0005 | .0002 | .0000 | .0008 | .0006 | .0002 | .0010 | .0017 |
| %RSD | 18.62 | 64.51 | 2.345 | 130.0 | 19.92 | 34.23 | 56.20 | 17.14 |
| #1 | -.0034 | .0002 | -.0019 | .0011 | -.0029 | -.0004 | .0024 | .0082 |
| #2 | -.0026 | .0002 | -.0018 | .0010 | -.0037 | -.0006 | .0006 | .0115 |
| #3 | -.0025 | .0006 | -.0018 | -.0003 | -.0025 | -.0007 | .0024 | .0095 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0140** | **.0148** | **.0042** | **-.0002** | **-.1018** | **.0389** | **.0049** | **-.0005** |
| Stddev | .0085 | .0025 | .0037 | .0061 | .0156 | .0042 | .0006 | .0002 |
| %RSD | 60.80 | 16.56 | 86.35 | 2533. | 15.30 | 10.84 | 12.90 | 36.79 |
| #1 | -.0235 | .0172 | .0063 | .0054 | -.0844 | .0353 | .0052 | -.0004 |
| #2 | -.0113 | .0123 | .0000 | .0006 | -.1143 | .0436 | .0041 | -.0007 |
| #3 | -.0071 | .0149 | .0065 | -.0067 | -.1068 | .0379 | .0052 | -.0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0459** | F **-.0249** | **.0002** | F **10.14** | **.0000** | **.0002** | **.0079** | **.0286** |
| Stddev | .0007 | .0002 | .0002 | .03 | .0003 | .0001 | .0015 | .0012 |
| %RSD | 1.430 | .8162 | 100.9 | .3356 | 816.6 | 83.73 | 19.47 | 4.089 |
| #1 | -.0464 | -.0251 | .0000 | 10.11 | .0002 | .0002 | .0074 | .0274 |
| #2 | -.0460 | -.0247 | .0001 | 10.18 | .0002 | .0003 | .0066 | .0298 |
| #3 | -.0451 | -.0250 | .0003 | 10.15 | -.0003 | .0000 | .0096 | .0287 |

Zoom In Zoom Out

Sample Name: ticonf Acquired: 5/10/2019 17:19:11 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0100** | **.0042** |
| Stddev | .0002 | .0001 |
| %RSD | 1.759 | 2.670 |
| #1 | .0101 | .0041 |
| #2 | .0101 | .0043 |
| #3 | .0098 | .0041 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85603.** | **8520.0** | **6157.1** | **12526.** |
| Stddev | 380. | 55.2 | 23.6 | 43. |
| %RSD | .44357 | .64831 | .38347 | .34693 |
| #1 | 85862. | 8508.9 | 6131.5 | 12480. |
| #2 | 85167. | 8471.1 | 6161.8 | 12535. |
| #3 | 85780. | 8579.9 | 6178.1 | 12565. |



Zoom In Zoom Out

Sample Name: vconf Acquired: 5/10/2019 17:24:31 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0009** | **.0010** | **.0001** | **-.0001** | **-.0006** | **.0001** | **-.0001** |
| Stddev | .0001 | .0005 | .0000 | .0002 | .0002 | .0001 | .0000 | .0001 |
| %RSD | 43.79 | 58.03 | 3.323 | 231.6 | 173.2 | 19.06 | 59.20 | 126.0 |
| #1 | .0002 | -.0014 | .0009 | .0002 | .0000 | -.0006 | .0001 | .0001 |
| #2 | .0001 | -.0009 | .0010 | .0003 | -.0000 | -.0007 | .0000 | -.0002 |
| #3 | .0001 | -.0004 | .0010 | -.0002 | -.0004 | -.0005 | .0001 | -.0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | F **11.42** | **.0006** | **.0010** | F **-.0066** | **.0008** | **.0007** | **.0009** |
| Stddev | .0002 | .09 | .0000 | .0003 | .0041 | .0002 | .0014 | .0005 |
| %RSD | 13.12 | .7675 | 5.520 | 28.36 | 62.68 | 20.22 | 209.3 | 60.87 |
| #1 | .0018 | 11.50 | .0006 | .0007 | -.0021 | .0007 | -.0005 | .0011 |
| #2 | .0021 | 11.42 | .0005 | .0010 | -.0073 | .0010 | .0003 | .0003 |
| #3 | .0016 | 11.33 | .0006 | .0012 | -.0103 | .0008 | .0022 | .0012 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0159** | **.0090** | **-.0030** | **-.0034** | **-.0964** | **.0618** | **.0282** | **-.0004** |
| Stddev | .0165 | .0011 | .0041 | .0188 | .0173 | .0130 | .0002 | .0001 |
| %RSD | 103.6 | 12.02 | 133.7 | 546.4 | 17.98 | 21.04 | .6364 | 26.68 |
| #1 | -.0022 | .0095 | -.0038 | -.0249 | -.0773 | .0472 | .0280 | -.0003 |
| #2 | .0300 | .0078 | -.0067 | .0045 | -.1111 | .0721 | .0283 | -.0004 |
| #3 | .0201 | .0097 | .0013 | .0101 | -.1008 | .0662 | .0282 | -.0006 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3712** | **-.0001** | **.0002** | **-.0004** | **-.0001** | **-.0022** | **-.0022** | **-.0011** |
| Stddev | .0009 | .0002 | .0000 | .0002 | .0004 | .0002 | .0011 | .0002 |
| %RSD | .2557 | 222.4 | 15.92 | 34.39 | 561.3 | 7.267 | 49.41 | 16.33 |
| #1 | .3706 | -.0003 | .0002 | -.0005 | .0000 | -.0023 | -.0010 | -.0013 |
| #2 | .3708 | .0001 | .0001 | -.0005 | -.0005 | -.0020 | -.0024 | -.0010 |
| #3 | .3723 | -.0000 | .0002 | -.0003 | .0003 | -.0021 | -.0032 | -.0010 |



Zoom In Zoom Out

Sample Name: vconf Acquired: 5/10/2019 17:24:31 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0097** | **-.0020** |
| Stddev | .0005 | .0004 |
| %RSD | 4.783 | 20.82 |
| #1 | .0094 | -.0023 |
| #2 | .0094 | -.0021 |
| #3 | .0102 | -.0015 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85389.** | **8529.8** | **6163.5** | **12552.** |
| Stddev | 181. | 9.2 | 20.9 | 45. |
| %RSD | .21153 | .10823 | .33917 | .35952 |
| #1 | 85208. | 8534.7 | 6187.6 | 12604. |
| #2 | 85389. | 8535.5 | 6152.3 | 12527. |
| #3 | 85569. | 8519.1 | 6150.5 | 12524. |



Zoom In Zoom Out

Sample Name: coconf Acquired: 5/10/2019 17:29:50 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0000** | **.0028** | F **11.49** | **.0000** | **-.0022** | **-.0001** | **-.0021** | **-.0018** |
| Stddev | .0000 | .0001 | .0001 | .01 | .0002 | .0002 | .0000 | .0005 | .0003 |
| %RSD | 22.27 | 1520. | 4.310 | .1294 | 945.9 | 8.383 | 29.74 | 21.95 | 18.92 |
| #1 | .0001 | -.0001 | .0029 | 11.48 | .0003 | -.0020 | -.0001 | -.0022 | -.0019 |
| #2 | .0002 | .0001 | .0027 | 11.49 | .0000 | -.0023 | -.0001 | -.0024 | -.0014 |
| #3 | .0002 | .0000 | .0028 | 11.51 | -.0002 | -.0022 | -.0002 | -.0016 | -.0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **-.0009** | **-.0012** | **.0032** | **.0037** | **.0012** | **.0009** | **-.0104** | **-.0153** |
| Stddev | .0003 | .0001 | .0009 | .0009 | .0014 | .0014 | .0003 | .0015 | .0020 |
| %RSD | 42.80 | 10.53 | 76.00 | 29.78 | 38.48 | 114.4 | 31.26 | 14.08 | 12.79 |
| #1 | .0005 | -.0008 | -.0014 | .0021 | .0044 | -.0004 | .0006 | -.0107 | -.0175 |
| #2 | .0011 | -.0009 | -.0002 | .0035 | .0021 | .0022 | .0011 | -.0088 | -.0141 |
| #3 | .0006 | -.0010 | -.0020 | .0039 | .0048 | .0019 | .0010 | -.0116 | -.0142 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0075** | **-.0031** | **-.0895** | **.0432** | **.0020** | **-.0002** | **-.0061** | **.0003** | **.0001** |
| Stddev | .0033 | .0393 | .0164 | .0095 | .0003 | .0001 | .0006 | .0007 | .0001 |
| %RSD | 44.72 | 1262. | 18.33 | 22.08 | 14.20 | 42.41 | 10.35 | 219.2 | 229.8 |
| #1 | -.0091 | .0288 | -.0727 | .0395 | .0021 | -.0001 | -.0063 | -.0004 | .0000 |
| #2 | -.0036 | -.0470 | -.1055 | .0540 | .0016 | -.0002 | -.0066 | .0004 | -.0001 |
| #3 | -.0097 | .0089 | -.0902 | .0360 | .0021 | -.0003 | -.0054 | .0010 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0010** | **.0003** | **.0035** | **.0120** | **.0102** | **.0044** |
| Stddev | .0006 | .0009 | .0002 | .0009 | .0010 | .0016 | .0006 |
| %RSD | 235.6 | 94.98 | 66.81 | 26.81 | 8.468 | 15.36 | 14.42 |
| #1 | .0007 | -.0016 | .0004 | .0029 | .0130 | .0120 | .0043 |
| #2 | -.0004 | -.0014 | .0004 | .0030 | .0109 | .0092 | .0039 |
| #3 | .0004 | .0001 | .0001 | .0045 | .0121 | .0094 | .0051 |

Zoom In Zoom Out

Sample Name: coconf Acquired: 5/10/2019 17:29:50 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86121.** | **8568.8** | **6142.4** | **12624.** |
| Stddev | 52. | 55.6 | 8.3 | 17. |
| %RSD | .06078 | .64897 | .13497 | .13411 |
| #1 | 86097. | 8628.5 | 6148.7 | 12639. |
| #2 | 86084. | 8559.1 | 6133.0 | 12606. |
| #3 | 86181. | 8518.6 | 6145.5 | 12628. |



Zoom In Zoom Out

Sample Name: niconf Acquired: 5/10/2019 17:35:02 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **-.0014** | **.0016** | **.0002** | **-.0017** | **.0002** | F **9.760** | **-.0017** |
| Stddev | .0001 | .0000 | .0000 | .0001 | .0002 | .0001 | .0000 | .004 | .0005 |
| %RSD | 228.1 | 390.9 | 2.300 | 7.688 | 113.4 | 3.376 | 19.60 | .0391 | 30.91 |
| #1 | -.0001 | -.0000 | -.0013 | .0016 | .0002 | -.0017 | .0002 | 9.759 | -.0011 |
| #2 | .0001 | -.0000 | -.0014 | .0015 | -.0000 | -.0017 | .0002 | 9.764 | -.0021 |
| #3 | -.0002 | .0000 | -.0014 | .0017 | .0004 | -.0018 | .0001 | 9.756 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0008** | **.0012** | **-.0009** | **-.0003** | **.0002** | **.0014** | **-.0078** | **.0194** |
| Stddev | .0003 | .0001 | .0001 | .0007 | .0006 | .0008 | .0010 | .0164 | .0006 |
| %RSD | 34.88 | 9.411 | 7.664 | 73.70 | 216.0 | 479.7 | 73.13 | 211.1 | 2.961 |
| #1 | .0010 | .0008 | .0013 | -.0001 | -.0004 | -.0005 | .0015 | -.0236 | .0200 |
| #2 | .0008 | .0009 | .0012 | -.0014 | -.0009 | .0000 | .0003 | -.0091 | .0192 |
| #3 | .0005 | .0008 | .0011 | -.0012 | .0004 | .0010 | .0024 | .0093 | .0189 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0035** | **-.0076** | **-.0981** | **.0401** | **.0024** | **-.0000** | **-.0017** | **-.0004** | **.0001** |
| Stddev | .0045 | .0217 | .0258 | .0021 | .0004 | .0001 | .0013 | .0002 | .0001 |
| %RSD | 130.8 | 285.0 | 26.32 | 5.331 | 16.55 | 159.9 | 78.43 | 50.31 | 114.5 |
| #1 | .0047 | -.0218 | -.0740 | .0385 | .0023 | -.0000 | -.0033 | -.0002 | .0001 |
| #2 | .0072 | .0173 | -.0949 | .0426 | .0021 | -.0001 | -.0009 | -.0006 | .0002 |
| #3 | -.0016 | -.0183 | -.1253 | .0394 | .0029 | .0000 | -.0009 | -.0003 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0007** | **.0001** | **.0001** | **-.0016** | **.0090** | **.0098** |
| Stddev | .0003 | .0004 | .0002 | .0005 | .0006 | .0015 | .0006 |
| %RSD | 518.0 | 52.56 | 160.8 | 946.7 | 38.54 | 16.72 | 6.498 |
| #1 | -.0005 | -.0010 | .0003 | -.0005 | -.0009 | .0107 | .0094 |
| #2 | .0000 | -.0003 | .0001 | .0004 | -.0018 | .0078 | .0106 |
| #3 | .0002 | -.0009 | -.0001 | .0003 | -.0020 | .0084 | .0095 |



Zoom In Zoom Out

Sample Name: niconf Acquired: 5/10/2019 17:35:02 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85508.** | **8515.6** | **6147.4** | **12568.** |
| Stddev | 168. | 32.0 | 4.3 | 4. |
| %RSD | .19629 | .37591 | .06989 | .03410 |
| #1 | 85640. | 8478.6 | 6151.6 | 12563. |
| #2 | 85319. | 8534.4 | 6147.5 | 12568. |
| #3 | 85565. | 8533.8 | 6143.0 | 12572. |



Zoom In Zoom Out

Sample Name: snconf Acquired: 5/10/2019 17:40:15 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0002** | **-.0002** | **.0002** | **-.0008** | **-.0013** | **.0001** | **.0004** |
| Stddev | .0001 | .0000 | .0002 | .0002 | .0001 | .0002 | .0001 | .0003 |
| %RSD | 135.2 | 11.22 | 100.4 | 140.8 | 18.87 | 17.73 | 44.25 | 76.01 |
| #1 | -.0000 | -.0001 | -.0001 | .0003 | -.0006 | -.0013 | .0002 | .0001 |
| #2 | .0000 | -.0001 | -.0001 | -.0001 | -.0008 | -.0011 | .0001 | .0006 |
| #3 | .0001 | -.0002 | -.0003 | .0003 | -.0009 | -.0015 | .0001 | .0006 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0016** | **.0007** | **-.0002** | **.0004** | F **-.0030** | **-.0013** | **.0021** | **-.0008** |
| Stddev | .0003 | .0001 | .0001 | .0006 | .0008 | .0011 | .0003 | .0004 |
| %RSD | 16.89 | 7.282 | 43.08 | 165.5 | 26.45 | 80.38 | 12.42 | 51.37 |
| #1 | -.0019 | .0007 | -.0002 | -.0001 | -.0033 | -.0004 | .0019 | -.0005 |
| #2 | -.0016 | .0007 | -.0002 | .0002 | -.0021 | -.0012 | .0019 | -.0013 |
| #3 | -.0014 | .0006 | -.0001 | .0010 | -.0035 | -.0025 | .0023 | -.0008 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **.0130** | **-.0005** | **.0216** | **-.0729** | **.0431** | **.0068** | **-.0000** |
| Stddev | .0141 | .0038 | .0030 | .0177 | .0135 | .0051 | .0005 | .0002 |
| %RSD | 978.5 | 29.12 | 642.9 | 82.19 | 18.49 | 11.87 | 7.704 | 40750. |
| #1 | .0128 | .0144 | .0028 | .0393 | -.0723 | .0488 | .0073 | -.0002 |
| #2 | -.0154 | .0087 | -.0012 | .0039 | -.0867 | .0415 | .0070 | .0001 |
| #3 | -.0017 | .0158 | -.0030 | .0215 | -.0598 | .0389 | .0062 | .0001 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0059** | F **10.12** | **.0001** | **.0005** | **.0011** | **-.0001** | **-.0011** | **.0008** |
| Stddev | .0006 | .02 | .0002 | .0001 | .0003 | .0002 | .0017 | .0006 |
| %RSD | 9.358 | .2424 | 127.7 | 26.21 | 29.44 | 216.1 | 147.8 | 81.79 |
| #1 | -.0061 | 10.15 | .0004 | .0005 | .0012 | -.0003 | -.0027 | .0012 |
| #2 | -.0053 | 10.11 | .0000 | .0006 | .0007 | .0000 | .0006 | .0010 |
| #3 | -.0064 | 10.11 | .0000 | .0004 | .0013 | .0000 | -.0012 | .0001 |

Zoom In Zoom Out

Sample Name: snconf Acquired: 5/10/2019 17:40:15 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0092** | **.0044** |
| Stddev | .0001 | .0003 |
| %RSD | 1.574 | 7.430 |
| #1 | .0093 | .0045 |
| #2 | .0091 | .0041 |
| #3 | .0091 | .0047 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85868.** | **8597.8** | **6150.7** | **12510.** |
| Stddev | 177. | 41.1 | 10.8 | 18. |
| %RSD | .20598 | .47810 | .17587 | .14332 |
| #1 | 85863. | 8587.4 | 6143.4 | 12498. |
| #2 | 86047. | 8643.2 | 6163.1 | 12530. |
| #3 | 85693. | 8563.0 | 6145.6 | 12501. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 17:45:24 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.086** | **2.017** | **2.016** | **2.044** | **2.069** | **2.074** | **2.044** | **2.009** | **.2558** |
| Stddev | .006 | .003 | .004 | .001 | .008 | .006 | .019 | .004 | .0009 |
| %RSD | .3099 | .1622 | .1998 | .0658 | .3734 | .2722 | .9502 | .2106 | .3554 |
| #1 | 2.089 | 2.017 | 2.020 | 2.045 | 2.070 | 2.075 | 2.023 | 2.013 | .2562 |
| #2 | 2.090 | 2.020 | 2.017 | 2.044 | 2.061 | 2.068 | 2.050 | 2.009 | .2547 |
| #3 | 2.079 | 2.014 | 2.012 | 2.042 | 2.076 | 2.079 | 2.060 | 2.004 | .2564 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.074** | **2.025** | **1.979** | **2.067** | **2.020** | **1.983** | **1.970** | **40.62** | **40.97** |
| Stddev | .008 | .007 | .002 | .007 | .004 | .007 | .007 | .13 | .07 |
| %RSD | .3673 | .3637 | .1145 | .3202 | .2068 | .3334 | .3581 | .3114 | .1587 |
| #1 | 2.075 | 2.033 | 1.981 | 2.070 | 2.021 | 1.987 | 1.975 | 40.68 | 41.00 |
| #2 | 2.066 | 2.019 | 1.980 | 2.072 | 2.023 | 1.986 | 1.974 | 40.71 | 41.02 |
| #3 | 2.081 | 2.021 | 1.977 | 2.059 | 2.015 | 1.975 | 1.962 | 40.47 | 40.90 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.13** | **39.33** | **40.68** | **40.88** | **2.042** | **1.988** | **4.961** | **1.937** | **2.097** |
| Stddev | .08 | .23 | .08 | .11 | .006 | .004 | .007 | .005 | .006 |
| %RSD | .1919 | .5788 | .1921 | .2652 | .2808 | .1845 | .1408 | .2372 | .2964 |
| #1 | 41.08 | 39.44 | 40.75 | 40.89 | 2.045 | 1.992 | 4.965 | 1.943 | 2.099 |
| #2 | 41.22 | 39.49 | 40.70 | 40.98 | 2.045 | 1.988 | 4.965 | 1.935 | 2.102 |
| #3 | 41.09 | 39.07 | 40.60 | 40.77 | 2.035 | 1.984 | 4.953 | 1.935 | 2.090 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 17:45:24 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.034** | **1.978** | **2.014** | **1.988** | **2.067** | **2.079** | **1.941** |
| Stddev | .008 | .005 | .007 | .002 | .005 | .003 | .006 |
| %RSD | .4082 | .2704 | .3372 | .0851 | .2228 | .1612 | .3184 |
| #1 | 2.036 | 1.984 | 2.015 | 1.990 | 2.070 | 2.080 | 1.946 |
| #2 | 2.025 | 1.975 | 2.006 | 1.986 | 2.069 | 2.082 | 1.942 |
| #3 | 2.041 | 1.975 | 2.019 | 1.987 | 2.062 | 2.075 | 1.934 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **82655.** | **8393.0** | **5972.5** | **11934.** |
| Stddev | 207. | 31.8 | 25.7 | 35. |
| %RSD | .24996 | .37833 | .42972 | .29341 |
| #1 | 82780. | 8359.9 | 5943.5 | 11895. |
| #2 | 82768. | 8396.1 | 5992.5 | 11962. |
| #3 | 82416. | 8423.2 | 5981.4 | 11945. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 17:50:25 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **-.0001** | **-.0000** | **-.0002** | **-.0014** | **.0000** | **.0002** | **-.0013** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0004 | .0001 | .0001 | .0002 | .0004 |
| %RSD | 149.3 | 196.6 | 161.9 | 13100. | 212.5 | 7.735 | 172.9 | 81.71 | 31.59 |
| #1 | -.0001 | .0001 | -.0001 | -.0002 | .0002 | -.0013 | .0000 | .0001 | -.0015 |
| #2 | .0003 | -.0001 | -.0001 | -.0001 | -.0007 | -.0014 | .0001 | .0001 | -.0016 |
| #3 | .0003 | -.0002 | .0000 | .0003 | -.0001 | -.0015 | -.0000 | .0004 | -.0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0005** | **.0000** | **-.0015** | **-.0002** | **.0009** | **.0007** | **-.0069** | **-.0042** |
| Stddev | .0003 | .0001 | .0009 | .0018 | .0012 | .0016 | .0003 | .0073 | .0023 |
| %RSD | 61.35 | 13.91 | 5065. | 121.5 | 739.8 | 183.3 | 44.81 | 104.9 | 56.57 |
| #1 | .0007 | -.0005 | -.0003 | -.0028 | .0006 | .0025 | .0008 | -.0105 | -.0067 |
| #2 | .0003 | -.0005 | -.0006 | -.0022 | -.0015 | .0008 | .0003 | .0014 | -.0037 |
| #3 | .0003 | -.0004 | .0010 | .0006 | .0004 | -.0007 | .0009 | -.0117 | -.0021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **-.0083** | **-.0628** | **.0540** | **.0041** | **-.0002** | **-.0002** | **.0005** | **.0002** |
| Stddev | .0045 | .0118 | .0159 | .0042 | .0004 | .0002 | .0011 | .0005 | .0001 |
| %RSD | 333.1 | 142.0 | 25.32 | 7.756 | 9.438 | 80.13 | 544.1 | 92.72 | 62.08 |
| #1 | -.0064 | .0036 | -.0745 | .0555 | .0038 | -.0000 | -.0004 | .0006 | .0001 |
| #2 | .0006 | -.0201 | -.0691 | .0493 | .0040 | -.0004 | -.0012 | .0009 | .0003 |
| #3 | .0018 | -.0085 | -.0447 | .0572 | .0046 | -.0002 | .0010 | -.0000 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 17:50:25 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0004** | **-.0000** | **-.0015** | **.0006** | F **.0126** | **.0028** |
| Stddev | .0002 | .0008 | .0000 | .0013 | .0006 | .0014 | .0017 |
| %RSD | 44.16 | 207.1 | 86.32 | 84.64 | 98.55 | 11.38 | 61.76 |
| #1 | .0006 | -.0004 | -.0000 | -.0029 | .0007 | .0141 | .0040 |
| #2 | .0004 | .0004 | -.0000 | -.0002 | -.0000 | .0123 | .0036 |
| #3 | .0002 | .0012 | -.0000 | -.0015 | .0011 | .0113 | .0008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85457.** | **8549.6** | **6144.5** | **12548.** |
| Stddev | 608. | 31.8 | 12.6 | 21. |
| %RSD | .71181 | .37183 | .20444 | .17030 |
| #1 | 84794. | 8528.4 | 6157.9 | 12572. |
| #2 | 85589. | 8534.2 | 6133.1 | 12538. |
| #3 | 85989. | 8586.1 | 6142.6 | 12533. |



Zoom In Zoom Out

Sample Name: mp14906-mb1 Acquired: 5/10/2019 17:55:38 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **-.0000** | **.0001** | **.0000** | **-.0008** | **.0002** | **.0004** | **-.0015** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0001 | .0003 | .0000 | .0001 | .0005 |
| %RSD | 5044. | 99.51 | 598.1 | 320.1 | 203.2 | 37.43 | 29.56 | 30.40 | 32.53 |
| #1 | .0002 | -.0001 | -.0001 | .0000 | .0000 | -.0012 | .0001 | .0005 | -.0012 |
| #2 | .0000 | .0000 | -.0001 | -.0001 | .0001 | -.0006 | .0002 | .0004 | -.0012 |
| #3 | -.0002 | -.0001 | .0001 | .0003 | -.0000 | -.0007 | .0002 | .0003 | -.0020 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0040** | **.0003** | **-.0008** | **-.0003** | **.0020** | **.0001** | **.0039** | **.0325** |
| Stddev | .0001 | .0000 | .0002 | .0003 | .0014 | .0005 | .0006 | .0140 | .0008 |
| %RSD | 23.65 | 1.244 | 53.71 | 41.03 | 452.5 | 26.26 | 821.2 | 356.7 | 2.369 |
| #1 | .0007 | .0039 | .0002 | -.0009 | .0012 | .0017 | -.0005 | .0107 | .0318 |
| #2 | .0005 | .0040 | .0004 | -.0005 | -.0004 | .0026 | .0008 | .0133 | .0323 |
| #3 | .0004 | .0040 | .0005 | -.0011 | -.0017 | .0017 | -.0001 | -.0122 | .0333 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0070** | **.0261** | **-.0345** | **.0684** | **.0025** | **.0000** | **.0083** | **.0346** | **.0001** |
| Stddev | .0021 | .0262 | .0105 | .0036 | .0006 | .0002 | .0004 | .0003 | .0001 |
| %RSD | 30.29 | 100.3 | 30.53 | 5.330 | 25.55 | 1661. | 4.269 | .8855 | 135.3 |
| #1 | .0063 | -.0008 | -.0447 | .0676 | .0026 | -.0002 | .0087 | .0349 | .0002 |
| #2 | .0094 | .0515 | -.0236 | .0653 | .0031 | -.0000 | .0082 | .0347 | .0000 |
| #3 | .0054 | .0276 | -.0354 | .0724 | .0019 | .0002 | .0080 | .0343 | -.0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0004** | **.0002** | **.0021** | **.0013** | **.0116** | **.0339** |
| Stddev | .0003 | .0007 | .0001 | .0008 | .0011 | .0026 | .0010 |
| %RSD | 40.77 | 149.3 | 42.95 | 40.32 | 83.08 | 22.73 | 2.945 |
| #1 | .0009 | .0011 | .0001 | .0013 | .0009 | .0114 | .0333 |
| #2 | .0008 | -.0002 | .0003 | .0020 | .0004 | .0144 | .0351 |
| #3 | .0004 | .0005 | .0002 | .0030 | .0025 | .0091 | .0334 |



Zoom In Zoom Out

Sample Name: mp14906-mb1 Acquired: 5/10/2019 17:55:38 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86671.** | **8727.8** | **6156.8** | **12544.** |
| Stddev | 126. | 31.3 | 8.0 | 12. |
| %RSD | .14585 | .35822 | .13025 | .09176 |
| #1 | 86737. | 8691.7 | 6147.8 | 12541. |
| #2 | 86750. | 8744.6 | 6163.1 | 12557. |
| #3 | 86525. | 8747.0 | 6159.5 | 12534. |



Zoom In Zoom Out

Sample Name: mp14906-b1 Acquired: 5/10/2019 18:00:49 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **-.0000** | **.0000** | **.0004** | **-.0009** | **.0001** | **.0004** | **-.0015** |
| Stddev | .0002 | .0001 | .0000 | .0000 | .0001 | .0002 | .0001 | .0002 | .0002 |
| %RSD | 106.7 | 89.89 | 185.2 | 140.6 | 32.28 | 20.36 | 47.47 | 56.32 | 15.28 |
| #1 | .0003 | -.0001 | -.0000 | .0001 | .0004 | -.0007 | .0002 | .0004 | -.0013 |
| #2 | -.0000 | -.0000 | -.0001 | .0000 | .0006 | -.0011 | .0001 | .0007 | -.0015 |
| #3 | .0002 | -.0002 | .0000 | .0000 | .0003 | -.0008 | .0001 | .0002 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0035** | **-.0001** | **-.0014** | **.0004** | **.0023** | **.0007** | **.0035** | **.0380** |
| Stddev | .0004 | .0001 | .0003 | .0002 | .0009 | .0014 | .0005 | .0046 | .0053 |
| %RSD | 75.63 | 2.097 | 297.3 | 16.67 | 203.8 | 64.36 | 75.57 | 130.9 | 13.92 |
| #1 | .0007 | .0035 | .0001 | -.0013 | .0002 | .0039 | .0011 | .0063 | .0429 |
| #2 | .0008 | .0034 | -.0005 | -.0016 | -.0003 | .0017 | .0001 | .0060 | .0386 |
| #3 | .0001 | .0035 | .0001 | -.0012 | .0014 | .0012 | .0009 | -.0018 | .0324 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **-.0028** | **-.0391** | **.0733** | **.0029** | **.0001** | **.0071** | **.0343** | **.0001** |
| Stddev | .0066 | .0230 | .0227 | .0123 | .0005 | .0001 | .0013 | .0007 | .0001 |
| %RSD | 245.9 | 816.6 | 57.94 | 16.72 | 18.00 | 90.86 | 17.90 | 2.117 | 132.7 |
| #1 | .0087 | -.0162 | -.0653 | .0797 | .0030 | .0000 | .0058 | .0351 | .0001 |
| #2 | .0039 | .0237 | -.0258 | .0811 | .0033 | .0001 | .0083 | .0342 | -.0000 |
| #3 | -.0044 | -.0159 | -.0263 | .0592 | .0023 | .0001 | .0072 | .0336 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0002** | **.0001** | **2.044** | **.0010** | **.0098** | **.0344** |
| Stddev | .0001 | .0005 | .0002 | .004 | .0008 | .0007 | .0004 |
| %RSD | 18.20 | 201.6 | 141.4 | .2149 | 74.63 | 7.265 | 1.239 |
| #1 | .0009 | .0008 | .0002 | 2.048 | .0005 | .0091 | .0349 |
| #2 | .0007 | .0001 | -.0001 | 2.042 | .0007 | .0105 | .0341 |
| #3 | .0007 | -.0001 | .0003 | 2.040 | .0019 | .0099 | .0343 |

Zoom In Zoom Out

Sample Name: mp14906-b1 Acquired: 5/10/2019 18:00:49 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88339.** | **8814.6** | **6164.7** | **12533.** |
| Stddev | 541. | 9.4 | 16.4 | 22. |
| %RSD | .61280 | .10691 | .26600 | .17525 |
| #1 | 88958. | 8812.5 | 6151.4 | 12513. |
| #2 | 87955. | 8806.3 | 6159.6 | 12529. |
| #3 | 88104. | 8824.8 | 6183.0 | 12557. |



Zoom In Zoom Out

Sample Name: mp14906-s1 Acquired: 5/10/2019 18:06:00 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1965** | **.0000** | **.0013** | **.0033** | **.0184** | **.0130** | **.4037** | **.0126** | **-.0013** |
| Stddev | .0007 | .0000 | .0001 | .0002 | .0002 | .0003 | .0009 | .0002 | .0003 |
| %RSD | .3387 | 283.9 | 5.417 | 5.725 | 1.077 | 2.079 | .2138 | 1.393 | 23.01 |
| #1 | .1971 | -.0000 | .0014 | .0033 | .0182 | .0131 | .4038 | .0128 | -.0016 |
| #2 | .1958 | .0000 | .0013 | .0031 | .0186 | .0132 | .4046 | .0124 | -.0011 |
| #3 | .1967 | -.0000 | .0013 | .0035 | .0185 | .0127 | .4028 | .0126 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0402** | **.7405** | **.0030** | **.0008** | **.0031** | **-.0003** | **.0044** | **.5507** | **194.5** |
| Stddev | .0004 | .0008 | .0002 | .0008 | .0006 | .0007 | .0010 | .0003 | .4 |
| %RSD | .9471 | .1054 | 7.616 | 101.9 | 20.35 | 272.6 | 21.84 | .0466 | .2141 |
| #1 | .0401 | .7404 | .0028 | .0004 | .0027 | -.0004 | .0041 | .5510 | 194.0 |
| #2 | .0400 | .7398 | .0029 | .0002 | .0028 | .0005 | .0055 | .5504 | 194.5 |
| #3 | .0407 | .7414 | .0033 | .0017 | .0038 | -.0009 | .0036 | .5507 | 194.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4286** | **2.601** | **6.750** | F **611.1** | **.0571** | **.0059** | **3.823** | **.0325** | **.6592** |
| Stddev | .0087 | .009 | .070 | 8.9 | .0003 | .0000 | .009 | .0001 | .0018 |
| %RSD | 2.023 | .3364 | 1.041 | 1.458 | .5056 | .5555 | .2238 | .2954 | .2764 |
| #1 | .4361 | 2.592 | 6.674 | 621.4 | .0571 | .0059 | 3.818 | .0324 | .6609 |
| #2 | .4191 | 2.610 | 6.764 | 605.3 | .0573 | .0058 | 3.819 | .0326 | .6573 |
| #3 | .4305 | 2.601 | 6.813 | 606.7 | .0567 | .0059 | 3.833 | .0324 | .6595 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0082** | **-.0003** | **-.0013** | **12.82** | **-.0010** | **.0218** | **.1620** |
| Stddev | .0003 | .0010 | .0002 | .02 | .0009 | .0017 | .0009 |
| %RSD | 3.881 | 304.6 | 17.51 | .1640 | 88.88 | 7.625 | .5388 |
| #1 | .0080 | -.0004 | -.0014 | 12.81 | .0000 | .0206 | .1611 |
| #2 | .0086 | .0007 | -.0015 | 12.81 | -.0017 | .0212 | .1620 |
| #3 | .0081 | -.0013 | -.0011 | 12.85 | -.0014 | .0237 | .1629 |



Zoom In Zoom Out

Sample Name: mp14906-s1 Acquired: 5/10/2019 18:06:00 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **80823.** | **8453.1** | **5779.1** | **11150.** |
| Stddev | 138. | 15.7 | 10.2 | 17. |
| %RSD | .17066 | .18598 | .17684 | .15602 |
| #1 | 80777. | 8436.8 | 5789.1 | 11162. |
| #2 | 80713. | 8454.3 | 5779.7 | 11157. |
| #3 | 80978. | 8468.2 | 5768.7 | 11130. |



Zoom In Zoom Out

Sample Name: mp14906-s2 Acquired: 5/10/2019 18:11:14 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1963** | **-.0000** | **.0013** | **.0034** | **.0186** | **.0135** | **.4063** | **.0126** | **-.0009** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0004 | .0002 | .0048 | .0001 | .0001 |
| %RSD | .1962 | 142.9 | 10.65 | 4.250 | 1.951 | 1.186 | 1.184 | .6323 | 6.605 |
| #1 | .1965 | -.0000 | .0012 | .0034 | .0186 | .0134 | .4014 | .0126 | -.0010 |
| #2 | .1959 | -.0000 | .0015 | .0033 | .0183 | .0136 | .4064 | .0125 | -.0009 |
| #3 | .1965 | -.0001 | .0014 | .0035 | .0190 | .0137 | .4110 | .0127 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0407** | **.7419** | **.0020** | **.0005** | **.0034** | **.0013** | **.0052** | **.5466** | **194.0** |
| Stddev | .0007 | .0044 | .0007 | .0005 | .0002 | .0003 | .0012 | .0085 | .1 |
| %RSD | 1.801 | .5954 | 34.98 | 100.6 | 5.102 | 20.29 | 24.06 | 1.547 | .0644 |
| #1 | .0400 | .7451 | .0020 | .0001 | .0036 | .0011 | .0066 | .5369 | 194.0 |
| #2 | .0406 | .7369 | .0027 | .0011 | .0034 | .0014 | .0048 | .5515 | 194.1 |
| #3 | .0414 | .7437 | .0013 | .0003 | .0033 | .0016 | .0041 | .5516 | 193.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4355** | **2.622** | **6.983** | F **590.2** | **.0572** | **.0062** | **3.842** | **.0330** | **.6546** |
| Stddev | .0046 | .030 | .034 | 7.1 | .0009 | .0001 | .028 | .0008 | .0014 |
| %RSD | 1.045 | 1.158 | .4877 | 1.208 | 1.597 | .9604 | .7327 | 2.437 | .2186 |
| #1 | .4331 | 2.587 | 6.953 | 594.1 | .0582 | .0062 | 3.870 | .0339 | .6553 |
| #2 | .4408 | 2.642 | 7.020 | 594.6 | .0568 | .0063 | 3.813 | .0328 | .6556 |
| #3 | .4328 | 2.638 | 6.976 | 582.0 | .0565 | .0062 | 3.843 | .0323 | .6530 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0086** | **-.0007** | **-.0013** | **12.91** | **.0003** | **.0296** | **.1635** |
| Stddev | .0008 | .0007 | .0001 | .10 | .0015 | .0007 | .0019 |
| %RSD | 9.390 | 90.63 | 5.467 | .7776 | 588.3 | 2.376 | 1.146 |
| #1 | .0077 | -.0008 | -.0012 | 13.00 | -.0015 | .0294 | .1645 |
| #2 | .0093 | -.0001 | -.0013 | 12.80 | .0009 | .0304 | .1613 |
| #3 | .0088 | -.0014 | -.0014 | 12.93 | .0013 | .0290 | .1646 |

Zoom In Zoom Out

Sample Name: mp14906-s2 Acquired: 5/10/2019 18:11:14 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **80361.** | **8473.1** | **5751.1** | **11097.** |
| Stddev | 1021. | 9.6 | 23.9 | 41. |
| %RSD | 1.2710 | .11312 | .41556 | .36788 |
| #1 | 81519. | 8472.9 | 5731.2 | 11067. |
| #2 | 79975. | 8482.8 | 5777.6 | 11144. |
| #3 | 79589. | 8463.7 | 5744.5 | 11081. |



Zoom In Zoom Out

Sample Name: da15555-1a Acquired: 5/10/2019 18:16:28 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1948** | **.0001** | **.0013** | **.0032** | **.0181** | **.0136** | **.3996** | **.0126** | **-.0013** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0002 | .0005 | .0002 | .0008 |
| %RSD | .1145 | 92.63 | 6.465 | 7.427 | 1.331 | 1.317 | .1232 | 1.928 | 64.03 |
| #1 | .1950 | .0000 | .0012 | .0030 | .0184 | .0135 | .3992 | .0123 | -.0012 |
| #2 | .1947 | .0003 | .0014 | .0033 | .0181 | .0138 | .4002 | .0127 | -.0005 |
| #3 | .1946 | .0002 | .0014 | .0035 | .0179 | .0134 | .3994 | .0128 | -.0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0397** | **.7300** | **.0023** | **.0000** | **.0036** | **.0011** | **.0047** | **.5397** | **193.3** |
| Stddev | .0002 | .0009 | .0003 | .0013 | .0003 | .0014 | .0011 | .0149 | .3 |
| %RSD | .5583 | .1228 | 12.39 | 5351. | 8.908 | 121.4 | 22.68 | 2.767 | .1614 |
| #1 | .0397 | .7308 | .0020 | -.0013 | .0034 | .0014 | .0040 | .5226 | 193.5 |
| #2 | .0395 | .7290 | .0025 | .0012 | .0034 | -.0004 | .0040 | .5503 | 192.9 |
| #3 | .0400 | .7301 | .0023 | .0002 | .0039 | .0023 | .0059 | .5463 | 193.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4243** | **2.604** | **6.924** | F **567.1** | **.0560** | **.0059** | **3.776** | **.0344** | **.6520** |
| Stddev | .0018 | .012 | .020 | 4.0 | .0009 | .0002 | .009 | .0004 | .0006 |
| %RSD | .4187 | .4493 | .2889 | .7082 | 1.570 | 3.635 | .2242 | 1.139 | .0930 |
| #1 | .4225 | 2.592 | 6.947 | 571.7 | .0559 | .0061 | 3.785 | .0343 | .6521 |
| #2 | .4260 | 2.605 | 6.916 | 564.2 | .0551 | .0057 | 3.770 | .0341 | .6513 |
| #3 | .4245 | 2.616 | 6.910 | 565.4 | .0569 | .0059 | 3.771 | .0349 | .6525 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0079** | **-.0009** | **-.0011** | **10.54** | **-.0003** | **.0334** | **.1601** |
| Stddev | .0003 | .0009 | .0001 | .02 | .0009 | .0016 | .0005 |
| %RSD | 3.272 | 97.84 | 9.228 | .1535 | 267.6 | 4.794 | .3147 |
| #1 | .0080 | -.0014 | -.0011 | 10.56 | -.0010 | .0322 | .1603 |
| #2 | .0081 | -.0015 | -.0011 | 10.53 | .0007 | .0328 | .1595 |
| #3 | .0076 | .0001 | -.0009 | 10.54 | -.0007 | .0352 | .1604 |



Zoom In Zoom Out

Sample Name: da15555-1a Acquired: 5/10/2019 18:16:28 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **80059.** | **8366.6** | **5720.3** | **11049.** |
| Stddev | 69. | 17.9 | 12.7 | 28. |
| %RSD | .08569 | .21440 | .22274 | .25358 |
| #1 | 79982. | 8379.8 | 5713.0 | 11025. |
| #2 | 80079. | 8373.8 | 5735.1 | 11080. |
| #3 | 80115. | 8346.2 | 5713.0 | 11042. |



Zoom In Zoom Out

Sample Name: mp14906-sd1 Acquired: 5/10/2019 18:21:44 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1943** | **-.0003** | **.0014** | **.0031** | **.0190** | **.0094** | **.4028** | **.0129** | **-.0069** |
| Stddev | .0035 | .0004 | .0004 | .0016 | .0012 | .0019 | .0023 | .0005 | .0011 |
| %RSD | 1.819 | 141.8 | 25.23 | 51.52 | 6.212 | 20.23 | .5675 | 4.092 | 16.41 |
| #1 | .1980 | .0002 | .0015 | .0039 | .0202 | .0096 | .4005 | .0126 | -.0062 |
| #2 | .1938 | -.0005 | .0010 | .0013 | .0179 | .0074 | .4028 | .0135 | -.0063 |
| #3 | .1910 | -.0006 | .0017 | .0041 | .0188 | .0112 | .4051 | .0126 | -.0082 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0406** | **.7482** | **.0042** | **.0024** | **.0053** | **.0066** | **.0054** | **.5424** | **194.1** |
| Stddev | .0019 | .0017 | .0019 | .0044 | .0053 | .0038 | .0036 | .0477 | 1.8 |
| %RSD | 4.660 | .2207 | 45.96 | 183.0 | 99.64 | 57.43 | 66.26 | 8.795 | .9251 |
| #1 | .0423 | .7486 | .0027 | .0009 | .0111 | .0036 | .0095 | .5855 | 196.2 |
| #2 | .0385 | .7496 | .0064 | .0073 | .0041 | .0054 | .0034 | .4912 | 192.8 |
| #3 | .0409 | .7464 | .0035 | -.0010 | .0007 | .0109 | .0033 | .5506 | 193.4 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4601** | **2.617** | **6.933** | **682.2** | **.0596** | **.0055** | **3.722** | **.0370** | **.6509** |
| Stddev | .0051 | .079 | .133 | 6.7 | .0054 | .0011 | .009 | .0013 | .0071 |
| %RSD | 1.117 | 3.024 | 1.918 | .9758 | 9.143 | 19.94 | .2444 | 3.522 | 1.090 |
| #1 | .4658 | 2.537 | 7.056 | 689.6 | .0612 | .0048 | 3.732 | .0357 | .6589 |
| #2 | .4586 | 2.618 | 6.792 | 676.6 | .0640 | .0050 | 3.717 | .0383 | .6454 |
| #3 | .4558 | 2.695 | 6.951 | 680.5 | .0535 | .0068 | 3.716 | .0369 | .6484 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0104** | **.0006** | **-.0007** | **10.23** | **.0033** | **.1002** | **.1732** |
| Stddev | .0002 | .0009 | .0004 | .03 | .0055 | .0051 | .0046 |
| %RSD | 1.440 | 133.2 | 55.67 | .3172 | 164.5 | 5.043 | 2.658 |
| #1 | .0104 | -.0003 | -.0005 | 10.27 | .0033 | .1012 | .1683 |
| #2 | .0106 | .0009 | -.0012 | 10.22 | -.0021 | .1047 | .1774 |
| #3 | .0103 | .0013 | -.0005 | 10.21 | .0088 | .0947 | .1739 |

Zoom In Zoom Out

Sample Name: mp14906-sd1 Acquired: 5/10/2019 18:21:44 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84077.** | **8539.3** | **5983.9** | **11866.** |
| Stddev | 357. | 72.2 | 14.7 | 26. |
| %RSD | .42481 | .84511 | .24647 | .21871 |
| #1 | 84461. | 8458.8 | 5998.2 | 11893. |
| #2 | 84014. | 8598.3 | 5984.7 | 11865. |
| #3 | 83754. | 8560.9 | 5968.8 | 11841. |



Zoom In Zoom Out

Sample Name: mp14918-s1 Acquired: 5/10/2019 18:26:49 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.463** | **1.861** | **1.901** | **1.990** | **2.214** | **2.180** | **4.765** | **2.019** | **.2405** |
| Stddev | .001 | .002 | .010 | .010 | .012 | .010 | .058 | .010 | .0013 |
| %RSD | .0498 | .0897 | .5350 | .5022 | .5463 | .4558 | 1.211 | .4786 | .5509 |
| #1 | 2.462 | 1.859 | 1.893 | 1.981 | 2.223 | 2.186 | 4.831 | 2.012 | .2413 |
| #2 | 2.463 | 1.861 | 1.912 | 2.001 | 2.201 | 2.169 | 4.728 | 2.030 | .2390 |
| #3 | 2.465 | 1.862 | 1.898 | 1.988 | 2.219 | 2.186 | 4.735 | 2.014 | .2412 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.033** | **3.063** | **1.993** | **1.944** | **2.552** | **1.847** | **1.355** | **101.0** | **38.85** |
| Stddev | .009 | .013 | .011 | .007 | .011 | .008 | .009 | .1 | .02 |
| %RSD | .4281 | .4301 | .5700 | .3660 | .4096 | .4224 | .6955 | .0799 | .0530 |
| #1 | 2.040 | 3.054 | 1.983 | 1.939 | 2.544 | 1.839 | 1.347 | 100.9 | 38.83 |
| #2 | 2.023 | 3.078 | 2.006 | 1.952 | 2.564 | 1.854 | 1.366 | 100.9 | 38.85 |
| #3 | 2.035 | 3.057 | 1.991 | 1.941 | 2.549 | 1.848 | 1.353 | 101.1 | 38.87 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **150.4** | **44.96** | **37.10** | **25.11** | **1.864** | **1.861** | **4.105** | **1.883** | **2.038** |
| Stddev | .3 | .04 | .05 | .04 | .011 | .009 | .033 | .010 | .002 |
| %RSD | .1888 | .0835 | .1310 | .1663 | .5762 | .4849 | .7965 | .5098 | .0853 |
| #1 | 150.1 | 45.00 | 37.05 | 25.07 | 1.856 | 1.854 | 4.096 | 1.875 | 2.036 |
| #2 | 150.5 | 44.95 | 37.10 | 25.11 | 1.876 | 1.872 | 4.141 | 1.893 | 2.039 |
| #3 | 150.7 | 44.93 | 37.15 | 25.15 | 1.861 | 1.858 | 4.077 | 1.880 | 2.039 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.975** | **.9310** | **1.980** | **35.64** | **-.0110** | **.1287** | **4.172** |
| Stddev | .016 | .0055 | .008 | .19 | .0021 | .0018 | .022 |
| %RSD | .4039 | .5874 | .3899 | .5394 | 18.57 | 1.395 | .5381 |
| #1 | 3.991 | .9259 | 1.984 | 35.48 | -.0092 | .1307 | 4.152 |
| #2 | 3.959 | .9368 | 1.971 | 35.86 | -.0133 | .1274 | 4.196 |
| #3 | 3.977 | .9302 | 1.985 | 35.60 | -.0107 | .1279 | 4.166 |



Zoom In Zoom Out

Sample Name: mp14918-s1 Acquired: 5/10/2019 18:26:49 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86495.** | **8939.7** | **6163.9** | **12199.** |
| Stddev | 483. | 28.0 | 24.5 | 45. |
| %RSD | .55876 | .31296 | .39727 | .37194 |
| #1 | 86165. | 8970.4 | 6169.9 | 12207. |
| #2 | 87050. | 8933.3 | 6136.9 | 12149. |
| #3 | 86270. | 8915.5 | 6184.8 | 12239. |



Zoom In Zoom Out

Sample Name: mp14918-s2 Acquired: 5/10/2019 18:31:45 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.483** | **1.882** | **1.918** | **2.003** | **2.230** | **2.204** | **4.839** | **2.033** | **.2431** |
| Stddev | .004 | .003 | .003 | .001 | .010 | .007 | .024 | .002 | .0005 |
| %RSD | .1631 | .1617 | .1576 | .0610 | .4593 | .3049 | .4907 | .1043 | .2177 |
| #1 | 2.479 | 1.878 | 1.920 | 2.004 | 2.218 | 2.199 | 4.835 | 2.035 | .2424 |
| #2 | 2.484 | 1.883 | 1.919 | 2.003 | 2.238 | 2.212 | 4.817 | 2.033 | .2434 |
| #3 | 2.487 | 1.883 | 1.914 | 2.002 | 2.233 | 2.202 | 4.864 | 2.031 | .2434 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.049** | **3.055** | **2.014** | **1.964** | **2.566** | **1.863** | **1.401** | **99.02** | **40.26** |
| Stddev | .007 | .003 | .001 | .005 | .004 | .002 | .001 | .11 | .05 |
| %RSD | .3632 | .0891 | .0626 | .2557 | .1445 | .1084 | .0339 | .1159 | .1128 |
| #1 | 2.041 | 3.058 | 2.016 | 1.967 | 2.570 | 1.862 | 1.401 | 98.93 | 40.21 |
| #2 | 2.056 | 3.056 | 2.013 | 1.968 | 2.566 | 1.866 | 1.400 | 98.98 | 40.26 |
| #3 | 2.049 | 3.052 | 2.014 | 1.959 | 2.563 | 1.863 | 1.400 | 99.15 | 40.31 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **149.4** | **44.09** | **36.45** | **25.40** | **1.878** | **1.882** | **4.600** | **1.904** | **2.065** |
| Stddev | .1 | .04 | .03 | .05 | .004 | .002 | .020 | .001 | .003 |
| %RSD | .0680 | .1012 | .0856 | .2040 | .1990 | .1284 | .4400 | .0751 | .1414 |
| #1 | 149.3 | 44.14 | 36.45 | 25.38 | 1.881 | 1.884 | 4.620 | 1.906 | 2.062 |
| #2 | 149.5 | 44.06 | 36.42 | 25.37 | 1.880 | 1.883 | 4.579 | 1.904 | 2.065 |
| #3 | 149.4 | 44.07 | 36.49 | 25.46 | 1.874 | 1.879 | 4.601 | 1.903 | 2.068 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.917** | **.9742** | **2.009** | **34.31** | **-.0125** | **.1161** | **4.564** |
| Stddev | .017 | .0020 | .008 | .05 | .0008 | .0013 | .004 |
| %RSD | .4327 | .2020 | .4196 | .1463 | 6.107 | 1.124 | .0955 |
| #1 | 3.899 | .9761 | 2.002 | 34.34 | -.0132 | .1173 | 4.566 |
| #2 | 3.933 | .9722 | 2.019 | 34.34 | -.0117 | .1162 | 4.567 |
| #3 | 3.918 | .9744 | 2.007 | 34.25 | -.0126 | .1147 | 4.559 |

Zoom In Zoom Out

Sample Name: mp14918-s2 Acquired: 5/10/2019 18:31:45 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **85626.** | **8854.5** | **6120.8** | **12133.** |
| Stddev | 324. | 39.9 | 17.1 | 30. |
| %RSD | .37826 | .45016 | .27985 | .24864 |
| #1 | 85998. | 8825.2 | 6113.8 | 12116. |
| #2 | 85404. | 8899.9 | 6108.3 | 12115. |
| #3 | 85476. | 8838.3 | 6140.3 | 12168. |



Zoom In Zoom Out

Sample Name: jc87535-8 Acquired: 5/10/2019 18:36:41 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4850** | **.0032** | **.0031** | **.0580** | **.3132** | **.2411** | **2.917** | **.1075** | **-.0002** |
| Stddev | .0004 | .0000 | .0000 | .0002 | .0002 | .0005 | .008 | .0002 | .0001 |
| %RSD | .0843 | .3611 | 1.576 | .3049 | .0608 | .2016 | .2840 | .2044 | 52.46 |
| #1 | .4854 | .0032 | .0030 | .0582 | .3132 | .2412 | 2.916 | .1073 | -.0001 |
| #2 | .4845 | .0032 | .0031 | .0579 | .3131 | .2406 | 2.926 | .1077 | -.0003 |
| #3 | .4850 | .0032 | .0031 | .0579 | .3134 | .2416 | 2.910 | .1075 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1049** | **1.205** | **.0911** | **-.0004** | **.5340** | **-.0012** | **.0034** | **52.83** | **12.93** |
| Stddev | .0003 | .001 | .0004 | .0005 | .0009 | .0015 | .0008 | .11 | .03 |
| %RSD | .2899 | .1174 | .4131 | 130.8 | .1754 | 123.6 | 22.19 | .2106 | .2396 |
| #1 | .1050 | 1.205 | .0906 | -.0009 | .5344 | -.0015 | .0040 | 52.95 | 12.97 |
| #2 | .1052 | 1.206 | .0913 | -.0003 | .5329 | .0004 | .0036 | 52.75 | 12.92 |
| #3 | .1046 | 1.203 | .0913 | .0001 | .5346 | -.0025 | .0026 | 52.78 | 12.91 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **120.3** | **18.18** | **7.175** | **.6532** | **.0294** | **.0041** | **2.133** | **.0647** | **.0831** |
| Stddev | .3 | .02 | .026 | .0010 | .0006 | .0002 | .008 | .0008 | .0001 |
| %RSD | .2116 | .0834 | .3580 | .1502 | 1.905 | 5.582 | .3772 | 1.270 | .1528 |
| #1 | 120.6 | 18.19 | 7.166 | .6526 | .0288 | .0043 | 2.130 | .0649 | .0830 |
| #2 | 120.1 | 18.16 | 7.204 | .6544 | .0294 | .0038 | 2.143 | .0638 | .0833 |
| #3 | 120.2 | 18.19 | 7.155 | .6528 | .0300 | .0042 | 2.128 | .0654 | .0831 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.752** | **.0035** | **.0455** | **36.25** | **.0010** | **.1242** | **2.281** |
| Stddev | .003 | .0006 | .0000 | .04 | .0003 | .0003 | .005 |
| %RSD | .1582 | 17.75 | .0594 | .1127 | 26.00 | .2779 | .2045 |
| #1 | 1.755 | .0034 | .0455 | 36.23 | .0012 | .1242 | 2.276 |
| #2 | 1.750 | .0042 | .0454 | 36.30 | .0007 | .1238 | 2.286 |
| #3 | 1.751 | .0030 | .0455 | 36.23 | .0011 | .1245 | 2.280 |



Zoom In Zoom Out

Sample Name: jc87535-8 Acquired: 5/10/2019 18:36:41 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86568.** | **8846.3** | **6212.7** | **12382.** |
| Stddev | 241. | 41.6 | 11.1 | 27. |
| %RSD | .27856 | .47075 | .17854 | .21935 |
| #1 | 86290. | 8803.7 | 6207.4 | 12376. |
| #2 | 86702. | 8886.9 | 6205.3 | 12358. |
| #3 | 86713. | 8848.3 | 6225.5 | 12412. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 18:41:50 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.069** | **2.010** | **2.031** | **2.058** | **2.060** | **2.067** | **2.054** | **2.030** | **.2531** |
| Stddev | .004 | .002 | .001 | .002 | .002 | .005 | .003 | .001 | .0006 |
| %RSD | .1679 | .0758 | .0274 | .0878 | .1147 | .2395 | .1478 | .0521 | .2297 |
| #1 | 2.072 | 2.009 | 2.031 | 2.056 | 2.058 | 2.063 | 2.057 | 2.029 | .2527 |
| #2 | 2.071 | 2.012 | 2.031 | 2.059 | 2.060 | 2.065 | 2.052 | 2.031 | .2538 |
| #3 | 2.066 | 2.010 | 2.032 | 2.059 | 2.063 | 2.072 | 2.052 | 2.030 | .2528 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.065** | **2.041** | **1.994** | **2.082** | **2.040** | **2.008** | **1.993** | **40.63** | **40.63** |
| Stddev | .002 | .002 | .005 | .002 | .003 | .005 | .004 | .04 | .05 |
| %RSD | .0741 | .1187 | .2378 | .1014 | .1581 | .2639 | .1908 | .0900 | .1268 |
| #1 | 2.063 | 2.039 | 1.988 | 2.080 | 2.041 | 2.004 | 1.989 | 40.65 | 40.66 |
| #2 | 2.064 | 2.044 | 1.996 | 2.084 | 2.042 | 2.006 | 1.997 | 40.65 | 40.67 |
| #3 | 2.066 | 2.041 | 1.997 | 2.083 | 2.036 | 2.014 | 1.993 | 40.58 | 40.57 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.38** | **38.96** | **40.28** | **40.41** | **2.058** | **2.010** | **5.021** | **1.965** | **2.091** |
| Stddev | .12 | .15 | .08 | .05 | .003 | .002 | .005 | .002 | .002 |
| %RSD | .2847 | .3973 | .1893 | .1180 | .1675 | .1001 | .0910 | .0771 | .1078 |
| #1 | 40.31 | 38.90 | 40.34 | 40.36 | 2.055 | 2.007 | 5.017 | 1.963 | 2.090 |
| #2 | 40.52 | 39.14 | 40.32 | 40.46 | 2.057 | 2.010 | 5.026 | 1.966 | 2.094 |
| #3 | 40.32 | 38.85 | 40.20 | 40.40 | 2.062 | 2.011 | 5.021 | 1.965 | 2.091 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 18:41:50 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.027** | **1.992** | **2.030** | **2.006** | **2.078** | **2.057** | **1.968** |
| Stddev | .002 | .004 | .003 | .007 | .002 | .004 | .003 |
| %RSD | .0720 | .2159 | .1670 | .3353 | .0942 | .1867 | .1502 |
| #1 | 2.026 | 1.988 | 2.028 | 2.001 | 2.076 | 2.056 | 1.966 |
| #2 | 2.027 | 1.996 | 2.028 | 2.014 | 2.079 | 2.061 | 1.971 |
| #3 | 2.029 | 1.993 | 2.034 | 2.004 | 2.080 | 2.053 | 1.966 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **83048.** | **8500.2** | **5942.6** | **11918.** |
| Stddev | 123. | 36.1 | .6 | 5. |
| %RSD | .14775 | .42448 | .00954 | .04298 |
| #1 | 82906. | 8539.9 | 5943.2 | 11918. |
| #2 | 83128. | 8469.5 | 5942.1 | 11913. |
| #3 | 83109. | 8491.1 | 5942.5 | 11923. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 18:46:51 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0000** | **-.0002** | **.0001** | **.0001** | **-.0012** | **.0000** | **.0002** | **-.0010** |
| Stddev | .0004 | .0001 | .0000 | .0001 | .0002 | .0002 | .0001 | .0001 | .0004 |
| %RSD | 1639. | 233.3 | 23.75 | 70.20 | 160.6 | 14.33 | 502.1 | 28.18 | 36.72 |
| #1 | .0005 | .0000 | -.0001 | .0001 | .0003 | -.0014 | -.0001 | .0002 | -.0006 |
| #2 | -.0002 | -.0001 | -.0002 | .0003 | .0001 | -.0010 | .0000 | .0003 | -.0010 |
| #3 | -.0002 | -.0000 | -.0002 | .0001 | -.0001 | -.0012 | .0001 | .0002 | -.0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0004** | **.0007** | **-.0004** | **-.0009** | **.0015** | **.0000** | **-.0097** | **-.0014** |
| Stddev | .0002 | .0001 | .0006 | .0008 | .0001 | .0006 | .0007 | .0084 | .0026 |
| %RSD | 326.7 | 23.41 | 87.25 | 173.9 | 11.79 | 42.61 | 1597. | 86.60 | 181.9 |
| #1 | -.0002 | -.0003 | .0004 | -.0007 | -.0009 | .0019 | .0006 | -.0071 | -.0038 |
| #2 | .0002 | -.0005 | .0014 | -.0011 | -.0010 | .0007 | -.0008 | -.0191 | .0014 |
| #3 | .0002 | -.0004 | .0003 | .0004 | -.0008 | .0018 | .0003 | -.0029 | -.0020 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0043** | **-.0083** | **.0044** | **.1186** | **.0045** | **.0001** | **.0009** | **.0002** | **.0001** |
| Stddev | .0031 | .0245 | .0365 | .0128 | .0002 | .0001 | .0003 | .0003 | .0001 |
| %RSD | 71.69 | 295.5 | 835.7 | 10.82 | 3.918 | 75.78 | 36.66 | 109.2 | 127.3 |
| #1 | -.0019 | -.0255 | .0255 | .1320 | .0045 | .0002 | .0005 | .0004 | .0000 |
| #2 | -.0032 | -.0192 | -.0378 | .1174 | .0047 | .0001 | .0011 | .0003 | .0000 |
| #3 | -.0078 | .0198 | .0253 | .1065 | .0043 | .0000 | .0011 | -.0001 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 18:46:51 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0010** | **.0000** | **-.0003** | **.0004** | F **.0113** | **.0035** |
| Stddev | .0002 | .0001 | .0001 | .0010 | .0017 | .0008 | .0002 |
| %RSD | 85.89 | 7.435 | 292.0 | 311.5 | 431.2 | 6.919 | 5.883 |
| #1 | .0000 | .0010 | .0000 | -.0013 | -.0012 | .0105 | .0033 |
| #2 | .0005 | .0010 | -.0001 | .0006 | .0001 | .0112 | .0037 |
| #3 | .0003 | .0009 | .0001 | -.0003 | .0023 | .0121 | .0036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86350.** | **8524.0** | **6143.6** | **12558.** |
| Stddev | 243. | 48.5 | 15.0 | 41. |
| %RSD | .28171 | .56909 | .24428 | .32923 |
| #1 | 86344. | 8524.8 | 6127.0 | 12511. |
| #2 | 86110. | 8475.2 | 6147.8 | 12577. |
| #3 | 86597. | 8572.2 | 6156.1 | 12587. |



Zoom In Zoom Out

Sample Name: mp14918-sd1 Acquired: 5/10/2019 18:52:02 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5028** | **.0026** | **.0028** | **.0598** | **.3320** | **.2460** | **3.127** | **.1107** | **-.0038** |
| Stddev | .0103 | .0002 | .0006 | .0005 | .0097 | .0060 | .082 | .0012 | .0011 |
| %RSD | 2.045 | 5.806 | 22.03 | .8064 | 2.933 | 2.448 | 2.628 | 1.041 | 28.92 |
| #1 | .5019 | .0025 | .0030 | .0603 | .3432 | .2530 | 3.222 | .1093 | -.0050 |
| #2 | .5135 | .0026 | .0033 | .0593 | .3255 | .2430 | 3.082 | .1114 | -.0029 |
| #3 | .4930 | .0028 | .0021 | .0598 | .3273 | .2421 | 3.076 | .1112 | -.0035 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1114** | **1.260** | **.0948** | **-.0040** | **.5461** | **-.0000** | **.0001** | **55.06** | **13.61** |
| Stddev | .0021 | .004 | .0010 | .0113 | .0019 | .0073 | .0072 | .97 | .30 |
| %RSD | 1.897 | .2939 | 1.070 | 279.7 | .3452 | 41360. | 12390. | 1.763 | 2.209 |
| #1 | .1129 | 1.264 | .0936 | .0046 | .5474 | -.0023 | .0077 | 54.99 | 13.61 |
| #2 | .1124 | 1.260 | .0955 | -.0169 | .5440 | .0082 | -.0010 | 56.06 | 13.92 |
| #3 | .1090 | 1.256 | .0952 | .0001 | .5470 | -.0059 | -.0065 | 54.12 | 13.32 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **126.2** | **19.02** | **7.060** | **.9339** | **.0412** | **.0042** | **2.363** | **.0700** | **.0860** |
| Stddev | 2.5 | .33 | .073 | .0438 | .0031 | .0006 | .024 | .0015 | .0017 |
| %RSD | 1.988 | 1.757 | 1.033 | 4.691 | 7.579 | 13.08 | 1.004 | 2.167 | 1.931 |
| #1 | 126.1 | 19.21 | 7.045 | .9047 | .0419 | .0036 | 2.384 | .0712 | .0865 |
| #2 | 128.8 | 19.22 | 7.140 | .9843 | .0439 | .0045 | 2.368 | .0683 | .0874 |
| #3 | 123.8 | 18.64 | 6.996 | .9129 | .0378 | .0046 | 2.337 | .0704 | .0842 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.821** | **.0102** | **.0473** | **37.08** | **-.0015** | **.1652** | **2.353** |
| Stddev | .047 | .0016 | .0012 | .07 | .0041 | .0120 | .018 |
| %RSD | 2.572 | 15.27 | 2.544 | .1980 | 274.1 | 7.240 | .7862 |
| #1 | 1.875 | .0115 | .0481 | 37.16 | .0033 | .1658 | 2.370 |
| #2 | 1.796 | .0106 | .0478 | 37.08 | -.0035 | .1769 | 2.356 |
| #3 | 1.792 | .0085 | .0459 | 37.01 | -.0043 | .1530 | 2.334 |

Zoom In Zoom Out

Sample Name: mp14918-sd1 Acquired: 5/10/2019 18:52:02 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84459.** | **8600.9** | **6137.0** | **12442.** |
| Stddev | 1966. | 156.5 | 10.4 | 18. |
| %RSD | 2.3281 | 1.8197 | .16917 | .14180 |
| #1 | 82189. | 8609.5 | 6125.6 | 12424. |
| #2 | 85642. | 8440.3 | 6139.4 | 12443. |
| #3 | 85545. | 8752.9 | 6145.9 | 12459. |



Zoom In Zoom Out

Sample Name: jc87746-1 Acquired: 5/10/2019 18:57:03 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.516** | **.0076** | **.0007** | **.1266** | **.1785** | **.2591** | F **8.414** | **.2403** | ***** |
| Stddev | .003 | .0001 | .0001 | .0003 | .0004 | .0012 | .042 | .0001 | ----- |
| %RSD | .1978 | .8945 | 20.16 | .2111 | .1966 | .4648 | .4963 | .0306 | ----- |
| #1 | 1.518 | .0077 | .0008 | .1263 | .1785 | .2578 | 8.431 | .2403 | ----- |
| #2 | 1.513 | .0076 | .0006 | .1269 | .1782 | .2595 | 8.444 | .2403 | ----- |
| #3 | 1.518 | .0075 | .0006 | .1266 | .1789 | .2601 | 8.366 | .2404 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2107** | **.9068** | **.0885** | **.0016** | **.3612** | **-.0094** | **-.0022** | **170.6** | **30.44** |
| Stddev | .0016 | .0012 | .0012 | .0010 | .0021 | .0020 | .0015 | .3 | .05 |
| %RSD | .7672 | .1304 | 1.362 | 59.94 | .5906 | 21.29 | 67.84 | .1601 | .1798 |
| #1 | .2088 | .9055 | .0871 | .0018 | .3588 | -.0110 | -.0005 | 170.7 | 30.50 |
| #2 | .2117 | .9071 | .0890 | .0006 | .3628 | -.0072 | -.0034 | 170.3 | 30.39 |
| #3 | .2116 | .9078 | .0893 | .0025 | .3620 | -.0099 | -.0026 | 170.8 | 30.42 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **289.3** | **50.83** | **12.90** | **.6632** | **.0278** | **.0056** | **2.556** | **.0185** | **.2384** |
| Stddev | .5 | .20 | .06 | .0085 | .0009 | .0001 | .011 | .0002 | .0003 |
| %RSD | .1838 | .3905 | .4322 | 1.288 | 3.341 | 1.811 | .4185 | 1.268 | .1421 |
| #1 | 289.5 | 51.04 | 12.96 | .6685 | .0267 | .0055 | 2.568 | .0184 | .2388 |
| #2 | 288.7 | 50.65 | 12.85 | .6534 | .0283 | .0055 | 2.550 | .0188 | .2381 |
| #3 | 289.7 | 50.79 | 12.87 | .6678 | .0283 | .0057 | 2.549 | .0183 | .2383 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7536** | **.0025** | **.0314** | **.6496** | **-.0064** | **.3102** | **5.549** |
| Stddev | .0031 | .0006 | .0000 | .0014 | .0003 | .0019 | .008 |
| %RSD | .4076 | 23.10 | .1412 | .2226 | 4.392 | .6081 | .1502 |
| #1 | .7501 | .0032 | .0314 | .6483 | -.0061 | .3122 | 5.540 |
| #2 | .7557 | .0021 | .0314 | .6493 | -.0063 | .3086 | 5.555 |
| #3 | .7551 | .0022 | .0315 | .6512 | -.0067 | .3096 | 5.554 |



Zoom In Zoom Out

Sample Name: jc87746-1 Acquired: 5/10/2019 18:57:03 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89013.** | **9204.5** | **6377.3** | **12363.** |
| Stddev | 318. | 23.0 | 10.0 | 20. |
| %RSD | .35712 | .24985 | .15758 | .16199 |
| #1 | 89318. | 9188.2 | 6385.2 | 12381. |
| #2 | 89038. | 9230.8 | 6380.8 | 12367. |
| #3 | 88683. | 9194.5 | 6366.0 | 12341. |



Zoom In Zoom Out

Sample Name: jc87746-2 Acquired: 5/10/2019 19:02:06 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9984** | **.0058** | **.0005** | **.1080** | **.1665** | **.2670** | **6.089** | **.2350** | ***** |
| Stddev | .0043 | .0000 | .0003 | .0008 | .0003 | .0008 | .003 | .0016 | ----- |
| %RSD | .4329 | .7517 | 57.36 | .7355 | .1968 | .2886 | .0497 | .6612 | ----- |
| #1 | 1.003 | .0059 | .0005 | .1071 | .1667 | .2678 | 6.086 | .2332 | ----- |
| #2 | .9953 | .0058 | .0008 | .1086 | .1666 | .2671 | 6.088 | .2356 | ----- |
| #3 | .9966 | .0058 | .0002 | .1084 | .1661 | .2663 | 6.092 | .2362 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1751** | **.6869** | **.0720** | **.0020** | **.1405** | **-.0079** | **-.0012** | **136.3** | **28.43** |
| Stddev | .0005 | .0046 | .0015 | .0034 | .0010 | .0008 | .0016 | .5 | .11 |
| %RSD | .2966 | .6769 | 2.125 | 172.3 | .7150 | 9.597 | 130.3 | .3758 | .3945 |
| #1 | .1755 | .6822 | .0702 | -.0003 | .1393 | -.0079 | -.0027 | 136.9 | 28.56 |
| #2 | .1753 | .6869 | .0728 | .0058 | .1410 | -.0072 | -.0015 | 135.9 | 28.34 |
| #3 | .1745 | .6915 | .0729 | .0004 | .1411 | -.0087 | .0005 | 136.2 | 28.40 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **260.5** | **54.87** | **14.03** | **1.483** | **.0318** | **.0056** | **2.201** | **.0168** | **.1211** |
| Stddev | 1.0 | .31 | .05 | .013 | .0001 | .0002 | .020 | .0006 | .0006 |
| %RSD | .3732 | .5575 | .3312 | .8423 | .4049 | 3.708 | .8913 | 3.429 | .5245 |
| #1 | 261.6 | 55.21 | 14.08 | 1.494 | .0317 | .0058 | 2.210 | .0174 | .1218 |
| #2 | 259.7 | 54.62 | 13.99 | 1.484 | .0320 | .0056 | 2.215 | .0168 | .1206 |
| #3 | 260.2 | 54.77 | 14.01 | 1.470 | .0318 | .0054 | 2.179 | .0162 | .1208 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4643** | **.0014** | **.0569** | **1.086** | **-.0059** | **.2806** | **3.745** |
| Stddev | .0017 | .0003 | .0003 | .009 | .0005 | .0012 | .022 |
| %RSD | .3665 | 21.36 | .4909 | .8387 | 8.454 | .4451 | .6016 |
| #1 | .4639 | .0011 | .0572 | 1.076 | -.0054 | .2819 | 3.723 |
| #2 | .4662 | .0014 | .0568 | 1.088 | -.0060 | .2794 | 3.744 |
| #3 | .4629 | .0016 | .0567 | 1.093 | -.0064 | .2804 | 3.768 |

Zoom In Zoom Out

Sample Name: jc87746-2 Acquired: 5/10/2019 19:02:06 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89802.** | **9199.7** | **6402.1** | **12505.** |
| Stddev | 291. | 9.5 | 33.5 | 56. |
| %RSD | .32394 | .10288 | .52328 | .44905 |
| #1 | 89554. | 9196.0 | 6433.0 | 12560. |
| #2 | 89729. | 9210.4 | 6406.8 | 12507. |
| #3 | 90122. | 9192.5 | 6366.5 | 12447. |



Zoom In Zoom Out

Sample Name: jc87746-3 Acquired: 5/10/2019 19:07:09 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8608** | **.0066** | **.0006** | **.0937** | **.1706** | **.2444** | **6.847** | **.2084** | **-.0016** |
| Stddev | .0019 | .0000 | .0003 | .0010 | .0023 | .0026 | .062 | .0023 | .0012 |
| %RSD | .2158 | .4472 | 48.89 | 1.064 | 1.349 | 1.060 | .9109 | 1.082 | 74.70 |
| #1 | .8629 | .0066 | .0006 | .0933 | .1680 | .2414 | 6.792 | .2080 | -.0002 |
| #2 | .8594 | .0066 | .0009 | .0931 | .1717 | .2458 | 6.833 | .2064 | -.0023 |
| #3 | .8602 | .0066 | .0003 | .0949 | .1722 | .2459 | 6.915 | .2108 | -.0023 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2271** | **.6584** | **.0592** | **.0029** | **.1642** | **-.0046** | **-.0006** | **156.1** | **12.43** |
| Stddev | .0032 | .0061 | .0020 | .0019 | .0009 | .0004 | .0004 | .3 | .01 |
| %RSD | 1.403 | .9297 | 3.405 | 68.03 | .5711 | 9.129 | 67.79 | .2100 | .0807 |
| #1 | .2235 | .6562 | .0585 | .0047 | .1647 | -.0051 | -.0006 | 156.4 | 12.44 |
| #2 | .2284 | .6537 | .0576 | .0008 | .1631 | -.0043 | -.0002 | 155.9 | 12.44 |
| #3 | .2295 | .6653 | .0615 | .0031 | .1647 | -.0045 | -.0010 | 155.9 | 12.42 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **248.9** | **43.98** | **15.44** | **1.905** | **.0382** | **.0063** | **2.360** | **.0179** | **.0775** |
| Stddev | .7 | .22 | .03 | .011 | .0004 | .0001 | .015 | .0011 | .0005 |
| %RSD | .2618 | .4920 | .1880 | .5656 | 1.146 | 2.363 | .6446 | 6.244 | .5868 |
| #1 | 249.7 | 44.21 | 15.47 | 1.917 | .0378 | .0062 | 2.357 | .0180 | .0780 |
| #2 | 248.6 | 43.79 | 15.42 | 1.900 | .0387 | .0063 | 2.346 | .0167 | .0773 |
| #3 | 248.5 | 43.93 | 15.44 | 1.897 | .0381 | .0065 | 2.376 | .0189 | .0772 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8625** | **.0027** | **.0468** | **.7083** | **-.0076** | **.2294** | **4.089** |
| Stddev | .0089 | .0010 | .0002 | .0080 | .0002 | .0019 | .039 |
| %RSD | 1.027 | 38.13 | .3793 | 1.131 | 2.657 | .8471 | .9602 |
| #1 | .8522 | .0019 | .0466 | .7040 | -.0074 | .2274 | 4.078 |
| #2 | .8677 | .0022 | .0469 | .7034 | -.0076 | .2313 | 4.057 |
| #3 | .8674 | .0038 | .0469 | .7176 | -.0078 | .2295 | 4.133 |



Zoom In Zoom Out

Sample Name: jc87746-3 Acquired: 5/10/2019 19:07:09 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89367.** | **9022.0** | **6414.7** | **12437.** |
| Stddev | 765. | 56.9 | 54.8 | 103. |
| %RSD | .85640 | .63057 | .85437 | .82586 |
| #1 | 90232. | 8956.3 | 6433.9 | 12476. |
| #2 | 89089. | 9056.8 | 6457.3 | 12514. |
| #3 | 88780. | 9052.8 | 6352.9 | 12320. |



Zoom In Zoom Out

Sample Name: jc87747-1 Acquired: 5/10/2019 19:12:14 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.058** | **.0070** | **.0008** | **.1138** | **.1758** | **.2872** | **7.829** | **.2377** | ***** |
| Stddev | .006 | .0000 | .0001 | .0001 | .0004 | .0003 | .027 | .0007 | ----- |
| %RSD | .5944 | .4973 | 18.19 | .0793 | .2407 | .1101 | .3424 | .3090 | ----- |
| #1 | 1.054 | .0070 | .0009 | .1137 | .1760 | .2869 | 7.798 | .2382 | ----- |
| #2 | 1.054 | .0071 | .0008 | .1139 | .1760 | .2875 | 7.842 | .2368 | ----- |
| #3 | 1.065 | .0070 | .0006 | .1137 | .1753 | .2873 | 7.847 | .2379 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1954** | **.7422** | **.0721** | **.0013** | **.2167** | **-.0073** | **-.0006** | **147.4** | **53.49** |
| Stddev | .0004 | .0029 | .0004 | .0010 | .0006 | .0022 | .0010 | .7 | .28 |
| %RSD | .2123 | .3966 | .6145 | 76.01 | .2891 | 30.03 | 153.1 | .4789 | .5320 |
| #1 | .1957 | .7444 | .0723 | .0002 | .2162 | -.0097 | -.0002 | 146.9 | 53.32 |
| #2 | .1949 | .7389 | .0725 | .0021 | .2165 | -.0066 | .0001 | 147.0 | 53.33 |
| #3 | .1956 | .7434 | .0716 | .0018 | .2174 | -.0055 | -.0017 | 148.2 | 53.81 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **266.9** | **50.58** | **16.54** | **2.601** | **.0366** | **.0062** | **2.440** | **.0167** | **.2475** |
| Stddev | 1.2 | .38 | .09 | .011 | .0004 | .0001 | .027 | .0004 | .0010 |
| %RSD | .4467 | .7493 | .5328 | .4398 | 1.219 | 1.922 | 1.098 | 2.310 | .4127 |
| #1 | 266.1 | 50.32 | 16.55 | 2.601 | .0371 | .0063 | 2.445 | .0168 | .2471 |
| #2 | 266.3 | 50.41 | 16.45 | 2.590 | .0364 | .0062 | 2.411 | .0163 | .2468 |
| #3 | 268.3 | 51.02 | 16.63 | 2.613 | .0362 | .0060 | 2.463 | .0171 | .2487 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6987** | **.0028** | **.0558** | **3.725** | **-.0060** | **.2809** | **3.635** |
| Stddev | .0036 | .0013 | .0001 | .012 | .0008 | .0031 | .020 |
| %RSD | .5141 | 46.83 | .1452 | .3305 | 13.04 | 1.099 | .5382 |
| #1 | .7022 | .0018 | .0558 | 3.732 | -.0051 | .2784 | 3.648 |
| #2 | .6950 | .0023 | .0557 | 3.711 | -.0064 | .2798 | 3.612 |
| #3 | .6991 | .0043 | .0559 | 3.732 | -.0066 | .2843 | 3.644 |

Zoom In Zoom Out

Sample Name: jc87747-1 Acquired: 5/10/2019 19:12:14 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89361.** | **9148.1** | **6398.2** | **12338.** |
| Stddev | 133. | 64.9 | 30.3 | 48. |
| %RSD | .14898 | .70972 | .47383 | .39257 |
| #1 | 89218. | 9206.9 | 6376.6 | 12310. |
| #2 | 89482. | 9159.0 | 6432.8 | 12394. |
| #3 | 89382. | 9078.4 | 6385.0 | 12310. |



Zoom In Zoom Out

Sample Name: jc87747-2 Acquired: 5/10/2019 19:17:19 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.132** | **.0073** | **.0022** | **.1252** | **.1859** | **.3009** | F **9.444** | **.2755** | ***** |
| Stddev | .001 | .0001 | .0001 | .0011 | .0007 | .0012 | .034 | .0006 | ----- |
| %RSD | .1180 | .7029 | 5.111 | .8827 | .3806 | .3962 | .3614 | .2357 | ----- |
| #1 | 1.133 | .0072 | .0024 | .1247 | .1860 | .3010 | 9.446 | .2754 | ----- |
| #2 | 1.131 | .0073 | .0021 | .1245 | .1865 | .3020 | 9.477 | .2750 | ----- |
| #3 | 1.131 | .0073 | .0022 | .1265 | .1851 | .2997 | 9.409 | .2763 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2011** | **.8946** | **.0730** | **.0026** | **.5102** | **-.0082** | **-.0014** | **148.6** | **55.85** |
| Stddev | .0003 | .0028 | .0006 | .0005 | .0025 | .0012 | .0011 | .2 | .10 |
| %RSD | .1738 | .3117 | .8847 | 18.25 | .4916 | 15.17 | 74.03 | .1415 | .1859 |
| #1 | .2011 | .8938 | .0732 | .0027 | .5087 | -.0076 | -.0011 | 148.8 | 55.94 |
| #2 | .2015 | .8923 | .0722 | .0021 | .5088 | -.0073 | -.0006 | 148.4 | 55.74 |
| #3 | .2008 | .8977 | .0735 | .0030 | .5131 | -.0096 | -.0026 | 148.6 | 55.87 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **273.6** | **54.70** | **18.10** | **1.530** | **.0345** | **.0082** | **2.191** | **.0194** | **.1598** |
| Stddev | .2 | .14 | .06 | .011 | .0007 | .0004 | .016 | .0012 | .0001 |
| %RSD | .0862 | .2593 | .3496 | .7237 | 2.149 | 4.433 | .7053 | 6.294 | .0891 |
| #1 | 273.8 | 54.86 | 18.13 | 1.537 | .0338 | .0079 | 2.209 | .0185 | .1597 |
| #2 | 273.3 | 54.59 | 18.03 | 1.517 | .0353 | .0086 | 2.179 | .0188 | .1599 |
| #3 | 273.6 | 54.65 | 18.14 | 1.535 | .0343 | .0082 | 2.187 | .0208 | .1597 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4888** | **.0034** | **.0536** | **1.335** | **-.0050** | **.2972** | **3.771** |
| Stddev | .0015 | .0005 | .0001 | .004 | .0012 | .0007 | .012 |
| %RSD | .2973 | 14.36 | .1770 | .3301 | 23.95 | .2478 | .3150 |
| #1 | .4903 | .0039 | .0535 | 1.331 | -.0038 | .2981 | 3.767 |
| #2 | .4886 | .0036 | .0537 | 1.334 | -.0049 | .2968 | 3.762 |
| #3 | .4874 | .0029 | .0536 | 1.339 | -.0062 | .2967 | 3.785 |



Zoom In Zoom Out

Sample Name: jc87747-2 Acquired: 5/10/2019 19:17:19 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89889.** | **9157.3** | **6363.6** | **12331.** |
| Stddev | 513. | 42.3 | 21.4 | 47. |
| %RSD | .57089 | .46174 | .33574 | .37908 |
| #1 | 89963. | 9112.7 | 6376.7 | 12355. |
| #2 | 89343. | 9196.8 | 6375.0 | 12361. |
| #3 | 90362. | 9162.3 | 6338.9 | 12277. |



Zoom In Zoom Out

Sample Name: jc87747-3 Acquired: 5/10/2019 19:22:22 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.229** | **.0080** | **.0007** | **.1334** | **.2063** | **.2887** | **7.669** | **.2702** | ***** |
| Stddev | .000 | .0000 | .0000 | .0007 | .0009 | .0013 | .033 | .0010 | ----- |
| %RSD | .0275 | .0324 | 4.992 | .5006 | .4426 | .4401 | .4327 | .3647 | ----- |
| #1 | 1.229 | .0080 | .0007 | .1328 | .2071 | .2895 | 7.653 | .2697 | ----- |
| #2 | 1.230 | .0080 | .0008 | .1341 | .2064 | .2894 | 7.707 | .2713 | ----- |
| #3 | 1.229 | .0080 | .0007 | .1332 | .2053 | .2872 | 7.646 | .2696 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2075** | **.8252** | **.0708** | **.0001** | **.2508** | **-.0092** | **.0002** | **159.4** | **34.77** |
| Stddev | .0011 | .0028 | .0011 | .0024 | .0010 | .0021 | .0010 | .3 | .02 |
| %RSD | .5437 | .3350 | 1.574 | 3788. | .4114 | 22.59 | 437.8 | .1896 | .0507 |
| #1 | .2081 | .8225 | .0701 | .0020 | .2512 | -.0113 | -.0007 | 159.5 | 34.76 |
| #2 | .2082 | .8280 | .0702 | -.0026 | .2496 | -.0090 | .0001 | 159.6 | 34.79 |
| #3 | .2062 | .8250 | .0720 | .0008 | .2516 | -.0072 | .0012 | 159.0 | 34.75 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **298.3** | **56.49** | **19.08** | **1.829** | **.0359** | **.0087** | **2.328** | **.0210** | **.1702** |
| Stddev | .5 | .05 | .04 | .011 | .0004 | .0003 | .014 | .0005 | .0004 |
| %RSD | .1830 | .0870 | .1927 | .5998 | 1.085 | 3.731 | .5779 | 2.184 | .2171 |
| #1 | 298.0 | 56.44 | 19.11 | 1.821 | .0359 | .0088 | 2.320 | .0207 | .1698 |
| #2 | 298.9 | 56.49 | 19.08 | 1.841 | .0364 | .0083 | 2.344 | .0215 | .1706 |
| #3 | 298.0 | 56.53 | 19.04 | 1.824 | .0356 | .0089 | 2.320 | .0207 | .1702 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5382** | **.0022** | **.0633** | **.7674** | **-.0077** | **.3259** | **3.950** |
| Stddev | .0037 | .0012 | .0006 | .0034 | .0012 | .0011 | .017 |
| %RSD | .6960 | 55.82 | .9187 | .4446 | 15.85 | .3387 | .4175 |
| #1 | .5424 | .0036 | .0639 | .7639 | -.0069 | .3246 | 3.932 |
| #2 | .5370 | .0018 | .0633 | .7707 | -.0091 | .3265 | 3.964 |
| #3 | .5353 | .0012 | .0627 | .7675 | -.0071 | .3266 | 3.954 |

Zoom In Zoom Out

Sample Name: jc87747-3 Acquired: 5/10/2019 19:22:22 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89852.** | **9189.0** | **6421.1** | **12399.** |
| Stddev | 517. | 6.3 | 14.0 | 30. |
| %RSD | .57550 | .06900 | .21780 | .24338 |
| #1 | 89381. | 9187.6 | 6429.4 | 12404. |
| #2 | 89770. | 9183.5 | 6404.9 | 12367. |
| #3 | 90406. | 9196.0 | 6428.9 | 12427. |



Zoom In Zoom Out

Sample Name: jc87747-4 Acquired: 5/10/2019 19:27:27 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.175** | **.0069** | **.0010** | **.1194** | **.1812** | **.3069** | F **9.167** | **.2496** | ***** |
| Stddev | .001 | .0001 | .0003 | .0003 | .0004 | .0009 | .036 | .0005 | ----- |
| %RSD | .1173 | .8126 | 28.90 | .2646 | .2183 | .2831 | .3904 | .1902 | ----- |
| #1 | 1.176 | .0068 | .0013 | .1198 | .1816 | .3079 | 9.166 | .2501 | ----- |
| #2 | 1.173 | .0069 | .0007 | .1193 | .1809 | .3063 | 9.203 | .2496 | ----- |
| #3 | 1.176 | .0069 | .0010 | .1192 | .1811 | .3065 | 9.131 | .2491 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1955** | **.8268** | **.0656** | **.0028** | **.3831** | **-.0074** | **.0002** | **149.7** | **30.35** |
| Stddev | .0010 | .0004 | .0012 | .0005 | .0004 | .0024 | .0019 | .3 | .05 |
| %RSD | .4911 | .0543 | 1.771 | 18.28 | .1094 | 32.76 | 784.6 | .2020 | .1789 |
| #1 | .1962 | .8265 | .0657 | .0026 | .3833 | -.0091 | -.0005 | 149.9 | 30.39 |
| #2 | .1944 | .8273 | .0668 | .0033 | .3827 | -.0085 | -.0012 | 149.4 | 30.29 |
| #3 | .1959 | .8264 | .0644 | .0024 | .3835 | -.0046 | .0024 | 149.9 | 30.38 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **278.1** | **52.07** | **16.26** | **1.846** | **.0309** | **.0075** | **2.233** | **.0183** | **.1402** |
| Stddev | .5 | .09 | .06 | .001 | .0002 | .0003 | .014 | .0003 | .0000 |
| %RSD | .1887 | .1720 | .3411 | .0763 | .5375 | 4.623 | .6296 | 1.695 | .0162 |
| #1 | 278.7 | 52.17 | 16.25 | 1.848 | .0310 | .0077 | 2.245 | .0186 | .1402 |
| #2 | 277.7 | 52.01 | 16.21 | 1.847 | .0307 | .0078 | 2.236 | .0180 | .1402 |
| #3 | 277.9 | 52.03 | 16.32 | 1.845 | .0310 | .0071 | 2.217 | .0184 | .1401 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5167** | **.0017** | **.0397** | **.9395** | **-.0056** | **.2946** | **4.214** |
| Stddev | .0047 | .0015 | .0002 | .0023 | .0011 | .0007 | .009 |
| %RSD | .9006 | 88.95 | .4107 | .2453 | 19.70 | .2500 | .2038 |
| #1 | .5198 | .0002 | .0398 | .9406 | -.0067 | .2953 | 4.218 |
| #2 | .5114 | .0016 | .0395 | .9411 | -.0045 | .2946 | 4.219 |
| #3 | .5190 | .0032 | .0398 | .9369 | -.0057 | .2938 | 4.204 |



Zoom In Zoom Out

Sample Name: jc87747-4 Acquired: 5/10/2019 19:27:27 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **89562.** | **9112.7** | **6372.6** | **12409.** |
| Stddev | 353. | 15.1 | 11.7 | 15. |
| %RSD | .39381 | .16568 | .18402 | .12432 |
| #1 | 89197. | 9098.1 | 6371.5 | 12418. |
| #2 | 89901. | 9128.2 | 6361.4 | 12391. |
| #3 | 89589. | 9111.8 | 6384.8 | 12417. |



Zoom In Zoom Out

Sample Name: jc87750-3 Acquired: 5/10/2019 19:32:30 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5933** | **.0102** | **.0022** | **.0841** | **.1570** | **.2553** | **6.019** | **.2016** | **-.0015** |
| Stddev | .0011 | .0001 | .0002 | .0003 | .0007 | .0003 | .037 | .0003 | .0007 |
| %RSD | .1829 | .7217 | 7.232 | .2972 | .4714 | .1272 | .6174 | .1662 | 48.01 |
| #1 | .5944 | .0102 | .0024 | .0839 | .1579 | .2557 | 6.035 | .2019 | -.0022 |
| #2 | .5933 | .0103 | .0021 | .0842 | .1568 | .2550 | 5.977 | .2013 | -.0008 |
| #3 | .5923 | .0101 | .0021 | .0844 | .1564 | .2553 | 6.045 | .2017 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1645** | **.5281** | **.0149** | **-.0008** | **.1433** | **-.0016** | **-.0043** | **243.9** | F **472.2** |
| Stddev | .0007 | .0006 | .0002 | .0014 | .0003 | .0013 | .0003 | .2 | 1.5 |
| %RSD | .3972 | .1078 | 1.353 | 172.4 | .2342 | 76.64 | 6.356 | .0725 | .3254 |
| #1 | .1644 | .5275 | .0151 | -.0014 | .1435 | -.0031 | -.0043 | 244.1 | 471.0 |
| #2 | .1640 | .5280 | .0149 | .0008 | .1435 | -.0008 | -.0045 | 243.8 | 473.9 |
| #3 | .1653 | .5286 | .0147 | -.0018 | .1429 | -.0011 | -.0040 | 243.8 | 471.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **122.5** | **65.10** | **13.70** | **2.396** | **.4254** | **.0041** | **1.688** | **.0143** | **1.645** |
| Stddev | .4 | .55 | .04 | .002 | .0005 | .0004 | .002 | .0008 | .002 |
| %RSD | .2901 | .8452 | .2943 | .0947 | .1286 | 9.511 | .1245 | 5.616 | .0924 |
| #1 | 122.1 | 64.46 | 13.75 | 2.394 | .4251 | .0037 | 1.689 | .0134 | 1.646 |
| #2 | 122.7 | 65.43 | 13.69 | 2.396 | .4261 | .0042 | 1.686 | .0149 | 1.645 |
| #3 | 122.7 | 65.40 | 13.67 | 2.399 | .4251 | .0045 | 1.690 | .0145 | 1.643 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.505** | **.0060** | **.0960** | F **196.1** | **-.0042** | **.3483** | **5.220** |
| Stddev | .004 | .0016 | .0002 | .1 | .0013 | .0014 | .003 |
| %RSD | .1612 | 26.88 | .2514 | .0341 | 30.59 | .3898 | .0614 |
| #1 | 2.505 | .0079 | .0960 | 196.1 | -.0056 | .3469 | 5.218 |
| #2 | 2.501 | .0048 | .0958 | 196.1 | -.0032 | .3496 | 5.219 |
| #3 | 2.509 | .0054 | .0963 | 196.2 | -.0037 | .3484 | 5.224 |

Zoom In Zoom Out

Sample Name: jc87750-3 Acquired: 5/10/2019 19:32:30 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84427.** | **8963.0** | **6074.5** | **11540.** |
| Stddev | 59. | 15.6 | 8.9 | 28. |
| %RSD | .06946 | .17453 | .14667 | .24535 |
| #1 | 84362. | 8946.8 | 6071.0 | 11524. |
| #2 | 84476. | 8978.0 | 6068.0 | 11523. |
| #3 | 84444. | 8964.3 | 6084.7 | 11573. |



Zoom In Zoom Out

Sample Name: jc87750-4 Acquired: 5/10/2019 19:37:40 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.200** | **.0113** | **-.0004** | **.1584** | **.3438** | **.0327** | **5.609** | **.3745** |
| Stddev | .002 | .0001 | .0002 | .0003 | .0005 | .0004 | .014 | .0004 |
| %RSD | .1477 | 1.320 | 55.35 | .2167 | .1444 | 1.290 | .2463 | .1051 |
| #1 | 1.198 | .0112 | -.0004 | .1584 | .3441 | .0322 | 5.613 | .3741 |
| #2 | 1.201 | .0114 | -.0005 | .1587 | .3440 | .0329 | 5.620 | .3743 |
| #3 | 1.201 | .0114 | -.0001 | .1580 | .3432 | .0330 | 5.593 | .3749 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **.3295** | **.8054** | **.0221** | **-.0016** | **.2103** | F **-.0106** | **.0044** |
| Stddev | ----- | .0008 | .0016 | .0010 | .0019 | .0005 | .0012 | .0003 |
| %RSD | ----- | .2309 | .1950 | 4.580 | 123.9 | .2178 | 11.21 | 6.830 |
| #1 | ----- | .3298 | .8049 | .0210 | -.0027 | .2100 | -.0096 | .0045 |
| #2 | ----- | .3301 | .8071 | .0230 | -.0027 | .2108 | -.0119 | .0041 |
| #3 | ----- | .3286 | .8041 | .0223 | .0007 | .2100 | -.0103 | .0047 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **148.5** | **19.89** | F **342.5** | **79.27** | **33.73** | **2.986** | **.2488** | **.0081** |
| Stddev | .3 | .05 | .6 | .26 | .09 | .010 | .0003 | .0005 |
| %RSD | .1757 | .2660 | .1651 | .3225 | .2592 | .3409 | .1179 | 6.440 |
| #1 | 148.2 | 19.83 | 341.9 | 78.98 | 33.69 | 2.985 | .2485 | .0086 |
| #2 | 148.7 | 19.91 | 342.7 | 79.36 | 33.67 | 2.976 | .2491 | .0082 |
| #3 | 148.7 | 19.93 | 343.0 | 79.47 | 33.83 | 2.996 | .2489 | .0076 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.326** | **.0110** | **.1162** | **4.302** | **.0031** | **.1312** | **8.553** | **-.0053** |
| Stddev | .014 | .0010 | .0003 | .004 | .0004 | .0004 | .015 | .0015 |
| %RSD | .5915 | 9.198 | .2412 | .1041 | 13.01 | .2874 | .1761 | 27.42 |
| #1 | 2.338 | .0113 | .1160 | 4.306 | .0033 | .1317 | 8.567 | -.0066 |
| #2 | 2.328 | .0118 | .1165 | 4.301 | .0027 | .1309 | 8.556 | -.0037 |
| #3 | 2.311 | .0099 | .1161 | 4.297 | .0035 | .1311 | 8.537 | -.0056 |



Zoom In Zoom Out

Sample Name: jc87750-4 Acquired: 5/10/2019 19:37:40 Type: Unk
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.6619** | **5.815** |
| Stddev | .0027 | .009 |
| %RSD | .4052 | .1566 |
| #1 | .6589 | 5.818 |
| #2 | .6631 | 5.822 |
| #3 | .6639 | 5.805 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **88839.** | **9209.7** | **6267.4** | **12466.** |
| Stddev | 222. | 35.3 | 21.0 | 30. |
| %RSD | .24991 | .38376 | .33479 | .24163 |
| #1 | 88662. | 9210.0 | 6267.0 | 12469. |
| #2 | 89088. | 9244.9 | 6246.6 | 12434. |
| #3 | 88768. | 9174.3 | 6288.6 | 12494. |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 19:42:45 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.080** | **2.029** | **2.039** | **2.062** | **2.055** | **2.057** | **2.077** | **2.061** | **.2532** |
| Stddev | .009 | .009 | .003 | .004 | .004 | .002 | .010 | .003 | .0005 |
| %RSD | .4169 | .4248 | .1425 | .1862 | .1715 | .0776 | .4999 | .1489 | .2137 |
| #1 | 2.088 | 2.035 | 2.039 | 2.062 | 2.058 | 2.059 | 2.070 | 2.062 | .2538 |
| #2 | 2.071 | 2.019 | 2.037 | 2.058 | 2.055 | 2.056 | 2.089 | 2.057 | .2531 |
| #3 | 2.081 | 2.033 | 2.042 | 2.065 | 2.051 | 2.057 | 2.071 | 2.063 | .2527 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.055** | **2.047** | **2.008** | **2.097** | **2.050** | **2.031** | **2.016** | **41.03** | **40.52** |
| Stddev | .004 | .003 | .004 | .006 | .003 | .003 | .002 | .18 | .13 |
| %RSD | .1841 | .1546 | .1828 | .2826 | .1425 | .1570 | .0810 | .4406 | .3107 |
| #1 | 2.058 | 2.046 | 2.007 | 2.101 | 2.051 | 2.031 | 2.015 | 41.15 | 40.62 |
| #2 | 2.056 | 2.044 | 2.004 | 2.090 | 2.047 | 2.028 | 2.015 | 40.82 | 40.38 |
| #3 | 2.051 | 2.051 | 2.011 | 2.099 | 2.053 | 2.034 | 2.018 | 41.11 | 40.57 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.73** | **39.17** | **40.43** | **41.54** | **2.058** | **2.028** | **5.122** | **2.009** | **2.098** |
| Stddev | .18 | .12 | .20 | .16 | .002 | .004 | .008 | .002 | .008 |
| %RSD | .4560 | .2972 | .4967 | .3819 | .0946 | .2008 | .1612 | .1131 | .3864 |
| #1 | 39.86 | 39.26 | 40.60 | 41.65 | 2.057 | 2.026 | 5.121 | 2.007 | 2.104 |
| #2 | 39.52 | 39.04 | 40.21 | 41.36 | 2.057 | 2.025 | 5.114 | 2.010 | 2.089 |
| #3 | 39.81 | 39.22 | 40.47 | 41.61 | 2.061 | 2.033 | 5.130 | 2.011 | 2.100 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/10/2019 19:42:45 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.027** | **1.996** | **2.043** | **2.009** | **2.073** | **2.071** | **2.004** |
| Stddev | .003 | .003 | .002 | .003 | .002 | .008 | .004 |
| %RSD | .1302 | .1509 | .1074 | .1354 | .1165 | .3872 | .1930 |
| #1 | 2.029 | 1.994 | 2.046 | 2.011 | 2.075 | 2.075 | 2.000 |
| #2 | 2.027 | 1.995 | 2.042 | 2.006 | 2.071 | 2.062 | 2.005 |
| #3 | 2.024 | 2.000 | 2.042 | 2.010 | 2.075 | 2.077 | 2.007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **84200.** | **8554.3** | **5984.7** | **12070.** |
| Stddev | 256. | 11.3 | 10.0 | 16. |
| %RSD | .30449 | .13204 | .16747 | .13418 |
| #1 | 84039. | 8545.4 | 5991.1 | 12077. |
| #2 | 84064. | 8567.0 | 5989.9 | 12081. |
| #3 | 84495. | 8550.4 | 5973.2 | 12051. |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 19:47:46 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0000** | **.0000** | **.0001** | **-.0000** | **-.0002** | **.0001** | **.0000** | **-.0005** |
| Stddev | .0001 | .0000 | .0001 | .0003 | .0002 | .0000 | .0000 | .0002 | .0002 |
| %RSD | 28.26 | 191.1 | 310.7 | 185.5 | 647.6 | 12.75 | 46.58 | 466.7 | 42.19 |
| #1 | -.0003 | .0000 | .0002 | .0004 | -.0000 | -.0002 | .0000 | .0000 | -.0003 |
| #2 | -.0002 | -.0001 | -.0001 | -.0001 | .0002 | -.0002 | .0001 | -.0001 | -.0006 |
| #3 | -.0003 | -.0000 | .0000 | .0002 | -.0003 | -.0002 | .0001 | .0002 | -.0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0004** | **.0005** | **.0000** | **.0010** | **.0023** | **.0003** | **-.0009** | **-.0030** |
| Stddev | .0002 | .0000 | .0005 | .0015 | .0006 | .0010 | .0002 | .0092 | .0017 |
| %RSD | 62.46 | 7.312 | 117.4 | 44610. | 57.10 | 45.28 | 56.38 | 1014. | 55.61 |
| #1 | .0001 | -.0004 | .0002 | -.0018 | .0004 | .0026 | .0001 | .0031 | -.0023 |
| #2 | .0003 | -.0003 | .0001 | .0008 | .0012 | .0030 | .0004 | .0056 | -.0049 |
| #3 | .0004 | -.0004 | .0011 | .0010 | .0015 | .0011 | .0005 | -.0114 | -.0018 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0024** | **-.0251** | **.0198** | **.0733** | **.0030** | **-.0002** | **.0008** | **.0012** | **.0001** |
| Stddev | .0020 | .0238 | .0268 | .0079 | .0005 | .0000 | .0006 | .0006 | .0001 |
| %RSD | 84.50 | 95.13 | 134.9 | 10.80 | 16.80 | 25.29 | 81.33 | 53.21 | 71.78 |
| #1 | -.0004 | -.0066 | .0462 | .0820 | .0035 | -.0001 | .0011 | .0017 | .0001 |
| #2 | -.0045 | -.0520 | -.0073 | .0714 | .0025 | -.0002 | .0012 | .0005 | .0001 |
| #3 | -.0024 | -.0166 | .0206 | .0665 | .0032 | -.0002 | .0001 | .0012 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/10/2019 19:47:46 Type: QC
Method: SGS NO VALVE3(v367) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0004** | **.0001** | **-.0005** | **.0010** | F **.0132** | **.0021** |
| Stddev | .0004 | .0002 | .0000 | .0021 | .0005 | .0024 | .0012 |
| %RSD | 90.86 | 48.60 | 20.70 | 401.3 | 49.07 | 18.06 | 56.64 |
| #1 | -.0000 | -.0002 | .0002 | -.0005 | .0006 | .0159 | .0025 |
| #2 | .0007 | -.0005 | .0001 | .0015 | .0016 | .0114 | .0030 |
| #3 | .0008 | -.0005 | .0001 | -.0026 | .0008 | .0124 | .0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0048 | |
| Low Limit | | | | | | -.0048 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **86281.** | **8676.9** | **6108.5** | **12550.** |
| Stddev | 106. | 44.9 | 19.9 | 35. |
| %RSD | .12276 | .51709 | .32500 | .28021 |
| #1 | 86372. | 8640.3 | 6118.9 | 12569. |
| #2 | 86164. | 8727.0 | 6121.1 | 12571. |
| #3 | 86306. | 8663.6 | 6085.6 | 12509. |





NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 2 | Al | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000824 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 11 | V | 0.002697 | 0.000000 | No |
| | | | Mo | -0.000040 | 0.000000 | No |
| | | | Ti | -0.000120 | 0.000000 | No |
| | | | Mn | 0.000016 | 0.000000 | No |
| | | | Ba | -0.000013 | 0.000000 | No |
| | | | Zn | 0.000010 | 0.000000 | No |
| | | | Sb | -0.000021 | 0.000000 | No |
| | | | Ag | 0.000060 | 0.000000 | No |
| | | | Sn | 0.000010 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| Cd 228.802 {448} | ☒ | 14 | As | 0.008500 | 0.000000 | No |
| | | | Ni | -0.000277 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ba | 0.000100 | 0.000000 | No |
| | | | Co | -0.001036 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Mn | -0.000014 | 0.000000 | No |
| | | | Ti | 0.000051 | 0.000000 | No |
| | | | Cu | 0.000009 | 0.000000 | No |
| | | | Sr | -0.000050 | 0.000000 | No |
| | | | W | -0.000194 | 0.000000 | No |
| | | | Cr | 0.000010 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 5 | Fe | -0.000001 | 0.000000 | No |
| | | | Ca | -0.000003 | 0.000000 | No |
| | | | Mg | 0.000001 | 0.000000 | No |
| | | | Ti | 0.001922 | 0.000000 | No |
| | | | Mo | -0.000963 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 8 | Mn | 0.000098 | 0.000000 | No |
| | | | Mo | -0.000053 | 0.000000 | No |
| | | | Co | 0.000007 | 0.000000 | No |
| | | | Al | 0.000000 | 0.000000 | No |
| | | | Sn | 0.000032 | 0.000000 | No |
| | | | Ti | 0.000042 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| Cu 324.754 {104}2 | ☒ | 12 | Cr | 0.000055 | 0.000000 | No |
| | | | Mo | 0.000395 | 0.000000 | No |
| | | | Ti | -0.000174 | 0.000000 | No |
| | | | Mn | -0.000130 | 0.000000 | No |
| | | | Co | -0.000902 | 0.000000 | No |
| | | | Zn | 0.000037 | 0.000000 | No |
| | | | Fe | -0.000162 | 0.000000 | No |
| | | | Zr | -0.000007 | 0.000000 | No |
| | | | V | -0.000457 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | Ni | 0.000032 | 0.000000 | No |
| | | | W | 0.000097 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 2 | Fe | -0.000126 | 0.000000 | No |
| | | | Mo | 0.000011 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 7 | Cr | -0.000028 | 0.000000 | No |
| | | | Mo | -0.000041 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Zn | 0.000017 | 0.000000 | No |
| | | | | Co | -0.000329 | 0.000000 | No |
| | | | | Ti | 0.000010 | 0.000000 | No |
| | | | | W | -0.000073 | 0.000000 | No |
| | Ag 328.068 {103} | ☒ | 15 | Mn | 0.000056 | 0.000000 | No |
| | | | | Mo | -0.000279 | 0.000000 | No |
| | | | | Ti | -0.000866 | 0.000000 | No |
| | | | | V | -0.000959 | 0.000000 | No |
| | | | | Zr | 0.005343 | 0.000000 | No |
| | | | | Sb | -0.000013 | 0.000000 | No |
| | | | | Mg | -0.000003 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Fe | -0.000334 | 0.000000 | No |
| | | | | Al | -0.000003 | 0.000000 | No |
| | | | | Zn | -0.000090 | 0.000000 | No |
| | | | | Ba | -0.000087 | 0.000000 | No |
| | | | | Ni | -0.000021 | 0.000000 | No |
| | | | | Cr | 0.000013 | 0.000000 | No |
| | | | | As | 0.000081 | 0.000000 | No |
| | V 292.402 {115} | ☒ | 6 | Fe | 0.000004 | 0.000000 | No |
| | | | | Ti | 0.000746 | 0.000000 | No |
| | | | | Mo | -0.000244 | 0.000000 | No |
| | | | | Co | 0.000015 | 0.000000 | No |
| | | | | Cr | -0.007890 | 0.000000 | No |
| | | | | Mn | -0.000920 | 0.000000 | No |
| | Zn 206.200 {464} | ☒ | 13 | Cr | -0.000600 | 0.000000 | No |
| | | | | Mo | -0.000376 | 0.000000 | No |
| | | | | Fe | 0.000011 | 0.000000 | No |
| | | | | Co | 0.000122 | 0.000000 | No |
| | | | | Ni | 0.000058 | 0.000000 | No |
| | | | | Se | 0.000849 | 0.000000 | No |
| | | | | Ca | 0.000003 | 0.000000 | No |
| | | | | Ti | 0.000131 | 0.000000 | No |
| | | | | Sn | 0.000068 | 0.000000 | No |
| | | | | V | -0.000012 | 0.000000 | No |
| | | | | Al | 0.000001 | 0.000000 | No |
| | | | | Si | 0.000017 | 0.000000 | No |
| | | | | Zr | 0.000269 | 0.000000 | No |
| | As 189.042 {478} | ☒ | 22 | Al | 0.000003 | 0.000000 | No |
| | | | | Fe | -0.000020 | 0.000000 | No |
| | | | | Ca | -0.000000 | 0.000000 | No |
| | | | | Mn | -0.000048 | 0.000000 | No |
| | | | | Mo | 0.000680 | 0.000000 | No |
| | | | | Cr | 0.000209 | 0.000000 | No |
| | | | | Co | -0.000050 | 0.000000 | No |
| | | | | Si | -0.000047 | 0.000000 | No |
| | | | | Cu | 0.000120 | 0.000000 | No |
| | | | | Mg | 0.000001 | 0.000000 | No |
| | | | | Cd | -0.000103 | 0.000000 | No |
| | | | | Sn | -0.000017 | 0.000000 | No |
| | | | | Zn | -0.000045 | 0.000000 | No |
| | | | | Zr | -0.000145 | 0.000000 | No |
| | | | | Sb | 0.000022 | 0.000000 | No |
| | | | | Ti | 0.000017 | 0.000000 | No |
| | | | | Ni | -0.000069 | 0.000000 | No |
| | | | | W | 0.001510 | 0.000000 | No |
| | | | | S | -0.000010 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Ba | -0.000070 | 0.000000 | No |
| | | | Sr | 0.000000 | 0.000000 | No |
| | | | V | -0.000014 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 30 | Cr | 0.000416 | 0.000000 | No |
| | | | Mo | -0.011100 | 0.000000 | No |
| | | | Al | 0.000008 | 0.000000 | No |
| | | | V | -0.021720 | 0.000000 | No |
| | | | Mn | 0.001718 | 0.000000 | No |
| | | | Si | -0.000021 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Ti | -0.002032 | 0.000000 | No |
| | | | Cu | 0.000040 | 0.000000 | No |
| | | | Co | 0.004940 | 0.000000 | No |
| | | | Sr | -0.000233 | 0.000000 | No |
| | | | Zn | -0.000131 | 0.000000 | No |
| | | | Pb | -0.000116 | 0.000000 | No |
| | | | Mg | 0.000005 | 0.000000 | No |
| | | | Ba | -0.000014 | 0.000000 | No |
| | | | W | -0.030000 | 0.000000 | No |
| | | | B | 0.000151 | 0.000000 | No |
| | | | Ni | -0.000034 | 0.000000 | No |
| | | | Sn | 0.000110 | 0.000000 | No |
| | | | Fe | -0.000049 | 0.000000 | No |
| | | | Li | -0.000199 | 0.000000 | No |
| | | | S | 0.000013 | 0.000000 | No |
| | | | As | 0.000056 | 0.000000 | No |
| | | | Bi | -0.000040 | 0.000000 | No |
| | | | P | 0.000021 | 0.000000 | No |
| | | | Cd | 0.000117 | 0.000000 | No |
| | | | Sb | 0.000034 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000059 | 0.000000 | No |
| | | | Be | -0.000289 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 20 | Al | -0.000152 | 0.000000 | No |
| | | | Ca | -0.000006 | 0.000000 | No |
| | | | Mn | 0.000066 | 0.000000 | No |
| | | | Zn | 0.000027 | 0.000000 | No |
| | | | Mo | -0.000610 | 0.000000 | No |
| | | | Ni | 0.000436 | 0.000000 | No |
| | | | Cu | 0.000381 | 0.000000 | No |
| | | | V | -0.000103 | 0.000000 | No |
| | | | Co | 0.000016 | 0.000000 | No |
| | | | Ti | -0.000225 | 0.000000 | No |
| | | | Si | 0.000124 | 0.000000 | No |
| | | | Mg | 0.000014 | 0.000000 | No |
| | | | Sb | 0.000041 | 0.000000 | No |
| | | | Cr | -0.000028 | 0.000000 | No |
| | | | Sn | 0.000130 | 0.000000 | No |
| | | | Fe | 0.000046 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Sr | -0.000036 | 0.000000 | No |
| | | | Zr | -0.000181 | 0.000000 | No |
| | | | S | 0.000012 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 18 | Al | 0.000005 | 0.000000 | No |
| | | | Ca | -0.000010 | 0.000000 | No |
| | | | Mn | 0.000649 | 0.000000 | No |
| | | | Mo | 0.000066 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Co | -0.000296 | 0.000000 | No |
| | | | Cu | -0.000107 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | Ti | -0.000093 | 0.000000 | No |
| | | | Zn | -0.000077 | 0.000000 | No |
| | | | Fe | -0.000192 | 0.000000 | No |
| | | | Si | 0.000068 | 0.000000 | No |
| | | | B | -0.000043 | 0.000000 | No |
| | | | Ba | 0.000050 | 0.000000 | No |
| | | | S | 0.000000 | 0.000000 | No |
| | | | Zr | -0.000206 | 0.000000 | No |
| | | | V | 0.000082 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Sn | -0.000113 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 17 | Fe | -0.000040 | 0.000000 | No |
| | | | Al | 0.000044 | 0.000000 | No |
| | | | Ca | 0.000006 | 0.000000 | No |
| | | | Ni | -0.000083 | 0.000000 | No |
| | | | Cr | 0.013900 | 0.000000 | No |
| | | | V | -0.003439 | 0.000000 | No |
| | | | Zn | -0.000104 | 0.000000 | No |
| | | | Mo | 0.001310 | 0.000000 | No |
| | | | Ti | -0.000963 | 0.000000 | No |
| | | | Sn | -0.006500 | 0.000000 | No |
| | | | Mn | -0.000040 | 0.000000 | No |
| | | | Co | -0.000036 | 0.000000 | No |
| | | | Se | -0.000075 | 0.000000 | No |
| | | | Zr | 0.000000 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Mg | -0.000001 | 0.000000 | No |
| | | | S | 0.000018 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 8 | Ca | 0.000067 | 0.000000 | No |
| | | | Mo | 0.054823 | 0.000000 | No |
| | | | Ti | 0.000037 | 0.000000 | No |
| | | | Si | 0.000228 | 0.000000 | No |
| | | | Co | -0.000115 | 0.000000 | No |
| | | | Li | -0.001000 | 0.000000 | No |
| | | | Ba | 0.000725 | 0.000000 | No |
| | | | Zr | 0.004878 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | 5 | Al | 0.000043 | 0.000000 | No |
| | | | Fe | 0.000046 | 0.000000 | No |
| | | | Mg | 0.000071 | 0.000000 | No |
| | | | Ti | -0.000042 | 0.000000 | No |
| | | | Co | 0.001523 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 11 | Cr | 0.000237 | 0.000000 | No |
| | | | Zn | 0.000466 | 0.000000 | No |
| | | | Al | 0.000022 | 0.000000 | No |
| | | | Co | 0.000318 | 0.000000 | No |
| | | | Cd | 0.000700 | 0.000000 | No |
| | | | Sn | -0.000019 | 0.000000 | No |
| | | | Ti | -0.000710 | 0.000000 | No |
| | | | Si | 0.000053 | 0.000000 | No |
| | | | Ca | 0.000012 | 0.000000 | No |
| | | | Ba | 0.000400 | 0.000000 | No |
| | | | Mn | -0.000272 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 3 | Mo | -0.021115 | 0.000000 | No |
| | | | Pb | -0.000017 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Fe | -0.000081 | 0.000000 | No |
| K 766.490 { 44} | ☒ | None | | | | |
| Na 589.592 { 57} | ☒ | 1 | Al | 0.000039 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.040842 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 6 | Ti | 0.000050 | 0.000000 | No |
| | | | Mg | -0.000005 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Fe | -0.000006 | 0.000000 | No |
| | | | V | -0.000100 | 0.000000 | No |
| | | | W | -0.000612 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 12 | Mn | 0.000152 | 0.000000 | No |
| | | | Fe | 0.000021 | 0.000000 | No |
| | | | Ca | 0.000041 | 0.000000 | No |
| | | | Ni | 0.000391 | 0.000000 | No |
| | | | Cd | 0.001794 | 0.000000 | No |
| | | | Cr | 0.001112 | 0.000000 | No |
| | | | Mo | 0.029007 | 0.000000 | No |
| | | | Ti | 0.007395 | 0.000000 | No |
| | | | Ba | 0.000825 | 0.000000 | No |
| | | | Sn | 0.005204 | 0.000000 | No |
| | | | V | 0.001738 | 0.000000 | No |
| | | | Zr | 0.001561 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | 4 | Ti | -0.002059 | 0.000000 | No |
| | | | Fe | 0.000017 | 0.000000 | No |
| | | | Mo | 0.000058 | 0.000000 | No |
| | | | Zr | 0.000976 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 2 | Ca | 0.000019 | 0.000000 | No |
| | | | Zr | -0.000004 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 5 | Cr | 0.000072 | 0.000000 | No |
| | | | Mo | 0.002014 | 0.000000 | No |
| | | | Zr | 0.000002 | 0.000000 | No |
| | | | W | 0.000004 | 0.000000 | No |
| | | | V | 0.000064 | 0.000000 | No |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| In 230.606 {446}* | ☒ | None | | | | |
| W 207.911 {462} | ☒ | 3 | V | 0.000064 | 0.000000 | No |
| | | | Zn | 0.016225 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| Zr 339.198 { 99} | ☒ | 14 | Fe | -0.000087 | 0.000000 | No |
| | | | Si | 0.000631 | 0.000000 | No |
| | | | Ba | -0.000049 | 0.000000 | No |
| | | | Sn | 0.000046 | 0.000000 | No |
| | | | Sb | -0.000067 | 0.000000 | No |
| | | | V | 0.000226 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Ti | 0.000007 | 0.000000 | No |
| | | | Al | 0.000001 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Li | -0.000097 | 0.000000 | No |
| | | | Bi | 0.000607 | 0.000000 | No |
| | | | Mn | 0.000059 | 0.000000 | No |
| | | | Mo | 0.000401 | 0.000000 | No |
| S 182.034 {485} | ☒ | 10 | Ca | 0.000060 | 0.000000 | No |
| | | | Mo | 0.000978 | 0.000000 | No |
| | | | Al | -0.000024 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Fe | 0.000008 | 0.000000 | No |
| | | | | Mn | 0.002516 | 0.000000 | No |
| | | | | W | -0.018006 | 0.000000 | No |
| | | | | Mg | 0.000012 | 0.000000 | No |
| | | | | Cr | 0.000119 | 0.000000 | No |
| | | | | V | 0.000018 | 0.000000 | No |
| | | | | B | -0.000196 | 0.000000 | No |
| | Bi 223.061 {451} | ☒ | 7 | Fe | 0.000158 | 0.000000 | No |
| | | | | Ti | -0.017590 | 0.000000 | No |
| | | | | Co | -0.003172 | 0.000000 | No |
| | | | | Cr | 0.003172 | 0.000000 | No |
| | | | | Cu | -0.001562 | 0.000000 | No |
| | | | | V | -0.000498 | 0.000000 | No |
| | | | | W | 0.015000 | 0.000000 | No |
| | Li 670.784 { 50} | ☒ | 2 | Ca | 0.000062 | 0.000000 | No |
| | | | | W | 0.021000 | 0.000000 | No |
| | P 177.495 {490} | ☒ | 2 | Mn | -0.001748 | 0.000000 | No |
| | | | | Cu | 0.004091 | 0.000000 | No |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|---|
| | Ba 455.403 { 74} | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | 0.006241 | 3.109856 | 0.000000 | 1.000000 |
| | Be 313.042 {108} | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | -0.001068 | 2.404610 | 0.000000 | 1.000000 |
| | Cd 228.802 {448} | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | -0.000019 | 1.160271 | 0.000000 | 1.000000 |
| | Co 228.616 {448} | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | -0.000085 | 0.600749 | 0.000000 | 1.000000 |
| | Cr 267.716 {126} | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | 0.000028 | 0.258229 | 0.000000 | 1.000000 |
| | Cu 324.754 {104}2 | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | 0.009480 | 0.432150 | 0.000000 | 1.000000 |
| | Mn 257.610 {131} | 5/13/2019 9:53:25 | 5/10/2019 11:51:09 | Linear | None | -0.000047 | 0.550880 | 0.000000 | 1.000000 |
| | Ni 231.604 {446} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000326 | 0.392430 | 0.000000 | 1.000000 |
| | Ag 328.068 {103} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.001807 | 0.273420 | 0.000000 | 1.000000 |
| | V 292.402 {115} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000775 | 0.354836 | 0.000000 | 1.000000 |
| | Zn 206.200 {464} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.001013 | 1.494039 | 0.000000 | 1.000000 |
| | As 189.042 {478} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000518 | 0.155717 | 0.000000 | 1.000000 |
| | Tl 190.856 {477} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000048 | 0.065652 | 0.000000 | 1.000000 |
| | Pb 220.353 {453} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000068 | 0.194599 | 0.000000 | 1.000000 |
| | Se 196.090 {472} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000261 | 0.111842 | 0.000000 | 1.000000 |
| | Sb 206.833 {463} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.002319 | 0.180825 | 0.000000 | 1.000000 |
| | Al 396.152 { 85} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000839 | 0.052083 | 0.000000 | 1.000000 |
| | Ca 317.933 {106} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.004778 | 0.081181 | 0.000000 | 1.000000 |
| | Fe 259.940 {130} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000083 | 0.028923 | 0.000000 | 1.000000 |
| | Mg 279.079 {121} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000066 | 0.005253 | 0.000000 | 1.000000 |
| | K 766.490 { 44} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.013172 | 0.043103 | 0.000000 | 1.000000 |
| | Na 589.592 { 57} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.001475 | 0.148369 | 0.000000 | 1.000000 |
| | B 208.959 {462} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000476 | 0.245195 | 0.000000 | 1.000000 |
| | Mo 202.030 {467} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000474 | 0.848601 | 0.000000 | 1.000000 |
| | Si 212.412 {459} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.002343 | 0.201565 | 0.000000 | 1.000000 |
| | Sn 189.989 {478} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000243 | 0.173983 | 0.000000 | 1.000000 |
| | Sr 407.771 { 83} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000388 | 2.463287 | 0.000000 | 1.000000 |
| | Ti 334.904 {101} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.001650 | 0.361955 | 0.000000 | 1.000000 |
| | Y 360.073 { 94}* | 5/13/2019 9:53:25 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 371.030 { 91}* | 5/13/2019 9:53:25 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 224.306 {451}* | 5/13/2019 9:53:25 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | In 230.606 {446}* | 5/13/2019 9:53:25 | 5/1/2013 13:59:18 | Linear | None | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | W 207.911 {462} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.002584 | 0.440285 | 0.000000 | 1.000000 |
| | Zr 339.198 { 99} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000905 | 0.772595 | 0.000000 | 1.000000 |
| | S 182.034 {485} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | 0.000607 | 0.100867 | 0.000000 | 1.000000 |
| | Bi 223.061 {451} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000575 | 0.217183 | 0.000000 | 1.000000 |
| | Li 670.784 { 50} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | None | -0.000052 | 1.103006 | 0.000000 | 1.000000 |
| | P 177.495 {490} | 5/13/2019 9:53:25 | 5/10/2019 11:51:10 | Linear | 1/Conc | -0.003428 | 0.170630 | 0.000000 | 1.000000 |

| | Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Slope | Y-int | Slope factor | Offset |
| | Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000321 | 0.001069 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | 1.000000 | 0.000000 | 0.000117 | 0.000391 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000184 | 0.000612 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {448} | 1.000000 | 0.000000 | 0.000273 | 0.000909 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000279 | 0.000931 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000265 | 0.000884 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000047 | 0.000156 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000369 | 0.001230 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000406 | 0.001354 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | 1.000000 | 0.000000 | 0.000340 | 0.001134 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000116 | 0.000387 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 189.042 {478} | 1.000000 | 0.000000 | 0.000921 | 0.003071 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001564 | 0.005213 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001064 | 0.003547 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | 1.000000 | 0.000000 | 0.001666 | 0.005555 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001311 | 0.004370 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | 1.000000 | 0.000000 | 0.013937 | 0.046456 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | 1.000000 | 0.000000 | 0.004053 | 0.013511 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {130} | 1.000000 | 0.000000 | 0.004945 | 0.016484 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | 1.000000 | 0.000000 | 0.035002 | 0.116672 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | 1.000000 | 0.000000 | 0.040834 | 0.136114 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | 1.000000 | 0.000000 | 0.011101 | 0.037004 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 208.959 {462} | 1.000000 | 0.000000 | 0.000641 | 0.002135 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000239 | 0.000797 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 212.412 {459} | 1.000000 | 0.000000 | 0.001139 | 0.003798 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000671 | 0.002235 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000153 | 0.000510 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000377 | 0.001257 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 360.073 { 94}* | 0.000000 | 0.000000 | 0.000796 | 0.002654 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | 0.000000 | 0.000000 | 0.002186 | 0.007287 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451}* | 0.000000 | 0.000000 | 0.004215 | 0.014050 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | W 207.911 {462} | 1.000000 | 0.000000 | 0.000940 | 0.003134 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000175 | 0.000585 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | 1.000000 | 0.000000 | 0.001546 | 0.005154 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001524 | 0.005081 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001606 | 0.005353 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 177.495 {490} | 1.000000 | 0.000000 | 0.000834 | 0.002781 | OK. | 1.000000 | 0.000000 | 1 | 0 |

# MA46697

Method: Accutest Operator: Admin Date of Analysis: 13 May 2019 11:07:54

| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| STDA - 1 | 13 May 2019 11:13:49 | Std | ug/l | - | 82 | 1.000 | 1.000 |
| STDB - 1 | 13 May 2019 11:15:08 | Std | ug/l | - | 889 | 1.000 | 1.000 |
| STDC - 1 | 13 May 2019 11:16:26 | Std | ug/l | - | 1634 | 1.000 | 1.000 |
| STDD - 1 | 13 May 2019 11:17:54 | Std | ug/l | - | 3417 | 1.000 | 1.000 |
| STDE - 1 | 13 May 2019 11:19:31 | Std | ug/l | - | 9129 | 1.000 | 1.000 |
| STDF - 1 | 13 May 2019 11:21:15 | Std | ug/l | - | 18359 | 1.000 | 1.000 |
| ICV - 1 | 13 May 2019 11:26:24 | CK STND | ug/l | 99.8% 2.9940 | 10948 | 1.000 | 1.000 |
| ICB - 1 | 13 May 2019 11:27:40 | CK STND | ug/l | -0.0771 | -328 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 11:29:37 | CK STND | ug/l | 101.5% 2.5386 | 9276 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 11:30:54 | CK STND | ug/l | -0.0842 | -354 | 1.000 | 1.000 |
| CRI - 1 | 13 May 2019 11:32:48 | CK STND | ug/l | 111.4% 0.2228 | 773 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 11:34:15 | CK STND | ug/l | 98.3% 2.4563 | 8974 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 11:35:36 | CK STND | ug/l | -0.0842 | -354 | 1.000 | 1.000 |
| MP14990-MB1 - 1 | 13 May 2019 11:46:40 | SMPL | ug/l | 0.0591 | 172 | 1.000 | 1.000 |
| MP14990-B1 - 1 | 13 May 2019 11:47:58 | SMPL | ug/l | 2.1938 | 8010 | 1.000 | 1.000 |
| MP14990-S1 - 1 | 13 May 2019 11:51:26 | SMPL | ug/l | 2.3275 | 8501 | 1.000 | 1.000 |
| MP14990-S2 - 1 | 13 May 2019 11:52:43 | SMPL | ug/l | 2.3123 | 8445 | 1.000 | 1.000 |
| JC87933-2 - 1 | 13 May 2019 11:54:28 | SMPL | ug/l | -0.0286 | -150 | 1.000 | 1.000 |
| JC87775-9 - 1 | 13 May 2019 11:56:12 | SMPL | ug/l | -0.0134 | -94 | 1.000 | 1.000 |
| JC87842-10 - 1 | 13 May 2019 11:57:30 | SMPL | ug/l | -0.0112 | -86 | 1.000 | 1.000 |
| MP14991-MB1 - 1 | 13 May 2019 11:58:47 | SMPL | ug/l | -0.0087 | -77 | 1.000 | 1.000 |
| MP14991-B1 - 1 | 13 May 2019 12:00:04 | SMPL | ug/l | 2.3692 | 8654 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 12:01:22 | CK STND | ug/l | 100.9% 2.5222 | 9216 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 12:03:09 | CK STND | ug/l | -0.0730 | -313 | 1.000 | 1.000 |
| MP14991-S1 - 1 | 13 May 2019 12:05:03 | SMPL | ug/l | 2.1853 | 7979 | 1.000 | 1.000 |
| MP14991-S2 - 1 | 13 May 2019 12:06:22 | SMPL | ug/l | 2.1513 | 7854 | 1.000 | 1.000 |
| JC87698-32B - 1 | 13 May 2019 12:08:09 | SMPL | ug/l | -0.0300 | -155 | 1.000 | 1.000 |
| JC87698-52B - 1 | 13 May 2019 12:09:57 | SMPL | ug/l | -0.0174 | -109 | 1.000 | 1.000 |
| MP14992-MB1 - 1 | 13 May 2019 12:11:14 | SMPL | ug/l | -0.0065 | -69 | 1.000 | 1.000 |
| MP14992-B1 - 1 | 13 May 2019 12:12:31 | SMPL | ug/l | 2.3035 | 8413 | 1.000 | 1.000 |
| MP14992-S1 - 1 | 13 May 2019 12:13:48 | SMPL | ug/l | 2.2624 | 8262 | 1.000 | 1.000 |
| MP14992-S2 - 1 | 13 May 2019 12:15:34 | SMPL | ug/l | 2.2793 | 8324 | 1.000 | 1.000 |
| JC87752-1A - 1 | 13 May 2019 12:17:21 | SMPL | ug/l | -0.0125 | -91 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 12:19:08 | CK STND | ug/l | 99.7% 2.4934 | 9110 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 12:20:26 | CK STND | ug/l | -0.0657 | -286 | 1.000 | 1.000 |
| JC87752-2A - 1 | 13 May 2019 12:22:20 | SMPL | ug/l | 0.0177 | 20 | 1.000 | 1.000 |
| JC87752-3A - 1 | 13 May 2019 12:23:38 | SMPL | ug/l | 0.0101 | -8 | 1.000 | 1.000 |
| JC87752-4A - 1 | 13 May 2019 12:24:55 | SMPL | ug/l | 0.0112 | -4 | 1.000 | 1.000 |
| JC87838-1A - 1 | 13 May 2019 12:26:13 | SMPL | ug/l | 0.0087 | -13 | 1.000 | 1.000 |
| JC87838-2A - 1 | 13 May 2019 12:27:32 | SMPL | ug/l | 0.0131 | 3 | 1.000 | 1.000 |
| JC87838-4A - 1 | 13 May 2019 12:28:51 | SMPL | ug/l | 0.0079 | -16 | 1.000 | 1.000 |
| JC87838-5A - 1 | 13 May 2019 12:30:10 | SMPL | ug/l | 0.0065 | -21 | 1.000 | 1.000 |
| JC87838-6A - 1 | 13 May 2019 12:31:28 | SMPL | ug/l | 0.0090 | -12 | 1.000 | 1.000 |
| JC87838-7A - 1 | 13 May 2019 12:32:45 | SMPL | ug/l | 0.0073 | -18 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 12:34:02 | CK STND | ug/l | 102.0% 2.5498 | 9317 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 12:35:20 | CK STND | ug/l | -0.0629 | -276 | 1.000 | 1.000 |
| MP14993-MB1 - 1 | 13 May 2019 12:37:14 | SMPL | ug/l | 0.0220 | 36 | 1.000 | 1.000 |
| MP14993-B1 - 1 | 13 May 2019 12:38:32 | SMPL | ug/l | 2.1431 | 7824 | 1.000 | 1.000 |
| MP14993-S1 - 1 | 13 May 2019 12:39:50 | SMPL | ug/l | 2.1045 | 7682 | 1.000 | 1.000 |
| MP14993-S2 - 1 | 13 May 2019 12:41:36 | SMPL | ug/l | 2.1374 | 7803 | 1.000 | 1.000 |
| JC87838-3A - 1 | 13 May 2019 12:43:24 | SMPL | ug/l | -0.0262 | -141 | 1.000 | 1.000 |
| MP14994-MB1 - 1 | 13 May 2019 12:45:12 | SMPL | ug/l | -0.0136 | -95 | 1.000 | 1.000 |
| MP14994-B1 - 1 | 13 May 2019 12:46:30 | SMPL | ug/l | 2.0987 | 7661 | 1.000 | 1.000 |
| MP14994-S1 - 1 | 13 May 2019 12:47:48 | SMPL | ug/l | 2.0293 | 7406 | 1.000 | 1.000 |
| MP14994-S2 - 1 | 13 May 2019 12:49:37 | SMPL | ug/l | 2.0151 | 7354 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 12:51:27 | CK STND | ug/l | 97.1% 2.4280 | 8870 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 12:53:15 | CK STND | ug/l | -0.0667 | -290 | 1.000 | 1.000 |
| JC87848-3 - 1 | 13 May 2019 12:55:10 | SMPL | ug/l | 0.0166 | 16 | 1.000 | 1.000 |
| JC87848-1 - 1 | 13 May 2019 12:56:27 | SMPL | ug/l | 0.0043 | -29 | 1.000 | 1.000 |
| JC87848-2 - 1 | 13 May 2019 12:57:45 | SMPL | ug/l | 0.0417 | 108 | 1.000 | 1.000 |
| JC87848-4 - 1 | 13 May 2019 12:59:02 | SMPL | ug/l | 0.0057 | -24 | 1.000 | 1.000 |
| JC87848-5 - 1 | 13 May 2019 13:00:22 | SMPL | ug/l | 0.0272 | 55 | 1.000 | 1.000 |
| JC87848-6 - 1 | 13 May 2019 13:01:40 | SMPL | ug/l | 0.0125 | 1 | 1.000 | 1.000 |
| JC87848-7 - 1 | 13 May 2019 13:02:58 | SMPL | ug/l | 0.0098 | -9 | 1.000 | 1.000 |
| JC87848-8 - 1 | 13 May 2019 13:04:15 | SMPL | ug/l | 0.0114 | -3 | 1.000 | 1.000 |
| JC87848-9 - 1 | 13 May 2019 13:05:33 | SMPL | ug/l | 0.0122 | 0 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:06:51 | CK STND | ug/l | 100.9% 2.5214 | 9213 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:08:09 | CK STND | ug/l | -0.0716 | -308 | 1.000 | 1.000 |
| JC87585-1 - 1 | 13 May 2019 13:10:02 | SMPL | ug/l | 0.0204 | 30 | 1.000 | 1.000 |
| JC87706-9F - 1 | 13 May 2019 13:11:21 | SMPL | ug/l | 0.0147 | 9 | 1.000 | 1.000 |
| JC87706-10F - 1 | 13 May 2019 13:12:39 | SMPL | ug/l | 0.0098 | -9 | 1.000 | 1.000 |
| JC87706-11F - 1 | 13 May 2019 13:13:58 | SMPL | ug/l | 0.0112 | -4 | 1.000 | 1.000 |
| JC87706-12F - 1 | 13 May 2019 13:15:15 | SMPL | ug/l | 0.0196 | 27 | 1.000 | 1.000 |

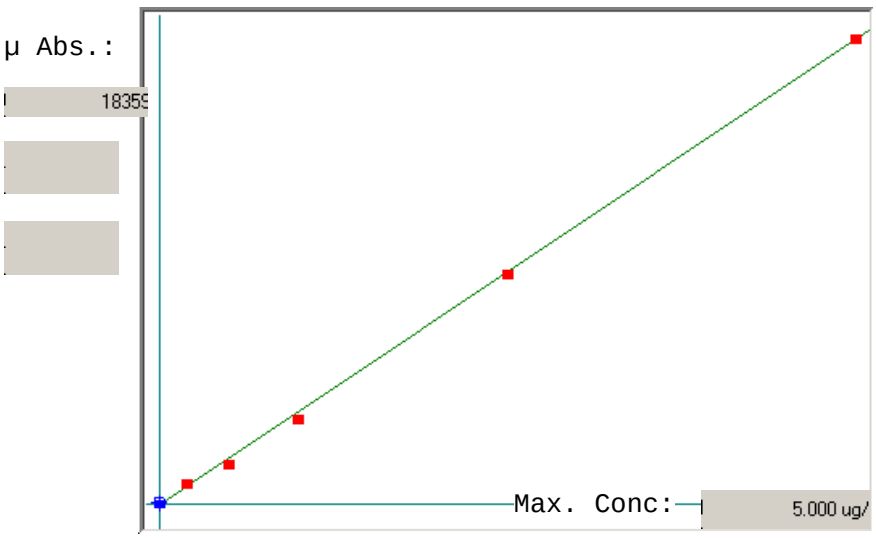
# MA46697

Method: Accutest Operator: Admin Date of Analysis: 13 May 2019 11:07:54

| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| JC87853-9F - 1 | 13 May 2019 13:16:33 | SMPL | ug/l | 0.0863 | 272 | 1.000 | 1.000 |
| JC87853-10F - 1 | 13 May 2019 13:17:50 | SMPL | ug/l | 0.0999 | 322 | 1.000 | 1.000 |
| JC87853-19F - 1 | 13 May 2019 13:19:10 | SMPL | ug/l | 0.1868 | 641 | 1.000 | 1.000 |
| JC87853-20F - 1 | 13 May 2019 13:20:31 | SMPL | ug/l | 1.0872 | 3947 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:22:00 | CK STND | ug/l | 93.2% 2.3302 | 8511 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:23:44 | CK STND | ug/l | -0.0801 | -339 | 1.000 | 1.000 |
| JC87832-1 - 1 | 13 May 2019 13:25:38 | SMPL | ug/l | 0.0231 | 40 | 1.000 | 1.000 |
| JC87582-2Q - 1 | 13 May 2019 13:26:56 | SMPL | ug/l | 0.0049 | -27 | 1.000 | 1.000 |
| MP14995-MB1 - 1 | 13 May 2019 13:28:13 | SMPL | ug/l | 0.0049 | -27 | 1.000 | 1.000 |
| MP14995-B1 - 1 | 13 May 2019 13:29:31 | SMPL | ug/l | 2.0260 | 7394 | 1.000 | 1.000 |
| MP14995-S1 - 1 | 13 May 2019 13:30:49 | SMPL | ug/l | 2.1864 | 7983 | 1.000 | 1.000 |
| MP14995-S2 - 1 | 13 May 2019 13:32:38 | SMPL | ug/l | 2.2308 | 8146 | 1.000 | 1.000 |
| JC87670-5A - 1 | 13 May 2019 13:34:24 | SMPL | ug/l | -0.0131 | -93 | 1.000 | 1.000 |
| JC87670-11A - 1 | 13 May 2019 13:36:09 | SMPL | ug/l | 0.0019 | -38 | 1.000 | 1.000 |
| JC87670-17A - 1 | 13 May 2019 13:37:26 | SMPL | ug/l | 0.0357 | 86 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:38:44 | CK STND | ug/l | 98.4% 2.4612 | 8992 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:40:05 | CK STND | ug/l | -0.0640 | -280 | 1.000 | 1.000 |
| JC87670-23A - 1 | 13 May 2019 13:42:00 | SMPL | ug/l | 0.0455 | 122 | 1.000 | 1.000 |
| JC87426-1 - 1 | 13 May 2019 13:43:17 | SMPL | ug/l | 0.0392 | 99 | 1.000 | 1.000 |
| JC87530-1A - 1 | 13 May 2019 13:44:36 | SMPL | ug/l | 0.0269 | 54 | 1.000 | 1.000 |
| JC87530-2A - 1 | 13 May 2019 13:45:56 | SMPL | ug/l | 0.0079 | -16 | 1.000 | 1.000 |
| JC87530-3A - 1 | 13 May 2019 13:47:16 | SMPL | ug/l | 0.0109 | -5 | 1.000 | 1.000 |
| JC87715-1 - 1 | 13 May 2019 13:48:33 | SMPL | ug/l | 0.0261 | 51 | 1.000 | 1.000 |
| JC87747-1A - 1 | 13 May 2019 13:49:52 | SMPL | ug/l | 0.0316 | 71 | 1.000 | 1.000 |
| JC87747-2A - 1 | 13 May 2019 13:51:11 | SMPL | ug/l | 0.0335 | 78 | 1.000 | 1.000 |
| JC87747-3A - 1 | 13 May 2019 13:52:32 | SMPL | ug/l | 0.0400 | 102 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:53:53 | CK STND | ug/l | 98.9% 2.4721 | 9032 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:55:14 | CK STND | ug/l | -0.0496 | -227 | 1.000 | 1.000 |
| JC87747-4A - 1 | 13 May 2019 13:57:08 | SMPL | ug/l | 0.0269 | 54 | 1.000 | 1.000 |
| JC87623-2 - 1 | 13 May 2019 13:58:27 | SMPL | ug/l | 0.0122 | 0 | 1.000 | 1.000 |
| JC87754-1 - 1 | 13 May 2019 13:59:47 | SMPL | ug/l | 0.0158 | 13 | 1.000 | 1.000 |
| JC87760-2A - 1 | 13 May 2019 14:01:05 | SMPL | ug/l | 0.0043 | -29 | 1.000 | 1.000 |
| MP14996-MB1 - 1 | 13 May 2019 14:02:23 | SMPL | ug/l | 0.0128 | 2 | 1.000 | 1.000 |
| MP14996-B1 - 1 | 13 May 2019 14:03:42 | SMPL | ug/l | 2.2736 | 8303 | 1.000 | 1.000 |
| MP14996-S1 - 1 | 13 May 2019 14:05:00 | SMPL | ug/l | 2.1396 | 7811 | 1.000 | 1.000 |
| MP14996-S2 - 1 | 13 May 2019 14:06:46 | SMPL | ug/l | 2.1867 | 7984 | 1.000 | 1.000 |
| JC87414-5R - 1 | 13 May 2019 14:08:32 | SMPL | ug/l | -0.0033 | -57 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 14:10:19 | CK STND | ug/l | 99.2% 2.4808 | 9064 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 14:11:39 | CK STND | ug/l | -0.0583 | -259 | 1.000 | 1.000 |
| JC87414-10R - 1 | 13 May 2019 14:13:33 | SMPL | ug/l | 0.0354 | 85 | 1.000 | 1.000 |
| JC87414-15R - 1 | 13 May 2019 14:14:51 | SMPL | ug/l | 0.0240 | 43 | 1.000 | 1.000 |
| JC87535-13 - 1 | 13 May 2019 14:16:11 | SMPL | ug/l | 0.0092 | -11 | 1.000 | 1.000 |
| JC87535-14 - 1 | 13 May 2019 14:17:33 | SMPL | ug/l | 0.0117 | -2 | 1.000 | 1.000 |
| JC87535-15 - 1 | 13 May 2019 14:18:51 | SMPL | ug/l | 0.0210 | 32 | 1.000 | 1.000 |
| JC87687-1 - 1 | 13 May 2019 14:20:11 | SMPL | ug/l | 0.0237 | 42 | 1.000 | 1.000 |
| MP14997-MB1 - 1 | 13 May 2019 14:21:30 | SMPL | ug/l | -0.0117 | -88 | 1.000 | 1.000 |
| MP14997-B1 - 1 | 13 May 2019 14:22:48 | SMPL | ug/l | 2.1301 | 7776 | 1.000 | 1.000 |
| MP14997-S1 - 1 | 13 May 2019 14:24:06 | SMPL | ug/l | 2.1723 | 7931 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 14:25:55 | CK STND | ug/l | 94.5% 2.3613 | 8625 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 14:27:41 | CK STND | ug/l | -0.0667 | -290 | 1.000 | 1.000 |
| MP14997-S2 - 1 | 13 May 2019 14:29:35 | SMPL | ug/l | 2.1328 | 7786 | 1.000 | 1.000 |
| JC87841-5A - 1 | 13 May 2019 14:30:53 | SMPL | ug/l | -0.0098 | -81 | 1.000 | 1.000 |
| JC87841-9A - 1 | 13 May 2019 14:32:42 | SMPL | ug/l | -0.0125 | -91 | 1.000 | 1.000 |
| JC87841-12A - 1 | 13 May 2019 14:34:00 | SMPL | ug/l | 0.0008 | -42 | 1.000 | 1.000 |
| TD38572-2 - 1 | 13 May 2019 14:35:18 | SMPL | ug/l | 0.0452 | 121 | 1.000 | 1.000 |
| TD38572-3 - 1 | 13 May 2019 14:36:37 | SMPL | ug/l | -0.1019 | -419 | 1.000 | 1.000 |
| JC87610-2A - 1 | 13 May 2019 14:37:56 | SMPL | ug/l | 0.0308 | 68 | 1.000 | 1.000 |
| JC87610-4A - 1 | 13 May 2019 14:39:16 | SMPL | ug/l | 0.0319 | 72 | 1.000 | 1.000 |
| JC87918-1 - 1 | 13 May 2019 14:40:37 | SMPL | ug/l | 0.1133 | 371 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 13 May 2019 14:41:57 | CK STND | ug/l | (L)85.6% 2.1399 | 7812 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 14:49:54 | CK STND | ug/l | 107.1% 2.6783 | 9789 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 14:51:12 | CK STND | ug/l | -0.0637 | -279 | 1.000 | 1.000 |
| JC87918-2 - 1 | 13 May 2019 14:53:05 | SMPL | ug/l | 0.1419 | 476 | 1.000 | 1.000 |
| JC87894-2A - 1 | 13 May 2019 14:54:25 | SMPL | ug/l | -0.1062 | -435 | 1.000 | 1.000 |
| JC87853-20F - 1 | 13 May 2019 14:55:45 | SMPL | ug/l | 1.2915 | 4697 | 1.000 | 1.000 |
| CRI - 1 | 13 May 2019 15:00:05 | CK STND | ug/l | 117.9% 0.2358 | 821 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 15:01:21 | CK STND | ug/l | 99.8% 2.4939 | 9112 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 15:02:46 | CK STND | ug/l | -0.0578 | -257 | 1.000 | 1.000 |

Accutest

Linear




A= 0.0000e+000

B= 2.7235e-004

C= 1.2242e-002

Rho= 0.9997451

Accept=Accepted

Accepted Date=

05/13/19 11:25

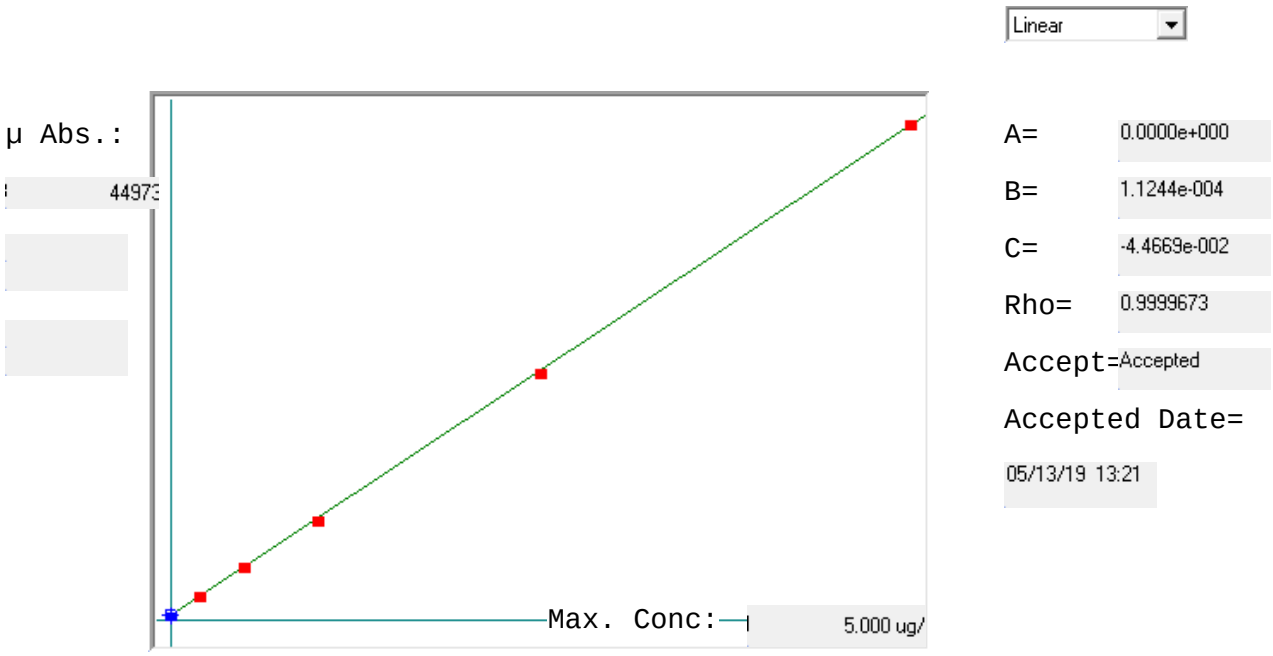
| Std ID | Conc. | Calc. | Dev. | Mean | SD or %RSD | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| STDA | 0.000 | 0.035 | 0.035 | 82 | 0.000 | 82 | | | | |
| STDB | 0.200 | 0.254 | 0.054 | 889 | 0.0 % | 889 | | | | |
| STDC | 0.500 | 0.457 | -0.043 | 1634 | 0.0 % | 1634 | | | | |
| STDD | 1.000 | 0.943 | -0.057 | 3417 | 0.0 % | 3417 | | | | |
| STDE | 2.500 | 2.499 | -0.001 | 9129 | 0.0 % | 9129 | | | | |
| STDF | 5.000 | 5.012 | 0.012 | 18359 | 0.0 % | 18359 | | | | |

# MA46698

Method: ACCUTEST Operator: Admin Date of Analysis: 13 May 2019 11:32:00

| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| STDA - 1 | 13 May 2019 13:11:29 | Std | ug/l | - | 584 | 1.000 | 1.000 |
| STDB - 1 | 13 May 2019 13:12:49 | Std | ug/l | - | 2209 | 1.000 | 1.000 |
| STDC - 1 | 13 May 2019 13:14:09 | Std | ug/l | - | 4825 | 1.000 | 1.000 |
| STDD - 1 | 13 May 2019 13:15:40 | Std | ug/l | - | 9141 | 1.000 | 1.000 |
| STDE - 1 | 13 May 2019 13:17:16 | Std | ug/l | - | 22473 | 1.000 | 1.000 |
| STDF - 1 | 13 May 2019 13:18:57 | Std | ug/l | - | 44973 | 1.000 | 1.000 |
| ICV - 1 | 13 May 2019 13:22:34 | CK STND | ug/l | 103.4% 3.1024 | 27989 | 1.000 | 1.000 |
| ICB - 1 | 13 May 2019 13:23:50 | CK STND | ug/l | -0.0125 | 286 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:25:36 | CK STND | ug/l | 98.4% 2.4612 | 22286 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:26:56 | CK STND | ug/l | -0.0139 | 274 | 1.000 | 1.000 |
| CRI - 1 | 13 May 2019 13:28:42 | CK STND | ug/l | 103.3% 0.2065 | 2234 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:30:31 | CK STND | ug/l | 96.8% 2.4200 | 21920 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:31:51 | CK STND | ug/l | -0.0148 | 266 | 1.000 | 1.000 |
| MP14998-MB1 - 1 | 13 May 2019 13:42:13 | SMPL | ug/l | 0.0099 | 485 | 1.000 | 1.000 |
| MP14998-B1 - 1 | 13 May 2019 13:43:29 | SMPL | ug/l | 1.8570 | 16913 | 1.000 | 1.000 |
| SAMPLECONF - 1 | 13 May 2019 13:44:48 | SMPL | ug/l | 3.6874 | 33192 | 1.000 | 1.000 |
| MP14998-S1 - 1 | 13 May 2019 13:46:33 | SMPL | ug/l | 3.7555 | 33797 | 1.000 | 1.000 |
| MP14998-S2 - 1 | 13 May 2019 13:48:27 | SMPL | ug/l | 4.1445 | 37257 | 1.000 | 1.000 |
| JC87610-2 - 1 | 13 May 2019 13:50:20 | SMPL | ug/l | 0.5793 | 5549 | 1.000 | 1.000 |
| JC87610-4 - 1 | 13 May 2019 13:52:14 | SMPL | ug/l | 1.0534 | 9766 | 1.000 | 1.000 |
| JC87692-1 - 1 | 13 May 2019 13:53:50 | SMPL | ug/l | 0.0028 | 422 | 1.000 | 1.000 |
| JC87747-1 - 1 | 13 May 2019 13:55:32 | SMPL | ug/l | 0.2091 | 2257 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 13:56:53 | CK STND | ug/l | 93.9% 2.3482 | 21281 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 13:58:23 | CK STND | ug/l | -0.0132 | 280 | 1.000 | 1.000 |
| JC87747-2 - 1 | 13 May 2019 14:00:11 | SMPL | ug/l | 0.2407 | 2538 | 1.000 | 1.000 |
| JC87747-3 - 1 | 13 May 2019 14:01:32 | SMPL | ug/l | 0.1608 | 1827 | 1.000 | 1.000 |
| JC87747-4 - 1 | 13 May 2019 14:03:04 | SMPL | ug/l | 0.1248 | 1507 | 1.000 | 1.000 |
| JC87760-2 - 1 | 13 May 2019 14:04:34 | SMPL | ug/l | 0.0156 | 536 | 1.000 | 1.000 |
| JC87764-1 - 1 | 13 May 2019 14:05:59 | SMPL | ug/l | 0.2141 | 2301 | 1.000 | 1.000 |
| JC87811-2 - 1 | 13 May 2019 14:07:19 | SMPL | ug/l | 0.1116 | 1390 | 1.000 | 1.000 |
| JC87811-3 - 1 | 13 May 2019 14:08:48 | SMPL | ug/l | 0.2138 | 2299 | 1.000 | 1.000 |
| JC87811-4 - 1 | 13 May 2019 14:10:15 | SMPL | ug/l | 0.0565 | 900 | 1.000 | 1.000 |
| JC87811-5 - 1 | 13 May 2019 14:11:45 | SMPL | ug/l | 0.0914 | 1210 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 14:13:07 | CK STND | ug/l | 95.7% 2.3920 | 21671 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 14:14:34 | CK STND | ug/l | -0.0180 | 237 | 1.000 | 1.000 |
| JC87811-6 - 1 | 13 May 2019 14:16:20 | SMPL | ug/l | 0.0932 | 1226 | 1.000 | 1.000 |
| JC87811-7 - 1 | 13 May 2019 14:17:40 | SMPL | ug/l | 0.0508 | 849 | 1.000 | 1.000 |
| JC87811-8 - 1 | 13 May 2019 14:19:05 | SMPL | ug/l | 0.1085 | 1362 | 1.000 | 1.000 |
| JC87811-9 - 1 | 13 May 2019 14:20:28 | SMPL | ug/l | 0.0553 | 889 | 1.000 | 1.000 |
| JC87924-1 - 1 | 13 May 2019 14:21:55 | SMPL | ug/l | 0.0778 | 1089 | 1.000 | 1.000 |
| MP14999-MB1 - 1 | 13 May 2019 14:23:18 | SMPL | ug/l | -0.0222 | 200 | 1.000 | 1.000 |
| MP14999-B1 - 1 | 13 May 2019 14:24:44 | SMPL | ug/l | 1.9764 | 17975 | 1.000 | 1.000 |
| MP14999-S1 - 1 | 13 May 2019 14:26:03 | SMPL | ug/l | 1.6843 | 15377 | 1.000 | 1.000 |
| MP14999-S2 - 1 | 13 May 2019 14:27:51 | SMPL | ug/l | 1.7113 | 15617 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 14:29:39 | CK STND | ug/l | 97.9% 2.4482 | 22171 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 14:31:26 | CK STND | ug/l | -0.0091 | 316 | 1.000 | 1.000 |
| TD38572-1 - 1 | 13 May 2019 14:33:13 | SMPL | ug/l | 0.0156 | 536 | 1.000 | 1.000 |
| JC87535-8 - 1 | 13 May 2019 14:34:32 | SMPL | ug/l | 1.9990 | 18176 | 1.000 | 1.000 |
| CRI - 1 | 13 May 2019 14:37:16 | CK STND | ug/l | 123.6% 0.2472 | 2596 | 1.000 | 1.000 |
| CCV - 1 | 13 May 2019 14:38:32 | CK STND | ug/l | 97.1% 2.4273 | 21985 | 1.000 | 1.000 |
| CCB - 1 | 13 May 2019 14:40:00 | CK STND | ug/l | -0.0104 | 305 | 1.000 | 1.000 |

ACCUTEST




| Std ID | Conc. | Calc. | Dev. | Mean | SD or %RSD | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| STDA | 0.000 | 0.021 | 0.021 | 584 | 0.000 | 584 | | | | |
| STDB | 0.200 | 0.204 | 0.004 | 2209 | 0.0 % | 2209 | | | | |
| STDC | 0.500 | 0.498 | -0.002 | 4825 | 0.0 % | 4825 | | | | |
| STDD | 1.000 | 0.983 | -0.017 | 9141 | 0.0 % | 9141 | | | | |
| STDE | 2.500 | 2.482 | -0.018 | 22473 | 0.0 % | 22473 | | | | |
| STDF | 5.000 | 5.012 | 0.012 | 44973 | 0.0 % | 44973 | | | | |

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/13/2019 9:10:33 Type: Cal
Method: SGS 3 NO Valve(v19) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0139** | **.0004** | **.0005** | **.0002** | **-.0000** | **.0025** | **.0001** | **-.0003** | **-.0006** |
| Stddev | .0003 | .0003 | .0003 | .0002 | .0000 | .0001 | .0000 | .0001 | .0000 |
| %RSD | 2.053 | 70.96 | 54.18 | 91.63 | 106.4 | 3.920 | 24.61 | 21.17 | 8.058 |
| #1 | .0140 | .0002 | .0008 | .0003 | -.0000 | .0024 | .0001 | -.0003 | -.0006 |
| #2 | .0141 | .0007 | .0006 | -.0000 | -.0000 | .0025 | .0001 | -.0002 | -.0005 |
| #3 | .0136 | .0003 | .0002 | .0003 | -.0001 | .0026 | .0000 | -.0003 | -.0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0004** | **.0005** | **-.0003** | **-.0003** | **.0005** | **-.0000** | **.0008** | **-.0003** | **.0078** |
| Stddev | .0001 | .0001 | .0000 | .0000 | .0001 | .0001 | .0001 | .0007 | .0001 |
| %RSD | 13.20 | 15.26 | 8.321 | 14.38 | 27.58 | 623.3 | 16.37 | 240.0 | 1.722 |
| #1 | .0004 | .0006 | -.0003 | -.0004 | .0007 | .0001 | .0010 | .0004 | .0079 |
| #2 | .0005 | .0005 | -.0003 | -.0004 | .0004 | -.0000 | .0008 | -.0003 | .0077 |
| #3 | .0004 | .0004 | -.0003 | -.0003 | .0004 | -.0001 | .0007 | -.0010 | .0079 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0002** | **.0000** | **-.0049** | **.0025** | **.0008** | **-.0005** | **.0026** | **.0004** | **-.0010** |
| Stddev | .0001 | .0000 | .0006 | .0001 | .0000 | .0001 | .0001 | .0001 | .0001 |
| %RSD | 47.24 | 56.06 | 12.80 | 4.913 | 5.591 | 21.97 | 2.453 | 27.99 | 10.78 |
| #1 | .0001 | .0000 | -.0050 | .0024 | .0008 | -.0004 | .0027 | .0005 | -.0011 |
| #2 | .0002 | .0001 | -.0042 | .0026 | .0008 | -.0004 | .0026 | .0003 | -.0009 |
| #3 | .0002 | .0000 | -.0055 | .0024 | .0007 | -.0006 | .0026 | .0005 | -.0009 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0001** | **.0004** | **-.0003** | **-.0014** | **-.0004** | **-.0054** | **-.0027** |
| Stddev | .0000 | .0005 | .0001 | .0001 | .0003 | .0002 | .0000 |
| %RSD | 33.25 | 130.2 | 35.48 | 3.935 | 72.64 | 4.509 | 1.456 |
| #1 | .0001 | .0005 | -.0002 | -.0015 | -.0003 | -.0052 | -.0028 |
| #2 | .0001 | .0009 | -.0003 | -.0014 | -.0002 | -.0054 | -.0027 |
| #3 | .0001 | -.0002 | -.0004 | -.0014 | -.0007 | -.0057 | -.0028 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 5/13/2019 9:10:33 Type: Cal
Method: SGS 3 NO Valve(v19) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158460.** | **27156.** | **6162.7** | **8848.3** |
| Stddev | 712. | 107. | 7.5 | 11.4 |
| %RSD | .44920 | .39340 | .12251 | .12848 |
| #1 | 158890. | 27231. | 6166.1 | 8860.0 |
| #2 | 158850. | 27204. | 6168.0 | 8847.4 |
| #3 | 157640. | 27034. | 6154.1 | 8837.4 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDb Acquired: 5/13/2019 9:15:39 Type: Cal
Method: SGS 3 NO Valve(v19) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.848** | **11.97** | **4.672** | **3.083** | **.5983** | **1.028** | **3.237** | **2.579** | **.0733** |
| Stddev | .084 | .22 | .295 | .159 | .0010 | .002 | .029 | .133 | .0002 |
| %RSD | 1.066 | 1.823 | 6.322 | 5.171 | .1742 | .1606 | .9118 | 5.159 | .2416 |
| #1 | 7.752 | 12.22 | 5.011 | 3.267 | .5972 | 1.026 | 3.257 | 2.731 | .0732 |
| #2 | 7.882 | 11.82 | 4.538 | 3.004 | .5993 | 1.029 | 3.250 | 2.514 | .0735 |
| #3 | 7.909 | 11.87 | 4.468 | 2.978 | .5985 | 1.027 | 3.203 | 2.490 | .0734 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.8303** | **6.751** | **.5283** | **.3045** | **1.095** | **.4115** | **.6599** | **3.426** | **8.584** |
| Stddev | .0012 | .432 | .0339 | .0168 | .057 | .0259 | .0411 | .006 | .035 |
| %RSD | .1407 | 6.399 | 6.420 | 5.511 | 5.241 | 6.303 | 6.226 | .1623 | .4066 |
| #1 | .8290 | 7.245 | .5671 | .3238 | 1.161 | .4413 | .7070 | 3.425 | 8.545 |
| #2 | .8308 | 6.563 | .5128 | .2963 | 1.068 | .3996 | .6409 | 3.431 | 8.593 |
| #3 | .8311 | 6.445 | .5048 | .2933 | 1.057 | .3937 | .6317 | 3.420 | 8.613 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **5.112** | **.9667** | **1.719** | **6.888** | **1.115** | **3.167** | **2.315** | **.9369** | **13.97** |
| Stddev | .009 | .0038 | .003 | .015 | .069 | .200 | .145 | .0595 | .09 |
| %RSD | .1755 | .3967 | .1969 | .2175 | 6.225 | 6.308 | 6.248 | 6.355 | .6406 |
| #1 | 5.111 | .9659 | 1.717 | 6.891 | 1.195 | 3.396 | 2.481 | 1.005 | 14.05 |
| #2 | 5.121 | .9709 | 1.723 | 6.901 | 1.083 | 3.075 | 2.247 | .9092 | 13.98 |
| #3 | 5.103 | .9633 | 1.717 | 6.872 | 1.067 | 3.030 | 2.216 | .8962 | 13.88 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.7007** | **1.642** | **1.876** | **.1901** | **.7453** | **2.013** | **.0740** |
| Stddev | .0014 | .104 | .010 | .0122 | .0462 | .002 | .0048 |
| %RSD | .1959 | 6.351 | .5443 | 6.425 | 6.195 | .0745 | 6.512 |
| #1 | .6992 | 1.762 | 1.864 | .2041 | .7982 | 2.013 | .0795 |
| #2 | .7012 | 1.595 | 1.884 | .1842 | .7244 | 2.014 | .0720 |
| #3 | .7018 | 1.570 | 1.879 | .1820 | .7132 | 2.011 | .0706 |



◀ Zoom In ▶ Zoom Out

Sample Name: STDb Acquired: 5/13/2019 9:15:39 Type: Cal
Method: SGS 3 NO Valve(v19) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147200.** | **26362.** | **5561.4** | **7755.4** |
| Stddev | 593. | 301. | 315.0 | 356.3 |
| %RSD | .40300 | 1.1415 | 5.6646 | 4.5947 |
| #1 | 147890. | 26544. | 5203.8 | 7348.7 |
| #2 | 146820. | 26015. | 5682.3 | 7904.7 |
| #3 | 146910. | 26527. | 5798.1 | 8012.8 |

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 5/13/2019 9:21:20 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.059** | **2.063** | **1.962** | **2.000** | **2.043** | **2.018** | **2.089** | **2.007** | **.2509** |
| Stddev | .004 | .005 | .054 | .047 | .009 | .009 | .008 | .047 | .0017 |
| %RSD | .2183 | .2442 | 2.744 | 2.361 | .4432 | .4597 | .3970 | 2.327 | .6919 |
| #1 | 2.056 | 2.059 | 2.025 | 2.055 | 2.037 | 2.011 | 2.095 | 2.061 | .2501 |
| #2 | 2.057 | 2.060 | 1.932 | 1.974 | 2.054 | 2.029 | 2.079 | 1.978 | .2529 |
| #3 | 2.065 | 2.068 | 1.931 | 1.972 | 2.039 | 2.014 | 2.092 | 1.982 | .2498 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.040** | **1.986** | **1.966** | **2.043** | **2.003** | **1.954** | **1.970** | **40.48** | **40.90** |
| Stddev | .010 | .055 | .057 | .050 | .047 | .054 | .054 | .08 | .10 |
| %RSD | .5077 | 2.757 | 2.896 | 2.447 | 2.350 | 2.776 | 2.730 | .2036 | .2464 |
| #1 | 2.032 | 2.049 | 2.031 | 2.101 | 2.058 | 2.017 | 2.033 | 40.42 | 40.83 |
| #2 | 2.051 | 1.952 | 1.938 | 2.017 | 1.976 | 1.925 | 1.939 | 40.43 | 40.86 |
| #3 | 2.036 | 1.956 | 1.929 | 2.012 | 1.976 | 1.921 | 1.940 | 40.57 | 41.01 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.06** | **41.16** | **40.58** | **41.13** | **1.994** | **1.991** | **5.028** | **2.010** | **2.063** |
| Stddev | .13 | .10 | .13 | .11 | .055 | .056 | .141 | .054 | .004 |
| %RSD | .3146 | .2395 | .3117 | .2738 | 2.734 | 2.822 | 2.799 | 2.701 | .2104 |
| #1 | 40.96 | 41.06 | 40.51 | 41.08 | 2.057 | 2.055 | 5.191 | 2.072 | 2.060 |
| #2 | 41.02 | 41.16 | 40.50 | 41.04 | 1.961 | 1.960 | 4.945 | 1.983 | 2.061 |
| #3 | 41.20 | 41.26 | 40.73 | 41.25 | 1.964 | 1.956 | 4.949 | 1.974 | 2.068 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 5/13/2019 9:21:20 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.066** | **1.954** | **2.099** | **1.916** | **1.975** | **2.021** | **1.915** |
| Stddev | .010 | .053 | .010 | .059 | .053 | .005 | .070 |
| %RSD | .4659 | 2.740 | .4926 | 3.062 | 2.710 | .2513 | 3.672 |
| #1 | 2.058 | 2.015 | 2.091 | 1.983 | 2.037 | 2.018 | 1.996 |
| #2 | 2.077 | 1.921 | 2.110 | 1.888 | 1.944 | 2.018 | 1.879 |
| #3 | 2.063 | 1.925 | 2.095 | 1.876 | 1.944 | 2.027 | 1.869 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148690.** | **26292.** | **5813.4** | **8041.1** |
| Stddev | 600. | 150. | 133.8 | 155.5 |
| %RSD | .40377 | .56950 | 2.3007 | 1.9334 |
| #1 | 148800. | 26351. | 5659.0 | 7861.6 |
| #2 | 148040. | 26403. | 5888.2 | 8127.6 |
| #3 | 149220. | 26122. | 5893.1 | 8134.0 |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 5/13/2019 9:26:19 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0001** | **.0001** | **-.0001** | **.0001** | **.0001** | **.0001** | **-.0001** |
| Stddev | .0003 | .0000 | .0002 | .0002 | .0002 | .0002 | .0000 | .0000 | .0002 |
| %RSD | 410.3 | 49.13 | 203.4 | 205.4 | 205.6 | 314.0 | 4.345 | 51.98 | 166.3 |
| #1 | -.0002 | .0001 | -.0001 | -.0002 | -.0002 | -.0002 | .0001 | .0000 | .0000 |
| #2 | .0004 | .0001 | .0002 | .0002 | -.0001 | .0002 | .0001 | .0001 | -.0004 |
| #3 | .0001 | .0000 | .0001 | .0003 | .0001 | .0001 | .0001 | .0001 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0003** | **.0007** | **.0009** | **.0007** | **-.0011** | **-.0002** | **-.0045** | **-.0009** |
| Stddev | .0002 | .0000 | .0009 | .0007 | .0005 | .0007 | .0014 | .0051 | .0016 |
| %RSD | 65.49 | 13.02 | 121.7 | 70.36 | 73.74 | 63.55 | 599.1 | 113.0 | 177.9 |
| #1 | .0004 | -.0003 | .0013 | .0017 | .0012 | -.0006 | -.0012 | .0013 | -.0017 |
| #2 | .0002 | -.0004 | -.0003 | .0005 | .0002 | -.0009 | -.0008 | -.0064 | .0009 |
| #3 | .0001 | -.0003 | .0012 | .0006 | .0008 | -.0020 | .0014 | -.0083 | -.0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **-.0041** | **.0284** | **-.0048** | **.0026** | **.0006** | **-.0002** | **.0006** | **.0001** |
| Stddev | .0004 | .0078 | .0104 | .0033 | .0002 | .0002 | .0006 | .0003 | .0001 |
| %RSD | 16.04 | 189.8 | 36.62 | 67.98 | 9.261 | 26.83 | 258.1 | 50.76 | 69.12 |
| #1 | .0023 | -.0025 | .0294 | -.0083 | .0027 | .0004 | .0000 | .0009 | .0000 |
| #2 | .0031 | .0027 | .0175 | -.0044 | .0023 | .0007 | .0002 | .0005 | .0001 |
| #3 | .0026 | -.0126 | .0382 | -.0018 | .0028 | .0007 | -.0008 | .0004 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 5/13/2019 9:26:19 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0000** | **.0001** | **-.0004** | **.0001** | **.0023** | **-.0023** |
| Stddev | .0003 | .0009 | .0001 | .0013 | .0015 | .0019 | .0010 |
| %RSD | 60.64 | 7780. | 211.1 | 323.3 | 1340. | 83.87 | 43.47 |
| #1 | .0004 | -.0006 | .0001 | -.0010 | -.0012 | .0038 | -.0030 |
| #2 | .0002 | .0011 | -.0001 | .0011 | .0018 | .0001 | -.0012 |
| #3 | .0007 | -.0005 | .0002 | -.0014 | -.0002 | .0028 | -.0028 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156550.** | **26432.** | **6128.2** | **8821.2** |
| Stddev | 829. | 289. | 30.1 | 35.7 |
| %RSD | .52981 | 1.0916 | .49102 | .40471 |
| #1 | 157440. | 26760. | 6162.9 | 8862.4 |
| #2 | 156420. | 26316. | 6111.5 | 8801.6 |
| #3 | 155800. | 26219. | 6110.1 | 8799.7 |

Zoom In Zoom Out

Sample Name: icvconf Acquired: 5/13/2019 9:31:28 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.017** | **2.021** | **1.903** | **1.969** | **1.984** | **1.967** | **2.036** | **1.936** | **.2516** |
| Stddev | .001 | .002 | .004 | .006 | .004 | .004 | .011 | .006 | .0006 |
| %RSD | .0320 | .0952 | .1876 | .2881 | .1806 | .1846 | .5407 | .3044 | .2539 |
| #1 | 2.018 | 2.022 | 1.907 | 1.975 | 1.981 | 1.964 | 2.043 | 1.943 | .2509 |
| #2 | 2.017 | 2.018 | 1.902 | 1.966 | 1.988 | 1.972 | 2.041 | 1.933 | .2519 |
| #3 | 2.017 | 2.021 | 1.900 | 1.965 | 1.983 | 1.966 | 2.023 | 1.932 | .2520 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.995** | **1.904** | F **1.890** | **1.978** | **1.927** | F **1.877** | F **1.873** | **39.83** | **39.89** |
| Stddev | .001 | .004 | .003 | .003 | .004 | .005 | .006 | .07 | .05 |
| %RSD | .0237 | .1933 | .1544 | .1387 | .2131 | .2486 | .3133 | .1731 | .1164 |
| #1 | 1.995 | 1.908 | 1.893 | 1.980 | 1.932 | 1.880 | 1.879 | 39.89 | 39.92 |
| #2 | 1.995 | 1.905 | 1.891 | 1.978 | 1.926 | 1.879 | 1.874 | 39.76 | 39.84 |
| #3 | 1.995 | 1.901 | 1.887 | 1.975 | 1.924 | 1.872 | 1.867 | 39.86 | 39.91 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass |
| Value | | | 2.000 | | | 2.000 | 2.000 | | |
| Range | | | -5.000% | | | -5.000% | -5.000% | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.21** | **40.55** | **40.02** | **40.35** | **1.918** | **1.900** | **4.850** | **1.916** | **2.025** |
| Stddev | .02 | .06 | .07 | .04 | .004 | .005 | .013 | .003 | .001 |
| %RSD | .0434 | .1417 | .1837 | .1083 | .2127 | .2579 | .2598 | .1650 | .0506 |
| #1 | 40.23 | 40.51 | 40.05 | 40.37 | 1.922 | 1.906 | 4.864 | 1.916 | 2.026 |
| #2 | 40.20 | 40.53 | 39.93 | 40.30 | 1.918 | 1.899 | 4.847 | 1.919 | 2.025 |
| #3 | 40.21 | 40.62 | 40.07 | 40.39 | 1.914 | 1.896 | 4.839 | 1.913 | 2.024 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icvconf Acquired: 5/13/2019 9:31:28 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | F **1.853** | **2.023** | F **1.866** | **1.906** | **2.012** | F **1.870** |
| Stddev | .001 | .006 | .002 | .003 | .002 | .003 | .007 |
| %RSD | .0664 | .3354 | .0840 | .1352 | .1259 | .1293 | .3935 |
| #1 | 2.005 | 1.858 | 2.025 | 1.864 | 1.909 | 2.013 | 1.877 |
| #2 | 2.003 | 1.855 | 2.022 | 1.864 | 1.906 | 2.009 | 1.863 |
| #3 | 2.004 | 1.846 | 2.023 | 1.868 | 1.904 | 2.013 | 1.869 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail |
| Value | | 2.000 | | 2.000 | | | 2.000 |
| Range | | -5.000% | | -5.000% | | | -5.000% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148290.** | **25987.** | **5867.6** | **8100.0** |
| Stddev | 550. | 165. | 12.9 | 12.4 |
| %RSD | .37061 | .63505 | .22032 | .15268 |
| #1 | 148910. | 25942. | 5876.2 | 8107.7 |
| #2 | 147850. | 26170. | 5852.7 | 8085.8 |
| #3 | 148120. | 25849. | 5873.8 | 8106.6 |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/13/2019 9:41:42 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.098** | **2.088** | **1.969** | **2.014** | **2.076** | **2.041** | F **2.126** | **2.008** | **.2603** |
| Stddev | .001 | .002 | .003 | .002 | .007 | .007 | .011 | .001 | .0010 |
| %RSD | .0551 | .1008 | .1359 | .0975 | .3310 | .3637 | .4951 | .0310 | .4013 |
| #1 | 2.098 | 2.090 | 1.972 | 2.014 | 2.068 | 2.033 | 2.120 | 2.009 | .2592 |
| #2 | 2.100 | 2.090 | 1.968 | 2.013 | 2.082 | 2.048 | 2.138 | 2.008 | .2613 |
| #3 | 2.097 | 2.086 | 1.967 | 2.017 | 2.077 | 2.041 | 2.119 | 2.009 | .2605 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | | 2.000 | | |
| Range | | | | | | | 5.000% | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.073** | **2.037** | **1.966** | **2.039** | **2.006** | **1.943** | **1.959** | **41.89** | F **42.19** |
| Stddev | .006 | .003 | .004 | .002 | .004 | .004 | .002 | .12 | .10 |
| %RSD | .2930 | .1520 | .1856 | .0987 | .1867 | .1942 | .0861 | .2838 | .2425 |
| #1 | 2.067 | 2.040 | 1.968 | 2.039 | 2.004 | 1.947 | 1.961 | 42.01 | 42.28 |
| #2 | 2.079 | 2.034 | 1.962 | 2.037 | 2.003 | 1.940 | 1.958 | 41.90 | 42.22 |
| #3 | 2.074 | 2.036 | 1.967 | 2.041 | 2.010 | 1.941 | 1.960 | 41.77 | 42.08 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | | | 40.00 |
| Range | | | | | | | | | 5.000% |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.93** | F **42.72** | **41.35** | **41.96** | **1.985** | **1.984** | **4.957** | **2.004** | F **2.102** |
| Stddev | .07 | .17 | .02 | .04 | .003 | .001 | .012 | .003 | .002 |
| %RSD | .1743 | .4034 | .0534 | .1021 | .1471 | .0366 | .2325 | .1367 | .1016 |
| #1 | 41.98 | 42.86 | 41.35 | 42.00 | 1.987 | 1.984 | 4.951 | 2.001 | 2.101 |
| #2 | 41.95 | 42.77 | 41.34 | 41.97 | 1.981 | 1.983 | 4.970 | 2.006 | 2.105 |
| #3 | 41.84 | 42.53 | 41.38 | 41.91 | 1.985 | 1.983 | 4.949 | 2.005 | 2.101 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | 40.00 | | | | | | | 2.000 |
| Range | | 5.000% | | | | | | | 5.000% |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/13/2019 9:41:42 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.098** | **1.945** | F **2.127** | **1.933** | **1.963** | **2.068** | **1.958** |
| Stddev | .004 | .003 | .005 | .002 | .002 | .001 | .013 |
| %RSD | .1872 | .1315 | .2186 | .1116 | .1144 | .0677 | .6410 |
| #1 | 2.094 | 1.946 | 2.122 | 1.932 | 1.961 | 2.069 | 1.944 |
| #2 | 2.101 | 1.942 | 2.131 | 1.932 | 1.966 | 2.066 | 1.961 |
| #3 | 2.099 | 1.947 | 2.129 | 1.935 | 1.963 | 2.069 | 1.968 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | 2.000 | | | | |
| Range | | | 5.000% | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147140.** | **25716.** | **5831.4** | **8082.4** |
| Stddev | 969. | 140. | 13.0 | 16.9 |
| %RSD | .65847 | .54564 | .22291 | .20954 |
| #1 | 148190. | 25780. | 5817.3 | 8063.6 |
| #2 | 146940. | 25555. | 5842.9 | 8096.5 |
| #3 | 146290. | 25813. | 5834.0 | 8086.9 |

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/13/2019 9:47:55 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.053** | **2.052** | **1.930** | **1.968** | **2.041** | **1.996** | **2.077** | **1.977** | **.2487** |
| Stddev | .002 | .007 | .004 | .003 | .007 | .005 | .035 | .002 | .0008 |
| %RSD | .0775 | .3287 | .1901 | .1357 | .3695 | .2365 | 1.679 | .0964 | .3116 |
| #1 | 2.054 | 2.057 | 1.929 | 1.966 | 2.046 | 2.000 | 2.097 | 1.975 | .2485 |
| #2 | 2.051 | 2.055 | 1.928 | 1.968 | 2.046 | 1.996 | 2.098 | 1.978 | .2495 |
| #3 | 2.053 | 2.044 | 1.934 | 1.971 | 2.033 | 1.991 | 2.037 | 1.979 | .2480 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.030** | **1.968** | **1.930** | **2.012** | **1.980** | **1.912** | **1.934** | **40.54** | **41.02** |
| Stddev | .009 | .003 | .001 | .006 | .004 | .002 | .003 | .11 | .16 |
| %RSD | .4405 | .1602 | .0608 | .3215 | .2155 | .1278 | .1731 | .2816 | .3920 |
| #1 | 2.033 | 1.966 | 1.931 | 2.011 | 1.976 | 1.910 | 1.930 | 40.63 | 41.15 |
| #2 | 2.037 | 1.966 | 1.928 | 2.007 | 1.978 | 1.911 | 1.935 | 40.59 | 41.08 |
| #3 | 2.020 | 1.972 | 1.930 | 2.019 | 1.984 | 1.915 | 1.936 | 40.41 | 40.84 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.02** | **41.35** | **40.56** | **41.01** | **1.952** | **1.961** | **4.933** | **1.984** | **2.057** |
| Stddev | .12 | .10 | .13 | .05 | .001 | .004 | .009 | .006 | .003 |
| %RSD | .2875 | .2389 | .3087 | .1299 | .0417 | .1934 | .1903 | .2919 | .1366 |
| #1 | 41.10 | 41.42 | 40.63 | 41.05 | 1.951 | 1.959 | 4.924 | 1.982 | 2.059 |
| #2 | 41.07 | 41.38 | 40.63 | 41.02 | 1.952 | 1.958 | 4.933 | 1.979 | 2.057 |
| #3 | 40.88 | 41.23 | 40.41 | 40.95 | 1.953 | 1.965 | 4.943 | 1.991 | 2.054 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/13/2019 9:47:55 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.054** | **1.931** | **2.094** | F **1.878** | **1.942** | **2.018** | **1.907** |
| Stddev | .007 | .003 | .008 | .006 | .001 | .007 | .006 |
| %RSD | .3656 | .1476 | .3827 | .3161 | .0594 | .3542 | .2955 |
| #1 | 2.058 | 1.928 | 2.099 | 1.885 | 1.941 | 2.025 | 1.908 |
| #2 | 2.059 | 1.931 | 2.097 | 1.873 | 1.941 | 2.018 | 1.912 |
| #3 | 2.046 | 1.934 | 2.084 | 1.876 | 1.943 | 2.011 | 1.901 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | 2.000 | | | |
| Range | | | | -5.000% | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146490.** | **25385.** | **5808.4** | **8047.6** |
| Stddev | 678. | 216. | 2.2 | 3.7 |
| %RSD | .46294 | .84891 | .03759 | .04626 |
| #1 | 146580. | 25276. | 5806.2 | 8043.9 |
| #2 | 145770. | 25246. | 5808.5 | 8047.5 |
| #3 | 147120. | 25633. | 5810.6 | 8051.3 |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/13/2019 9:52:50 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0002** | **.0001** | **.0001** | **.0000** | **.0003** | **.0002** | **.0004** | **.0000** |
| Stddev | .0004 | .0001 | .0002 | .0003 | .0002 | .0000 | .0000 | .0004 | .0001 |
| %RSD | 189.8 | 41.92 | 234.2 | 274.5 | 457.6 | 8.745 | 19.47 | 110.9 | 164.5 |
| #1 | -.0001 | .0002 | .0002 | -.0001 | -.0002 | .0003 | .0001 | .0009 | -.0000 |
| #2 | .0007 | .0001 | .0002 | .0005 | .0002 | .0003 | .0002 | .0001 | .0001 |
| #3 | .0001 | .0001 | -.0001 | .0000 | .0000 | .0002 | .0001 | .0002 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0004** | **.0007** | **.0009** | **-.0006** | **-.0013** | **.0007** | **-.0106** | **-.0004** |
| Stddev | .0001 | .0001 | .0002 | .0004 | .0005 | .0006 | .0009 | .0089 | .0008 |
| %RSD | 5601. | 22.47 | 32.92 | 42.10 | 73.74 | 45.69 | 130.8 | 83.47 | 195.5 |
| #1 | -.0001 | -.0005 | .0004 | .0005 | -.0001 | -.0006 | -.0001 | -.0205 | .0005 |
| #2 | .0001 | -.0003 | .0008 | .0010 | -.0007 | -.0016 | .0005 | -.0035 | -.0011 |
| #3 | .0000 | -.0004 | .0008 | .0012 | -.0010 | -.0017 | .0017 | -.0079 | -.0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033** | **-.0072** | **.0436** | **-.0201** | **.0025** | **.0005** | **.0013** | **.0000** | **.0002** |
| Stddev | .0029 | .0048 | .0375 | .0086 | .0004 | .0002 | .0012 | .0004 | .0000 |
| %RSD | 88.71 | 67.62 | 85.95 | 42.98 | 15.34 | 42.20 | 91.29 | 970.0 | 21.24 |
| #1 | .0052 | -.0036 | .0724 | -.0258 | .0028 | .0008 | .0012 | -.0004 | .0001 |
| #2 | .0046 | -.0052 | .0573 | -.0243 | .0027 | .0004 | .0001 | .0003 | .0002 |
| #3 | -.0001 | -.0127 | .0012 | -.0101 | .0021 | .0004 | .0025 | .0002 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/13/2019 9:52:50 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0013** | **.0001** | **.0015** | **-.0004** | **.0035** | **-.0007** |
| Stddev | .0002 | .0004 | .0001 | .0031 | .0005 | .0006 | .0051 |
| %RSD | 49.23 | 30.74 | 122.4 | 204.1 | 149.7 | 18.32 | 717.2 |
| #1 | .0002 | .0011 | .0002 | -.0016 | -.0005 | .0041 | -.0015 |
| #2 | .0003 | .0010 | -.0000 | .0016 | .0002 | .0035 | .0047 |
| #3 | .0006 | .0018 | .0001 | .0046 | -.0008 | .0029 | -.0053 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159190.** | **26843.** | **6206.2** | **8925.5** |
| Stddev | 1258. | 82. | 53.8 | 67.7 |
| %RSD | .79012 | .30479 | .86717 | .75860 |
| #1 | 158220. | 26902. | 6155.9 | 8854.2 |
| #2 | 158730. | 26877. | 6263.0 | 8989.0 |
| #3 | 160610. | 26749. | 6199.8 | 8933.2 |

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/13/2019 10:01:12 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.045** | **2.049** | **1.959** | **2.001** | **2.036** | **2.026** | **2.063** | **2.005** | **.2506** |
| Stddev | .003 | .006 | .034 | .030 | .007 | .007 | .034 | .030 | .0014 |
| %RSD | .1464 | .3147 | 1.712 | 1.513 | .3475 | .3699 | 1.644 | 1.496 | .5621 |
| #1 | 2.048 | 2.056 | 1.940 | 1.981 | 2.028 | 2.018 | 2.054 | 1.985 | .2494 |
| #2 | 2.042 | 2.044 | 2.009 | 2.046 | 2.033 | 2.028 | 2.022 | 2.049 | .2505 |
| #3 | 2.046 | 2.053 | 1.943 | 1.988 | 2.045 | 2.036 | 2.103 | 1.992 | .2526 |
| #4 | 2.043 | 2.044 | 1.944 | 1.988 | 2.036 | 2.023 | 2.072 | 1.992 | .2498 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.031** | **1.967** | **1.958** | **2.040** | **2.004** | **1.949** | **1.973** | **40.29** | **40.70** |
| Stddev | .007 | .035 | .036 | .029 | .029 | .035 | .034 | .13 | .14 |
| %RSD | .3594 | 1.781 | 1.858 | 1.438 | 1.473 | 1.793 | 1.741 | .3131 | .3459 |
| #1 | 2.025 | 1.948 | 1.937 | 2.024 | 1.986 | 1.929 | 1.951 | 40.37 | 40.84 |
| #2 | 2.026 | 2.020 | 2.013 | 2.084 | 2.049 | 2.001 | 2.024 | 40.17 | 40.57 |
| #3 | 2.041 | 1.949 | 1.942 | 2.025 | 1.992 | 1.932 | 1.957 | 40.43 | 40.81 |
| #4 | 2.030 | 1.952 | 1.941 | 2.026 | 1.991 | 1.932 | 1.959 | 40.20 | 40.59 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/13/2019 10:01:12 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.77** | **40.81** | **40.36** | **40.76** | **1.989** | **1.984** | **5.014** | **1.996** | **2.052** |
| Stddev | .09 | .06 | .16 | .10 | .034 | .034 | .087 | .036 | .004 |
| %RSD | .2323 | .1444 | .3858 | .2376 | 1.707 | 1.703 | 1.743 | 1.804 | .1914 |
| #1 | 40.86 | 40.89 | 40.46 | 40.89 | 1.967 | 1.962 | 4.960 | 1.973 | 2.056 |
| #2 | 40.70 | 40.78 | 40.20 | 40.67 | 2.039 | 2.034 | 5.145 | 2.050 | 2.048 |
| #3 | 40.85 | 40.83 | 40.51 | 40.78 | 1.972 | 1.969 | 4.973 | 1.980 | 2.055 |
| #4 | 40.69 | 40.75 | 40.25 | 40.71 | 1.975 | 1.969 | 4.979 | 1.983 | 2.050 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.054** | **1.950** | **2.092** | **1.912** | **1.976** | **2.013** | **1.927** |
| Stddev | .008 | .034 | .007 | .035 | .031 | .007 | .038 |
| %RSD | .3957 | 1.737 | .3210 | 1.848 | 1.549 | .3678 | 1.964 |
| #1 | 2.047 | 1.933 | 2.087 | 1.884 | 1.955 | 2.018 | 1.886 |
| #2 | 2.049 | 2.001 | 2.089 | 1.964 | 2.022 | 2.006 | 1.976 |
| #3 | 2.065 | 1.933 | 2.102 | 1.897 | 1.962 | 2.021 | 1.912 |
| #4 | 2.053 | 1.934 | 2.092 | 1.904 | 1.967 | 2.008 | 1.934 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/13/2019 10:01:12 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150800.** | **26821.** | **5902.3** | **8133.0** |
| Stddev | 936. | 102. | 97.6 | 117.3 |
| %RSD | .62040 | .37897 | 1.6542 | 1.4422 |
| #1 | 151380. | 26831. | 5944.4 | 8188.8 |
| #2 | 151570. | 26872. | 5756.2 | 7957.1 |
| #3 | 149500. | 26676. | 5960.7 | 8196.7 |
| #4 | 150740. | 26905. | 5947.9 | 8189.4 |



Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/13/2019 10:09:06 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0002** | **.0001** | **.0002** | **.0004** | **.0002** | **.0002** | **.0002** |
| Stddev | .0005 | .0000 | .0001 | .0003 | .0001 | .0002 | .0000 | .0006 | .0003 |
| %RSD | 757.8 | 13.83 | 35.56 | 474.1 | 29.98 | 49.14 | 18.13 | 268.0 | 133.5 |
| #1 | .0000 | .0001 | .0001 | .0003 | .0003 | .0002 | .0002 | .0006 | .0005 |
| #2 | .0004 | .0002 | .0003 | -.0003 | .0002 | .0006 | .0002 | .0006 | -.0001 |
| #3 | -.0006 | .0001 | .0003 | .0002 | .0002 | .0003 | .0003 | -.0005 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0003** | **.0014** | **.0007** | **.0005** | **.0001** | **.0012** | **.0098** | **.0012** |
| Stddev | .0003 | .0000 | .0006 | .0009 | .0006 | .0010 | .0013 | .0097 | .0005 |
| %RSD | 109.1 | 14.74 | 41.14 | 119.1 | 120.6 | 1096. | 116.2 | 98.60 | 39.65 |
| #1 | .0004 | -.0003 | .0019 | .0015 | .0011 | .0010 | .0014 | .0034 | .0011 |
| #2 | .0004 | -.0002 | .0008 | .0009 | -.0002 | .0002 | .0024 | .0051 | .0007 |
| #3 | -.0001 | -.0003 | .0014 | -.0002 | .0007 | -.0010 | -.0003 | .0209 | .0017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0029** | **-.0083** | **.0448** | **-.0117** | **.0023** | **.0005** | **.0015** | **.0009** | **.0002** |
| Stddev | .0008 | .0160 | .0245 | .0043 | .0005 | .0001 | .0011 | .0004 | .0001 |
| %RSD | 27.09 | 193.1 | 54.78 | 36.81 | 22.86 | 28.51 | 73.30 | 46.46 | 38.29 |
| #1 | .0038 | -.0250 | .0713 | -.0071 | .0028 | .0005 | .0019 | .0004 | .0002 |
| #2 | .0026 | .0068 | .0401 | -.0124 | .0022 | .0005 | .0024 | .0012 | .0001 |
| #3 | .0024 | -.0067 | .0229 | -.0156 | .0018 | .0003 | .0003 | .0010 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/13/2019 10:09:06 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0007** | **.0002** | **.0012** | **-.0006** | F **.0042** | **-.0004** |
| Stddev | .0001 | .0007 | .0002 | .0010 | .0012 | .0016 | .0066 |
| %RSD | 14.18 | 99.97 | 109.6 | 79.32 | 199.0 | 38.26 | 1471. |
| #1 | .0005 | .0015 | -.0000 | .0012 | -.0018 | .0023 | -.0016 |
| #2 | .0004 | .0006 | .0002 | .0003 | .0006 | .0053 | -.0064 |
| #3 | .0004 | .0000 | .0004 | .0022 | -.0006 | .0048 | .0066 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159570.** | **27787.** | **6293.0** | **9014.4** |
| Stddev | 949. | 1107. | 97.9 | 123.0 |
| %RSD | .59460 | 3.9847 | 1.5561 | 1.3642 |
| #1 | 158490. | 27347. | 6250.1 | 8959.7 |
| #2 | 159960. | 26968. | 6223.9 | 8928.3 |
| #3 | 160270. | 29047. | 6405.0 | 9155.3 |



Zoom In Zoom Out

Sample Name: CRI Acquired: 5/13/2019 10:15:21 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1940** | **.0020** | **.0028** | **.0475** | **.0097** | **.0093** | **.0154** | **.0097** | **.0054** |
| Stddev | .0002 | .0001 | .0002 | .0002 | .0006 | .0002 | .0000 | .0000 | .0001 |
| %RSD | .1007 | 3.034 | 8.441 | .4456 | 5.788 | 2.329 | .2948 | .4553 | 2.547 |
| #1 | .1941 | .0020 | .0026 | .0477 | .0103 | .0092 | .0154 | .0097 | .0054 |
| #2 | .1938 | .0020 | .0030 | .0474 | .0092 | .0092 | .0154 | .0097 | .0052 |
| #3 | .1941 | .0019 | .0026 | .0473 | .0096 | .0096 | .0153 | .0096 | .0055 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0493** | **.0185** | **.0092** | **.0109** | **.0029** | **.0094** | **.0069** | **.1932** | **4.979** |
| Stddev | .0006 | .0000 | .0004 | .0012 | .0009 | .0011 | .0014 | .0012 | .009 |
| %RSD | 1.246 | .1477 | 3.890 | 10.66 | 31.46 | 12.21 | 19.59 | .6074 | .1715 |
| #1 | .0491 | .0184 | .0095 | .0099 | .0020 | .0097 | .0079 | .1919 | 4.980 |
| #2 | .0488 | .0185 | .0093 | .0121 | .0038 | .0081 | .0075 | .1943 | 4.987 |
| #3 | .0500 | .0185 | .0088 | .0105 | .0029 | .0103 | .0054 | .1933 | 4.970 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1024** | **5.102** | **4.917** | **4.997** | **.0943** | **.0193** | **.2072** | **.0099** | **.0097** |
| Stddev | .0021 | .028 | .029 | .016 | .0006 | .0001 | .0007 | .0002 | .0000 |
| %RSD | 2.010 | .5483 | .5896 | .3290 | .6398 | .3896 | .3204 | 2.516 | .4622 |
| #1 | .1036 | 5.134 | 4.920 | 4.978 | .0937 | .0192 | .2071 | .0101 | .0097 |
| #2 | .1001 | 5.091 | 4.944 | 5.005 | .0949 | .0192 | .2066 | .0100 | .0097 |
| #3 | .1037 | 5.082 | 4.886 | 5.008 | .0944 | .0194 | .2079 | .0096 | .0097 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CRI Acquired: 5/13/2019 10:15:21 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0105** | **.0478** | **.0109** | **.0501** | **.0213** | **.0572** | **.0480** |
| Stddev | .0002 | .0008 | .0001 | .0018 | .0004 | .0006 | .0003 |
| %RSD | 1.835 | 1.762 | 1.351 | 3.684 | 1.994 | 1.010 | .5678 |
| #1 | .0107 | .0480 | .0107 | .0480 | .0212 | .0577 | .0482 |
| #2 | .0103 | .0484 | .0109 | .0510 | .0218 | .0566 | .0480 |
| #3 | .0105 | .0468 | .0110 | .0514 | .0210 | .0572 | .0477 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156490.** | **27280.** | **6114.3** | **8665.5** |
| Stddev | 410. | 325. | 21.5 | 21.2 |
| %RSD | .26177 | 1.1907 | .35227 | .24449 |
| #1 | 156780. | 27094. | 6110.2 | 8657.5 |
| #2 | 156670. | 27090. | 6095.1 | 8649.4 |
| #3 | 156020. | 27655. | 6137.6 | 8689.5 |



Zoom In Zoom Out

Sample Name: CRID Acquired: 5/13/2019 10:20:25 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0040** | **.0010** | **.0009** | **.0029** | **.0020** | F **-.0001** | **.0032** | **.0041** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0001 | .0002 | .0000 | .0002 |
| %RSD | 4.039 | 5.777 | 10.71 | 6.701 | 5.940 | 198.5 | .5261 | 5.918 |
| #1 | .0040 | .0010 | .0008 | .0030 | .0020 | .0001 | .0031 | .0041 |
| #2 | .0041 | .0009 | .0010 | .0030 | .0021 | -.0001 | .0032 | .0044 |
| #3 | .0038 | .0010 | .0010 | .0027 | .0019 | -.0004 | .0031 | .0039 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **.0002** | **.0023** | **.0093** | **.0034** | F **.0032** | F **-.0002** | F **.0033** | F **-.0005** |
| Stddev | .0005 | .0003 | .0001 | .0006 | .0012 | .0008 | .0017 | .0012 |
| %RSD | 204.8 | 11.69 | .6329 | 16.97 | 39.05 | 430.1 | 53.43 | 253.9 |
| #1 | -.0001 | .0020 | .0093 | .0032 | .0045 | -.0010 | .0027 | -.0012 |
| #2 | -.0000 | .0025 | .0092 | .0041 | .0021 | .0007 | .0052 | -.0011 |
| #3 | .0008 | .0022 | .0093 | .0030 | .0029 | -.0003 | .0019 | .0009 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | .0050 | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1002** | **1.034** | **.0019** | **.1048** | **2.033** | **1.016** | **.0006** | **-.0000** |
| Stddev | .0049 | .004 | .0007 | .0040 | .029 | .007 | .0001 | .0000 |
| %RSD | 4.909 | .4021 | 38.08 | 3.817 | 1.403 | .6545 | 21.42 | 79.83 |
| #1 | .0955 | 1.031 | .0013 | .1029 | 2.066 | 1.012 | .0005 | -.0001 |
| #2 | .1054 | 1.039 | .0019 | .1020 | 2.021 | 1.023 | .0008 | -.0001 |
| #3 | .0997 | 1.032 | .0027 | .1093 | 2.013 | 1.012 | .0006 | -.0000 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

Zoom In Zoom Out

Sample Name: CRID Acquired: 5/13/2019 10:20:25 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0004** | **-.0000** | **.0003** | **.0003** | **-.0002** | **.0005** | **-.0009** |
| Stddev | .0008 | .0003 | .0001 | .0004 | .0008 | .0000 | .0015 | .0013 |
| %RSD | 543.2 | 84.98 | 1102. | 107.7 | 243.2 | 16.05 | 314.2 | 145.0 |
| #1 | .0006 | -.0006 | .0001 | .0001 | .0010 | -.0002 | -.0012 | .0006 |
| #2 | -.0010 | -.0000 | -.0000 | .0001 | .0004 | -.0002 | .0010 | -.0016 |
| #3 | -.0000 | -.0006 | -.0001 | .0008 | -.0005 | -.0002 | .0016 | -.0018 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0023** | **.0027** |
| Stddev | .0010 | .0031 |
| %RSD | 40.85 | 113.4 |
| #1 | .0013 | .0063 |
| #2 | .0025 | .0014 |
| #3 | .0032 | .0005 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158750.** | **27131.** | **6183.6** | **8847.8** |
| Stddev | 446. | 174. | 6.2 | 4.3 |
| %RSD | .28087 | .64016 | .10011 | .04812 |
| #1 | 158620. | 27330. | 6190.6 | 8852.6 |
| #2 | 158380. | 27045. | 6178.8 | 8844.5 |
| #3 | 159240. | 27016. | 6181.4 | 8846.2 |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/13/2019 10:25:32 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0001** | **-.0008** | **-.0003** | **-.0001** | **.0034** | **-.0006** | **-.0004** | **.0010** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0003 | .0002 | .0000 | .0005 | .0003 |
| %RSD | 16.24 | 51.43 | 30.53 | 23.01 | 251.5 | 6.670 | 6.246 | 108.9 | 27.28 |
| #1 | .0010 | .0000 | -.0010 | -.0004 | -.0003 | .0037 | -.0007 | -.0005 | .0007 |
| #2 | .0008 | .0001 | -.0009 | -.0003 | .0002 | .0033 | -.0006 | -.0009 | .0010 |
| #3 | .0011 | .0001 | -.0005 | -.0002 | -.0003 | .0032 | -.0006 | .0001 | .0012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0051** | **-.0010** | **.0008** | **-.0003** | **-.0000** | **.0077** | **-.0029** | **501.8** | **390.4** |
| Stddev | .0005 | .0002 | .0011 | .0030 | .0013 | .0029 | .0017 | 4.5 | 5.5 |
| %RSD | 9.131 | 18.25 | 145.7 | 1114. | 3863. | 38.02 | 58.98 | .9033 | 1.417 |
| #1 | -.0051 | -.0008 | .0021 | .0001 | -.0015 | .0082 | -.0018 | 500.2 | 385.0 |
| #2 | -.0046 | -.0010 | .0000 | .0026 | .0005 | .0046 | -.0020 | 498.3 | 396.1 |
| #3 | -.0055 | -.0012 | .0002 | -.0034 | .0008 | .0104 | -.0048 | 506.9 | 390.2 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **194.8** | **507.1** | **.1627** | **.0558** | **-.0005** | **.0006** | **.0054** | **-.0014** | **-.0005** |
| Stddev | .2 | 1.0 | .0365 | .0111 | .0015 | .0003 | .0009 | .0006 | .0001 |
| %RSD | .0981 | .2013 | 22.42 | 19.84 | 324.1 | 46.66 | 16.91 | 44.65 | 12.09 |
| #1 | 194.9 | 508.1 | .2047 | .0521 | -.0001 | .0005 | .0063 | -.0016 | -.0005 |
| #2 | 194.6 | 506.0 | .1437 | .0682 | .0008 | .0004 | .0045 | -.0019 | -.0005 |
| #3 | 195.0 | 507.2 | .1396 | .0471 | -.0022 | .0009 | .0054 | -.0007 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/13/2019 10:25:32 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0013** | **-.0010** | **-.0417** | **-.0120** | **.0004** | **.0119** |
| Stddev | .0004 | .0012 | .0001 | .0020 | .0005 | .0010 | .0005 |
| %RSD | 40.59 | 94.52 | 15.59 | 4.739 | 3.956 | 241.0 | 3.872 |
| #1 | -.0016 | .0017 | -.0008 | -.0434 | -.0115 | -.0006 | .0123 |
| #2 | -.0008 | .0022 | -.0010 | -.0395 | -.0122 | .0005 | .0119 |
| #3 | -.0009 | -.0001 | -.0011 | -.0422 | -.0125 | .0014 | .0114 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137470.** | **25960.** | **5451.4** | **7493.4** |
| Stddev | 405. | 146. | 4.2 | 5.6 |
| %RSD | .29437 | .56392 | .07730 | .07471 |
| #1 | 137340. | 25899. | 5454.8 | 7499.6 |
| #2 | 137140. | 26127. | 5446.7 | 7488.7 |
| #3 | 137920. | 25854. | 5452.6 | 7492.0 |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/13/2019 10:30:55 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5141** | **.4998** | **.9729** | **.4711** | **.4914** | **.5142** | **.5131** | **.9320** | **1.098** |
| Stddev | .0007 | .0003 | .0178 | .0068 | .0006 | .0010 | .0009 | .0139 | .001 |
| %RSD | .1411 | .0698 | 1.829 | 1.444 | .1267 | .1976 | .1657 | 1.488 | .0505 |
| #1 | .5133 | .4999 | .9811 | .4745 | .4908 | .5131 | .5139 | .9399 | 1.098 |
| #2 | .5143 | .5000 | .9525 | .4633 | .4920 | .5151 | .5122 | .9160 | 1.098 |
| #3 | .5146 | .4994 | .9851 | .4756 | .4914 | .5145 | .5132 | .9401 | 1.097 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4964** | **.9169** | **1.032** | **.9444** | **.9170** | **.9979** | **1.016** | **507.3** | **381.6** |
| Stddev | .0011 | .0156 | .021 | .0138 | .0143 | .0209 | .018 | 8.7 | 10.2 |
| %RSD | .2197 | 1.700 | 1.993 | 1.459 | 1.557 | 2.099 | 1.790 | 1.716 | 2.670 |
| #1 | .4968 | .9229 | 1.040 | .9525 | .9251 | 1.006 | 1.026 | 517.3 | 390.6 |
| #2 | .4952 | .8992 | 1.008 | .9285 | .9005 | .9741 | .9949 | 501.8 | 383.6 |
| #3 | .4972 | .9286 | 1.047 | .9522 | .9254 | 1.014 | 1.027 | 502.7 | 370.5 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **196.9** | **510.5** | **.1879** | **.0691** | **.4674** | **.4716** | **.4854** | **.4649** | **.5166** |
| Stddev | 2.0 | .5 | .0288 | .0107 | .0094 | .0085 | .0083 | .0092 | .0004 |
| %RSD | 1.000 | .0949 | 15.30 | 15.45 | 2.018 | 1.796 | 1.706 | 1.984 | .0683 |
| #1 | 197.8 | 511.0 | .2199 | .0571 | .4698 | .4742 | .4888 | .4678 | .5162 |
| #2 | 194.7 | 510.1 | .1798 | .0776 | .4570 | .4621 | .4760 | .4545 | .5168 |
| #3 | 198.3 | 510.5 | .1641 | .0726 | .4754 | .4784 | .4915 | .4723 | .5167 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/13/2019 10:30:55 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5106** | **.4658** | **.5135** | **.4426** | **.4820** | **.5389** | **.5100** |
| Stddev | .0011 | .0117 | .0008 | .0084 | .0092 | .0022 | .0062 |
| %RSD | .2179 | 2.520 | .1520 | 1.902 | 1.900 | .4022 | 1.223 |
| #1 | .5116 | .4737 | .5128 | .4488 | .4880 | .5368 | .5097 |
| #2 | .5094 | .4523 | .5135 | .4330 | .4715 | .5411 | .5039 |
| #3 | .5108 | .4715 | .5143 | .4459 | .4866 | .5389 | .5164 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137320.** | **25962.** | **5473.0** | **7536.4** |
| Stddev | 470. | 165. | 75.9 | 85.5 |
| %RSD | .34250 | .63510 | 1.3861 | 1.1341 |
| #1 | 136800. | 25771. | 5447.2 | 7498.9 |
| #2 | 137720. | 26062. | 5558.4 | 7634.2 |
| #3 | 137430. | 26052. | 5413.5 | 7476.1 |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/13/2019 10:36:13 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.147** | **8.078** | **7.615** | **7.834** | **8.302** | **8.074** | **8.174** | **7.817** | **.6022** |
| Stddev | .274 | .114 | .076 | .056 | .015 | .050 | .081 | .055 | .0007 |
| %RSD | 3.357 | 1.411 | 1.000 | .7150 | .1805 | .6239 | .9922 | .7041 | .1159 |
| #1 | 8.454 | 8.075 | 7.632 | 7.857 | 8.309 | 8.099 | 8.231 | 7.837 | .6030 |
| #2 | 7.928 | 7.965 | 7.532 | 7.770 | 8.311 | 8.108 | 8.211 | 7.755 | .6019 |
| #3 | 8.061 | 8.193 | 7.681 | 7.874 | 8.284 | 8.016 | 8.081 | 7.859 | .6017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.138** | **7.872** | **7.678** | **8.002** | **7.939** | **7.699** | **7.828** | **.0250** | **-.0339** |
| Stddev | .093 | .084 | .076 | .049 | .054 | .075 | .076 | .0187 | .0016 |
| %RSD | 1.147 | 1.060 | .9867 | .6160 | .6793 | .9746 | .9671 | 74.61 | 4.648 |
| #1 | 8.118 | 7.894 | 7.690 | 8.021 | 7.953 | 7.717 | 7.848 | .0233 | -.0353 |
| #2 | 8.240 | 7.780 | 7.597 | 7.945 | 7.880 | 7.617 | 7.745 | .0445 | -.0322 |
| #3 | 8.056 | 7.943 | 7.747 | 8.038 | 7.985 | 7.764 | 7.893 | .0073 | -.0341 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0297** | **.0026** | **.4643** | **.0317** | **7.758** | **7.935** | **25.34** | **8.058** | **8.335** |
| Stddev | .0010 | .0130 | .0280 | .0080 | .076 | .077 | .26 | .081 | .198 |
| %RSD | 3.416 | 495.9 | 6.026 | 25.08 | .9809 | .9743 | 1.045 | 1.002 | 2.374 |
| #1 | -.0290 | .0129 | .4966 | .0393 | 7.767 | 7.956 | 25.38 | 8.077 | 8.410 |
| #2 | -.0309 | -.0120 | .4485 | .0234 | 7.678 | 7.849 | 25.05 | 7.969 | 8.111 |
| #3 | -.0292 | .0070 | .4478 | .0325 | 7.829 | 7.999 | 25.58 | 8.127 | 8.485 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/13/2019 10:36:13 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.247** | **8.078** | **8.195** | **92.10** | **7.945** | **8.022** | **7.613** |
| Stddev | .010 | .084 | .124 | .80 | .077 | .047 | .074 |
| %RSD | .1220 | 1.033 | 1.514 | .8661 | .9674 | .5863 | .9740 |
| #1 | 8.243 | 8.097 | 8.150 | 92.41 | 7.965 | 8.007 | 7.669 |
| #2 | 8.240 | 7.986 | 8.335 | 91.19 | 7.860 | 7.984 | 7.529 |
| #3 | 8.258 | 8.149 | 8.099 | 92.69 | 8.010 | 8.074 | 7.640 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **154840.** | **27343.** | **6022.6** | **8738.2** |
| Stddev | 477. | 289. | 65.2 | 66.6 |
| %RSD | .30792 | 1.0555 | 1.0827 | .76196 |
| #1 | 155020. | 27236. | 6013.6 | 8722.5 |
| #2 | 154300. | 27670. | 6091.8 | 8811.3 |
| #3 | 155200. | 27124. | 5962.3 | 8680.9 |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/13/2019 10:42:14 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0008** | **-.0007** | **-.0001** | **.0005** | **.0055** | **.0002** | **-.0004** | **.0013** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0003 | .0006 | .0001 | .0004 | .0005 |
| %RSD | 34.35 | 2.117 | 18.13 | 70.63 | 70.30 | 10.26 | 42.48 | 88.78 | 41.16 |
| #1 | .0015 | .0008 | -.0008 | -.0000 | .0001 | .0049 | .0002 | -.0009 | .0009 |
| #2 | .0008 | .0008 | -.0005 | -.0002 | .0005 | .0060 | .0003 | -.0001 | .0019 |
| #3 | .0009 | .0008 | -.0006 | -.0002 | .0008 | .0054 | .0002 | -.0004 | .0010 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0054** | **-.0012** | **.0019** | **.0017** | **.0021** | **.0065** | **-.0030** | **319.0** | **204.0** |
| Stddev | .0004 | .0000 | .0012 | .0006 | .0012 | .0047 | .0007 | 3.7 | 3.3 |
| %RSD | 6.698 | 4.196 | 64.29 | 35.30 | 58.57 | 72.17 | 21.48 | 1.165 | 1.623 |
| #1 | -.0050 | -.0012 | .0016 | .0018 | .0032 | .0035 | -.0037 | 319.5 | 202.2 |
| #2 | -.0057 | -.0012 | .0032 | .0023 | .0008 | .0041 | -.0030 | 315.0 | 202.0 |
| #3 | -.0055 | -.0012 | .0008 | .0011 | .0022 | .0118 | -.0024 | 322.4 | 207.8 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **204.3** | **312.7** | **206.7** | **203.5** | **.0042** | **.0016** | **.0099** | **-.0018** | **.0001** |
| Stddev | 1.6 | 2.0 | 1.2 | 2.8 | .0006 | .0002 | .0018 | .0003 | .0001 |
| %RSD | .7898 | .6549 | .5925 | 1.391 | 14.57 | 13.95 | 18.40 | 14.30 | 63.66 |
| #1 | 202.9 | 312.1 | 206.7 | 201.3 | .0035 | .0019 | .0109 | -.0015 | .0003 |
| #2 | 206.1 | 311.0 | 205.5 | 202.5 | .0046 | .0014 | .0078 | -.0018 | .0001 |
| #3 | 204.1 | 315.0 | 208.0 | 206.7 | .0045 | .0016 | .0110 | -.0020 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/13/2019 10:42:14 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **.0028** | **-.0002** | **-.0164** | **-.0111** | **.0038** | **.0025** |
| Stddev | .0004 | .0011 | .0001 | .0031 | .0014 | .0017 | .0125 |
| %RSD | 91.27 | 38.30 | 84.40 | 18.75 | 12.48 | 45.33 | 503.2 |
| #1 | -.0003 | .0030 | -.0001 | -.0141 | -.0118 | .0019 | -.0112 |
| #2 | -.0002 | .0017 | -.0001 | -.0153 | -.0095 | .0041 | .0053 |
| #3 | -.0009 | .0038 | -.0003 | -.0199 | -.0120 | .0053 | .0133 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138640.** | **26058.** | **5533.3** | **7487.4** |
| Stddev | 744. | 234. | 21.7 | 15.7 |
| %RSD | .53648 | .89758 | .39248 | .20908 |
| #1 | 139440. | 26216. | 5510.1 | 7471.9 |
| #2 | 138510. | 26168. | 5553.2 | 7503.2 |
| #3 | 137970. | 25789. | 5536.6 | 7487.1 |



Zoom In Zoom Out

Sample Name: FECONF Acquired: 5/13/2019 10:47:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0001** | **-.0010** | **-.0006** | **-.0006** | **.0048** | **.0005** | **-.0003** | **-.0004** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0001 | .0010 | .0003 | .0003 | .0009 |
| %RSD | 38490. | 39.26 | 6.877 | 24.39 | 16.63 | 20.01 | 51.41 | 103.5 | 244.9 |
| #1 | -.0002 | .0000 | -.0009 | -.0004 | -.0005 | .0059 | .0008 | -.0004 | .0007 |
| #2 | -.0000 | .0001 | -.0011 | -.0007 | -.0007 | .0042 | .0003 | .0001 | -.0009 |
| #3 | .0002 | .0000 | -.0010 | -.0006 | -.0005 | .0043 | .0004 | -.0005 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0071** | **-.0008** | **.0006** | **.0023** | **.0006** | **.0041** | **.0011** | **-.0012** | **.0209** |
| Stddev | .0003 | .0001 | .0009 | .0006 | .0002 | .0012 | .0009 | .0042 | .0005 |
| %RSD | 3.590 | 14.76 | 148.5 | 27.98 | 35.30 | 30.32 | 79.11 | 361.4 | 2.582 |
| #1 | -.0069 | -.0008 | .0014 | .0031 | .0008 | .0055 | .0016 | .0016 | .0214 |
| #2 | -.0070 | -.0008 | -.0004 | .0019 | .0005 | .0032 | .0017 | .0009 | .0210 |
| #3 | -.0073 | -.0010 | .0008 | .0020 | .0005 | .0035 | .0001 | -.0060 | .0203 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **228.6** | **-.0055** | **.2451** | **.1043** | **-.0001** | **.0008** | **.0041** | **.0004** | **.0000** |
| Stddev | 2.7 | .0069 | .0144 | .0020 | .0003 | .0002 | .0007 | .0003 | .0000 |
| %RSD | 1.182 | 126.2 | 5.892 | 1.901 | 437.7 | 30.10 | 16.22 | 76.73 | 27.99 |
| #1 | 231.7 | -.0100 | .2341 | .1048 | -.0000 | .0010 | .0033 | .0002 | .0000 |
| #2 | 226.6 | -.0089 | .2398 | .1059 | .0002 | .0008 | .0044 | .0008 | .0000 |
| #3 | 227.5 | .0025 | .2615 | .1021 | -.0004 | .0006 | .0045 | .0002 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0014** | **-.0011** | **-.0007** | **-.0105** | **-.0130** | **.0047** |
| Stddev | .0002 | .0003 | .0002 | .0020 | .0008 | .0010 | .0025 |
| %RSD | 119.0 | 25.13 | 16.59 | 277.3 | 7.771 | 7.481 | 53.71 |
| #1 | -.0000 | .0012 | -.0009 | -.0030 | -.0104 | -.0119 | .0018 |
| #2 | .0004 | .0012 | -.0012 | .0000 | -.0114 | -.0138 | .0064 |
| #3 | .0001 | .0018 | -.0012 | .0008 | -.0098 | -.0133 | .0059 |



Zoom In Zoom Out

Sample Name: FECONF Acquired: 5/13/2019 10:47:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **154860.** | **27044.** | **6077.6** | **8879.9** |
| Stddev | 775. | 178. | 2.3 | 4.9 |
| %RSD | .50032 | .65793 | .03737 | .05565 |
| #1 | 154360. | 26858. | 6076.1 | 8879.0 |
| #2 | 154470. | 27061. | 6080.2 | 8885.2 |
| #3 | 155750. | 27213. | 6076.4 | 8875.4 |



Zoom In Zoom Out

Sample Name: CRCONF Acquired: 5/13/2019 10:53:03 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0000** | **.0001** | **.0014** | F **10.80** | **.0001** | **-.0012** | **.0004** | **-.0003** |
| Stddev | .0004 | .0000 | .0001 | .0000 | .39 | .0003 | .0000 | .0002 | .0002 |
| %RSD | 137.5 | 729.8 | 100.7 | 2.368 | 3.607 | 185.8 | .9499 | 58.56 | 45.84 |
| #1 | .0005 | .0001 | -.0000 | .0014 | 11.19 | .0004 | -.0012 | .0004 | -.0004 |
| #2 | -.0002 | -.0000 | .0002 | .0013 | 10.41 | -.0001 | -.0012 | .0005 | -.0004 |
| #3 | .0004 | .0000 | .0003 | .0014 | 10.78 | .0001 | -.0012 | .0001 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0048** | **.0024** | **.0001** | **-.0011** | **.0011** | **-.0014** | **.0023** | **-.0077** | **.0042** |
| Stddev | .0009 | .0003 | .0007 | .0005 | .0004 | .0012 | .0082 | .0068 | .0017 |
| %RSD | 19.05 | 11.54 | 822.2 | 43.31 | 40.56 | 89.47 | 363.1 | 88.87 | 40.66 |
| #1 | .0050 | .0027 | -.0007 | -.0017 | .0006 | .0000 | -.0045 | -.0014 | .0030 |
| #2 | .0039 | .0021 | .0005 | -.0008 | .0014 | -.0021 | .0114 | -.0066 | .0034 |
| #3 | .0057 | .0025 | .0005 | -.0009 | .0013 | -.0020 | -.0001 | -.0150 | .0062 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0104** | **-.0074** | **.1186** | **.0331** | **.0020** | **.0006** | **.0073** | **.0018** | **.0001** |
| Stddev | .0020 | .0128 | .0167 | .0046 | .0002 | .0001 | .0006 | .0002 | .0001 |
| %RSD | 18.79 | 173.1 | 14.05 | 13.88 | 11.20 | 10.80 | 8.078 | 9.296 | 103.1 |
| #1 | .0119 | .0017 | .1159 | .0299 | .0021 | .0006 | .0068 | .0018 | -.0000 |
| #2 | .0113 | -.0019 | .1365 | .0311 | .0018 | .0006 | .0080 | .0017 | .0002 |
| #3 | .0082 | -.0220 | .1036 | .0384 | .0022 | .0005 | .0072 | .0020 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0023** | **.0043** | **-.0012** | **.0043** | **-.0023** | **.0050** | **-.0031** |
| Stddev | .0003 | .0010 | .0000 | .0028 | .0006 | .0016 | .0060 |
| %RSD | 12.29 | 23.28 | 3.691 | 64.90 | 24.81 | 32.10 | 194.5 |
| #1 | -.0026 | .0053 | -.0013 | .0070 | -.0017 | .0048 | -.0030 |
| #2 | -.0021 | .0045 | -.0013 | .0045 | -.0028 | .0034 | -.0091 |
| #3 | -.0021 | .0033 | -.0012 | .0014 | -.0023 | .0066 | .0029 |

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 5/13/2019 10:53:03 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158640.** | **26825.** | **6043.7** | **8909.2** |
| Stddev | 4382. | 41. | 53.2 | 71.2 |
| %RSD | 2.7624 | .15326 | .87995 | .79862 |
| #1 | 153760. | 26856. | 6006.5 | 8859.2 |
| #2 | 162240. | 26779. | 6019.9 | 8877.8 |
| #3 | 159910. | 26840. | 6104.6 | 8990.7 |



Zoom In Zoom Out

Sample Name: ASCONF Acquired: 5/13/2019 10:58:21 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **.0029** | **-.0001** | **-.0002** | **-.0003** | **.0000** | **.0001** | **.0000** |
| Stddev | .0003 | .0001 | .0272 | .0001 | .0001 | .0003 | .0000 | .0002 | .0002 |
| %RSD | 1897. | 222.8 | 931.3 | 134.2 | 27.94 | 106.7 | 121.7 | 173.0 | 1546. |
| #1 | -.0004 | -.0001 | -.0129 | -.0001 | -.0002 | -.0001 | .0000 | -.0001 | -.0002 |
| #2 | .0002 | .0000 | .0344 | .0000 | -.0002 | -.0007 | .0000 | .0003 | .0002 |
| #3 | .0001 | -.0000 | -.0127 | -.0002 | -.0002 | -.0002 | -.0000 | .0001 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **5.011** | **.0006** | **.0004** | **-.0006** | **.0017** | **.0028** | **-.0349** |
| Stddev | .0002 | .0001 | .007 | .0004 | .0003 | .0012 | .0003 | .0123 | .0288 |
| %RSD | 3396. | 52.42 | .1358 | 66.09 | 94.36 | 189.9 | 17.51 | 437.6 | 82.34 |
| #1 | -.0002 | -.0002 | 5.004 | .0010 | .0001 | -.0019 | .0016 | -.0109 | -.0519 |
| #2 | .0001 | -.0001 | 5.018 | .0005 | .0002 | -.0003 | .0015 | .0067 | -.0017 |
| #3 | .0001 | -.0002 | 5.011 | .0003 | .0008 | .0004 | .0021 | .0127 | -.0511 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **-.0086** | **.0363** | **-.0322** | **.0009** | **.0003** | **.0030** | **.0007** | **-.0001** |
| Stddev | .0004 | .0097 | .0269 | .0045 | .0006 | .0001 | .0007 | .0002 | .0001 |
| %RSD | 45.86 | 112.6 | 74.12 | 14.07 | 69.64 | 42.67 | 24.71 | 37.19 | 96.79 |
| #1 | .0004 | -.0146 | .0654 | -.0316 | .0012 | .0002 | .0031 | .0004 | -.0000 |
| #2 | .0010 | -.0138 | .0314 | -.0371 | .0002 | .0004 | .0037 | .0007 | -.0000 |
| #3 | .0012 | .0026 | .0122 | -.0281 | .0014 | .0002 | .0022 | .0009 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0002** | **-.0000** | **.0030** | **.0006** | **.0057** | **.0070** |
| Stddev | .0004 | .0012 | .0002 | .0020 | .0011 | .0009 | .0032 |
| %RSD | 126.5 | 670.2 | 581.5 | 67.94 | 194.8 | 16.29 | 45.45 |
| #1 | .0004 | .0001 | .0000 | .0053 | .0010 | .0047 | .0047 |
| #2 | -.0001 | .0009 | .0001 | .0022 | -.0007 | .0059 | .0057 |
| #3 | .0007 | -.0015 | -.0002 | .0014 | .0013 | .0065 | .0106 |



Zoom In Zoom Out

Sample Name: ASCONF Acquired: 5/13/2019 10:58:21 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **27013.** | **6180.8** | **8884.8** |
| Stddev | ----- | 133. | 6.1 | 5.7 |
| %RSD | ----- | .49294 | .09822 | .06417 |
| #1 | 159420. | 27059. | 6187.5 | 8885.2 |
| #2 | ----- | 27117. | 6175.6 | 8879.0 |
| #3 | 155800. | 26863. | 6179.4 | 8890.4 |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/13/2019 11:03:27 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.055** | **2.065** | **1.948** | **1.996** | **2.046** | **2.038** | **2.079** | **1.997** | **.2521** |
| Stddev | .009 | .013 | .001 | .001 | .002 | .004 | .016 | .001 | .0007 |
| %RSD | .4385 | .6412 | .0566 | .0316 | .0741 | .1883 | .7520 | .0431 | .2747 |
| #1 | 2.059 | 2.070 | 1.948 | 1.995 | 2.045 | 2.034 | 2.079 | 1.998 | .2529 |
| #2 | 2.062 | 2.074 | 1.950 | 1.996 | 2.048 | 2.042 | 2.095 | 1.996 | .2515 |
| #3 | 2.045 | 2.049 | 1.948 | 1.997 | 2.046 | 2.039 | 2.064 | 1.996 | .2520 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.047** | **1.958** | **1.949** | **2.033** | **1.993** | **1.935** | **1.959** | **40.68** | **41.03** |
| Stddev | .001 | .002 | .003 | .004 | .001 | .003 | .004 | .31 | .30 |
| %RSD | .0442 | .0783 | .1551 | .2157 | .0319 | .1445 | .1806 | .7737 | .7389 |
| #1 | 2.047 | 1.956 | 1.945 | 2.030 | 1.993 | 1.938 | 1.957 | 40.81 | 41.14 |
| #2 | 2.046 | 1.959 | 1.952 | 2.038 | 1.992 | 1.934 | 1.963 | 40.90 | 41.26 |
| #3 | 2.047 | 1.958 | 1.949 | 2.032 | 1.994 | 1.932 | 1.957 | 40.32 | 40.68 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.31** | **41.21** | **40.58** | **40.92** | **1.979** | **1.976** | **4.983** | **1.990** | **2.065** |
| Stddev | .26 | .31 | .32 | .21 | .002 | .002 | .005 | .002 | .012 |
| %RSD | .6342 | .7425 | .8004 | .5102 | .0845 | .1154 | .0997 | .0971 | .5598 |
| #1 | 41.43 | 41.31 | 40.64 | 40.96 | 1.978 | 1.974 | 4.978 | 1.989 | 2.069 |
| #2 | 41.50 | 41.45 | 40.87 | 41.10 | 1.979 | 1.978 | 4.985 | 1.992 | 2.074 |
| #3 | 41.01 | 40.86 | 40.23 | 40.69 | 1.981 | 1.977 | 4.988 | 1.989 | 2.052 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/13/2019 11:03:27 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.066** | **1.940** | **2.104** | **1.884** | **1.970** | **2.024** | F **1.784** |
| Stddev | .002 | .003 | .002 | .006 | .002 | .011 | .010 |
| %RSD | .1153 | .1382 | .0996 | .3100 | .0984 | .5398 | .5767 |
| #1 | 2.068 | 1.938 | 2.101 | 1.877 | 1.969 | 2.028 | 1.778 |
| #2 | 2.063 | 1.943 | 2.104 | 1.888 | 1.968 | 2.033 | 1.778 |
| #3 | 2.067 | 1.941 | 2.106 | 1.887 | 1.972 | 2.012 | 1.795 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | -10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149930.** | **26318.** | **5903.3** | **8131.5** |
| Stddev | 892. | 385. | 16.1 | 15.9 |
| %RSD | .59489 | 1.4626 | .27263 | .19494 |
| #1 | 148940. | 26264. | 5915.4 | 8144.3 |
| #2 | 150190. | 25963. | 5885.0 | 8113.8 |
| #3 | 150670. | 26727. | 5909.4 | 8136.5 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/13/2019 11:08:26 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0002** | **.0000** | **-.0000** | **-.0001** | **.0004** | **.0002** | **.0003** | **-.0005** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .0003 | .0003 | .0000 | .0001 | .0003 |
| %RSD | 174.6 | 8.894 | 262.8 | 553.3 | 345.3 | 66.65 | 13.83 | 41.70 | 63.42 |
| #1 | -.0002 | .0002 | -.0000 | -.0000 | .0002 | .0004 | .0002 | .0005 | -.0009 |
| #2 | .0003 | .0002 | .0001 | .0002 | -.0002 | .0008 | .0001 | .0002 | -.0003 |
| #3 | .0003 | .0002 | .0000 | -.0003 | -.0003 | .0002 | .0001 | .0004 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0004** | **.0013** | **.0014** | **.0002** | **-.0015** | **.0013** | **-.0016** | **-.0026** |
| Stddev | .0003 | .0000 | .0008 | .0000 | .0005 | .0008 | .0003 | .0105 | .0014 |
| %RSD | 325.1 | 3.775 | 63.81 | 3.193 | 254.3 | 50.99 | 21.83 | 643.6 | 54.39 |
| #1 | .0002 | -.0004 | .0007 | .0014 | .0004 | -.0017 | .0015 | .0096 | -.0025 |
| #2 | -.0002 | -.0004 | .0023 | .0013 | .0005 | -.0007 | .0015 | -.0111 | -.0041 |
| #3 | .0003 | -.0004 | .0010 | .0013 | -.0004 | -.0022 | .0010 | -.0034 | -.0012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0034** | **-.0087** | **.0510** | **-.0285** | **.0026** | **.0004** | **.0005** | **.0006** | **.0001** |
| Stddev | .0019 | .0083 | .0184 | .0048 | .0006 | .0000 | .0009 | .0001 | .0001 |
| %RSD | 55.34 | 96.25 | 36.09 | 16.87 | 24.17 | 1.751 | 164.0 | 9.798 | 39.32 |
| #1 | .0054 | -.0104 | .0375 | -.0244 | .0029 | .0005 | -.0003 | .0005 | .0002 |
| #2 | .0031 | .0004 | .0719 | -.0273 | .0019 | .0004 | .0014 | .0006 | .0001 |
| #3 | .0017 | -.0160 | .0435 | -.0338 | .0031 | .0004 | .0006 | .0006 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/13/2019 11:08:26 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0009** | **.0001** | **.0010** | **-.0015** | F **.0051** | **.0023** |
| Stddev | .0001 | .0001 | .0001 | .0007 | .0007 | .0020 | .0018 |
| %RSD | 18.93 | 9.240 | 55.27 | 69.97 | 49.33 | 39.34 | 76.91 |
| #1 | .0004 | .0008 | .0002 | .0011 | -.0006 | .0067 | .0014 |
| #2 | .0003 | .0010 | .0001 | .0017 | -.0019 | .0057 | .0011 |
| #3 | .0005 | .0009 | .0002 | .0003 | -.0020 | .0028 | .0043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158670.** | **26959.** | **6168.7** | **8868.4** |
| Stddev | 704. | 67. | 1.6 | 8.5 |
| %RSD | .44344 | .24748 | .02603 | .09592 |
| #1 | 159020. | 26949. | 6169.9 | 8860.2 |
| #2 | 159130. | 27030. | 6166.9 | 8867.8 |
| #3 | 157860. | 26898. | 6169.3 | 8877.2 |



Zoom In Zoom Out

Sample Name: mp14966-mb1 Acquired: 5/13/2019 11:13:34 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0040** | **-.0000** | **-.0002** | **.0003** | **-.0003** | **.0109** | **.0013** | **.0079** | **-.0006** |
| Stddev | .0009 | .0002 | .0009 | .0008 | .0016 | .0009 | .0001 | .0005 | .0024 |
| %RSD | 22.45 | 539.1 | 577.5 | 245.9 | 522.4 | 8.272 | 6.383 | 6.819 | 388.7 |
| #1 | .0050 | -.0000 | -.0009 | .0007 | -.0017 | .0099 | .0013 | .0085 | .0022 |
| #2 | .0033 | .0002 | -.0003 | -.0006 | .0014 | .0114 | .0013 | .0076 | -.0020 |
| #3 | .0036 | -.0002 | .0008 | .0009 | -.0005 | .0115 | .0012 | .0076 | -.0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0297** | **.0061** | **.0052** | **.0028** | **.0002** | **.0032** | **.0158** | **.1621** |
| Stddev | .0015 | .0005 | .0034 | .0051 | .0029 | .0026 | .0098 | .0184 | .0041 |
| %RSD | 335.2 | 1.523 | 55.07 | 97.10 | 103.9 | 1086. | 309.2 | 116.8 | 2.552 |
| #1 | .0010 | .0302 | .0042 | .0110 | .0010 | .0016 | -.0071 | .0152 | .1586 |
| #2 | -.0012 | .0294 | .0100 | .0027 | .0013 | .0019 | .0124 | .0345 | .1667 |
| #3 | .0015 | .0295 | .0041 | .0019 | .0062 | -.0028 | .0042 | -.0024 | .1612 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0281** | **-.0252** | **3.682** | F **1386.** | **.0915** | **.0006** | **.7718** | **.0031** | **.0087** |
| Stddev | .0150 | .0352 | .227 | 6. | .0047 | .0009 | .0076 | .0003 | .0005 |
| %RSD | 53.33 | 139.6 | 6.171 | .4309 | 5.170 | 147.7 | .9850 | 9.115 | 6.290 |
| #1 | .0440 | -.0121 | 3.468 | 1380. | .0903 | .0001 | .7739 | .0033 | .0081 |
| #2 | .0142 | -.0650 | 3.658 | 1387. | .0875 | .0017 | .7634 | .0032 | .0089 |
| #3 | .0262 | .0015 | 3.921 | 1392. | .0967 | .0001 | .7781 | .0028 | .0092 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0071** | **.0001** | **.2573** | **-.0044** | **.0643** | **-.0005** |
| Stddev | .0006 | .0065 | .0007 | .0016 | .0076 | .0058 | .0223 |
| %RSD | 32.43 | 90.61 | 909.0 | .6266 | 173.1 | 8.986 | 4458. |
| #1 | .0011 | .0112 | -.0001 | .2592 | .0041 | .0588 | .0246 |
| #2 | .0019 | -.0003 | -.0006 | .2567 | -.0106 | .0637 | -.0182 |
| #3 | .0022 | .0105 | .0009 | .2561 | -.0067 | .0703 | -.0079 |

Zoom In Zoom Out

Sample Name: mp14966-mb1 Acquired: 5/13/2019 11:13:34 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146400.** | **26711.** | **5854.2** | **7911.2** |
| Stddev | 480. | 186. | 9.2 | 10.0 |
| %RSD | .32789 | .69617 | .15736 | .12621 |
| #1 | 146070. | 26523. | 5844.4 | 7906.4 |
| #2 | 146190. | 26895. | 5855.6 | 7904.5 |
| #3 | 146950. | 26717. | 5862.7 | 7922.7 |



Zoom In Zoom Out

Sample Name: mp14966-b1 Acquired: 5/13/2019 11:18:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.966** | **1.984** | **1.889** | **1.962** | **1.972** | **1.878** | **2.029** | **1.987** | **.2502** |
| Stddev | .002 | .003 | .024 | .020 | .005 | .003 | .003 | .021 | .0020 |
| %RSD | .0866 | .1236 | 1.292 | 1.009 | .2678 | .1361 | .1505 | 1.077 | .8042 |
| #1 | 1.968 | 1.982 | 1.905 | 1.976 | 1.978 | 1.876 | 2.032 | 2.001 | .2504 |
| #2 | 1.967 | 1.986 | 1.861 | 1.940 | 1.968 | 1.881 | 2.028 | 1.962 | .2521 |
| #3 | 1.965 | 1.984 | 1.900 | 1.971 | 1.970 | 1.877 | 2.027 | 1.998 | .2481 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **1.947** | **1.946** | **1.943** | **2.165** | **1.896** | **1.938** | **24.92** | **25.39** |
| Stddev | .001 | .024 | .031 | .021 | .020 | .029 | .029 | .09 | .04 |
| %RSD | .0440 | 1.206 | 1.613 | 1.088 | .9307 | 1.526 | 1.501 | .3454 | .1491 |
| #1 | 1.985 | 1.963 | 1.971 | 1.953 | 2.185 | 1.918 | 1.950 | 24.95 | 25.38 |
| #2 | 1.984 | 1.920 | 1.911 | 1.919 | 2.145 | 1.863 | 1.905 | 24.99 | 25.44 |
| #3 | 1.985 | 1.958 | 1.956 | 1.958 | 2.167 | 1.906 | 1.959 | 24.82 | 25.36 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.69** | **25.30** | **29.95** | F **1396.** | **1.949** | **1.939** | **.3710** | **1.960** | **1.980** |
| Stddev | .03 | .08 | .18 | 18. | .029 | .027 | .0067 | .022 | .002 |
| %RSD | .1148 | .3250 | .6143 | 1.291 | 1.494 | 1.389 | 1.799 | 1.106 | .1076 |
| #1 | 25.72 | 25.24 | 29.74 | 1417. | 1.967 | 1.958 | .3655 | 1.976 | 1.980 |
| #2 | 25.70 | 25.40 | 30.05 | 1384. | 1.915 | 1.908 | .3691 | 1.935 | 1.982 |
| #3 | 25.66 | 25.27 | 30.06 | 1387. | 1.963 | 1.951 | .3784 | 1.968 | 1.977 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **1.729** | **2.075** | **.2751** | **.1383** | **.0668** | **1.774** |
| Stddev | .001 | .022 | .002 | .0107 | .0045 | .0066 | .014 |
| %RSD | .0696 | 1.256 | .1167 | 3.905 | 3.222 | 9.823 | .7668 |
| #1 | 2.034 | 1.745 | 2.078 | .2874 | .1333 | .0607 | 1.789 |
| #2 | 2.036 | 1.705 | 2.075 | .2676 | .1400 | .0738 | 1.762 |
| #3 | 2.037 | 1.739 | 2.073 | .2703 | .1417 | .0659 | 1.771 |



Zoom In Zoom Out

Sample Name: mp14966-b1 Acquired: 5/13/2019 11:18:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148190.** | **26796.** | **5914.7** | **7937.7** |
| Stddev | 525. | 218. | 65.5 | 65.7 |
| %RSD | .35441 | .81416 | 1.1079 | .82826 |
| #1 | 147670. | 26585. | 5867.8 | 7887.1 |
| #2 | 148720. | 27021. | 5989.6 | 8012.0 |
| #3 | 148160. | 26783. | 5886.6 | 7913.9 |



Zoom In Zoom Out

Sample Name: mp14966-s1 Acquired: 5/13/2019 11:23:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.100** | **1.996** | **1.892** | **2.072** | **1.959** | **2.528** | **3.660** | **2.034** | **.2495** |
| Stddev | .015 | .009 | .006 | .002 | .008 | .008 | .014 | .003 | .0013 |
| %RSD | .4818 | .4671 | .3054 | .1118 | .4017 | .3118 | .3830 | .1631 | .5017 |
| #1 | 3.114 | 2.004 | 1.898 | 2.075 | 1.965 | 2.537 | 3.673 | 2.038 | .2504 |
| #2 | 3.100 | 2.000 | 1.894 | 2.072 | 1.962 | 2.526 | 3.662 | 2.033 | .2501 |
| #3 | 3.085 | 1.986 | 1.886 | 2.070 | 1.950 | 2.522 | 3.645 | 2.032 | .2481 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.980** | **4.912** | **1.967** | **1.910** | **3.144** | **1.864** | **1.962** | **25.24** | **198.9** |
| Stddev | .010 | .018 | .009 | .019 | .008 | .006 | .007 | .18 | 1.1 |
| %RSD | .5064 | .3583 | .4805 | 1.014 | .2563 | .3132 | .3469 | .7206 | .5289 |
| #1 | 1.989 | 4.931 | 1.977 | 1.930 | 3.151 | 1.871 | 1.970 | 25.45 | 199.9 |
| #2 | 1.981 | 4.910 | 1.966 | 1.891 | 3.147 | 1.859 | 1.958 | 25.13 | 198.9 |
| #3 | 1.969 | 4.896 | 1.959 | 1.910 | 3.135 | 1.863 | 1.959 | 25.14 | 197.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.62** | **107.2** | **35.52** | F **1372.** | **2.006** | **1.944** | **2.586** | **1.946** | **2.508** |
| Stddev | .12 | .6 | .22 | 33. | .010 | .007 | .008 | .006 | .012 |
| %RSD | .4572 | .5798 | .6172 | 2.381 | .4930 | .3560 | .3172 | .3048 | .4716 |
| #1 | 26.74 | 107.8 | 35.53 | 1348. | 2.015 | 1.952 | 2.594 | 1.953 | 2.519 |
| #2 | 26.63 | 107.3 | 35.74 | 1359. | 2.008 | 1.940 | 2.585 | 1.942 | 2.510 |
| #3 | 26.50 | 106.5 | 35.30 | 1409. | 1.995 | 1.940 | 2.578 | 1.943 | 2.496 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.024** | **1.825** | **2.069** | **1.382** | **.1412** | **.0645** | **1.687** |
| Stddev | .006 | .007 | .007 | .009 | .0035 | .0048 | .009 |
| %RSD | .3190 | .3754 | .3449 | .6656 | 2.500 | 7.385 | .5405 |
| #1 | 2.029 | 1.828 | 2.076 | 1.391 | .1379 | .0625 | 1.695 |
| #2 | 2.026 | 1.829 | 2.070 | 1.373 | .1409 | .0611 | 1.677 |
| #3 | 2.017 | 1.817 | 2.062 | 1.380 | .1449 | .0699 | 1.690 |

Zoom In Zoom Out

Sample Name: mp14966-s1 Acquired: 5/13/2019 11:23:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147300.** | **26466.** | **5800.6** | **7814.7** |
| Stddev | 839. | 174. | 10.0 | 9.3 |
| %RSD | .56947 | .65588 | .17316 | .11929 |
| #1 | 146920. | 26266. | 5796.5 | 7817.7 |
| #2 | 146730. | 26577. | 5793.2 | 7804.3 |
| #3 | 148270. | 26554. | 5812.0 | 7822.2 |



Zoom In Zoom Out

Sample Name: mp14966-s2 Acquired: 5/13/2019 11:28:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.079** | **1.974** | **1.873** | **2.058** | **1.946** | **2.521** | **3.668** | **2.014** | **.2476** |
| Stddev | .003 | .007 | .018 | .024 | .008 | .005 | .006 | .019 | .0012 |
| %RSD | .1109 | .3420 | .9420 | 1.157 | .4128 | .2122 | .1560 | .9232 | .4832 |
| #1 | 3.079 | 1.981 | 1.893 | 2.084 | 1.955 | 2.525 | 3.668 | 2.035 | .2462 |
| #2 | 3.083 | 1.976 | 1.866 | 2.052 | 1.942 | 2.515 | 3.674 | 2.009 | .2479 |
| #3 | 3.076 | 1.967 | 1.859 | 2.037 | 1.940 | 2.523 | 3.663 | 1.998 | .2485 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.973** | **4.912** | **1.925** | **1.895** | **3.143** | **1.851** | **1.911** | **24.93** | **199.6** |
| Stddev | .003 | .046 | .026 | .024 | .035 | .020 | .022 | .11 | .7 |
| %RSD | .1266 | .9307 | 1.360 | 1.240 | 1.121 | 1.095 | 1.145 | .4368 | .3323 |
| #1 | 1.975 | 4.960 | 1.950 | 1.919 | 3.183 | 1.874 | 1.935 | 25.05 | 200.3 |
| #2 | 1.974 | 4.906 | 1.929 | 1.895 | 3.131 | 1.843 | 1.908 | 24.93 | 199.4 |
| #3 | 1.970 | 4.869 | 1.898 | 1.872 | 3.116 | 1.836 | 1.892 | 24.83 | 199.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.31** | **107.2** | **35.45** | F **1376.** | **1.985** | **1.909** | **2.584** | **1.905** | **2.489** |
| Stddev | .08 | .4 | .06 | 19. | .021 | .021 | .026 | .025 | .004 |
| %RSD | .2955 | .3406 | .1731 | 1.362 | 1.057 | 1.096 | 1.018 | 1.332 | .1648 |
| #1 | 26.40 | 107.5 | 35.52 | 1386. | 2.007 | 1.932 | 2.611 | 1.933 | 2.494 |
| #2 | 26.28 | 107.3 | 35.43 | 1388. | 1.983 | 1.903 | 2.583 | 1.895 | 2.489 |
| #3 | 26.25 | 106.8 | 35.40 | 1355. | 1.966 | 1.891 | 2.558 | 1.886 | 2.486 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.721** | **2.038** | **1.398** | **.1369** | **.0588** | **1.670** |
| Stddev | .002 | .016 | .002 | .024 | .0084 | .0038 | .006 |
| %RSD | .0992 | .9388 | .1175 | 1.719 | 6.136 | 6.509 | .3863 |
| #1 | 1.996 | 1.740 | 2.040 | 1.426 | .1273 | .0562 | 1.664 |
| #2 | 1.995 | 1.716 | 2.039 | 1.381 | .1429 | .0631 | 1.670 |
| #3 | 1.992 | 1.709 | 2.035 | 1.388 | .1404 | .0569 | 1.676 |



Zoom In Zoom Out

Sample Name: mp14966-s2 Acquired: 5/13/2019 11:28:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146540.** | **26569.** | **5782.0** | **7784.3** |
| Stddev | 521. | 215. | 16.0 | 18.7 |
| %RSD | .35563 | .80785 | .27712 | .24002 |
| #1 | 146960. | 26321. | 5763.8 | 7762.7 |
| #2 | 145960. | 26691. | 5788.1 | 7796.1 |
| #3 | 146710. | 26695. | 5794.0 | 7793.9 |



Zoom In Zoom Out

Sample Name: jc87414-5r Acquired: 5/13/2019 11:33:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.244** | **.0013** | **.0181** | **.1436** | **.0050** | **.7146** | **1.802** | **.0904** | **-.0031** |
| Stddev | .012 | .0002 | .0005 | .0040 | .0011 | .0119 | .027 | .0012 | .0004 |
| %RSD | .9664 | 12.63 | 3.015 | 2.761 | 22.28 | 1.660 | 1.473 | 1.346 | 12.55 |
| #1 | 1.254 | .0013 | .0182 | .1474 | .0044 | .7275 | 1.828 | .0917 | -.0033 |
| #2 | 1.247 | .0012 | .0175 | .1438 | .0063 | .7123 | 1.804 | .0894 | -.0033 |
| #3 | 1.230 | .0015 | .0185 | .1395 | .0043 | .7042 | 1.775 | .0900 | -.0026 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0093** | **3.135** | **.0279** | **.0099** | **1.045** | **-.0042** | **.0206** | **.2058** | **192.7** |
| Stddev | .0007 | .054 | .0040 | .0077 | .024 | .0164 | .0018 | .0238 | 1.9 |
| %RSD | 7.139 | 1.722 | 14.20 | 78.12 | 2.264 | 390.3 | 8.570 | 11.58 | .9694 |
| #1 | .0091 | 3.193 | .0241 | .0156 | 1.071 | -.0195 | .0186 | .1878 | 194.6 |
| #2 | .0101 | 3.124 | .0320 | .0011 | 1.039 | -.0061 | .0215 | .1967 | 192.6 |
| #3 | .0088 | 3.087 | .0275 | .0129 | 1.025 | .0131 | .0218 | .2328 | 190.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.010** | **90.86** | **11.25** | F **1519.** | **.1503** | **.0019** | **2.649** | **.0005** | **.5924** |
| Stddev | .010 | .72 | .12 | 21. | .0021 | .0007 | .044 | .0014 | .0044 |
| %RSD | .9585 | .7953 | 1.094 | 1.353 | 1.371 | 38.86 | 1.680 | 271.5 | .7492 |
| #1 | 1.013 | 91.62 | 11.28 | 1531. | .1522 | .0015 | 2.690 | .0022 | .5965 |
| #2 | .9987 | 90.76 | 11.12 | 1495. | .1504 | .0028 | 2.655 | -.0001 | .5931 |
| #3 | 1.017 | 90.19 | 11.36 | 1531. | .1481 | .0015 | 2.602 | -.0005 | .5877 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0101** | **.0031** | **1.420** | **-.0021** | **.0612** | **.0885** |
| Stddev | .0019 | .0024 | .0007 | .019 | .0031 | .0044 | .0182 |
| %RSD | 219.8 | 23.46 | 21.30 | 1.356 | 150.2 | 7.181 | 20.61 |
| #1 | .0003 | .0116 | .0030 | 1.434 | .0002 | .0660 | .1089 |
| #2 | -.0007 | .0074 | .0038 | 1.427 | -.0057 | .0573 | .0829 |
| #3 | .0029 | .0113 | .0025 | 1.398 | -.0008 | .0602 | .0737 |

Zoom In Zoom Out

Sample Name: jc87414-5r Acquired: 5/13/2019 11:33:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145450.** | **26455.** | **5749.5** | **7769.0** |
| Stddev | 796. | 207. | 4.3 | 6.4 |
| %RSD | .54710 | .78338 | .07415 | .08215 |
| #1 | 146300. | 26337. | 5744.6 | 7762.3 |
| #2 | 144730. | 26694. | 5752.5 | 7775.1 |
| #3 | 145320. | 26334. | 5751.4 | 7769.5 |



Zoom In Zoom Out

Sample Name: mp14966-sd1 Acquired: 5/13/2019 11:38:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.189** | **-.0006** | **.0166** | **.1455** | **.0066** | **.7069** | **1.776** | **.0954** | **-.0057** |
| Stddev | .006 | .0006 | .0072 | .0035 | .0030 | .0075 | .010 | .0092 | .0077 |
| %RSD | .5420 | 117.6 | 43.38 | 2.424 | 45.07 | 1.060 | .5879 | 9.615 | 135.3 |
| #1 | 1.196 | -.0004 | .0109 | .1488 | .0080 | .7144 | 1.786 | .1055 | -.0077 |
| #2 | 1.184 | -.0013 | .0247 | .1460 | .0085 | .7070 | 1.776 | .0875 | -.0123 |
| #3 | 1.187 | -.0000 | .0141 | .1418 | .0032 | .6994 | 1.765 | .0932 | .0028 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0146** | **3.309** | **.0527** | **.0402** | **1.072** | **-.0253** | **.0285** | **-.0266** | **183.8** |
| Stddev | .0053 | .014 | .0292 | .0286 | .013 | .0246 | .0027 | .1898 | .3 |
| %RSD | 36.61 | .4354 | 55.41 | 71.11 | 1.208 | 96.95 | 9.406 | 712.5 | .1425 |
| #1 | .0173 | 3.324 | .0833 | .0371 | 1.085 | .0012 | .0263 | -.1060 | 184.1 |
| #2 | .0181 | 3.296 | .0251 | .0133 | 1.059 | -.0301 | .0315 | .1900 | 183.6 |
| #3 | .0084 | 3.307 | .0497 | .0702 | 1.073 | -.0472 | .0277 | -.1639 | 183.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.051** | **87.61** | **13.74** | **1472.** | **.1827** | **.0004** | **5.406** | **.0166** | **.5673** |
| Stddev | .087 | .22 | .67 | 3. | .0168 | .0033 | .016 | .0257 | .0006 |
| %RSD | 8.287 | .2530 | 4.909 | .1744 | 9.180 | 903.2 | .2966 | 155.2 | .0986 |
| #1 | 1.136 | 87.70 | 13.29 | 1475. | .1641 | .0040 | 5.390 | -.0125 | .5668 |
| #2 | 1.054 | 87.78 | 14.52 | 1470. | .1876 | -.0023 | 5.405 | .0363 | .5679 |
| #3 | .9623 | 87.36 | 13.43 | 1471. | .1966 | -.0006 | 5.422 | .0259 | .5673 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0053** | **.0604** | **.0053** | **1.442** | **-.0187** | **.0561** | **.4158** |
| Stddev | .0070 | .0248 | .0017 | .063 | .0222 | .0366 | .0185 |
| %RSD | 133.0 | 41.07 | 31.51 | 4.394 | 118.7 | 65.22 | 4.444 |
| #1 | .0028 | .0322 | .0068 | 1.483 | -.0049 | .0161 | .4300 |
| #2 | -.0094 | .0787 | .0056 | 1.369 | -.0068 | .0877 | .4226 |
| #3 | -.0093 | .0704 | .0035 | 1.475 | -.0442 | .0644 | .3949 |



Zoom In Zoom Out

Sample Name: mp14966-sd1 Acquired: 5/13/2019 11:38:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **152200.** | **26643.** | **5944.3** | **8258.0** |
| Stddev | 72. | 161. | 21.7 | 25.9 |
| %RSD | .04725 | .60336 | .36480 | .31422 |
| #1 | 152160. | 26485. | 5922.6 | 8235.2 |
| #2 | 152160. | 26806. | 5966.0 | 8286.2 |
| #3 | 152280. | 26638. | 5944.1 | 8252.5 |



Zoom In Zoom Out

Sample Name: jc87535-13 Acquired: 5/13/2019 11:44:00 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5936** | **.0008** | **.0076** | **.0555** | **.0039** | **.1282** | **3.087** | **.1073** | **-.0011** |
| Stddev | .0032 | .0002 | .0007 | .0014 | .0004 | .0023 | .025 | .0013 | .0008 |
| %RSD | .5399 | 25.21 | 8.657 | 2.474 | 11.31 | 1.831 | .8052 | 1.217 | 69.33 |
| #1 | .5961 | .0007 | .0071 | .0542 | .0044 | .1308 | 3.112 | .1080 | -.0010 |
| #2 | .5946 | .0007 | .0084 | .0570 | .0036 | .1261 | 3.087 | .1081 | -.0004 |
| #3 | .5900 | .0011 | .0074 | .0553 | .0036 | .1278 | 3.062 | .1058 | -.0020 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0091** | **1.748** | **.0092** | **.0040** | **1.012** | **-.0007** | **.0055** | **.5189** | **227.4** |
| Stddev | .0010 | .006 | .0048 | .0061 | .006 | .0041 | .0027 | .0484 | 1.2 |
| %RSD | 11.18 | .3308 | 51.64 | 150.7 | .5652 | 582.0 | 49.34 | 9.327 | .5480 |
| #1 | .0079 | 1.752 | .0146 | .0007 | 1.009 | -.0049 | .0083 | .5293 | 228.7 |
| #2 | .0097 | 1.751 | .0057 | .0110 | 1.019 | -.0004 | .0030 | .4661 | 227.2 |
| #3 | .0097 | 1.741 | .0074 | .0003 | 1.008 | .0032 | .0051 | .5612 | 226.3 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3989** | **13.62** | **7.728** | F **1357.** | **.1308** | **.0006** | **8.440** | **-.0033** | **.8540** |
| Stddev | .0043 | .10 | .091 | 10. | .0021 | .0006 | .036 | .0007 | .0045 |
| %RSD | 1.072 | .7671 | 1.180 | .7431 | 1.587 | 110.8 | .4293 | 20.47 | .5313 |
| #1 | .4037 | 13.73 | 7.677 | 1358. | .1308 | .0013 | 8.464 | -.0025 | .8588 |
| #2 | .3956 | 13.60 | 7.675 | 1366. | .1288 | .0001 | 8.457 | -.0039 | .8535 |
| #3 | .3973 | 13.52 | 7.834 | 1346. | .1329 | .0004 | 8.398 | -.0035 | .8498 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0007** | **.0090** | **-.0005** | **16.14** | **-.0071** | **.0655** | **.0709** |
| Stddev | .0022 | .0045 | .0005 | .08 | .0071 | .0091 | .0235 |
| %RSD | 317.2 | 50.27 | 105.3 | .4829 | 99.92 | 13.82 | 33.08 |
| #1 | .0018 | .0142 | -.0011 | 16.19 | -.0104 | .0627 | .0911 |
| #2 | -.0020 | .0074 | -.0002 | 16.18 | .0010 | .0582 | .0452 |
| #3 | -.0019 | .0055 | -.0001 | 16.05 | -.0119 | .0757 | .0765 |

Zoom In Zoom Out

Sample Name: jc87535-13 Acquired: 5/13/2019 11:44:00 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146390.** | **26498.** | **5831.2** | **7818.3** |
| Stddev | 558. | 118. | 3.9 | 6.2 |
| %RSD | .38087 | .44604 | .06717 | .07918 |
| #1 | 145820. | 26614. | 5835.1 | 7824.8 |
| #2 | 146930. | 26378. | 5831.2 | 7817.7 |
| #3 | 146420. | 26502. | 5827.3 | 7812.5 |



Zoom In Zoom Out

Sample Name: jc87535-14 Acquired: 5/13/2019 11:49:11 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4164** | **.0015** | **.0064** | **.0606** | **.0042** | **.0089** | **3.382** | **.0657** | **.0002** |
| Stddev | .0008 | .0001 | .0012 | .0002 | .0008 | .0010 | .004 | .0008 | .0020 |
| %RSD | .2003 | 5.323 | 18.25 | .4125 | 18.16 | 11.06 | .1314 | 1.201 | 1180. |
| #1 | .4161 | .0016 | .0057 | .0608 | .0049 | .0100 | 3.387 | .0666 | .0012 |
| #2 | .4173 | .0014 | .0058 | .0603 | .0044 | .0081 | 3.382 | .0651 | .0014 |
| #3 | .4158 | .0014 | .0077 | .0606 | .0034 | .0085 | 3.378 | .0655 | -.0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0097** | **1.620** | **.0055** | **.0062** | **.5305** | **-.0065** | **.0098** | **.7141** | **204.4** |
| Stddev | .0003 | .013 | .0060 | .0002 | .0069 | .0089 | .0054 | .0889 | .6 |
| %RSD | 3.153 | .7758 | 109.6 | 3.985 | 1.297 | 135.7 | 55.15 | 12.45 | .3063 |
| #1 | .0096 | 1.635 | .0020 | .0060 | .5383 | -.0164 | .0138 | .8094 | 205.1 |
| #2 | .0100 | 1.613 | .0020 | .0064 | .5252 | -.0040 | .0036 | .6994 | 204.2 |
| #3 | .0094 | 1.613 | .0124 | .0062 | .5279 | .0008 | .0120 | .6334 | 203.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.925** | **10.76** | **8.138** | F **1300.** | **.1287** | **.0013** | **6.312** | **-.0048** | **.8024** |
| Stddev | .022 | .06 | .156 | 2. | .0043 | .0003 | .049 | .0008 | .0019 |
| %RSD | .2449 | .5472 | 1.921 | .1657 | 3.312 | 20.15 | .7729 | 16.38 | .2382 |
| #1 | 8.938 | 10.83 | 8.081 | 1300. | .1326 | .0011 | 6.368 | -.0043 | .8039 |
| #2 | 8.937 | 10.71 | 8.314 | 1302. | .1294 | .0013 | 6.281 | -.0044 | .8029 |
| #3 | 8.900 | 10.74 | 8.017 | 1297. | .1242 | .0016 | 6.286 | -.0057 | .8002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0077** | **-.0001** | **23.32** | **-.0074** | **.0674** | **.0583** |
| Stddev | .0008 | .0024 | .0003 | .16 | .0082 | .0043 | .0135 |
| %RSD | 87.54 | 31.35 | 220.4 | .6793 | 110.8 | 6.429 | 23.25 |
| #1 | .0017 | .0080 | -.0000 | 23.50 | .0012 | .0636 | .0684 |
| #2 | .0008 | .0099 | .0001 | 23.22 | -.0152 | .0664 | .0635 |
| #3 | .0002 | .0051 | -.0004 | 23.23 | -.0084 | .0721 | .0429 |



Zoom In Zoom Out

Sample Name: jc87535-14 Acquired: 5/13/2019 11:49:11 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146480.** | **26550.** | **5824.2** | **7810.8** |
| Stddev | 787. | 135. | 19.3 | 29.6 |
| %RSD | .53707 | .50667 | .33089 | .37910 |
| #1 | 146020. | 26448. | 5821.8 | 7805.3 |
| #2 | 147390. | 26499. | 5844.6 | 7842.8 |
| #3 | 146020. | 26702. | 5806.3 | 7784.4 |



Zoom In Zoom Out

Sample Name: mp14899-b1 Acquired: 5/13/2019 11:54:20 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.033** | **2.068** | **1.927** | **1.997** | **2.026** | **2.038** | **2.055** | **1.985** | **.2025** |
| Stddev | .003 | .003 | .001 | .002 | .003 | .001 | .016 | .001 | .0004 |
| %RSD | .1609 | .1228 | .0687 | .0880 | .1474 | .0383 | .7835 | .0473 | .2133 |
| #1 | 2.029 | 2.067 | 1.928 | 1.997 | 2.030 | 2.038 | 2.072 | 1.986 | .2030 |
| #2 | 2.032 | 2.066 | 1.927 | 1.999 | 2.025 | 2.039 | 2.053 | 1.985 | .2021 |
| #3 | 2.036 | 2.071 | 1.926 | 1.996 | 2.024 | 2.037 | 2.040 | 1.984 | .2025 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.032** | **1.938** | **1.944** | **2.039** | **1.985** | **1.920** | **1.965** | **25.55** | **25.73** |
| Stddev | .001 | .001 | .004 | .007 | .002 | .005 | .003 | .04 | .05 |
| %RSD | .0652 | .0487 | .2124 | .3282 | .0905 | .2601 | .1749 | .1536 | .1892 |
| #1 | 2.031 | 1.938 | 1.946 | 2.046 | 1.987 | 1.922 | 1.964 | 25.56 | 25.73 |
| #2 | 2.032 | 1.937 | 1.946 | 2.038 | 1.986 | 1.924 | 1.968 | 25.50 | 25.68 |
| #3 | 2.033 | 1.939 | 1.939 | 2.033 | 1.983 | 1.914 | 1.962 | 25.58 | 25.78 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.04** | **25.73** | **25.46** | **25.72** | **1.942** | **1.998** | **-.0172** | **2.014** | **2.049** |
| Stddev | .03 | .04 | .02 | .03 | .002 | .003 | .0010 | .002 | .002 |
| %RSD | .1247 | .1408 | .0913 | .1046 | .1183 | .1462 | 5.807 | .1013 | .1174 |
| #1 | 26.04 | 25.74 | 25.45 | 25.70 | 1.944 | 1.999 | -.0169 | 2.017 | 2.047 |
| #2 | 26.01 | 25.69 | 25.45 | 25.70 | 1.943 | 2.000 | -.0163 | 2.014 | 2.049 |
| #3 | 26.07 | 25.77 | 25.49 | 25.75 | 1.939 | 1.995 | -.0182 | 2.013 | 2.052 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.067** | **1.886** | **2.094** | **.0122** | **.1481** | **.0053** | **1.828** |
| Stddev | .003 | .000 | .002 | .0001 | .0013 | .0018 | .009 |
| %RSD | .1541 | .0126 | .0787 | .9061 | .8842 | 33.68 | .4872 |
| #1 | 2.068 | 1.886 | 2.093 | .0121 | .1489 | .0067 | 1.838 |
| #2 | 2.063 | 1.886 | 2.094 | .0122 | .1488 | .0033 | 1.826 |
| #3 | 2.069 | 1.886 | 2.096 | .0123 | .1466 | .0060 | 1.820 |

Zoom In Zoom Out

Sample Name: mp14899-b1 Acquired: 5/13/2019 11:54:20 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **153530.** | **27096.** | **5970.3** | **8245.2** |
| Stddev | 868. | 67. | 7.6 | 12.1 |
| %RSD | .56518 | .24713 | .12765 | .14662 |
| #1 | 152540. | 27021. | 5971.5 | 8251.7 |
| #2 | 154180. | 27117. | 5977.2 | 8252.7 |
| #3 | 153860. | 27150. | 5962.1 | 8231.3 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 11:59:18 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.044** | **2.073** | **1.958** | **2.015** | **2.050** | **2.043** | **2.073** | **2.006** | **.2524** |
| Stddev | .009 | .010 | .010 | .012 | .027 | .025 | .016 | .011 | .0031 |
| %RSD | .4228 | .4925 | .5325 | .5940 | 1.306 | 1.243 | .7670 | .5689 | 1.240 |
| #1 | 2.039 | 2.069 | 1.970 | 2.029 | 2.068 | 2.064 | 2.090 | 2.019 | .2548 |
| #2 | 2.054 | 2.084 | 1.953 | 2.007 | 2.019 | 2.015 | 2.058 | 1.998 | .2489 |
| #3 | 2.039 | 2.065 | 1.950 | 2.009 | 2.062 | 2.050 | 2.073 | 2.000 | .2535 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.053** | **1.967** | **1.966** | **2.041** | **2.005** | **1.955** | **1.970** | **40.92** | **41.07** |
| Stddev | .029 | .011 | .009 | .007 | .009 | .012 | .012 | .15 | .16 |
| %RSD | 1.419 | .5812 | .4695 | .3654 | .4290 | .6084 | .6173 | .3686 | .3949 |
| #1 | 2.074 | 1.980 | 1.976 | 2.049 | 2.014 | 1.969 | 1.983 | 40.90 | 41.00 |
| #2 | 2.020 | 1.963 | 1.963 | 2.034 | 2.001 | 1.949 | 1.966 | 41.07 | 41.26 |
| #3 | 2.065 | 1.959 | 1.958 | 2.040 | 1.999 | 1.947 | 1.960 | 40.77 | 40.96 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.58** | **41.21** | **40.65** | **40.72** | **1.992** | **1.996** | **5.007** | **2.010** | **2.060** |
| Stddev | .19 | .17 | .18 | .15 | .010 | .012 | .025 | .012 | .010 |
| %RSD | .4559 | .4062 | .4311 | .3746 | .4971 | .6211 | .5094 | .5927 | .5014 |
| #1 | 41.49 | 41.08 | 40.60 | 40.63 | 2.003 | 2.010 | 5.036 | 2.023 | 2.056 |
| #2 | 41.79 | 41.40 | 40.84 | 40.90 | 1.988 | 1.988 | 4.991 | 2.005 | 2.072 |
| #3 | 41.44 | 41.14 | 40.50 | 40.64 | 1.985 | 1.989 | 4.993 | 2.001 | 2.053 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 11:59:18 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.064** | **1.958** | **2.097** | **1.931** | **1.985** | **2.031** | **1.870** |
| Stddev | .028 | .011 | .029 | .009 | .012 | .008 | .013 |
| %RSD | 1.339 | .5555 | 1.375 | .4919 | .6232 | .3728 | .7080 |
| #1 | 2.082 | 1.971 | 2.118 | 1.941 | 1.999 | 2.028 | 1.866 |
| #2 | 2.033 | 1.951 | 2.064 | 1.927 | 1.977 | 2.039 | 1.885 |
| #3 | 2.079 | 1.953 | 2.109 | 1.924 | 1.979 | 2.025 | 1.859 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149460.** | **26480.** | **5859.1** | **8064.9** |
| Stddev | 1982. | 77. | 25.2 | 31.2 |
| %RSD | 1.3262 | .28955 | .42991 | .38672 |
| #1 | 148190. | 26556. | 5836.2 | 8034.0 |
| #2 | 151740. | 26481. | 5855.2 | 8064.2 |
| #3 | 148440. | 26403. | 5886.1 | 8096.4 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 12:04:16 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0002** | **.0001** | **-.0000** | **.0000** | **.0003** | **.0001** | **.0005** | **-.0001** |
| Stddev | .0003 | .0000 | .0002 | .0000 | .0002 | .0002 | .0000 | .0001 | .0005 |
| %RSD | 234.5 | 23.11 | 133.4 | 199.1 | 457.0 | 60.14 | 23.22 | 10.70 | 452.6 |
| #1 | .0005 | .0001 | .0001 | -.0000 | -.0001 | .0001 | .0002 | .0005 | -.0006 |
| #2 | .0002 | .0002 | -.0000 | -.0000 | -.0000 | .0004 | .0002 | .0006 | .0005 |
| #3 | -.0002 | .0001 | .0003 | .0000 | .0002 | .0004 | .0001 | .0005 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0004** | **.0010** | **.0006** | **.0010** | **-.0016** | **.0005** | **-.0004** | **.0002** |
| Stddev | .0004 | .0001 | .0007 | .0001 | .0007 | .0009 | .0003 | .0022 | .0004 |
| %RSD | 128.2 | 20.92 | 68.66 | 17.74 | 65.57 | 59.95 | 71.90 | 511.4 | 196.9 |
| #1 | -.0001 | -.0003 | .0003 | .0004 | .0015 | -.0020 | .0008 | -.0002 | .0000 |
| #2 | .0005 | -.0004 | .0016 | .0006 | .0014 | -.0023 | .0004 | .0017 | -.0001 |
| #3 | .0005 | -.0003 | .0010 | .0006 | .0003 | -.0005 | .0002 | -.0028 | .0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0025** | **-.0095** | **.1054** | **.1426** | **.0017** | **.0004** | **.0017** | **.0002** | **.0001** |
| Stddev | .0026 | .0064 | .0225 | .0143 | .0004 | .0002 | .0003 | .0004 | .0001 |
| %RSD | 102.5 | 67.33 | 21.40 | 10.03 | 20.54 | 55.60 | 18.44 | 210.5 | 68.76 |
| #1 | -.0001 | -.0168 | .1151 | .1527 | .0018 | .0002 | .0020 | -.0001 | .0002 |
| #2 | .0026 | -.0057 | .1214 | .1490 | .0013 | .0005 | .0014 | .0001 | .0001 |
| #3 | .0051 | -.0059 | .0796 | .1263 | .0020 | .0006 | .0018 | .0006 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 12:04:16 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0024** | **.0003** | **.0039** | **-.0008** | F **.0053** | **.0017** |
| Stddev | .0004 | .0009 | .0001 | .0009 | .0015 | .0020 | .0006 |
| %RSD | 75.70 | 36.40 | 25.43 | 23.43 | 181.3 | 37.62 | 33.67 |
| #1 | .0010 | .0016 | .0004 | .0029 | -.0014 | .0032 | .0016 |
| #2 | .0002 | .0023 | .0003 | .0047 | -.0019 | .0056 | .0012 |
| #3 | .0005 | .0033 | .0003 | .0042 | .0009 | .0072 | .0023 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158140.** | **26968.** | **6137.9** | **8808.2** |
| Stddev | 112. | 77. | 11.5 | 14.5 |
| %RSD | .07086 | .28549 | .18690 | .16464 |
| #1 | 158270. | 26892. | 6145.1 | 8816.2 |
| #2 | 158090. | 26968. | 6124.7 | 8791.4 |
| #3 | 158060. | 27046. | 6143.9 | 8816.9 |



Zoom In Zoom Out

Sample Name: mp14899-b2conf Acquired: 5/13/2019 12:09:25 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.036** | **2.069** | **1.926** | **1.999** | **2.107** | **2.115** | **2.142** | **1.987** | **.2100** |
| Stddev | .008 | .004 | .001 | .004 | .133 | .134 | .144 | .003 | .0129 |
| %RSD | .3804 | .2012 | .0466 | .1836 | 6.320 | 6.319 | 6.747 | .1298 | 6.160 |
| #1 | 2.035 | 2.071 | 1.926 | 1.999 | 2.260 | 2.270 | 2.309 | 1.989 | .2249 |
| #2 | 2.030 | 2.065 | 1.927 | 2.003 | 2.029 | 2.037 | 2.060 | 1.988 | .2027 |
| #3 | 2.045 | 2.072 | 1.925 | 1.995 | 2.031 | 2.040 | 2.056 | 1.984 | .2023 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.114** | **1.939** | **1.938** | **2.044** | **1.987** | **1.916** | **1.963** | **25.59** | **25.77** |
| Stddev | .133 | .002 | .005 | .004 | .002 | .005 | .004 | .06 | .05 |
| %RSD | 6.295 | .1154 | .2691 | .2166 | .1069 | .2394 | .2006 | .2436 | .2067 |
| #1 | 2.267 | 1.938 | 1.939 | 2.047 | 1.989 | 1.917 | 1.959 | 25.58 | 25.77 |
| #2 | 2.038 | 1.942 | 1.943 | 2.046 | 1.988 | 1.920 | 1.966 | 25.54 | 25.71 |
| #3 | 2.035 | 1.938 | 1.932 | 2.039 | 1.985 | 1.911 | 1.965 | 25.66 | 25.82 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.08** | **25.84** | **25.38** | **25.66** | **1.941** | **1.997** | **-.0216** | **2.014** | **2.051** |
| Stddev | .04 | .08 | .08 | .07 | .003 | .003 | .0057 | .002 | .007 |
| %RSD | .1393 | .3008 | .3241 | .2703 | .1325 | .1403 | 26.35 | .1002 | .3217 |
| #1 | 26.09 | 25.82 | 25.36 | 25.64 | 1.938 | 1.996 | -.0281 | 2.015 | 2.052 |
| #2 | 26.04 | 25.77 | 25.31 | 25.61 | 1.943 | 2.000 | -.0180 | 2.015 | 2.044 |
| #3 | 26.11 | 25.92 | 25.47 | 25.74 | 1.943 | 1.995 | -.0185 | 2.012 | 2.058 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.150** | **1.886** | **2.174** | **.0114** | **.1549** | **.0033** | **1.833** |
| Stddev | .135 | .004 | .137 | .0016 | .0107 | .0012 | .022 |
| %RSD | 6.273 | .1873 | 6.276 | 13.85 | 6.940 | 35.97 | 1.226 |
| #1 | 2.305 | 1.888 | 2.332 | .0099 | .1672 | .0027 | 1.836 |
| #2 | 2.073 | 1.888 | 2.096 | .0130 | .1474 | .0025 | 1.809 |
| #3 | 2.071 | 1.881 | 2.095 | .0112 | .1500 | .0046 | 1.854 |



Zoom In Zoom Out

Sample Name: mp14899-b2conf Acquired: 5/13/2019 12:09:25 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148300.** | **26950.** | **5982.7** | **8256.4** |
| Stddev | 8320. | 100. | 6.2 | 6.3 |
| %RSD | 5.6104 | .37233 | .10428 | .07644 |
| #1 | 138690. | 27054. | 5989.7 | 8258.7 |
| #2 | 153160. | 26944. | 5977.8 | 8249.3 |
| #3 | 153060. | 26853. | 5980.4 | 8261.3 |



Zoom In Zoom Out

Sample Name: jc87535-15 Acquired: 5/13/2019 12:14:22 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5896** | **.0015** | **.0084** | **.0285** | **.0042** | **.0167** | **2.763** | **.0459** | **-.0019** |
| Stddev | .0020 | .0002 | .0005 | .0010 | .0003 | .0007 | .016 | .0017 | .0009 |
| %RSD | .3319 | 15.24 | 5.977 | 3.348 | 7.818 | 4.431 | .5614 | 3.674 | 45.41 |
| #1 | .5906 | .0016 | .0084 | .0296 | .0039 | .0165 | 2.779 | .0442 | -.0018 |
| #2 | .5909 | .0017 | .0088 | .0278 | .0046 | .0162 | 2.764 | .0462 | -.0011 |
| #3 | .5873 | .0012 | .0078 | .0281 | .0042 | .0176 | 2.748 | .0475 | -.0028 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0077** | **2.513** | **.0150** | **.0021** | **.2695** | **-.0090** | **.0095** | **.3779** | **57.97** |
| Stddev | .0010 | .023 | .0033 | .0070 | .0044 | .0063 | .0023 | .0290 | .16 |
| %RSD | 12.99 | .9310 | 21.68 | 331.5 | 1.635 | 69.25 | 23.92 | 7.665 | .2749 |
| #1 | .0067 | 2.538 | .0183 | .0102 | .2745 | -.0105 | .0110 | .3640 | 58.07 |
| #2 | .0079 | 2.508 | .0118 | -.0019 | .2683 | -.0144 | .0069 | .3584 | 58.05 |
| #3 | .0086 | 2.492 | .0149 | -.0020 | .2659 | -.0022 | .0106 | .4112 | 57.78 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4517** | **10.63** | **7.768** | F **1386.** | **.1612** | **.0020** | **3.395** | **-.0024** | **.2811** |
| Stddev | .0118 | .13 | .281 | 22. | .0020 | .0006 | .030 | .0021 | .0019 |
| %RSD | 2.604 | 1.217 | 3.618 | 1.569 | 1.256 | 31.11 | .8814 | 87.92 | .6852 |
| #1 | .4392 | 10.62 | 7.454 | 1402. | .1618 | .0013 | 3.428 | -.0041 | .2821 |
| #2 | .4626 | 10.76 | 7.855 | 1361. | .1629 | .0025 | 3.388 | -.0000 | .2823 |
| #3 | .4533 | 10.50 | 7.995 | 1394. | .1590 | .0023 | 3.369 | -.0032 | .2789 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0028** | **.0263** | **.0016** | **4.803** | **-.0092** | **.0676** | **.0352** |
| Stddev | .0011 | .0027 | .0003 | .061 | .0044 | .0064 | .0248 |
| %RSD | 40.82 | 10.12 | 17.77 | 1.275 | 47.41 | 9.492 | 70.49 |
| #1 | .0018 | .0290 | .0016 | 4.869 | -.0129 | .0723 | .0158 |
| #2 | .0025 | .0262 | .0013 | 4.792 | -.0104 | .0703 | .0265 |
| #3 | .0041 | .0237 | .0018 | 4.748 | -.0044 | .0603 | .0631 |

Zoom In Zoom Out

Sample Name: jc87535-15 Acquired: 5/13/2019 12:14:22 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148050.** | **26771.** | **5854.9** | **7883.6** |
| Stddev | 535. | 99. | 9.1 | 3.8 |
| %RSD | .36111 | .37107 | .15464 | .04844 |
| #1 | 148600. | 26657. | 5863.8 | 7885.4 |
| #2 | 147530. | 26834. | 5845.7 | 7879.3 |
| #3 | 148030. | 26823. | 5855.2 | 7886.3 |



Zoom In Zoom Out

Sample Name: jc87687-1 Acquired: 5/13/2019 12:19:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2906** | **.0001** | **.0020** | **.1601** | **.0084** | **.0261** | **1.759** | **.0225** | **-.0002** |
| Stddev | .0037 | .0003 | .0006 | .0033 | .0011 | .0006 | .021 | .0020 | .0007 |
| %RSD | 1.266 | 295.4 | 29.82 | 2.039 | 13.48 | 2.160 | 1.172 | 8.762 | 448.7 |
| #1 | .2942 | .0004 | .0025 | .1637 | .0088 | .0256 | 1.774 | .0244 | -.0010 |
| #2 | .2909 | .0001 | .0021 | .1594 | .0071 | .0261 | 1.767 | .0227 | .0001 |
| #3 | .2868 | -.0002 | .0014 | .1573 | .0093 | .0267 | 1.736 | .0205 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0072** | **.7211** | **.0134** | **.0087** | **.0261** | **-.0112** | **.0132** | **1.277** | **110.3** |
| Stddev | .0012 | .0143 | .0031 | .0064 | .0058 | .0058 | .0050 | .039 | 1.7 |
| %RSD | 17.29 | 1.986 | 22.70 | 73.52 | 22.35 | 51.61 | 37.87 | 3.073 | 1.576 |
| #1 | .0064 | .7376 | .0111 | .0154 | .0288 | -.0084 | .0123 | 1.268 | 112.0 |
| #2 | .0086 | .7144 | .0123 | .0027 | .0300 | -.0074 | .0087 | 1.320 | 110.3 |
| #3 | .0065 | .7114 | .0169 | .0079 | .0194 | -.0179 | .0186 | 1.243 | 108.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8347** | **17.34** | **10.51** | F **1330.** | **.5788** | **.0035** | **5.298** | **-.0009** | **.3712** |
| Stddev | .0152 | .22 | .11 | 23. | .0091 | .0002 | .102 | .0010 | .0059 |
| %RSD | 1.825 | 1.273 | 1.079 | 1.716 | 1.576 | 6.038 | 1.928 | 112.4 | 1.592 |
| #1 | .8304 | 17.57 | 10.62 | 1335. | .5893 | .0037 | 5.415 | .0001 | .3767 |
| #2 | .8517 | 17.30 | 10.40 | 1350. | .5737 | .0033 | 5.242 | -.0008 | .3718 |
| #3 | .8221 | 17.13 | 10.52 | 1305. | .5733 | .0035 | 5.235 | -.0019 | .3650 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0161** | **.0176** | **.0031** | **1.942** | **-.0046** | **.0648** | **.2331** |
| Stddev | .0014 | .0016 | .0007 | .047 | .0089 | .0036 | .0173 |
| %RSD | 8.993 | 9.173 | 21.17 | 2.424 | 191.0 | 5.584 | 7.434 |
| #1 | .0151 | .0165 | .0038 | 1.996 | .0004 | .0607 | .2407 |
| #2 | .0177 | .0168 | .0031 | 1.907 | .0006 | .0668 | .2133 |
| #3 | .0153 | .0194 | .0025 | 1.924 | -.0149 | .0671 | .2454 |



Zoom In Zoom Out

Sample Name: jc87687-1 Acquired: 5/13/2019 12:19:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146590.** | **26735.** | **5868.3** | **7867.9** |
| Stddev | 686. | 262. | 23.3 | 20.3 |
| %RSD | .46804 | .98103 | .39722 | .25806 |
| #1 | 146950. | 26480. | 5845.5 | 7846.2 |
| #2 | 145800. | 26721. | 5892.1 | 7886.5 |
| #3 | 147020. | 27004. | 5867.4 | 7870.9 |



Zoom In Zoom Out

Sample Name: jc87414-10r Acquired: 5/13/2019 12:24:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9749** | **.0002** | **.0093** | **.0124** | **.0043** | **.0459** | **.1391** | **.0360** | **-.0001** |
| Stddev | .0023 | .0002 | .0015 | .0010 | .0007 | .0114 | .0185 | .0011 | .0028 |
| %RSD | .2359 | 99.07 | 16.44 | 8.104 | 16.41 | 24.72 | 13.32 | 2.989 | 2656. |
| #1 | .9776 | .0005 | .0110 | .0135 | .0047 | .0535 | .1503 | .0365 | -.0024 |
| #2 | .9733 | .0001 | .0090 | .0117 | .0035 | .0329 | .1177 | .0367 | .0030 |
| #3 | .9740 | .0001 | .0080 | .0119 | .0048 | .0513 | .1492 | .0347 | -.0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0035** | **1.196** | **.0129** | **.0026** | **.1096** | **-.0037** | **.0059** | **.2915** | **96.27** |
| Stddev | .0020 | .035 | .0043 | .0065 | .0054 | .0021 | .0039 | .0160 | .29 |
| %RSD | 57.63 | 2.881 | 33.10 | 252.8 | 4.886 | 56.13 | 66.52 | 5.499 | .2981 |
| #1 | .0052 | 1.235 | .0080 | .0016 | .1152 | -.0062 | .0064 | .3090 | 96.51 |
| #2 | .0013 | 1.181 | .0146 | -.0033 | .1089 | -.0027 | .0095 | .2776 | 96.35 |
| #3 | .0041 | 1.172 | .0160 | .0095 | .1046 | -.0024 | .0017 | .2880 | 95.95 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1946** | **37.03** | **7.114** | F **1273.** | **.2190** | **.0013** | **3.959** | **-.0004** | **.4142** |
| Stddev | .0064 | .09 | .070 | 8. | .0063 | .0006 | .106 | .0009 | .0023 |
| %RSD | 3.291 | .2366 | .9788 | .6446 | 2.864 | 43.10 | 2.677 | 195.3 | .5469 |
| #1 | .2017 | 37.12 | 7.181 | 1282. | .2262 | .0010 | 4.080 | -.0014 | .4142 |
| #2 | .1891 | 37.03 | 7.042 | 1270. | .2153 | .0020 | 3.915 | .0004 | .4165 |
| #3 | .1932 | 36.94 | 7.120 | 1266. | .2154 | .0010 | 3.882 | -.0004 | .4119 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0044** | **.0219** | **.0005** | **1.321** | **-.0078** | **.0634** | **.2886** |
| Stddev | .0009 | .0127 | .0011 | .039 | .0105 | .0063 | .0198 |
| %RSD | 19.93 | 57.79 | 214.2 | 2.962 | 135.2 | 9.873 | 6.876 |
| #1 | .0045 | .0173 | .0004 | 1.363 | .0033 | .0568 | .2661 |
| #2 | .0035 | .0363 | .0017 | 1.315 | -.0176 | .0643 | .2963 |
| #3 | .0052 | .0123 | -.0005 | 1.286 | -.0090 | .0693 | .3035 |

Zoom In Zoom Out

Sample Name: jc87414-10r Acquired: 5/13/2019 12:24:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **26725.** | **5757.0** | **7742.6** |
| Stddev | ----- | 30. | 96.9 | 109.4 |
| %RSD | ----- | .11201 | 1.6838 | 1.4130 |
| #1 | 146130. | 26757. | 5645.7 | 7617.1 |
| #2 | ----- | 26721. | 5822.9 | 7817.9 |
| #3 | 144300. | 26698. | 5802.5 | 7792.8 |



Zoom In Zoom Out

Sample Name: jc87414-15r Acquired: 5/13/2019 12:30:03 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.048** | **.0005** | **.0264** | **.0455** | **.0018** | **2.673** | **2.666** | **.1308** | **-.0006** |
| Stddev | .011 | .0002 | .0006 | .0022 | .0004 | .012 | .011 | .0015 | .0020 |
| %RSD | .3683 | 35.01 | 2.377 | 4.778 | 20.96 | .4624 | .3953 | 1.136 | 324.2 |
| #1 | 3.043 | .0003 | .0268 | .0465 | .0022 | 2.684 | 2.676 | .1320 | -.0029 |
| #2 | 3.061 | .0006 | .0267 | .0470 | .0014 | 2.676 | 2.666 | .1311 | .0008 |
| #3 | 3.040 | .0005 | .0257 | .0430 | .0018 | 2.660 | 2.655 | .1291 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0096** | **8.095** | **.0124** | **.0067** | **9.365** | **-.0128** | **.0233** | **.4763** | **217.2** |
| Stddev | .0004 | .113 | .0028 | .0041 | .134 | .0086 | .0033 | .0466 | 1.2 |
| %RSD | 3.977 | 1.395 | 22.66 | 61.22 | 1.427 | 67.55 | 14.06 | 9.785 | .5644 |
| #1 | .0094 | 8.212 | .0148 | .0074 | 9.507 | -.0167 | .0235 | .4480 | 217.2 |
| #2 | .0101 | 8.086 | .0132 | .0023 | 9.345 | -.0188 | .0199 | .5300 | 218.4 |
| #3 | .0095 | 7.986 | .0093 | .0105 | 9.242 | -.0029 | .0264 | .4507 | 216.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.620** | **27.57** | **7.086** | F **1361.** | **.1171** | **.0007** | **3.905** | **-.0034** | **1.153** |
| Stddev | .014 | .09 | .326 | 3. | .0018 | .0013 | .052 | .0038 | .004 |
| %RSD | .5400 | .3393 | 4.607 | .2100 | 1.504 | 203.3 | 1.339 | 112.5 | .3356 |
| #1 | 2.623 | 27.52 | 6.792 | 1363. | .1179 | -.0003 | 3.959 | -.0028 | 1.153 |
| #2 | 2.633 | 27.68 | 7.029 | 1362. | .1183 | .0001 | 3.900 | -.0074 | 1.156 |
| #3 | 2.605 | 27.51 | 7.437 | 1357. | .1151 | .0022 | 3.855 | .0001 | 1.149 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0145** | **.0004** | **1.202** | **-.0052** | **.0689** | **.1189** |
| Stddev | .0010 | .0033 | .0002 | .034 | .0062 | .0099 | .0075 |
| %RSD | 52.37 | 22.63 | 59.29 | 2.786 | 120.3 | 14.32 | 6.300 |
| #1 | .0014 | .0178 | .0001 | 1.241 | -.0105 | .0799 | .1275 |
| #2 | .0013 | .0142 | .0005 | 1.188 | -.0068 | .0608 | .1155 |
| #3 | .0031 | .0113 | .0006 | 1.178 | .0017 | .0660 | .1137 |



Zoom In Zoom Out

Sample Name: jc87414-15r Acquired: 5/13/2019 12:30:03 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145480.** | **26466.** | **5779.8** | **7737.5** |
| Stddev | 934. | 134. | 7.1 | 3.7 |
| %RSD | .64181 | .50772 | .12257 | .04751 |
| #1 | 146200. | 26505. | 5786.6 | 7740.7 |
| #2 | 145820. | 26317. | 5780.5 | 7738.2 |
| #3 | 144430. | 26577. | 5772.5 | 7733.5 |



Zoom In Zoom Out

Sample Name: mp14872-mb1conf Acquired: 5/13/2019 12:35:14 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0000** | **-.0000** | **-.0000** | **.0005** | **.0012** | **.0004** | **.0020** | **-.0004** |
| Stddev | .0000 | .0000 | .0001 | .0002 | .0001 | .0001 | .0000 | .0002 | .0003 |
| %RSD | 65.81 | 82.34 | 142.8 | 1223. | 14.26 | 9.551 | 1.498 | 8.780 | 77.75 |
| #1 | .0000 | .0000 | -.0001 | -.0001 | .0005 | .0013 | .0004 | .0019 | -.0001 |
| #2 | .0000 | .0000 | -.0000 | -.0002 | .0005 | .0013 | .0004 | .0022 | -.0003 |
| #3 | .0001 | .0001 | .0000 | .0002 | .0004 | .0011 | .0004 | .0020 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0379** | **.0004** | **.0011** | **-.0003** | **-.0009** | **.0005** | **.0018** | **.0917** |
| Stddev | .0003 | .0002 | .0005 | .0004 | .0008 | .0012 | .0014 | .0060 | .0022 |
| %RSD | 450.4 | .5073 | 119.9 | 39.62 | 292.6 | 132.1 | 275.8 | 336.3 | 2.449 |
| #1 | .0001 | .0381 | .0001 | .0008 | -.0004 | -.0007 | -.0007 | .0087 | .0917 |
| #2 | .0001 | .0378 | .0001 | .0010 | -.0011 | .0002 | .0021 | -.0011 | .0940 |
| #3 | -.0004 | .0377 | .0010 | .0016 | .0006 | -.0022 | .0001 | -.0022 | .0895 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0174** | **.0005** | **.1714** | **.3628** | **.0012** | **.0002** | **.0072** | **.0126** | **.0002** |
| Stddev | .0013 | .0075 | .0221 | .0140 | .0003 | .0000 | .0008 | .0006 | .0000 |
| %RSD | 7.553 | 1545. | 12.87 | 3.867 | 23.04 | 13.09 | 10.47 | 5.000 | 11.22 |
| #1 | .0184 | .0063 | .1824 | .3767 | .0013 | .0002 | .0079 | .0133 | .0002 |
| #2 | .0159 | -.0079 | .1459 | .3630 | .0014 | .0002 | .0064 | .0120 | .0002 |
| #3 | .0179 | .0031 | .1857 | .3487 | .0009 | .0002 | .0072 | .0126 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0016** | **.0001** | **.0103** | **-.0003** | **.0054** | **.0162** |
| Stddev | .0001 | .0003 | .0001 | .0020 | .0015 | .0008 | .0039 |
| %RSD | 6.832 | 20.22 | 60.48 | 19.91 | 515.5 | 14.03 | 24.23 |
| #1 | .0010 | .0012 | .0001 | .0118 | .0002 | .0051 | .0194 |
| #2 | .0010 | .0017 | .0001 | .0111 | -.0019 | .0049 | .0118 |
| #3 | .0009 | .0019 | .0000 | .0080 | .0009 | .0063 | .0175 |

Zoom In Zoom Out

Sample Name: mp14872-mb1conf Acquired: 5/13/2019 12:35:14 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158990.** | **27517.** | **6189.0** | **8858.9** |
| Stddev | 596. | 291. | 11.8 | 12.0 |
| %RSD | .37490 | 1.0578 | .19014 | .13553 |
| #1 | 158520. | 27183. | 6182.6 | 8852.9 |
| #2 | 158790. | 27650. | 6181.8 | 8851.1 |
| #3 | 159660. | 27717. | 6202.6 | 8872.7 |



Zoom In Zoom Out

Sample Name: jc87664-1 Acquired: 5/13/2019 12:40:19 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3567** | **.0039** | **-.0014** | **.0615** | **.1768** | **.1696** | **2.018** | **.0727** | **-.0025** |
| Stddev | .0021 | .0004 | .0015 | .0023 | .0025 | .0015 | .005 | .0027 | .0017 |
| %RSD | .5895 | 10.85 | 108.4 | 3.744 | 1.436 | .8734 | .2487 | 3.651 | 68.97 |
| #1 | .3547 | .0041 | -.0007 | .0592 | .1770 | .1704 | 2.013 | .0750 | -.0039 |
| #2 | .3589 | .0034 | -.0003 | .0616 | .1792 | .1679 | 2.021 | .0698 | -.0006 |
| #3 | .3566 | .0042 | -.0031 | .0638 | .1741 | .1706 | 2.022 | .0732 | -.0029 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1357** | **.3645** | **.0395** | **.0092** | **.0304** | **-.0055** | **.0048** | **53.05** | **1116.** |
| Stddev | .0008 | .0021 | .0073 | .0106 | .0092 | .0076 | .0212 | .27 | 12. |
| %RSD | .6247 | .5890 | 18.46 | 115.4 | 30.18 | 137.8 | 446.0 | .5150 | 1.074 |
| #1 | .1348 | .3669 | .0471 | .0201 | .0406 | -.0084 | .0292 | 52.78 | 1120. |
| #2 | .1358 | .3639 | .0389 | .0084 | .0279 | .0031 | -.0062 | 53.33 | 1102. |
| #3 | .1365 | .3628 | .0326 | -.0010 | .0227 | -.0113 | -.0088 | 53.05 | 1124. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **75.71** | **242.9** | **14.54** | **7.920** | **.1215** | **.0100** | **3.020** | **.0152** | **2.688** |
| Stddev | .31 | .8 | .20 | .036 | .0040 | .0009 | .016 | .0014 | .008 |
| %RSD | .4141 | .3199 | 1.362 | .4494 | 3.279 | 9.397 | .5269 | 8.957 | .2833 |
| #1 | 75.41 | 242.1 | 14.76 | 7.896 | .1260 | .0093 | 3.031 | .0167 | 2.682 |
| #2 | 76.03 | 243.7 | 14.45 | 7.902 | .1185 | .0097 | 3.002 | .0142 | 2.696 |
| #3 | 75.69 | 243.0 | 14.39 | 7.961 | .1200 | .0110 | 3.028 | .0145 | 2.686 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.554** | **.1188** | **.1218** | **21.52** | **.1300** | **.1311** | **1.753** |
| Stddev | .007 | .0172 | .0008 | .09 | .0087 | .0043 | .017 |
| %RSD | .2580 | 14.52 | .6898 | .4409 | 6.677 | 3.292 | .9665 |
| #1 | 2.548 | .1341 | .1218 | 21.63 | .1200 | .1287 | 1.769 |
| #2 | 2.553 | .1001 | .1210 | 21.47 | .1357 | .1285 | 1.735 |
| #3 | 2.561 | .1221 | .1227 | 21.46 | .1343 | .1361 | 1.755 |



Zoom In Zoom Out

Sample Name: jc87664-1 Acquired: 5/13/2019 12:40:19 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150480.** | **26581.** | **5917.7** | **8146.4** |
| Stddev | 661. | 150. | 21.3 | 22.9 |
| %RSD | .43907 | .56511 | .35962 | .28081 |
| #1 | 150840. | 26754. | 5906.0 | 8134.7 |
| #2 | 150880. | 26512. | 5942.3 | 8172.7 |
| #3 | 149720. | 26478. | 5904.8 | 8131.7 |



Zoom In Zoom Out

Sample Name: jc87664-2 Acquired: 5/13/2019 12:45:27 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3665** | **.0039** | **-.0015** | **.1115** | **.2828** | **.1371** | **2.957** | **.1206** | **-.0023** |
| Stddev | .0157 | .0003 | .0009 | .0032 | .0079 | .0009 | .059 | .0031 | .0003 |
| %RSD | 4.283 | 7.233 | 56.37 | 2.835 | 2.804 | .6857 | 1.987 | 2.610 | 11.45 |
| #1 | .3517 | .0038 | -.0022 | .1103 | .2739 | .1363 | 2.900 | .1223 | -.0025 |
| #2 | .3647 | .0042 | -.0006 | .1091 | .2850 | .1368 | 2.954 | .1169 | -.0024 |
| #3 | .3830 | .0037 | -.0018 | .1150 | .2893 | .1381 | 3.017 | .1225 | -.0020 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1951** | **.5214** | **.1890** | **-.0010** | **.0467** | **-.0073** | **-.0125** | **62.62** | **1176.** |
| Stddev | .0033 | .0085 | .0108 | .0048 | .0032 | .0028 | .0092 | 2.12 | 35. |
| %RSD | 1.700 | 1.622 | 5.715 | 471.6 | 6.774 | 38.49 | 73.28 | 3.380 | 2.984 |
| #1 | .1921 | .5179 | .1776 | .0044 | .0436 | -.0062 | -.0176 | 60.66 | 1136. |
| #2 | .1946 | .5153 | .1990 | -.0047 | .0467 | -.0051 | -.0180 | 62.33 | 1194. |
| #3 | .1987 | .5310 | .1903 | -.0027 | .0499 | -.0104 | -.0019 | 64.86 | 1199. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **88.77** | **291.4** | **15.35** | **7.707** | **.1406** | **.0143** | **3.054** | **.0213** | **3.474** |
| Stddev | 2.92 | 10.0 | .46 | .305 | .0007 | .0004 | .035 | .0053 | .118 |
| %RSD | 3.287 | 3.442 | 3.029 | 3.959 | .5110 | 2.623 | 1.138 | 25.03 | 3.384 |
| #1 | 86.07 | 281.8 | 15.05 | 7.436 | .1412 | .0139 | 3.042 | .0274 | 3.363 |
| #2 | 88.38 | 290.5 | 15.11 | 7.647 | .1408 | .0143 | 3.026 | .0192 | 3.462 |
| #3 | 91.86 | 301.8 | 15.88 | 8.037 | .1398 | .0147 | 3.093 | .0174 | 3.597 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.101** | **.2560** | **.1814** | **29.03** | **.1544** | **.1465** | **2.249** |
| Stddev | .054 | .0079 | .0042 | .48 | .0190 | .0153 | .069 |
| %RSD | 1.745 | 3.097 | 2.309 | 1.637 | 12.30 | 10.47 | 3.086 |
| #1 | 3.050 | .2565 | .1767 | 28.77 | .1430 | .1642 | 2.328 |
| #2 | 3.094 | .2478 | .1828 | 28.74 | .1764 | .1384 | 2.222 |
| #3 | 3.158 | .2637 | .1847 | 29.58 | .1439 | .1370 | 2.197 |

Zoom In Zoom Out

Sample Name: jc87664-2 Acquired: 5/13/2019 12:45:27 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149210.** | **26679.** | **5901.6** | **8078.7** |
| Stddev | 439. | 181. | 61.0 | 68.7 |
| %RSD | .29409 | .67947 | 1.0336 | .84992 |
| #1 | 148700. | 26762. | 5866.9 | 8043.2 |
| #2 | 149460. | 26804. | 5972.1 | 8157.8 |
| #3 | 149460. | 26471. | 5866.0 | 8035.1 |



Zoom In Zoom Out

Sample Name: jc87664-6 Acquired: 5/13/2019 12:50:37 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.682** | **.0092** | **-.0008** | **.1604** | **.8893** | **.6308** | **2.508** | **.8002** | **-.0003** |
| Stddev | .006 | .0001 | .0004 | .0012 | .0043 | .0049 | .012 | .0077 | .0001 |
| %RSD | .3719 | 1.399 | 53.50 | .7748 | .4800 | .7755 | .4964 | .9642 | 44.99 |
| #1 | 1.678 | .0091 | -.0009 | .1590 | .8846 | .6273 | 2.496 | .7921 | -.0004 |
| #2 | 1.679 | .0092 | -.0003 | .1606 | .8902 | .6286 | 2.508 | .8012 | -.0002 |
| #3 | 1.689 | .0094 | -.0012 | .1614 | .8930 | .6364 | 2.520 | .8074 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4039** | **.8904** | **.0247** | **.0040** | **.5098** | **.0003** | **-.0043** | **172.1** | **117.2** |
| Stddev | .0027 | .0081 | .0012 | .0015 | .0061 | .0076 | .0019 | .9 | .6 |
| %RSD | .6643 | .9142 | 4.701 | 36.99 | 1.202 | 2861. | 44.50 | .5120 | .4764 |
| #1 | .4012 | .8810 | .0234 | .0055 | .5030 | -.0039 | -.0044 | 171.4 | 116.8 |
| #2 | .4041 | .8944 | .0249 | .0040 | .5116 | .0090 | -.0024 | 171.7 | 117.0 |
| #3 | .4065 | .8957 | .0257 | .0025 | .5148 | -.0043 | -.0062 | 173.1 | 117.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **253.7** | **121.5** | **91.40** | **4.291** | **.0224** | **.0091** | **2.065** | **.0429** | **.4678** |
| Stddev | 1.3 | .4 | .44 | .016 | .0013 | .0007 | .018 | .0012 | .0021 |
| %RSD | .5059 | .3560 | .4775 | .3704 | 5.635 | 7.884 | .8660 | 2.836 | .4440 |
| #1 | 253.0 | 121.2 | 91.16 | 4.293 | .0218 | .0084 | 2.045 | .0416 | .4663 |
| #2 | 252.9 | 121.4 | 91.14 | 4.274 | .0215 | .0098 | 2.072 | .0430 | .4669 |
| #3 | 255.2 | 122.0 | 91.90 | 4.306 | .0238 | .0092 | 2.079 | .0440 | .4702 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **12.00** | **.0072** | **.0337** | **16.16** | **.6563** | **.3526** | **4.157** |
| Stddev | .07 | .0006 | .0001 | .13 | .0030 | .0072 | .039 |
| %RSD | .6025 | 8.078 | .1695 | .7958 | .4522 | 2.043 | .9445 |
| #1 | 11.93 | .0077 | .0337 | 16.02 | .6540 | .3469 | 4.113 |
| #2 | 12.00 | .0066 | .0338 | 16.18 | .6552 | .3503 | 4.171 |
| #3 | 12.08 | .0072 | .0336 | 16.28 | .6596 | .3607 | 4.187 |



Zoom In Zoom Out

Sample Name: jc87664-6 Acquired: 5/13/2019 12:50:37 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **152410.** | **27360.** | **6005.9** | **8141.0** |
| Stddev | 897. | 31. | 13.0 | 20.9 |
| %RSD | .58825 | .11408 | .21669 | .25700 |
| #1 | 151670. | 27330. | 6011.4 | 8154.2 |
| #2 | 152150. | 27356. | 5991.0 | 8116.9 |
| #3 | 153410. | 27393. | 6015.2 | 8152.0 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 12:55:40 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.056** | **2.074** | **1.953** | **2.008** | **2.057** | **2.047** | **2.094** | **2.001** | **.2530** |
| Stddev | .003 | .004 | .018 | .016 | .005 | .004 | .004 | .017 | .0005 |
| %RSD | .1359 | .2061 | .9325 | .7978 | .2415 | .1811 | .2171 | .8260 | .2120 |
| #1 | 2.054 | 2.069 | 1.935 | 1.991 | 2.052 | 2.043 | 2.089 | 1.984 | .2527 |
| #2 | 2.056 | 2.075 | 1.972 | 2.023 | 2.056 | 2.048 | 2.095 | 2.017 | .2526 |
| #3 | 2.059 | 2.077 | 1.953 | 2.010 | 2.062 | 2.051 | 2.098 | 2.003 | .2536 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.058** | **1.961** | **1.952** | **2.035** | **1.996** | **1.948** | **1.967** | **40.90** | **41.09** |
| Stddev | .004 | .016 | .018 | .017 | .018 | .017 | .020 | .10 | .10 |
| %RSD | .1883 | .8347 | .9333 | .8231 | .8778 | .8633 | 1.015 | .2324 | .2505 |
| #1 | 2.056 | 1.944 | 1.934 | 2.018 | 1.978 | 1.933 | 1.948 | 40.80 | 40.97 |
| #2 | 2.055 | 1.977 | 1.970 | 2.052 | 2.012 | 1.966 | 1.987 | 40.92 | 41.11 |
| #3 | 2.062 | 1.960 | 1.951 | 2.035 | 1.997 | 1.945 | 1.966 | 40.99 | 41.18 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.59** | **41.23** | **40.57** | **40.85** | **1.981** | **1.989** | **4.992** | **1.999** | **2.068** |
| Stddev | .11 | .09 | .09 | .05 | .016 | .020 | .048 | .017 | .004 |
| %RSD | .2654 | .2065 | .2338 | .1120 | .8052 | .9838 | .9552 | .8627 | .1879 |
| #1 | 41.47 | 41.13 | 40.48 | 40.80 | 1.965 | 1.970 | 4.943 | 1.982 | 2.065 |
| #2 | 41.67 | 41.30 | 40.55 | 40.89 | 1.997 | 2.009 | 5.038 | 2.016 | 2.067 |
| #3 | 41.64 | 41.26 | 40.67 | 40.86 | 1.981 | 1.987 | 4.996 | 1.998 | 2.072 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 12:55:40 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.071** | **1.947** | **2.104** | **1.921** | **1.980** | **2.029** | **1.899** |
| Stddev | .003 | .018 | .002 | .024 | .015 | .005 | .009 |
| %RSD | .1189 | .9424 | .1127 | 1.244 | .7475 | .2450 | .4592 |
| #1 | 2.070 | 1.928 | 2.102 | 1.900 | 1.965 | 2.024 | 1.890 |
| #2 | 2.068 | 1.965 | 2.103 | 1.947 | 1.995 | 2.028 | 1.898 |
| #3 | 2.073 | 1.949 | 2.107 | 1.916 | 1.979 | 2.034 | 1.907 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148790.** | **26469.** | **5864.6** | **8061.8** |
| Stddev | 298. | 102. | 34.8 | 40.7 |
| %RSD | .20020 | .38705 | .59414 | .50449 |
| #1 | 149010. | 26584. | 5893.7 | 8099.5 |
| #2 | 148910. | 26389. | 5826.0 | 8018.7 |
| #3 | 148450. | 26433. | 5874.0 | 8067.4 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 13:00:36 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0002** | **.0004** | **.0002** | **.0001** | **.0004** | **.0003** | **.0007** | **-.0001** |
| Stddev | .0001 | .0001 | .0001 | .0000 | .0001 | .0002 | .0000 | .0003 | .0004 |
| %RSD | 49.70 | 23.88 | 28.05 | 5.831 | 89.08 | 58.47 | 10.67 | 40.83 | 486.0 |
| #1 | .0002 | .0003 | .0003 | .0002 | .0003 | .0004 | .0003 | .0009 | -.0005 |
| #2 | .0001 | .0002 | .0004 | .0002 | .0000 | .0002 | .0002 | .0004 | .0003 |
| #3 | .0002 | .0003 | .0005 | .0002 | .0001 | .0007 | .0003 | .0008 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0001** | **.0011** | **.0007** | **.0009** | **.0005** | **.0022** | **.0059** | **.0005** |
| Stddev | .0001 | .0001 | .0002 | .0005 | .0007 | .0014 | .0033 | .0139 | .0008 |
| %RSD | 24.87 | 77.96 | 15.26 | 68.17 | 79.70 | 281.6 | 153.0 | 236.0 | 176.9 |
| #1 | .0005 | -.0001 | .0013 | .0007 | .0016 | .0008 | -.0016 | .0087 | -.0002 |
| #2 | .0003 | -.0001 | .0010 | .0011 | .0007 | .0017 | .0044 | .0181 | .0002 |
| #3 | .0003 | -.0002 | .0011 | .0002 | .0003 | -.0010 | .0038 | -.0092 | .0014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0041** | **-.0069** | **.0782** | **.0703** | **.0017** | **.0006** | **.0034** | **.0007** | **.0002** |
| Stddev | .0028 | .0190 | .0153 | .0081 | .0002 | .0002 | .0002 | .0005 | .0001 |
| %RSD | 67.99 | 274.0 | 19.54 | 11.57 | 11.29 | 32.15 | 5.333 | 69.53 | 54.36 |
| #1 | .0071 | -.0285 | .0939 | .0794 | .0019 | .0009 | .0033 | .0008 | .0004 |
| #2 | .0035 | .0007 | .0634 | .0639 | .0016 | .0006 | .0037 | .0012 | .0002 |
| #3 | .0016 | .0071 | .0773 | .0675 | .0015 | .0005 | .0034 | .0002 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 13:00:36 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0011** | **.0004** | **.0032** | **.0003** | F **.0057** | **.0028** |
| Stddev | .0002 | .0008 | .0002 | .0019 | .0003 | .0009 | .0033 |
| %RSD | 69.92 | 66.01 | 58.73 | 58.54 | 91.47 | 15.60 | 120.2 |
| #1 | .0005 | .0019 | .0001 | .0054 | .0001 | .0060 | -.0008 |
| #2 | .0001 | .0011 | .0004 | .0019 | .0006 | .0063 | .0057 |
| #3 | .0004 | .0004 | .0006 | .0025 | .0002 | .0047 | .0034 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157470.** | **26899.** | **6157.3** | **8826.0** |
| Stddev | 309. | 134. | 66.7 | 82.3 |
| %RSD | .19621 | .49845 | 1.0828 | .93207 |
| #1 | 157830. | 26877. | 6115.8 | 8779.3 |
| #2 | 157270. | 26777. | 6121.8 | 8777.8 |
| #3 | 157330. | 27042. | 6234.2 | 8921.0 |



Zoom In Zoom Out

Sample Name: mp14899-b2 Acquired: 5/13/2019 13:05:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **2.065** | **1.908** | **1.972** | **2.067** | **2.076** | **2.094** | **1.966** | **.2062** |
| Stddev | .001 | .003 | .032 | .030 | .065 | .062 | .068 | .030 | .0066 |
| %RSD | .0679 | .1640 | 1.695 | 1.530 | 3.152 | 2.992 | 3.233 | 1.524 | 3.179 |
| #1 | 2.042 | 2.063 | 1.927 | 1.989 | 2.034 | 2.038 | 2.087 | 1.985 | .2029 |
| #2 | 2.043 | 2.063 | 1.925 | 1.991 | 2.024 | 2.042 | 2.029 | 1.982 | .2020 |
| #3 | 2.044 | 2.069 | 1.870 | 1.937 | 2.142 | 2.147 | 2.164 | 1.931 | .2138 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.067** | **1.918** | **1.914** | **2.031** | **1.967** | **1.893** | **1.941** | **25.54** | **25.79** |
| Stddev | .061 | .033 | .032 | .026 | .028 | .031 | .035 | .03 | .02 |
| %RSD | 2.972 | 1.727 | 1.646 | 1.282 | 1.415 | 1.618 | 1.797 | .1072 | .0959 |
| #1 | 2.036 | 1.939 | 1.933 | 2.044 | 1.984 | 1.911 | 1.962 | 25.51 | 25.78 |
| #2 | 2.027 | 1.934 | 1.932 | 2.048 | 1.982 | 1.910 | 1.961 | 25.56 | 25.78 |
| #3 | 2.138 | 1.879 | 1.878 | 2.001 | 1.935 | 1.857 | 1.901 | 25.56 | 25.82 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.04** | **25.86** | **25.42** | **25.72** | **1.919** | **1.971** | **-.0226** | **1.986** | **2.055** |
| Stddev | .05 | .03 | .06 | .04 | .033 | .034 | .0042 | .035 | .003 |
| %RSD | .2081 | .1149 | .2288 | .1462 | 1.739 | 1.705 | 18.80 | 1.746 | .1619 |
| #1 | 25.98 | 25.82 | 25.36 | 25.67 | 1.938 | 1.990 | -.0199 | 2.007 | 2.053 |
| #2 | 26.07 | 25.86 | 25.42 | 25.74 | 1.938 | 1.991 | -.0204 | 2.006 | 2.054 |
| #3 | 26.09 | 25.88 | 25.48 | 25.74 | 1.880 | 1.932 | -.0275 | 1.946 | 2.059 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.104** | **1.845** | **2.134** | **.0188** | **.1501** | **.0034** | **1.869** |
| Stddev | .062 | .030 | .061 | .0009 | .0050 | .0006 | .019 |
| %RSD | 2.931 | 1.634 | 2.877 | 4.654 | 3.313 | 18.00 | 1.032 |
| #1 | 2.073 | 1.860 | 2.101 | .0180 | .1482 | .0028 | 1.870 |
| #2 | 2.065 | 1.864 | 2.096 | .0187 | .1464 | .0040 | 1.887 |
| #3 | 2.175 | 1.810 | 2.205 | .0197 | .1558 | .0034 | 1.849 |

Zoom In Zoom Out

Sample Name: mp14899-b2 Acquired: 5/13/2019 13:05:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150950.** | **27137.** | **6040.3** | **8327.6** |
| Stddev | 4819. | 152. | 95.3 | 112.8 |
| %RSD | 3.1927 | .55914 | 1.5781 | 1.3550 |
| #1 | 152740. | 27161. | 5978.5 | 8257.0 |
| #2 | 154620. | 26974. | 5992.3 | 8268.0 |
| #3 | 145490. | 27275. | 6150.1 | 8457.8 |



Zoom In Zoom Out

Sample Name: mp14899-b2conf Acquired: 5/13/2019 13:10:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **2.075** | **1.931** | **1.994** | **2.041** | **2.049** | **2.081** | **1.987** | **.2036** |
| Stddev | .000 | .006 | .001 | .003 | .004 | .003 | .015 | .002 | .0005 |
| %RSD | .0182 | .2829 | .0278 | .1393 | .2013 | .1322 | .7036 | .0973 | .2568 |
| #1 | 2.043 | 2.079 | 1.932 | 1.997 | 2.046 | 2.050 | 2.090 | 1.988 | .2040 |
| #2 | 2.043 | 2.076 | 1.931 | 1.995 | 2.040 | 2.051 | 2.064 | 1.989 | .2037 |
| #3 | 2.042 | 2.068 | 1.931 | 1.991 | 2.037 | 2.046 | 2.089 | 1.985 | .2030 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.038** | **1.942** | **1.937** | **2.043** | **1.989** | **1.914** | **1.964** | **25.59** | **25.84** |
| Stddev | .001 | .003 | .002 | .004 | .003 | .002 | .001 | .07 | .06 |
| %RSD | .0698 | .1347 | .1139 | .2063 | .1513 | .1065 | .0306 | .2625 | .2242 |
| #1 | 2.038 | 1.942 | 1.938 | 2.043 | 1.989 | 1.912 | 1.964 | 25.62 | 25.89 |
| #2 | 2.040 | 1.944 | 1.937 | 2.047 | 1.992 | 1.916 | 1.964 | 25.63 | 25.85 |
| #3 | 2.037 | 1.939 | 1.934 | 2.039 | 1.986 | 1.915 | 1.965 | 25.51 | 25.78 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.07** | **25.87** | **25.43** | **25.63** | **1.940** | **1.998** | **-.0050** | **2.009** | **2.059** |
| Stddev | .07 | .04 | .05 | .03 | .002 | .004 | .0016 | .004 | .002 |
| %RSD | .2542 | .1412 | .1925 | .1144 | .0905 | .1820 | 32.63 | .1773 | .0853 |
| #1 | 26.12 | 25.89 | 25.43 | 25.65 | 1.940 | 2.001 | -.0038 | 2.011 | 2.060 |
| #2 | 26.09 | 25.89 | 25.48 | 25.65 | 1.942 | 1.999 | -.0043 | 2.012 | 2.059 |
| #3 | 26.00 | 25.83 | 25.38 | 25.60 | 1.939 | 1.994 | -.0069 | 2.005 | 2.057 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.074** | **1.890** | **2.106** | **.0120** | **.1496** | **.0055** | **1.858** |
| Stddev | .001 | .001 | .002 | .0018 | .0011 | .0008 | .017 |
| %RSD | .0303 | .0444 | .0831 | 15.41 | .7247 | 14.15 | .8854 |
| #1 | 2.074 | 1.889 | 2.107 | .0098 | .1502 | .0048 | 1.877 |
| #2 | 2.074 | 1.890 | 2.107 | .0131 | .1503 | .0054 | 1.853 |
| #3 | 2.075 | 1.891 | 2.104 | .0129 | .1484 | .0064 | 1.845 |



Zoom In Zoom Out

Sample Name: mp14899-b2conf Acquired: 5/13/2019 13:10:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **152990.** | **27133.** | **5979.5** | **8253.2** |
| Stddev | 83. | 139. | 9.5 | 14.8 |
| %RSD | .05399 | .51084 | .15944 | .17982 |
| #1 | 152910. | 27021. | 5980.5 | 8249.5 |
| #2 | 153070. | 27089. | 5969.5 | 8240.6 |
| #3 | 152990. | 27288. | 5988.5 | 8269.5 |



Zoom In Zoom Out

Sample Name: mp14899-mb1 Acquired: 5/13/2019 13:15:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0000** | **-.0000** | **-.0001** | **.0001** | **.0005** | **.0000** | **.0004** | **-.0004** |
| Stddev | .0001 | .0000 | .0002 | .0001 | .0001 | .0003 | .0000 | .0003 | .0003 |
| %RSD | 47.43 | 178.7 | 1554. | 138.5 | 143.0 | 68.92 | 46.34 | 76.54 | 70.08 |
| #1 | -.0001 | .0001 | .0002 | .0000 | -.0000 | .0002 | .0000 | .0001 | -.0001 |
| #2 | -.0002 | .0000 | -.0000 | -.0002 | .0001 | .0009 | .0001 | .0004 | -.0004 |
| #3 | -.0003 | -.0000 | -.0002 | -.0001 | .0000 | .0005 | .0000 | .0006 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0006** | **.0006** | **.0006** | **.0002** | **.0016** | **.0011** | **-.0040** | **.0004** |
| Stddev | .0002 | .0001 | .0009 | .0012 | .0009 | .0002 | .0008 | .0057 | .0008 |
| %RSD | 166.6 | 13.46 | 153.7 | 206.3 | 523.7 | 10.67 | 76.86 | 143.6 | 187.0 |
| #1 | -.0002 | .0006 | .0016 | .0018 | .0011 | .0015 | .0004 | .0019 | .0006 |
| #2 | .0001 | .0005 | .0004 | -.0007 | -.0002 | .0018 | .0008 | -.0095 | .0012 |
| #3 | -.0003 | .0007 | -.0002 | .0007 | -.0005 | .0015 | .0020 | -.0043 | -.0005 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0022** | **-.0169** | **.0120** | **.0089** | **.0022** | **.0005** | **.0075** | **-.0002** | **.0001** |
| Stddev | .0008 | .0049 | .0353 | .0040 | .0001 | .0002 | .0010 | .0003 | .0001 |
| %RSD | 37.63 | 28.92 | 294.1 | 44.87 | 6.427 | 33.08 | 13.19 | 175.2 | 99.29 |
| #1 | .0020 | -.0178 | -.0236 | .0066 | .0020 | .0007 | .0076 | -.0004 | .0000 |
| #2 | .0032 | -.0117 | .0471 | .0066 | .0022 | .0004 | .0064 | .0002 | .0000 |
| #3 | .0015 | -.0214 | .0125 | .0135 | .0022 | .0005 | .0084 | -.0003 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0074** | **.0008** | **.0040** | **.0004** | **.0048** | **.0029** |
| Stddev | .0007 | .0009 | .0001 | .0020 | .0010 | .0013 | .0028 |
| %RSD | 273.8 | 12.45 | 18.09 | 51.10 | 255.1 | 27.63 | 94.21 |
| #1 | .0008 | .0083 | .0009 | .0037 | -.0003 | .0044 | -.0001 |
| #2 | .0004 | .0074 | .0007 | .0021 | .0016 | .0063 | .0053 |
| #3 | -.0005 | .0065 | .0007 | .0061 | -.0000 | .0037 | .0036 |

Zoom In Zoom Out

Sample Name: mp14899-mb1 Acquired: 5/13/2019 13:15:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160890.** | **27592.** | **6265.4** | **8945.3** |
| Stddev | 731. | 135. | 75.9 | 95.7 |
| %RSD | .45423 | .48863 | 1.2112 | 1.0698 |
| #1 | 161330. | 27439. | 6210.2 | 8872.4 |
| #2 | 160040. | 27691. | 6234.0 | 8909.8 |
| #3 | 161280. | 27647. | 6351.9 | 9053.6 |



Zoom In Zoom Out

Sample Name: mp14899-s1 Acquired: 5/13/2019 13:20:54 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.746** | **2.111** | **1.988** | **2.017** | **2.022** | **2.064** | **2.061** | **2.051** | **.2117** |
| Stddev | .001 | .002 | .017 | .013 | .000 | .003 | .002 | .013 | .0002 |
| %RSD | .0453 | .0843 | .8280 | .6363 | .0153 | .1460 | .0741 | .6422 | .1036 |
| #1 | 2.748 | 2.110 | 1.969 | 2.003 | 2.022 | 2.062 | 2.062 | 2.036 | .2118 |
| #2 | 2.746 | 2.110 | 2.002 | 2.028 | 2.022 | 2.067 | 2.062 | 2.062 | .2114 |
| #3 | 2.745 | 2.113 | 1.992 | 2.021 | 2.022 | 2.062 | 2.059 | 2.054 | .2118 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.061** | **1.915** | **2.020** | **1.963** | **1.972** | **1.986** | **2.013** | **26.40** | F **580.2** |
| Stddev | .003 | .016 | .019 | .007 | .015 | .017 | .018 | .02 | 2.4 |
| %RSD | .1393 | .8329 | .9626 | .3817 | .7562 | .8736 | .9188 | .0750 | .4184 |
| #1 | 2.063 | 1.897 | 1.998 | 1.954 | 1.955 | 1.968 | 1.993 | 26.39 | 577.7 |
| #2 | 2.061 | 1.928 | 2.036 | 1.968 | 1.983 | 2.002 | 2.030 | 26.42 | 582.5 |
| #3 | 2.058 | 1.919 | 2.025 | 1.966 | 1.979 | 1.989 | 2.016 | 26.39 | 580.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.98** | **24.84** | **61.84** | **163.2** | **1.975** | **2.002** | **.6002** | **1.941** | **7.731** |
| Stddev | .01 | .02 | .10 | 4.1 | .020 | .017 | .0073 | .016 | .134 |
| %RSD | .0421 | .0772 | .1557 | 2.535 | 1.014 | .8355 | 1.224 | .8422 | 1.731 |
| #1 | 25.98 | 24.83 | 61.75 | 166.9 | 1.953 | 1.984 | .5921 | 1.924 | 7.830 |
| #2 | 25.99 | 24.84 | 61.94 | 158.8 | 1.992 | 2.018 | .6064 | 1.956 | 7.785 |
| #3 | 25.97 | 24.86 | 61.83 | 163.9 | 1.980 | 2.004 | .6021 | 1.945 | 7.579 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.084** | **1.933** | **2.133** | **2.325** | **.1544** | **.2142** | **2.029** |
| Stddev | .003 | .018 | .003 | .023 | .0008 | .0021 | .022 |
| %RSD | .1189 | .9050 | .1278 | .9708 | .4952 | .9708 | 1.098 |
| #1 | 2.084 | 1.914 | 2.135 | 2.300 | .1547 | .2155 | 2.006 |
| #2 | 2.086 | 1.949 | 2.134 | 2.342 | .1550 | .2118 | 2.051 |
| #3 | 2.081 | 1.936 | 2.130 | 2.333 | .1535 | .2152 | 2.029 |



Zoom In Zoom Out

Sample Name: mp14899-s1 Acquired: 5/13/2019 13:20:54 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141120.** | **26285.** | **5553.5** | **7412.2** |
| Stddev | 401. | 111. | 50.2 | 53.7 |
| %RSD | .28385 | .42153 | .90423 | .72505 |
| #1 | 141420. | 26219. | 5610.2 | 7473.4 |
| #2 | 141270. | 26224. | 5514.5 | 7372.7 |
| #3 | 140660. | 26413. | 5535.9 | 7390.5 |



Zoom In Zoom Out

Sample Name: mp14899-s2 Acquired: 5/13/2019 13:26:11 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.732** | **2.095** | **1.980** | **1.997** | **2.002** | **2.045** | **2.047** | **2.035** | **.2098** |
| Stddev | .005 | .004 | .007 | .009 | .013 | .009 | .011 | .008 | .0012 |
| %RSD | .1919 | .1776 | .3551 | .4429 | .6418 | .4343 | .5451 | .3906 | .5482 |
| #1 | 2.737 | 2.099 | 1.985 | 2.006 | 1.995 | 2.039 | 2.042 | 2.043 | .2097 |
| #2 | 2.732 | 2.094 | 1.972 | 1.997 | 1.995 | 2.041 | 2.040 | 2.034 | .2087 |
| #3 | 2.727 | 2.092 | 1.983 | 1.989 | 2.017 | 2.055 | 2.060 | 2.027 | .2110 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **1.903** | **2.016** | **1.938** | **1.956** | **1.972** | **2.009** | **26.12** | F **578.6** |
| Stddev | .012 | .006 | .006 | .009 | .009 | .010 | .008 | .04 | 5.4 |
| %RSD | .5897 | .3432 | .3111 | .4804 | .4662 | .5220 | .3985 | .1538 | .9371 |
| #1 | 2.037 | 1.910 | 2.023 | 1.948 | 1.966 | 1.983 | 2.012 | 26.17 | 584.7 |
| #2 | 2.036 | 1.901 | 2.011 | 1.937 | 1.954 | 1.963 | 1.999 | 26.12 | 576.9 |
| #3 | 2.057 | 1.897 | 2.014 | 1.930 | 1.949 | 1.970 | 2.014 | 26.09 | 574.3 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.72** | **24.73** | **61.87** | **161.1** | **1.970** | **1.992** | **.6058** | **1.933** | **7.781** |
| Stddev | .03 | .03 | .05 | 1.7 | .004 | .006 | .0053 | .008 | .056 |
| %RSD | .1272 | .1040 | .0844 | 1.039 | .1840 | .3067 | .8686 | .4102 | .7183 |
| #1 | 25.76 | 24.75 | 61.92 | 159.3 | 1.972 | 1.997 | .6048 | 1.943 | 7.827 |
| #2 | 25.69 | 24.75 | 61.82 | 162.6 | 1.966 | 1.985 | .6011 | 1.928 | 7.796 |
| #3 | 25.71 | 24.70 | 61.86 | 161.5 | 1.972 | 1.994 | .6115 | 1.930 | 7.719 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.074** | **1.928** | **2.126** | **2.288** | **.1530** | **.2136** | **1.865** |
| Stddev | .011 | .005 | .013 | .011 | .0018 | .0022 | .015 |
| %RSD | .5391 | .2771 | .6269 | .4904 | 1.154 | 1.045 | .7911 |
| #1 | 2.068 | 1.934 | 2.119 | 2.300 | .1544 | .2160 | 1.879 |
| #2 | 2.067 | 1.923 | 2.118 | 2.282 | .1510 | .2135 | 1.867 |
| #3 | 2.087 | 1.927 | 2.142 | 2.280 | .1536 | .2115 | 1.849 |

Zoom In Zoom Out

Sample Name: mp14899-s2 Acquired: 5/13/2019 13:26:11 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142070.** | **26317.** | **5490.4** | **7359.6** |
| Stddev | 769. | 35. | 82.4 | 82.9 |
| %RSD | .54156 | .13444 | 1.5015 | 1.1271 |
| #1 | 142500. | 26353. | 5530.7 | 7404.6 |
| #2 | 142540. | 26316. | 5544.9 | 7410.3 |
| #3 | 141190. | 26282. | 5395.6 | 7263.9 |



Zoom In Zoom Out

Sample Name: jc87644-1 Acquired: 5/13/2019 13:31:28 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6981** | **.0001** | **.0001** | **.0007** | **.0008** | **.0043** | **.0001** | **.0477** | **.0004** |
| Stddev | .0013 | .0001 | .0001 | .0001 | .0001 | .0005 | .0000 | .0004 | .0004 |
| %RSD | .1900 | 113.1 | 143.8 | 21.18 | 15.24 | 10.62 | 44.64 | .8718 | 84.66 |
| #1 | .6990 | .0002 | .0002 | .0008 | .0009 | .0039 | .0001 | .0482 | .0002 |
| #2 | .6988 | .0000 | .0000 | .0007 | .0007 | .0041 | .0001 | .0474 | .0009 |
| #3 | .6966 | .0000 | .0000 | .0005 | .0009 | .0048 | .0001 | .0476 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015** | **.0007** | **.0032** | **.0006** | **.0001** | **.0031** | **.0008** | **.3170** | F **574.3** |
| Stddev | .0001 | .0000 | .0007 | .0010 | .0007 | .0009 | .0018 | .0095 | 3.0 |
| %RSD | 7.106 | 6.541 | 23.39 | 155.5 | 1377. | 28.86 | 208.1 | 2.993 | .5146 |
| #1 | .0015 | .0007 | .0031 | .0009 | .0009 | .0038 | .0003 | .3255 | 577.3 |
| #2 | .0016 | .0007 | .0024 | -.0005 | -.0006 | .0034 | .0028 | .3068 | 571.4 |
| #3 | .0014 | .0008 | .0039 | .0015 | -.0001 | .0021 | -.0006 | .3188 | 574.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0136** | **.0083** | **36.64** | **138.8** | **.0097** | **.0060** | **.6523** | **-.0009** | **5.738** |
| Stddev | .0015 | .0090 | .02 | .6 | .0001 | .0001 | .0045 | .0003 | .086 |
| %RSD | 10.65 | 108.3 | .0472 | .4405 | .8090 | 1.004 | .6938 | 33.28 | 1.492 |
| #1 | .0153 | -.0008 | 36.66 | 139.4 | .0097 | .0061 | .6555 | -.0012 | 5.642 |
| #2 | .0130 | .0086 | 36.64 | 138.2 | .0097 | .0060 | .6472 | -.0006 | 5.807 |
| #3 | .0125 | .0172 | 36.63 | 139.0 | .0098 | .0061 | .6544 | -.0010 | 5.765 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0247** | **.0017** | **2.329** | **.0025** | **.2172** | **.0128** |
| Stddev | .0002 | .0008 | .0001 | .023 | .0010 | .0013 | .0079 |
| %RSD | 20.44 | 3.199 | 3.658 | .9988 | 40.53 | .5820 | 61.27 |
| #1 | -.0010 | .0239 | .0018 | 2.351 | .0029 | .2157 | .0045 |
| #2 | -.0010 | .0250 | .0017 | 2.304 | .0032 | .2178 | .0140 |
| #3 | -.0014 | .0254 | .0017 | 2.332 | .0013 | .2179 | .0201 |



Zoom In Zoom Out

Sample Name: jc87644-1 Acquired: 5/13/2019 13:31:28 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **140810.** | **26370.** | **5525.2** | **7438.2** |
| Stddev | 480. | 237. | 35.1 | 41.5 |
| %RSD | .34058 | .89844 | .63503 | .55745 |
| #1 | 140260. | 26335. | 5502.3 | 7410.6 |
| #2 | 141140. | 26622. | 5565.6 | 7485.9 |
| #3 | 141040. | 26152. | 5507.6 | 7418.2 |



Zoom In Zoom Out

Sample Name: mp14899-sd1 Acquired: 5/13/2019 13:36:59 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7140** | **-.0003** | **-.0003** | **-.0052** | **.0039** | **.0110** | **.0016** | **.0520** | **-.0053** |
| Stddev | .0020 | .0017 | .0027 | .0035 | .0072 | .0051 | .0017 | .0081 | .0086 |
| %RSD | .2733 | 481.8 | 791.9 | 67.05 | 184.0 | 46.10 | 108.1 | 15.59 | 162.9 |
| #1 | .7123 | .0008 | .0010 | -.0062 | .0034 | .0166 | .0031 | .0431 | -.0146 |
| #2 | .7161 | .0004 | .0014 | -.0013 | -.0030 | .0067 | .0018 | .0590 | -.0034 |
| #3 | .7135 | -.0023 | -.0034 | -.0080 | .0114 | .0097 | -.0002 | .0538 | .0022 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0081** | **.1171** | **.0196** | **.0232** | **.0098** | **-.0195** | **.0205** | **.2812** | **621.8** |
| Stddev | .0067 | .0022 | .0127 | .0255 | .0246 | .0311 | .0244 | .1419 | 1.0 |
| %RSD | 83.19 | 1.883 | 64.85 | 109.7 | 251.8 | 159.6 | 119.3 | 50.47 | .1645 |
| #1 | .0082 | .1189 | .0069 | -.0060 | .0251 | -.0008 | .0418 | .3459 | 621.3 |
| #2 | .0013 | .1178 | .0323 | .0410 | -.0186 | -.0022 | -.0062 | .3791 | 623.0 |
| #3 | .0147 | .1147 | .0195 | .0346 | .0229 | -.0554 | .0259 | .1184 | 621.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0957** | **-.1725** | **42.17** | **153.8** | **.0580** | **.0109** | **3.562** | **-.0050** | **6.062** |
| Stddev | .0637 | .1641 | .73 | .6 | .0112 | .0028 | .040 | .0032 | .009 |
| %RSD | 66.52 | 95.12 | 1.721 | .4005 | 19.36 | 25.76 | 1.120 | 64.03 | .1423 |
| #1 | .1691 | .0023 | 42.50 | 154.1 | .0706 | .0084 | 3.607 | -.0018 | 6.064 |
| #2 | .0558 | -.3231 | 41.34 | 154.1 | .0544 | .0104 | 3.547 | -.0051 | 6.069 |
| #3 | .0622 | -.1967 | 42.68 | 153.0 | .0491 | .0140 | 3.531 | -.0082 | 6.052 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0080** | **.1304** | **.0046** | **2.423** | **.0030** | **.3157** | **.1191** |
| Stddev | .0041 | .0243 | .0009 | .031 | .0278 | .0146 | .0899 |
| %RSD | 51.52 | 18.61 | 18.33 | 1.263 | 923.6 | 4.614 | 75.50 |
| #1 | .0042 | .1200 | .0047 | 2.391 | -.0125 | .3265 | .1336 |
| #2 | .0074 | .1131 | .0038 | 2.452 | -.0136 | .3214 | .0228 |
| #3 | .0124 | .1582 | .0055 | 2.424 | .0350 | .2991 | .2009 |

Zoom In Zoom Out

Sample Name: mp14899-sd1 Acquired: 5/13/2019 13:36:59 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **154480.** | **26807.** | **6028.0** | **8510.0** |
| Stddev | 508. | 59. | 1.7 | 5.7 |
| %RSD | .32858 | .22044 | .02854 | .06687 |
| #1 | 154460. | 26859. | 6026.1 | 8508.6 |
| #2 | 155000. | 26743. | 6028.7 | 8516.3 |
| #3 | 153990. | 26820. | 6029.3 | 8505.2 |



Zoom In Zoom Out

Sample Name: mp14899-sd1 Acquired: 5/13/2019 13:42:04 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6848** | **-.0001** | **.0006** | **-.0004** | **.0004** | **.0056** | **.0005** | **.0497** | **-.0006** |
| Stddev | .0013 | .0002 | .0006 | .0011 | .0006 | .0013 | .0002 | .0004 | .0018 |
| %RSD | .1899 | 214.4 | 107.5 | 251.4 | 128.4 | 23.36 | 52.15 | .8119 | 277.7 |
| #1 | .6858 | -.0001 | .0012 | .0007 | .0011 | .0059 | .0004 | .0501 | -.0011 |
| #2 | .6853 | -.0002 | .0005 | -.0014 | .0002 | .0042 | .0007 | .0494 | -.0021 |
| #3 | .6834 | .0001 | -.0000 | -.0006 | .0001 | .0067 | .0003 | .0494 | .0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0021** | **.0194** | **.0027** | **.0065** | **-.0008** | **.0014** | **.0066** | **.3495** | **586.3** |
| Stddev | .0029 | .0002 | .0010 | .0006 | .0042 | .0035 | .0110 | .0435 | 4.1 |
| %RSD | 141.0 | .7779 | 36.46 | 8.747 | 526.9 | 259.9 | 166.9 | 12.45 | .6922 |
| #1 | .0000 | .0193 | .0031 | .0066 | -.0019 | -.0015 | .0039 | .3997 | 590.0 |
| #2 | .0008 | .0196 | .0035 | .0059 | -.0043 | .0053 | -.0028 | .3225 | 582.0 |
| #3 | .0054 | .0193 | .0016 | .0070 | .0038 | .0003 | .0188 | .3262 | 586.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0072** | **-.0480** | **36.19** | **143.6** | **.0160** | **.0054** | **1.130** | **-.0027** | **5.911** |
| Stddev | .0096 | .0205 | .23 | .2 | .0024 | .0020 | .008 | .0007 | .006 |
| %RSD | 132.2 | 42.81 | .6311 | .1498 | 15.28 | 38.12 | .7382 | 25.16 | .1106 |
| #1 | .0100 | -.0513 | 36.05 | 143.7 | .0155 | .0053 | 1.121 | -.0019 | 5.914 |
| #2 | -.0034 | -.0260 | 36.45 | 143.8 | .0187 | .0074 | 1.138 | -.0031 | 5.916 |
| #3 | .0152 | -.0667 | 36.07 | 143.4 | .0139 | .0034 | 1.131 | -.0032 | 5.904 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0018** | **.0250** | **.0011** | **2.262** | **-.0054** | **.2231** | **.0398** |
| Stddev | .0019 | .0063 | .0005 | .018 | .0042 | .0055 | .0119 |
| %RSD | 110.1 | 24.99 | 51.19 | .8157 | 79.08 | 2.470 | 29.79 |
| #1 | -.0038 | .0285 | .0014 | 2.246 | -.0009 | .2207 | .0409 |
| #2 | .0001 | .0178 | .0004 | 2.282 | -.0093 | .2294 | .0275 |
| #3 | -.0015 | .0288 | .0014 | 2.258 | -.0059 | .2191 | .0511 |



Zoom In Zoom Out

Sample Name: mp14899-sd1 Acquired: 5/13/2019 13:42:04 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149910.** | **26739.** | **5848.2** | **8045.3** |
| Stddev | 305. | 237. | 16.2 | 15.9 |
| %RSD | .20363 | .88766 | .27641 | .19763 |
| #1 | 149650. | 26759. | 5837.5 | 8030.8 |
| #2 | 149840. | 26492. | 5866.8 | 8062.3 |
| #3 | 150250. | 26965. | 5840.4 | 8042.7 |



Zoom In Zoom Out

Sample Name: mp14899-s1 Acquired: 5/13/2019 13:47:16 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.744** | **2.127** | **1.997** | **2.063** | **2.069** | **2.001** | **2.112** | **2.102** | **.2065** |
| Stddev | .011 | .009 | .004 | .006 | .002 | .004 | .003 | .003 | .0011 |
| %RSD | .3833 | .4468 | .1771 | .2944 | .0983 | .2160 | .1520 | .1325 | .5163 |
| #1 | 2.739 | 2.121 | 2.000 | 2.065 | 2.068 | 2.006 | 2.111 | 2.104 | .2063 |
| #2 | 2.736 | 2.123 | 1.993 | 2.056 | 2.071 | 1.998 | 2.116 | 2.099 | .2077 |
| #3 | 2.756 | 2.138 | 1.997 | 2.068 | 2.067 | 1.999 | 2.110 | 2.103 | .2056 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.084** | **2.005** | **1.997** | **2.084** | **2.045** | **1.980** | **2.005** | **26.65** | **618.0** |
| Stddev | .005 | .002 | .004 | .006 | .005 | .003 | .006 | .18 | 9.1 |
| %RSD | .2626 | .0755 | .2044 | .3126 | .2229 | .1670 | .2804 | .6866 | 1.478 |
| #1 | 2.086 | 2.007 | 2.001 | 2.077 | 2.046 | 1.976 | 2.007 | 26.46 | 608.1 |
| #2 | 2.088 | 2.004 | 1.993 | 2.088 | 2.040 | 1.980 | 1.999 | 26.69 | 626.0 |
| #3 | 2.078 | 2.004 | 1.997 | 2.088 | 2.049 | 1.983 | 2.009 | 26.82 | 620.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.89** | **26.31** | **62.27** | **168.4** | **2.019** | **2.056** | **1.298** | **2.041** | **7.960** |
| Stddev | .06 | .23 | .36 | .6 | .006 | .001 | .002 | .002 | .029 |
| %RSD | .2116 | .8923 | .5768 | .3710 | .2851 | .0579 | .1140 | .1140 | .3706 |
| #1 | 26.84 | 26.22 | 61.91 | 168.1 | 2.025 | 2.057 | 1.300 | 2.039 | 7.938 |
| #2 | 26.87 | 26.13 | 62.27 | 168.0 | 2.018 | 2.055 | 1.297 | 2.042 | 7.947 |
| #3 | 26.95 | 26.57 | 62.63 | 169.1 | 2.014 | 2.057 | 1.299 | 2.043 | 7.993 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.089** | **1.986** | **2.117** | **2.281** | **.1532** | **.2242** | **1.936** |
| Stddev | .002 | .012 | .003 | .005 | .0026 | .0070 | .008 |
| %RSD | .0964 | .6155 | .1366 | .2267 | 1.691 | 3.114 | .4046 |
| #1 | 2.090 | 1.998 | 2.118 | 2.282 | .1542 | .2200 | 1.945 |
| #2 | 2.090 | 1.973 | 2.119 | 2.285 | .1551 | .2204 | 1.932 |
| #3 | 2.087 | 1.987 | 2.114 | 2.275 | .1502 | .2323 | 1.930 |

Zoom In Zoom Out

Sample Name: mp14899-s1 Acquired: 5/13/2019 13:47:16 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149890.** | **26453.** | **5855.2** | **8006.2** |
| Stddev | 196. | 216. | 6.2 | 8.1 |
| %RSD | .13106 | .81667 | .10654 | .10147 |
| #1 | 149880. | 26573. | 5848.0 | 8003.0 |
| #2 | 149700. | 26583. | 5859.0 | 8015.4 |
| #3 | 150090. | 26204. | 5858.6 | 8000.1 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 13:52:17 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.024** | **2.058** | **1.925** | **1.996** | **2.029** | **2.021** | **2.065** | **1.983** | **.2493** |
| Stddev | .002 | .002 | .007 | .006 | .009 | .005 | .004 | .007 | .0010 |
| %RSD | .1001 | .1127 | .3483 | .2810 | .4213 | .2376 | .2196 | .3353 | .3961 |
| #1 | 2.021 | 2.060 | 1.918 | 1.990 | 2.035 | 2.025 | 2.069 | 1.976 | .2497 |
| #2 | 2.024 | 2.059 | 1.931 | 2.000 | 2.034 | 2.023 | 2.065 | 1.988 | .2499 |
| #3 | 2.025 | 2.055 | 1.925 | 1.998 | 2.020 | 2.016 | 2.060 | 1.986 | .2481 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.034** | **1.938** | **1.938** | **2.003** | **1.978** | **1.933** | **1.943** | **40.60** | **40.67** |
| Stddev | .005 | .007 | .010 | .006 | .008 | .006 | .008 | .08 | .05 |
| %RSD | .2520 | .3696 | .4973 | .3225 | .4256 | .3314 | .3952 | .1979 | .1253 |
| #1 | 2.040 | 1.930 | 1.928 | 1.996 | 1.968 | 1.926 | 1.934 | 40.68 | 40.72 |
| #2 | 2.034 | 1.945 | 1.947 | 2.009 | 1.984 | 1.938 | 1.948 | 40.61 | 40.67 |
| #3 | 2.030 | 1.938 | 1.938 | 2.004 | 1.982 | 1.934 | 1.947 | 40.52 | 40.62 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.30** | **40.75** | **40.19** | **40.33** | **1.965** | **1.967** | **4.936** | **1.977** | **2.040** |
| Stddev | .05 | .08 | .08 | .01 | .009 | .007 | .021 | .005 | .001 |
| %RSD | .1319 | .1930 | .2043 | .0138 | .4685 | .3447 | .4217 | .2506 | .0255 |
| #1 | 41.35 | 40.81 | 40.27 | 40.33 | 1.956 | 1.959 | 4.913 | 1.972 | 2.040 |
| #2 | 41.32 | 40.78 | 40.20 | 40.33 | 1.975 | 1.972 | 4.954 | 1.981 | 2.041 |
| #3 | 41.24 | 40.66 | 40.11 | 40.34 | 1.964 | 1.969 | 4.940 | 1.979 | 2.040 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 13:52:17 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **1.929** | **2.070** | **1.902** | **1.956** | **2.009** | **1.833** |
| Stddev | .004 | .009 | .005 | .014 | .008 | .004 | .004 |
| %RSD | .1751 | .4587 | .2235 | .7500 | .4152 | .2213 | .2275 |
| #1 | 2.046 | 1.920 | 2.075 | 1.886 | 1.947 | 2.014 | 1.828 |
| #2 | 2.043 | 1.937 | 2.069 | 1.908 | 1.962 | 2.007 | 1.836 |
| #3 | 2.039 | 1.931 | 2.066 | 1.913 | 1.959 | 2.006 | 1.835 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150560.** | **26782.** | **5932.5** | **8133.1** |
| Stddev | 1117. | 233. | 23.2 | 23.0 |
| %RSD | .74194 | .87045 | .39140 | .28257 |
| #1 | 149560. | 26527. | 5940.7 | 8145.1 |
| #2 | 150340. | 26833. | 5906.2 | 8106.6 |
| #3 | 151770. | 26985. | 5950.4 | 8147.6 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 13:57:10 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0003** | F **.0007** | **.0007** | **.0001** | **.0004** | **.0005** | **.0008** | **-.0002** |
| Stddev | .0002 | .0000 | .0001 | .0002 | .0001 | .0003 | .0000 | .0003 | .0002 |
| %RSD | 51.78 | 13.31 | 20.21 | 30.16 | 114.3 | 82.22 | 5.632 | 30.81 | 116.5 |
| #1 | .0006 | .0003 | .0009 | .0004 | .0000 | .0000 | .0004 | .0011 | .0001 |
| #2 | .0003 | .0003 | .0006 | .0008 | .0002 | .0005 | .0004 | .0008 | -.0003 |
| #3 | .0003 | .0004 | .0007 | .0008 | .0000 | .0007 | .0005 | .0006 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | .0007 | | | | | | |
| Low Limit | | | -.0007 | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0001** | **.0016** | **.0012** | **.0010** | **-.0003** | **.0018** | **.0018** | **.0030** |
| Stddev | .0001 | .0001 | .0002 | .0003 | .0006 | .0013 | .0004 | .0023 | .0028 |
| %RSD | 24.50 | 90.47 | 15.70 | 22.60 | 57.91 | 424.0 | 22.44 | 128.3 | 95.25 |
| #1 | .0004 | .0002 | .0017 | .0011 | .0011 | -.0011 | .0022 | -.0007 | -.0002 |
| #2 | .0006 | .0000 | .0018 | .0015 | .0015 | .0012 | .0017 | .0023 | .0037 |
| #3 | .0007 | .0001 | .0013 | .0009 | .0004 | -.0010 | .0015 | .0037 | .0053 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0074** | **-.0031** | **.1000** | **.1007** | **.0026** | **.0010** | **.0045** | **.0007** | **.0004** |
| Stddev | .0021 | .0026 | .0137 | .0111 | .0003 | .0000 | .0008 | .0007 | .0001 |
| %RSD | 27.76 | 82.87 | 13.74 | 11.02 | 10.75 | 2.887 | 17.06 | 88.34 | 35.72 |
| #1 | .0059 | -.0006 | .0897 | .1117 | .0029 | .0010 | .0048 | .0013 | .0002 |
| #2 | .0067 | -.0058 | .0948 | .1009 | .0026 | .0010 | .0036 | .0000 | .0005 |
| #3 | .0098 | -.0030 | .1156 | .0895 | .0024 | .0010 | .0051 | .0009 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 13:57:10 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0033** | **.0005** | **.0019** | **.0006** | F **.0042** | **.0042** |
| Stddev | .0001 | .0008 | .0001 | .0025 | .0023 | .0004 | .0039 |
| %RSD | 24.38 | 23.35 | 26.54 | 129.9 | 414.5 | 8.874 | 92.39 |
| #1 | .0008 | .0026 | .0004 | .0034 | .0018 | .0046 | .0033 |
| #2 | .0005 | .0032 | .0004 | .0033 | .0020 | .0039 | .0085 |
| #3 | .0005 | .0042 | .0006 | -.0010 | -.0021 | .0042 | .0009 |

| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
|---|---|---|---|---|---|---|---|
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157720.** | **26832.** | **6113.0** | **8769.3** |
| Stddev | 297. | 205. | 20.1 | 25.1 |
| %RSD | .18805 | .76354 | .32896 | .28579 |
| #1 | 157690. | 26896. | 6128.3 | 8782.4 |
| #2 | 158030. | 26603. | 6090.2 | 8740.4 |
| #3 | 157440. | 26997. | 6120.5 | 8785.1 |



Zoom In Zoom Out

Sample Name: mp14899-s2 Acquired: 5/13/2019 14:02:19 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.721** | **2.093** | **1.978** | **2.039** | **2.056** | **1.987** | **2.095** | **2.086** | **.2057** |
| Stddev | .002 | .002 | .004 | .003 | .001 | .002 | .003 | .005 | .0015 |
| %RSD | .0718 | .0960 | .2059 | .1301 | .0695 | .1126 | .1413 | .2199 | .7366 |
| #1 | 2.720 | 2.091 | 1.973 | 2.036 | 2.057 | 1.987 | 2.099 | 2.081 | .2069 |
| #2 | 2.724 | 2.095 | 1.980 | 2.040 | 2.054 | 1.990 | 2.094 | 2.090 | .2040 |
| #3 | 2.721 | 2.094 | 1.980 | 2.042 | 2.056 | 1.985 | 2.093 | 2.089 | .2063 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.068** | **1.990** | **1.977** | **2.065** | **2.030** | **1.956** | **1.993** | **26.10** | **605.1** |
| Stddev | .005 | .007 | .003 | .004 | .015 | .005 | .011 | .04 | 5.0 |
| %RSD | .2233 | .3712 | .1722 | .1967 | .7175 | .2410 | .5649 | .1654 | .8293 |
| #1 | 2.071 | 1.983 | 1.974 | 2.063 | 2.013 | 1.951 | 1.982 | 26.05 | 610.2 |
| #2 | 2.069 | 1.988 | 1.978 | 2.070 | 2.038 | 1.955 | 1.994 | 26.13 | 600.2 |
| #3 | 2.062 | 1.998 | 1.980 | 2.063 | 2.039 | 1.961 | 2.004 | 26.12 | 604.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.42** | **25.78** | **61.40** | **167.4** | **2.000** | **2.040** | **1.301** | **2.020** | **7.918** |
| Stddev | .05 | .03 | .15 | .1 | .002 | .004 | .010 | .002 | .011 |
| %RSD | .1715 | .1064 | .2464 | .0680 | .0940 | .1821 | .7680 | .0808 | .1339 |
| #1 | 26.40 | 25.81 | 61.29 | 167.4 | 1.998 | 2.036 | 1.312 | 2.022 | 7.907 |
| #2 | 26.47 | 25.77 | 61.57 | 167.5 | 2.000 | 2.044 | 1.294 | 2.019 | 7.917 |
| #3 | 26.39 | 25.76 | 61.34 | 167.3 | 2.002 | 2.041 | 1.296 | 2.019 | 7.928 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.075** | **1.962** | **2.115** | **2.253** | **.1553** | **.2209** | **1.856** |
| Stddev | .003 | .008 | .002 | .015 | .0043 | .0041 | .036 |
| %RSD | .1363 | .4282 | .0992 | .6818 | 2.747 | 1.853 | 1.966 |
| #1 | 2.078 | 1.964 | 2.117 | 2.235 | .1513 | .2227 | 1.833 |
| #2 | 2.072 | 1.952 | 2.112 | 2.262 | .1548 | .2237 | 1.837 |
| #3 | 2.074 | 1.969 | 2.115 | 2.261 | .1598 | .2162 | 1.898 |



Zoom In Zoom Out

Sample Name: mp14899-s2 Acquired: 5/13/2019 14:02:19 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149720.** | **26654.** | **5865.9** | **8028.1** |
| Stddev | 676. | 226. | 23.3 | 22.3 |
| %RSD | .45146 | .84907 | .39685 | .27816 |
| #1 | 149230. | 26523. | 5872.3 | 8035.7 |
| #2 | 150490. | 26523. | 5885.3 | 8045.7 |
| #3 | 149440. | 26915. | 5840.1 | 8003.0 |



Zoom In Zoom Out

Sample Name: jc87644-1 Acquired: 5/13/2019 14:07:17 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7059** | **.0003** | **.0002** | **.0017** | **.0013** | **.0075** | **.0010** | **.0493** | **-.0024** |
| Stddev | .0053 | .0003 | .0002 | .0010 | .0023 | .0030 | .0000 | .0003 | .0006 |
| %RSD | .7476 | 96.51 | 105.9 | 59.29 | 170.3 | 39.93 | 3.268 | .6610 | 24.65 |
| #1 | .7018 | .0004 | .0000 | .0005 | .0011 | .0043 | .0009 | .0490 | -.0024 |
| #2 | .7119 | .0005 | .0002 | .0023 | -.0008 | .0102 | .0010 | .0494 | -.0019 |
| #3 | .7042 | -.0000 | .0005 | .0022 | .0037 | .0082 | .0010 | .0496 | -.0031 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0045** | **.0173** | **.0018** | **.0066** | **.0026** | **-.0017** | **.0072** | **.3986** | **610.5** |
| Stddev | .0019 | .0005 | .0014 | .0081 | .0024 | .0075 | .0030 | .0740 | 16.4 |
| %RSD | 40.97 | 2.977 | 73.66 | 122.1 | 90.63 | 428.1 | 41.65 | 18.57 | 2.694 |
| #1 | .0044 | .0167 | .0033 | .0108 | -.0001 | -.0095 | .0078 | .3726 | 598.1 |
| #2 | .0065 | .0175 | .0016 | -.0027 | .0034 | .0054 | .0040 | .3411 | 629.2 |
| #3 | .0028 | .0176 | .0006 | .0118 | .0045 | -.0011 | .0099 | .4821 | 604.2 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0270** | **-.0220** | **36.87** | **147.1** | **.0132** | **.0047** | **1.163** | **-.0009** | **6.072** |
| Stddev | .0026 | .0259 | .21 | .9 | .0019 | .0012 | .002 | .0006 | .035 |
| %RSD | 9.819 | 117.7 | .5573 | .6195 | 14.37 | 24.93 | .1926 | 67.61 | .5833 |
| #1 | .0244 | -.0482 | 36.90 | 146.5 | .0153 | .0039 | 1.163 | -.0009 | 6.052 |
| #2 | .0297 | .0036 | 37.06 | 148.2 | .0124 | .0060 | 1.161 | -.0016 | 6.113 |
| #3 | .0269 | -.0214 | 36.65 | 146.7 | .0118 | .0041 | 1.165 | -.0003 | 6.052 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **.0224** | **.0016** | **2.332** | **-.0004** | **.2407** | **.0528** |
| Stddev | .0012 | .0013 | .0011 | .014 | .0056 | .0055 | .0149 |
| %RSD | 238.9 | 5.967 | 64.75 | .5803 | 1414. | 2.266 | 28.20 |
| #1 | -.0009 | .0228 | .0029 | 2.318 | -.0017 | .2462 | .0644 |
| #2 | -.0014 | .0235 | .0009 | 2.332 | .0057 | .2353 | .0579 |
| #3 | .0008 | .0209 | .0012 | 2.345 | -.0052 | .2407 | .0360 |

Zoom In Zoom Out

Sample Name: jc87644-1 Acquired: 5/13/2019 14:07:17 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148760.** | **26499.** | **5858.9** | **8048.9** |
| Stddev | 1890. | 302. | 23.6 | 24.9 |
| %RSD | 1.2708 | 1.1394 | .40323 | .30936 |
| #1 | 149920. | 26610. | 5886.0 | 8076.7 |
| #2 | 146580. | 26158. | 5842.5 | 8028.8 |
| #3 | 149770. | 26730. | 5848.2 | 8041.1 |



Zoom In Zoom Out

Sample Name: jc87644-2 Acquired: 5/13/2019 14:12:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0798** | **.0002** | **.0003** | **.0005** | **.0016** | **.0058** | **.6942** | **.0021** | **.0005** |
| Stddev | .0007 | .0000 | .0006 | .0002 | .0013 | .0019 | .0037 | .0011 | .0018 |
| %RSD | .9173 | 16.36 | 256.9 | 49.01 | 78.16 | 32.17 | .5279 | 52.96 | 382.2 |
| #1 | .0807 | .0002 | .0009 | .0005 | .0016 | .0079 | .6976 | .0009 | -.0015 |
| #2 | .0794 | .0002 | .0002 | .0002 | .0003 | .0054 | .6947 | .0023 | .0021 |
| #3 | .0794 | .0002 | -.0004 | .0006 | .0029 | .0042 | .6904 | .0031 | .0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0041** | **.0182** | **.0063** | **.0059** | **.0022** | **-.0063** | **.0034** | **.0288** | F **1432.** |
| Stddev | .0016 | .0008 | .0017 | .0028 | .0024 | .0018 | .0064 | .0393 | 6. |
| %RSD | 39.67 | 4.507 | 27.00 | 47.24 | 106.1 | 28.13 | 185.8 | 136.5 | .4096 |
| #1 | .0058 | .0190 | .0067 | .0060 | -.0004 | -.0043 | -.0004 | -.0158 | 1436. |
| #2 | .0042 | .0174 | .0045 | .0030 | .0029 | -.0075 | -.0001 | .0583 | 1425. |
| #3 | .0025 | .0183 | .0079 | .0086 | .0042 | -.0071 | .0108 | .0437 | 1435. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.584** | **76.47** | **29.57** | **967.5** | **.1042** | **.0017** | **6.410** | **-.0065** | **8.085** |
| Stddev | .048 | .61 | .18 | 10.3 | .0019 | .0013 | .076 | .0031 | .051 |
| %RSD | .8655 | .8036 | .6194 | 1.067 | 1.777 | 74.76 | 1.192 | 47.30 | .6354 |
| #1 | 5.629 | 77.04 | 29.59 | 956.0 | .1039 | .0029 | 6.459 | -.0059 | 8.131 |
| #2 | 5.590 | 76.54 | 29.38 | 975.8 | .1026 | .0019 | 6.322 | -.0099 | 8.094 |
| #3 | 5.533 | 75.82 | 29.75 | 970.9 | .1063 | .0004 | 6.449 | -.0038 | 8.030 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0026** | **.0236** | **.0037** | **58.07** | **.0046** | **.1875** | **.0317** |
| Stddev | .0026 | .0068 | .0002 | .75 | .0078 | .0073 | .0246 |
| %RSD | 99.12 | 28.61 | 5.759 | 1.284 | 170.0 | 3.897 | 77.63 |
| #1 | -.0040 | .0270 | .0034 | 58.45 | -.0040 | .1939 | .0512 |
| #2 | -.0040 | .0158 | .0038 | 57.21 | .0066 | .1893 | .0398 |
| #3 | .0004 | .0280 | .0038 | 58.54 | .0112 | .1795 | .0040 |



Zoom In Zoom Out

Sample Name: jc87644-2 Acquired: 5/13/2019 14:12:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141470.** | **25984.** | **5608.1** | **7543.9** |
| Stddev | 409. | 28. | 73.1 | 88.5 |
| %RSD | .28935 | .10748 | 1.3029 | 1.1730 |
| #1 | 141590. | 26013. | 5583.4 | 7515.9 |
| #2 | 141020. | 25957. | 5690.3 | 7643.0 |
| #3 | 141810. | 25981. | 5550.6 | 7472.7 |



Zoom In Zoom Out

Sample Name: jc87644-2 Acquired: 5/13/2019 14:17:52 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0779** | **-.0001** | **-.0019** | **.0006** | **.0023** | **.0081** | **.6791** | **.0152** | **-.0092** |
| Stddev | .0048 | .0002 | .0011 | .0012 | .0049 | .0045 | .0023 | .0039 | .0069 |
| %RSD | 6.142 | 184.5 | 57.12 | 219.9 | 217.0 | 55.55 | .3452 | 25.28 | 74.68 |
| #1 | .0792 | -.0003 | -.0019 | -.0009 | -.0001 | .0055 | .6790 | .0195 | -.0139 |
| #2 | .0818 | -.0001 | -.0008 | .0012 | .0080 | .0132 | .6768 | .0121 | -.0013 |
| #3 | .0726 | .0001 | -.0030 | .0013 | -.0010 | .0055 | .6815 | .0141 | -.0123 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0105** | **.0281** | **.0104** | **-.0015** | **.0370** | **-.0432** | **.0589** | **-.2199** | **1416.** |
| Stddev | .0048 | .0030 | .0031 | .0114 | .0081 | .0162 | .0161 | .3285 | 3. |
| %RSD | 45.45 | 10.86 | 29.54 | 783.4 | 21.86 | 37.38 | 27.25 | 149.4 | .2044 |
| #1 | .0157 | .0299 | .0095 | .0051 | .0411 | -.0458 | .0616 | -.3244 | 1415. |
| #2 | .0063 | .0246 | .0138 | -.0146 | .0276 | -.0260 | .0417 | -.4834 | 1419. |
| #3 | .0094 | .0298 | .0078 | .0052 | .0421 | -.0580 | .0735 | .1481 | 1413. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.322** | **74.91** | **30.83** | **935.8** | **.0936** | **-.0005** | **6.342** | **-.0209** | **7.641** |
| Stddev | .045 | .18 | .15 | 1.8 | .0117 | .0060 | .055 | .0083 | .025 |
| %RSD | .8527 | .2425 | .4849 | .1967 | 12.52 | 1280. | .8661 | 39.73 | .3251 |
| #1 | 5.321 | 74.90 | 30.88 | 935.1 | .1041 | .0064 | 6.398 | -.0189 | 7.636 |
| #2 | 5.368 | 74.73 | 30.95 | 937.9 | .0809 | -.0030 | 6.289 | -.0299 | 7.668 |
| #3 | 5.277 | 75.09 | 30.66 | 934.5 | .0957 | -.0048 | 6.340 | -.0137 | 7.619 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0035** | **.0614** | **.0004** | **55.06** | **-.0166** | **.2719** | **.1263** |
| Stddev | .0106 | .0300 | .0023 | .16 | .0417 | .0278 | .1019 |
| %RSD | 307.2 | 48.83 | 614.9 | .2827 | 250.9 | 10.24 | 80.67 |
| #1 | -.0048 | .0687 | .0006 | 55.11 | -.0622 | .2675 | .0148 |
| #2 | .0078 | .0871 | -.0020 | 55.19 | -.0076 | .3017 | .2145 |
| #3 | -.0133 | .0285 | .0025 | 54.89 | .0198 | .2465 | .1495 |

Zoom In Zoom Out

Sample Name: jc87644-2 Acquired: 5/13/2019 14:17:52 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150490.** | **26600.** | **5913.0** | **8150.0** |
| Stddev | 215. | 72. | 16.9 | 11.4 |
| %RSD | .14291 | .27104 | .28564 | .13932 |
| #1 | 150250. | 26597. | 5896.0 | 8136.9 |
| #2 | 150650. | 26674. | 5913.3 | 8157.6 |
| #3 | 150580. | 26529. | 5929.7 | 8155.4 |



Zoom In Zoom Out

Sample Name: jc87509-11undconf Acquired: 5/13/2019 14:22:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0127** | **.0000** | **.0000** | **.0012** | **6.573** | **.0082** | **.0009** | **.0149** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .025 | .0002 | .0001 | .0002 |
| %RSD | 2.461 | 19.29 | 2423. | 16.41 | .3879 | 2.015 | 7.882 | 1.180 |
| #1 | .0129 | .0000 | -.0001 | .0014 | 6.555 | .0084 | .0008 | .0149 |
| #2 | .0123 | .0000 | -.0001 | .0010 | 6.563 | .0080 | .0008 | .0148 |
| #3 | .0128 | .0000 | .0002 | .0011 | 6.602 | .0082 | .0009 | .0151 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0291** | **.0010** | **.0055** | F **-.0032** | **-.0026** | **.0057** | **-.0020** |
| Stddev | .0002 | .0004 | .0001 | .0001 | .0010 | .0012 | .0014 | .0011 |
| %RSD | 48.84 | 1.214 | 10.10 | 2.723 | 32.12 | 47.84 | 23.94 | 55.50 |
| #1 | -.0002 | .0294 | .0009 | .0053 | -.0020 | -.0020 | .0072 | -.0007 |
| #2 | -.0003 | .0287 | .0011 | .0055 | -.0036 | -.0018 | .0053 | -.0024 |
| #3 | -.0005 | .0292 | .0009 | .0056 | -.0040 | -.0040 | .0045 | -.0027 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6845** | **135.5** | **.0639** | **.0719** | **43.35** | F **304.7** | **.0327** | **.0819** |
| Stddev | .0035 | 1.6 | .0018 | .0002 | .09 | 6.8 | .0001 | .0010 |
| %RSD | .5155 | 1.183 | 2.809 | .3335 | .2013 | 2.218 | .2858 | 1.208 |
| #1 | .6844 | 137.0 | .0621 | .0720 | 43.43 | 312.5 | .0326 | .0830 |
| #2 | .6810 | 135.6 | .0640 | .0716 | 43.36 | 300.4 | .0328 | .0814 |
| #3 | .6881 | 133.8 | .0657 | .0719 | 43.26 | 301.3 | .0327 | .0813 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.49** | **-.0041** | **.7564** | **.0011** | **.1355** | **-.0016** | F **205.0** | **.0014** |
| Stddev | .09 | .0004 | .0003 | .0003 | .0013 | .0001 | 1.5 | .0008 |
| %RSD | .6515 | 10.64 | .0382 | 24.27 | .9454 | 7.003 | .7106 | 56.67 |
| #1 | 13.59 | -.0037 | .7566 | .0012 | .1359 | -.0016 | 206.6 | .0007 |
| #2 | 13.45 | -.0040 | .7564 | .0014 | .1341 | -.0017 | 204.6 | .0012 |
| #3 | 13.43 | -.0045 | .7561 | .0008 | .1366 | -.0015 | 203.7 | .0023 |



Zoom In Zoom Out

Sample Name: jc87509-11undconf Acquired: 5/13/2019 14:22:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0096** | **.1151** |
| Stddev | .0024 | .0031 |
| %RSD | 24.89 | 2.725 |
| #1 | .0091 | .1186 |
| #2 | .0075 | .1126 |
| #3 | .0122 | .1141 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146750.** | **27239.** | **5650.0** | **7624.9** |
| Stddev | 576. | 231. | 41.7 | 47.3 |
| %RSD | .39217 | .84689 | .73883 | .62053 |
| #1 | 147370. | 26973. | 5601.8 | 7570.2 |
| #2 | 146650. | 27360. | 5673.3 | 7652.1 |
| #3 | 146230. | 27384. | 5674.9 | 7652.2 |



Zoom In Zoom Out

Sample Name: jc87509-11fundconf Acquired: 5/13/2019 14:28:16 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0117** | **.0000** | **-.0000** | **.0012** | **7.266** | **.0023** | **-.0008** | **.0152** |
| Stddev | .0001 | .0000 | .0001 | .0003 | .013 | .0002 | .0000 | .0001 |
| %RSD | .4593 | 330.5 | 341.9 | 22.33 | .1776 | 8.167 | 1.027 | .8846 |
| #1 | .0117 | .0000 | -.0002 | .0015 | 7.253 | .0024 | -.0008 | .0151 |
| #2 | .0118 | .0000 | .0001 | .0010 | 7.278 | .0021 | -.0008 | .0153 |
| #3 | .0117 | -.0000 | -.0001 | .0012 | 7.269 | .0023 | -.0008 | .0153 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0316** | **.0006** | **.0053** | F **-.0038** | F **-.0039** | **.0042** | **-.0019** |
| Stddev | .0005 | .0005 | .0001 | .0016 | .0001 | .0009 | .0023 | .0014 |
| %RSD | 108.1 | 1.676 | 14.28 | 30.10 | 3.960 | 24.54 | 55.56 | 71.61 |
| #1 | -.0005 | .0310 | .0007 | .0070 | -.0039 | -.0035 | .0022 | -.0007 |
| #2 | -.0009 | .0319 | .0005 | .0038 | -.0036 | -.0049 | .0067 | -.0034 |
| #3 | .0000 | .0320 | .0006 | .0053 | -.0037 | -.0031 | .0036 | -.0017 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6752** | **129.1** | **-.0130** | **.0540** | **42.52** | F **331.6** | **.0342** | **.0814** |
| Stddev | .0134 | 2.2 | .0007 | .0081 | .03 | 6.1 | .0009 | .0001 |
| %RSD | 1.981 | 1.670 | 5.362 | 14.94 | .0675 | 1.832 | 2.709 | .0993 |
| #1 | .6849 | 128.3 | -.0138 | .0447 | 42.53 | 326.4 | .0351 | .0814 |
| #2 | .6599 | 127.4 | -.0128 | .0594 | 42.49 | 338.3 | .0341 | .0815 |
| #3 | .6807 | 131.5 | -.0125 | .0580 | 42.54 | 330.2 | .0333 | .0813 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.36** | **-.0031** | **.7119** | **-.0021** | **.1341** | **-.0018** | F **199.1** | **.0008** |
| Stddev | .03 | .0007 | .0014 | .0002 | .0005 | .0001 | .4 | .0002 |
| %RSD | .1962 | 21.07 | .1952 | 10.99 | .3940 | 6.539 | .1997 | 29.28 |
| #1 | 13.38 | -.0031 | .7114 | -.0018 | .1337 | -.0018 | 199.3 | .0006 |
| #2 | 13.37 | -.0024 | .7109 | -.0022 | .1339 | -.0017 | 199.3 | .0011 |
| #3 | 13.33 | -.0037 | .7135 | -.0022 | .1347 | -.0019 | 198.6 | .0007 |

Zoom In Zoom Out

Sample Name: jc87509-11fundconf Acquired: 5/13/2019 14:28:16 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0090** | **.1073** |
| Stddev | .0006 | .0026 |
| %RSD | 6.912 | 2.425 |
| #1 | .0083 | .1091 |
| #2 | .0090 | .1043 |
| #3 | .0096 | .1085 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145610.** | **27213.** | **5668.1** | **7652.3** |
| Stddev | 368. | 125. | 3.1 | 7.3 |
| %RSD | .25259 | .45758 | .05420 | .09552 |
| #1 | 145780. | 27103. | 5670.0 | 7651.8 |
| #2 | 145180. | 27348. | 5669.7 | 7659.8 |
| #3 | 145860. | 27187. | 5664.5 | 7645.2 |



Zoom In Zoom Out

Sample Name: jc87644-3 Acquired: 5/13/2019 14:33:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0800** | **.0004** | **.0001** | **-.0003** | **.0055** | **.0040** | **.7026** | **.0026** | **-.0016** |
| Stddev | .0017 | .0003 | .0008 | .0004 | .0019 | .0006 | .0045 | .0016 | .0003 |
| %RSD | 2.090 | 77.22 | 561.1 | 107.7 | 34.79 | 15.54 | .6465 | 61.43 | 17.54 |
| #1 | .0804 | .0007 | -.0001 | -.0007 | .0041 | .0039 | .7069 | .0018 | -.0019 |
| #2 | .0814 | .0002 | -.0005 | .0000 | .0047 | .0046 | .7031 | .0044 | -.0017 |
| #3 | .0781 | .0002 | .0010 | -.0004 | .0076 | .0034 | .6978 | .0015 | -.0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **.0186** | **.0089** | **.0033** | **.0008** | **-.0056** | **.0018** | **.0191** | F **1466.** |
| Stddev | .0016 | .0005 | .0026 | .0044 | .0051 | .0109 | .0024 | .0073 | 25. |
| %RSD | 31.01 | 2.630 | 29.44 | 135.1 | 671.4 | 195.4 | 133.1 | 38.46 | 1.717 |
| #1 | .0060 | .0192 | .0116 | .0066 | -.0020 | .0025 | .0037 | .0234 | 1438. |
| #2 | .0062 | .0183 | .0088 | -.0018 | -.0023 | -.0013 | .0026 | .0233 | 1477. |
| #3 | .0033 | .0184 | .0064 | .0050 | .0067 | -.0179 | -.0009 | .0106 | 1485. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.824** | **77.52** | **32.18** | **952.7** | **.1031** | **.0011** | **6.512** | **-.0033** | **8.212** |
| Stddev | .021 | .18 | .13 | 25.8 | .0012 | .0006 | .082 | .0017 | .034 |
| %RSD | .3616 | .2374 | .4115 | 2.705 | 1.119 | 53.48 | 1.262 | 51.04 | .4154 |
| #1 | 5.844 | 77.66 | 32.32 | 926.0 | .1044 | .0018 | 6.568 | -.0030 | 8.216 |
| #2 | 5.825 | 77.59 | 32.17 | 954.6 | .1022 | .0010 | 6.417 | -.0051 | 8.244 |
| #3 | 5.802 | 77.31 | 32.05 | 977.5 | .1028 | .0006 | 6.549 | -.0018 | 8.176 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **.0200** | **.0001** | **59.42** | **.0007** | **.1843** | **.0634** |
| Stddev | .0012 | .0036 | .0003 | .65 | .0048 | .0124 | .0324 |
| %RSD | 122.1 | 17.76 | 274.8 | 1.088 | 725.3 | 6.721 | 51.05 |
| #1 | -.0005 | .0220 | .0001 | 59.68 | -.0048 | .1761 | .0802 |
| #2 | -.0023 | .0159 | .0005 | 58.68 | .0041 | .1782 | .0840 |
| #3 | -.0001 | .0221 | -.0002 | 59.89 | .0027 | .1985 | .0261 |



Zoom In Zoom Out

Sample Name: jc87644-3 Acquired: 5/13/2019 14:33:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **140740.** | **26102.** | **5570.0** | **7492.0** |
| Stddev | 560. | 114. | 61.6 | 67.5 |
| %RSD | .39812 | .43695 | 1.1065 | .90039 |
| #1 | 141310. | 26209. | 5543.3 | 7461.7 |
| #2 | 140190. | 26115. | 5640.5 | 7569.3 |
| #3 | 140720. | 25982. | 5526.2 | 7444.9 |



Zoom In Zoom Out

Sample Name: jc87644-3 Acquired: 5/13/2019 14:38:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0779** | **.0005** | **.0006** | **-.0036** | **-.0002** | **.0170** | **.6938** | **.0030** | **-.0074** |
| Stddev | .0052 | .0008 | .0028 | .0007 | .0089 | .0032 | .0059 | .0091 | .0147 |
| %RSD | 6.696 | 163.2 | 435.9 | 20.05 | 3923. | 18.99 | .8554 | 305.0 | 198.0 |
| #1 | .0831 | .0014 | -.0013 | -.0043 | -.0090 | .0196 | .6971 | -.0058 | -.0075 |
| #2 | .0727 | -.0002 | -.0006 | -.0029 | -.0005 | .0134 | .6974 | .0124 | .0073 |
| #3 | .0779 | .0003 | .0038 | -.0035 | .0088 | .0181 | .6870 | .0024 | -.0221 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0100** | **.0131** | **.0229** | **.0141** | **.0021** | **.0329** | **.0283** | **-.2532** | **1450.** |
| Stddev | .0019 | .0002 | .0097 | .0092 | .0325 | .0034 | .0149 | .2221 | 2. |
| %RSD | 19.10 | 1.607 | 42.23 | 65.17 | 1564. | 10.29 | 52.51 | 87.70 | .1352 |
| #1 | .0095 | .0133 | .0147 | .0198 | .0392 | .0311 | .0149 | -.4251 | 1448. |
| #2 | .0084 | .0131 | .0205 | .0191 | -.0115 | .0368 | .0444 | -.0025 | 1451. |
| #3 | .0122 | .0129 | .0335 | .0035 | -.0214 | .0308 | .0257 | -.3321 | 1452. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.655** | **76.36** | **35.44** | **957.4** | **.0970** | **.0101** | **6.548** | **-.0295** | **7.853** |
| Stddev | .043 | .11 | .68 | 2.0 | .0211 | .0063 | .072 | .0031 | .010 |
| %RSD | .7533 | .1495 | 1.907 | .2074 | 21.70 | 62.19 | 1.103 | 10.56 | .1329 |
| #1 | 5.605 | 76.31 | 35.95 | 959.3 | .0971 | .0167 | 6.474 | -.0274 | 7.841 |
| #2 | 5.678 | 76.28 | 34.68 | 957.4 | .0759 | .0095 | 6.553 | -.0279 | 7.859 |
| #3 | 5.681 | 76.49 | 35.71 | 955.4 | .1180 | .0041 | 6.618 | -.0331 | 7.859 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0025** | **.0613** | **-.0005** | **57.19** | **-.0100** | **.2754** | **.1004** |
| Stddev | .0108 | .0298 | .0028 | .33 | .0648 | .0306 | .0487 |
| %RSD | 435.3 | 48.64 | 575.2 | .5764 | 649.1 | 11.12 | 48.56 |
| #1 | .0024 | .0709 | .0021 | 57.04 | .0631 | .2493 | .1043 |
| #2 | .0050 | .0852 | -.0034 | 56.97 | -.0602 | .2678 | .0498 |
| #3 | -.0148 | .0279 | -.0001 | 57.57 | -.0329 | .3091 | .1470 |

Zoom In Zoom Out

Sample Name: jc87644-3 Acquired: 5/13/2019 14:38:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149120.** | **26425.** | **5825.3** | **8055.2** |
| Stddev | 670. | 82. | 23.6 | 22.6 |
| %RSD | .44901 | .31059 | .40578 | .28031 |
| #1 | 148480. | 26431. | 5840.5 | 8073.8 |
| #2 | 149080. | 26504. | 5837.3 | 8061.7 |
| #3 | 149810. | 26340. | 5798.1 | 8030.0 |



Zoom In Zoom Out

Sample Name: jc87644-4 Acquired: 5/13/2019 14:44:02 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1277** | **.0013** | **.0005** | **.0034** | **.0007** | **.0010** | **5.057** | **.0042** | **-.0170** |
| Stddev | .0002 | .0002 | .0009 | .0025 | .0007 | .0022 | .169 | .0014 | .0018 |
| %RSD | .1407 | 13.31 | 164.0 | 74.21 | 109.4 | 220.9 | 3.332 | 33.80 | 10.68 |
| #1 | .1279 | .0014 | -.0004 | .0020 | .0009 | -.0014 | 5.146 | .0058 | -.0190 |
| #2 | .1277 | .0011 | .0008 | .0062 | .0012 | .0014 | 5.162 | .0031 | -.0164 |
| #3 | .1275 | .0013 | .0012 | .0018 | -.0002 | .0030 | 4.862 | .0037 | -.0156 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0403** | **.0184** | **.0109** | **-.0005** | **-.0108** | **.0077** | **.1859** | ***** |
| Stddev | .0006 | .0001 | .0018 | .0047 | .0016 | .0050 | .0023 | .0154 | ----- |
| %RSD | 303.2 | .1644 | 9.679 | 43.05 | 291.4 | 46.61 | 29.36 | 8.307 | ----- |
| #1 | -.0009 | .0403 | .0170 | .0074 | -.0021 | -.0053 | .0064 | .1743 | ----- |
| #2 | .0004 | .0402 | .0204 | .0163 | .0010 | -.0152 | .0103 | .1801 | ----- |
| #3 | -.0001 | .0403 | .0179 | .0091 | -.0005 | -.0119 | .0064 | .2035 | ----- |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **21.46** | **375.3** | **443.0** | ***** | **.2438** | **-.0014** | **4.802** | **-.0012** | F **44.11** |
| Stddev | .13 | 1.9 | 2.4 | ----- | .0033 | .0006 | .028 | .0034 | .55 |
| %RSD | .6123 | .5111 | .5345 | ----- | 1.340 | 44.50 | .5804 | 285.5 | 1.236 |
| #1 | 21.51 | 376.2 | 440.3 | ----- | .2476 | -.0021 | 4.824 | .0016 | 44.63 |
| #2 | 21.56 | 376.6 | 444.2 | ----- | .2416 | -.0010 | 4.810 | -.0049 | 43.55 |
| #3 | 21.31 | 373.1 | 444.6 | ----- | .2422 | -.0011 | 4.771 | -.0002 | 44.16 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0412** | **.0111** | **-.0040** | **407.1** | **.0193** | **4.951** | **-.0265** |
| Stddev | .0018 | .0013 | .0013 | 1.7 | .0030 | .032 | .0463 |
| %RSD | 4.388 | 11.69 | 33.21 | .4237 | 15.70 | .6434 | 174.3 |
| #1 | -.0427 | .0124 | -.0025 | 408.8 | .0171 | 4.964 | .0241 |
| #2 | -.0416 | .0112 | -.0048 | 407.2 | .0228 | 4.974 | -.0372 |
| #3 | -.0392 | .0098 | -.0047 | 405.4 | .0181 | 4.915 | -.0665 |



Zoom In Zoom Out

Sample Name: jc87644-4 Acquired: 5/13/2019 14:44:02 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **110290.** | **24017.** | **4421.3** | **5815.1** |
| Stddev | 3582. | 59. | 18.3 | 13.7 |
| %RSD | 3.2479 | .24416 | .41402 | .23573 |
| #1 | 108650. | 24076. | 4430.7 | 5822.6 |
| #2 | 107820. | 23958. | 4400.2 | 5799.3 |
| #3 | 114400. | 24018. | 4433.0 | 5823.4 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 14:49:22 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.055** | **2.092** | **1.956** | **2.027** | **2.066** | **2.060** | **2.106** | **2.010** | **.2539** |
| Stddev | .022 | .021 | .003 | .005 | .014 | .013 | .012 | .004 | .0011 |
| %RSD | 1.051 | .9795 | .1255 | .2369 | .6515 | .6349 | .5632 | .1816 | .4272 |
| #1 | 2.056 | 2.095 | 1.954 | 2.029 | 2.054 | 2.051 | 2.095 | 2.011 | .2537 |
| #2 | 2.033 | 2.070 | 1.958 | 2.030 | 2.064 | 2.053 | 2.103 | 2.012 | .2530 |
| #3 | 2.076 | 2.110 | 1.957 | 2.021 | 2.081 | 2.075 | 2.119 | 2.005 | .2551 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.071** | **1.963** | **1.966** | **2.047** | **2.002** | **1.966** | **1.968** | **41.20** | **41.27** |
| Stddev | .012 | .002 | .001 | .000 | .002 | .002 | .004 | .39 | .41 |
| %RSD | .5882 | .1226 | .0726 | .0215 | .0963 | .0779 | .2101 | .9497 | .9988 |
| #1 | 2.060 | 1.960 | 1.966 | 2.048 | 2.003 | 1.967 | 1.968 | 41.24 | 41.31 |
| #2 | 2.068 | 1.963 | 1.967 | 2.047 | 2.002 | 1.966 | 1.972 | 40.79 | 40.84 |
| #3 | 2.084 | 1.965 | 1.964 | 2.048 | 1.999 | 1.964 | 1.964 | 41.57 | 41.66 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.88** | **41.28** | **41.53** | **41.88** | **1.992** | **2.005** | **5.014** | **2.012** | **2.073** |
| Stddev | .41 | .48 | .35 | .36 | .001 | .002 | .005 | .004 | .020 |
| %RSD | .9907 | 1.152 | .8336 | .8545 | .0604 | .0959 | .0993 | .2098 | .9781 |
| #1 | 41.95 | 41.32 | 41.57 | 42.07 | 1.993 | 2.004 | 5.008 | 2.016 | 2.074 |
| #2 | 41.43 | 40.79 | 41.16 | 41.47 | 1.991 | 2.007 | 5.018 | 2.012 | 2.052 |
| #3 | 42.25 | 41.73 | 41.85 | 42.11 | 1.991 | 2.003 | 5.016 | 2.007 | 2.093 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 14:49:22 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.082** | **1.958** | **2.111** | **1.972** | **1.990** | **2.044** | **1.956** |
| Stddev | .010 | .003 | .014 | .004 | .004 | .021 | .017 |
| %RSD | .4755 | .1540 | .6601 | .2052 | .1925 | 1.048 | .8636 |
| #1 | 2.074 | 1.955 | 2.102 | 1.971 | 1.988 | 2.045 | 1.943 |
| #2 | 2.078 | 1.959 | 2.103 | 1.977 | 1.995 | 2.022 | 1.975 |
| #3 | 2.093 | 1.961 | 2.127 | 1.969 | 1.988 | 2.065 | 1.949 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147500.** | **26482.** | **5836.5** | **7995.0** |
| Stddev | 620. | 261. | 24.5 | 21.7 |
| %RSD | .42044 | .98410 | .42061 | .27143 |
| #1 | 148220. | 26478. | 5855.0 | 8012.8 |
| #2 | 147140. | 26744. | 5845.8 | 8001.4 |
| #3 | 147150. | 26223. | 5808.7 | 7970.8 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 14:54:18 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0004** | F **.0008** | **.0006** | **.0006** | **.0008** | **.0008** | **.0011** | **-.0003** |
| Stddev | .0000 | .0001 | .0003 | .0002 | .0001 | .0001 | .0001 | .0004 | .0005 |
| %RSD | 5.331 | 18.82 | 35.23 | 32.85 | 8.053 | 13.14 | 15.19 | 39.42 | 148.0 |
| #1 | .0006 | .0003 | .0011 | .0007 | .0007 | .0009 | .0006 | .0016 | .0002 |
| #2 | .0005 | .0005 | .0006 | .0007 | .0007 | .0008 | .0008 | .0009 | -.0008 |
| #3 | .0005 | .0004 | .0007 | .0004 | .0006 | .0007 | .0009 | .0009 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | .0007 | | | | | | |
| Low Limit | | | -.0007 | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0002** | **.0011** | F **.0025** | **.0011** | **.0009** | **.0000** | **.0016** | **.0065** |
| Stddev | .0003 | .0002 | .0014 | .0006 | .0014 | .0018 | .0008 | .0077 | .0013 |
| %RSD | 34.18 | 103.9 | 126.1 | 23.42 | 124.8 | 203.6 | 2055. | 492.4 | 19.33 |
| #1 | .0012 | .0005 | .0025 | .0026 | .0026 | .0005 | -.0009 | .0101 | .0071 |
| #2 | .0006 | .0002 | -.0002 | .0018 | .0010 | -.0007 | .0004 | -.0048 | .0050 |
| #3 | .0010 | .0000 | .0010 | .0030 | -.0002 | .0028 | .0006 | -.0006 | .0073 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | .0020 | | | | | |
| Low Limit | | | | -.0020 | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0089** | **-.0023** | F **.6201** | F **1.370** | **.0014** | **.0011** | **.0041** | **.0011** | **.0005** |
| Stddev | .0033 | .0071 | .0329 | .026 | .0003 | .0001 | .0010 | .0006 | .0001 |
| %RSD | 36.79 | 307.3 | 5.302 | 1.906 | 21.64 | 9.949 | 23.57 | 57.84 | 12.97 |
| #1 | .0054 | .0051 | .5840 | 1.393 | .0017 | .0012 | .0048 | .0018 | .0004 |
| #2 | .0119 | -.0090 | .6280 | 1.376 | .0014 | .0012 | .0045 | .0010 | .0005 |
| #3 | .0095 | -.0029 | .6483 | 1.342 | .0011 | .0010 | .0030 | .0006 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | .5000 | 1.000 | | | | | |
| Low Limit | | | -.5000 | -1.000 | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 14:54:18 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0030** | **.0007** | **.0070** | **-.0001** | F **.0057** | **.0019** |
| Stddev | .0002 | .0001 | .0002 | .0011 | .0021 | .0003 | .0019 |
| %RSD | 15.76 | 4.182 | 31.86 | 15.70 | 1739. | 5.065 | 98.92 |
| #1 | .0010 | .0029 | .0006 | .0076 | .0006 | .0058 | .0038 |
| #2 | .0010 | .0030 | .0006 | .0076 | .0015 | .0054 | .0019 |
| #3 | .0013 | .0032 | .0010 | .0057 | -.0025 | .0060 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156660.** | **26819.** | **6100.6** | **8726.4** |
| Stddev | 600. | 50. | 11.4 | 10.9 |
| %RSD | .38302 | .18506 | .18705 | .12479 |
| #1 | 156070. | 26875. | 6101.5 | 8722.6 |
| #2 | 157270. | 26803. | 6111.5 | 8738.7 |
| #3 | 156620. | 26779. | 6088.7 | 8717.9 |



Zoom In Zoom Out

Sample Name: jc87644-4 Acquired: 5/13/2019 14:59:29 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1278** | **.0028** | **.0032** | **.0050** | **.0005** | **.0532** | **5.018** | **.0100** |
| Stddev | .0039 | .0004 | .0023 | .0025 | .0072 | .0050 | .030 | .0113 |
| %RSD | 3.072 | 15.78 | 73.01 | 49.56 | 1321. | 9.331 | .5911 | 113.4 |
| #1 | .1285 | .0033 | .0010 | .0022 | .0081 | .0546 | 5.052 | .0003 |
| #2 | .1313 | .0025 | .0029 | .0061 | -.0061 | .0574 | 5.004 | .0072 |
| #3 | .1235 | .0025 | .0056 | .0068 | -.0004 | .0477 | 4.998 | .0224 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0031** | **.0230** | **.0442** | **.0333** | **.0117** | **.0355** | **.0180** | **.0018** |
| Stddev | .0060 | .0096 | .0026 | .0299 | .0178 | .0326 | .0202 | .0214 |
| %RSD | 193.3 | 41.63 | 5.871 | 89.82 | 151.6 | 91.87 | 111.8 | 1169. |
| #1 | .0020 | .0295 | .0452 | .0621 | .0206 | .0048 | .0001 | -.0024 |
| #2 | -.0015 | .0120 | .0461 | .0354 | -.0087 | .0319 | .0141 | -.0171 |
| #3 | -.0098 | .0274 | .0412 | .0024 | .0233 | .0697 | .0399 | .0250 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0567** | F **11310.** | **21.98** | **403.5** | **336.3** | F **23180.** | **.2497** | **.0040** |
| Stddev | .3047 | 118. | .03 | 1.4 | 2.5 | 289. | .0178 | .0070 |
| %RSD | 537.5 | 1.043 | .1424 | .3512 | .7485 | 1.246 | 7.129 | 172.7 |
| #1 | -.2027 | 11360. | 21.94 | 405.1 | 335.1 | 23520. | .2701 | .0047 |
| #2 | -.0195 | 11170. | 22.01 | 402.6 | 334.6 | 22980. | .2368 | .0107 |
| #3 | .3923 | 11390. | 21.99 | 402.8 | 339.2 | 23060. | .2424 | -.0032 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.565** | **-.0239** | **43.91** | **-.0329** | **.0678** | **-.0058** | **377.6** | **-.0095** |
| Stddev | .021 | .0091 | .08 | .0118 | .0314 | .0058 | 1.7 | .0210 |
| %RSD | .4612 | 37.96 | .1888 | 35.73 | 46.41 | 100.2 | .4595 | 220.4 |
| #1 | 4.579 | -.0340 | 43.95 | -.0422 | .0344 | -.0114 | 379.2 | -.0035 |
| #2 | 4.541 | -.0166 | 43.97 | -.0369 | .0722 | .0002 | 375.8 | .0078 |
| #3 | 4.576 | -.0210 | 43.82 | -.0197 | .0968 | -.0061 | 377.9 | -.0329 |

Zoom In Zoom Out

Sample Name: jc87644-4 Acquired: 5/13/2019 14:59:29 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **4.159** | **.1061** |
| Stddev | .012 | .1138 |
| %RSD | .2826 | 107.3 |
| #1 | 4.168 | .1460 |
| #2 | 4.145 | -.0223 |
| #3 | 4.163 | .1945 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **131270.** | **25364.** | **5258.3** | **6922.9** |
| Stddev | 55. | 289. | 8.8 | 6.8 |
| %RSD | .04152 | 1.1394 | .16693 | .09791 |
| #1 | 131210. | 25085. | 5267.8 | 6929.8 |
| #2 | 131320. | 25662. | 5256.5 | 6922.6 |
| #3 | 131270. | 25344. | 5250.5 | 6916.2 |



Zoom In Zoom Out

Sample Name: jc87644-6 Acquired: 5/13/2019 15:04:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0826** | **.0002** | **.0009** | **-.0006** | **.0032** | **.0037** | **.7286** | **.0009** | **.0004** |
| Stddev | .0017 | .0001 | .0006 | .0002 | .0012 | .0004 | .0346 | .0012 | .0007 |
| %RSD | 2.060 | 63.35 | 63.70 | 33.00 | 38.40 | 11.98 | 4.751 | 125.8 | 168.6 |
| #1 | .0844 | .0001 | .0014 | -.0007 | .0022 | .0041 | .7392 | .0019 | -.0003 |
| #2 | .0825 | .0004 | .0003 | -.0007 | .0046 | .0033 | .6899 | -.0004 | .0012 |
| #3 | .0810 | .0002 | .0008 | -.0003 | .0028 | .0036 | .7566 | .0013 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0039** | **.0161** | **.0026** | **.0124** | **-.0022** | **.0061** | **.0015** | **.0600** | F **1038.** |
| Stddev | .0009 | .0004 | .0048 | .0053 | .0080 | .0043 | .0050 | .0329 | 11. |
| %RSD | 23.97 | 2.507 | 183.8 | 42.43 | 369.6 | 71.41 | 340.6 | 54.84 | 1.082 |
| #1 | .0039 | .0165 | -.0021 | .0136 | .0015 | .0092 | .0072 | .0447 | 1046. |
| #2 | .0048 | .0157 | .0075 | .0066 | .0033 | .0011 | -.0014 | .0376 | 1043. |
| #3 | .0029 | .0161 | .0025 | .0169 | -.0113 | .0079 | -.0014 | .0978 | 1025. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.557** | **40.36** | **71.01** | F **1294.** | **.1296** | **.0014** | **4.142** | **-.0049** | **20.83** |
| Stddev | .122 | .58 | 1.10 | 19. | .0037 | .0003 | .077 | .0028 | .29 |
| %RSD | 1.856 | 1.445 | 1.553 | 1.432 | 2.821 | 23.46 | 1.855 | 56.51 | 1.375 |
| #1 | 6.678 | 40.91 | 71.94 | 1289. | .1338 | .0011 | 4.230 | -.0067 | 21.04 |
| #2 | 6.559 | 40.42 | 71.29 | 1315. | .1278 | .0017 | 4.104 | -.0017 | 20.51 |
| #3 | 6.435 | 39.75 | 69.79 | 1279. | .1272 | .0014 | 4.091 | -.0064 | 20.96 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0018** | **.0211** | **.0002** | **160.8** | **.0001** | **.2534** | **.0321** |
| Stddev | .0017 | .0039 | .0007 | 2.7 | .0042 | .0060 | .0204 |
| %RSD | 96.91 | 18.55 | 283.6 | 1.696 | 4613. | 2.366 | 63.66 |
| #1 | -.0001 | .0248 | .0007 | 164.0 | .0047 | .2565 | .0339 |
| #2 | -.0035 | .0215 | .0006 | 159.5 | -.0010 | .2465 | .0516 |
| #3 | -.0017 | .0170 | -.0006 | 159.0 | -.0034 | .2572 | .0109 |



Zoom In Zoom Out

Sample Name: jc87644-6 Acquired: 5/13/2019 15:04:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141440.** | **26001.** | **5516.4** | **7423.4** |
| Stddev | 5668. | 168. | 85.0 | 99.0 |
| %RSD | 4.0073 | .64491 | 1.5405 | 1.3342 |
| #1 | 139910. | 26177. | 5418.6 | 7309.0 |
| #2 | 147720. | 25980. | 5559.0 | 7477.9 |
| #3 | 136700. | 25844. | 5571.7 | 7483.1 |



Zoom In Zoom Out

Sample Name: jc87644-6 Acquired: 5/13/2019 15:10:19 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0833** | **-.0002** | **.0025** | **-.0002** | **-.0038** | **.0100** | **.7190** | **.0164** | **-.0153** |
| Stddev | .0042 | .0003 | .0018 | .0073 | .0067 | .0092 | .0005 | .0070 | .0155 |
| %RSD | 5.014 | 160.2 | 72.80 | 3959. | 178.9 | 91.84 | .0745 | 42.51 | 101.0 |
| #1 | .0795 | -.0001 | .0044 | .0077 | -.0100 | .0100 | .7185 | .0093 | -.0305 |
| #2 | .0827 | -.0004 | .0025 | -.0065 | .0034 | .0191 | .7190 | .0232 | -.0159 |
| #3 | .0878 | .0001 | .0007 | -.0017 | -.0047 | .0008 | .7196 | .0168 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0067** | **.1518** | **.0074** | **-.0054** | **.0214** | **-.0536** | **.0310** | **.0816** | **1004.** |
| Stddev | .0022 | .0032 | .0169 | .0416 | .0022 | .0410 | .0314 | .1390 | 1. |
| %RSD | 32.97 | 2.137 | 227.9 | 773.2 | 10.41 | 76.49 | 101.3 | 170.3 | .0853 |
| #1 | .0082 | .1499 | -.0118 | .0242 | .0189 | -.0632 | -.0046 | .1000 | 1003. |
| #2 | .0077 | .1555 | .0196 | .0125 | .0221 | -.0890 | .0430 | .2105 | 1005. |
| #3 | .0042 | .1499 | .0144 | -.0529 | .0231 | -.0087 | .0547 | -.0656 | 1005. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.199** | **38.68** | **71.65** | **1286.** | **.1256** | **.0066** | **4.113** | **-.0201** | **19.69** |
| Stddev | .095 | .57 | 1.05 | 2. | .0158 | .0021 | .023 | .0104 | .02 |
| %RSD | 1.536 | 1.485 | 1.472 | .1320 | 12.56 | 32.30 | .5607 | 51.96 | .1257 |
| #1 | 6.103 | 39.31 | 72.43 | 1288. | .1340 | .0056 | 4.136 | -.0084 | 19.66 |
| #2 | 6.293 | 38.55 | 72.07 | 1284. | .1353 | .0090 | 4.115 | -.0284 | 19.69 |
| #3 | 6.202 | 38.18 | 70.45 | 1285. | .1074 | .0051 | 4.089 | -.0234 | 19.71 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0659** | **.0007** | **149.9** | **-.0326** | **.3704** | **-.0012** |
| Stddev | .0099 | .0077 | .0023 | .6 | .0253 | .0268 | .0847 |
| %RSD | 773.8 | 11.76 | 310.3 | .4209 | 77.43 | 7.241 | 6836. |
| #1 | -.0100 | .0574 | -.0019 | 150.6 | -.0047 | .3531 | .0843 |
| #2 | .0052 | .0725 | .0023 | 149.7 | -.0539 | .3569 | -.0029 |
| #3 | .0086 | .0679 | .0018 | 149.5 | -.0392 | .4013 | -.0851 |

Zoom In Zoom Out

Sample Name: jc87644-6 Acquired: 5/13/2019 15:10:19 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149590.** | **26489.** | **5904.2** | **8119.7** |
| Stddev | 511. | 116. | 6.2 | 9.0 |
| %RSD | .34171 | .43776 | .10578 | .11100 |
| #1 | 150180. | 26476. | 5908.0 | 8121.4 |
| #2 | 149310. | 26380. | 5897.0 | 8109.9 |
| #3 | 149280. | 26611. | 5907.7 | 8127.7 |



Zoom In Zoom Out

Sample Name: jc87644-7 Acquired: 5/13/2019 15:15:22 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.12** | **.0010** | **-.0017** | **.0136** | **-.0038** | **.0029** | **32.89** | **.0308** | **-.0143** |
| Stddev | .07 | .0007 | .0005 | .0006 | .0006 | .0008 | .17 | .0036 | .0017 |
| %RSD | .4926 | 65.52 | 28.00 | 4.131 | 16.29 | 27.78 | .5163 | 11.56 | 11.64 |
| #1 | 14.19 | .0018 | -.0021 | .0135 | -.0040 | .0028 | 33.03 | .0284 | -.0146 |
| #2 | 14.13 | .0008 | -.0018 | .0132 | -.0043 | .0038 | 32.95 | .0349 | -.0157 |
| #3 | 14.05 | .0005 | -.0012 | .0143 | -.0031 | .0022 | 32.70 | .0292 | -.0125 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0732** | **.0188** | **.0177** | **.0152** | **.0000** | **-.0027** | **-.0072** | **.1021** | ***** |
| Stddev | .0010 | .0005 | .0091 | .0066 | .0095 | .0085 | .0016 | .0357 | ----- |
| %RSD | 1.414 | 2.689 | 51.31 | 43.66 | 3634000. | 311.4 | 21.74 | 34.92 | ----- |
| #1 | .0743 | .0184 | .0149 | .0088 | -.0095 | -.0007 | -.0057 | .1044 | ----- |
| #2 | .0730 | .0193 | .0279 | .0221 | .0094 | -.0121 | -.0072 | .0654 | ----- |
| #3 | .0723 | .0186 | .0104 | .0146 | .0000 | .0046 | -.0088 | .1366 | ----- |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.666** | **633.2** | **64.64** | F **6691.** | **.0274** | **-.0021** | **5.540** | **-.0019** | F **79.92** |
| Stddev | .012 | 2.5 | 1.19 | 92. | .0017 | .0005 | .019 | .0025 | .77 |
| %RSD | .4596 | .4027 | 1.840 | 1.371 | 6.109 | 21.72 | .3460 | 134.2 | .9610 |
| #1 | 2.680 | 635.9 | 63.39 | 6684. | .0261 | -.0026 | 5.558 | -.0014 | 80.81 |
| #2 | 2.660 | 633.0 | 64.76 | 6787. | .0267 | -.0017 | 5.541 | .0003 | 79.42 |
| #3 | 2.658 | 630.8 | 65.76 | 6604. | .0293 | -.0020 | 5.520 | -.0046 | 79.54 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0338** | **.0052** | **-.0021** | **11.29** | **.0126** | **.9554** | **.1072** |
| Stddev | .0008 | .0052 | .0006 | .04 | .0050 | .0025 | .0435 |
| %RSD | 2.493 | 100.4 | 26.75 | .3678 | 40.16 | .2635 | 40.59 |
| #1 | -.0348 | .0074 | -.0026 | 11.32 | .0171 | .9562 | .0574 |
| #2 | -.0332 | -.0008 | -.0021 | 11.24 | .0134 | .9574 | .1266 |
| #3 | -.0334 | .0090 | -.0015 | 11.29 | .0071 | .9526 | .1377 |



Zoom In Zoom Out

Sample Name: jc87644-7 Acquired: 5/13/2019 15:15:22 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **119870.** | **24232.** | **4738.3** | **6346.4** |
| Stddev | 224. | 18. | 15.0 | 17.2 |
| %RSD | .18667 | .07222 | .31637 | .27179 |
| #1 | 119660. | 24240. | 4721.2 | 6326.5 |
| #2 | 119840. | 24245. | 4745.0 | 6357.2 |
| #3 | 120100. | 24212. | 4748.9 | 6355.5 |



Zoom In Zoom Out

Sample Name: jc87644-7 Acquired: 5/13/2019 15:20:53 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **13.60** | **.0015** | **-.0021** | **.0105** | **.0050** | **.0184** | **33.86** | **.0378** |
| Stddev | .02 | .0010 | .0005 | .0067 | .0044 | .0025 | .14 | .0045 |
| %RSD | .1375 | 62.47 | 24.45 | 63.52 | 88.53 | 13.60 | .4178 | 12.00 |
| #1 | 13.61 | .0006 | -.0027 | .0124 | .0003 | .0158 | 34.01 | .0338 |
| #2 | 13.62 | .0015 | -.0018 | .0161 | .0057 | .0184 | 33.73 | .0370 |
| #3 | 13.58 | .0025 | -.0018 | .0031 | .0091 | .0208 | 33.84 | .0428 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0105** | **.1048** | **.0279** | **.0434** | **.0203** | **-.0024** | **-.0114** | **.0049** |
| Stddev | .0158 | .0026 | .0017 | .0141 | .0450 | .0029 | .0190 | .0258 |
| %RSD | 150.6 | 2.466 | 6.025 | 32.46 | 221.4 | 119.9 | 167.2 | 524.8 |
| #1 | -.0236 | .1078 | .0267 | .0379 | .0239 | -.0051 | .0097 | .0306 |
| #2 | -.0148 | .1038 | .0299 | .0330 | -.0263 | -.0029 | -.0167 | .0050 |
| #3 | .0070 | .1029 | .0273 | .0595 | .0634 | .0007 | -.0271 | -.0209 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2624** | F **10510.** | **2.457** | **656.7** | **61.30** | F **7423.** | **.0141** | **.0037** |
| Stddev | .2761 | 110. | .024 | .4 | 1.25 | 38. | .0101 | .0066 |
| %RSD | 105.2 | 1.044 | .9934 | .0535 | 2.037 | .5159 | 71.72 | 179.0 |
| #1 | .3628 | 10480. | 2.430 | 656.4 | 60.18 | 7467. | .0025 | .0058 |
| #2 | .4743 | 10420. | 2.476 | 656.5 | 62.65 | 7405. | .0209 | .0090 |
| #3 | -.0498 | 10630. | 2.467 | 657.1 | 61.06 | 7397. | .0190 | -.0037 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.222** | **-.0110** | **80.37** | **-.0263** | **.0805** | **-.0070** | **9.732** | **.0356** |
| Stddev | .032 | .0103 | 2.21 | .0049 | .0168 | .0012 | .017 | .0427 |
| %RSD | .6132 | 93.52 | 2.743 | 18.74 | 20.91 | 17.07 | .1782 | 119.9 |
| #1 | 5.228 | .0001 | 81.61 | -.0311 | .0766 | -.0082 | 9.750 | .0474 |
| #2 | 5.187 | -.0130 | 77.83 | -.0266 | .0659 | -.0070 | 9.715 | -.0117 |
| #3 | 5.250 | -.0201 | 81.69 | -.0213 | .0989 | -.0058 | 9.732 | .0712 |

Zoom In Zoom Out

Sample Name: jc87644-7 Acquired: 5/13/2019 15:20:53 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.7721** | **.0089** |
| Stddev | .0083 | .0553 |
| %RSD | 1.080 | 625.0 |
| #1 | .7633 | -.0549 |
| #2 | .7731 | .0442 |
| #3 | .7798 | .0372 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138010.** | **25506.** | **5437.1** | **7284.0** |
| Stddev | 690. | 150. | 12.9 | 12.8 |
| %RSD | .49997 | .58924 | .23675 | .17622 |
| #1 | 137230. | 25508. | 5435.7 | 7287.0 |
| #2 | 138540. | 25656. | 5450.6 | 7295.1 |
| #3 | 138250. | 25355. | 5425.0 | 7270.0 |



Zoom In Zoom Out

Sample Name: jc87644-8 Acquired: 5/13/2019 15:26:22 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0361** | **.0007** | **.0023** | **-.0002** | **.0068** | **.0015** | **2.536** | **.0028** |
| Stddev | .0011 | .0003 | .0004 | .0011 | .0009 | .0013 | .005 | .0012 |
| %RSD | 2.915 | 36.18 | 18.22 | 562.4 | 12.64 | 86.26 | .2049 | 42.56 |
| #1 | .0365 | .0005 | .0027 | -.0004 | .0060 | .0020 | 2.536 | .0031 |
| #2 | .0368 | .0010 | .0024 | -.0011 | .0066 | .0024 | 2.532 | .0015 |
| #3 | .0349 | .0007 | .0019 | .0010 | .0077 | .0000 | 2.542 | .0039 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0151** | **.0195** | **-.0061** | F **-.0163** | **-.0144** | **.0145** | **-.0035** |
| Stddev | .0013 | .0012 | .0004 | .0050 | .0145 | .0091 | .0081 | .0078 |
| %RSD | 68.85 | 8.227 | 2.228 | 82.70 | 88.92 | 63.59 | 55.70 | 223.3 |
| #1 | .0029 | .0137 | .0190 | -.0107 | -.0240 | -.0073 | .0069 | .0004 |
| #2 | .0004 | .0160 | .0198 | -.0008 | -.0253 | -.0247 | .0230 | .0016 |
| #3 | .0023 | .0157 | .0198 | -.0067 | .0004 | -.0112 | .0136 | -.0124 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2081** | F **2341.** | **3.261** | **446.3** | **867.1** | ***** | **2.652** | **.0014** |
| Stddev | .1055 | 21. | .015 | 1.2 | 6.7 | ----- | .007 | .0016 |
| %RSD | 50.68 | .9131 | .4554 | .2596 | .7701 | ----- | .2743 | 116.7 |
| #1 | .2283 | 2364. | 3.253 | 446.7 | 859.5 | ----- | 2.661 | -.0003 |
| #2 | .3020 | 2322. | 3.278 | 447.3 | 871.9 | ----- | 2.648 | .0029 |
| #3 | .0940 | 2336. | 3.251 | 445.0 | 870.0 | ----- | 2.648 | .0015 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.764** | **-.0051** | F **53.02** | **-.0075** | **.0514** | **.0006** | F **1238.** | **.0125** |
| Stddev | .004 | .0022 | .20 | .0003 | .0021 | .0006 | 1. | .0044 |
| %RSD | .2019 | 42.32 | .3732 | 4.546 | 3.998 | 104.6 | .1011 | 34.69 |
| #1 | 1.760 | -.0071 | 52.82 | -.0079 | .0504 | .0004 | 1238. | .0077 |
| #2 | 1.766 | -.0054 | 53.03 | -.0076 | .0501 | .0001 | 1237. | .0160 |
| #3 | 1.766 | -.0028 | 53.21 | -.0072 | .0538 | .0013 | 1240. | .0140 |



Zoom In Zoom Out

Sample Name: jc87644-8 Acquired: 5/13/2019 15:26:22 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **11.29** | **.2560** |
| Stddev | .02 | .0276 |
| %RSD | .2021 | 10.78 |
| #1 | 11.28 | .2845 |
| #2 | 11.32 | .2542 |
| #3 | 11.28 | .2294 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **105840.** | **24309.** | **4272.1** | **5439.2** |
| Stddev | 356. | 135. | 3.6 | 5.3 |
| %RSD | .33652 | .55646 | .08404 | .09746 |
| #1 | 105560. | 24234. | 4268.2 | 5433.6 |
| #2 | 106240. | 24229. | 4275.1 | 5444.1 |
| #3 | 105710. | 24466. | 4273.2 | 5439.9 |



Zoom In Zoom Out

Sample Name: jc87644-8 Acquired: 5/13/2019 15:31:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0450** | **.0007** | **-.0015** | **-.0005** | **.0061** | **.0258** | **2.640** | **.0086** | **.0003** |
| Stddev | .0104 | .0003 | .0037 | .0032 | .0037 | .0064 | .004 | .0078 | .0088 |
| %RSD | 23.10 | 47.14 | 251.5 | 663.0 | 60.22 | 24.75 | .1430 | 90.43 | 3470. |
| #1 | .0400 | .0003 | -.0042 | -.0024 | .0052 | .0230 | 2.636 | .0009 | .0072 |
| #2 | .0570 | .0008 | .0027 | .0033 | .0101 | .0213 | 2.642 | .0083 | -.0096 |
| #3 | .0382 | .0010 | -.0030 | -.0023 | .0029 | .0331 | 2.643 | .0165 | .0032 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0222** | **.0297** | **.0154** | **.0117** | **.0019** | **-.0138** | **.0236** | **.4534** | **2548.** |
| Stddev | .0069 | .0014 | .0547 | .0335 | .0273 | .0093 | .0220 | .0569 | 22. |
| %RSD | 31.10 | 4.654 | 355.7 | 286.4 | 1438. | 67.79 | 93.31 | 12.54 | .8676 |
| #1 | .0169 | .0313 | .0716 | .0043 | .0327 | -.0030 | .0490 | .5190 | 2523. |
| #2 | .0300 | .0287 | -.0376 | .0483 | -.0076 | -.0187 | .0090 | .4215 | 2561. |
| #3 | .0196 | .0291 | .0121 | -.0175 | -.0194 | -.0197 | .0129 | .4197 | 2562. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.367** | **491.1** | **682.9** | ***** | **2.561** | **-.0032** | **1.656** | **-.0200** | **54.21** |
| Stddev | .030 | 1.3 | 1.2 | ----- | .067 | .0016 | .092 | .0116 | .09 |
| %RSD | .8967 | .2579 | .1707 | ----- | 2.610 | 50.86 | 5.571 | 57.66 | .1575 |
| #1 | 3.388 | 491.7 | 682.4 | ----- | 2.595 | -.0050 | 1.732 | -.0134 | 54.22 |
| #2 | 3.381 | 491.9 | 684.3 | ----- | 2.605 | -.0019 | 1.683 | -.0133 | 54.28 |
| #3 | 3.333 | 489.6 | 682.1 | 42230. | 2.484 | -.0026 | 1.553 | -.0334 | 54.12 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0021** | **.0925** | **-.0067** | **1196.** | **-.0084** | **9.533** | **.0420** |
| Stddev | .0084 | .0108 | .0029 | 34. | .0365 | .029 | .1246 |
| %RSD | 403.8 | 11.70 | 43.58 | 2.860 | 432.5 | .2987 | 296.5 |
| #1 | .0029 | .0826 | -.0080 | 1218. | .0234 | 9.566 | -.1019 |
| #2 | .0100 | .1041 | -.0034 | 1214. | -.0005 | 9.521 | .1145 |
| #3 | -.0067 | .0909 | -.0088 | 1156. | -.0483 | 9.513 | .1134 |

Zoom In Zoom Out

Sample Name: jc87644-8 Acquired: 5/13/2019 15:31:46 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **127400.** | **25096.** | **5260.5** | **6863.5** |
| Stddev | 250. | 50. | 144.4 | 154.8 |
| %RSD | .19612 | .20007 | 2.7450 | 2.2548 |
| #1 | 127660. | 25128. | 5167.9 | 6766.2 |
| #2 | 127160. | 25038. | 5186.8 | 6782.5 |
| #3 | 127390. | 25123. | 5426.9 | 7042.0 |



Zoom In Zoom Out

Sample Name: jc87653-1 Acquired: 5/13/2019 15:37:04 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4416** | **-.0001** | **-.0007** | **.0055** | **.0085** | **.0035** | **.5054** | **.0206** | **-.0021** |
| Stddev | .0013 | .0002 | .0002 | .0008 | .0007 | .0009 | .0054 | .0016 | .0016 |
| %RSD | .2857 | 175.8 | 31.20 | 14.92 | 7.965 | 26.90 | 1.060 | 7.848 | 74.65 |
| #1 | .4403 | .0001 | -.0005 | .0054 | .0093 | .0026 | .5083 | .0216 | -.0007 |
| #2 | .4417 | -.0002 | -.0009 | .0048 | .0080 | .0033 | .5086 | .0188 | -.0038 |
| #3 | .4428 | -.0002 | -.0006 | .0064 | .0084 | .0045 | .4992 | .0215 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **.0128** | **.0024** | **-.0001** | **.0011** | **-.0032** | **.0085** | **.0273** | **170.4** |
| Stddev | .0016 | .0013 | .0051 | .0060 | .0026 | .0046 | .0029 | .0236 | .5 |
| %RSD | 31.27 | 10.45 | 214.2 | 6975. | 242.9 | 145.8 | 34.01 | 86.53 | .2938 |
| #1 | .0065 | .0135 | .0076 | -.0049 | .0025 | .0005 | .0107 | .0285 | 170.9 |
| #2 | .0034 | .0112 | .0024 | .0067 | .0026 | -.0016 | .0052 | .0031 | 170.2 |
| #3 | .0051 | .0136 | -.0027 | -.0020 | -.0019 | -.0083 | .0097 | .0502 | 169.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.685** | **67.25** | **115.6** | **538.9** | **1.590** | **.0022** | **14.29** | **.0033** | **1.328** |
| Stddev | .020 | .05 | .8 | 9.3 | .041 | .0009 | .35 | .0021 | .001 |
| %RSD | .5427 | .0698 | .6955 | 1.719 | 2.601 | 42.26 | 2.416 | 63.23 | .0834 |
| #1 | 3.706 | 67.22 | 116.5 | 532.4 | 1.608 | .0013 | 14.44 | .0046 | 1.330 |
| #2 | 3.680 | 67.31 | 115.6 | 534.7 | 1.543 | .0021 | 13.89 | .0009 | 1.328 |
| #3 | 3.667 | 67.23 | 114.9 | 549.5 | 1.619 | .0032 | 14.53 | .0042 | 1.327 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0072** | **.0121** | **.0024** | **37.19** | **-.0050** | **.0706** | **.2839** |
| Stddev | .0010 | .0037 | .0004 | .99 | .0074 | .0068 | .0144 |
| %RSD | 13.74 | 30.52 | 17.95 | 2.673 | 147.3 | 9.649 | 5.071 |
| #1 | .0067 | .0079 | .0029 | 37.69 | -.0127 | .0704 | .2673 |
| #2 | .0066 | .0133 | .0022 | 36.04 | -.0045 | .0639 | .2913 |
| #3 | .0083 | .0150 | .0021 | 37.83 | .0021 | .0775 | .2931 |



Zoom In Zoom Out

Sample Name: jc87653-1 Acquired: 5/13/2019 15:37:04 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150210.** | **26665.** | **5901.1** | **8020.1** |
| Stddev | 1328. | 79. | 107.9 | 121.3 |
| %RSD | .88433 | .29632 | 1.8281 | 1.5125 |
| #1 | 149790. | 26575. | 5867.9 | 7973.5 |
| #2 | 149150. | 26720. | 6021.7 | 8157.8 |
| #3 | 151700. | 26701. | 5813.7 | 7929.1 |



Zoom In Zoom Out

Sample Name: jc87414-10r Acquired: 5/13/2019 15:42:14 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9883** | **.0002** | **.0093** | **.0117** | **.0054** | **.0536** | **.1492** | **.0385** | **-.0006** |
| Stddev | .0087 | .0001 | .0013 | .0013 | .0012 | .0010 | .0008 | .0009 | .0009 |
| %RSD | .8791 | 79.13 | 13.76 | 10.93 | 22.39 | 1.807 | .5395 | 2.421 | 151.6 |
| #1 | .9970 | .0002 | .0107 | .0123 | .0044 | .0545 | .1500 | .0381 | -.0012 |
| #2 | .9883 | .0003 | .0091 | .0126 | .0051 | .0537 | .1493 | .0396 | -.0011 |
| #3 | .9796 | .0000 | .0082 | .0103 | .0068 | .0526 | .1484 | .0379 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0032** | **1.211** | **.0136** | **.0091** | **.1052** | **-.0070** | **.0070** | **.3147** | **97.38** |
| Stddev | .0011 | .011 | .0035 | .0034 | .0025 | .0033 | .0072 | .0271 | .65 |
| %RSD | 34.25 | .9259 | 25.79 | 37.65 | 2.335 | 46.73 | 103.6 | 8.607 | .6714 |
| #1 | .0042 | 1.222 | .0113 | .0054 | .1080 | -.0076 | -.0011 | .3305 | 97.99 |
| #2 | .0035 | 1.212 | .0176 | .0121 | .1033 | -.0034 | .0129 | .3302 | 97.46 |
| #3 | .0020 | 1.200 | .0118 | .0099 | .1042 | -.0099 | .0091 | .2834 | 96.69 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2045** | **37.55** | **9.371** | F **1221.** | **.2154** | **.0008** | **4.132** | **-.0013** | **.4186** |
| Stddev | .0086 | .24 | .131 | 7. | .0009 | .0004 | .051 | .0020 | .0023 |
| %RSD | 4.230 | .6385 | 1.397 | .5407 | .4068 | 53.76 | 1.234 | 148.2 | .5561 |
| #1 | .2134 | 37.78 | 9.365 | 1224. | .2164 | .0004 | 4.182 | -.0034 | .4210 |
| #2 | .1961 | 37.57 | 9.505 | 1214. | .2150 | .0007 | 4.133 | .0004 | .4182 |
| #3 | .2038 | 37.30 | 9.244 | 1227. | .2148 | .0013 | 4.080 | -.0009 | .4164 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0099** | **.0082** | **-.0002** | **1.468** | **-.0072** | **.0465** | **.2504** |
| Stddev | .0019 | .0030 | .0007 | .027 | .0102 | .0022 | .0124 |
| %RSD | 18.80 | 36.01 | 350.9 | 1.835 | 142.1 | 4.692 | 4.964 |
| #1 | .0120 | .0059 | -.0005 | 1.496 | -.0071 | .0449 | .2615 |
| #2 | .0091 | .0072 | .0006 | 1.465 | -.0174 | .0489 | .2370 |
| #3 | .0085 | .0116 | -.0007 | 1.442 | .0030 | .0456 | .2527 |

Zoom In Zoom Out

Sample Name: jc87414-10r Acquired: 5/13/2019 15:42:14 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144810.** | **26207.** | **5760.1** | **7757.9** |
| Stddev | 190. | 192. | 9.4 | 8.9 |
| %RSD | .13119 | .73200 | .16261 | .11432 |
| #1 | 144700. | 26428. | 5763.6 | 7749.8 |
| #2 | 145030. | 26097. | 5749.5 | 7756.5 |
| #3 | 144690. | 26095. | 5767.2 | 7767.4 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 15:47:27 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.055** | **2.079** | **1.983** | **2.030** | **2.064** | **2.055** | **2.086** | **2.029** | **.2538** |
| Stddev | .004 | .004 | .042 | .035 | .007 | .007 | .032 | .034 | .0005 |
| %RSD | .1728 | .2055 | 2.138 | 1.700 | .3235 | .3450 | 1.538 | 1.665 | .2056 |
| #1 | 2.050 | 2.079 | 1.955 | 2.006 | 2.070 | 2.063 | 2.099 | 2.007 | .2544 |
| #2 | 2.057 | 2.083 | 2.032 | 2.070 | 2.065 | 2.053 | 2.109 | 2.068 | .2534 |
| #3 | 2.056 | 2.075 | 1.963 | 2.014 | 2.057 | 2.050 | 2.049 | 2.013 | .2537 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.057** | **1.996** | **1.988** | **2.056** | **2.024** | **1.981** | **1.995** | **41.03** | **41.22** |
| Stddev | .005 | .041 | .043 | .036 | .033 | .044 | .042 | .07 | .10 |
| %RSD | .2384 | 2.065 | 2.152 | 1.756 | 1.649 | 2.247 | 2.121 | .1670 | .2321 |
| #1 | 2.062 | 1.966 | 1.958 | 2.032 | 1.998 | 1.949 | 1.967 | 40.99 | 41.16 |
| #2 | 2.056 | 2.043 | 2.037 | 2.097 | 2.062 | 2.032 | 2.043 | 41.11 | 41.33 |
| #3 | 2.052 | 1.979 | 1.970 | 2.039 | 2.012 | 1.962 | 1.973 | 41.00 | 41.17 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.51** | **41.27** | **41.04** | **40.57** | **2.016** | **2.014** | **5.076** | **2.027** | **2.070** |
| Stddev | .09 | .10 | .14 | .11 | .043 | .044 | .112 | .047 | .003 |
| %RSD | .2237 | .2340 | .3368 | .2594 | 2.116 | 2.169 | 2.199 | 2.296 | .1241 |
| #1 | 41.47 | 41.17 | 41.00 | 40.46 | 1.985 | 1.983 | 4.999 | 1.994 | 2.067 |
| #2 | 41.61 | 41.36 | 41.20 | 40.67 | 2.065 | 2.064 | 5.204 | 2.080 | 2.072 |
| #3 | 41.44 | 41.29 | 40.93 | 40.58 | 1.999 | 1.995 | 5.025 | 2.007 | 2.070 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 15:47:27 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.075** | **1.976** | **2.109** | **1.964** | **2.002** | **2.024** | **2.008** |
| Stddev | .005 | .039 | .005 | .038 | .037 | .002 | .040 |
| %RSD | .2553 | 1.960 | .2391 | 1.918 | 1.862 | .0935 | 1.978 |
| #1 | 2.081 | 1.951 | 2.114 | 1.937 | 1.978 | 2.022 | 1.971 |
| #2 | 2.073 | 2.021 | 2.109 | 2.007 | 2.045 | 2.026 | 2.050 |
| #3 | 2.071 | 1.956 | 2.104 | 1.948 | 1.984 | 2.024 | 2.003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148440.** | **26086.** | **5790.7** | **7984.6** |
| Stddev | 298. | 230. | 104.5 | 113.7 |
| %RSD | .20079 | .88186 | 1.8053 | 1.4243 |
| #1 | 148320. | 26337. | 5863.8 | 8063.8 |
| #2 | 148210. | 25886. | 5671.0 | 7854.3 |
| #3 | 148770. | 26034. | 5837.4 | 8035.8 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 15:52:29 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0004** | **.0007** | **.0006** | **.0002** | **.0006** | **.0005** | **.0008** | **-.0003** |
| Stddev | .0002 | .0000 | .0000 | .0002 | .0002 | .0002 | .0000 | .0003 | .0003 |
| %RSD | 35.38 | 5.190 | 5.223 | 35.55 | 104.0 | 26.32 | 2.040 | 35.22 | 97.58 |
| #1 | .0007 | .0004 | .0007 | .0008 | -.0000 | .0004 | .0005 | .0006 | -.0006 |
| #2 | .0003 | .0005 | .0007 | .0005 | .0002 | .0007 | .0005 | .0011 | -.0001 |
| #3 | .0005 | .0005 | .0006 | .0005 | .0003 | .0008 | .0005 | .0006 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0001** | **.0011** | **.0010** | **.0011** | **.0009** | **.0018** | **.0090** | **.0055** |
| Stddev | .0001 | .0002 | .0010 | .0008 | .0004 | .0006 | .0012 | .0138 | .0012 |
| %RSD | 24.11 | 208.7 | 93.32 | 81.29 | 40.45 | 63.54 | 68.27 | 152.3 | 21.53 |
| #1 | .0008 | .0000 | .0001 | .0006 | .0015 | .0006 | .0032 | .0168 | .0069 |
| #2 | .0005 | .0002 | .0011 | .0019 | .0010 | .0005 | .0012 | .0172 | .0052 |
| #3 | .0005 | -.0000 | .0021 | .0004 | .0007 | .0016 | .0009 | -.0069 | .0046 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0097** | **-.0037** | **.3415** | F **1.368** | **.0013** | **.0008** | **.0048** | **.0007** | **.0005** |
| Stddev | .0018 | .0064 | .0016 | .018 | .0004 | .0001 | .0007 | .0005 | .0001 |
| %RSD | 18.47 | 172.1 | .4752 | 1.293 | 27.61 | 14.82 | 13.67 | 65.81 | 13.39 |
| #1 | .0115 | .0008 | .3431 | 1.388 | .0011 | .0008 | .0054 | .0002 | .0005 |
| #2 | .0097 | -.0110 | .3399 | 1.359 | .0011 | .0007 | .0041 | .0010 | .0004 |
| #3 | .0080 | -.0009 | .3415 | 1.356 | .0017 | .0009 | .0048 | .0010 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | 1.000 | | | | | |
| Low Limit | | | | -1.000 | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 15:52:29 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0020** | **.0006** | **.0044** | **.0002** | F **.0055** | **-.0055** |
| Stddev | .0004 | .0005 | .0000 | .0032 | .0007 | .0025 | .0017 |
| %RSD | 62.11 | 25.31 | 2.934 | 72.68 | 460.7 | 44.57 | 31.27 |
| #1 | .0011 | .0022 | .0006 | .0074 | .0006 | .0073 | -.0048 |
| #2 | .0004 | .0024 | .0006 | .0010 | -.0007 | .0065 | -.0042 |
| #3 | .0004 | .0014 | .0006 | .0049 | .0006 | .0027 | -.0075 |

| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
|---|---|---|---|---|---|---|---|
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157040.** | **26597.** | **6116.1** | **8777.4** |
| Stddev | 913. | 147. | 3.5 | 7.3 |
| %RSD | .58153 | .55409 | .05647 | .08327 |
| #1 | 157730. | 26609. | 6116.8 | 8772.4 |
| #2 | 156010. | 26737. | 6119.2 | 8785.8 |
| #3 | 157390. | 26443. | 6112.4 | 8774.1 |



Zoom In Zoom Out

Sample Name: jc85400-9 Acquired: 5/13/2019 15:57:39 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **-.0001** | **-.0002** | **.0001** | **.0002** | **.0001** | **.0002** | **-.0001** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0002 | .0000 | .0002 | .0003 |
| %RSD | 147.5 | 81.79 | 139.0 | 87.17 | 165.6 | 103.6 | 30.64 | 73.96 | 216.8 |
| #1 | -.0000 | -.0001 | .0001 | -.0002 | .0002 | .0004 | .0001 | .0002 | -.0000 |
| #2 | -.0001 | -.0001 | -.0002 | -.0003 | -.0001 | .0001 | .0001 | .0004 | .0001 |
| #3 | .0000 | -.0000 | -.0001 | -.0000 | .0003 | .0000 | .0001 | .0001 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0007** | **-.0001** | **.0003** | **.0009** | **-.0008** | **.0006** | **.0033** | **.0361** |
| Stddev | .0001 | .0000 | .0009 | .0010 | .0002 | .0005 | .0009 | .0145 | .0011 |
| %RSD | 35.65 | 1.351 | 624.0 | 332.1 | 17.77 | 62.92 | 141.8 | 442.5 | 3.077 |
| #1 | .0002 | .0007 | .0002 | .0000 | .0010 | -.0013 | .0015 | -.0098 | .0373 |
| #2 | .0001 | .0007 | .0005 | -.0005 | .0010 | -.0009 | .0006 | .0188 | .0350 |
| #3 | .0002 | .0007 | -.0011 | .0014 | .0007 | -.0003 | -.0002 | .0008 | .0361 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0021** | **-.0072** | **.2530** | **1.335** | **.0030** | **.0003** | **.0119** | **.0004** | **.0001** |
| Stddev | .0013 | .0045 | .0406 | .009 | .0002 | .0001 | .0010 | .0006 | .0000 |
| %RSD | 62.61 | 62.47 | 16.05 | .7115 | 6.428 | 40.28 | 8.377 | 152.8 | 28.56 |
| #1 | .0027 | -.0033 | .2957 | 1.342 | .0031 | .0004 | .0129 | .0005 | .0001 |
| #2 | .0029 | -.0122 | .2149 | 1.324 | .0030 | .0004 | .0109 | -.0003 | .0001 |
| #3 | .0006 | -.0062 | .2485 | 1.339 | .0028 | .0002 | .0118 | .0008 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0009** | **.0002** | **.0283** | **-.0013** | **.0040** | **-.0034** |
| Stddev | .0002 | .0007 | .0002 | .0019 | .0010 | .0008 | .0026 |
| %RSD | 57.58 | 74.76 | 115.7 | 6.536 | 79.17 | 18.99 | 77.71 |
| #1 | .0006 | .0003 | .0000 | .0264 | -.0002 | .0047 | -.0041 |
| #2 | .0003 | .0016 | .0004 | .0301 | -.0022 | .0042 | -.0056 |
| #3 | .0002 | .0008 | .0001 | .0285 | -.0014 | .0032 | -.0005 |



Zoom In Zoom Out

Sample Name: jc85400-9 Acquired: 5/13/2019 15:57:39 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158470.** | **26832.** | **6091.3** | **8736.1** |
| Stddev | 394. | 171. | 123.2 | 150.4 |
| %RSD | .24833 | .63794 | 2.0219 | 1.7214 |
| #1 | 158220. | 26816. | 5949.2 | 8562.6 |
| #2 | 158920. | 27010. | 6167.3 | 8829.5 |
| #3 | 158250. | 26669. | 6157.5 | 8816.1 |



Zoom In Zoom Out

Sample Name: jc87644-9 Acquired: 5/13/2019 16:02:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0859** | **-.0001** | **.0000** | **.0034** | **.0006** | **.0056** | **.7998** | **.0019** | **-.0001** |
| Stddev | .0004 | .0000 | .0001 | .0003 | .0005 | .0002 | .0003 | .0003 | .0003 |
| %RSD | .4859 | 50.64 | 4827. | 9.173 | 78.58 | 2.836 | .0394 | 13.08 | 287.3 |
| #1 | .0863 | -.0000 | -.0002 | .0033 | .0009 | .0057 | .7997 | .0022 | -.0004 |
| #2 | .0859 | -.0001 | .0000 | .0032 | .0001 | .0058 | .8001 | .0017 | .0001 |
| #3 | .0855 | -.0001 | .0001 | .0038 | .0009 | .0054 | .7995 | .0019 | .0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **.0023** | **.0008** | **.0015** | **-.0005** | **-.0009** | **.0005** | **-.0058** | **117.9** |
| Stddev | .0002 | .0001 | .0003 | .0018 | .0010 | .0010 | .0008 | .0032 | 3.1 |
| %RSD | 8.363 | 4.518 | 45.27 | 123.0 | 204.4 | 109.8 | 164.3 | 53.99 | 2.607 |
| #1 | .0022 | .0023 | .0006 | .0009 | -.0003 | -.0012 | .0011 | -.0076 | 118.4 |
| #2 | .0025 | .0022 | .0005 | -.0000 | .0004 | -.0017 | -.0004 | -.0022 | 114.6 |
| #3 | .0026 | .0024 | .0011 | .0035 | -.0015 | .0002 | .0008 | -.0077 | 120.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5135** | **27.96** | **2.019** | **77.48** | **.0472** | **.0004** | **4.480** | **-.0013** | **1.061** |
| Stddev | .0020 | .04 | .026 | .03 | .0004 | .0001 | .003 | .0007 | .001 |
| %RSD | .3888 | .1570 | 1.274 | .0385 | .8294 | 27.43 | .0564 | 53.63 | .0937 |
| #1 | .5151 | 28.01 | 1.991 | 77.51 | .0468 | .0005 | 4.482 | -.0017 | 1.062 |
| #2 | .5140 | 27.93 | 2.024 | 77.46 | .0475 | .0004 | 4.479 | -.0005 | 1.061 |
| #3 | .5112 | 27.94 | 2.042 | 77.45 | .0473 | .0003 | 4.478 | -.0018 | 1.060 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0022** | **.0001** | **9.779** | **-.0000** | **.0093** | **.0155** |
| Stddev | .0002 | .0008 | .0002 | .013 | .0011 | .0013 | .0043 |
| %RSD | 78.92 | 34.40 | 206.0 | .1375 | 54550. | 13.94 | 28.05 |
| #1 | -.0001 | .0023 | .0003 | 9.794 | -.0010 | .0089 | .0122 |
| #2 | -.0001 | .0030 | -.0001 | 9.767 | .0012 | .0082 | .0204 |
| #3 | -.0004 | .0015 | .0001 | 9.777 | -.0003 | .0107 | .0138 |

Zoom In Zoom Out

Sample Name: jc87644-9 Acquired: 5/13/2019 16:02:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147810.** | **26212.** | **5764.6** | **7887.2** |
| Stddev | 361. | 131. | 14.0 | 15.4 |
| %RSD | .24416 | .50079 | .24358 | .19576 |
| #1 | 148210. | 26061. | 5766.5 | 7888.7 |
| #2 | 147520. | 26297. | 5777.6 | 7901.8 |
| #3 | 147690. | 26278. | 5749.7 | 7871.0 |



Zoom In Zoom Out

Sample Name: jc87653-1 Acquired: 5/13/2019 16:07:59 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4475** | **.0000** | **.0001** | **.0059** | **.0110** | **.0019** | **.5035** | **.0192** | **-.0001** |
| Stddev | .0077 | .0001 | .0001 | .0000 | .0004 | .0002 | .0007 | .0000 | .0003 |
| %RSD | 1.725 | 470.5 | 198.5 | .1606 | 3.408 | 9.994 | .1374 | .1315 | 337.9 |
| #1 | .4430 | .0000 | .0000 | .0059 | .0113 | .0020 | .5029 | .0192 | .0000 |
| #2 | .4431 | -.0001 | .0002 | .0059 | .0112 | .0020 | .5033 | .0192 | .0002 |
| #3 | .4564 | .0001 | -.0000 | .0059 | .0106 | .0017 | .5042 | .0192 | -.0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0048** | **.0082** | **.0001** | **-.0011** | **-.0011** | **.0005** | **.0039** | **.0035** | **162.8** |
| Stddev | .0004 | .0000 | .0008 | .0006 | .0009 | .0005 | .0007 | .0081 | 2.2 |
| %RSD | 9.344 | .5517 | 898.8 | 58.16 | 75.57 | 100.8 | 18.73 | 229.5 | 1.374 |
| #1 | .0047 | .0082 | .0009 | -.0004 | -.0015 | .0009 | .0047 | -.0006 | 163.1 |
| #2 | .0044 | .0082 | .0002 | -.0013 | -.0018 | .0000 | .0034 | -.0017 | 160.4 |
| #3 | .0053 | .0082 | -.0008 | -.0017 | -.0002 | .0004 | .0035 | .0129 | 164.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.604** | **66.02** | **111.9** | F **509.1** | **1.581** | **.0016** | **14.40** | **.0029** | **1.338** |
| Stddev | .074 | 1.22 | 2.0 | 4.5 | .003 | .0000 | .02 | .0005 | .024 |
| %RSD | 2.067 | 1.845 | 1.830 | .8822 | .1756 | 2.294 | .1518 | 15.69 | 1.799 |
| #1 | 3.559 | 65.25 | 110.5 | 512.1 | 1.584 | .0016 | 14.41 | .0028 | 1.324 |
| #2 | 3.563 | 65.37 | 110.8 | 503.9 | 1.582 | .0016 | 14.42 | .0025 | 1.324 |
| #3 | 3.690 | 67.42 | 114.2 | 511.3 | 1.578 | .0016 | 14.38 | .0034 | 1.366 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0046** | **.0028** | **.0008** | **37.63** | **-.0008** | **.0409** | **.2983** |
| Stddev | .0003 | .0009 | .0001 | .10 | .0008 | .0014 | .0061 |
| %RSD | 6.468 | 33.34 | 14.62 | .2675 | 99.18 | 3.406 | 2.061 |
| #1 | .0048 | .0031 | .0008 | 37.66 | -.0011 | .0414 | .3054 |
| #2 | .0047 | .0036 | .0010 | 37.72 | .0001 | .0394 | .2946 |
| #3 | .0042 | .0018 | .0008 | 37.52 | -.0015 | .0420 | .2949 |



Zoom In Zoom Out

Sample Name: jc87653-1 Acquired: 5/13/2019 16:07:59 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **139010.** | **25701.** | **5470.8** | **7291.2** |
| Stddev | 434. | 378. | 12.9 | 14.0 |
| %RSD | .31254 | 1.4706 | .23499 | .19138 |
| #1 | 138530. | 25993. | 5484.4 | 7306.3 |
| #2 | 139390. | 25836. | 5458.8 | 7278.7 |
| #3 | 139110. | 25274. | 5469.1 | 7288.5 |



Zoom In Zoom Out

Sample Name: mp14848-mb1conf Acquired: 5/13/2019 16:13:18 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0000** | **-.0001** | **-.0002** | **-.0006** | **-.0000** | **.0001** | **.0003** | **-.0002** |
| Stddev | .0003 | .0000 | .0001 | .0001 | .0003 | .0002 | .0000 | .0003 | .0002 |
| %RSD | 212.1 | 156.1 | 107.4 | 70.53 | 52.89 | 485.3 | 24.15 | 79.76 | 82.07 |
| #1 | .0002 | -.0000 | -.0000 | -.0002 | -.0009 | -.0001 | .0001 | .0004 | -.0005 |
| #2 | .0003 | -.0001 | -.0001 | -.0002 | -.0006 | -.0001 | .0001 | .0000 | -.0001 |
| #3 | -.0002 | -.0000 | -.0003 | -.0000 | -.0003 | .0002 | .0001 | .0005 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0008** | **.0005** | **.0005** | **.0003** | **-.0000** | **.0015** | **-.0033** | **.0100** |
| Stddev | .0005 | .0000 | .0009 | .0012 | .0012 | .0014 | .0005 | .0053 | .0013 |
| %RSD | 281.2 | 6.027 | 167.5 | 226.7 | 390.7 | 10540. | 32.19 | 159.1 | 12.66 |
| #1 | .0008 | .0007 | .0015 | .0014 | .0015 | -.0011 | .0012 | -.0067 | .0113 |
| #2 | -.0001 | .0008 | -.0003 | -.0009 | -.0008 | .0015 | .0013 | .0028 | .0100 |
| #3 | -.0001 | .0008 | .0004 | .0011 | .0002 | -.0005 | .0021 | -.0061 | .0088 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0030** | **-.0082** | **.3109** | **1.155** | **.0011** | **.0002** | **.0955** | **-.0002** | **-.0000** |
| Stddev | .0003 | .0033 | .0362 | .053 | .0003 | .0001 | .0014 | .0003 | .0001 |
| %RSD | 9.558 | 40.46 | 11.63 | 4.575 | 26.93 | 36.81 | 1.423 | 130.5 | 241.6 |
| #1 | .0026 | -.0115 | .3351 | 1.209 | .0012 | .0003 | .0962 | -.0003 | -.0001 |
| #2 | .0031 | -.0082 | .3283 | 1.153 | .0014 | .0003 | .0963 | .0001 | -.0000 |
| #3 | .0032 | -.0049 | .2694 | 1.103 | .0008 | .0001 | .0939 | -.0005 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0008** | **-.0001** | **.0054** | **-.0007** | **.0037** | **-.0038** |
| Stddev | .0002 | .0013 | .0002 | .0006 | .0014 | .0017 | .0023 |
| %RSD | 61.39 | 166.0 | 365.9 | 12.09 | 219.1 | 47.17 | 58.92 |
| #1 | .0006 | -.0000 | -.0001 | .0056 | -.0020 | .0028 | -.0056 |
| #2 | .0002 | .0024 | .0002 | .0058 | -.0008 | .0025 | -.0013 |
| #3 | .0003 | .0001 | -.0002 | .0046 | .0009 | .0057 | -.0047 |

Zoom In Zoom Out

Sample Name: mp14848-mb1conf Acquired: 5/13/2019 16:13:18 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156720.** | **26556.** | **6085.2** | **8733.3** |
| Stddev | 414. | 274. | 52.9 | 65.0 |
| %RSD | .26397 | 1.0314 | .86926 | .74449 |
| #1 | 156610. | 26325. | 6096.0 | 8748.5 |
| #2 | 156380. | 26484. | 6027.8 | 8662.0 |
| #3 | 157180. | 26859. | 6131.9 | 8789.3 |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/13/2019 16:18:51 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0001** | **-.0008** | **-.0003** | **.0000** | **.0043** | **-.0003** | **-.0008** | **.0008** |
| Stddev | .0001 | .0000 | .0002 | .0003 | .0004 | .0001 | .0001 | .0003 | .0007 |
| %RSD | 13.93 | 23.71 | 24.56 | 98.05 | 39480. | 2.824 | 41.54 | 34.58 | 83.74 |
| #1 | .0010 | .0001 | -.0010 | -.0001 | .0003 | .0044 | -.0002 | -.0010 | .0016 |
| #2 | .0010 | .0001 | -.0009 | -.0006 | -.0004 | .0042 | -.0005 | -.0005 | .0005 |
| #3 | .0008 | .0001 | -.0006 | -.0001 | .0001 | .0044 | -.0003 | -.0010 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0054** | **-.0011** | **.0003** | **.0005** | **.0014** | **.0100** | **-.0022** | **514.8** | **392.2** |
| Stddev | .0003 | .0001 | .0013 | .0011 | .0030 | .0018 | .0035 | 15.3 | 3.5 |
| %RSD | 6.083 | 8.607 | 494.1 | 203.3 | 219.5 | 18.51 | 161.2 | 2.964 | .8855 |
| #1 | -.0056 | -.0010 | -.0002 | .0002 | .0037 | .0084 | .0005 | 527.7 | 395.9 |
| #2 | -.0050 | -.0012 | -.0007 | .0017 | .0024 | .0120 | -.0062 | 518.8 | 391.9 |
| #3 | -.0055 | -.0011 | .0017 | -.0003 | -.0020 | .0095 | -.0009 | 498.0 | 389.0 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **199.8** | **508.9** | **.5263** | **1.647** | **-.0012** | **.0007** | **.0088** | **-.0020** | **-.0005** |
| Stddev | 1.3 | .8 | .0258 | .025 | .0006 | .0005 | .0016 | .0003 | .0002 |
| %RSD | .6365 | .1644 | 4.893 | 1.532 | 52.05 | 76.79 | 18.02 | 14.30 | 33.94 |
| #1 | 201.0 | 509.5 | .5364 | 1.670 | -.0015 | .0013 | .0102 | -.0023 | -.0007 |
| #2 | 198.5 | 509.2 | .5455 | 1.650 | -.0005 | .0006 | .0071 | -.0018 | -.0004 |
| #3 | 199.9 | 507.9 | .4971 | 1.620 | -.0017 | .0002 | .0091 | -.0018 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/13/2019 16:18:51 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0012** | **.0021** | **-.0007** | **-.0363** | **-.0131** | **.0001** | **.0034** |
| Stddev | .0003 | .0011 | .0001 | .0016 | .0012 | .0008 | .0015 |
| %RSD | 26.78 | 54.66 | 18.68 | 4.432 | 9.075 | 534.8 | 45.25 |
| #1 | -.0015 | .0030 | -.0006 | -.0381 | -.0120 | .0003 | .0023 |
| #2 | -.0009 | .0008 | -.0005 | -.0354 | -.0143 | -.0007 | .0051 |
| #3 | -.0013 | .0026 | -.0008 | -.0353 | -.0130 | .0008 | .0027 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **134660.** | **25363.** | **5333.4** | **7340.6** |
| Stddev | 542. | 70. | 64.8 | 72.7 |
| %RSD | .40277 | .27742 | 1.2150 | .99101 |
| #1 | 135260. | 25380. | 5258.7 | 7256.7 |
| #2 | 134520. | 25286. | 5368.7 | 7378.8 |
| #3 | 134200. | 25424. | 5373.0 | 7386.3 |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/13/2019 16:24:13 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5107** | **.5051** | **.9802** | **.4790** | **.4975** | **.5210** | **.5126** | **.9400** | **1.104** |
| Stddev | .0010 | .0010 | .0014 | .0004 | .0002 | .0011 | .0002 | .0012 | .002 |
| %RSD | .1909 | .1998 | .1465 | .0759 | .0383 | .2185 | .0444 | .1293 | .1570 |
| #1 | .5118 | .5059 | .9787 | .4787 | .4977 | .5207 | .5123 | .9390 | 1.104 |
| #2 | .5103 | .5040 | .9816 | .4794 | .4974 | .5223 | .5126 | .9414 | 1.106 |
| #3 | .5100 | .5054 | .9803 | .4789 | .4973 | .5200 | .5128 | .9396 | 1.102 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5025** | **.9258** | **1.047** | **.9471** | **.9235** | **1.013** | **1.018** | **521.5** | **382.0** |
| Stddev | .0006 | .0030 | .004 | .0030 | .0064 | .006 | .004 | 17.1 | 4.3 |
| %RSD | .1252 | .3292 | .3384 | .3198 | .6977 | .5981 | .3470 | 3.271 | 1.115 |
| #1 | .5029 | .9234 | 1.043 | .9439 | .9192 | 1.010 | 1.014 | 514.7 | 385.6 |
| #2 | .5028 | .9292 | 1.050 | .9499 | .9309 | 1.020 | 1.021 | 540.9 | 383.0 |
| #3 | .5017 | .9248 | 1.046 | .9475 | .9203 | 1.009 | 1.019 | 508.9 | 377.3 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **198.1** | **511.4** | **.5134** | **1.434** | **.4725** | **.4807** | **.4934** | **.4725** | **.5164** |
| Stddev | 3.0 | .7 | .0108 | .011 | .0009 | .0015 | .0029 | .0023 | .0008 |
| %RSD | 1.515 | .1449 | 2.101 | .7327 | .1859 | .3048 | .5831 | .4772 | .1581 |
| #1 | 194.9 | 512.2 | .5210 | 1.446 | .4716 | .4799 | .4910 | .4716 | .5173 |
| #2 | 200.9 | 511.1 | .5181 | 1.431 | .4734 | .4824 | .4966 | .4751 | .5157 |
| #3 | 198.3 | 510.8 | .5010 | 1.425 | .4724 | .4798 | .4927 | .4708 | .5162 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/13/2019 16:24:13 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5131** | **.4730** | **.5161** | **.4607** | **.4895** | **.5368** | **.5180** |
| Stddev | .0006 | .0010 | .0002 | .0033 | .0035 | .0028 | .0050 |
| %RSD | .1228 | .2121 | .0349 | .7123 | .7114 | .5289 | .9579 |
| #1 | .5136 | .4731 | .5160 | .4598 | .4911 | .5339 | .5182 |
| #2 | .5124 | .4740 | .5163 | .4644 | .4920 | .5396 | .5129 |
| #3 | .5133 | .4720 | .5159 | .4580 | .4855 | .5370 | .5229 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **134760.** | **25505.** | **5336.5** | **7346.8** |
| Stddev | 108. | 96. | 17.5 | 18.8 |
| %RSD | .08021 | .37727 | .32790 | .25529 |
| #1 | 134710. | 25538. | 5352.8 | 7361.5 |
| #2 | 134880. | 25397. | 5318.0 | 7325.6 |
| #3 | 134680. | 25580. | 5338.5 | 7353.2 |



Zoom In Zoom Out

Sample Name: jc87443-5 Acquired: 5/13/2019 16:29:30 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3955** | **.0032** | **-.0004** | **.0728** | **.1592** | **.1891** | **2.918** | **.1720** | **.0011** |
| Stddev | .0028 | .0002 | .0007 | .0007 | .0009 | .0009 | .021 | .0018 | .0003 |
| %RSD | .7149 | 6.196 | 196.8 | .9381 | .5586 | .4856 | .7263 | 1.031 | 23.51 |
| #1 | .3982 | .0033 | .0000 | .0736 | .1599 | .1899 | 2.942 | .1731 | .0010 |
| #2 | .3956 | .0030 | .0001 | .0727 | .1595 | .1881 | 2.909 | .1730 | .0009 |
| #3 | .3926 | .0033 | -.0012 | .0722 | .1582 | .1893 | 2.902 | .1700 | .0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1940** | **.3277** | **.0181** | **.0077** | **.0379** | **.0027** | **.0125** | **94.95** | **36.30** |
| Stddev | .0027 | .0017 | .0009 | .0037 | .0027 | .0037 | .0022 | .36 | .14 |
| %RSD | 1.400 | .5263 | 5.234 | 47.83 | 7.135 | 134.8 | 17.63 | .3814 | .3758 |
| #1 | .1971 | .3294 | .0191 | .0119 | .0409 | -.0015 | .0116 | 95.25 | 36.41 |
| #2 | .1929 | .3278 | .0179 | .0058 | .0357 | .0045 | .0149 | 95.06 | 36.33 |
| #3 | .1920 | .3260 | .0173 | .0054 | .0372 | .0052 | .0108 | 94.54 | 36.15 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **160.9** | **53.12** | **17.28** | **6.936** | **.0085** | **.0029** | **57.56** | **.0013** | **.2006** |
| Stddev | .6 | .27 | .06 | .076 | .0006 | .0000 | .19 | .0009 | .0007 |
| %RSD | .3942 | .5060 | .3329 | 1.092 | 7.061 | 1.487 | .3268 | 69.78 | .3543 |
| #1 | 161.4 | 53.36 | 17.35 | 7.008 | .0085 | .0029 | 57.76 | .0017 | .2013 |
| #2 | 161.0 | 53.16 | 17.27 | 6.944 | .0090 | .0029 | 57.54 | .0003 | .2008 |
| #3 | 160.2 | 52.83 | 17.23 | 6.857 | .0078 | .0028 | 57.39 | .0019 | .1999 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.882** | **.0014** | **.0218** | **4.861** | **.2557** | **.1536** | **4.622** |
| Stddev | .043 | .0032 | .0008 | .001 | .0049 | .0002 | .013 |
| %RSD | .8703 | 229.7 | 3.711 | .0147 | 1.913 | .1368 | .2775 |
| #1 | 4.929 | .0003 | .0227 | 4.862 | .2588 | .1534 | 4.636 |
| #2 | 4.873 | -.0011 | .0216 | 4.861 | .2501 | .1538 | 4.611 |
| #3 | 4.845 | .0049 | .0211 | 4.862 | .2583 | .1536 | 4.620 |



Zoom In Zoom Out

Sample Name: jc87443-5 Acquired: 5/13/2019 16:29:30 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155970.** | **27106.** | **6150.8** | **8454.5** |
| Stddev | 570. | 44. | 4.4 | 10.4 |
| %RSD | .36519 | .16326 | .07082 | .12305 |
| #1 | 156000. | 27065. | 6150.3 | 8451.5 |
| #2 | 156520. | 27101. | 6155.4 | 8466.1 |
| #3 | 155380. | 27153. | 6146.7 | 8445.9 |



Zoom In Zoom Out

Sample Name: jc87579-8 Acquired: 5/13/2019 16:34:30 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5467** | **-.0007** | **-.0013** | **-.0021** | **.0011** | **.0128** | **.0670** | **.0127** | **-.0015** |
| Stddev | .0042 | .0003 | .0016 | .0095 | .0108 | .0028 | .0007 | .0066 | .0107 |
| %RSD | .7647 | 48.57 | 122.0 | 447.6 | 957.4 | 21.88 | 1.056 | 51.87 | 719.7 |
| #1 | .5441 | -.0004 | -.0029 | -.0109 | -.0070 | .0102 | .0667 | .0051 | .0106 |
| #2 | .5444 | -.0006 | .0003 | .0079 | -.0031 | .0125 | .0678 | .0167 | -.0094 |
| #3 | .5515 | -.0011 | -.0013 | -.0032 | .0135 | .0158 | .0664 | .0164 | -.0057 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0134** | **.0034** | **.0081** | **.0398** | **.0081** | **-.0058** | **.0323** | **.0151** | **1254.** |
| Stddev | .0076 | .0013 | .0097 | .0097 | .0165 | .0313 | .0181 | .0254 | 2. |
| %RSD | 56.41 | 38.29 | 118.5 | 24.44 | 203.1 | 542.3 | 55.91 | 168.1 | .1223 |
| #1 | .0158 | .0021 | .0100 | .0510 | -.0063 | .0273 | .0311 | .0328 | 1253. |
| #2 | .0050 | .0047 | -.0023 | .0350 | .0260 | -.0097 | .0149 | -.0140 | 1256. |
| #3 | .0195 | .0033 | .0167 | .0335 | .0046 | -.0349 | .0509 | .0264 | 1254. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0508** | **7.442** | **49.91** | **1006.** | **.0091** | **.0078** | **2.915** | **-.0082** | **8.418** |
| Stddev | .0329 | .040 | .49 | 1. | .0231 | .0041 | .089 | .0070 | .014 |
| %RSD | 64.75 | .5355 | .9869 | .1090 | 253.9 | 52.53 | 3.068 | 85.81 | .1665 |
| #1 | .0337 | 7.398 | 49.35 | 1006. | .0350 | .0040 | 2.944 | -.0034 | 8.419 |
| #2 | .0299 | 7.475 | 50.12 | 1007. | -.0095 | .0121 | 2.814 | -.0163 | 8.431 |
| #3 | .0886 | 7.454 | 50.27 | 1005. | .0019 | .0072 | 2.986 | -.0049 | 8.403 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0036** | **.0274** | **.0057** | **15.90** | **.0007** | **.4373** | **.0135** |
| Stddev | .0073 | .0160 | .0010 | .13 | .0460 | .0370 | .0872 |
| %RSD | 202.2 | 58.56 | 17.80 | .8054 | 6880. | 8.459 | 645.6 |
| #1 | .0114 | .0439 | .0061 | 15.77 | -.0278 | .3955 | .1007 |
| #2 | -.0029 | .0118 | .0046 | 15.91 | -.0239 | .4659 | -.0737 |
| #3 | .0023 | .0265 | .0065 | 16.03 | .0537 | .4505 | .0135 |

Zoom In Zoom Out

Sample Name: jc87579-8 Acquired: 5/13/2019 16:34:30 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149650.** | **26358.** | **5847.8** | **8066.6** |
| Stddev | 510. | 158. | 40.5 | 53.3 |
| %RSD | .34064 | .60048 | .69198 | .66088 |
| #1 | 150180. | 26512. | 5869.7 | 8085.7 |
| #2 | 149620. | 26195. | 5872.6 | 8107.6 |
| #3 | 149160. | 26366. | 5801.1 | 8006.3 |



Zoom In Zoom Out

Sample Name: jc87579-9 Acquired: 5/13/2019 16:39:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7074** | **.0009** | **.0030** | **-.0020** | **.0016** | **.0044** | **.1025** | **.0228** | **-.0127** |
| Stddev | .0087 | .0010 | .0047 | .0030 | .0107 | .0119 | .0016 | .0131 | .0088 |
| %RSD | 1.231 | 109.7 | 153.0 | 150.0 | 660.7 | 267.3 | 1.577 | 57.24 | 69.79 |
| #1 | .7166 | .0012 | -.0002 | .0015 | .0137 | -.0035 | .1043 | .0098 | -.0135 |
| #2 | .7062 | -.0002 | .0009 | -.0035 | -.0018 | -.0013 | .1017 | .0359 | -.0211 |
| #3 | .6993 | .0018 | .0084 | -.0040 | -.0070 | .0181 | .1014 | .0228 | -.0034 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0090** | **.0265** | **.0138** | **.0320** | **.0192** | **-.0438** | **.0383** | **.0657** | **1542.** |
| Stddev | .0093 | .0013 | .0017 | .0292 | .0130 | .0482 | .0044 | .0996 | 17. |
| %RSD | 103.8 | 5.047 | 12.28 | 91.24 | 67.67 | 110.0 | 11.58 | 151.7 | 1.089 |
| #1 | .0106 | .0250 | .0147 | .0472 | .0208 | -.0875 | .0347 | -.0437 | 1561. |
| #2 | .0174 | .0275 | .0148 | -.0017 | .0313 | .0080 | .0432 | .0895 | 1536. |
| #3 | -.0010 | .0270 | .0118 | .0505 | .0055 | -.0520 | .0369 | .1513 | 1530. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0437** | **6.702** | **63.34** | **1374.** | **-.0001** | **.0101** | **3.725** | **-.0180** | **10.72** |
| Stddev | .0237 | .119 | 1.33 | 15. | .0108 | .0052 | .069 | .0056 | .11 |
| %RSD | 54.27 | 1.777 | 2.096 | 1.123 | 10690. | 51.57 | 1.847 | 31.19 | 1.013 |
| #1 | .0430 | 6.798 | 64.62 | 1392. | -.0096 | .0069 | 3.794 | -.0192 | 10.84 |
| #2 | .0677 | 6.739 | 63.42 | 1368. | -.0022 | .0162 | 3.726 | -.0119 | 10.67 |
| #3 | .0203 | 6.569 | 61.97 | 1363. | .0116 | .0073 | 3.656 | -.0229 | 10.64 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0098** | **.0387** | **.0170** | **10.33** | **-.0330** | **.5731** | **.0554** |
| Stddev | .0049 | .0158 | .0057 | .18 | .0371 | .0050 | .1229 |
| %RSD | 49.62 | 40.77 | 33.70 | 1.758 | 112.4 | .8771 | 221.9 |
| #1 | .0043 | .0339 | .0117 | 10.51 | -.0138 | .5686 | .0664 |
| #2 | .0114 | .0258 | .0163 | 10.33 | -.0758 | .5785 | -.0726 |
| #3 | .0137 | .0562 | .0231 | 10.15 | -.0095 | .5722 | .1724 |



Zoom In Zoom Out

Sample Name: jc87579-9 Acquired: 5/13/2019 16:39:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147400.** | **26310.** | **5850.6** | **8050.3** |
| Stddev | 1659. | 227. | 9.0 | 5.3 |
| %RSD | 1.1252 | .86160 | .15450 | .06617 |
| #1 | 148360. | 26072. | 5858.9 | 8045.8 |
| #2 | 148360. | 26523. | 5851.9 | 8048.9 |
| #3 | 145490. | 26334. | 5841.0 | 8056.1 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 16:44:44 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **2.087** | **1.948** | **2.021** | **2.057** | **2.049** | **2.068** | **2.003** | **.2527** |
| Stddev | .002 | .004 | .005 | .006 | .024 | .024 | .051 | .005 | .0029 |
| %RSD | .0845 | .1723 | .2570 | .3153 | 1.148 | 1.188 | 2.442 | .2508 | 1.149 |
| #1 | 2.045 | 2.084 | 1.944 | 2.014 | 2.068 | 2.058 | 2.091 | 1.998 | .2539 |
| #2 | 2.043 | 2.091 | 1.954 | 2.027 | 2.030 | 2.022 | 2.011 | 2.007 | .2494 |
| #3 | 2.042 | 2.084 | 1.947 | 2.023 | 2.073 | 2.068 | 2.103 | 2.006 | .2549 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.059** | **1.956** | **1.959** | **2.024** | **1.997** | **1.953** | **1.965** | **41.22** | **41.22** |
| Stddev | .024 | .004 | .009 | .007 | .003 | .002 | .007 | .04 | .07 |
| %RSD | 1.147 | .2085 | .4474 | .3264 | .1530 | .1099 | .3471 | .1048 | .1799 |
| #1 | 2.069 | 1.956 | 1.951 | 2.016 | 1.995 | 1.952 | 1.957 | 41.18 | 41.17 |
| #2 | 2.032 | 1.961 | 1.968 | 2.027 | 2.001 | 1.951 | 1.970 | 41.27 | 41.30 |
| #3 | 2.076 | 1.952 | 1.958 | 2.028 | 1.996 | 1.956 | 1.967 | 41.20 | 41.17 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.81** | **41.18** | **40.61** | **40.30** | **1.988** | **1.995** | **4.997** | **2.000** | **2.066** |
| Stddev | .03 | .09 | .09 | .05 | .004 | .006 | .014 | .004 | .002 |
| %RSD | .0622 | .2231 | .2325 | .1155 | .2141 | .3088 | .2715 | .2182 | .1114 |
| #1 | 41.79 | 41.23 | 40.55 | 40.35 | 1.984 | 1.990 | 4.987 | 1.996 | 2.066 |
| #2 | 41.84 | 41.23 | 40.71 | 40.29 | 1.992 | 2.002 | 5.012 | 2.005 | 2.069 |
| #3 | 41.79 | 41.07 | 40.56 | 40.26 | 1.987 | 1.993 | 4.992 | 2.000 | 2.064 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 16:44:44 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.059** | **1.952** | **2.090** | **1.942** | **1.981** | **2.021** | **1.895** |
| Stddev | .025 | .007 | .022 | .007 | .003 | .004 | .009 |
| %RSD | 1.200 | .3508 | 1.076 | .3583 | .1378 | .2044 | .4739 |
| #1 | 2.070 | 1.947 | 2.099 | 1.935 | 1.978 | 2.016 | 1.899 |
| #2 | 2.031 | 1.960 | 2.065 | 1.948 | 1.984 | 2.024 | 1.885 |
| #3 | 2.077 | 1.949 | 2.107 | 1.944 | 1.981 | 2.023 | 1.902 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148120.** | **26215.** | **5853.5** | **8027.9** |
| Stddev | 1812. | 44. | 15.2 | 8.3 |
| %RSD | 1.2231 | .16827 | .25896 | .10359 |
| #1 | 147110. | 26170. | 5846.5 | 8028.1 |
| #2 | 150220. | 26217. | 5843.0 | 8019.5 |
| #3 | 147040. | 26258. | 5870.9 | 8036.1 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 16:49:43 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0004** | **.0005** | **.0007** | **.0001** | **.0006** | **.0006** | **.0009** | **-.0003** |
| Stddev | .0004 | .0000 | .0002 | .0004 | .0003 | .0005 | .0001 | .0003 | .0004 |
| %RSD | 59.69 | 5.578 | 39.24 | 67.06 | 207.4 | 91.48 | 7.903 | 38.10 | 111.5 |
| #1 | .0003 | .0003 | .0005 | .0004 | -.0000 | .0000 | .0006 | .0009 | -.0004 |
| #2 | .0005 | .0004 | .0004 | .0004 | -.0000 | .0006 | .0006 | .0006 | -.0006 |
| #3 | .0011 | .0004 | .0008 | .0012 | .0005 | .0011 | .0007 | .0012 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0005** | **.0003** | **.0012** | **.0004** | **-.0012** | **.0010** | **.0052** | **.0084** |
| Stddev | .0003 | .0004 | .0003 | .0017 | .0010 | .0015 | .0009 | .0091 | .0012 |
| %RSD | 35.08 | 82.43 | 100.8 | 142.4 | 258.5 | 117.9 | 92.99 | 174.9 | 14.33 |
| #1 | .0005 | .0003 | -.0000 | .0026 | .0001 | -.0029 | .0006 | .0092 | .0072 |
| #2 | .0010 | .0002 | .0003 | -.0007 | -.0004 | -.0001 | .0003 | .0117 | .0083 |
| #3 | .0008 | .0010 | .0006 | .0016 | .0015 | -.0008 | .0021 | -.0052 | .0096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0105** | **-.0066** | **.0680** | **.4255** | **.0014** | **.0011** | **.0049** | **.0008** | **.0004** |
| Stddev | .0020 | .0042 | .0375 | .0032 | .0007 | .0005 | .0008 | .0011 | .0001 |
| %RSD | 19.40 | 63.75 | 55.21 | .7609 | 53.05 | 40.77 | 16.24 | 128.6 | 25.51 |
| #1 | .0111 | -.0034 | .0297 | .4217 | .0009 | .0011 | .0056 | -.0003 | .0003 |
| #2 | .0122 | -.0050 | .0694 | .4270 | .0011 | .0007 | .0040 | .0011 | .0004 |
| #3 | .0082 | -.0114 | .1048 | .4276 | .0022 | .0016 | .0051 | .0018 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 16:49:43 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0016** | **.0005** | **.0039** | **-.0008** | F **.0044** | **.0001** |
| Stddev | .0001 | .0008 | .0001 | .0019 | .0021 | .0013 | .0036 |
| %RSD | 13.95 | 53.36 | 13.00 | 48.23 | 271.2 | 28.45 | 2710. |
| #1 | .0006 | .0025 | .0005 | .0024 | -.0006 | .0036 | .0002 |
| #2 | .0005 | .0008 | .0006 | .0033 | -.0030 | .0059 | -.0035 |
| #3 | .0006 | .0015 | .0006 | .0060 | .0013 | .0039 | .0037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157280.** | **26582.** | **6078.0** | **8697.6** |
| Stddev | 744. | 101. | 32.7 | 33.2 |
| %RSD | .47303 | .38155 | .53783 | .38213 |
| #1 | 157980. | 26533. | 6040.3 | 8659.3 |
| #2 | 156500. | 26699. | 6099.0 | 8718.4 |
| #3 | 157370. | 26515. | 6094.5 | 8715.1 |



Zoom In Zoom Out

Sample Name: jc87579-10 Acquired: 5/13/2019 16:54:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2907** | **.0008** | **.0036** | **-.0004** | **.0000** | **.0068** | **.0082** | **.0468** | **-.0050** |
| Stddev | .0040 | .0011 | .0036 | .0037 | .0039 | .0078 | .0022 | .0020 | .0081 |
| %RSD | 1.370 | 131.3 | 100.0 | 953.0 | 8999. | 116.0 | 27.08 | 4.182 | 159.9 |
| #1 | .2951 | .0004 | .0013 | .0003 | -.0014 | .0136 | .0057 | .0482 | -.0132 |
| #2 | .2873 | .0000 | .0078 | .0029 | .0044 | .0084 | .0091 | .0445 | .0029 |
| #3 | .2897 | .0020 | .0018 | -.0045 | -.0029 | -.0018 | .0099 | .0476 | -.0048 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0068** | **.0139** | **.0175** | **.0140** | **.0048** | **-.0066** | **.0376** | **-.0145** | **576.1** |
| Stddev | .0010 | .0012 | .0197 | .0127 | .0210 | .0314 | .0293 | .1204 | 4.6 |
| %RSD | 14.17 | 8.594 | 112.1 | 90.85 | 434.3 | 475.0 | 78.05 | 833.2 | .8062 |
| #1 | .0059 | .0143 | .0027 | .0212 | .0286 | .0166 | .0543 | .0175 | 580.3 |
| #2 | .0066 | .0149 | .0101 | .0216 | -.0112 | .0060 | .0037 | -.1476 | 576.9 |
| #3 | .0078 | .0126 | .0398 | -.0007 | -.0029 | -.0424 | .0547 | .0868 | 571.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0371** | **-.2207** | **35.76** | **444.2** | **.0250** | **.0156** | **3.710** | **.0060** | **5.190** |
| Stddev | .0849 | .2559 | 1.31 | 3.5 | .0024 | .0041 | .026 | .0092 | .043 |
| %RSD | 228.6 | 116.0 | 3.677 | .7771 | 9.784 | 25.99 | .7110 | 151.8 | .8324 |
| #1 | -.0552 | -.4349 | 37.16 | 446.5 | .0223 | .0190 | 3.738 | .0151 | 5.225 |
| #2 | .0550 | -.2899 | 34.54 | 445.8 | .0269 | .0167 | 3.708 | .0062 | 5.202 |
| #3 | .1117 | .0627 | 35.59 | 440.2 | .0258 | .0111 | 3.685 | -.0032 | 5.142 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0031** | **.0216** | **.0061** | **11.50** | **.0109** | **.3561** | **.0573** |
| Stddev | .0030 | .0176 | .0012 | .15 | .0214 | .0210 | .0280 |
| %RSD | 98.36 | 81.39 | 20.24 | 1.342 | 197.0 | 5.884 | 48.83 |
| #1 | .0006 | .0028 | .0059 | 11.56 | -.0116 | .3803 | .0708 |
| #2 | .0022 | .0376 | .0049 | 11.61 | .0312 | .3438 | .0251 |
| #3 | .0064 | .0245 | .0073 | 11.32 | .0130 | .3442 | .0758 |

Zoom In Zoom Out

Sample Name: jc87579-10 Acquired: 5/13/2019 16:54:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **153360.** | **26491.** | **5942.6** | **8319.5** |
| Stddev | 528. | 94. | 41.0 | 49.5 |
| %RSD | .34409 | .35671 | .69074 | .59445 |
| #1 | 152960. | 26523. | 5917.3 | 8291.6 |
| #2 | 153160. | 26564. | 5920.5 | 8290.3 |
| #3 | 153960. | 26384. | 5989.9 | 8376.6 |



Zoom In Zoom Out

Sample Name: jc87579-11 Acquired: 5/13/2019 16:59:58 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2707** | **.0001** | **-.0003** | **.0002** | **.0010** | **.0023** | **.0008** | **.0334** | **-.0026** |
| Stddev | .0030 | .0001 | .0007 | .0005 | .0016 | .0004 | .0001 | .0005 | .0020 |
| %RSD | 1.099 | 210.8 | 248.7 | 221.6 | 169.3 | 18.22 | 6.979 | 1.488 | 77.21 |
| #1 | .2717 | .0000 | -.0001 | -.0000 | .0025 | .0020 | .0009 | .0338 | -.0018 |
| #2 | .2729 | .0002 | .0003 | -.0001 | .0012 | .0022 | .0008 | .0328 | -.0049 |
| #3 | .2673 | -.0000 | -.0010 | .0008 | -.0008 | .0028 | .0008 | .0336 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033** | **.0006** | **.0055** | **.0027** | **.0034** | **-.0000** | **.0125** | **.1775** | **535.4** |
| Stddev | .0015 | .0002 | .0041 | .0052 | .0007 | .0023 | .0056 | .0154 | 6.1 |
| %RSD | 46.77 | 35.24 | 75.54 | 194.5 | 21.62 | 5331. | 44.68 | 8.657 | 1.141 |
| #1 | .0038 | .0008 | .0094 | .0036 | .0032 | .0026 | .0125 | .1686 | 531.8 |
| #2 | .0016 | .0004 | .0059 | -.0029 | .0042 | -.0011 | .0180 | .1953 | 542.5 |
| #3 | .0045 | .0005 | .0012 | .0074 | .0028 | -.0017 | .0069 | .1687 | 532.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0106** | **.1385** | **33.51** | **408.2** | **.0170** | **.0084** | **3.646** | **-.0027** | **4.929** |
| Stddev | .0042 | .0281 | .05 | .6 | .0021 | .0004 | .063 | .0023 | .004 |
| %RSD | 39.78 | 20.26 | .1428 | .1451 | 12.08 | 4.608 | 1.733 | 82.57 | .0778 |
| #1 | -.0100 | .1324 | 33.56 | 407.6 | .0178 | .0086 | 3.573 | -.0016 | 4.932 |
| #2 | -.0067 | .1139 | 33.49 | 408.8 | .0146 | .0079 | 3.679 | -.0012 | 4.930 |
| #3 | -.0151 | .1690 | 33.47 | 408.1 | .0184 | .0086 | 3.686 | -.0053 | 4.924 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0024** | **.0070** | **.0012** | **11.73** | **-.0042** | **.2195** | **.0550** |
| Stddev | .0009 | .0030 | .0006 | .23 | .0056 | .0130 | .0226 |
| %RSD | 39.43 | 42.61 | 53.83 | 1.929 | 134.0 | 5.939 | 41.18 |
| #1 | -.0025 | .0036 | .0007 | 11.47 | -.0053 | .2344 | .0754 |
| #2 | -.0014 | .0088 | .0019 | 11.86 | .0019 | .2141 | .0590 |
| #3 | -.0033 | .0087 | .0010 | 11.87 | -.0091 | .2101 | .0306 |



Zoom In Zoom Out

Sample Name: jc87579-11 Acquired: 5/13/2019 16:59:58 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147210.** | **26283.** | **5820.4** | **7919.5** |
| Stddev | 298. | 148. | 79.2 | 90.2 |
| %RSD | .20214 | .56301 | 1.3616 | 1.1388 |
| #1 | 146930. | 26375. | 5911.9 | 8023.7 |
| #2 | 147180. | 26112. | 5772.4 | 7866.9 |
| #3 | 147520. | 26362. | 5777.0 | 7868.0 |



Zoom In Zoom Out

Sample Name: mp14918-mb1conf Acquired: 5/13/2019 17:05:10 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **.0001** | **.0000** | **.0008** | **.0011** | **.0002** | **.0008** | **-.0003** |
| Stddev | .0002 | .0001 | .0000 | .0002 | .0003 | .0002 | .0001 | .0001 | .0001 |
| %RSD | 80.68 | 159.8 | 13.71 | 387.6 | 36.08 | 19.20 | 25.81 | 17.20 | 22.27 |
| #1 | .0004 | -.0001 | .0001 | .0002 | .0007 | .0012 | .0002 | .0008 | -.0004 |
| #2 | .0002 | .0000 | .0001 | .0001 | .0011 | .0008 | .0003 | .0008 | -.0002 |
| #3 | .0000 | -.0001 | .0001 | -.0001 | .0005 | .0011 | .0002 | .0006 | -.0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0057** | **.0000** | **.0012** | **-.0001** | **-.0005** | **-.0001** | **.0054** | **.0710** |
| Stddev | .0001 | .0000 | .0005 | .0009 | .0007 | .0006 | .0007 | .0021 | .0023 |
| %RSD | 14.43 | .7572 | 1958. | 81.20 | 907.0 | 105.9 | 867.4 | 38.40 | 3.297 |
| #1 | .0006 | .0057 | -.0005 | .0016 | .0004 | .0001 | .0007 | .0071 | .0736 |
| #2 | .0005 | .0057 | .0006 | .0001 | -.0009 | -.0010 | -.0005 | .0062 | .0700 |
| #3 | .0007 | .0056 | -.0000 | .0018 | .0002 | -.0007 | -.0004 | .0031 | .0693 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0164** | **.0018** | **.0926** | **.4072** | **.0017** | **.0007** | **.0107** | **.0175** | **.0004** |
| Stddev | .0025 | .0112 | .0379 | .0131 | .0007 | .0002 | .0012 | .0002 | .0001 |
| %RSD | 15.33 | 638.0 | 40.91 | 3.223 | 38.84 | 36.27 | 11.21 | 1.094 | 37.32 |
| #1 | .0138 | .0040 | .0995 | .4160 | .0012 | .0004 | .0093 | .0173 | .0005 |
| #2 | .0188 | -.0104 | .0518 | .4134 | .0024 | .0009 | .0116 | .0176 | .0003 |
| #3 | .0166 | .0116 | .1266 | .3921 | .0014 | .0006 | .0111 | .0177 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0012** | **.0001** | **.0118** | **-.0009** | **.0021** | **.0212** |
| Stddev | .0001 | .0005 | .0001 | .0010 | .0003 | .0008 | .0018 |
| %RSD | 28.14 | 40.09 | 99.87 | 8.550 | 28.86 | 38.98 | 8.682 |
| #1 | .0005 | .0007 | -.0000 | .0106 | -.0007 | .0020 | .0230 |
| #2 | .0003 | .0016 | .0002 | .0124 | -.0012 | .0014 | .0193 |
| #3 | .0006 | .0013 | .0002 | .0124 | -.0007 | .0030 | .0214 |

Zoom In Zoom Out

Sample Name: mp14918-mb1conf Acquired: 5/13/2019 17:05:10 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156330.** | **26810.** | **6128.5** | **8773.7** |
| Stddev | 300. | 194. | 24.4 | 23.1 |
| %RSD | .19222 | .72447 | .39869 | .26339 |
| #1 | 156020. | 26804. | 6136.8 | 8783.1 |
| #2 | 156330. | 26619. | 6101.1 | 8747.4 |
| #3 | 156630. | 27008. | 6147.8 | 8790.7 |



Zoom In Zoom Out

Sample Name: jc87746-1 Acquired: 5/13/2019 17:10:17 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.517** | **.0086** | **-.0011** | **.1298** | **.1840** | **.2623** | **9.149** | **.2425** | **-.0012** |
| Stddev | .005 | .0001 | .0002 | .0003 | .0025 | .0047 | .169 | .0003 | .0012 |
| %RSD | .3023 | 1.572 | 15.28 | .2011 | 1.334 | 1.780 | 1.842 | .1246 | 104.2 |
| #1 | 1.512 | .0085 | -.0012 | .1301 | .1813 | .2573 | 8.990 | .2422 | -.0004 |
| #2 | 1.518 | .0088 | -.0009 | .1297 | .1847 | .2632 | 9.133 | .2428 | -.0006 |
| #3 | 1.521 | .0086 | -.0012 | .1296 | .1860 | .2665 | 9.326 | .2424 | -.0026 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2277** | **.9268** | **.0887** | **.0070** | **.3652** | **.0067** | **-.0026** | **173.3** | **31.38** |
| Stddev | .0037 | .0015 | .0008 | .0024 | .0008 | .0022 | .0032 | .7 | .10 |
| %RSD | 1.618 | .1663 | .9584 | 34.25 | .2060 | 32.27 | 120.6 | .4080 | .3096 |
| #1 | .2240 | .9262 | .0892 | .0048 | .3659 | .0047 | -.0062 | 172.6 | 31.28 |
| #2 | .2277 | .9256 | .0891 | .0096 | .3644 | .0063 | -.0012 | 173.5 | 31.39 |
| #3 | .2314 | .9285 | .0877 | .0066 | .3651 | .0090 | -.0004 | 174.0 | 31.47 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **308.7** | **54.61** | **13.41** | **1.231** | **.0239** | **.0053** | **1.990** | **.0252** | **.2357** |
| Stddev | 3.7 | .15 | .07 | .012 | .0005 | .0005 | .007 | .0009 | .0009 |
| %RSD | 1.214 | .2826 | .5496 | .9873 | 1.886 | 8.898 | .3595 | 3.632 | .3799 |
| #1 | 304.5 | 54.46 | 13.38 | 1.220 | .0244 | .0049 | 1.988 | .0246 | .2349 |
| #2 | 311.8 | 54.61 | 13.36 | 1.244 | .0235 | .0058 | 1.997 | .0248 | .2357 |
| #3 | 309.7 | 54.77 | 13.49 | 1.230 | .0239 | .0052 | 1.983 | .0262 | .2367 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7629** | **.0020** | **.0280** | **.6018** | **.0236** | **.2740** | **5.234** |
| Stddev | .0120 | .0023 | .0004 | .0054 | .0014 | .0030 | .032 |
| %RSD | 1.574 | 116.9 | 1.327 | .9031 | 5.752 | 1.104 | .6117 |
| #1 | .7499 | .0046 | .0275 | .5996 | .0222 | .2715 | 5.264 |
| #2 | .7653 | .0002 | .0283 | .6080 | .0236 | .2773 | 5.237 |
| #3 | .7736 | .0012 | .0280 | .5978 | .0250 | .2732 | 5.200 |



Zoom In Zoom Out

Sample Name: jc87746-1 Acquired: 5/13/2019 17:10:17 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156730.** | **27685.** | **6187.3** | **8374.9** |
| Stddev | 1185. | 44. | 5.3 | 9.9 |
| %RSD | .75581 | .15758 | .08600 | .11845 |
| #1 | 158080. | 27634. | 6182.9 | 8369.7 |
| #2 | 155880. | 27711. | 6193.2 | 8386.4 |
| #3 | 156230. | 27708. | 6185.8 | 8368.8 |



Zoom In Zoom Out

Sample Name: jc87746-2 Acquired: 5/13/2019 17:15:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9851** | **.0066** | **-.0016** | **.1122** | **.1759** | **.2725** | **6.519** | **.2428** | **-.0052** |
| Stddev | .0231 | .0001 | .0002 | .0015 | .0017 | .0023 | .047 | .0008 | .0009 |
| %RSD | 2.342 | 1.441 | 10.83 | 1.378 | .9392 | .8334 | .7246 | .3108 | 17.80 |
| #1 | .9588 | .0065 | -.0016 | .1107 | .1743 | .2703 | 6.466 | .2420 | -.0053 |
| #2 | .9945 | .0066 | -.0014 | .1121 | .1759 | .2723 | 6.534 | .2428 | -.0043 |
| #3 | 1.002 | .0067 | -.0017 | .1138 | .1776 | .2748 | 6.556 | .2435 | -.0061 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1892** | **.7164** | **.0739** | **.0078** | **.1463** | **.0051** | **-.0026** | **137.5** | **29.08** |
| Stddev | .0025 | .0040 | .0020 | .0025 | .0027 | .0027 | .0033 | 3.1 | .63 |
| %RSD | 1.308 | .5534 | 2.699 | 31.45 | 1.812 | 54.37 | 129.1 | 2.231 | 2.162 |
| #1 | .1874 | .7119 | .0727 | .0056 | .1443 | .0056 | .0008 | 134.1 | 28.38 |
| #2 | .1880 | .7176 | .0762 | .0074 | .1453 | .0021 | -.0058 | 138.5 | 29.27 |
| #3 | .1920 | .7195 | .0728 | .0104 | .1493 | .0075 | -.0027 | 140.0 | 29.59 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **271.8** | **58.48** | **14.27** | **1.931** | **.0309** | **.0054** | **1.832** | **.0228** | **.1186** |
| Stddev | 3.2 | 1.34 | .26 | .030 | .0010 | .0003 | .012 | .0003 | .0029 |
| %RSD | 1.183 | 2.289 | 1.797 | 1.578 | 3.331 | 5.347 | .6466 | 1.185 | 2.406 |
| #1 | 268.6 | 56.99 | 13.98 | 1.897 | .0302 | .0052 | 1.818 | .0230 | .1154 |
| #2 | 275.1 | 58.86 | 14.43 | 1.955 | .0321 | .0057 | 1.836 | .0228 | .1195 |
| #3 | 271.6 | 59.59 | 14.41 | 1.942 | .0305 | .0053 | 1.840 | .0225 | .1209 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4750** | **.0026** | **.0541** | **1.044** | **.0100** | **.2532** | **3.520** |
| Stddev | .0035 | .0008 | .0007 | .012 | .0037 | .0078 | .018 |
| %RSD | .7355 | 30.09 | 1.242 | 1.181 | 36.89 | 3.061 | .5228 |
| #1 | .4731 | .0020 | .0534 | 1.031 | .0135 | .2452 | 3.501 |
| #2 | .4729 | .0023 | .0547 | 1.046 | .0104 | .2539 | 3.520 |
| #3 | .4790 | .0035 | .0543 | 1.055 | .0062 | .2606 | 3.538 |

Zoom In Zoom Out

Sample Name: jc87746-2 Acquired: 5/13/2019 17:15:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155620.** | **27729.** | **6127.9** | **8348.4** |
| Stddev | 598. | 329. | 8.5 | 11.0 |
| %RSD | .38409 | 1.1860 | .13806 | .13200 |
| #1 | 155210. | 28108. | 6118.5 | 8336.8 |
| #2 | 155340. | 27541. | 6130.3 | 8358.7 |
| #3 | 156300. | 27537. | 6134.9 | 8349.7 |



Zoom In Zoom Out

Sample Name: jc87746-3 Acquired: 5/13/2019 17:20:55 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8386** | **.0069** | **-.0012** | **.0968** | **.1715** | **.2210** | **7.033** | **.2098** |
| Stddev | .0053 | .0004 | .0003 | .0036 | .0089 | .0448 | .358 | .0032 |
| %RSD | .6344 | 5.940 | 22.13 | 3.697 | 5.199 | 20.25 | 5.086 | 1.517 |
| #1 | .8339 | .0073 | -.0009 | .0938 | .1744 | .2451 | 7.178 | .2069 |
| #2 | .8376 | .0065 | -.0014 | .1007 | .1615 | .1694 | 6.625 | .2132 |
| #3 | .8444 | .0071 | -.0012 | .0958 | .1785 | .2486 | 7.295 | .2092 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0251** | **.2298** | **.6702** | **.0560** | **.0027** | **.1640** | **-.0088** | **-.0012** |
| Stddev | .0391 | .0199 | .0100 | .0133 | .0038 | .0055 | .0243 | .0028 |
| %RSD | 156.2 | 8.680 | 1.490 | 23.79 | 141.9 | 3.383 | 277.6 | 237.9 |
| #1 | -.0016 | .2385 | .6610 | .0621 | .0052 | .1649 | .0027 | .0018 |
| #2 | -.0702 | .2070 | .6808 | .0407 | -.0017 | .1581 | -.0367 | -.0037 |
| #3 | -.0033 | .2439 | .6687 | .0652 | .0046 | .1691 | .0077 | -.0017 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **153.9** | **12.36** | **259.6** | **45.92** | **15.51** | **2.339** | **.0355** | **.0054** |
| Stddev | .5 | .04 | .9 | .18 | .15 | .013 | .0018 | .0020 |
| %RSD | .3136 | .3220 | .3504 | .3932 | .9599 | .5671 | 5.022 | 36.27 |
| #1 | 153.5 | 12.32 | 258.6 | 45.86 | 15.47 | 2.330 | .0348 | .0065 |
| #2 | 153.7 | 12.35 | 259.8 | 45.77 | 15.38 | 2.332 | .0375 | .0032 |
| #3 | 154.4 | 12.40 | 260.4 | 46.12 | 15.67 | 2.354 | .0342 | .0066 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.119** | **.0228** | **.0743** | **.8514** | **.0036** | **.0369** | **.6778** | **.0269** |
| Stddev | .038 | .0012 | .0007 | .0475 | .0040 | .0118 | .0220 | .0078 |
| %RSD | 1.787 | 5.350 | .9465 | 5.584 | 111.0 | 32.04 | 3.248 | 28.87 |
| #1 | 2.099 | .0216 | .0738 | .8688 | .0002 | .0431 | .6616 | .0304 |
| #2 | 2.163 | .0240 | .0740 | .7976 | .0080 | .0232 | .7029 | .0180 |
| #3 | 2.096 | .0228 | .0751 | .8878 | .0025 | .0442 | .6688 | .0323 |



Zoom In Zoom Out

Sample Name: jc87746-3 Acquired: 5/13/2019 17:20:55 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2053** | **3.633** |
| Stddev | .0107 | .023 |
| %RSD | 5.231 | .6444 |
| #1 | .1994 | 3.613 |
| #2 | .2177 | 3.627 |
| #3 | .1988 | 3.659 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **27562.** | **6263.2** | **8463.6** |
| Stddev | ----- | 163. | 73.7 | 77.5 |
| %RSD | ----- | .58961 | 1.1762 | .91581 |
| #1 | 157140. | 27420. | 6305.3 | 8512.0 |
| #2 | ----- | 27739. | 6178.1 | 8374.2 |
| #3 | 157570. | 27526. | 6306.1 | 8504.5 |



Zoom In Zoom Out

Sample Name: jc87747-1 Acquired: 5/13/2019 17:26:11 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.028** | **.0076** | **-.0011** | **.1190** | **.1829** | **.2898** | **8.460** | **.2433** | **-.0041** |
| Stddev | .018 | .0002 | .0003 | .0009 | .0027 | .0035 | .160 | .0006 | .0008 |
| %RSD | 1.773 | 2.186 | 30.32 | .7856 | 1.451 | 1.213 | 1.893 | .2648 | 18.66 |
| #1 | 1.011 | .0074 | -.0010 | .1182 | .1799 | .2858 | 8.297 | .2426 | -.0049 |
| #2 | 1.026 | .0076 | -.0014 | .1188 | .1840 | .2910 | 8.465 | .2438 | -.0039 |
| #3 | 1.047 | .0077 | -.0008 | .1200 | .1848 | .2926 | 8.617 | .2437 | -.0034 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2130** | **.7799** | **.0762** | **.0090** | **.2268** | **.0040** | **-.0011** | **145.4** | **53.52** |
| Stddev | .0020 | .0032 | .0023 | .0036 | .0013 | .0029 | .0026 | 2.3 | .98 |
| %RSD | .9439 | .4103 | 3.070 | 40.02 | .5783 | 71.11 | 234.5 | 1.587 | 1.829 |
| #1 | .2112 | .7777 | .0735 | .0131 | .2281 | .0010 | -.0035 | 143.6 | 52.72 |
| #2 | .2126 | .7784 | .0777 | .0064 | .2254 | .0044 | -.0014 | 144.6 | 53.23 |
| #3 | .2152 | .7835 | .0773 | .0076 | .2269 | .0067 | .0016 | 148.0 | 54.61 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **280.5** | **53.02** | **16.33** | **2.884** | **.0348** | **.0063** | **1.926** | **.0233** | **.2376** |
| Stddev | 5.4 | .95 | .37 | .052 | .0001 | .0007 | .005 | .0006 | .0041 |
| %RSD | 1.942 | 1.800 | 2.286 | 1.804 | .3601 | 10.95 | .2557 | 2.462 | 1.738 |
| #1 | 274.9 | 52.17 | 16.02 | 2.843 | .0348 | .0066 | 1.922 | .0231 | .2340 |
| #2 | 281.0 | 52.84 | 16.23 | 2.866 | .0350 | .0067 | 1.925 | .0239 | .2366 |
| #3 | 285.7 | 54.05 | 16.74 | 2.942 | .0347 | .0055 | 1.932 | .0228 | .2421 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7121** | **.0035** | **.0532** | **3.702** | **.0251** | **.2390** | **3.429** |
| Stddev | .0084 | .0006 | .0004 | .010 | .0006 | .0026 | .004 |
| %RSD | 1.183 | 16.66 | .8206 | .2789 | 2.579 | 1.081 | .1191 |
| #1 | .7024 | .0040 | .0527 | 3.691 | .0246 | .2366 | 3.424 |
| #2 | .7159 | .0029 | .0534 | 3.705 | .0248 | .2387 | 3.431 |
| #3 | .7180 | .0036 | .0534 | 3.711 | .0258 | .2418 | 3.432 |

Zoom In Zoom Out

Sample Name: jc87747-1 Acquired: 5/13/2019 17:26:11 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155340.** | **27625.** | **6168.1** | **8304.7** |
| Stddev | 766. | 242. | 16.9 | 17.1 |
| %RSD | .49282 | .87485 | .27468 | .20560 |
| #1 | 155040. | 27744. | 6148.9 | 8286.9 |
| #2 | 154770. | 27785. | 6181.2 | 8320.9 |
| #3 | 156210. | 27347. | 6174.0 | 8306.3 |



Zoom In Zoom Out

Sample Name: jc87747-2 Acquired: 5/13/2019 17:31:29 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.096** | **.0080** | **.0001** | **.1326** | **.1938** | **.3043** | **10.33** | **.2861** | **-.0069** |
| Stddev | .019 | .0001 | .0001 | .0021 | .0030 | .0031 | .15 | .0034 | .0008 |
| %RSD | 1.731 | 1.049 | 221.8 | 1.590 | 1.562 | 1.022 | 1.406 | 1.191 | 12.04 |
| #1 | 1.075 | .0079 | .0002 | .1303 | .1907 | .3010 | 10.16 | .2822 | -.0072 |
| #2 | 1.099 | .0081 | -.0000 | .1331 | .1940 | .3049 | 10.37 | .2882 | -.0059 |
| #3 | 1.113 | .0080 | .0000 | .1345 | .1967 | .3071 | 10.44 | .2880 | -.0075 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2241** | **.9415** | **.0761** | **.0112** | **.5377** | **.0007** | **-.0003** | **146.1** | **55.86** |
| Stddev | .0029 | .0102 | .0016 | .0019 | .0085 | .0041 | .0024 | 2.4 | .97 |
| %RSD | 1.300 | 1.082 | 2.163 | 17.22 | 1.581 | 567.1 | 787.9 | 1.672 | 1.736 |
| #1 | .2212 | .9301 | .0742 | .0107 | .5280 | -.0013 | -.0008 | 143.6 | 54.85 |
| #2 | .2240 | .9446 | .0766 | .0097 | .5412 | .0054 | .0023 | 146.2 | 55.94 |
| #3 | .2270 | .9498 | .0774 | .0134 | .5438 | -.0020 | -.0024 | 148.5 | 56.79 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **282.2** | **56.85** | **17.99** | **1.888** | **.0335** | **.0075** | **1.878** | **.0263** | **.1535** |
| Stddev | 4.5 | .93 | .34 | .038 | .0014 | .0002 | .016 | .0015 | .0029 |
| %RSD | 1.583 | 1.637 | 1.887 | 2.004 | 4.205 | 2.857 | .8719 | 5.832 | 1.895 |
| #1 | 277.2 | 55.89 | 17.65 | 1.850 | .0322 | .0072 | 1.859 | .0253 | .1505 |
| #2 | 285.9 | 56.90 | 17.98 | 1.888 | .0350 | .0075 | 1.889 | .0280 | .1536 |
| #3 | 283.3 | 57.75 | 18.33 | 1.926 | .0334 | .0077 | 1.886 | .0255 | .1563 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4985** | **.0031** | **.0514** | **1.299** | **.0113** | **.2562** | **3.574** |
| Stddev | .0057 | .0016 | .0006 | .026 | .0028 | .0060 | .058 |
| %RSD | 1.153 | 52.51 | 1.199 | 2.039 | 24.25 | 2.337 | 1.612 |
| #1 | .4928 | .0045 | .0507 | 1.269 | .0082 | .2501 | 3.518 |
| #2 | .4984 | .0013 | .0520 | 1.319 | .0128 | .2564 | 3.633 |
| #3 | .5043 | .0035 | .0515 | 1.309 | .0131 | .2620 | 3.572 |



Zoom In Zoom Out

Sample Name: jc87747-2 Acquired: 5/13/2019 17:31:29 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156250.** | **27588.** | **6154.9** | **8301.3** |
| Stddev | 534. | 114. | 16.4 | 18.1 |
| %RSD | .34176 | .41311 | .26576 | .21837 |
| #1 | 156720. | 27507. | 6144.0 | 8299.7 |
| #2 | 155670. | 27718. | 6147.0 | 8284.0 |
| #3 | 156380. | 27539. | 6173.7 | 8320.1 |



Zoom In Zoom Out

Sample Name: jc87747-3 Acquired: 5/13/2019 17:36:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.100** | **.0079** | **-.0013** | **.1498** | **.2154** | **.2853** | **8.153** | **.2981** |
| Stddev | .047 | .0004 | .0003 | .0036 | .0088 | .0138 | .272 | .0078 |
| %RSD | 4.273 | 4.737 | 23.00 | 2.417 | 4.077 | 4.839 | 3.335 | 2.606 |
| #1 | 1.054 | .0075 | -.0010 | .1457 | .2067 | .2720 | 7.905 | .2896 |
| #2 | 1.098 | .0080 | -.0014 | .1513 | .2150 | .2844 | 8.110 | .2999 |
| #3 | 1.148 | .0083 | -.0016 | .1524 | .2243 | .2996 | 8.443 | .3048 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0152** | **.2246** | **.9238** | **.0741** | **.0053** | **.2791** | **-.0072** | F **-.0063** |
| Stddev | .0002 | .0091 | .0251 | .0039 | .0042 | .0068 | .0033 | .0010 |
| %RSD | 1.489 | 4.074 | 2.721 | 5.245 | 79.41 | 2.426 | 45.95 | 16.01 |
| #1 | -.0151 | .2157 | .8958 | .0710 | .0069 | .2714 | -.0099 | -.0052 |
| #2 | -.0155 | .2241 | .9312 | .0729 | .0084 | .2818 | -.0083 | -.0067 |
| #3 | -.0150 | .2340 | .9445 | .0784 | .0005 | .2842 | -.0035 | -.0070 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **143.8** | **31.99** | **278.2** | **54.22** | **17.34** | **1.975** | **.0350** | **.0085** |
| Stddev | 6.1 | 1.40 | 13.7 | 2.23 | .79 | .081 | .0027 | .0005 |
| %RSD | 4.247 | 4.377 | 4.927 | 4.109 | 4.570 | 4.088 | 7.618 | 5.593 |
| #1 | 137.6 | 30.58 | 266.0 | 52.04 | 16.53 | 1.890 | .0320 | .0081 |
| #2 | 144.1 | 32.03 | 275.5 | 54.14 | 17.37 | 1.983 | .0370 | .0084 |
| #3 | 149.8 | 33.38 | 293.0 | 56.49 | 18.11 | 2.051 | .0361 | .0090 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.997** | **.0289** | **.1504** | **.5488** | **.0037** | **.0578** | **.7940** | **.0192** |
| Stddev | .051 | .0008 | .0066 | .0234 | .0016 | .0022 | .0223 | .0012 |
| %RSD | 2.539 | 2.673 | 4.421 | 4.261 | 41.76 | 3.833 | 2.806 | 6.167 |
| #1 | 1.940 | .0281 | .1436 | .5272 | .0024 | .0556 | .7705 | .0186 |
| #2 | 2.017 | .0288 | .1508 | .5456 | .0054 | .0576 | .7966 | .0185 |
| #3 | 2.036 | .0297 | .1568 | .5736 | .0034 | .0601 | .8148 | .0206 |

Zoom In Zoom Out

Sample Name: jc87747-3 Acquired: 5/13/2019 17:36:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2591** | **3.985** |
| Stddev | .0103 | .103 |
| %RSD | 3.977 | 2.574 |
| #1 | .2506 | 3.879 |
| #2 | .2562 | 3.993 |
| #3 | .2706 | 4.084 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156940.** | **27643.** | **6218.1** | **8347.7** |
| Stddev | 1107. | 208. | 14.1 | 14.8 |
| %RSD | .70525 | .75176 | .22692 | .17729 |
| #1 | 157390. | 27412. | 6222.7 | 8352.2 |
| #2 | 157750. | 27701. | 6229.3 | 8359.7 |
| #3 | 155680. | 27815. | 6202.3 | 8331.2 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 17:42:11 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **2.092** | **2.011** | **2.009** | **2.093** | **2.061** | **2.119** | **2.021** | **.2555** |
| Stddev | .035 | .036 | .004 | .003 | .025 | .024 | .031 | .002 | .0021 |
| %RSD | 1.720 | 1.712 | .2087 | .1530 | 1.201 | 1.141 | 1.461 | .0737 | .8200 |
| #1 | 2.003 | 2.051 | 2.007 | 2.012 | 2.106 | 2.074 | 2.141 | 2.023 | .2568 |
| #2 | 2.067 | 2.118 | 2.011 | 2.007 | 2.109 | 2.077 | 2.133 | 2.020 | .2567 |
| #3 | 2.059 | 2.108 | 2.016 | 2.007 | 2.064 | 2.034 | 2.084 | 2.021 | .2531 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.064** | **2.033** | **2.010** | **2.114** | **2.024** | **2.007** | **2.004** | **41.20** | **41.55** |
| Stddev | .025 | .003 | .004 | .009 | .002 | .003 | .006 | .71 | .73 |
| %RSD | 1.222 | .1536 | .2155 | .4265 | .1140 | .1696 | .3021 | 1.724 | 1.757 |
| #1 | 2.081 | 2.029 | 2.006 | 2.105 | 2.024 | 2.004 | 1.999 | 40.39 | 40.72 |
| #2 | 2.077 | 2.034 | 2.011 | 2.113 | 2.021 | 2.006 | 2.001 | 41.73 | 42.07 |
| #3 | 2.035 | 2.035 | 2.015 | 2.123 | 2.026 | 2.010 | 2.011 | 41.47 | 41.88 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.66** | **41.68** | **41.19** | **41.03** | **2.030** | **2.029** | **5.107** | **2.059** | **2.071** |
| Stddev | .69 | .69 | .69 | .68 | .002 | .003 | .007 | .002 | .036 |
| %RSD | 1.646 | 1.661 | 1.663 | 1.668 | .1177 | .1210 | .1472 | .1167 | 1.762 |
| #1 | 40.88 | 40.89 | 40.40 | 40.24 | 2.028 | 2.026 | 5.102 | 2.056 | 2.029 |
| #2 | 42.15 | 42.16 | 41.66 | 41.48 | 2.030 | 2.029 | 5.103 | 2.059 | 2.095 |
| #3 | 41.96 | 41.99 | 41.50 | 41.36 | 2.033 | 2.031 | 5.116 | 2.060 | 2.089 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 17:42:11 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.076** | **1.988** | **2.111** | **2.079** | **2.001** | **2.025** | F **2.869** |
| Stddev | .025 | .004 | .021 | .016 | .001 | .036 | .098 |
| %RSD | 1.204 | .2006 | 1.015 | .7602 | .0535 | 1.758 | 3.403 |
| #1 | 2.092 | 1.984 | 2.124 | 2.066 | 2.002 | 1.984 | 2.764 |
| #2 | 2.088 | 1.987 | 2.122 | 2.074 | 2.002 | 2.051 | 2.885 |
| #3 | 2.047 | 1.992 | 2.086 | 2.096 | 2.000 | 2.039 | 2.957 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142720.** | **25127.** | **5559.8** | **7764.2** |
| Stddev | 1616. | 394. | 13.6 | 6.4 |
| %RSD | 1.1319 | 1.5691 | .24457 | .08262 |
| #1 | 142040. | 25557. | 5574.7 | 7769.2 |
| #2 | 141560. | 24782. | 5556.4 | 7766.4 |
| #3 | 144570. | 25042. | 5548.2 | 7757.0 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 17:47:10 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0005** | F **.0009** | **.0007** | **.0002** | **.0003** | **.0005** | **.0010** |
| Stddev | .0001 | .0000 | .0001 | .0002 | .0002 | .0004 | .0001 | .0003 |
| %RSD | 11.40 | 3.147 | 12.32 | 27.38 | 126.0 | 130.6 | 11.12 | 24.56 |
| #1 | .0006 | .0005 | .0008 | .0005 | .0001 | .0006 | .0006 | .0008 |
| #2 | .0007 | .0005 | .0010 | .0009 | .0004 | .0005 | .0005 | .0013 |
| #3 | .0007 | .0005 | .0009 | .0008 | .0000 | -.0002 | .0006 | .0011 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | .0007 | | | | | |
| Low Limit | | | -.0007 | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0012** | **.0007** | **-.0007** | **.0004** | **.0007** | **.0016** | **.0028** |
| Stddev | .0007 | .0003 | .0002 | .0010 | .0004 | .0002 | .0007 | .0016 |
| %RSD | 765.2 | 22.60 | 27.58 | 149.8 | 111.5 | 28.43 | 46.58 | 56.94 |
| #1 | -.0006 | .0009 | .0006 | -.0019 | .0007 | .0005 | .0019 | .0011 |
| #2 | .0008 | .0013 | .0009 | .0000 | -.0001 | .0008 | .0022 | .0030 |
| #3 | .0000 | .0014 | .0006 | -.0002 | .0005 | .0008 | .0008 | .0043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0041** | **.0133** | **.0127** | **.0107** | **.1717** | **.2285** | **.0015** | **.0011** |
| Stddev | .0065 | .0014 | .0021 | .0106 | .0256 | .0076 | .0005 | .0001 |
| %RSD | 155.6 | 10.34 | 16.74 | 99.44 | 14.90 | 3.323 | 30.77 | 13.78 |
| #1 | -.0033 | .0134 | .0127 | .0106 | .1942 | .2371 | .0015 | .0010 |
| #2 | .0081 | .0118 | .0105 | .0001 | .1770 | .2257 | .0020 | .0012 |
| #3 | .0077 | .0145 | .0148 | .0213 | .1439 | .2227 | .0011 | .0010 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 17:47:10 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0051** | **.0009** | **.0005** | **.0007** | **.0016** | **.0006** | **-.0040** | **.0023** |
| Stddev | .0011 | .0002 | .0001 | .0003 | .0017 | .0001 | .0016 | .0004 |
| %RSD | 20.80 | 20.45 | 11.60 | 47.21 | 103.0 | 15.28 | 38.97 | 18.30 |
| #1 | .0057 | .0008 | .0006 | .0009 | .0036 | .0006 | -.0055 | .0027 |
| #2 | .0039 | .0011 | .0005 | .0003 | .0008 | .0006 | -.0042 | .0022 |
| #3 | .0056 | .0009 | .0005 | .0008 | .0006 | .0005 | -.0024 | .0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0033** | F **-.0520** |
| Stddev | .0005 | .0024 |
| %RSD | 14.59 | 4.544 |
| #1 | -.0039 | -.0509 |
| #2 | -.0029 | -.0547 |
| #3 | -.0032 | -.0504 |
| Check ? | Chk Pass | Chk Fail |
| High Limit | | .0200 |
| Low Limit | | -.0200 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149620.** | **24989.** | **5789.9** | **8420.5** |
| Stddev | 317. | 21. | 96.6 | 113.9 |
| %RSD | .21199 | .08506 | 1.6682 | 1.3532 |
| #1 | 149580. | 24972. | 5679.2 | 8289.1 |
| #2 | 149320. | 25013. | 5833.2 | 8480.7 |
| #3 | 149950. | 24982. | 5857.2 | 8491.7 |



Zoom In Zoom Out

Sample Name: jc87747-4 Acquired: 5/13/2019 17:52:17 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.167** | **.0080** | **.0001** | **.1229** | **.1980** | **.3174** | **10.11** | **.2555** | **-.0018** |
| Stddev | .013 | .0001 | .0003 | .0010 | .0006 | .0047 | .15 | .0010 | .0003 |
| %RSD | 1.113 | 1.212 | 516.5 | .7904 | .2856 | 1.469 | 1.439 | .4102 | 17.82 |
| #1 | 1.153 | .0079 | -.0002 | .1218 | .1975 | .3124 | 9.961 | .2548 | -.0019 |
| #2 | 1.168 | .0079 | .0004 | .1233 | .1979 | .3182 | 10.12 | .2551 | -.0015 |
| #3 | 1.179 | .0081 | -.0000 | .1235 | .1986 | .3216 | 10.25 | .2567 | -.0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2195** | **.8888** | **.0639** | **.0094** | **.4048** | **.0051** | **-.0016** | **154.9** | **32.18** |
| Stddev | .0029 | .0049 | .0015 | .0008 | .0032 | .0014 | .0017 | 1.1 | .35 |
| %RSD | 1.314 | .5556 | 2.340 | 8.082 | .7839 | 26.85 | 102.9 | .7257 | 1.079 |
| #1 | .2165 | .8838 | .0645 | .0101 | .4017 | .0036 | -.0000 | 153.7 | 31.80 |
| #2 | .2199 | .8891 | .0651 | .0086 | .4047 | .0052 | -.0033 | 155.1 | 32.25 |
| #3 | .2222 | .8936 | .0623 | .0095 | .4080 | .0064 | -.0015 | 155.9 | 32.49 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **297.9** | **57.04** | **17.07** | **2.139** | **.0319** | **.0079** | **1.900** | **.0238** | **.1391** |
| Stddev | 4.0 | .62 | .21 | .015 | .0006 | .0004 | .002 | .0012 | .0014 |
| %RSD | 1.332 | 1.084 | 1.230 | .6769 | 1.901 | 4.960 | .1235 | 5.148 | .9868 |
| #1 | 293.9 | 56.35 | 16.85 | 2.125 | .0312 | .0075 | 1.897 | .0249 | .1376 |
| #2 | 301.8 | 57.25 | 17.09 | 2.154 | .0323 | .0082 | 1.900 | .0224 | .1394 |
| #3 | 298.0 | 57.54 | 17.27 | 2.138 | .0322 | .0081 | 1.902 | .0240 | .1403 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5322** | **.0046** | **.0371** | **1.004** | **.0124** | **.2488** | **8.313** |
| Stddev | .0072 | .0006 | .0005 | .004 | .0021 | .0072 | .013 |
| %RSD | 1.354 | 13.44 | 1.236 | .3748 | 17.26 | 2.882 | .1519 |
| #1 | .5247 | .0051 | .0366 | 1.002 | .0101 | .2476 | 8.308 |
| #2 | .5329 | .0039 | .0375 | 1.008 | .0127 | .2423 | 8.304 |
| #3 | .5391 | .0048 | .0372 | 1.002 | .0144 | .2565 | 8.328 |



Zoom In Zoom Out

Sample Name: jc87747-4 Acquired: 5/13/2019 17:52:17 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148450.** | **25756.** | **5964.5** | **8172.4** |
| Stddev | 267. | 135. | 10.2 | 1.8 |
| %RSD | .17984 | .52341 | .17164 | .02176 |
| #1 | 148280. | 25820. | 5955.0 | 8174.5 |
| #2 | 148320. | 25601. | 5975.3 | 8171.4 |
| #3 | 148760. | 25846. | 5963.1 | 8171.4 |



Zoom In Zoom Out

Sample Name: mp14624-mb1conf Acquired: 5/13/2019 17:57:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0000** | **.0001** | **-.0000** | **.0006** | **.0008** | **.0004** | **.0005** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0003 | .0000 | .0003 |
| %RSD | 79.78 | 373.8 | 86.60 | 792.6 | 31.46 | 37.06 | 11.91 | 55.82 |
| #1 | .0001 | .0000 | .0002 | -.0001 | .0006 | .0007 | .0004 | .0005 |
| #2 | .0005 | .0001 | .0003 | -.0001 | .0008 | .0005 | .0004 | .0009 |
| #3 | .0002 | -.0001 | .0000 | .0002 | .0004 | .0011 | .0003 | .0003 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0006** | **.0073** | **-.0009** | **.0007** | **.0006** | **-.0003** | **-.0002** |
| Stddev | .0003 | .0001 | .0001 | .0007 | .0001 | .0003 | .0016 | .0006 |
| %RSD | 73.46 | 12.47 | 1.008 | 73.34 | 19.40 | 46.46 | 568.5 | 321.2 |
| #1 | .0001 | .0006 | .0073 | -.0014 | .0007 | .0004 | -.0005 | .0004 |
| #2 | .0007 | .0005 | .0074 | -.0013 | .0006 | .0005 | -.0017 | -.0008 |
| #3 | .0006 | .0007 | .0072 | -.0001 | .0009 | .0010 | .0014 | -.0001 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0035** | **.0688** | **.0237** | **.0082** | **.1528** | **.1959** | **.0002** | **.0002** |
| Stddev | .0095 | .0036 | .0038 | .0036 | .0243 | .0033 | .0004 | .0001 |
| %RSD | 269.5 | 5.293 | 16.11 | 43.95 | 15.93 | 1.680 | 207.7 | 45.93 |
| #1 | .0134 | .0713 | .0277 | .0120 | .1430 | .1995 | .0005 | .0001 |
| #2 | -.0056 | .0646 | .0233 | .0079 | .1805 | .1930 | -.0003 | .0002 |
| #3 | .0028 | .0705 | .0201 | .0048 | .1348 | .1951 | .0004 | .0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0067** | **.0178** | **.0003** | **.0008** | **.0008** | **.0003** | **.0016** | **-.0003** |
| Stddev | .0006 | .0003 | .0001 | .0002 | .0004 | .0002 | .0027 | .0007 |
| %RSD | 8.301 | 1.895 | 21.89 | 25.12 | 45.36 | 53.32 | 168.7 | 260.3 |
| #1 | .0061 | .0177 | .0004 | .0010 | .0006 | .0005 | .0030 | .0004 |
| #2 | .0071 | .0181 | .0004 | .0008 | .0012 | .0002 | -.0015 | -.0003 |
| #3 | .0070 | .0175 | .0003 | .0006 | .0006 | .0003 | .0033 | -.0009 |

Zoom In Zoom Out

Sample Name: mp14624-mb1conf Acquired: 5/13/2019 17:57:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0031** | W **-.0366** |
| Stddev | .0008 | .0034 |
| %RSD | 25.41 | 9.201 |
| #1 | -.0040 | -.0358 |
| #2 | -.0027 | -.0337 |
| #3 | -.0026 | -.0403 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151820.** | **25397.** | **5984.4** | **8679.7** |
| Stddev | 252. | 115. | 8.6 | 12.4 |
| %RSD | .16594 | .45181 | .14322 | .14246 |
| #1 | 151890. | 25525. | 5983.9 | 8675.3 |
| #2 | 151540. | 25363. | 5993.2 | 8693.7 |
| #3 | 152030. | 25303. | 5976.1 | 8670.1 |



Zoom In Zoom Out

Sample Name: mp14624-ps1 Acquired: 5/13/2019 18:02:39 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.511** | **2.102** | **1.991** | **1.982** | **2.318** | **2.409** | **4.027** | **2.066** | **.2540** |
| Stddev | .009 | .003 | .006 | .004 | .245 | .234 | .426 | .005 | .0053 |
| %RSD | .3463 | .1518 | .3055 | .2227 | 10.58 | 9.695 | 10.57 | .2454 | 2.068 |
| #1 | 2.505 | 2.100 | 1.992 | 1.987 | 2.173 | 2.276 | 3.736 | 2.072 | .2508 |
| #2 | 2.507 | 2.105 | 1.984 | 1.978 | 2.179 | 2.273 | 3.830 | 2.063 | .2511 |
| #3 | 2.521 | 2.100 | 1.997 | 1.980 | 2.601 | 2.679 | 4.516 | 2.063 | .2600 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.250** | **5.119** | **2.019** | **2.113** | **2.340** | **1.952** | **1.983** | **94.83** | **50.21** |
| Stddev | .216 | .013 | .011 | .051 | .010 | .019 | .004 | .18 | .10 |
| %RSD | 9.576 | .2443 | .5437 | 2.397 | .4388 | .9687 | .2099 | .1941 | .1937 |
| #1 | 2.124 | 5.132 | 2.031 | 2.147 | 2.349 | 1.966 | 1.987 | 94.63 | 50.10 |
| #2 | 2.128 | 5.116 | 2.019 | 2.137 | 2.341 | 1.958 | 1.979 | 94.99 | 50.29 |
| #3 | 2.499 | 5.108 | 2.009 | 2.054 | 2.329 | 1.930 | 1.983 | 94.88 | 50.23 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **140.9** | **38.83** | **30.84** | **26.58** | **2.011** | **1.894** | **1.688** | **2.008** | **2.172** |
| Stddev | 1.3 | .06 | .11 | .05 | .038 | .004 | .105 | .010 | .006 |
| %RSD | .9126 | .1561 | .3524 | .1739 | 1.900 | .2034 | 6.229 | .4800 | .2696 |
| #1 | 142.4 | 38.76 | 30.88 | 26.53 | 1.994 | 1.899 | 1.632 | 2.018 | 2.166 |
| #2 | 140.0 | 38.88 | 30.92 | 26.58 | 1.984 | 1.892 | 1.623 | 2.007 | 2.172 |
| #3 | 140.4 | 38.85 | 30.71 | 26.62 | 2.055 | 1.892 | 1.810 | 1.998 | 2.178 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.368** | **1.705** | **2.272** | **7.689** | **.1091** | **.0768** | F **17.37** |
| Stddev | .357 | .042 | .235 | .040 | .1373 | .0079 | .05 |
| %RSD | 10.59 | 2.484 | 10.34 | .5159 | 125.8 | 10.25 | .2621 |
| #1 | 3.159 | 1.678 | 2.136 | 7.730 | .1884 | .0710 | 17.42 |
| #2 | 3.166 | 1.683 | 2.138 | 7.688 | .1883 | .0737 | 17.36 |
| #3 | 3.781 | 1.754 | 2.544 | 7.650 | -.0494 | .0857 | 17.33 |



Zoom In Zoom Out

Sample Name: mp14624-ps1 Acquired: 5/13/2019 18:02:39 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **25816.** | **5890.3** | **8057.9** |
| Stddev | ----- | 114. | 10.6 | 14.2 |
| %RSD | ----- | .44220 | .18047 | .17592 |
| #1 | 147900. | 25841. | 5880.4 | 8043.3 |
| #2 | 146300. | 25692. | 5889.1 | 8058.8 |
| #3 | ----- | 25916. | 5901.5 | 8071.6 |



Zoom In Zoom Out

Sample Name: mp14909a-mb1conf Acquired: 5/13/2019 18:07:44 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0001** | **-.0001** | **.0001** | **.0005** | **.0001** | **.0003** |
| Stddev | .0004 | .0000 | .0000 | .0001 | .0001 | .0001 | .0001 | .0001 |
| %RSD | 557.2 | 55.13 | 35.03 | 108.3 | 81.53 | 25.49 | 54.88 | 22.75 |
| #1 | .0005 | .0001 | .0001 | -.0000 | .0000 | .0007 | .0002 | .0003 |
| #2 | -.0001 | .0000 | .0001 | -.0000 | .0002 | .0006 | .0001 | .0003 |
| #3 | -.0002 | .0001 | .0001 | -.0003 | .0001 | .0004 | .0002 | .0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0013** | **.0081** | **-.0002** | **-.0006** | **-.0008** | **-.0014** | **-.0002** |
| Stddev | .0003 | .0002 | .0001 | .0004 | .0009 | .0006 | .0007 | .0009 |
| %RSD | 68.11 | 15.17 | .8363 | 273.2 | 167.0 | 69.37 | 48.21 | 537.2 |
| #1 | .0002 | .0015 | .0081 | .0002 | .0002 | -.0011 | -.0010 | -.0011 |
| #2 | .0007 | .0013 | .0080 | -.0001 | -.0003 | -.0002 | -.0010 | -.0003 |
| #3 | .0003 | .0011 | .0080 | -.0006 | -.0016 | -.0012 | -.0021 | .0008 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0083** | **.0184** | **.0042** | **-.0077** | **.1245** | **.1877** | **.0013** | **.0039** |
| Stddev | .0139 | .0010 | .0026 | .0114 | .0262 | .0066 | .0005 | .0006 |
| %RSD | 168.1 | 5.258 | 61.79 | 148.6 | 21.06 | 3.535 | 37.50 | 16.56 |
| #1 | -.0243 | .0195 | .0013 | .0054 | .1468 | .1947 | .0018 | .0043 |
| #2 | -.0000 | .0176 | .0050 | -.0127 | .0956 | .1867 | .0009 | .0043 |
| #3 | -.0005 | .0181 | .0063 | -.0157 | .1310 | .1816 | .0011 | .0032 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0090** | **-.0004** | **.0000** | **.0008** | **.0274** | **.0015** | **-.0053** | **.0009** |
| Stddev | .0001 | .0004 | .0001 | .0005 | .0036 | .0001 | .0018 | .0009 |
| %RSD | 1.427 | 87.37 | 283.4 | 64.11 | 13.09 | 8.056 | 34.21 | 106.6 |
| #1 | .0090 | -.0005 | .0001 | .0014 | .0309 | .0015 | -.0041 | -.0002 |
| #2 | .0089 | -.0000 | .0002 | .0007 | .0274 | .0014 | -.0043 | .0012 |
| #3 | .0091 | -.0007 | -.0001 | .0004 | .0238 | .0016 | -.0074 | .0016 |

Zoom In Zoom Out

Sample Name: mp14909a-mb1conf Acquired: 5/13/2019 18:07:44 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0043** | W **-.0884** |
| Stddev | .0004 | .0059 |
| %RSD | 9.608 | 6.705 |
| #1 | -.0042 | -.0938 |
| #2 | -.0039 | -.0895 |
| #3 | -.0047 | -.0821 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149700.** | **25210.** | **5934.0** | **8610.3** |
| Stddev | 339. | 154. | 14.1 | 22.1 |
| %RSD | .22641 | .61196 | .23814 | .25655 |
| #1 | 150070. | 25359. | 5949.4 | 8635.1 |
| #2 | 149400. | 25222. | 5921.7 | 8592.6 |
| #3 | 149630. | 25051. | 5930.9 | 8603.4 |



Zoom In Zoom Out

Sample Name: mp14909a-s1 Acquired: 5/13/2019 18:12:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.131** | **2.128** | **1.980** | **1.936** | **2.092** | **2.030** | **2.641** | **1.995** | **.2617** |
| Stddev | .004 | .001 | .001 | .003 | .000 | .001 | .004 | .000 | .0002 |
| %RSD | .1656 | .0591 | .0431 | .1496 | .0114 | .0682 | .1431 | .0165 | .0947 |
| #1 | 2.134 | 2.128 | 1.979 | 1.934 | 2.092 | 2.029 | 2.638 | 1.995 | .2618 |
| #2 | 2.132 | 2.129 | 1.981 | 1.935 | 2.092 | 2.031 | 2.645 | 1.995 | .2614 |
| #3 | 2.127 | 2.126 | 1.980 | 1.940 | 2.092 | 2.031 | 2.639 | 1.995 | .2618 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **1.996** | **1.979** | **2.103** | **1.996** | **1.932** | **1.942** | **26.07** | **70.88** |
| Stddev | .003 | .003 | .003 | .005 | .004 | .003 | .003 | .09 | .16 |
| %RSD | .1460 | .1519 | .1517 | .2554 | .1810 | .1574 | .1342 | .3408 | .2281 |
| #1 | 2.010 | 1.998 | 1.981 | 2.108 | 1.995 | 1.929 | 1.943 | 26.12 | 70.91 |
| #2 | 2.015 | 1.997 | 1.981 | 2.097 | 1.993 | 1.934 | 1.939 | 26.11 | 71.01 |
| #3 | 2.009 | 1.993 | 1.976 | 2.103 | 2.000 | 1.934 | 1.944 | 25.96 | 70.70 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **27.66** | **47.41** | **34.22** | **218.0** | **2.072** | **1.948** | **13.13** | **1.953** | **2.370** |
| Stddev | .05 | .17 | .11 | 6.5 | .002 | .002 | .01 | .002 | .003 |
| %RSD | .1808 | .3555 | .3214 | 2.997 | .1126 | .1050 | .0876 | .0868 | .1093 |
| #1 | 27.69 | 47.51 | 34.27 | 222.0 | 2.070 | 1.950 | 13.12 | 1.953 | 2.371 |
| #2 | 27.69 | 47.51 | 34.29 | 221.5 | 2.074 | 1.949 | 13.14 | 1.955 | 2.372 |
| #3 | 27.60 | 47.22 | 34.09 | 210.5 | 2.073 | 1.946 | 13.13 | 1.951 | 2.367 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.019** | **1.904** | **2.089** | **.5969** | **.1377** | **.0307** | **4.269** |
| Stddev | .004 | .002 | .005 | .0017 | .0014 | .0041 | .031 |
| %RSD | .1861 | .1273 | .2193 | .2868 | .9873 | 13.47 | .7249 |
| #1 | 2.015 | 1.904 | 2.085 | .5955 | .1363 | .0261 | 4.234 |
| #2 | 2.022 | 1.906 | 2.094 | .5964 | .1390 | .0316 | 4.292 |
| #3 | 2.020 | 1.901 | 2.090 | .5988 | .1379 | .0343 | 4.281 |



Zoom In Zoom Out

Sample Name: mp14909a-s1 Acquired: 5/13/2019 18:12:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142930.** | **24754.** | **5705.8** | **7876.4** |
| Stddev | 225. | 323. | 5.2 | 5.9 |
| %RSD | .15711 | 1.3064 | .09185 | .07521 |
| #1 | 143120. | 24582. | 5703.0 | 7882.2 |
| #2 | 142990. | 24552. | 5702.6 | 7876.8 |
| #3 | 142680. | 25127. | 5711.9 | 7870.4 |



Zoom In Zoom Out

Sample Name: mp14909a-s2 Acquired: 5/13/2019 18:17:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.138** | **2.143** | **1.991** | **1.940** | **2.101** | **2.038** | **2.646** | **1.999** | **.2614** |
| Stddev | .003 | .002 | .003 | .004 | .004 | .004 | .003 | .003 | .0007 |
| %RSD | .1459 | .1004 | .1525 | .1839 | .1928 | .2231 | .0970 | .1267 | .2559 |
| #1 | 2.136 | 2.144 | 1.990 | 1.938 | 2.105 | 2.043 | 2.649 | 2.000 | .2616 |
| #2 | 2.141 | 2.140 | 1.994 | 1.944 | 2.096 | 2.035 | 2.644 | 2.000 | .2620 |
| #3 | 2.136 | 2.144 | 1.988 | 1.937 | 2.101 | 2.036 | 2.644 | 1.996 | .2607 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.017** | **2.008** | **1.979** | **2.126** | **2.000** | **1.943** | **1.956** | **26.23** | **70.25** |
| Stddev | .002 | .003 | .004 | .006 | .003 | .010 | .004 | .01 | .09 |
| %RSD | .0952 | .1556 | .1832 | .2949 | .1724 | .4954 | .2216 | .0302 | .1294 |
| #1 | 2.018 | 2.010 | 1.978 | 2.124 | 1.996 | 1.943 | 1.960 | 26.23 | 70.29 |
| #2 | 2.015 | 2.009 | 1.983 | 2.133 | 2.003 | 1.952 | 1.955 | 26.22 | 70.15 |
| #3 | 2.019 | 2.004 | 1.975 | 2.122 | 2.000 | 1.933 | 1.952 | 26.23 | 70.32 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **27.88** | **47.34** | **34.62** | **216.8** | **2.082** | **1.954** | **13.02** | **1.955** | **2.382** |
| Stddev | .02 | .10 | .05 | 3.4 | .006 | .006 | .02 | .007 | .002 |
| %RSD | .0592 | .2068 | .1430 | 1.570 | .2725 | .2967 | .1467 | .3582 | .0948 |
| #1 | 27.88 | 47.44 | 34.61 | 220.5 | 2.083 | 1.952 | 13.03 | 1.958 | 2.379 |
| #2 | 27.87 | 47.33 | 34.58 | 213.8 | 2.087 | 1.961 | 13.04 | 1.959 | 2.382 |
| #3 | 27.90 | 47.25 | 34.68 | 216.0 | 2.076 | 1.950 | 13.00 | 1.946 | 2.383 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.026** | **1.894** | **2.097** | **.5735** | **.1348** | **.0244** | **4.336** |
| Stddev | .001 | .002 | .003 | .0037 | .0015 | .0029 | .028 |
| %RSD | .0577 | .1258 | .1549 | .6380 | 1.135 | 11.98 | .6503 |
| #1 | 2.027 | 1.894 | 2.100 | .5711 | .1338 | .0268 | 4.347 |
| #2 | 2.025 | 1.897 | 2.094 | .5777 | .1366 | .0211 | 4.357 |
| #3 | 2.027 | 1.892 | 2.098 | .5717 | .1340 | .0253 | 4.304 |

Zoom In Zoom Out

Sample Name: mp14909a-s2 Acquired: 5/13/2019 18:17:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141740.** | **24569.** | **5652.7** | **7822.8** |
| Stddev | 111. | 110. | 9.1 | 10.7 |
| %RSD | .07806 | .44695 | .16118 | .13673 |
| #1 | 141860. | 24444. | 5650.4 | 7823.2 |
| #2 | 141670. | 24614. | 5644.9 | 7812.0 |
| #3 | 141680. | 24649. | 5662.7 | 7833.3 |



Zoom In Zoom Out

Sample Name: mp14895-mb1 1 Acquired: 5/13/2019 18:22:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0000** | **-.0001** | **-.0005** | **.0011** | **.0000** | **.0001** |
| Stddev | .0004 | .0001 | .0002 | .0002 | .0003 | .0002 | .0000 | .0001 |
| %RSD | 472.6 | 71.94 | 861.9 | 190.4 | 60.26 | 16.69 | 188.8 | 163.2 |
| #1 | .0004 | .0001 | .0001 | .0001 | -.0001 | .0009 | -.0000 | .0002 |
| #2 | .0000 | .0001 | .0002 | -.0004 | -.0006 | .0012 | .0000 | .0001 |
| #3 | -.0003 | .0000 | -.0002 | -.0000 | -.0006 | .0013 | .0001 | -.0000 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0005** | **.0010** | **.0002** | **.0016** | **.0005** | **.0002** | **-.0004** |
| Stddev | .0004 | .0002 | .0001 | .0007 | .0006 | .0007 | .0008 | .0025 |
| %RSD | 49.87 | 51.11 | 11.91 | 433.9 | 35.25 | 132.2 | 506.0 | 693.8 |
| #1 | .0012 | .0002 | .0009 | -.0006 | .0015 | -.0001 | .0006 | .0000 |
| #2 | .0005 | .0007 | .0011 | .0002 | .0011 | .0013 | .0006 | -.0030 |
| #3 | .0006 | .0005 | .0010 | .0008 | .0022 | .0003 | -.0007 | .0019 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0188** | **.0086** | **.0006** | **-.0093** | **.0956** | **.0335** | **.0010** | **.0005** |
| Stddev | .0079 | .0037 | .0017 | .0161 | .0076 | .0064 | .0003 | .0001 |
| %RSD | 42.19 | 43.15 | 290.3 | 172.2 | 7.939 | 18.98 | 31.14 | 13.80 |
| #1 | -.0262 | .0112 | .0011 | -.0242 | .0896 | .0379 | .0008 | .0006 |
| #2 | -.0198 | .0101 | .0019 | -.0115 | .0931 | .0364 | .0014 | .0004 |
| #3 | -.0104 | .0043 | -.0013 | .0077 | .1041 | .0262 | .0010 | .0005 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **-.0009** | **-.0000** | **.0003** | **.0029** | **-.0001** | **-.0059** | **.0021** |
| Stddev | .0005 | .0004 | .0000 | .0003 | .0011 | .0001 | .0007 | .0008 |
| %RSD | 26.43 | 45.58 | 142.3 | 92.58 | 37.72 | 184.4 | 12.59 | 37.21 |
| #1 | .0020 | -.0014 | .0000 | .0002 | .0016 | -.0002 | -.0052 | .0018 |
| #2 | .0021 | -.0005 | -.0001 | .0006 | .0035 | -.0001 | -.0067 | .0015 |
| #3 | .0013 | -.0009 | -.0001 | .0001 | .0035 | .0001 | -.0059 | .0029 |



Zoom In Zoom Out

Sample Name: mp14895-mb1 1 Acquired: 5/13/2019 18:22:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0060** | W **-.1040** |
| Stddev | .0006 | .0021 |
| %RSD | 10.60 | 1.985 |
| #1 | -.0062 | -.1064 |
| #2 | -.0065 | -.1025 |
| #3 | -.0053 | -.1033 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **25213.** | **6010.8** | **8872.6** |
| Stddev | ----- | 143. | 13.4 | 22.3 |
| %RSD | ----- | .56846 | .22305 | .25095 |
| #1 | 154120. | 25091. | 6023.9 | 8886.9 |
| #2 | ----- | 25370. | 5997.1 | 8846.9 |
| #3 | 147160. | 25177. | 6011.4 | 8883.9 |



Zoom In Zoom Out

Sample Name: mp14895-b1 Acquired: 5/13/2019 18:27:58 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.049** | **2.124** | **2.057** | **1.924** | **2.118** | **2.094** | **2.123** | **1.984** | **.0860** |
| Stddev | .005 | .005 | .067 | .050 | .010 | .007 | .021 | .051 | .0003 |
| %RSD | .2259 | .2306 | 3.254 | 2.598 | .4659 | .3305 | 1.011 | 2.589 | .3517 |
| #1 | 2.046 | 2.119 | 2.086 | 1.943 | 2.127 | 2.101 | 2.143 | 2.004 | .0863 |
| #2 | 2.046 | 2.126 | 1.980 | 1.867 | 2.120 | 2.095 | 2.100 | 1.925 | .0859 |
| #3 | 2.054 | 2.128 | 2.105 | 1.962 | 2.107 | 2.087 | 2.126 | 2.022 | .0857 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.010** | **2.024** | **1.989** | **2.189** | **2.012** | **2.040** | **2.055** | **26.37** | **27.13** |
| Stddev | .010 | .065 | .064 | .057 | .055 | .068 | .067 | .07 | .05 |
| %RSD | .4992 | 3.210 | 3.237 | 2.603 | 2.749 | 3.317 | 3.241 | .2711 | .1760 |
| #1 | 2.020 | 2.052 | 2.019 | 2.212 | 2.033 | 2.070 | 2.087 | 26.29 | 27.08 |
| #2 | 2.011 | 1.950 | 1.915 | 2.124 | 1.949 | 1.962 | 1.979 | 26.42 | 27.15 |
| #3 | 2.000 | 2.070 | 2.033 | 2.231 | 2.053 | 2.087 | 2.101 | 26.41 | 27.17 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.14** | **26.81** | **27.19** | **26.32** | **2.016** | **1.977** | **-.0189** | **2.024** | **2.102** |
| Stddev | .05 | .05 | .04 | .02 | .063 | .065 | .0037 | .066 | .004 |
| %RSD | .1970 | .1910 | .1582 | .0909 | 3.123 | 3.273 | 19.50 | 3.234 | .1931 |
| #1 | 26.09 | 26.78 | 27.14 | 26.30 | 2.042 | 2.006 | -.0193 | 2.051 | 2.098 |
| #2 | 26.18 | 26.87 | 27.19 | 26.33 | 1.944 | 1.903 | -.0223 | 1.949 | 2.102 |
| #3 | 26.17 | 26.78 | 27.23 | 26.34 | 2.062 | 2.022 | -.0150 | 2.071 | 2.106 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.065** | **1.811** | **2.134** | **-.0122** | **.1371** | **-.0074** | **4.350** |
| Stddev | .010 | .060 | .011 | .0026 | .0019 | .0017 | .123 |
| %RSD | .4766 | 3.305 | .5003 | 20.88 | 1.353 | 23.08 | 2.822 |
| #1 | 2.074 | 1.831 | 2.142 | -.0152 | .1369 | -.0077 | 4.392 |
| #2 | 2.065 | 1.744 | 2.137 | -.0106 | .1391 | -.0089 | 4.212 |
| #3 | 2.055 | 1.859 | 2.122 | -.0110 | .1354 | -.0055 | 4.446 |

Zoom In Zoom Out

Sample Name: mp14895-b1 Acquired: 5/13/2019 18:27:58 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145390.** | **24825.** | **5805.5** | **8200.8** |
| Stddev | 977. | 56. | 178.6 | 206.2 |
| %RSD | .67187 | .22725 | 3.0768 | 2.5148 |
| #1 | 144280. | 24824. | 5720.6 | 8109.5 |
| #2 | 146100. | 24769. | 6010.8 | 8436.9 |
| #3 | 145800. | 24882. | 5685.2 | 8055.9 |



Zoom In Zoom Out

Sample Name: mp14895-s1 Acquired: 5/13/2019 18:32:58 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.012** | **2.100** | **2.170** | **1.912** | **2.106** | **2.151** | **2.469** | **1.980** |
| Stddev | .009 | .003 | .003 | .001 | .071 | .073 | .085 | .001 |
| %RSD | .3115 | .1543 | .1400 | .0468 | 3.351 | 3.374 | 3.451 | .0712 |
| #1 | 3.010 | 2.099 | 2.167 | 1.911 | 2.065 | 2.108 | 2.393 | 1.979 |
| #2 | 3.004 | 2.096 | 2.170 | 1.913 | 2.066 | 2.111 | 2.452 | 1.981 |
| #3 | 3.022 | 2.103 | 2.173 | 1.913 | 2.188 | 2.235 | 2.561 | 1.979 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0946** | **2.032** | **1.965** | **2.148** | **1.889** | **1.931** | **2.102** | **2.144** |
| Stddev | .0033 | .070 | .002 | .003 | .005 | .003 | .003 | .001 |
| %RSD | 3.491 | 3.461 | .1157 | .1148 | .2874 | .1522 | .1430 | .0508 |
| #1 | .0926 | 1.990 | 1.962 | 2.145 | 1.883 | 1.933 | 2.102 | 2.144 |
| #2 | .0929 | 1.993 | 1.966 | 2.150 | 1.892 | 1.933 | 2.105 | 2.143 |
| #3 | .0985 | 2.113 | 1.966 | 2.149 | 1.892 | 1.928 | 2.099 | 2.145 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **27.13** | ***** | **27.62** | **33.11** | **84.81** | F **781.4** | **2.096** | **1.996** |
| Stddev | .06 | ----- | .03 | .11 | .24 | 12.7 | .003 | .003 |
| %RSD | .2261 | ----- | .0940 | .3339 | .2882 | 1.620 | .1170 | .1360 |
| #1 | 27.08 | ----- | 27.62 | 33.01 | 84.64 | 777.1 | 2.094 | 1.994 |
| #2 | 27.10 | ----- | 27.59 | 33.09 | 84.70 | 795.6 | 2.098 | 1.997 |
| #3 | 27.20 | ----- | 27.65 | 33.23 | 85.09 | 771.4 | 2.098 | 1.999 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.062** | **1.912** | F **13.26** | **2.100** | **1.969** | **2.198** | **13.78** | F **-.0406** |
| Stddev | .001 | .001 | .16 | .073 | .004 | .076 | .02 | .0021 |
| %RSD | .0513 | .0538 | 1.179 | 3.497 | .1758 | 3.453 | .1276 | 5.087 |
| #1 | 2.061 | 1.912 | 13.09 | 2.056 | 1.965 | 2.154 | 13.76 | -.0429 |
| #2 | 2.062 | 1.913 | 13.33 | 2.058 | 1.971 | 2.154 | 13.78 | -.0394 |
| #3 | 2.063 | 1.911 | 13.38 | 2.185 | 1.971 | 2.285 | 13.79 | -.0393 |



Zoom In Zoom Out

Sample Name: mp14895-s1 Acquired: 5/13/2019 18:32:58 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.3106** | **4.622** |
| Stddev | .0015 | .009 |
| %RSD | .4673 | .1856 |
| #1 | .3102 | 4.631 |
| #2 | .3095 | 4.621 |
| #3 | .3122 | 4.614 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **121200.** | **23673.** | **4890.4** | **6662.9** |
| Stddev | 3826. | 145. | 4.5 | 6.4 |
| %RSD | 3.1563 | .61231 | .09204 | .09617 |
| #1 | 123670. | 23835. | 4893.4 | 6668.4 |
| #2 | 123140. | 23629. | 4892.6 | 6664.5 |
| #3 | 116800. | 23555. | 4885.2 | 6655.9 |



Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/13/2019 18:38:19 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.092** | **2.170** | **2.023** | **1.937** | **2.148** | **2.107** | **2.151** | **2.000** | **.2613** |
| Stddev | .002 | .006 | .001 | .004 | .006 | .003 | .023 | .003 | .0005 |
| %RSD | .0825 | .2646 | .0363 | .1818 | .2821 | .1293 | 1.073 | .1525 | .2014 |
| #1 | 2.091 | 2.169 | 2.022 | 1.935 | 2.141 | 2.103 | 2.124 | 1.997 | .2608 |
| #2 | 2.094 | 2.164 | 2.022 | 1.935 | 2.151 | 2.108 | 2.164 | 1.999 | .2619 |
| #3 | 2.091 | 2.175 | 2.023 | 1.941 | 2.152 | 2.108 | 2.165 | 2.003 | .2613 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.046** | **2.026** | **1.965** | **2.143** | **2.004** | **1.973** | **1.995** | **42.00** | **43.34** |
| Stddev | .002 | .001 | .003 | .003 | .003 | .003 | .002 | .12 | .06 |
| %RSD | .0855 | .0352 | .1321 | .1220 | .1609 | .1488 | .0855 | .2790 | .1351 |
| #1 | 2.046 | 2.025 | 1.968 | 2.144 | 2.002 | 1.970 | 1.995 | 41.97 | 43.28 |
| #2 | 2.048 | 2.026 | 1.963 | 2.140 | 2.003 | 1.976 | 1.997 | 41.90 | 43.35 |
| #3 | 2.044 | 2.027 | 1.964 | 2.144 | 2.008 | 1.973 | 1.994 | 42.13 | 43.40 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.69** | **42.58** | **43.76** | **41.87** | **2.004** | **1.988** | **5.103** | **1.992** | **2.145** |
| Stddev | .09 | .04 | .10 | .09 | .002 | .000 | .002 | .003 | .002 |
| %RSD | .2128 | .1040 | .2180 | .2116 | .0738 | .0224 | .0343 | .1326 | .0896 |
| #1 | 41.70 | 42.54 | 43.76 | 41.80 | 2.006 | 1.988 | 5.102 | 1.994 | 2.145 |
| #2 | 41.60 | 42.63 | 43.67 | 41.97 | 2.003 | 1.989 | 5.105 | 1.994 | 2.143 |
| #3 | 41.78 | 42.56 | 43.86 | 41.85 | 2.003 | 1.988 | 5.102 | 1.989 | 2.146 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/13/2019 18:38:19 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.081** | **1.960** | **2.160** | **2.118** | **1.973** | **2.128** | F **4.375** |
| Stddev | .002 | .003 | .001 | .002 | .008 | .006 | .029 |
| %RSD | .0865 | .1738 | .0511 | .0868 | .4098 | .3072 | .6632 |
| #1 | 2.080 | 1.964 | 2.159 | 2.116 | 1.965 | 2.128 | 4.354 |
| #2 | 2.083 | 1.959 | 2.161 | 2.120 | 1.975 | 2.122 | 4.364 |
| #3 | 2.079 | 1.957 | 2.159 | 2.119 | 1.981 | 2.135 | 4.408 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **139980.** | **24310.** | **5592.8** | **7833.8** |
| Stddev | 389. | 150. | 5.3 | 1.8 |
| %RSD | .27811 | .61522 | .09558 | .02345 |
| #1 | 140410. | 24477. | 5588.6 | 7835.0 |
| #2 | 139640. | 24190. | 5590.9 | 7834.7 |
| #3 | 139900. | 24261. | 5598.8 | 7831.7 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 18:43:19 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0007** | F **.0010** | **.0008** | **.0004** | **.0011** | **.0007** | **.0011** |
| Stddev | .0003 | .0001 | .0001 | .0002 | .0002 | .0002 | .0000 | .0002 |
| %RSD | 60.30 | 11.57 | 10.88 | 21.71 | 39.14 | 14.94 | 1.828 | 22.52 |
| #1 | .0004 | .0007 | .0010 | .0010 | .0003 | .0013 | .0007 | .0014 |
| #2 | .0009 | .0007 | .0011 | .0007 | .0003 | .0012 | .0007 | .0010 |
| #3 | .0003 | .0006 | .0009 | .0008 | .0006 | .0010 | .0007 | .0010 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | .0007 | | | | | |
| Low Limit | | | -.0007 | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0011** | **.0007** | **-.0013** | **.0006** | **.0010** | **.0004** | **.0003** |
| Stddev | .0003 | .0004 | .0001 | .0009 | .0016 | .0009 | .0010 | .0018 |
| %RSD | 25.41 | 39.66 | 19.74 | 69.10 | 251.7 | 95.18 | 223.6 | 608.6 |
| #1 | .0012 | .0014 | .0009 | -.0018 | .0025 | .0020 | .0014 | -.0018 |
| #2 | .0013 | .0006 | .0007 | -.0019 | -.0006 | .0005 | -.0005 | .0010 |
| #3 | .0008 | .0014 | .0006 | -.0003 | .0001 | .0003 | .0003 | .0017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0057** | **.0217** | **.0137** | **-.0031** | **.2660** | **.4397** | **.0051** | **.0016** |
| Stddev | .0072 | .0026 | .0020 | .0027 | .0258 | .0091 | .0007 | .0003 |
| %RSD | 126.8 | 12.10 | 14.44 | 86.11 | 9.688 | 2.067 | 13.37 | 19.66 |
| #1 | .0024 | .0218 | .0155 | -.0060 | .2866 | .4446 | .0051 | .0018 |
| #2 | -.0115 | .0191 | .0139 | -.0006 | .2743 | .4452 | .0058 | .0019 |
| #3 | -.0079 | .0243 | .0116 | -.0029 | .2371 | .4292 | .0044 | .0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 18:43:19 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0059** | **.0008** | **.0005** | **.0008** | F **.0077** | **.0007** | **-.0095** | **.0005** |
| Stddev | .0012 | .0005 | .0000 | .0002 | .0008 | .0001 | .0009 | .0008 |
| %RSD | 20.52 | 61.20 | 8.503 | 29.84 | 9.932 | 9.573 | 9.901 | 171.3 |
| #1 | .0071 | .0008 | .0006 | .0011 | .0077 | .0007 | -.0105 | .0002 |
| #2 | .0058 | .0003 | .0005 | .0008 | .0084 | .0006 | -.0087 | -.0002 |
| #3 | .0047 | .0014 | .0005 | .0006 | .0069 | .0007 | -.0093 | .0014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | .0050 | | | |
| Low Limit | | | | | -.0050 | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0026** | F **-.1086** |
| Stddev | .0027 | .0025 |
| %RSD | 104.2 | 2.339 |
| #1 | -.0018 | -.1071 |
| #2 | -.0055 | -.1115 |
| #3 | -.0003 | -.1072 |
| Check ? | Chk Pass | Chk Fail |
| High Limit | | .0200 |
| Low Limit | | -.0200 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150220.** | **24575.** | **5890.3** | **8605.2** |
| Stddev | 292. | 78. | 9.7 | 12.3 |
| %RSD | .19446 | .31725 | .16403 | .14263 |
| #1 | 149940. | 24641. | 5879.9 | 8593.1 |
| #2 | 150180. | 24594. | 5891.8 | 8604.9 |
| #3 | 150520. | 24489. | 5899.1 | 8617.7 |



Zoom In Zoom Out

Sample Name: ticonf Acquired: 5/13/2019 18:48:28 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0001** | **-.0000** | **-.0006** | **-.0005** | **.0007** | **.0001** | **.0005** | **.0001** |
| Stddev | .0002 | .0002 | .0001 | .0004 | .0001 | .0006 | .0000 | .0003 | .0000 |
| %RSD | 61.43 | 132.0 | 287.9 | 63.84 | 13.25 | 93.80 | 7.640 | 60.51 | 39.82 |
| #1 | .0001 | .0000 | -.0000 | -.0002 | -.0005 | .0012 | .0001 | .0002 | .0002 |
| #2 | .0003 | .0003 | .0001 | -.0010 | -.0006 | -.0000 | .0001 | .0005 | .0001 |
| #3 | .0004 | .0000 | -.0002 | -.0006 | -.0005 | .0008 | .0001 | .0007 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0004** | **-.0016** | **.0006** | **.0008** | **.0011** | **-.0009** | **.0061** | **.0701** |
| Stddev | .0002 | .0001 | .0001 | .0004 | .0011 | .0005 | .0007 | .0044 | .0015 |
| %RSD | 27.54 | 27.81 | 3.899 | 58.54 | 138.4 | 42.78 | 71.70 | 71.98 | 2.168 |
| #1 | .0005 | .0003 | -.0016 | .0004 | .0020 | .0013 | -.0016 | .0038 | .0699 |
| #2 | .0008 | .0005 | -.0015 | .0004 | .0004 | .0006 | -.0004 | .0034 | .0718 |
| #3 | .0007 | .0004 | -.0016 | .0010 | -.0000 | .0015 | -.0007 | .0112 | .0688 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0059** | **-.0498** | **.2100** | **.3110** | **.0042** | **.0005** | **-.0165** | **.0169** | **.0003** |
| Stddev | .0001 | .0011 | .0020 | .0101 | .0003 | .0004 | .0013 | .0003 | .0000 |
| %RSD | 1.065 | 2.275 | .9673 | 3.253 | 6.147 | 71.92 | 7.713 | 1.512 | 4.551 |
| #1 | .0059 | -.0511 | .2099 | .3150 | .0041 | .0006 | -.0158 | .0170 | .0003 |
| #2 | .0058 | -.0489 | .2120 | .3186 | .0039 | .0001 | -.0180 | .0166 | .0003 |
| #3 | .0059 | -.0494 | .2080 | .2995 | .0044 | .0009 | -.0157 | .0170 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **10.29** | **.0039** | **-.0008** | **.0363** | **.4992** | **-.0035** | **.0131** |
| Stddev | .12 | .0009 | .0002 | .0024 | .0054 | .0014 | .0037 |
| %RSD | 1.209 | 21.86 | 30.39 | 6.527 | 1.088 | 38.69 | 27.95 |
| #1 | 10.20 | .0049 | -.0007 | .0362 | .4957 | -.0044 | .0108 |
| #2 | 10.43 | .0035 | -.0007 | .0340 | .5055 | -.0042 | .0174 |
| #3 | 10.23 | .0034 | -.0011 | .0387 | .4964 | -.0020 | .0113 |

Zoom In Zoom Out

Sample Name: ticonf Acquired: 5/13/2019 18:48:28 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149110.** | **24649.** | **5867.6** | **8557.9** |
| Stddev | 458. | 248. | 25.7 | 30.4 |
| %RSD | .30705 | 1.0064 | .43773 | .35548 |
| #1 | 149640. | 24633. | 5897.2 | 8593.1 |
| #2 | 148840. | 24904. | 5854.5 | 8539.5 |
| #3 | 148860. | 24409. | 5851.1 | 8541.3 |



Zoom In Zoom Out

Sample Name: vconf Acquired: 5/13/2019 18:53:45 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0003** | **.0001** | **.0001** | W **-.0016** | **-.0004** | **.0000** | **.0000** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0002 | .0000 | .0001 | .0001 |
| %RSD | 35.27 | 8.111 | 264.7 | 196.6 | 10.30 | 4.220 | 323.3 | 34770. |
| #1 | .0005 | .0004 | .0001 | .0001 | -.0017 | -.0004 | -.0000 | -.0002 |
| #2 | .0007 | .0003 | -.0001 | .0001 | -.0016 | -.0004 | .0000 | .0000 |
| #3 | .0004 | .0003 | .0002 | -.0001 | -.0014 | -.0003 | .0001 | .0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | F **11.18** | **.0008** | **-.0012** | **.0095** | **-.0003** | **.0014** | **-.0005** |
| Stddev | .0004 | .03 | .0001 | .0010 | .0017 | .0006 | .0011 | .0018 |
| %RSD | 30.03 | .2375 | 9.139 | 85.26 | 17.39 | 176.0 | 80.53 | 360.7 |
| #1 | -.0014 | 11.15 | .0009 | -.0000 | .0077 | .0003 | .0027 | .0015 |
| #2 | -.0009 | 11.20 | .0008 | -.0017 | .0109 | -.0005 | .0009 | -.0011 |
| #3 | -.0017 | 11.20 | .0007 | -.0018 | .0100 | -.0009 | .0006 | -.0020 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0283** | **.0015** | **-.0059** | **.2062** | **.3165** | **.0266** | **-.0036** |
| Stddev | .0115 | .0018 | .0011 | .0035 | .0304 | .0077 | .0004 | .0000 |
| %RSD | 11180. | 6.257 | 72.54 | 59.57 | 14.75 | 2.430 | 1.610 | .6127 |
| #1 | .0109 | .0265 | .0012 | -.0046 | .1898 | .3241 | .0264 | -.0037 |
| #2 | .0009 | .0300 | .0028 | -.0033 | .2413 | .3087 | .0270 | -.0036 |
| #3 | -.0121 | .0284 | .0007 | -.0099 | .1875 | .3166 | .0262 | -.0036 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1284** | **.0000** | **-.0001** | **.0011** | **.0079** | **.0019** | **-.0108** | **.0030** |
| Stddev | .0116 | .0005 | .0000 | .0002 | .0006 | .0001 | .0008 | .0008 |
| %RSD | 9.060 | 1123. | 59.74 | 14.70 | 7.960 | 3.958 | 7.258 | 27.35 |
| #1 | .1150 | .0006 | -.0001 | .0009 | .0071 | .0020 | -.0117 | .0038 |
| #2 | .1361 | -.0002 | -.0001 | .0012 | .0082 | .0019 | -.0101 | .0022 |
| #3 | .1341 | -.0002 | -.0001 | .0011 | .0082 | .0018 | -.0106 | .0030 |



Zoom In Zoom Out

Sample Name: vconf Acquired: 5/13/2019 18:53:45 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0038** | W **-.0934** |
| Stddev | .0015 | .0035 |
| %RSD | 40.89 | 3.771 |
| #1 | -.0041 | -.0971 |
| #2 | -.0051 | -.0928 |
| #3 | -.0021 | -.0902 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149230.** | **24609.** | **5863.5** | **8537.6** |
| Stddev | 519. | 16. | 18.0 | 16.7 |
| %RSD | .34788 | .06305 | .30680 | .19541 |
| #1 | 149340. | 24627. | 5875.0 | 8546.1 |
| #2 | 148660. | 24600. | 5842.8 | 8518.4 |
| #3 | 149680. | 24600. | 5872.7 | 8548.4 |



Zoom In Zoom Out

Sample Name: moconf Acquired: 5/13/2019 18:59:01 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0001** | **.0001** | **-.0008** | **-.0007** | **.0019** | **-.0003** | **-.0007** |
| Stddev | .0001 | .0000 | .0002 | .0003 | .0003 | .0006 | .0000 | .0002 |
| %RSD | 79.38 | 34.83 | 144.5 | 34.94 | 44.36 | 32.55 | 7.078 | 29.83 |
| #1 | -.0002 | .0001 | -.0000 | -.0005 | -.0010 | .0022 | -.0003 | -.0005 |
| #2 | -.0000 | .0001 | .0003 | -.0010 | -.0007 | .0023 | -.0003 | -.0010 |
| #3 | -.0003 | .0001 | .0001 | -.0011 | -.0004 | .0012 | -.0003 | -.0007 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0036** | **-.0011** | **-.0005** | **-.0007** | **.0007** | **-.0019** | **.0014** |
| Stddev | .0002 | .0002 | .0001 | .0011 | .0007 | .0009 | .0010 | .0003 |
| %RSD | 17.04 | 6.479 | 5.961 | 213.6 | 105.0 | 129.5 | 52.90 | 20.54 |
| #1 | .0008 | .0039 | -.0011 | -.0009 | -.0013 | .0013 | -.0022 | .0011 |
| #2 | .0011 | .0035 | -.0010 | -.0013 | -.0008 | .0010 | -.0007 | .0017 |
| #3 | .0011 | .0035 | -.0012 | .0007 | .0001 | -.0003 | -.0026 | .0013 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0051** | **.0365** | **.0030** | **.0097** | **.1247** | **.2129** | **.0245** | F **9.253** |
| Stddev | .0123 | .0028 | .0009 | .0124 | .0088 | .0049 | .0005 | .035 |
| %RSD | 243.0 | 7.535 | 29.05 | 127.6 | 7.026 | 2.319 | 1.935 | .3747 |
| #1 | -.0072 | .0335 | .0035 | .0221 | .1216 | .2099 | .0250 | 9.292 |
| #2 | .0082 | .0372 | .0036 | -.0027 | .1345 | .2186 | .0240 | 9.227 |
| #3 | -.0162 | .0389 | .0020 | .0098 | .1178 | .2102 | .0245 | 9.240 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0038** | **-.0001** | **.0001** | **-.0001** | **.0069** | **.0015** | **-.0079** | **-.0012** |
| Stddev | .0007 | .0007 | .0001 | .0004 | .0007 | .0004 | .0027 | .0004 |
| %RSD | 18.93 | 526.1 | 102.5 | 520.8 | 9.467 | 27.60 | 34.64 | 34.15 |
| #1 | -.0044 | .0006 | .0001 | -.0000 | .0062 | .0017 | -.0079 | -.0016 |
| #2 | -.0030 | -.0003 | -.0000 | .0003 | .0073 | .0017 | -.0052 | -.0008 |
| #3 | -.0041 | -.0007 | .0001 | -.0005 | .0073 | .0010 | -.0107 | -.0012 |

Zoom In Zoom Out

Sample Name: moconf Acquired: 5/13/2019 18:59:01 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0046** | W **-.0996** |
| Stddev | .0014 | .0013 |
| %RSD | 31.66 | 1.323 |
| #1 | -.0059 | -.0994 |
| #2 | -.0049 | -.1010 |
| #3 | -.0030 | -.0984 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **152010.** | **24647.** | **5864.5** | **8596.2** |
| Stddev | 4835. | 152. | 21.0 | 16.7 |
| %RSD | 3.1810 | .61657 | .35737 | .19404 |
| #1 | 149310. | 24597. | 5840.6 | 8579.1 |
| #2 | 149120. | 24526. | 5879.9 | 8597.2 |
| #3 | 157590. | 24818. | 5872.9 | 8612.4 |



Zoom In Zoom Out

Sample Name: snconf Acquired: 5/13/2019 19:04:06 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0001** | **.0000** | **-.0001** | **-.0001** | **.0005** | **.0000** | **.0002** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0004 | .0002 | .0000 | .0001 |
| %RSD | 62.06 | 13.27 | 269.2 | 80.48 | 473.6 | 43.02 | 114.5 | 52.21 |
| #1 | .0004 | .0001 | .0000 | -.0001 | .0002 | .0008 | .0000 | .0003 |
| #2 | .0003 | .0001 | .0001 | -.0001 | .0001 | .0004 | .0000 | .0002 |
| #3 | .0001 | .0001 | -.0000 | -.0003 | -.0006 | .0004 | .0000 | .0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0005** | **-.0002** | **-.0008** | **.0004** | **-.0002** | **.0007** | **.0006** |
| Stddev | .0003 | .0001 | .0001 | .0009 | .0009 | .0009 | .0006 | .0013 |
| %RSD | 22.67 | 19.20 | 47.86 | 109.8 | 256.4 | 373.3 | 86.07 | 219.5 |
| #1 | .0014 | .0005 | -.0002 | .0001 | .0014 | -.0013 | .0001 | .0002 |
| #2 | .0009 | .0004 | -.0001 | -.0017 | -.0003 | .0002 | .0007 | -.0005 |
| #3 | .0013 | .0005 | -.0001 | -.0009 | -.0000 | .0004 | .0013 | .0020 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0055** | **.0252** | **.0009** | **-.0248** | **.2110** | **.1830** | **.0064** | **.0015** |
| Stddev | .0053 | .0015 | .0015 | .0024 | .0225 | .0049 | .0006 | .0002 |
| %RSD | 95.52 | 5.842 | 163.9 | 9.618 | 10.65 | 2.692 | 9.480 | 13.33 |
| #1 | .0007 | .0239 | .0026 | -.0255 | .1860 | .1777 | .0063 | .0013 |
| #2 | .0046 | .0268 | .0005 | -.0222 | .2177 | .1837 | .0071 | .0015 |
| #3 | .0111 | .0251 | -.0003 | -.0268 | .2294 | .1875 | .0059 | .0017 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0238** | F **10.43** | **-.0001** | **.0001** | **-.0110** | **.0002** | **-.0075** | **-.0002** |
| Stddev | .0006 | .01 | .0001 | .0001 | .0011 | .0001 | .0005 | .0016 |
| %RSD | 2.641 | .1141 | 181.2 | 111.6 | 9.659 | 31.22 | 6.956 | 698.3 |
| #1 | -.0238 | 10.44 | -.0002 | .0001 | -.0107 | .0002 | -.0077 | .0016 |
| #2 | -.0232 | 10.43 | .0001 | -.0000 | -.0102 | .0001 | -.0078 | -.0010 |
| #3 | -.0245 | 10.41 | -.0002 | .0002 | -.0122 | .0002 | -.0069 | -.0012 |



Zoom In Zoom Out

Sample Name: snconf Acquired: 5/13/2019 19:04:06 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0051** | W **-.1187** |
| Stddev | .0011 | .0033 |
| %RSD | 22.14 | 2.810 |
| #1 | -.0052 | -.1155 |
| #2 | -.0039 | -.1183 |
| #3 | -.0061 | -.1222 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149300.** | **24468.** | **5856.9** | **8566.9** |
| Stddev | 721. | 149. | 12.9 | 15.0 |
| %RSD | .48271 | .60948 | .22097 | .17545 |
| #1 | 149880. | 24356. | 5847.6 | 8555.1 |
| #2 | 149530. | 24411. | 5851.5 | 8561.8 |
| #3 | 148490. | 24638. | 5871.7 | 8583.8 |



Zoom In Zoom Out

Sample Name: mnconf Acquired: 5/13/2019 19:09:12 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **-.0000** | **-.0002** | **.0001** | **.0004** | **.0005** | F **10.41** | **.0006** |
| Stddev | .0003 | .0001 | .0001 | .0002 | .0003 | .0004 | .10 | .0001 |
| %RSD | 37.73 | 288.9 | 33.78 | 341.6 | 88.76 | 77.44 | .9419 | 9.483 |
| #1 | .0009 | .0000 | -.0002 | -.0000 | .0007 | .0010 | 10.52 | .0006 |
| #2 | .0005 | -.0000 | -.0002 | .0002 | .0002 | .0003 | 10.36 | .0006 |
| #3 | .0012 | -.0001 | -.0003 | -.0001 | .0002 | .0002 | 10.35 | .0007 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0206** | **.0014** | **-.0000** | **.0030** | **-.0002** | **.0007** | **-.0006** |
| Stddev | .0000 | .0002 | .0001 | .0008 | .0012 | .0008 | .0008 | .0014 |
| %RSD | 4.709 | .9616 | 5.570 | 4309. | 38.96 | 332.3 | 113.0 | 217.8 |
| #1 | .0005 | .0207 | .0015 | .0001 | .0017 | -.0009 | -.0001 | .0009 |
| #2 | .0006 | .0204 | .0014 | .0006 | .0033 | -.0005 | .0008 | -.0018 |
| #3 | .0005 | .0207 | .0014 | -.0008 | .0039 | .0007 | .0015 | -.0010 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0141** | **.0464** | **-.0037** | **-.0143** | **.2038** | **.1640** | **.0012** | **.0001** |
| Stddev | .0059 | .0010 | .0030 | .0073 | .0464 | .0063 | .0003 | .0002 |
| %RSD | 41.84 | 2.100 | 80.22 | 51.49 | 22.75 | 3.827 | 28.74 | 123.9 |
| #1 | -.0209 | .0467 | -.0066 | -.0196 | .2572 | .1655 | .0015 | -.0000 |
| #2 | -.0109 | .0472 | -.0037 | -.0173 | .1731 | .1693 | .0011 | .0001 |
| #3 | -.0105 | .0453 | -.0007 | -.0059 | .1813 | .1571 | .0009 | .0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0007** | **.0003** | **.0007** | **.0020** | **.0007** | **.0053** | **.0003** |
| Stddev | .0005 | .0002 | .0001 | .0001 | .0011 | .0001 | .0009 | .0003 |
| %RSD | 24.98 | 27.77 | 34.62 | 20.65 | 56.59 | 17.87 | 16.91 | 128.7 |
| #1 | .0022 | .0006 | .0002 | .0005 | .0012 | .0009 | .0047 | .0005 |
| #2 | .0013 | .0009 | .0003 | .0007 | .0033 | .0006 | .0048 | -.0001 |
| #3 | .0021 | .0006 | .0003 | .0008 | .0014 | .0007 | .0063 | .0004 |







SGS JC87535

Zoom In Zoom Out

Sample Name: mnconf Acquired: 5/13/2019 19:09:12 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0047** | W **-.1313** |
| Stddev | .0007 | .0075 |
| %RSD | 15.78 | 5.721 |
| #1 | -.0044 | -.1371 |
| #2 | -.0056 | -.1339 |
| #3 | -.0043 | -.1228 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148090.** | **24381.** | **5832.6** | **8519.6** |
| Stddev | 708. | 272. | 52.4 | 65.4 |
| %RSD | .47793 | 1.1141 | .89767 | .76754 |
| #1 | 147350. | 24069. | 5772.4 | 8444.2 |
| #2 | 148760. | 24568. | 5858.0 | 8554.5 |
| #3 | 148160. | 24506. | 5867.4 | 8560.1 |



Zoom In Zoom Out

Sample Name: siconf Acquired: 5/13/2019 19:14:28 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0002** | **-.0003** | **.0001** | **.0002** | **.0001** | **.0001** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0003 | .0001 | .0001 | .0001 |
| %RSD | 652.3 | 151.2 | 57.82 | 49.95 | 178.2 | 75.36 | 56.59 | 100.6 |
| #1 | .0001 | .0000 | .0002 | -.0004 | .0004 | .0003 | .0002 | .0002 |
| #2 | -.0001 | .0001 | .0001 | -.0001 | -.0001 | .0001 | .0001 | .0002 |
| #3 | .0000 | -.0000 | .0003 | -.0003 | .0002 | .0001 | .0001 | -.0000 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0009** | **-.0003** | **-.0010** | **.0009** | **.0009** | **.0004** | **.0008** |
| Stddev | .0006 | .0003 | .0001 | .0004 | .0011 | .0008 | .0021 | .0012 |
| %RSD | 58.00 | 36.05 | 39.74 | 36.91 | 119.8 | 93.22 | 551.3 | 149.7 |
| #1 | .0016 | .0005 | -.0001 | -.0013 | .0003 | .0018 | -.0007 | .0002 |
| #2 | .0007 | .0011 | -.0003 | -.0006 | .0021 | .0005 | .0029 | .0022 |
| #3 | .0006 | .0012 | -.0003 | -.0012 | .0003 | .0003 | -.0010 | .0001 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0163** | **.0391** | **-.0054** | **-.0069** | **.1908** | **.1503** | **.0005** | **.0004** |
| Stddev | .0062 | .0014 | .0010 | .0083 | .0261 | .0098 | .0001 | .0003 |
| %RSD | 37.95 | 3.482 | 18.57 | 120.4 | 13.68 | 6.519 | 22.75 | 75.82 |
| #1 | -.0113 | .0381 | -.0058 | -.0073 | .2096 | .1412 | .0004 | .0004 |
| #2 | -.0232 | .0406 | -.0043 | .0016 | .2019 | .1490 | .0004 | .0001 |
| #3 | -.0144 | .0385 | -.0062 | -.0150 | .1610 | .1607 | .0006 | .0007 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.290** | **-.0010** | **-.0002** | **.0003** | **.0022** | **-.0004** | **.0106** | **-.0008** |
| Stddev | .009 | .0005 | .0000 | .0001 | .0004 | .0001 | .0002 | .0008 |
| %RSD | .0918 | 45.98 | 10.94 | 56.14 | 19.02 | 22.72 | 2.177 | 104.4 |
| #1 | 9.293 | -.0009 | -.0002 | .0002 | .0026 | -.0005 | .0108 | -.0009 |
| #2 | 9.297 | -.0015 | -.0002 | .0004 | .0019 | -.0004 | .0103 | -.0015 |
| #3 | 9.281 | -.0006 | -.0002 | .0002 | .0020 | -.0003 | .0106 | .0001 |



Zoom In Zoom Out

Sample Name: siconf Acquired: 5/13/2019 19:14:28 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0047** | W **-.1054** |
| Stddev | .0018 | .0040 |
| %RSD | 39.17 | 3.822 |
| #1 | -.0068 | -.1019 |
| #2 | -.0038 | -.1044 |
| #3 | -.0034 | -.1098 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151900.** | **24746.** | **5989.5** | **8703.8** |
| Stddev | 624. | 20. | 25.8 | 24.3 |
| %RSD | .41053 | .07910 | .43110 | .27921 |
| #1 | 151530. | 24748. | 5985.4 | 8701.0 |
| #2 | 152620. | 24725. | 5965.9 | 8681.0 |
| #3 | 151550. | 24764. | 6017.1 | 8729.4 |



Zoom In Zoom Out

Sample Name: niconf Acquired: 5/13/2019 19:19:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0000** | **.0013** | **-.0001** | **.0001** | **.0007** | **-.0002** | F **9.490** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0004 | .0000 | .005 |
| %RSD | 36.78 | 298.5 | 10.83 | 68.09 | 220.5 | 49.53 | 7.246 | .0508 |
| #1 | -.0003 | .0001 | .0012 | -.0000 | .0002 | .0009 | -.0002 | 9.486 |
| #2 | -.0002 | -.0000 | .0014 | -.0002 | -.0001 | .0003 | -.0002 | 9.488 |
| #3 | -.0003 | -.0000 | .0012 | -.0002 | .0003 | .0011 | -.0002 | 9.495 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0008** | **-.0003** | **-.0015** | **.0010** | **-.0004** | **.0009** | **.0034** |
| Stddev | .0002 | .0003 | .0001 | .0003 | .0012 | .0010 | .0018 | .0006 |
| %RSD | 16.74 | 39.64 | 22.95 | 19.21 | 118.8 | 240.8 | 190.4 | 18.58 |
| #1 | .0015 | .0009 | -.0003 | -.0012 | .0021 | -.0010 | .0028 | .0028 |
| #2 | .0011 | .0010 | -.0004 | -.0018 | -.0003 | .0007 | -.0008 | .0041 |
| #3 | .0014 | .0004 | -.0003 | -.0014 | .0013 | -.0009 | .0009 | .0033 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0053** | **.0244** | **.0015** | **-.0030** | **.1894** | **.1237** | **.0003** | **.0004** |
| Stddev | .0095 | .0037 | .0018 | .0048 | .0185 | .0162 | .0008 | .0001 |
| %RSD | 177.8 | 14.98 | 117.2 | 158.1 | 9.755 | 13.06 | 256.6 | 20.77 |
| #1 | .0018 | .0203 | .0022 | -.0048 | .1705 | .1063 | .0013 | .0005 |
| #2 | -.0161 | .0272 | .0029 | -.0068 | .2074 | .1265 | -.0003 | .0004 |
| #3 | -.0017 | .0258 | -.0005 | .0024 | .1903 | .1383 | -.0000 | .0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0179** | **-.0008** | **.0000** | **.0002** | **.0302** | **-.0002** | **.0046** | **.0006** |
| Stddev | .0012 | .0004 | .0000 | .0002 | .0011 | .0001 | .0014 | .0018 |
| %RSD | 6.925 | 48.83 | 297.7 | 128.2 | 3.626 | 49.23 | 31.19 | 283.4 |
| #1 | -.0193 | -.0012 | .0000 | .0002 | .0293 | -.0002 | .0030 | -.0000 |
| #2 | -.0171 | -.0004 | -.0000 | .0004 | .0314 | -.0001 | .0052 | .0027 |
| #3 | -.0172 | -.0008 | .0000 | -.0000 | .0299 | -.0003 | .0057 | -.0007 |

Zoom In Zoom Out

Sample Name: niconf Acquired: 5/13/2019 19:19:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0041** | W **-.1203** |
| Stddev | .0002 | .0044 |
| %RSD | 3.702 | 3.674 |
| #1 | -.0042 | -.1173 |
| #2 | -.0039 | -.1254 |
| #3 | -.0040 | -.1183 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149580.** | **25168.** | **5900.8** | **8674.5** |
| Stddev | 344. | 965. | 8.1 | 7.3 |
| %RSD | .22978 | 3.8349 | .13770 | .08447 |
| #1 | 149240. | 26283. | 5896.1 | 8676.2 |
| #2 | 149580. | 24594. | 5910.2 | 8680.8 |
| #3 | 149930. | 24628. | 5896.2 | 8666.5 |



Zoom In Zoom Out

Sample Name: sconf Acquired: 5/13/2019 19:24:44 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0000** | **.0001** | **-.0001** | **.0008** | **.0001** | **-.0000** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0004 | .0001 | .0000 | .0003 |
| %RSD | 496.5 | 257.8 | 142.7 | 48.08 | 355.1 | 14.47 | 24.11 | 2837. |
| #1 | -.0001 | -.0000 | -.0000 | .0001 | -.0004 | .0007 | .0001 | .0003 |
| #2 | -.0000 | .0000 | .0001 | .0001 | .0003 | .0010 | .0001 | -.0001 |
| #3 | .0001 | .0001 | .0000 | .0002 | -.0002 | .0008 | .0001 | -.0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0007** | **.0000** | **-.0020** | **.0004** | **-.0011** | **.0008** | **-.0003** |
| Stddev | .0003 | .0003 | .0001 | .0004 | .0007 | .0004 | .0010 | .0005 |
| %RSD | 30.36 | 36.80 | 197.7 | 21.84 | 164.0 | 39.16 | 113.1 | 152.9 |
| #1 | .0010 | .0004 | -.0001 | -.0015 | .0004 | -.0016 | .0007 | -.0005 |
| #2 | .0013 | .0007 | .0001 | -.0021 | -.0003 | -.0010 | -.0000 | -.0006 |
| #3 | .0007 | .0009 | .0001 | -.0024 | .0012 | -.0008 | .0019 | .0002 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0117** | **.0331** | **.0013** | **-.0137** | **.0956** | **.0983** | **.0007** | **.0004** |
| Stddev | .0048 | .0038 | .0015 | .0084 | .0400 | .0088 | .0002 | .0002 |
| %RSD | 41.18 | 11.39 | 113.1 | 61.26 | 41.81 | 8.991 | 24.02 | 65.02 |
| #1 | -.0066 | .0294 | .0029 | -.0140 | .0495 | .0947 | .0007 | .0006 |
| #2 | -.0162 | .0331 | .0011 | -.0051 | .1209 | .1084 | .0005 | .0003 |
| #3 | -.0124 | .0369 | -.0000 | -.0219 | .1165 | .0919 | .0008 | .0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0031** | **-.0007** | **-.0001** | **.0002** | **.0026** | **.0001** | **96.80** | **.0006** |
| Stddev | .0007 | .0004 | .0001 | .0002 | .0006 | .0003 | .23 | .0018 |
| %RSD | 23.36 | 58.50 | 76.19 | 133.9 | 21.85 | 280.0 | .2354 | 279.4 |
| #1 | .0038 | -.0003 | -.0000 | .0000 | .0023 | .0004 | 96.69 | -.0005 |
| #2 | .0033 | -.0007 | -.0001 | .0001 | .0033 | .0001 | 96.65 | .0026 |
| #3 | .0023 | -.0011 | -.0002 | .0004 | .0023 | -.0002 | 97.06 | -.0003 |



Zoom In Zoom Out

Sample Name: sconf Acquired: 5/13/2019 19:24:44 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0045** | W **-.1069** |
| Stddev | .0002 | .0023 |
| %RSD | 4.228 | 2.158 |
| #1 | -.0047 | -.1092 |
| #2 | -.0044 | -.1046 |
| #3 | -.0044 | -.1069 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149070.** | **24586.** | **5909.2** | **8652.2** |
| Stddev | 655. | 148. | 14.1 | 11.8 |
| %RSD | .43927 | .60245 | .23874 | .13674 |
| #1 | 149010. | 24415. | 5921.8 | 8664.6 |
| #2 | 149750. | 24675. | 5894.0 | 8641.1 |
| #3 | 148450. | 24668. | 5911.8 | 8651.1 |



Zoom In Zoom Out

Sample Name: bconf Acquired: 5/13/2019 19:29:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0001** | **-.0000** | **-.0002** | **.0000** | **.0006** | **.0000** | **.0002** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0004 | .0002 | .0000 | .0001 |
| %RSD | 790.7 | 134.1 | 445.1 | 134.3 | 2309. | 28.78 | 124.8 | 44.90 |
| #1 | .0002 | .0000 | -.0001 | .0001 | -.0002 | .0005 | .0001 | .0003 |
| #2 | -.0001 | -.0000 | .0001 | -.0003 | -.0002 | .0005 | .0000 | .0001 |
| #3 | -.0001 | .0001 | -.0002 | -.0003 | .0005 | .0008 | .0000 | .0003 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0007** | **-.0002** | **-.0011** | **.0006** | **.0004** | **-.0008** | **.0002** |
| Stddev | .0003 | .0003 | .0000 | .0012 | .0012 | .0004 | .0004 | .0015 |
| %RSD | 48.14 | 37.83 | 18.88 | 111.4 | 186.6 | 86.85 | 50.39 | 849.9 |
| #1 | .0010 | .0006 | -.0002 | -.0014 | .0014 | .0000 | -.0009 | -.0002 |
| #2 | .0005 | .0010 | -.0002 | -.0020 | -.0007 | .0005 | -.0003 | -.0011 |
| #3 | .0004 | .0004 | -.0002 | .0003 | .0013 | .0008 | -.0011 | .0018 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0036** | **.0436** | **.0009** | **-.0030** | **.1109** | **.1022** | F **10.03** | **.0003** |
| Stddev | .0072 | .0017 | .0026 | .0073 | .0188 | .0100 | .24 | .0001 |
| %RSD | 201.1 | 3.967 | 284.7 | 241.1 | 16.95 | 9.801 | 2.388 | 31.77 |
| #1 | .0001 | .0455 | .0026 | -.0097 | .1122 | .0914 | 9.755 | .0002 |
| #2 | .0010 | .0421 | .0023 | .0047 | .0915 | .1112 | 10.19 | .0004 |
| #3 | -.0118 | .0434 | -.0021 | -.0041 | .1290 | .1040 | 10.15 | .0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **-.0002** | **.0001** | **.0002** | **.0020** | **.0002** | **.0009** | **.0010** |
| Stddev | .0005 | .0009 | .0000 | .0000 | .0007 | .0001 | .0027 | .0014 |
| %RSD | 20.21 | 425.8 | 38.22 | 15.65 | 35.00 | 54.65 | 297.4 | 133.6 |
| #1 | .0032 | -.0002 | .0001 | .0002 | .0017 | .0004 | .0040 | .0026 |
| #2 | .0028 | .0007 | .0001 | .0003 | .0028 | .0003 | -.0007 | .0004 |
| #3 | .0021 | -.0011 | .0002 | .0003 | .0015 | .0001 | -.0006 | .0001 |

Zoom In Zoom Out

Sample Name: bconf Acquired: 5/13/2019 19:29:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0054** | W **-.1201** |
| Stddev | .0006 | .0064 |
| %RSD | 10.74 | 5.311 |
| #1 | -.0048 | -.1159 |
| #2 | -.0059 | -.1169 |
| #3 | -.0057 | -.1274 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149100.** | **24566.** | **5997.8** | **8756.8** |
| Stddev | 860. | 185. | 113.7 | 152.2 |
| %RSD | .57686 | .75351 | 1.8952 | 1.7383 |
| #1 | 148110. | 24561. | 6128.9 | 8932.6 |
| #2 | 149650. | 24383. | 5936.9 | 8668.5 |
| #3 | 149540. | 24753. | 5927.5 | 8669.4 |



Zoom In Zoom Out

Sample Name: coconf Acquired: 5/13/2019 19:34:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0002** | **.0016** | F **10.47** | **.0001** | **.0005** | **-.0000** | **-.0016** |
| Stddev | .0001 | .0001 | .0000 | .00 | .0001 | .0002 | .0000 | .0002 |
| %RSD | 21.51 | 38.79 | 3.065 | .0181 | 140.2 | 47.79 | 209.3 | 11.58 |
| #1 | .0003 | .0002 | .0016 | 10.47 | -.0000 | .0005 | -.0000 | -.0019 |
| #2 | .0003 | .0003 | .0015 | 10.48 | .0000 | .0007 | .0000 | -.0015 |
| #3 | .0002 | .0001 | .0016 | 10.47 | .0002 | .0003 | -.0000 | -.0015 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0009** | **-.0002** | **-.0013** | **-.0007** | **-.0011** | **.0020** | **.0021** |
| Stddev | .0003 | .0000 | .0001 | .0006 | .0013 | .0003 | .0012 | .0004 |
| %RSD | 27.87 | 3.863 | 50.09 | 46.68 | 193.8 | 31.63 | 60.41 | 17.14 |
| #1 | .0014 | .0009 | -.0001 | -.0006 | -.0021 | -.0014 | .0028 | .0025 |
| #2 | .0008 | .0009 | -.0003 | -.0018 | -.0002 | -.0007 | .0026 | .0019 |
| #3 | .0014 | .0010 | -.0002 | -.0016 | .0003 | -.0011 | .0006 | .0019 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0137** | **.0192** | **.0000** | **-.0207** | **.0655** | **.0905** | **.0083** | **.0005** |
| Stddev | .0056 | .0011 | .0020 | .0151 | .0227 | .0073 | .0010 | .0000 |
| %RSD | 41.14 | 5.913 | 217600. | 72.75 | 34.60 | 8.033 | 12.37 | 1.539 |
| #1 | -.0174 | .0180 | .0020 | -.0061 | .0393 | .0944 | .0095 | .0005 |
| #2 | -.0165 | .0192 | -.0020 | -.0362 | .0785 | .0950 | .0079 | .0005 |
| #3 | -.0072 | .0203 | -.0000 | -.0199 | .0786 | .0821 | .0076 | .0005 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0023** | **-.0004** | **-.0001** | **-.0002** | **.0111** | **-.0001** | **.0042** | **.0013** |
| Stddev | .0013 | .0003 | .0000 | .0001 | .0002 | .0000 | .0016 | .0023 |
| %RSD | 57.68 | 82.72 | 36.79 | 27.40 | 1.548 | 34.57 | 37.81 | 174.3 |
| #1 | -.0027 | -.0007 | -.0001 | -.0002 | .0112 | -.0001 | .0024 | -.0003 |
| #2 | -.0008 | -.0004 | -.0002 | -.0002 | .0109 | -.0001 | .0052 | .0004 |
| #3 | -.0033 | -.0001 | -.0001 | -.0003 | .0113 | -.0000 | .0050 | .0040 |



Zoom In Zoom Out

Sample Name: coconf Acquired: 5/13/2019 19:34:57 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0055** | W **-.1006** |
| Stddev | .0024 | .0039 |
| %RSD | 43.11 | 3.828 |
| #1 | -.0078 | -.1047 |
| #2 | -.0031 | -.0999 |
| #3 | -.0055 | -.0971 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148650.** | **24439.** | **5862.0** | **8681.8** |
| Stddev | 1122. | 121. | 17.5 | 23.1 |
| %RSD | .75499 | .49332 | .29782 | .26592 |
| #1 | 147360. | 24364. | 5842.0 | 8655.2 |
| #2 | 149390. | 24376. | 5870.5 | 8696.9 |
| #3 | 149200. | 24579. | 5873.7 | 8693.4 |



Zoom In Zoom Out

Sample Name: alconf Acquired: 5/13/2019 19:40:04 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0001** | **-.0001** | **-.0001** | **-.0003** | **-.0008** | **-.0013** | **-.0001** |
| Stddev | .0002 | .0000 | .0001 | .0003 | .0004 | .0002 | .0001 | .0003 |
| %RSD | 1636. | 28.50 | 146.0 | 286.6 | 132.7 | 27.42 | 5.898 | 271.8 |
| #1 | -.0001 | .0001 | .0000 | -.0003 | .0001 | -.0005 | -.0014 | -.0004 |
| #2 | -.0000 | .0001 | -.0002 | .0002 | -.0004 | -.0010 | -.0012 | .0001 |
| #3 | .0002 | .0001 | -.0001 | -.0002 | -.0005 | -.0008 | -.0013 | .0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0039** | **.0006** | **-.0000** | F **-.0057** | **.0014** | **.0023** | **.0012** | F **-.0035** |
| Stddev | .0006 | .0002 | .0002 | .0011 | .0029 | .0023 | .0015 | .0027 |
| %RSD | 14.33 | 37.28 | 3099. | 19.21 | 199.7 | 96.33 | 126.3 | 77.54 |
| #1 | .0040 | .0004 | .0002 | -.0068 | -.0014 | .0047 | .0024 | -.0048 |
| #2 | .0044 | .0006 | -.0001 | -.0057 | .0043 | .0020 | .0018 | -.0053 |
| #3 | .0033 | .0009 | -.0001 | -.0046 | .0014 | .0002 | -.0005 | -.0004 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **551.6** | **.0499** | **.0058** | **-.0036** | **.1075** | **.1827** | **.0054** | **.0006** |
| Stddev | 9.5 | .0004 | .0020 | .0100 | .0030 | .0037 | .0008 | .0004 |
| %RSD | 1.727 | .7805 | 35.21 | 275.7 | 2.748 | 2.016 | 14.12 | 65.90 |
| #1 | 561.0 | .0501 | .0072 | -.0088 | .1042 | .1785 | .0061 | .0003 |
| #2 | 551.9 | .0495 | .0067 | .0079 | .1087 | .1843 | .0054 | .0004 |
| #3 | 541.9 | .0502 | .0034 | -.0100 | .1097 | .1854 | .0046 | .0010 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0042** | **-.0009** | **-.0000** | **.0012** | **.0034** | **-.0000** | **-.0437** | **-.0033** |
| Stddev | .0005 | .0007 | .0001 | .0002 | .0009 | .0001 | .0041 | .0005 |
| %RSD | 12.10 | 81.08 | 450.2 | 19.35 | 27.76 | 146.3 | 9.325 | 14.10 |
| #1 | .0036 | -.0005 | .0001 | .0009 | .0025 | -.0000 | -.0391 | -.0037 |
| #2 | .0046 | -.0018 | .0000 | .0014 | .0033 | -.0000 | -.0466 | -.0028 |
| #3 | .0045 | -.0005 | -.0001 | .0014 | .0043 | -.0001 | -.0455 | -.0034 |

Zoom In Zoom Out

Sample Name: alconf Acquired: 5/13/2019 19:40:04 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0053** | W **-.1402** |
| Stddev | .0010 | .0014 |
| %RSD | 19.19 | 1.010 |
| #1 | -.0050 | -.1417 |
| #2 | -.0044 | -.1390 |
| #3 | -.0064 | -.1397 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **132610.** | **24565.** | **5589.2** | **7849.0** |
| Stddev | 842. | 164. | 11.6 | 8.3 |
| %RSD | .63501 | .66635 | .20754 | .10629 |
| #1 | 133570. | 24413. | 5602.3 | 7858.3 |
| #2 | 132220. | 24738. | 5585.2 | 7842.2 |
| #3 | 132030. | 24544. | 5580.2 | 7846.6 |



Zoom In Zoom Out

Sample Name: caconf Acquired: 5/13/2019 19:45:14 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0002** | **-.0001** | **-.0000** | **.0000** | **.0011** | **.0004** | **.0002** |
| Stddev | .0004 | .0000 | .0002 | .0002 | .0003 | .0003 | .0000 | .0003 |
| %RSD | 67.91 | 22.00 | 397.3 | 2883. | 5509. | 23.69 | 2.165 | 109.6 |
| #1 | .0009 | .0001 | .0002 | .0001 | .0003 | .0012 | .0004 | .0004 |
| #2 | .0001 | .0002 | -.0001 | -.0002 | .0001 | .0008 | .0004 | -.0001 |
| #3 | .0006 | .0002 | -.0002 | .0001 | -.0003 | .0014 | .0004 | .0005 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0006** | **.0013** | **-.0021** | **.0000** | **.0007** | **.0013** | **-.0001** |
| Stddev | .0006 | .0003 | .0000 | .0009 | .0004 | .0014 | .0022 | .0009 |
| %RSD | 49.53 | 56.28 | 2.925 | 43.53 | 914.0 | 209.9 | 165.0 | 1364. |
| #1 | .0006 | .0005 | .0013 | -.0030 | -.0002 | .0020 | .0013 | -.0007 |
| #2 | .0018 | .0010 | .0013 | -.0012 | -.0001 | .0007 | .0035 | .0009 |
| #3 | .0014 | .0004 | .0013 | -.0021 | .0005 | -.0007 | -.0008 | -.0004 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0106** | F **429.6** | **-.0036** | **-.0082** | **.1726** | **.0821** | **.0039** | **.0005** |
| Stddev | .0174 | 5.8 | .0021 | .0107 | .0201 | .0077 | .0005 | .0001 |
| %RSD | 163.9 | 1.360 | 57.68 | 130.0 | 11.65 | 9.399 | 12.37 | 16.46 |
| #1 | .0288 | 431.9 | -.0043 | -.0066 | .1958 | .0833 | .0039 | .0006 |
| #2 | .0087 | 433.9 | -.0012 | -.0197 | .1619 | .0891 | .0034 | .0006 |
| #3 | -.0058 | 422.9 | -.0051 | .0015 | .1600 | .0738 | .0043 | .0004 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0068** | **-.0020** | **-.0008** | **-.0006** | **.0027** | **-.0001** | **-.0209** | **.0017** | |
| Stddev | .0003 | .0006 | .0002 | .0002 | .0007 | .0000 | .0016 | .0014 |
| %RSD | 3.938 | 29.01 | 21.44 | 32.69 | 25.91 | 57.71 | 7.646 | 85.33 |
| #1 | .0068 | -.0018 | -.0009 | -.0007 | .0034 | -.0000 | -.0202 | .0012 |
| #2 | .0065 | -.0016 | -.0009 | -.0007 | .0021 | -.0001 | -.0227 | .0006 |
| #3 | .0071 | -.0027 | -.0006 | -.0004 | .0026 | -.0001 | -.0198 | .0033 |



Zoom In Zoom Out

Sample Name: caconf Acquired: 5/13/2019 19:45:14 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0025** | W **-.1022** |
| Stddev | .0015 | .0071 |
| %RSD | 60.50 | 6.947 |
| #1 | .0012 | -.1086 |
| #2 | .0042 | -.0946 |
| #3 | .0022 | -.1035 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **136360.** | **23618.** | **5389.7** | **7549.4** |
| Stddev | 404. | 41. | 8.8 | 9.6 |
| %RSD | .29628 | .17150 | .16259 | .12697 |
| #1 | 136080. | 23661. | 5399.4 | 7557.4 |
| #2 | 136170. | 23581. | 5387.4 | 7552.0 |
| #3 | 136820. | 23610. | 5382.4 | 7538.7 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 19:50:31 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.096** | **2.169** | **2.030** | **1.915** | **2.146** | **2.097** | **2.128** | **1.994** | **.2610** |
| Stddev | .006 | .005 | .008 | .007 | .009 | .010 | .017 | .007 | .0005 |
| %RSD | .3026 | .2532 | .4056 | .3677 | .4333 | .4696 | .8020 | .3678 | .1949 |
| #1 | 2.098 | 2.174 | 2.030 | 1.911 | 2.153 | 2.105 | 2.129 | 1.991 | .2615 |
| #2 | 2.101 | 2.171 | 2.022 | 1.911 | 2.149 | 2.100 | 2.145 | 1.989 | .2611 |
| #3 | 2.088 | 2.163 | 2.039 | 1.923 | 2.135 | 2.086 | 2.111 | 2.003 | .2605 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.029** | **2.034** | **1.963** | **2.144** | **2.000** | **1.970** | **1.998** | **41.89** | **43.49** |
| Stddev | .007 | .012 | .010 | .004 | .005 | .009 | .009 | .08 | .14 |
| %RSD | .3625 | .5736 | .4887 | .1788 | .2773 | .4808 | .4371 | .1885 | .3271 |
| #1 | 2.035 | 2.037 | 1.965 | 2.140 | 1.998 | 1.968 | 1.995 | 41.97 | 43.63 |
| #2 | 2.031 | 2.021 | 1.953 | 2.145 | 1.996 | 1.961 | 1.991 | 41.89 | 43.51 |
| #3 | 2.020 | 2.044 | 1.973 | 2.148 | 2.006 | 1.980 | 2.008 | 41.81 | 43.34 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.30** | **42.77** | **43.73** | **41.96** | **2.003** | **1.976** | **5.109** | **1.985** | **2.150** |
| Stddev | .11 | .17 | .07 | .12 | .011 | .009 | .025 | .010 | .005 |
| %RSD | .2781 | .4070 | .1572 | .2914 | .5407 | .4669 | .4855 | .5092 | .2481 |
| #1 | 41.38 | 42.88 | 43.80 | 42.00 | 2.000 | 1.975 | 5.103 | 1.984 | 2.152 |
| #2 | 41.35 | 42.87 | 43.74 | 42.05 | 1.994 | 1.967 | 5.087 | 1.975 | 2.153 |
| #3 | 41.17 | 42.57 | 43.66 | 41.82 | 2.015 | 1.985 | 5.136 | 1.995 | 2.144 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 19:50:31 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.073** | **1.945** | **2.162** | **2.108** | **1.963** | **2.128** | F **4.524** |
| Stddev | .006 | .009 | .007 | .013 | .015 | .004 | .028 |
| %RSD | .3105 | .4544 | .3380 | .6145 | .7603 | .1899 | .6139 |
| #1 | 2.079 | 1.946 | 2.169 | 2.102 | 1.958 | 2.130 | 4.535 |
| #2 | 2.074 | 1.936 | 2.164 | 2.100 | 1.952 | 2.132 | 4.493 |
| #3 | 2.066 | 1.954 | 2.154 | 2.123 | 1.980 | 2.124 | 4.545 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **140510.** | **23924.** | **5603.7** | **7898.3** |
| Stddev | 511. | 140. | 38.8 | 33.5 |
| %RSD | .36345 | .58641 | .69274 | .42446 |
| #1 | 140810. | 23762. | 5578.3 | 7878.0 |
| #2 | 139920. | 23996. | 5648.4 | 7937.0 |
| #3 | 140810. | 24014. | 5584.4 | 7879.9 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 19:55:31 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | F **.0009** | F **.0008** | **.0006** | **.0008** | **.0013** | **.0009** | **.0009** |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0004 | .0001 | .0001 | .0001 |
| %RSD | 23.77 | 13.52 | 12.52 | 37.08 | 46.56 | 5.890 | 6.164 | 15.88 |
| #1 | .0007 | .0008 | .0008 | .0007 | .0012 | .0013 | .0009 | .0010 |
| #2 | .0004 | .0009 | .0008 | .0003 | .0004 | .0012 | .0008 | .0008 |
| #3 | .0006 | .0010 | .0007 | .0007 | .0009 | .0014 | .0010 | .0011 |
| Check ? | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | .0008 | .0007 | | | | | |
| Low Limit | | -.0008 | -.0007 | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0014** | **.0006** | **-.0015** | **.0013** | **.0005** | **.0013** | **.0004** |
| Stddev | .0003 | .0002 | .0001 | .0006 | .0012 | .0010 | .0008 | .0018 |
| %RSD | 25.86 | 11.76 | 9.327 | 38.62 | 92.46 | 198.6 | 60.31 | 466.4 |
| #1 | .0015 | .0012 | .0006 | -.0013 | -.0001 | -.0004 | .0014 | -.0001 |
| #2 | .0015 | .0016 | .0005 | -.0010 | .0023 | .0016 | .0019 | -.0011 |
| #3 | .0009 | .0014 | .0005 | -.0021 | .0018 | .0003 | .0004 | .0024 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0146** | **.0257** | **.0185** | **-.0011** | **.1357** | **.1259** | **.0054** | **.0011** |
| Stddev | .0080 | .0016 | .0010 | .0091 | .0141 | .0128 | .0003 | .0006 |
| %RSD | 54.98 | 6.388 | 5.426 | 850.3 | 10.42 | 10.16 | 6.329 | 49.85 |
| #1 | .0079 | .0255 | .0188 | -.0077 | .1514 | .1179 | .0058 | .0012 |
| #2 | .0234 | .0274 | .0173 | -.0047 | .1238 | .1406 | .0053 | .0016 |
| #3 | .0123 | .0242 | .0192 | .0092 | .1320 | .1191 | .0052 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 19:55:31 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0048** | **.0011** | **.0006** | **.0010** | **.0026** | **.0006** | **-.0096** | **.0004** |
| Stddev | .0010 | .0002 | .0000 | .0002 | .0008 | .0001 | .0012 | .0027 |
| %RSD | 20.14 | 20.04 | 6.085 | 17.01 | 31.89 | 9.843 | 12.82 | 594.0 |
| #1 | .0054 | .0014 | .0006 | .0009 | .0033 | .0005 | -.0098 | -.0014 |
| #2 | .0037 | .0010 | .0006 | .0011 | .0028 | .0006 | -.0107 | -.0008 |
| #3 | .0052 | .0010 | .0007 | .0008 | .0017 | .0006 | -.0083 | .0035 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0051** | F **-.1229** |
| Stddev | .0015 | .0021 |
| %RSD | 29.16 | 1.743 |
| #1 | -.0039 | -.1253 |
| #2 | -.0068 | -.1222 |
| #3 | -.0048 | -.1212 |
| Check ? | Chk Fail | Chk Fail |
| High Limit | .0040 | .0200 |
| Low Limit | -.0040 | -.0200 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148960.** | **24357.** | **5814.6** | **8541.6** |
| Stddev | 594. | 165. | 99.0 | 117.3 |
| %RSD | .39902 | .67896 | 1.7024 | 1.3736 |
| #1 | 148770. | 24412. | 5864.3 | 8606.2 |
| #2 | 149620. | 24488. | 5879.0 | 8612.5 |
| #3 | 148480. | 24171. | 5700.6 | 8406.2 |



Zoom In Zoom Out

Sample Name: mp14895-s2 1 Acquired: 5/13/2019 20:00:40 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.129** | **2.176** | **2.171** | **1.895** | **2.069** | **2.112** | **2.460** | **1.973** |
| Stddev | .158 | .112 | .018 | .012 | .004 | .006 | .006 | .013 |
| %RSD | 5.053 | 5.125 | .8185 | .6283 | .2199 | .2639 | .2538 | .6422 |
| #1 | 3.035 | 2.114 | 2.179 | 1.901 | 2.064 | 2.106 | 2.453 | 1.978 |
| #2 | 3.039 | 2.108 | 2.183 | 1.902 | 2.069 | 2.115 | 2.464 | 1.982 |
| #3 | 3.311 | 2.304 | 2.151 | 1.881 | 2.073 | 2.116 | 2.463 | 1.959 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0929** | **1.984** | **1.964** | **2.139** | **1.889** | **1.927** | **2.094** | **2.137** |
| Stddev | .0006 | .005 | .016 | .016 | .010 | .012 | .013 | .018 |
| %RSD | .6755 | .2521 | .8139 | .7232 | .5357 | .6222 | .6138 | .8324 |
| #1 | .0924 | 1.981 | 1.971 | 2.144 | 1.893 | 1.930 | 2.093 | 2.145 |
| #2 | .0927 | 1.982 | 1.975 | 2.151 | 1.896 | 1.937 | 2.107 | 2.151 |
| #3 | .0936 | 1.990 | 1.946 | 2.121 | 1.877 | 1.914 | 2.081 | 2.117 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **27.97** | ***** | **28.38** | **34.35** | **88.47** | F **823.3** | **2.090** | **1.981** |
| Stddev | 1.47 | ----- | 1.46 | 1.71 | 4.27 | 42.5 | .018 | .016 |
| %RSD | 5.259 | ----- | 5.142 | 4.978 | 4.832 | 5.162 | .8440 | .7854 |
| #1 | 27.13 | ----- | 27.54 | 33.36 | 86.05 | 791.4 | 2.098 | 1.989 |
| #2 | 27.11 | ----- | 27.53 | 33.36 | 85.95 | 807.1 | 2.102 | 1.991 |
| #3 | 29.67 | ----- | 30.06 | 36.32 | 93.40 | 871.6 | 2.070 | 1.964 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.071** | **1.897** | F **13.83** | **2.057** | **1.939** | **2.161** | **13.81** | F **-.0428** |
| Stddev | .016 | .014 | .58 | .006 | .012 | .006 | .08 | .0013 |
| %RSD | .7859 | .7407 | 4.215 | .2912 | .6339 | .2962 | .5854 | 3.101 |
| #1 | 2.084 | 1.904 | 13.60 | 2.053 | 1.943 | 2.156 | 13.81 | -.0443 |
| #2 | 2.076 | 1.907 | 13.40 | 2.055 | 1.949 | 2.158 | 13.88 | -.0422 |
| #3 | 2.052 | 1.881 | 14.49 | 2.064 | 1.926 | 2.168 | 13.72 | -.0418 |

Zoom In Zoom Out

Sample Name: mp14895-s2 1 Acquired: 5/13/2019 20:00:40 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.3231** | **4.785** |
| Stddev | .0150 | .050 |
| %RSD | 4.638 | 1.044 |
| #1 | .3141 | 4.807 |
| #2 | .3148 | 4.820 |
| #3 | .3404 | 4.728 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **123750.** | **22808.** | **4908.7** | **6695.7** |
| Stddev | 211. | 964. | 40.7 | 43.3 |
| %RSD | .17068 | 4.2264 | .82950 | .64673 |
| #1 | 123750. | 23432. | 4888.0 | 6670.9 |
| #2 | 123960. | 23294. | 4882.4 | 6670.6 |
| #3 | 123540. | 21698. | 4955.6 | 6745.7 |



Zoom In Zoom Out

Sample Name: jc87702-1 Acquired: 5/13/2019 20:06:00 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9418** | **.0003** | **-.0003** | **.0006** | **.0019** | **.0073** | **.3871** | **.0214** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0003 | .0000 | .0011 | .0003 |
| %RSD | .0095 | 19.64 | 30.54 | 46.91 | 14.44 | .5415 | .2964 | 1.258 |
| #1 | .9417 | .0003 | -.0002 | .0009 | .0016 | .0073 | .3864 | .0213 |
| #2 | .9418 | .0003 | -.0003 | .0003 | .0021 | .0073 | .3864 | .0217 |
| #3 | .9419 | .0002 | -.0003 | .0005 | .0020 | .0074 | .3884 | .0212 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0026** | **.0145** | **.0020** | **.0022** | **.0024** | **-.0009** | **-.0003** |
| Stddev | .0003 | .0001 | .0001 | .0003 | .0007 | .0017 | .0027 | .0009 |
| %RSD | 29.72 | 5.282 | .8456 | 16.12 | 33.46 | 73.08 | 288.8 | 375.4 |
| #1 | -.0015 | .0027 | .0145 | .0021 | .0015 | .0005 | .0021 | -.0005 |
| #2 | -.0011 | .0025 | .0144 | .0023 | .0030 | .0026 | -.0027 | -.0010 |
| #3 | -.0008 | .0026 | .0146 | .0017 | .0021 | .0039 | -.0022 | .0008 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2658** | ***** | **2.405** | **9.031** | **57.95** | F **773.5** | **.0345** | **.0081** |
| Stddev | .0052 | ----- | .007 | .033 | .10 | 11.5 | .0006 | .0005 |
| %RSD | 1.966 | ----- | .2740 | .3695 | .1721 | 1.492 | 1.691 | 5.716 |
| #1 | .2714 | ----- | 2.406 | 9.054 | 58.00 | 782.6 | .0349 | .0085 |
| #2 | .2610 | ----- | 2.411 | 9.048 | 58.02 | 777.4 | .0348 | .0081 |
| #3 | .2650 | ----- | 2.398 | 8.993 | 57.84 | 760.5 | .0338 | .0076 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.772** | **-.0017** | F **11.92** | **.0004** | **.0030** | **.0003** | **14.11** | **.0037** |
| Stddev | .004 | .0002 | .16 | .0001 | .0008 | .0002 | .05 | .0023 |
| %RSD | .2439 | 14.07 | 1.336 | 29.33 | 25.64 | 49.05 | .3200 | 61.30 |
| #1 | 1.768 | -.0015 | 12.10 | .0002 | .0024 | .0003 | 14.06 | .0046 |
| #2 | 1.777 | -.0020 | 11.82 | .0004 | .0038 | .0005 | 14.13 | .0011 |
| #3 | 1.770 | -.0017 | 11.83 | .0005 | .0027 | .0002 | 14.14 | .0055 |



Zoom In Zoom Out

Sample Name: jc87702-1 Acquired: 5/13/2019 20:06:00 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.3161** | W **-.0712** |
| Stddev | .0002 | .0053 |
| %RSD | .0632 | 7.486 |
| #1 | .3159 | -.0766 |
| #2 | .3163 | -.0711 |
| #3 | .3162 | -.0659 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **122270.** | **23256.** | **4870.9** | **6612.2** |
| Stddev | 79. | 172. | 8.8 | 4.8 |
| %RSD | .06475 | .73851 | .18080 | .07325 |
| #1 | 122260. | 23154. | 4871.7 | 6612.5 |
| #2 | 122210. | 23159. | 4861.7 | 6607.2 |
| #3 | 122360. | 23454. | 4879.3 | 6616.9 |



Zoom In Zoom Out

Sample Name: mp14895-sd1 Acquired: 5/13/2019 20:11:23 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9093** | **.0007** | **.0002** | **.0002** | **.0029** | **.0139** | **.3921** | **.0237** |
| Stddev | .0194 | .0004 | .0003 | .0009 | .0006 | .0034 | .0045 | .0013 |
| %RSD | 2.137 | 54.74 | 183.3 | 431.8 | 20.63 | 24.61 | 1.147 | 5.579 |
| #1 | .8946 | .0005 | .0004 | -.0005 | .0030 | .0113 | .3878 | .0233 |
| #2 | .9020 | .0004 | -.0002 | .0013 | .0035 | .0126 | .3918 | .0252 |
| #3 | .9313 | .0011 | .0003 | -.0001 | .0023 | .0177 | .3968 | .0226 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0060** | **.0089** | **.0225** | **-.0021** | **.0051** | **.0028** | **.0017** | **-.0122** |
| Stddev | .0007 | .0022 | .0006 | .0041 | .0077 | .0079 | .0095 | .0020 |
| %RSD | 11.54 | 24.37 | 2.682 | 195.7 | 152.3 | 284.3 | 573.4 | 16.52 |
| #1 | .0052 | .0109 | .0218 | -.0061 | .0010 | -.0049 | .0016 | -.0110 |
| #2 | .0064 | .0066 | .0229 | -.0023 | .0140 | .0109 | -.0078 | -.0111 |
| #3 | .0064 | .0090 | .0228 | .0021 | .0002 | .0024 | .0113 | -.0146 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3528** | F **1861.** | **2.363** | **9.240** | **56.14** | **750.2** | **.0459** | **.0092** |
| Stddev | .0749 | 19. | .032 | .113 | .49 | 10.9 | .0009 | .0008 |
| %RSD | 21.24 | 1.025 | 1.349 | 1.220 | .8663 | 1.455 | 2.029 | 8.167 |
| #1 | .3276 | 1848. | 2.332 | 9.116 | 55.89 | 737.9 | .0467 | .0086 |
| #2 | .2937 | 1852. | 2.361 | 9.270 | 55.83 | 754.1 | .0463 | .0100 |
| #3 | .4370 | 1883. | 2.396 | 9.335 | 56.70 | 758.7 | .0449 | .0090 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.857** | **-.0017** | **11.61** | **.0035** | **.0188** | **-.0000** | **13.58** | **.0095** |
| Stddev | .006 | .0029 | .14 | .0021 | .0036 | .0008 | .09 | .0032 |
| %RSD | .3378 | 177.6 | 1.220 | 58.71 | 19.11 | 2223. | .6366 | 34.08 |
| #1 | 1.850 | -.0048 | 11.50 | .0058 | .0158 | .0006 | 13.49 | .0111 |
| #2 | 1.863 | -.0012 | 11.57 | .0029 | .0179 | -.0009 | 13.59 | .0058 |
| #3 | 1.857 | .0010 | 11.77 | .0018 | .0228 | .0002 | 13.67 | .0116 |

Zoom In Zoom Out

Sample Name: mp14895-sd1 Acquired: 5/13/2019 20:11:23 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2437** | W **-.5079** |
| Stddev | .0133 | .0179 |
| %RSD | 5.461 | 3.530 |
| #1 | .2543 | -.5213 |
| #2 | .2287 | -.5150 |
| #3 | .2480 | -.4876 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **134220.** | **23895.** | **5341.1** | **7336.8** |
| Stddev | 441. | 64. | 4.9 | 8.9 |
| %RSD | .32826 | .26947 | .09186 | .12107 |
| #1 | 133970. | 23918. | 5336.0 | 7327.0 |
| #2 | 134730. | 23945. | 5341.4 | 7338.8 |
| #3 | 133960. | 23823. | 5345.8 | 7344.4 |



Zoom In Zoom Out

Sample Name: mp14895-s1 Acquired: 5/13/2019 20:16:43 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.549** | **1.847** | **2.249** | **2.122** | **2.112** | **1.999** | **2.494** | **2.224** | **.0925** |
| Stddev | .167 | .119 | .048 | .045 | .062 | .057 | .078 | .051 | .0044 |
| %RSD | 6.565 | 6.431 | 2.127 | 2.112 | 2.946 | 2.825 | 3.121 | 2.293 | 4.715 |
| #1 | 2.380 | 1.727 | 2.195 | 2.072 | 2.046 | 1.940 | 2.413 | 2.166 | .0875 |
| #2 | 2.552 | 1.851 | 2.270 | 2.134 | 2.121 | 2.003 | 2.501 | 2.244 | .0944 |
| #3 | 2.715 | 1.964 | 2.283 | 2.159 | 2.169 | 2.053 | 2.568 | 2.262 | .0956 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.028** | **2.249** | **2.165** | **2.324** | **2.204** | **2.169** | **2.219** | **22.92** | **1655.** |
| Stddev | .065 | .042 | .060 | .043 | .047 | .023 | .061 | 1.51 | 98. |
| %RSD | 3.217 | 1.872 | 2.754 | 1.869 | 2.128 | 1.053 | 2.734 | 6.599 | 5.913 |
| #1 | 1.964 | 2.201 | 2.096 | 2.274 | 2.150 | 2.149 | 2.152 | 21.37 | 1556. |
| #2 | 2.025 | 2.266 | 2.202 | 2.343 | 2.237 | 2.164 | 2.237 | 23.00 | 1656. |
| #3 | 2.095 | 2.279 | 2.197 | 2.354 | 2.224 | 2.194 | 2.269 | 24.40 | 1752. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.63** | **30.96** | **73.87** | **704.6** | **2.213** | **2.199** | **2.019** | **2.159** | **12.06** |
| Stddev | 1.52 | 1.88 | 4.31 | 43.3 | .039 | .048 | .032 | .042 | .78 |
| %RSD | 6.177 | 6.086 | 5.830 | 6.142 | 1.774 | 2.188 | 1.597 | 1.963 | 6.453 |
| #1 | 23.07 | 29.13 | 69.64 | 661.2 | 2.169 | 2.144 | 1.981 | 2.111 | 11.26 |
| #2 | 24.70 | 30.86 | 73.71 | 704.9 | 2.228 | 2.218 | 2.037 | 2.172 | 12.08 |
| #3 | 26.11 | 32.89 | 78.25 | 747.8 | 2.243 | 2.235 | 2.038 | 2.193 | 12.82 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.040** | **2.159** | **2.121** | **13.40** | **.1475** | **.1672** | **3.847** |
| Stddev | .059 | .057 | .068 | .31 | .0107 | .0116 | .104 |
| %RSD | 2.893 | 2.652 | 3.220 | 2.280 | 7.246 | 6.951 | 2.701 |
| #1 | 1.978 | 2.094 | 2.052 | 13.06 | .1374 | .1553 | 3.751 |
| #2 | 2.047 | 2.187 | 2.121 | 13.47 | .1465 | .1678 | 3.833 |
| #3 | 2.095 | 2.198 | 2.189 | 13.66 | .1587 | .1785 | 3.958 |



Zoom In Zoom Out

Sample Name: mp14895-s1 Acquired: 5/13/2019 20:16:43 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138450.** | **24010.** | **5466.5** | **7592.2** |
| Stddev | 663. | 56. | 13.9 | 8.2 |
| %RSD | .47904 | .23255 | .25397 | .10846 |
| #1 | 138980. | 24026. | 5456.1 | 7594.0 |
| #2 | 137710. | 24056. | 5461.2 | 7583.2 |
| #3 | 138650. | 23948. | 5482.2 | 7599.3 |



Zoom In Zoom Out

Sample Name: mp14895-s2 Acquired: 5/13/2019 20:21:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.838** | **2.049** | **2.090** | **1.969** | **2.116** | **2.006** | **2.515** | **2.076** | **.0957** |
| Stddev | .067 | .048 | .057 | .041 | .015 | .010 | .014 | .044 | .0028 |
| %RSD | 2.370 | 2.336 | 2.715 | 2.105 | .6838 | .4817 | .5544 | 2.108 | 2.895 |
| #1 | 2.767 | 1.997 | 2.057 | 1.943 | 2.102 | 1.996 | 2.500 | 2.052 | .0925 |
| #2 | 2.845 | 2.058 | 2.156 | 2.017 | 2.114 | 2.006 | 2.516 | 2.126 | .0971 |
| #3 | 2.901 | 2.091 | 2.057 | 1.947 | 2.131 | 2.015 | 2.528 | 2.049 | .0974 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.033** | **2.091** | **2.007** | **2.177** | **2.058** | **2.007** | **2.048** | **25.54** | **1897.** |
| Stddev | .009 | .055 | .047 | .030 | .050 | .039 | .050 | .57 | 33. |
| %RSD | .4431 | 2.622 | 2.334 | 1.386 | 2.452 | 1.955 | 2.424 | 2.243 | 1.748 |
| #1 | 2.025 | 2.062 | 1.976 | 2.161 | 2.034 | 1.990 | 2.034 | 24.94 | 1868. |
| #2 | 2.031 | 2.154 | 2.061 | 2.212 | 2.116 | 2.052 | 2.103 | 25.60 | 1889. |
| #3 | 2.043 | 2.057 | 1.985 | 2.159 | 2.023 | 1.980 | 2.006 | 26.08 | 1933. |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **27.27** | **34.31** | **80.84** | **784.6** | **2.069** | **2.045** | **1.897** | **2.011** | **13.45** |
| Stddev | .61 | .72 | 1.65 | 17.1 | .060 | .049 | .049 | .048 | .31 |
| %RSD | 2.227 | 2.096 | 2.038 | 2.179 | 2.894 | 2.386 | 2.574 | 2.359 | 2.310 |
| #1 | 26.60 | 33.59 | 79.21 | 766.3 | 2.035 | 2.017 | 1.865 | 1.983 | 13.12 |
| #2 | 27.43 | 34.32 | 80.80 | 787.3 | 2.138 | 2.101 | 1.953 | 2.066 | 13.50 |
| #3 | 27.78 | 35.03 | 82.51 | 800.2 | 2.034 | 2.015 | 1.874 | 1.985 | 13.74 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.059** | **2.007** | **2.132** | **12.62** | **.1519** | **.1996** | **3.605** |
| Stddev | .011 | .065 | .014 | .28 | .0100 | .0158 | .119 |
| %RSD | .5177 | 3.226 | .6505 | 2.249 | 6.589 | 7.902 | 3.299 |
| #1 | 2.047 | 1.962 | 2.119 | 12.49 | .1531 | .1873 | 3.525 |
| #2 | 2.063 | 2.081 | 2.132 | 12.95 | .1613 | .1940 | 3.741 |
| #3 | 2.067 | 1.977 | 2.146 | 12.43 | .1414 | .2174 | 3.548 |

Zoom In Zoom Out

Sample Name: mp14895-s2 Acquired: 5/13/2019 20:21:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138680.** | **24185.** | **5445.1** | **7577.2** |
| Stddev | 689. | 36. | 115.1 | 134.4 |
| %RSD | .49700 | .14777 | 2.1141 | 1.7732 |
| #1 | 138470. | 24202. | 5497.1 | 7641.5 |
| #2 | 139450. | 24210. | 5313.2 | 7422.8 |
| #3 | 138110. | 24144. | 5525.0 | 7667.4 |



Zoom In Zoom Out

Sample Name: jc87702-1 Acquired: 5/13/2019 20:26:51 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7811** | **.0009** | **.0004** | **.0017** | **.0048** | **.0176** | **.3743** | **.0248** |
| Stddev | .0245 | .0008 | .0014 | .0015 | .0026 | .0023 | .0033 | .0039 |
| %RSD | 3.141 | 83.91 | 323.4 | 84.90 | 54.11 | 12.97 | .8883 | 15.81 |
| #1 | .7785 | .0002 | .0005 | .0033 | .0020 | .0151 | .3742 | .0281 |
| #2 | .8068 | .0017 | -.0010 | .0003 | .0053 | .0196 | .3710 | .0258 |
| #3 | .7580 | .0009 | .0018 | .0016 | .0071 | .0180 | .3777 | .0205 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0093** | **.0114** | **.0160** | **-.0131** | **.0175** | **.0118** | **-.0063** | **-.0059** |
| Stddev | .0010 | .0010 | .0009 | .0148 | .0196 | .0104 | .0063 | .0131 |
| %RSD | 10.60 | 8.801 | 5.637 | 112.5 | 111.9 | 87.54 | 99.41 | 222.5 |
| #1 | .0101 | .0117 | .0150 | .0038 | .0350 | .0238 | -.0059 | .0078 |
| #2 | .0082 | .0122 | .0168 | -.0196 | .0212 | .0068 | -.0003 | -.0072 |
| #3 | .0095 | .0102 | .0162 | -.0236 | -.0037 | .0049 | -.0128 | -.0183 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2873** | **1658.** | **2.094** | **8.195** | **48.77** | **684.2** | **.0514** | **.0101** |
| Stddev | .0149 | 53. | .077 | .119 | 1.17 | 19.1 | .0021 | .0015 |
| %RSD | 5.169 | 3.216 | 3.679 | 1.448 | 2.392 | 2.799 | 4.105 | 14.62 |
| #1 | .2730 | 1661. | 2.104 | 8.203 | 48.82 | 686.1 | .0497 | .0112 |
| #2 | .3027 | 1710. | 2.165 | 8.309 | 49.90 | 702.3 | .0538 | .0108 |
| #3 | .2862 | 1603. | 2.012 | 8.072 | 47.57 | 664.2 | .0506 | .0085 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.780** | **-.0061** | **10.21** | **-.0009** | **.0228** | **.0023** | **13.12** | **.0097** |
| Stddev | .047 | .0048 | .29 | .0023 | .0055 | .0007 | .41 | .0143 |
| %RSD | 2.636 | 78.32 | 2.848 | 251.8 | 24.06 | 31.65 | 3.145 | 146.8 |
| #1 | 1.727 | -.0105 | 10.22 | .0001 | .0270 | .0030 | 12.66 | .0094 |
| #2 | 1.796 | -.0069 | 10.50 | -.0036 | .0249 | .0016 | 13.22 | .0242 |
| #3 | 1.816 | -.0010 | 9.917 | .0007 | .0166 | .0022 | 13.47 | -.0044 |



Zoom In Zoom Out

Sample Name: jc87702-1 Acquired: 5/13/2019 20:26:51 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1931** | W **-1.112** |
| Stddev | .0165 | .061 |
| %RSD | 8.569 | 5.517 |
| #1 | .1744 | -1.057 |
| #2 | .1991 | -1.100 |
| #3 | .2059 | -1.178 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137760.** | **24658.** | **5494.0** | **7636.9** |
| Stddev | 1382. | 1205. | 13.2 | 21.6 |
| %RSD | 1.0035 | 4.8875 | .23986 | .28319 |
| #1 | 136190. | 23807. | 5508.5 | 7659.6 |
| #2 | 138320. | 24130. | 5490.7 | 7634.8 |
| #3 | 138770. | 26037. | 5482.7 | 7616.5 |



Zoom In Zoom Out

Sample Name: mp14895-sd1 Acquired: 5/13/2019 20:32:03 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9797** | **.0027** | **.0001** | **.0044** | **-.0039** | **.0636** | **.4290** | **.0292** |
| Stddev | .0026 | .0028 | .0098 | .0040 | .0131 | .0097 | .0023 | .0068 |
| %RSD | .2615 | 104.1 | 16650. | 89.88 | 335.7 | 15.25 | .5287 | 23.09 |
| #1 | .9805 | .0059 | -.0029 | .0090 | -.0049 | .0722 | .4310 | .0312 |
| #2 | .9768 | .0013 | -.0079 | .0020 | -.0165 | .0656 | .4293 | .0348 |
| #3 | .9817 | .0009 | .0110 | .0022 | .0097 | .0531 | .4265 | .0217 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0469** | **.0467** | **-.0000** | **-.0638** | **.0351** | **.0139** | **-.0211** | **-.0115** |
| Stddev | .0231 | .0087 | .0030 | .0267 | .0903 | .0646 | .0237 | .0205 |
| %RSD | 49.23 | 18.74 | 66600. | 41.88 | 257.5 | 464.9 | 112.4 | 178.4 |
| #1 | .0422 | .0543 | .0034 | -.0402 | .1341 | .0625 | -.0345 | -.0001 |
| #2 | .0265 | .0485 | -.0022 | -.0928 | -.0427 | -.0595 | -.0350 | .0008 |
| #3 | .0720 | .0371 | -.0012 | -.0583 | .0138 | .0387 | .0063 | -.0352 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2533** | **2149.** | **2.691** | **10.01** | **70.02** | **877.3** | **.0816** | **.0267** |
| Stddev | .4482 | 4. | .102 | .38 | 1.28 | 1.9 | .0276 | .0072 |
| %RSD | 177.0 | .1858 | 3.801 | 3.833 | 1.827 | .2151 | 33.85 | 27.18 |
| #1 | .2647 | 2150. | 2.688 | 9.715 | 71.28 | 877.6 | .1062 | .0345 |
| #2 | -.2005 | 2153. | 2.591 | 10.45 | 70.04 | 879.0 | .0517 | .0252 |
| #3 | .6956 | 2145. | 2.795 | 9.877 | 68.72 | 875.3 | .0870 | .0202 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.259** | **-.0221** | **12.73** | **-.0035** | **.1744** | **.0166** | **12.66** | **.0490** |
| Stddev | .059 | .0126 | .02 | .0029 | .0326 | .0024 | .09 | .0274 |
| %RSD | 2.603 | 57.21 | .1809 | 83.38 | 18.70 | 14.50 | .7409 | 55.87 |
| #1 | 2.275 | -.0219 | 12.72 | -.0014 | .2070 | .0156 | 12.75 | .0180 |
| #2 | 2.309 | -.0095 | 12.75 | -.0023 | .1418 | .0148 | 12.66 | .0699 |
| #3 | 2.194 | -.0348 | 12.71 | -.0068 | .1745 | .0193 | 12.57 | .0590 |

Zoom In Zoom Out

Sample Name: mp14895-sd1 Acquired: 5/13/2019 20:32:03 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0189** | W **-5.834** |
| Stddev | .0705 | .138 |
| %RSD | 372.3 | 2.364 |
| #1 | .0609 | -5.677 |
| #2 | -.0625 | -5.937 |
| #3 | .0584 | -5.889 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144040.** | **24348.** | **5692.5** | **8137.0** |
| Stddev | 607. | 85. | 22.1 | 22.4 |
| %RSD | .42149 | .34975 | .38842 | .27504 |
| #1 | 143350. | 24375. | 5702.3 | 8143.7 |
| #2 | 144240. | 24253. | 5667.2 | 8112.1 |
| #3 | 144510. | 24417. | 5707.9 | 8155.3 |



Zoom In Zoom Out

Sample Name: jc87671-3 Acquired: 5/13/2019 20:37:09 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0339** | **.0001** | **.0000** | **.0001** | **.0030** | **.0105** | **1.028** | **.0029** |
| Stddev | .0002 | .0000 | .0001 | .0002 | .0003 | .0002 | .001 | .0002 |
| %RSD | .5856 | 13.44 | 302.1 | 290.6 | 10.96 | 1.453 | .0630 | 8.456 |
| #1 | .0337 | .0001 | .0001 | -.0002 | .0034 | .0107 | 1.028 | .0028 |
| #2 | .0339 | .0001 | .0001 | .0002 | .0029 | .0105 | 1.028 | .0032 |
| #3 | .0341 | .0002 | -.0001 | .0002 | .0027 | .0104 | 1.027 | .0028 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0062** | **.0162** | **-.0023** | **-.0012** | F **-.0047** | **.0053** | **.0001** |
| Stddev | .0002 | .0006 | .0002 | .0007 | .0008 | .0009 | .0021 | .0017 |
| %RSD | 20.78 | 9.670 | .9366 | 31.44 | 67.13 | 18.85 | 39.04 | 1571. |
| #1 | .0012 | .0058 | .0163 | -.0021 | -.0009 | -.0036 | .0030 | -.0013 |
| #2 | .0008 | .0069 | .0160 | -.0017 | -.0005 | -.0052 | .0070 | .0020 |
| #3 | .0010 | .0058 | .0163 | -.0032 | -.0020 | -.0051 | .0059 | -.0004 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2195** | F **452.6** | **.7323** | **35.86** | **2.928** | **108.7** | **2.092** | **.0348** |
| Stddev | .0112 | 6.6 | .0006 | .06 | .025 | 1.4 | .018 | .0004 |
| %RSD | 5.105 | 1.452 | .0817 | .1656 | .8365 | 1.305 | .8552 | 1.018 |
| #1 | .2066 | 449.4 | .7329 | 35.79 | 2.916 | 109.5 | 2.105 | .0349 |
| #2 | .2271 | 448.2 | .7325 | 35.89 | 2.957 | 109.6 | 2.071 | .0344 |
| #3 | .2247 | 460.2 | .7317 | 35.89 | 2.912 | 107.1 | 2.098 | .0351 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.847** | **-.0029** | **4.778** | **.0080** | **.0023** | **-.0001** | F **353.3** | **.0036** |
| Stddev | .085 | .0002 | .086 | .0003 | .0009 | .0002 | 3.3 | .0008 |
| %RSD | .8626 | 7.773 | 1.806 | 4.202 | 39.09 | 151.7 | .9475 | 21.70 |
| #1 | 9.910 | -.0028 | 4.878 | .0076 | .0016 | -.0002 | 355.9 | .0041 |
| #2 | 9.750 | -.0026 | 4.738 | .0079 | .0033 | .0001 | 349.5 | .0039 |
| #3 | 9.881 | -.0031 | 4.720 | .0083 | .0021 | -.0002 | 354.4 | .0027 |



Zoom In Zoom Out

Sample Name: jc87671-3 Acquired: 5/13/2019 20:37:09 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1023** | **.0218** |
| Stddev | .0011 | .0033 |
| %RSD | 1.115 | 14.95 |
| #1 | .1018 | .0252 |
| #2 | .1036 | .0186 |
| #3 | .1016 | .0217 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **135670.** | **24081.** | **5438.1** | **7527.4** |
| Stddev | 458. | 82. | 51.7 | 59.4 |
| %RSD | .33779 | .33857 | .95026 | .78950 |
| #1 | 136200. | 24169. | 5417.4 | 7505.1 |
| #2 | 135440. | 24009. | 5496.9 | 7594.8 |
| #3 | 135370. | 24064. | 5400.0 | 7482.4 |



Zoom In Zoom Out

Sample Name: jc87671-3 Acquired: 5/13/2019 20:42:33 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0302** | **.0003** | **.0006** | **.0004** | **.0028** | **.0118** | **.9490** | **.0031** |
| Stddev | .0013 | .0001 | .0009 | .0006 | .0009 | .0009 | .0065 | .0011 |
| %RSD | 4.425 | 21.68 | 164.4 | 147.4 | 31.17 | 7.886 | .6826 | 34.63 |
| #1 | .0287 | .0004 | .0010 | -.0003 | .0032 | .0125 | .9419 | .0025 |
| #2 | .0310 | .0003 | .0012 | .0009 | .0018 | .0122 | .9505 | .0043 |
| #3 | .0311 | .0002 | -.0005 | .0007 | .0033 | .0107 | .9546 | .0025 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0056** | **.0089** | **.0142** | **-.0071** | **-.0007** | **.0006** | **-.0001** | **.0048** |
| Stddev | .0014 | .0019 | .0004 | .0025 | .0024 | .0025 | .0051 | .0034 |
| %RSD | 25.49 | 21.18 | 2.513 | 35.13 | 354.9 | 439.1 | 3451. | 70.90 |
| #1 | .0066 | .0073 | .0140 | -.0042 | -.0017 | .0035 | .0030 | .0084 |
| #2 | .0039 | .0084 | .0140 | -.0081 | .0021 | -.0011 | .0025 | .0016 |
| #3 | .0062 | .0109 | .0146 | -.0089 | -.0024 | -.0006 | -.0060 | .0044 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1495** | **409.3** | **.6564** | **32.63** | **3.568** | **97.11** | **2.077** | **.0359** |
| Stddev | .0428 | 4.3 | .0079 | .34 | .127 | 1.05 | .081 | .0021 |
| %RSD | 28.64 | 1.050 | 1.204 | 1.034 | 3.567 | 1.080 | 3.891 | 5.878 |
| #1 | .1002 | 404.6 | .6568 | 32.27 | 3.591 | 95.98 | 2.005 | .0338 |
| #2 | .1702 | 410.3 | .6483 | 32.69 | 3.431 | 97.30 | 2.062 | .0358 |
| #3 | .1779 | 413.0 | .6640 | 32.94 | 3.683 | 98.06 | 2.165 | .0380 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.646** | **-.0070** | **4.279** | **.0079** | **.0071** | **-.0006** | **351.8** | **.0041** |
| Stddev | .376 | .0032 | .045 | .0014 | .0012 | .0007 | 13.7 | .0090 |
| %RSD | 3.900 | 45.93 | 1.054 | 17.61 | 16.97 | 124.8 | 3.905 | 219.5 |
| #1 | 9.305 | -.0033 | 4.231 | .0063 | .0058 | -.0014 | 339.3 | .0137 |
| #2 | 9.584 | -.0089 | 4.285 | .0084 | .0082 | -.0001 | 349.5 | -.0041 |
| #3 | 10.05 | -.0089 | 4.321 | .0090 | .0073 | -.0002 | 366.5 | .0026 |

Zoom In Zoom Out

Sample Name: jc87671-3 Acquired: 5/13/2019 20:42:33 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0653** | W **-.4475** |
| Stddev | .0043 | .0115 |
| %RSD | 6.588 | 2.578 |
| #1 | .0688 | -.4589 |
| #2 | .0605 | -.4478 |
| #3 | .0667 | -.4359 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143100.** | **24404.** | **5645.9** | **8018.6** |
| Stddev | 789. | 202. | 11.1 | 27.8 |
| %RSD | .55128 | .82820 | .19728 | .34689 |
| #1 | 142600. | 24329. | 5656.1 | 8045.2 |
| #2 | 142700. | 24251. | 5647.7 | 8020.8 |
| #3 | 144010. | 24633. | 5634.0 | 7989.7 |



Zoom In Zoom Out

Sample Name: mp14895-mb1 Acquired: 5/13/2019 20:35:47 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **.0001** | **.0001** | **-.0001** | **.0006** | **.0001** | **.0003** |
| Stddev | .0001 | .0000 | .0001 | .0002 | .0002 | .0001 | .0000 | .0002 |
| %RSD | 71.47 | 35.56 | 231.8 | 317.9 | 348.3 | 18.42 | 44.93 | 70.55 |
| #1 | .0003 | .0001 | -.0001 | .0001 | .0002 | .0005 | .0001 | .0001 |
| #2 | .0001 | .0001 | .0001 | -.0001 | -.0002 | .0007 | .0000 | .0005 |
| #3 | .0002 | .0000 | .0001 | .0002 | -.0002 | .0005 | .0001 | .0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0007** | **.0003** | **-.0013** | **.0010** | **-.0001** | **.0002** | **-.0006** |
| Stddev | .0002 | .0003 | .0001 | .0011 | .0005 | .0010 | .0013 | .0015 |
| %RSD | 51.47 | 51.24 | 33.70 | 86.10 | 49.58 | 1623. | 591.9 | 228.2 |
| #1 | .0004 | .0008 | .0003 | -.0012 | .0004 | .0009 | -.0011 | .0006 |
| #2 | .0002 | .0003 | .0004 | -.0025 | .0012 | -.0010 | .0003 | -.0023 |
| #3 | .0007 | .0010 | .0002 | -.0002 | .0013 | -.0001 | .0014 | -.0003 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0046** | **.0174** | **-.0010** | **-.0119** | **.1677** | **.2414** | **.0024** | **.0002** |
| Stddev | .0132 | .0044 | .0020 | .0061 | .0221 | .0105 | .0004 | .0002 |
| %RSD | 286.7 | 25.03 | 202.9 | 50.77 | 13.17 | 4.345 | 16.67 | 69.28 |
| #1 | .0107 | .0225 | -.0005 | -.0184 | .1677 | .2398 | .0026 | .0001 |
| #2 | -.0124 | .0150 | .0008 | -.0110 | .1457 | .2526 | .0019 | .0002 |
| #3 | -.0122 | .0149 | -.0032 | -.0064 | .1898 | .2318 | .0025 | .0004 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **.0001** | **.0001** | **.0003** | **.0016** | **-.0001** | **.0050** | **.0003** |
| Stddev | .0003 | .0003 | .0000 | .0002 | .0003 | .0001 | .0035 | .0008 |
| %RSD | 10.46 | 418.0 | 53.05 | 61.12 | 19.68 | 169.3 | 71.10 | 253.6 |
| #1 | .0025 | .0001 | .0000 | .0002 | .0020 | -.0002 | .0041 | .0012 |
| #2 | .0027 | -.0003 | .0000 | .0005 | .0016 | .0000 | .0088 | .0000 |
| #3 | .0030 | .0004 | .0001 | .0003 | .0013 | -.0000 | .0019 | -.0003 |



Zoom In Zoom Out

Sample Name: mp14895-mb1 Acquired: 5/13/2019 20:47:35 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0068** | W **-.1254** |
| Stddev | .0012 | .0052 |
| %RSD | 17.04 | 4.158 |
| #1 | -.0056 | -.1236 |
| #2 | -.0068 | -.1214 |
| #3 | -.0079 | -.1313 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148480.** | **24386.** | **5825.6** | **8559.2** |
| Stddev | 306. | 42. | 22.2 | 24.6 |
| %RSD | .20631 | .17400 | .38124 | .28739 |
| #1 | 148220. | 24418. | 5806.1 | 8538.6 |
| #2 | 148410. | 24338. | 5821.0 | 8552.7 |
| #3 | 148820. | 24403. | 5849.8 | 8586.4 |



Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/13/2019 20:52:44 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.023** | **2.101** | **1.963** | **1.863** | **2.076** | **2.030** | **2.089** | **1.934** | **.2525** |
| Stddev | .005 | .001 | .003 | .002 | .005 | .006 | .012 | .002 | .0014 |
| %RSD | .2442 | .0254 | .1338 | .0826 | .2534 | .2978 | .5839 | .1069 | .5477 |
| #1 | 2.023 | 2.101 | 1.964 | 1.862 | 2.077 | 2.027 | 2.100 | 1.933 | .2527 |
| #2 | 2.028 | 2.100 | 1.965 | 1.865 | 2.070 | 2.026 | 2.091 | 1.936 | .2510 |
| #3 | 2.018 | 2.101 | 1.960 | 1.863 | 2.080 | 2.037 | 2.076 | 1.933 | .2537 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.971** | **1.967** | **1.903** | **2.073** | **1.938** | **1.910** | **1.936** | **40.56** | **41.93** |
| Stddev | .007 | .002 | .005 | .008 | .002 | .005 | .002 | .05 | .02 |
| %RSD | .3751 | .0752 | .2664 | .3678 | .1030 | .2427 | .0838 | .1233 | .0533 |
| #1 | 1.975 | 1.968 | 1.903 | 2.077 | 1.937 | 1.909 | 1.936 | 40.60 | 41.95 |
| #2 | 1.963 | 1.968 | 1.907 | 2.078 | 1.940 | 1.915 | 1.938 | 40.57 | 41.94 |
| #3 | 1.977 | 1.965 | 1.897 | 2.064 | 1.936 | 1.905 | 1.935 | 40.50 | 41.91 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.06** | **41.19** | **42.06** | **40.43** | **1.943** | **1.916** | **4.942** | **1.928** | **2.074** |
| Stddev | .04 | .04 | .02 | .06 | .002 | .002 | .004 | .004 | .004 |
| %RSD | .1025 | .0983 | .0474 | .1367 | .1166 | .1114 | .0790 | .2300 | .1890 |
| #1 | 40.07 | 41.23 | 42.07 | 40.42 | 1.946 | 1.917 | 4.938 | 1.928 | 2.076 |
| #2 | 40.10 | 41.18 | 42.07 | 40.49 | 1.942 | 1.918 | 4.946 | 1.932 | 2.077 |
| #3 | 40.02 | 41.15 | 42.04 | 40.38 | 1.942 | 1.914 | 4.941 | 1.923 | 2.070 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/13/2019 20:52:44 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.008** | **1.885** | **2.090** | **2.066** | **1.904** | **2.056** | F **4.330** |
| Stddev | .007 | .001 | .007 | .019 | .004 | .003 | .037 |
| %RSD | .3563 | .0608 | .3456 | .9294 | .1966 | .1433 | .8492 |
| #1 | 2.012 | 1.886 | 2.092 | 2.077 | 1.907 | 2.059 | 4.340 |
| #2 | 2.000 | 1.885 | 2.082 | 2.077 | 1.906 | 2.057 | 4.361 |
| #3 | 2.012 | 1.884 | 2.097 | 2.044 | 1.900 | 2.053 | 4.289 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **139660.** | **24127.** | **5576.1** | **7843.3** |
| Stddev | 584. | 53. | 2.7 | 9.4 |
| %RSD | .41841 | .22102 | .04848 | .11970 |
| #1 | 138990. | 24067. | 5579.1 | 7854.1 |
| #2 | 140100. | 24146. | 5575.3 | 7838.4 |
| #3 | 139880. | 24168. | 5573.8 | 7837.4 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 20:57:42 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0002** | **.0001** | **-.0000** | **-.0000** | **.0004** | **.0001** | **.0002** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0002 | .0000 | .0000 | .0001 |
| %RSD | 193.4 | 6.632 | 69.04 | 385.7 | 1616. | 4.612 | 6.769 | 49.11 |
| #1 | .0002 | .0002 | .0001 | -.0001 | -.0003 | .0004 | .0001 | .0003 |
| #2 | .0002 | .0002 | .0000 | .0001 | .0001 | .0004 | .0001 | .0001 |
| #3 | -.0001 | .0002 | .0002 | -.0000 | .0002 | .0004 | .0001 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0007** | **-.0005** | **-.0011** | **.0007** | **.0005** | **.0011** | **-.0001** |
| Stddev | .0000 | .0002 | .0000 | .0006 | .0010 | .0009 | .0005 | .0011 |
| %RSD | 5.667 | 26.60 | 6.205 | 52.36 | 142.4 | 200.3 | 43.34 | 1127. |
| #1 | .0008 | .0005 | -.0005 | -.0005 | .0005 | .0013 | .0012 | .0004 |
| #2 | .0008 | .0009 | -.0005 | -.0017 | -.0002 | .0005 | .0014 | .0006 |
| #3 | .0009 | .0007 | -.0005 | -.0012 | .0019 | -.0005 | .0005 | -.0014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0093** | **.0093** | **.0010** | **.0020** | **.1918** | **.2399** | **.0026** | **.0006** |
| Stddev | .0091 | .0007 | .0014 | .0107 | .0162 | .0143 | .0005 | .0001 |
| %RSD | 97.56 | 7.308 | 144.7 | 540.1 | 8.448 | 5.969 | 17.49 | 16.76 |
| #1 | -.0049 | .0098 | .0005 | .0065 | .1785 | .2399 | .0031 | .0006 |
| #2 | -.0033 | .0095 | .0026 | .0096 | .1870 | .2543 | .0025 | .0006 |
| #3 | -.0197 | .0085 | -.0001 | -.0102 | .2098 | .2256 | .0022 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 20:57:42 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **.0004** | **.0001** | **.0003** | **.0024** | **-.0000** | **-.0070** | **.0001** |
| Stddev | .0004 | .0003 | .0001 | .0001 | .0003 | .0001 | .0008 | .0010 |
| %RSD | 16.39 | 57.19 | 160.0 | 58.78 | 11.90 | 159.0 | 11.29 | 1104. |
| #1 | .0024 | .0002 | -.0000 | .0001 | .0026 | .0000 | -.0066 | .0012 |
| #2 | .0025 | .0006 | .0001 | .0004 | .0026 | -.0001 | -.0079 | -.0008 |
| #3 | .0032 | .0005 | .0001 | .0003 | .0021 | -.0001 | -.0065 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0041** | F **-.1230** |
| Stddev | .0018 | .0043 |
| %RSD | 42.70 | 3.523 |
| #1 | -.0059 | -.1273 |
| #2 | -.0025 | -.1229 |
| #3 | -.0039 | -.1187 |
| Check ? | Chk Fail | Chk Fail |
| High Limit | .0040 | .0200 |
| Low Limit | -.0040 | -.0200 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148510.** | **24345.** | **5823.4** | **8540.8** |
| Stddev | 656. | 24. | 9.3 | 15.3 |
| %RSD | .44176 | .09791 | .15943 | .17970 |
| #1 | 147760. | 24373. | 5826.2 | 8546.2 |
| #2 | 148960. | 24334. | 5830.9 | 8552.8 |
| #3 | 148820. | 24329. | 5813.0 | 8523.5 |



Zoom In Zoom Out

Sample Name: jc87690-2 1 Acquired: 5/13/2019 21:02:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3318** | **.0012** | **-.0006** | **-.0008** | **.0012** | **.0096** | **.0328** | **.0059** |
| Stddev | .0047 | .0002 | .0004 | .0038 | .0053 | .0028 | .0002 | .0028 |
| %RSD | 1.414 | 16.38 | 63.52 | 488.0 | 431.0 | 29.70 | .5861 | 47.29 |
| #1 | .3272 | .0014 | -.0003 | .0033 | -.0038 | .0088 | .0325 | .0075 |
| #2 | .3316 | .0010 | -.0004 | -.0013 | .0068 | .0127 | .0329 | .0076 |
| #3 | .3366 | .0012 | -.0010 | -.0043 | .0007 | .0072 | .0329 | .0027 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0113** | **.0118** | **.0149** | **-.0136** | **.0086** | **.0007** | **.0115** | **-.0022** |
| Stddev | .0043 | .0015 | .0008 | .0173 | .0104 | .0092 | .0353 | .0083 |
| %RSD | 37.85 | 12.42 | 5.028 | 127.2 | 121.0 | 1294. | 307.9 | 386.3 |
| #1 | .0145 | .0115 | .0145 | .0022 | .0183 | .0052 | .0433 | .0007 |
| #2 | .0065 | .0134 | .0158 | -.0109 | .0097 | -.0099 | .0176 | .0044 |
| #3 | .0129 | .0105 | .0145 | -.0321 | -.0023 | .0068 | -.0265 | -.0115 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4134** | **1261.** | **.0019** | **5.448** | **61.67** | **1149.** | **.0790** | **.0528** |
| Stddev | .1223 | 18. | .0030 | .141 | .36 | 7. | .0002 | .0022 |
| %RSD | 29.58 | 1.449 | 162.0 | 2.580 | .5794 | .6071 | .2837 | 4.091 |
| #1 | .5399 | 1263. | -.0006 | 5.582 | 61.54 | 1153. | .0787 | .0524 |
| #2 | .2958 | 1242. | .0052 | 5.302 | 61.39 | 1141. | .0791 | .0508 |
| #3 | .4045 | 1278. | .0010 | 5.459 | 62.07 | 1154. | .0790 | .0551 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.435** | **-.0093** | **9.566** | **.0007** | **.0368** | **.0013** | **238.5** | **.0129** |
| Stddev | .048 | .0042 | .047 | .0054 | .0031 | .0006 | 8.7 | .0182 |
| %RSD | 3.369 | 45.01 | .4935 | 782.3 | 8.311 | 48.64 | 3.646 | 141.5 |
| #1 | 1.399 | -.0117 | 9.594 | .0057 | .0340 | .0006 | 233.3 | .0339 |
| #2 | 1.416 | -.0045 | 9.512 | .0013 | .0365 | .0017 | 233.6 | .0015 |
| #3 | 1.490 | -.0117 | 9.592 | -.0050 | .0400 | .0016 | 248.5 | .0032 |

Zoom In Zoom Out

Sample Name: jc87690-2 1 Acquired: 5/13/2019 21:02:50 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1913** | W **-1.081** |
| Stddev | .0079 | .045 |
| %RSD | 4.154 | 4.179 |
| #1 | .1973 | -1.047 |
| #2 | .1823 | -1.064 |
| #3 | .1942 | -1.133 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137550.** | **23901.** | **5406.4** | **7542.9** |
| Stddev | 352. | 158. | 166.0 | 190.8 |
| %RSD | .25554 | .66312 | 3.0706 | 2.5302 |
| #1 | 137160. | 23987. | 5493.4 | 7644.9 |
| #2 | 137650. | 23999. | 5510.8 | 7661.1 |
| #3 | 137850. | 23718. | 5214.9 | 7322.7 |



Zoom In Zoom Out

Sample Name: jc87726-2 Acquired: 5/13/2019 21:08:13 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0115** | **.0001** | **-.0001** | **.0002** | **-.0002** | **.0043** | **.0025** | **.0070** | **.0007** |
| Stddev | .0003 | .0000 | .0002 | .0000 | .0002 | .0001 | .0000 | .0002 | .0002 |
| %RSD | 2.348 | 46.49 | 223.1 | 9.345 | 117.3 | 1.717 | .6621 | 2.708 | 25.77 |
| #1 | .0118 | .0001 | -.0001 | .0002 | -.0004 | .0043 | .0024 | .0070 | .0009 |
| #2 | .0114 | .0000 | -.0003 | .0002 | -.0002 | .0042 | .0025 | .0068 | .0005 |
| #3 | .0113 | .0001 | .0001 | .0002 | .0000 | .0042 | .0025 | .0072 | .0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0099** | **.0527** | **.0007** | **.0011** | **.0003** | **-.0010** | **.0001** | **.0026** | **8.450** |
| Stddev | .0002 | .0001 | .0008 | .0020 | .0003 | .0008 | .0008 | .0060 | .020 |
| %RSD | 1.589 | .2493 | 110.2 | 176.8 | 84.93 | 79.62 | 541.6 | 234.3 | .2335 |
| #1 | .0100 | .0527 | .0013 | .0027 | .0002 | -.0015 | .0005 | -.0040 | 8.469 |
| #2 | .0097 | .0525 | .0011 | .0019 | .0006 | -.0001 | .0007 | .0077 | 8.451 |
| #3 | .0099 | .0528 | -.0002 | -.0011 | .0001 | -.0014 | -.0007 | .0040 | 8.430 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0116** | **11.05** | **16.05** | F **398.8** | **.2039** | **.0050** | **2.620** | **-.0012** | **.0692** |
| Stddev | .0010 | .05 | .03 | 1.5 | .0007 | .0000 | .003 | .0002 | .0000 |
| %RSD | 8.307 | .4294 | .1603 | .3837 | .3369 | .3339 | .1226 | 17.40 | .0331 |
| #1 | .0109 | 11.08 | 16.05 | 399.9 | .2039 | .0050 | 2.618 | -.0010 | .0692 |
| #2 | .0127 | 11.08 | 16.08 | 399.3 | .2046 | .0050 | 2.619 | -.0012 | .0692 |
| #3 | .0112 | 11.00 | 16.03 | 397.0 | .2033 | .0050 | 2.624 | -.0014 | .0692 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0014** | **.0002** | **13.94** | **.0009** | **.0107** | **.0648** |
| Stddev | .0006 | .0007 | .0003 | .03 | .0015 | .0015 | .0034 |
| %RSD | 51.38 | 52.59 | 124.7 | .1902 | 171.9 | 13.73 | 5.294 |
| #1 | .0017 | .0011 | -.0001 | 13.95 | .0010 | .0098 | .0679 |
| #2 | .0009 | .0022 | .0004 | 13.97 | -.0007 | .0098 | .0611 |
| #3 | .0006 | .0008 | .0004 | 13.92 | .0024 | .0123 | .0653 |



Zoom In Zoom Out

Sample Name: jc87726-2 Acquired: 5/13/2019 21:08:13 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137650.** | **24471.** | **5583.6** | **7658.7** |
| Stddev | 778. | 232. | 10.3 | 13.4 |
| %RSD | .56516 | .94942 | .18408 | .17556 |
| #1 | 137460. | 24495. | 5587.4 | 7667.0 |
| #2 | 138500. | 24228. | 5591.5 | 7665.8 |
| #3 | 136980. | 24691. | 5572.0 | 7643.2 |



Zoom In Zoom Out

Sample Name: mp14915-mb1 1 Acquired: 5/13/2019 21:13:23 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0000** | **-.0001** | **-.0001** | **-.0002** | **.0008** | **.0000** | **.0004** |
| Stddev | .0003 | .0001 | .0002 | .0000 | .0000 | .0004 | .0000 | .0003 |
| %RSD | 83.57 | 112.4 | 191.1 | 56.14 | 6.055 | 48.90 | 147.9 | 59.29 |
| #1 | -.0007 | .0001 | -.0002 | -.0001 | -.0002 | .0004 | .0001 | .0007 |
| #2 | -.0001 | -.0000 | .0001 | -.0001 | -.0002 | .0010 | .0000 | .0004 |
| #3 | -.0003 | .0000 | -.0001 | -.0000 | -.0002 | .0011 | .0000 | .0002 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0006** | **.0015** | **-.0012** | **.0011** | **.0007** | **-.0007** | **-.0003** |
| Stddev | .0004 | .0002 | .0000 | .0003 | .0010 | .0011 | .0017 | .0008 |
| %RSD | 30.30 | 35.57 | 2.524 | 22.66 | 90.34 | 145.2 | 265.7 | 251.4 |
| #1 | .0010 | .0006 | .0014 | -.0013 | .0001 | .0019 | -.0005 | -.0012 |
| #2 | .0012 | .0004 | .0015 | -.0009 | .0012 | -.0002 | -.0025 | .0001 |
| #3 | .0017 | .0009 | .0015 | -.0015 | .0020 | .0005 | .0010 | .0002 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **.0051** | **-.0007** | **-.0100** | **.1547** | **.2301** | **.0008** | **.0001** |
| Stddev | .0050 | .0007 | .0010 | .0042 | .0177 | .0132 | .0002 | .0002 |
| %RSD | 276.3 | 14.58 | 151.7 | 41.74 | 11.46 | 5.723 | 27.55 | 169.1 |
| #1 | -.0039 | .0060 | -.0015 | -.0131 | .1751 | .2407 | .0008 | .0003 |
| #2 | .0052 | .0045 | .0004 | -.0052 | .1434 | .2343 | .0011 | .0001 |
| #3 | .0041 | .0050 | -.0009 | -.0117 | .1455 | .2154 | .0006 | -.0001 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0026** | **-.0008** | **-.0001** | **.0004** | **-.0003** | **-.0001** | **-.0060** | **.0024** |
| Stddev | .0007 | .0003 | .0000 | .0002 | .0006 | .0001 | .0021 | .0019 |
| %RSD | 26.85 | 39.69 | 33.66 | 51.80 | 189.9 | 118.8 | 35.49 | 78.69 |
| #1 | .0018 | -.0005 | -.0002 | .0003 | -.0008 | -.0001 | -.0037 | .0017 |
| #2 | .0032 | -.0011 | -.0001 | .0002 | -.0003 | -.0003 | -.0065 | .0046 |
| #3 | .0026 | -.0008 | -.0001 | .0006 | .0003 | .0000 | -.0079 | .0010 |

Zoom In Zoom Out

Sample Name: mp14915-mb1 1 Acquired: 5/13/2019 21:13:23 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0071** | W **-.1228** |
| Stddev | .0007 | .0038 |
| %RSD | 9.534 | 3.096 |
| #1 | -.0066 | -.1263 |
| #2 | -.0078 | -.1234 |
| #3 | -.0068 | -.1188 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150930.** | **24894.** | **5951.5** | **8820.1** |
| Stddev | 446. | 153. | 6.8 | 3.2 |
| %RSD | .29554 | .61632 | .11449 | .03678 |
| #1 | 150470. | 24765. | 5943.7 | 8816.4 |
| #2 | 151360. | 24853. | 5955.7 | 8822.7 |
| #3 | 150950. | 25063. | 5955.3 | 8821.0 |



Zoom In Zoom Out

Sample Name: mp14915-b1 Acquired: 5/13/2019 21:18:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **2.043** | **2.005** | **1.856** | **2.059** | **2.034** | **2.057** | **1.929** | **.0863** |
| Stddev | .067 | .067 | .002 | .001 | .031 | .031 | .041 | .003 | .0010 |
| %RSD | 3.348 | 3.292 | .1161 | .0744 | 1.503 | 1.520 | 1.971 | .1304 | 1.125 |
| #1 | 2.025 | 2.084 | 2.008 | 1.855 | 2.087 | 2.061 | 2.086 | 1.927 | .0869 |
| #2 | 2.022 | 2.079 | 2.004 | 1.858 | 2.026 | 2.001 | 2.011 | 1.931 | .0852 |
| #3 | 1.908 | 1.965 | 2.004 | 1.855 | 2.063 | 2.042 | 2.074 | 1.927 | .0869 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.948** | **1.973** | **1.994** | **2.127** | **2.095** | **1.982** | **2.064** | **26.05** | **26.94** |
| Stddev | .029 | .003 | .005 | .003 | .001 | .003 | .003 | .88 | .88 |
| %RSD | 1.508 | .1368 | .2293 | .1315 | .0356 | .1388 | .1504 | 3.373 | 3.278 |
| #1 | 1.973 | 1.976 | 1.998 | 2.129 | 2.094 | 1.984 | 2.065 | 26.57 | 27.47 |
| #2 | 1.916 | 1.973 | 1.989 | 2.124 | 2.096 | 1.979 | 2.067 | 26.55 | 27.42 |
| #3 | 1.957 | 1.971 | 1.994 | 2.127 | 2.094 | 1.982 | 2.061 | 25.04 | 25.92 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.71** | **26.58** | **27.04** | **26.23** | **1.957** | **1.963** | **-.0187** | **2.017** | **2.034** |
| Stddev | .86 | .91 | .88 | .87 | .001 | .002 | .0016 | .003 | .068 |
| %RSD | 3.347 | 3.441 | 3.257 | 3.336 | .0631 | .0908 | 8.710 | .1595 | 3.348 |
| #1 | 26.25 | 27.17 | 27.57 | 26.74 | 1.959 | 1.964 | -.0198 | 2.021 | 2.075 |
| #2 | 26.15 | 27.05 | 27.52 | 26.72 | 1.956 | 1.963 | -.0168 | 2.015 | 2.071 |
| #3 | 24.71 | 25.53 | 26.02 | 25.22 | 1.956 | 1.961 | -.0195 | 2.015 | 1.955 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.060** | **1.812** | **2.148** | **-.0073** | **.1373** | **-.0061** | **4.396** |
| Stddev | .031 | .004 | .031 | .0024 | .0020 | .0009 | .016 |
| %RSD | 1.524 | .2103 | 1.430 | 32.48 | 1.446 | 14.24 | .3539 |
| #1 | 2.084 | 1.808 | 2.173 | -.0089 | .1379 | -.0066 | 4.411 |
| #2 | 2.024 | 1.813 | 2.113 | -.0046 | .1351 | -.0065 | 4.380 |
| #3 | 2.071 | 1.815 | 2.157 | -.0084 | .1390 | -.0051 | 4.397 |



Zoom In Zoom Out

Sample Name: mp14915-b1 Acquired: 5/13/2019 21:18:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145870.** | **25025.** | **5795.8** | **8219.9** |
| Stddev | 1973. | 746. | 15.1 | 8.8 |
| %RSD | 1.3525 | 2.9818 | .26036 | .10648 |
| #1 | 144030. | 24651. | 5779.8 | 8209.8 |
| #2 | 147950. | 24539. | 5809.7 | 8225.7 |
| #3 | 145610. | 25884. | 5797.8 | 8224.2 |



Zoom In Zoom Out

Sample Name: mp14915-s1 Acquired: 5/13/2019 21:23:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.023** | **2.066** | **1.986** | **1.853** | **2.049** | **2.026** | **2.047** | **1.928** | **.0841** |
| Stddev | .007 | .007 | .045 | .033 | .012 | .011 | .027 | .034 | .0001 |
| %RSD | .3405 | .3551 | 2.267 | 1.793 | .5770 | .5475 | 1.302 | 1.786 | .1648 |
| #1 | 2.016 | 2.058 | 1.936 | 1.816 | 2.062 | 2.037 | 2.077 | 1.889 | .0841 |
| #2 | 2.023 | 2.070 | 2.022 | 1.880 | 2.047 | 2.025 | 2.032 | 1.954 | .0840 |
| #3 | 2.030 | 2.070 | 2.000 | 1.864 | 2.039 | 2.015 | 2.031 | 1.942 | .0842 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.951** | **1.964** | **1.951** | **2.098** | **2.087** | **1.964** | **2.005** | **25.92** | **45.99** |
| Stddev | .012 | .042 | .042 | .037 | .038 | .042 | .047 | .08 | .13 |
| %RSD | .6369 | 2.146 | 2.128 | 1.754 | 1.804 | 2.147 | 2.331 | .3275 | .2811 |
| #1 | 1.963 | 1.916 | 1.904 | 2.056 | 2.044 | 1.916 | 1.953 | 25.82 | 45.84 |
| #2 | 1.952 | 1.996 | 1.982 | 2.125 | 2.116 | 1.995 | 2.043 | 25.97 | 46.04 |
| #3 | 1.938 | 1.979 | 1.967 | 2.112 | 2.100 | 1.981 | 2.019 | 25.97 | 46.08 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.71** | **28.89** | **28.80** | **70.27** | **2.000** | **1.898** | **1.965** | **1.948** | **2.121** |
| Stddev | .07 | .07 | .09 | .17 | .042 | .043 | .048 | .043 | .007 |
| %RSD | .2776 | .2480 | .3176 | .2447 | 2.105 | 2.256 | 2.451 | 2.224 | .3469 |
| #1 | 25.63 | 28.88 | 28.69 | 70.09 | 1.952 | 1.850 | 1.911 | 1.899 | 2.113 |
| #2 | 25.75 | 28.82 | 28.85 | 70.31 | 2.032 | 1.932 | 2.003 | 1.982 | 2.122 |
| #3 | 25.75 | 28.96 | 28.85 | 70.43 | 2.016 | 1.914 | 1.981 | 1.962 | 2.128 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.030** | **1.836** | **2.110** | **3.304** | **.1357** | **-.0046** | **4.548** |
| Stddev | .014 | .038 | .014 | .072 | .0007 | .0006 | .090 |
| %RSD | .6904 | 2.086 | .6544 | 2.165 | .5498 | 14.05 | 1.985 |
| #1 | 2.042 | 1.792 | 2.123 | 3.223 | .1359 | -.0040 | 4.444 |
| #2 | 2.033 | 1.865 | 2.112 | 3.356 | .1348 | -.0046 | 4.597 |
| #3 | 2.015 | 1.849 | 2.096 | 3.335 | .1362 | -.0053 | 4.603 |

Zoom In Zoom Out

Sample Name: mp14915-s1 Acquired: 5/13/2019 21:23:32 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144330.** | **24811.** | **5801.4** | **8110.8** |
| Stddev | 1055. | 110. | 109.3 | 124.6 |
| %RSD | .73096 | .44299 | 1.8838 | 1.5359 |
| #1 | 143140. | 24685. | 5922.6 | 8249.8 |
| #2 | 144710. | 24886. | 5710.5 | 8009.1 |
| #3 | 145140. | 24863. | 5770.9 | 8073.4 |



Zoom In Zoom Out

Sample Name: mp14915-s2 Acquired: 5/13/2019 21:28:30 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.042** | **2.096** | **2.015** | **1.877** | **2.062** | **2.044** | **2.069** | **1.951** | **.0846** |
| Stddev | .028 | .018 | .003 | .003 | .003 | .002 | .016 | .003 | .0004 |
| %RSD | 1.346 | .8605 | .1347 | .1424 | .1353 | .0867 | .7933 | .1447 | .4605 |
| #1 | 2.014 | 2.080 | 2.013 | 1.876 | 2.061 | 2.043 | 2.079 | 1.949 | .0844 |
| #2 | 2.069 | 2.115 | 2.014 | 1.875 | 2.065 | 2.046 | 2.050 | 1.950 | .0851 |
| #3 | 2.044 | 2.092 | 2.018 | 1.880 | 2.059 | 2.044 | 2.078 | 1.955 | .0844 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.964** | **1.993** | **1.933** | **2.127** | **2.113** | **1.996** | **1.984** | **23.61** | **43.61** |
| Stddev | .002 | .002 | .001 | .007 | .002 | .006 | .002 | .37 | .80 |
| %RSD | .1152 | .0740 | .0699 | .3126 | .0842 | .3138 | .1126 | 1.586 | 1.845 |
| #1 | 1.962 | 1.992 | 1.932 | 2.121 | 2.113 | 1.990 | 1.984 | 23.21 | 42.71 |
| #2 | 1.966 | 1.992 | 1.934 | 2.134 | 2.112 | 1.996 | 1.982 | 23.95 | 44.27 |
| #3 | 1.962 | 1.995 | 1.932 | 2.127 | 2.115 | 2.002 | 1.986 | 23.67 | 43.85 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.44** | **26.36** | **26.42** | **68.13** | **2.038** | **1.879** | **1.982** | **1.933** | **2.144** |
| Stddev | .37 | .61 | .40 | 1.01 | .001 | .002 | .004 | .004 | .026 |
| %RSD | 1.564 | 2.319 | 1.530 | 1.485 | .0710 | .1292 | .2224 | .2114 | 1.197 |
| #1 | 23.04 | 25.66 | 25.97 | 67.04 | 2.038 | 1.876 | 1.978 | 1.930 | 2.118 |
| #2 | 23.77 | 26.80 | 26.74 | 69.03 | 2.039 | 1.880 | 1.982 | 1.932 | 2.169 |
| #3 | 23.50 | 26.62 | 26.56 | 68.33 | 2.036 | 1.881 | 1.987 | 1.938 | 2.146 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.993** | **1.822** | **2.072** | **3.344** | **.1324** | **-.0046** | **4.613** |
| Stddev | .003 | .001 | .003 | .003 | .0009 | .0010 | .016 |
| %RSD | .1244 | .0567 | .1450 | .0895 | .6932 | 21.90 | .3448 |
| #1 | 1.990 | 1.820 | 2.070 | 3.342 | .1314 | -.0045 | 4.610 |
| #2 | 1.995 | 1.822 | 2.076 | 3.348 | .1331 | -.0037 | 4.630 |
| #3 | 1.992 | 1.822 | 2.071 | 3.343 | .1327 | -.0057 | 4.599 |



Zoom In Zoom Out

Sample Name: mp14915-s2 Acquired: 5/13/2019 21:28:30 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144700.** | **24391.** | **5749.9** | **8066.7** |
| Stddev | 380. | 402. | 4.0 | 6.8 |
| %RSD | .26270 | 1.6487 | .06879 | .08447 |
| #1 | 145120. | 23933. | 5748.8 | 8064.9 |
| #2 | 144590. | 24554. | 5754.2 | 8074.3 |
| #3 | 144390. | 24686. | 5746.5 | 8061.0 |



Zoom In Zoom Out

Sample Name: jc87713-4 Acquired: 5/13/2019 21:33:27 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0145** | **.0002** | **.0002** | **.0002** | **.0018** | **.0045** | **.0112** | **.0009** | **.0010** |
| Stddev | .0003 | .0000 | .0002 | .0002 | .0001 | .0012 | .0013 | .0003 | .0001 |
| %RSD | 2.326 | 23.65 | 78.52 | 78.90 | 6.220 | 26.48 | 11.26 | 29.36 | 12.77 |
| #1 | .0146 | .0002 | .0003 | .0004 | .0019 | .0038 | .0106 | .0011 | .0009 |
| #2 | .0148 | .0002 | .0003 | .0000 | .0018 | .0038 | .0105 | .0008 | .0011 |
| #3 | .0142 | .0002 | .0000 | .0002 | .0017 | .0058 | .0127 | .0006 | .0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0144** | **-.0002** | **.0021** | **.0056** | **.0006** | **.0002** | **.2039** | **18.93** |
| Stddev | .0007 | .0001 | .0006 | .0007 | .0013 | .0007 | .0002 | .0064 | .15 |
| %RSD | 43.89 | .3653 | 267.9 | 32.11 | 22.81 | 109.7 | 105.1 | 3.164 | .7816 |
| #1 | .0012 | .0145 | -.0004 | .0029 | .0047 | -.0001 | -.0000 | .2113 | 19.05 |
| #2 | .0012 | .0144 | .0004 | .0018 | .0049 | .0012 | .0003 | .2000 | 18.98 |
| #3 | .0025 | .0144 | -.0007 | .0017 | .0070 | .0008 | .0004 | .2003 | 18.77 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4443** | **2.743** | **2.132** | **43.58** | **.0679** | **.0051** | **1.851** | **-.0008** | **.0663** |
| Stddev | .0030 | .013 | .035 | .36 | .0003 | .0000 | .006 | .0005 | .0006 |
| %RSD | .6730 | .4779 | 1.625 | .8250 | .4105 | .5918 | .3448 | 71.12 | .9079 |
| #1 | .4470 | 2.748 | 2.171 | 43.89 | .0680 | .0051 | 1.847 | -.0001 | .0667 |
| #2 | .4449 | 2.753 | 2.119 | 43.65 | .0682 | .0051 | 1.848 | -.0011 | .0665 |
| #3 | .4411 | 2.729 | 2.105 | 43.19 | .0676 | .0050 | 1.858 | -.0010 | .0656 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0081** | **.0042** | **.0004** | **3.283** | **.0006** | **-.0037** | **.0152** |
| Stddev | .0011 | .0010 | .0002 | .007 | .0007 | .0026 | .0032 |
| %RSD | 13.92 | 23.39 | 33.85 | .2090 | 111.3 | 71.98 | 20.79 |
| #1 | .0072 | .0051 | .0003 | 3.288 | .0005 | -.0041 | .0178 |
| #2 | .0076 | .0031 | .0006 | 3.275 | .0014 | -.0061 | .0160 |
| #3 | .0094 | .0045 | .0004 | 3.284 | -.0000 | -.0009 | .0117 |

Zoom In Zoom Out

Sample Name: jc87713-4 Acquired: 5/13/2019 21:33:27 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141150.** | **25621.** | **5857.5** | **8309.2** |
| Stddev | 13982. | 79. | 25.4 | 33.3 |
| %RSD | 9.9055 | .30885 | .43357 | .40068 |
| #1 | 148370. | 25564. | 5874.4 | 8334.6 |
| #2 | 150050. | 25587. | 5869.8 | 8321.5 |
| #3 | 125040. | 25711. | 5828.3 | 8271.5 |



Zoom In Zoom Out

Sample Name: mp14915-sd1 Acquired: 5/13/2019 21:38:29 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0131** | **.0004** | **-.0010** | **.0004** | **.0012** | **.0010** | **.0096** | **.0027** |
| Stddev | .0005 | .0002 | .0009 | .0009 | .0006 | .0090 | .0019 | .0020 |
| %RSD | 3.891 | 68.26 | 83.85 | 242.9 | 54.04 | 884.8 | 19.58 | 72.34 |
| #1 | .0125 | .0006 | -.0014 | -.0006 | .0012 | -.0091 | .0074 | .0039 |
| #2 | .0133 | .0003 | -.0017 | .0010 | .0018 | .0078 | .0106 | .0004 |
| #3 | .0135 | .0002 | -.0001 | .0007 | .0005 | .0044 | .0108 | .0037 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0053** | **.0027** | **.0167** | **-.0042** | **.0020** | **.0049** | **.0023** | **.0029** |
| Stddev | .0023 | .0021 | .0003 | .0031 | .0054 | .0025 | .0044 | .0055 |
| %RSD | 44.60 | 78.02 | 1.552 | 74.98 | 268.9 | 51.96 | 191.5 | 188.8 |
| #1 | .0078 | .0004 | .0164 | -.0078 | .0063 | .0024 | .0033 | -.0025 |
| #2 | .0047 | .0046 | .0167 | -.0020 | -.0041 | .0075 | -.0025 | .0027 |
| #3 | .0032 | .0032 | .0169 | -.0027 | .0038 | .0048 | .0061 | .0085 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1166** | **18.06** | **.4278** | **2.576** | **2.839** | **42.82** | **.0813** | **.0073** |
| Stddev | .0388 | .29 | .0108 | .067 | .073 | .64 | .0018 | .0013 |
| %RSD | 33.29 | 1.605 | 2.521 | 2.617 | 2.562 | 1.496 | 2.212 | 17.89 |
| #1 | .0727 | 17.78 | .4163 | 2.541 | 2.916 | 42.24 | .0816 | .0059 |
| #2 | .1464 | 18.04 | .4377 | 2.534 | 2.828 | 42.72 | .0794 | .0078 |
| #3 | .1307 | 18.36 | .4294 | 2.654 | 2.772 | 43.51 | .0830 | .0084 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.892** | **-.0011** | **.0634** | **.0079** | **.0302** | **.0029** | **3.187** | **.0034** |
| Stddev | .045 | .0010 | .0012 | .0015 | .0048 | .0005 | .066 | .0067 |
| %RSD | 2.400 | 92.47 | 1.859 | 18.54 | 15.87 | 15.58 | 2.071 | 196.7 |
| #1 | 1.843 | -.0018 | .0625 | .0062 | .0356 | .0028 | 3.116 | -.0037 |
| #2 | 1.901 | .0001 | .0629 | .0086 | .0284 | .0034 | 3.198 | .0097 |
| #3 | 1.933 | -.0016 | .0647 | .0089 | .0265 | .0025 | 3.247 | .0042 |



Zoom In Zoom Out

Sample Name: mp14915-sd1 Acquired: 5/13/2019 21:38:29 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0264** | W **-.4864** |
| Stddev | .0094 | .0170 |
| %RSD | 35.82 | 3.500 |
| #1 | -.0218 | -.5005 |
| #2 | -.0201 | -.4675 |
| #3 | -.0372 | -.4913 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **24664.** | **5849.1** | **8468.5** |
| Stddev | ----- | 66. | 28.0 | 35.1 |
| %RSD | ----- | .26586 | .47879 | .41398 |
| #1 | ----- | 24723. | 5834.1 | 8448.5 |
| #2 | 145790. | 24676. | 5831.8 | 8448.0 |
| #3 | 147770. | 24593. | 5881.4 | 8509.0 |



Zoom In Zoom Out

Sample Name: jc87737-1 Acquired: 5/13/2019 21:43:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1159** | **.0001** | **.0003** | **.0056** | **.0068** | **.0106** | **.0503** | **.0170** |
| Stddev | .0045 | .0000 | .0003 | .0001 | .0007 | .0006 | .0013 | .0003 |
| %RSD | 3.918 | 83.17 | 115.0 | 2.488 | 10.18 | 5.650 | 2.550 | 1.719 |
| #1 | .1180 | .0000 | -.0001 | .0056 | .0067 | .0112 | .0518 | .0174 |
| #2 | .1189 | .0001 | .0004 | .0055 | .0062 | .0100 | .0494 | .0168 |
| #3 | .1107 | .0000 | .0004 | .0057 | .0076 | .0105 | .0497 | .0170 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0015** | **.0016** | **.0063** | **.0002** | **-.0007** | **-.0001** | **.0002** |
| Stddev | .0007 | .0003 | .0000 | .0011 | .0023 | .0000 | .0018 | .0013 |
| %RSD | 57.92 | 20.65 | 3.062 | 18.10 | 1092. | 5.336 | 1692. | 750.2 |
| #1 | .0019 | .0016 | .0016 | .0076 | .0012 | -.0007 | .0005 | -.0004 |
| #2 | .0008 | .0011 | .0016 | .0056 | -.0024 | -.0007 | .0014 | -.0008 |
| #3 | .0007 | .0017 | .0017 | .0057 | .0019 | -.0007 | -.0022 | .0017 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **114.7** | **.0162** | **41.52** | **5.975** | F **323.5** | **.2569** | **.0008** |
| Stddev | .0007 | 4.8 | .0030 | 1.64 | .189 | 16.5 | .0019 | .0003 |
| %RSD | 39.26 | 4.189 | 18.21 | 3.944 | 3.158 | 5.100 | .7519 | 31.55 |
| #1 | .0009 | 117.5 | .0172 | 42.37 | 6.095 | 325.9 | .2571 | .0011 |
| #2 | .0021 | 117.5 | .0186 | 42.57 | 6.073 | 338.6 | .2548 | .0007 |
| #3 | .0021 | 109.2 | .0129 | 39.64 | 5.758 | 305.8 | .2586 | .0007 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.755** | **-.0022** | **.8073** | **-.0003** | **.0022** | **-.0002** | **27.53** | **.0019** |
| Stddev | .049 | .0001 | .0308 | .0000 | .0007 | .0001 | .17 | .0016 |
| %RSD | .8442 | 3.909 | 3.819 | 13.74 | 31.34 | 60.41 | .6164 | 85.14 |
| #1 | 5.772 | -.0021 | .8251 | -.0004 | .0015 | -.0001 | 27.56 | .0003 |
| #2 | 5.700 | -.0022 | .8251 | -.0003 | .0029 | -.0002 | 27.34 | .0036 |
| #3 | 5.792 | -.0023 | .7717 | -.0004 | .0022 | -.0003 | 27.68 | .0018 |

Zoom In Zoom Out

Sample Name: jc87737-1 Acquired: 5/13/2019 21:43:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0016** | W **-.0694** |
| Stddev | .0011 | .0043 |
| %RSD | 68.47 | 6.237 |
| #1 | -.0017 | -.0663 |
| #2 | -.0004 | -.0675 |
| #3 | -.0025 | -.0743 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **134510.** | **24857.** | **5491.1** | **7528.7** |
| Stddev | 3245. | 955. | 26.2 | 34.4 |
| %RSD | 2.4126 | 3.8431 | .47787 | .45730 |
| #1 | 130890. | 24495. | 5501.6 | 7532.4 |
| #2 | 137170. | 24135. | 5510.4 | 7561.1 |
| #3 | 135470. | 25940. | 5461.2 | 7492.6 |



Zoom In Zoom Out

Sample Name: jc87737-1 Acquired: 5/13/2019 21:48:55 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1213** | **.0001** | **.0001** | **.0058** | **.0070** | **.0103** | **.0488** | **.0175** |
| Stddev | .0003 | .0000 | .0002 | .0003 | .0002 | .0003 | .0001 | .0005 |
| %RSD | .2286 | 23.30 | 278.6 | 5.205 | 3.511 | 3.276 | .1825 | 2.994 |
| #1 | .1213 | .0002 | -.0001 | .0061 | .0070 | .0099 | .0487 | .0181 |
| #2 | .1216 | .0001 | .0003 | .0056 | .0073 | .0106 | .0489 | .0173 |
| #3 | .1210 | .0001 | .0000 | .0056 | .0068 | .0104 | .0488 | .0171 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0013** | **.0018** | **.0073** | **.0011** | **-.0006** | **-.0001** | **.0001** |
| Stddev | .0001 | .0003 | .0001 | .0006 | .0003 | .0010 | .0006 | .0013 |
| %RSD | 9.243 | 19.30 | 4.138 | 8.592 | 28.23 | 152.9 | 530.5 | 905.6 |
| #1 | .0010 | .0013 | .0017 | .0079 | .0014 | -.0010 | -.0006 | .0010 |
| #2 | .0011 | .0011 | .0019 | .0066 | .0008 | .0005 | .0005 | .0008 |
| #3 | .0009 | .0016 | .0018 | .0073 | .0011 | -.0014 | -.0002 | -.0014 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0065** | **118.1** | **.0130** | **43.49** | **6.312** | F **337.1** | **.2630** | **.0009** |
| Stddev | .0053 | 1.3 | .0017 | .04 | .028 | 2.6 | .0027 | .0002 |
| %RSD | 80.41 | 1.109 | 12.96 | .0952 | .4387 | .7845 | 1.028 | 26.66 |
| #1 | -.0005 | 119.5 | .0138 | 43.47 | 6.340 | 336.8 | .2650 | .0008 |
| #2 | -.0094 | 117.7 | .0110 | 43.46 | 6.312 | 334.7 | .2640 | .0007 |
| #3 | -.0097 | 117.0 | .0141 | 43.54 | 6.285 | 339.9 | .2599 | .0012 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.902** | **-.0026** | **.8471** | **-.0006** | **.0016** | **-.0003** | **28.26** | **.0004** |
| Stddev | .049 | .0001 | .0010 | .0001 | .0013 | .0001 | .24 | .0021 |
| %RSD | .8358 | 4.214 | .1170 | 15.48 | 77.74 | 38.11 | .8393 | 523.2 |
| #1 | 5.929 | -.0024 | .8459 | -.0006 | .0031 | -.0005 | 28.38 | -.0016 |
| #2 | 5.932 | -.0027 | .8474 | -.0006 | .0009 | -.0002 | 28.41 | .0027 |
| #3 | 5.845 | -.0026 | .8478 | -.0008 | .0009 | -.0003 | 27.99 | .0002 |



Zoom In Zoom Out

Sample Name: jc87737-1 Acquired: 5/13/2019 21:48:55 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0005** | W **-.0714** |
| Stddev | .0016 | .0040 |
| %RSD | 309.2 | 5.651 |
| #1 | -.0011 | -.0669 |
| #2 | .0021 | -.0725 |
| #3 | .0005 | -.0747 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **136740.** | **24426.** | **5500.6** | **7533.3** |
| Stddev | 610. | 117. | 40.3 | 44.7 |
| %RSD | .44632 | .48068 | .73301 | .59393 |
| #1 | 137020. | 24392. | 5480.9 | 7512.6 |
| #2 | 136040. | 24557. | 5473.9 | 7502.6 |
| #3 | 137150. | 24329. | 5546.9 | 7584.6 |



Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/13/2019 21:54:17 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.037** | **2.101** | **1.965** | **1.858** | **2.076** | **2.032** | **2.085** | **1.933** | **.2528** |
| Stddev | .009 | .011 | .002 | .002 | .005 | .006 | .008 | .002 | .0006 |
| %RSD | .4674 | .5359 | .1046 | .1078 | .2633 | .3190 | .3953 | .1131 | .2258 |
| #1 | 2.029 | 2.095 | 1.966 | 1.856 | 2.070 | 2.024 | 2.084 | 1.931 | .2522 |
| #2 | 2.033 | 2.095 | 1.963 | 1.859 | 2.078 | 2.037 | 2.094 | 1.933 | .2533 |
| #3 | 2.047 | 2.114 | 1.966 | 1.859 | 2.081 | 2.033 | 2.078 | 1.936 | .2531 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.968** | **1.968** | **1.904** | **2.075** | **1.936** | **1.908** | **1.936** | **40.57** | **42.00** |
| Stddev | .004 | .002 | .002 | .001 | .002 | .002 | .003 | .18 | .22 |
| %RSD | .1879 | .0836 | .1228 | .0245 | .1039 | .1213 | .1502 | .4449 | .5248 |
| #1 | 1.964 | 1.967 | 1.905 | 2.075 | 1.934 | 1.905 | 1.933 | 40.48 | 41.83 |
| #2 | 1.971 | 1.966 | 1.902 | 2.075 | 1.937 | 1.909 | 1.936 | 40.46 | 41.91 |
| #3 | 1.970 | 1.969 | 1.906 | 2.076 | 1.938 | 1.909 | 1.938 | 40.78 | 42.25 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.07** | **41.33** | **42.26** | **40.59** | **1.944** | **1.913** | **4.945** | **1.924** | **2.083** |
| Stddev | .23 | .21 | .18 | .18 | .002 | .001 | .006 | .001 | .011 |
| %RSD | .5862 | .5038 | .4212 | .4504 | .1073 | .0432 | .1128 | .0661 | .5095 |
| #1 | 39.92 | 41.15 | 42.21 | 40.45 | 1.941 | 1.913 | 4.943 | 1.925 | 2.078 |
| #2 | 39.94 | 41.27 | 42.11 | 40.53 | 1.945 | 1.914 | 4.941 | 1.923 | 2.077 |
| #3 | 40.34 | 41.56 | 42.46 | 40.80 | 1.945 | 1.914 | 4.952 | 1.924 | 2.096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv 7 Acquired: 5/13/2019 21:54:17 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.007** | **1.888** | **2.096** | **2.044** | **1.904** | **2.056** | F **4.371** |
| Stddev | .005 | .002 | .004 | .006 | .002 | .009 | .041 |
| %RSD | .2349 | .1005 | .1911 | .2801 | .0985 | .4523 | .9426 |
| #1 | 2.002 | 1.887 | 2.092 | 2.043 | 1.904 | 2.051 | 4.324 |
| #2 | 2.011 | 1.887 | 2.099 | 2.039 | 1.906 | 2.050 | 4.390 |
| #3 | 2.009 | 1.890 | 2.097 | 2.051 | 1.902 | 2.067 | 4.400 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **140520.** | **24088.** | **5584.0** | **7865.2** |
| Stddev | 397. | 130. | 4.0 | 8.9 |
| %RSD | .28269 | .53794 | .07196 | .11265 |
| #1 | 140830. | 24225. | 5587.4 | 7874.8 |
| #2 | 140660. | 24070. | 5585.0 | 7863.7 |
| #3 | 140070. | 23968. | 5579.6 | 7857.3 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 21:59:17 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0002** | **.0000** | **.0000** | **-.0002** | **.0006** | **.0001** | **.0003** |
| Stddev | .0004 | .0000 | .0002 | .0003 | .0002 | .0002 | .0000 | .0001 |
| %RSD | 3652. | 16.59 | 1839. | 855.4 | 132.4 | 37.50 | 31.43 | 36.90 |
| #1 | .0002 | .0002 | .0001 | -.0002 | -.0002 | .0008 | .0001 | .0002 |
| #2 | -.0004 | .0002 | -.0002 | .0004 | .0001 | .0007 | .0001 | .0003 |
| #3 | .0003 | .0002 | .0001 | -.0001 | -.0004 | .0004 | .0001 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0008** | **-.0005** | **-.0022** | **.0007** | **-.0009** | **.0000** | **.0003** |
| Stddev | .0003 | .0002 | .0001 | .0003 | .0005 | .0006 | .0012 | .0012 |
| %RSD | 21.66 | 21.64 | 21.68 | 13.89 | 68.06 | 70.75 | 31780. | 428.7 |
| #1 | .0014 | .0010 | -.0004 | -.0025 | .0006 | -.0005 | -.0000 | .0016 |
| #2 | .0010 | .0006 | -.0006 | -.0024 | .0013 | -.0016 | .0013 | -.0006 |
| #3 | .0016 | .0008 | -.0004 | -.0019 | .0003 | -.0005 | -.0012 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0029** | **.0090** | **.0017** | **-.0106** | **.2881** | **.3564** | **.0031** | **.0004** |
| Stddev | .0048 | .0012 | .0015 | .0040 | .0309 | .0156 | .0003 | .0003 |
| %RSD | 166.2 | 12.95 | 89.83 | 37.87 | 10.74 | 4.375 | 10.25 | 67.02 |
| #1 | -.0070 | .0080 | .0006 | -.0095 | .3161 | .3724 | .0029 | .0007 |
| #2 | .0023 | .0103 | .0011 | -.0151 | .2549 | .3555 | .0034 | .0001 |
| #3 | -.0039 | .0087 | .0035 | -.0072 | .2933 | .3413 | .0029 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 21:59:17 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0025** | **-.0001** | **.0001** | **.0004** | **.0034** | **.0002** | **-.0112** | **.0014** |
| Stddev | .0005 | .0003 | .0000 | .0002 | .0002 | .0001 | .0005 | .0013 |
| %RSD | 19.65 | 275.0 | 24.08 | 44.66 | 7.218 | 60.73 | 4.863 | 92.74 |
| #1 | .0030 | -.0001 | .0001 | .0006 | .0032 | .0002 | -.0118 | .0001 |
| #2 | .0021 | .0002 | .0001 | .0003 | .0036 | .0001 | -.0107 | .0013 |
| #3 | .0024 | -.0004 | .0001 | .0004 | .0035 | .0004 | -.0112 | .0026 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0056** | F **-.1259** |
| Stddev | .0003 | .0030 |
| %RSD | 4.558 | 2.358 |
| #1 | -.0056 | -.1237 |
| #2 | -.0053 | -.1247 |
| #3 | -.0058 | -.1293 |
| Check ? | Chk Fail | Chk Fail |
| High Limit | .0040 | .0200 |
| Low Limit | -.0040 | -.0200 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149840.** | **24584.** | **5887.6** | **8626.8** |
| Stddev | 459. | 222. | 8.2 | 4.6 |
| %RSD | .30642 | .90215 | .13951 | .05368 |
| #1 | 149850. | 24400. | 5894.5 | 8631.6 |
| #2 | 149380. | 24520. | 5878.5 | 8622.4 |
| #3 | 150290. | 24830. | 5889.6 | 8626.2 |



Zoom In Zoom Out

Sample Name: jc87738-1 1 Acquired: 5/13/2019 22:04:26 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1988** | **.0001** | **-.0000** | **.0007** | **.0014** | **.0056** | **.0637** | **.0046** |
| Stddev | .0002 | .0000 | .0000 | .0003 | .0000 | .0014 | .0065 | .0002 |
| %RSD | .0948 | 38.18 | 150.5 | 37.28 | 2.286 | 24.47 | 10.19 | 4.272 |
| #1 | .1986 | .0001 | -.0001 | .0009 | .0014 | .0055 | .0595 | .0049 |
| #2 | .1989 | .0001 | .0000 | .0007 | .0014 | .0044 | .0604 | .0045 |
| #3 | .1988 | .0001 | -.0000 | .0004 | .0013 | .0071 | .0712 | .0046 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0229** | **.0194** | **.0007** | **.0017** | **-.0007** | **.0002** | **.0009** |
| Stddev | .0009 | .0020 | .0002 | .0012 | .0018 | .0030 | .0025 | .0017 |
| %RSD | 118.1 | 8.534 | 1.201 | 183.3 | 107.0 | 450.5 | 1349. | 194.8 |
| #1 | .0009 | .0217 | .0195 | -.0000 | -.0004 | -.0020 | -.0007 | .0025 |
| #2 | .0017 | .0219 | .0191 | .0021 | .0031 | -.0028 | .0030 | .0011 |
| #3 | -.0002 | .0252 | .0195 | -.0000 | .0024 | .0027 | -.0018 | -.0009 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0044** | F **344.5** | **.1276** | **94.88** | **38.40** | F **1214.** | **.1973** | **.0058** |
| Stddev | .0155 | 2.5 | .0093 | .23 | .09 | 9. | .0007 | .0003 |
| %RSD | 351.1 | .7161 | 7.261 | .2464 | .2253 | .7599 | .3610 | 5.508 |
| #1 | -.0053 | 341.8 | .1217 | 94.97 | 38.42 | 1204. | .1982 | .0062 |
| #2 | -.0037 | 346.6 | .1229 | 95.05 | 38.49 | 1221. | .1970 | .0056 |
| #3 | .0223 | 345.1 | .1383 | 94.61 | 38.31 | 1217. | .1969 | .0057 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.772** | **-.0020** | **2.540** | **-.0012** | **.0032** | **-.0008** | **86.39** | **.0020** |
| Stddev | .037 | .0005 | .001 | .0002 | .0010 | .0005 | .47 | .0005 |
| %RSD | .3835 | 23.34 | .0502 | 15.82 | 32.13 | 57.54 | .5482 | 26.82 |
| #1 | 9.802 | -.0023 | 2.542 | -.0014 | .0043 | -.0012 | 86.79 | .0026 |
| #2 | 9.730 | -.0022 | 2.540 | -.0013 | .0024 | -.0010 | 85.87 | .0016 |
| #3 | 9.784 | -.0014 | 2.539 | -.0010 | .0028 | -.0003 | 86.51 | .0017 |

Zoom In Zoom Out

Sample Name: jc87738-1 1 Acquired: 5/13/2019 22:04:26 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0320** | W **-.0452** |
| Stddev | .0058 | .0152 |
| %RSD | 18.22 | 33.69 |
| #1 | .0284 | -.0365 |
| #2 | .0289 | -.0362 |
| #3 | .0387 | -.0627 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **23788.** | **5133.9** | **6882.4** |
| Stddev | ----- | 64. | 17.4 | 16.2 |
| %RSD | ----- | .26959 | .33965 | .23583 |
| #1 | 126760. | 23856. | 5117.8 | 6867.7 |
| #2 | 126150. | 23729. | 5131.5 | 6879.8 |
| #3 | ----- | 23777. | 5152.4 | 6899.8 |



Zoom In Zoom Out

Sample Name: jc87738-3 Acquired: 5/13/2019 22:09:44 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1934** | **.0001** | **.0000** | **.0002** | **.0027** | **.0027** | **.1210** | **.0115** | **.0012** |
| Stddev | .0036 | .0001 | .0003 | .0003 | .0003 | .0003 | .0001 | .0002 | .0001 |
| %RSD | 1.879 | 57.80 | 1171. | 222.1 | 12.68 | 9.629 | .1130 | 1.938 | 9.340 |
| #1 | .1908 | .0002 | .0004 | .0003 | .0023 | .0026 | .1211 | .0114 | .0011 |
| #2 | .1975 | .0001 | -.0003 | -.0002 | .0028 | .0030 | .1208 | .0117 | .0011 |
| #3 | .1918 | .0001 | .0000 | .0004 | .0030 | .0025 | .1210 | .0113 | .0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0259** | **.0049** | **.0014** | **.0018** | **-.0015** | **-.0008** | **.0010** | **-.0004** | F **362.1** |
| Stddev | .0002 | .0000 | .0003 | .0020 | .0010 | .0018 | .0003 | .0067 | 8.2 |
| %RSD | .7898 | .6415 | 19.34 | 114.1 | 66.02 | 232.9 | 35.86 | 1688. | 2.262 |
| #1 | .0257 | .0048 | .0015 | -.0005 | -.0012 | -.0000 | .0012 | .0034 | 358.2 |
| #2 | .0259 | .0049 | .0017 | .0024 | -.0007 | -.0028 | .0012 | -.0082 | 371.5 |
| #3 | .0261 | .0049 | .0011 | .0034 | -.0027 | .0005 | .0006 | .0036 | 356.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0140** | **94.93** | **39.84** | F **1237.** | **.2668** | **.0079** | **9.715** | **-.0026** | **2.597** |
| Stddev | .0020 | 1.95 | .86 | 31. | .0010 | .0001 | .016 | .0003 | .051 |
| %RSD | 14.33 | 2.050 | 2.164 | 2.516 | .3716 | 1.191 | .1634 | 10.53 | 1.968 |
| #1 | -.0141 | 93.48 | 39.23 | 1219. | .2660 | .0079 | 9.697 | -.0023 | 2.561 |
| #2 | -.0160 | 97.14 | 40.82 | 1273. | .2679 | .0080 | 9.726 | -.0028 | 2.655 |
| #3 | -.0120 | 94.17 | 39.45 | 1219. | .2666 | .0078 | 9.721 | -.0026 | 2.573 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0012** | **.0022** | **-.0008** | **80.80** | **.0019** | **.0299** | **.0475** |
| Stddev | .0005 | .0016 | .0002 | .26 | .0007 | .0017 | .0041 |
| %RSD | 36.87 | 73.11 | 28.47 | .3245 | 37.03 | 5.691 | 8.603 |
| #1 | -.0017 | .0016 | -.0009 | 80.56 | .0016 | .0279 | .0447 |
| #2 | -.0008 | .0010 | -.0009 | 81.08 | .0014 | .0305 | .0522 |
| #3 | -.0013 | .0040 | -.0005 | 80.77 | .0027 | .0311 | .0456 |



Zoom In Zoom Out

Sample Name: jc87738-3 Acquired: 5/13/2019 22:09:44 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **126000.** | **23258.** | **5111.4** | **6857.6** |
| Stddev | 577. | 523. | 19.7 | 17.8 |
| %RSD | .45785 | 2.2506 | .38634 | .25955 |
| #1 | 125640. | 23749. | 5130.9 | 6874.9 |
| #2 | 125690. | 22707. | 5091.4 | 6839.3 |
| #3 | 126660. | 23318. | 5112.1 | 6858.6 |



Zoom In Zoom Out

Sample Name: p1conf Acquired: 5/13/2019 22:15:02 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0001** | **-.0001** | **-.0001** | **-.0002** | **-.0019** | **-.0000** | **.0003** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0003 | .0049 | .0001 | .0003 |
| %RSD | 63.76 | 15.62 | 87.01 | 79.90 | 179.5 | 254.2 | 188.4 | 83.73 |
| #1 | .0001 | .0001 | -.0001 | -.0002 | -.0003 | .0013 | -.0001 | .0002 |
| #2 | .0004 | .0001 | -.0001 | -.0000 | .0002 | -.0076 | -.0001 | .0001 |
| #3 | .0005 | .0001 | -.0002 | -.0002 | -.0003 | .0004 | .0000 | .0007 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0019** | **.0001** | **.0002** | **-.0009** | **.0016** | **.0003** | **-.0006** | **-.0022** |
| Stddev | .0011 | .0013 | .0001 | .0006 | .0001 | .0002 | .0008 | .0020 |
| %RSD | 55.83 | 1253. | 32.02 | 64.63 | 4.208 | 52.69 | 135.7 | 92.75 |
| #1 | .0013 | .0010 | .0002 | -.0015 | .0015 | .0005 | .0003 | -.0045 |
| #2 | .0031 | -.0014 | .0001 | -.0008 | .0016 | .0001 | -.0012 | -.0008 |
| #3 | .0013 | .0007 | .0003 | -.0004 | .0016 | .0004 | -.0008 | -.0013 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0166** | **.0270** | **.0020** | **-.0062** | **.3115** | **.7281** | **.0013** | **-.0000** |
| Stddev | .0096 | .0069 | .0008 | .0022 | .0361 | .0645 | .0002 | .0001 |
| %RSD | 57.88 | 25.56 | 39.51 | 35.01 | 11.60 | 8.860 | 15.83 | 6071. |
| #1 | -.0145 | .0339 | .0029 | -.0041 | .3491 | .7971 | .0013 | .0001 |
| #2 | -.0082 | .0269 | .0018 | -.0084 | .3084 | .7180 | .0016 | -.0001 |
| #3 | -.0270 | .0201 | .0013 | -.0062 | .2770 | .6692 | .0012 | -.0000 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0006** | **.0014** | **.0001** | **.0012** | **.0001** | **-.0036** | **.0026** |
| Stddev | .0006 | .0004 | .0001 | .0004 | .0007 | .0004 | .0007 | .0009 |
| %RSD | 267.1 | 68.92 | 7.019 | 294.5 | 59.64 | 651.6 | 20.50 | 36.57 |
| #1 | .0005 | -.0001 | .0015 | .0003 | .0005 | -.0001 | -.0042 | .0019 |
| #2 | -.0006 | -.0008 | .0013 | -.0003 | .0011 | .0005 | -.0028 | .0021 |
| #3 | -.0006 | -.0008 | .0013 | .0004 | .0019 | -.0002 | -.0037 | .0036 |

Zoom In Zoom Out

Sample Name: p1conf Acquired: 5/13/2019 22:15:02 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0060** | W **-.1301** |
| Stddev | .0008 | .0021 |
| %RSD | 13.00 | 1.580 |
| #1 | -.0067 | -.1284 |
| #2 | -.0062 | -.1297 |
| #3 | -.0052 | -.1324 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **24622.** | **5917.5** | **8803.5** |
| Stddev | ----- | 32. | 41.0 | 51.7 |
| %RSD | ----- | .12823 | .69286 | .58700 |
| #1 | 149920. | 24596. | 5870.2 | 8744.0 |
| #2 | ----- | 24614. | 5940.6 | 8829.7 |
| #3 | 150170. | 24657. | 5941.7 | 8836.9 |



Zoom In Zoom Out

Sample Name: p2conf Acquired: 5/13/2019 22:20:09 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0000** | **.0001** | **-.0002** | **-.0007** | **.0012** | **.0001** | **.0005** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0003 | .0000 | .0001 |
| %RSD | 330.5 | 167.7 | 97.61 | 62.53 | 26.93 | 28.44 | 20.40 | 23.83 |
| #1 | -.0001 | .0001 | -.0000 | -.0004 | -.0008 | .0010 | .0001 | .0004 |
| #2 | .0000 | -.0000 | .0002 | -.0002 | -.0009 | .0015 | .0001 | .0005 |
| #3 | .0001 | .0000 | .0001 | -.0001 | -.0005 | .0009 | .0001 | .0006 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0009** | **.0036** | **-.0018** | **.0018** | **.0003** | **.0006** | **-.0007** |
| Stddev | .0001 | .0004 | .0001 | .0006 | .0013 | .0009 | .0013 | .0004 |
| %RSD | 11.02 | 46.06 | 1.718 | 32.79 | 68.92 | 290.3 | 212.6 | 59.51 |
| #1 | .0010 | .0008 | .0036 | -.0024 | .0032 | -.0006 | -.0009 | -.0011 |
| #2 | .0012 | .0013 | .0035 | -.0017 | .0015 | .0003 | .0011 | -.0009 |
| #3 | .0011 | .0005 | .0036 | -.0013 | .0008 | .0012 | .0015 | -.0002 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0066** | **.0694** | **.0038** | **-.0009** | **.1914** | **.3730** | **.0006** | **.0003** |
| Stddev | .0023 | .0004 | .0013 | .0104 | .0487 | .0071 | .0009 | .0001 |
| %RSD | 34.97 | .5812 | 32.82 | 1154. | 25.43 | 1.895 | 145.3 | 34.17 |
| #1 | -.0051 | .0690 | .0033 | .0072 | .1529 | .3805 | .0009 | .0004 |
| #2 | -.0092 | .0694 | .0052 | .0027 | .1752 | .3665 | .0013 | .0003 |
| #3 | -.0054 | .0698 | .0029 | -.0126 | .2461 | .3721 | -.0004 | .0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **-.0004** | **.0015** | **.0003** | **.0005** | **-.0002** | **-.0014** | **.0027** |
| Stddev | .0008 | .0003 | .0001 | .0004 | .0008 | .0002 | .0005 | .0019 |
| %RSD | 116.0 | 80.81 | 6.202 | 110.5 | 170.4 | 106.5 | 36.38 | 70.09 |
| #1 | .0008 | -.0007 | .0016 | .0005 | .0007 | -.0004 | -.0018 | .0016 |
| #2 | .0013 | -.0005 | .0015 | -.0001 | -.0004 | -.0001 | -.0016 | .0016 |
| #3 | -.0002 | -.0001 | .0014 | .0006 | .0011 | -.0000 | -.0008 | .0048 |



Zoom In Zoom Out

Sample Name: p2conf Acquired: 5/13/2019 22:20:09 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0073** | W **-.1323** |
| Stddev | .0002 | .0032 |
| %RSD | 3.258 | 2.401 |
| #1 | -.0072 | -.1290 |
| #2 | -.0076 | -.1324 |
| #3 | -.0071 | -.1354 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150500.** | **24772.** | **5897.9** | **8770.0** |
| Stddev | 567. | 65. | 32.0 | 32.3 |
| %RSD | .37644 | .26098 | .54180 | .36873 |
| #1 | 150100. | 24845. | 5920.3 | 8793.9 |
| #2 | 150260. | 24746. | 5861.3 | 8733.2 |
| #3 | 151150. | 24724. | 5911.9 | 8782.7 |



Zoom In Zoom Out

Sample Name: mp14845-mb1conf Acquired: 5/13/2019 22:25:18 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0000** | **.0001** | **-.0002** | **.0006** | **.0008** | **.0002** | **.0004** |
| Stddev | .0002 | .0001 | .0001 | .0000 | .0001 | .0004 | .0000 | .0003 |
| %RSD | 72.41 | 255.0 | 113.1 | 24.51 | 11.49 | 48.60 | 23.41 | 60.33 |
| #1 | -.0005 | -.0000 | .0002 | -.0002 | .0006 | .0009 | .0002 | .0002 |
| #2 | -.0001 | .0001 | -.0000 | -.0001 | .0007 | .0010 | .0003 | .0005 |
| #3 | -.0003 | .0000 | .0001 | -.0002 | .0006 | .0003 | .0002 | .0007 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0007** | **.0081** | **-.0017** | **.0003** | **.0001** | **-.0009** | **.0004** |
| Stddev | .0003 | .0001 | .0001 | .0006 | .0002 | .0008 | .0008 | .0011 |
| %RSD | 25.80 | 10.15 | .7794 | 37.11 | 73.15 | 1524. | 82.23 | 257.3 |
| #1 | .0011 | .0007 | .0081 | -.0010 | .0002 | -.0009 | -.0011 | .0008 |
| #2 | .0014 | .0007 | .0081 | -.0023 | .0002 | .0003 | -.0016 | -.0008 |
| #3 | .0009 | .0006 | .0082 | -.0019 | .0005 | .0007 | -.0001 | .0013 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0033** | **.0634** | **.0151** | **-.0026** | **.4151** | **.7782** | **.0010** | **.0009** |
| Stddev | .0166 | .0001 | .0023 | .0075 | .0385 | .0196 | .0006 | .0003 |
| %RSD | 509.4 | .1917 | 15.06 | 285.8 | 9.268 | 2.517 | 58.43 | 33.54 |
| #1 | .0220 | .0635 | .0135 | .0060 | .4564 | .7834 | .0017 | .0005 |
| #2 | -.0026 | .0633 | .0141 | -.0073 | .3804 | .7947 | .0006 | .0011 |
| #3 | -.0096 | .0635 | .0177 | -.0066 | .4083 | .7566 | .0008 | .0010 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0079** | **.0178** | **.0004** | **.0006** | **.0060** | **.0005** | **-.0020** | **.0008** |
| Stddev | .0011 | .0003 | .0000 | .0002 | .0005 | .0001 | .0017 | .0006 |
| %RSD | 14.32 | 1.901 | 9.323 | 42.15 | 7.731 | 17.80 | 84.79 | 76.82 |
| #1 | .0091 | .0180 | .0003 | .0009 | .0054 | .0005 | -.0039 | .0004 |
| #2 | .0075 | .0174 | .0004 | .0004 | .0063 | .0004 | -.0005 | .0015 |
| #3 | .0069 | .0180 | .0003 | .0005 | .0061 | .0005 | -.0017 | .0005 |

Zoom In Zoom Out

Sample Name: mp14845-mb1conf Acquired: 5/13/2019 22:25:18 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0052** | W **-.0802** |
| Stddev | .0011 | .0031 |
| %RSD | 20.23 | 3.925 |
| #1 | -.0063 | -.0769 |
| #2 | -.0052 | -.0807 |
| #3 | -.0042 | -.0832 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151700.** | **25108.** | **5906.5** | **8590.9** |
| Stddev | 368. | 166. | 23.0 | 21.8 |
| %RSD | .24238 | .66002 | .38915 | .25336 |
| #1 | 152120. | 24987. | 5881.1 | 8566.9 |
| #2 | 151460. | 25040. | 5912.5 | 8596.3 |
| #3 | 151500. | 25297. | 5925.9 | 8609.4 |



Zoom In Zoom Out

Sample Name: mp14845-ps1 7 Acquired: 5/13/2019 22:30:25 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.239** | **2.079** | **1.971** | **1.949** | **2.275** | **2.251** | **5.039** | **2.116** | **.2450** |
| Stddev | .003 | .003 | .003 | .003 | .128 | .124 | .251 | .003 | .0097 |
| %RSD | .1330 | .1313 | .1500 | .1408 | 5.644 | 5.507 | 4.983 | .1426 | 3.973 |
| #1 | 2.236 | 2.076 | 1.973 | 1.948 | 2.424 | 2.394 | 5.328 | 2.117 | .2561 |
| #2 | 2.241 | 2.081 | 1.967 | 1.946 | 2.203 | 2.186 | 4.876 | 2.112 | .2402 |
| #3 | 2.240 | 2.080 | 1.972 | 1.952 | 2.200 | 2.173 | 4.913 | 2.118 | .2385 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.180** | **2.240** | **1.968** | **2.115** | **2.007** | **1.904** | **1.944** | **119.1** | **39.70** |
| Stddev | .122 | .006 | .005 | .003 | .002 | .003 | .002 | .2 | .07 |
| %RSD | 5.589 | .2533 | .2619 | .1499 | .1142 | .1574 | .1173 | .1658 | .1782 |
| #1 | 2.320 | 2.247 | 1.973 | 2.117 | 2.009 | 1.905 | 1.943 | 118.9 | 39.62 |
| #2 | 2.112 | 2.237 | 1.963 | 2.116 | 2.005 | 1.905 | 1.942 | 119.3 | 39.75 |
| #3 | 2.107 | 2.237 | 1.969 | 2.111 | 2.006 | 1.900 | 1.946 | 119.2 | 39.73 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **163.7** | **64.48** | **36.76** | **26.25** | **1.909** | **1.848** | **1.179** | **1.933** | **2.145** |
| Stddev | 1.9 | .10 | .05 | .06 | .004 | .002 | .005 | .002 | .003 |
| %RSD | 1.146 | .1492 | .1486 | .2105 | .1860 | .1131 | .4392 | .0982 | .1591 |
| #1 | 161.8 | 64.40 | 36.72 | 26.22 | 1.912 | 1.847 | 1.174 | 1.935 | 2.141 |
| #2 | 165.5 | 64.58 | 36.82 | 26.31 | 1.905 | 1.847 | 1.179 | 1.931 | 2.148 |
| #3 | 163.9 | 64.45 | 36.74 | 26.21 | 1.909 | 1.851 | 1.185 | 1.932 | 2.146 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.117** | **1.655** | **2.175** | **.0818** | **.3836** | **.1229** | F **14.72** |
| Stddev | .395 | .014 | .121 | .0050 | .0289 | .0010 | .06 |
| %RSD | 5.552 | .8509 | 5.538 | 6.092 | 7.546 | .8380 | .4009 |
| #1 | 7.574 | 1.642 | 2.314 | .0764 | .4170 | .1220 | 14.76 |
| #2 | 6.890 | 1.652 | 2.110 | .0862 | .3673 | .1227 | 14.75 |
| #3 | 6.889 | 1.670 | 2.101 | .0827 | .3664 | .1241 | 14.66 |



Zoom In Zoom Out

Sample Name: mp14845-ps1 7 Acquired: 5/13/2019 22:30:25 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143650.** | **25608.** | **5844.6** | **7997.5** |
| Stddev | 7066. | 162. | 23.1 | 21.8 |
| %RSD | 4.9186 | .63095 | .39496 | .27205 |
| #1 | 135530. | 25684. | 5818.7 | 7973.5 |
| #2 | 148390. | 25423. | 5851.8 | 8002.8 |
| #3 | 147040. | 25719. | 5863.2 | 8016.0 |



Zoom In Zoom Out

Sample Name: mp14918-ps1 Acquired: 5/13/2019 22:35:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.556** | **2.125** | **2.023** | **1.972** | **2.418** | **2.345** | **4.970** | **2.091** | **.2084** |
| Stddev | .002 | .003 | .001 | .002 | .005 | .006 | .019 | .002 | .0005 |
| %RSD | .0920 | .1301 | .0678 | .0961 | .1920 | .2537 | .3772 | .0839 | .2294 |
| #1 | 2.553 | 2.122 | 2.025 | 1.974 | 2.415 | 2.339 | 4.949 | 2.093 | .2079 |
| #2 | 2.556 | 2.126 | 2.023 | 1.971 | 2.416 | 2.345 | 4.983 | 2.091 | .2088 |
| #3 | 2.558 | 2.127 | 2.022 | 1.970 | 2.424 | 2.351 | 4.979 | 2.089 | .2086 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.103** | **3.123** | **2.089** | **2.158** | **2.499** | **1.965** | **2.021** | **77.62** | **39.78** |
| Stddev | .003 | .004 | .003 | .004 | .004 | .002 | .004 | .09 | .05 |
| %RSD | .1485 | .1176 | .1434 | .1785 | .1753 | .1200 | .1736 | .1145 | .1319 |
| #1 | 2.101 | 3.124 | 2.090 | 2.159 | 2.500 | 1.964 | 2.025 | 77.53 | 39.72 |
| #2 | 2.101 | 3.125 | 2.086 | 2.161 | 2.503 | 1.968 | 2.021 | 77.62 | 39.80 |
| #3 | 2.106 | 3.118 | 2.092 | 2.154 | 2.494 | 1.964 | 2.018 | 77.71 | 39.81 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **139.0** | **45.06** | **34.65** | **26.80** | **1.989** | **1.935** | **1.779** | **2.055** | **2.204** |
| Stddev | 1.5 | .08 | .09 | .02 | .004 | .002 | .007 | .002 | .003 |
| %RSD | 1.094 | .1848 | .2532 | .0853 | .1821 | .1212 | .3686 | .1161 | .1492 |
| #1 | 137.5 | 44.97 | 34.55 | 26.78 | 1.992 | 1.937 | 1.786 | 2.057 | 2.201 |
| #2 | 140.6 | 45.13 | 34.69 | 26.81 | 1.985 | 1.934 | 1.774 | 2.053 | 2.203 |
| #3 | 139.0 | 45.08 | 34.71 | 26.82 | 1.989 | 1.933 | 1.777 | 2.053 | 2.207 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.770** | **1.813** | **2.206** | **37.04** | **.2182** | **.0952** | F **9.746** |
| Stddev | .005 | .002 | .002 | .08 | .0021 | .0018 | .058 |
| %RSD | .1245 | .1321 | .0919 | .2233 | .9669 | 1.930 | .5932 |
| #1 | 3.768 | 1.813 | 2.205 | 37.12 | .2196 | .0973 | 9.768 |
| #2 | 3.767 | 1.811 | 2.205 | 37.04 | .2158 | .0938 | 9.789 |
| #3 | 3.776 | 1.815 | 2.209 | 36.96 | .2193 | .0944 | 9.680 |

Zoom In Zoom Out

Sample Name: mp14918-ps1 Acquired: 5/13/2019 22:35:36 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146340.** | **25514.** | **5814.3** | **8085.4** |
| Stddev | 147. | 63. | 3.9 | 6.9 |
| %RSD | .10034 | .24753 | .06765 | .08555 |
| #1 | 146170. | 25567. | 5813.7 | 8089.0 |
| #2 | 146380. | 25444. | 5810.7 | 8077.4 |
| #3 | 146460. | 25533. | 5818.5 | 8089.8 |



Zoom In Zoom Out

Sample Name: mp14961-mb1 Acquired: 5/13/2019 22:40:43 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0001** | **.0001** | **-.0001** | **.0002** | **.0006** | **.0002** | **.0003** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0001 | .0002 | .0000 | .0001 |
| %RSD | 2249. | 32.58 | 144.8 | 85.88 | 49.90 | 37.71 | 6.007 | 53.07 |
| #1 | .0003 | .0001 | .0002 | -.0000 | .0001 | .0004 | .0002 | .0004 |
| #2 | -.0002 | .0001 | .0002 | -.0002 | .0003 | .0008 | .0002 | .0002 |
| #3 | -.0000 | .0001 | -.0001 | -.0001 | .0002 | .0007 | .0002 | .0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0015** | **.0030** | **-.0011** | **-.0011** | **-.0009** | **.0016** | **-.0003** |
| Stddev | .0001 | .0001 | .0001 | .0005 | .0007 | .0008 | .0014 | .0015 |
| %RSD | 7.113 | 7.011 | 4.598 | 41.74 | 67.59 | 97.47 | 88.01 | 521.0 |
| #1 | .0011 | .0016 | .0029 | -.0007 | -.0014 | -.0011 | .0026 | -.0009 |
| #2 | .0012 | .0016 | .0031 | -.0016 | -.0002 | -.0016 | .0000 | .0014 |
| #3 | .0011 | .0014 | .0031 | -.0010 | -.0016 | .0001 | .0021 | -.0014 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0042** | **.0263** | **.0085** | **-.0097** | **.2797** | **.3974** | **.0029** | **.0065** |
| Stddev | .0088 | .0012 | .0014 | .0112 | .0330 | .0084 | .0006 | .0004 |
| %RSD | 210.3 | 4.741 | 16.41 | 115.4 | 11.82 | 2.114 | 22.08 | 6.342 |
| #1 | .0007 | .0276 | .0072 | -.0222 | .2904 | .4034 | .0024 | .0070 |
| #2 | -.0144 | .0252 | .0100 | -.0065 | .2426 | .3878 | .0036 | .0063 |
| #3 | .0011 | .0261 | .0084 | -.0004 | .3060 | .4009 | .0025 | .0062 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0132** | **.0003** | **-.0000** | **.0013** | **.0402** | **.0013** | **-.0037** | **.0008** |
| Stddev | .0004 | .0003 | .0001 | .0006 | .0029 | .0001 | .0021 | .0013 |
| %RSD | 2.987 | 85.87 | 10780. | 45.98 | 7.213 | 7.058 | 57.33 | 164.4 |
| #1 | .0128 | .0000 | .0001 | .0013 | .0435 | .0013 | -.0026 | -.0007 |
| #2 | .0134 | .0005 | -.0001 | .0007 | .0389 | .0012 | -.0061 | .0018 |
| #3 | .0135 | .0005 | -.0000 | .0019 | .0382 | .0014 | -.0024 | .0013 |



Zoom In Zoom Out

Sample Name: mp14961-mb1 Acquired: 5/13/2019 22:40:43 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0053** | W **-.1261** |
| Stddev | .0008 | .0062 |
| %RSD | 14.41 | 4.901 |
| #1 | -.0048 | -.1190 |
| #2 | -.0051 | -.1295 |
| #3 | -.0062 | -.1299 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150720.** | **24875.** | **5873.5** | **8577.9** |
| Stddev | 326. | 225. | 45.0 | 56.6 |
| %RSD | .21601 | .90492 | .76599 | .65975 |
| #1 | 150540. | 25115. | 5892.2 | 8602.2 |
| #2 | 151100. | 24840. | 5906.1 | 8618.3 |
| #3 | 150530. | 24669. | 5822.1 | 8513.2 |



Zoom In Zoom Out

Sample Name: mp14961-b1 Acquired: 5/13/2019 22:45:51 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.064** | **2.128** | **1.974** | **1.889** | **2.090** | **2.063** | **2.090** | **1.958** | **.2588** |
| Stddev | .002 | .008 | .004 | .002 | .005 | .005 | .016 | .001 | .0015 |
| %RSD | .0911 | .3624 | .2245 | .0807 | .2418 | .2335 | .7662 | .0647 | .5848 |
| #1 | 2.067 | 2.136 | 1.969 | 1.888 | 2.096 | 2.068 | 2.109 | 1.958 | .2605 |
| #2 | 2.063 | 2.127 | 1.978 | 1.891 | 2.087 | 2.063 | 2.080 | 1.960 | .2582 |
| #3 | 2.064 | 2.120 | 1.975 | 1.888 | 2.088 | 2.059 | 2.083 | 1.957 | .2576 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.982** | **1.961** | **2.117** | **2.177** | **1.914** | **2.007** | **26.37** | **27.34** |
| Stddev | .005 | .003 | .001 | .004 | .002 | .003 | .005 | .07 | .09 |
| %RSD | .2529 | .1590 | .0400 | .1742 | .0766 | .1304 | .2390 | .2801 | .3165 |
| #1 | 2.000 | 1.979 | 1.960 | 2.115 | 2.179 | 1.911 | 2.003 | 26.44 | 27.43 |
| #2 | 1.991 | 1.985 | 1.962 | 2.121 | 2.177 | 1.915 | 2.013 | 26.37 | 27.32 |
| #3 | 1.993 | 1.981 | 1.960 | 2.115 | 2.176 | 1.915 | 2.005 | 26.29 | 27.26 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.13** | **26.91** | **27.47** | **26.51** | **1.934** | **1.979** | **.0440** | **2.010** | **2.111** |
| Stddev | .07 | .08 | .11 | .06 | .005 | .003 | .0024 | .003 | .005 |
| %RSD | .2632 | .3060 | .3923 | .2186 | .2492 | .1288 | 5.402 | .1583 | .2287 |
| #1 | 26.20 | 27.01 | 27.58 | 26.58 | 1.929 | 1.976 | .0413 | 2.007 | 2.115 |
| #2 | 26.11 | 26.86 | 27.46 | 26.47 | 1.939 | 1.981 | .0454 | 2.013 | 2.111 |
| #3 | 26.07 | 26.86 | 27.36 | 26.49 | 1.932 | 1.980 | .0454 | 2.012 | 2.105 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.077** | **1.913** | **2.167** | **-.0098** | **.1409** | **-.0068** | **4.380** |
| Stddev | .005 | .005 | .004 | .0035 | .0008 | .0006 | .012 |
| %RSD | .2507 | .2567 | .1858 | 35.35 | .6001 | 9.339 | .2681 |
| #1 | 2.083 | 1.909 | 2.172 | -.0128 | .1400 | -.0070 | 4.389 |
| #2 | 2.073 | 1.913 | 2.165 | -.0105 | .1410 | -.0073 | 4.367 |
| #3 | 2.075 | 1.918 | 2.165 | -.0060 | .1417 | -.0060 | 4.385 |

Zoom In Zoom Out

Sample Name: mp14961-b1 Acquired: 5/13/2019 22:45:51 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143750.** | **24476.** | **5680.3** | **8028.4** |
| Stddev | 887. | 93. | 5.6 | 5.0 |
| %RSD | .61678 | .37983 | .09872 | .06269 |
| #1 | 142750. | 24384. | 5684.1 | 8023.5 |
| #2 | 144440. | 24570. | 5673.8 | 8028.1 |
| #3 | 144050. | 24472. | 5682.9 | 8033.6 |



Zoom In Zoom Out

Sample Name: mp14961-s1 Acquired: 5/13/2019 22:50:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.324** | **2.080** | **1.958** | **1.899** | **2.047** | **2.011** | **2.731** | **1.950** | **.2581** |
| Stddev | .002 | .007 | .006 | .004 | .011 | .007 | .009 | .004 | .0011 |
| %RSD | .0727 | .3546 | .3253 | .2091 | .5267 | .3706 | .3450 | .2306 | .4301 |
| #1 | 2.325 | 2.082 | 1.963 | 1.898 | 2.052 | 2.017 | 2.737 | 1.952 | .2588 |
| #2 | 2.324 | 2.086 | 1.961 | 1.903 | 2.034 | 2.002 | 2.736 | 1.954 | .2568 |
| #3 | 2.322 | 2.072 | 1.951 | 1.895 | 2.054 | 2.013 | 2.720 | 1.945 | .2587 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.967** | **1.964** | **1.987** | **2.018** | **2.142** | **1.927** | **1.993** | **25.74** | **82.52** |
| Stddev | .005 | .007 | .007 | .001 | .005 | .006 | .009 | .08 | .30 |
| %RSD | .2669 | .3810 | .3671 | .0641 | .2490 | .3341 | .4715 | .3075 | .3693 |
| #1 | 1.969 | 1.968 | 1.990 | 2.019 | 2.143 | 1.928 | 1.995 | 25.78 | 82.61 |
| #2 | 1.961 | 1.968 | 1.992 | 2.017 | 2.147 | 1.933 | 2.001 | 25.80 | 82.77 |
| #3 | 1.971 | 1.955 | 1.978 | 2.019 | 2.136 | 1.920 | 1.983 | 25.65 | 82.18 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.48** | **30.17** | **41.76** | F **334.1** | **2.010** | **1.942** | **5.353** | **1.942** | **2.705** |
| Stddev | .06 | .11 | .15 | 4.5 | .004 | .006 | .017 | .005 | .003 |
| %RSD | .2463 | .3492 | .3637 | 1.344 | .2172 | .3033 | .3193 | .2816 | .1245 |
| #1 | 25.50 | 30.17 | 41.76 | 338.7 | 2.012 | 1.946 | 5.363 | 1.946 | 2.706 |
| #2 | 25.53 | 30.27 | 41.91 | 334.0 | 2.012 | 1.945 | 5.363 | 1.945 | 2.709 |
| #3 | 25.41 | 30.06 | 41.61 | 329.7 | 2.004 | 1.935 | 5.333 | 1.936 | 2.702 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.039** | **1.933** | **2.140** | **7.401** | **.1407** | **-.0032** | **4.503** |
| Stddev | .006 | .005 | .004 | .020 | .0011 | .0021 | .013 |
| %RSD | .2800 | .2393 | .2126 | .2713 | .7985 | 66.76 | .2865 |
| #1 | 2.040 | 1.936 | 2.142 | 7.424 | .1396 | -.0009 | 4.518 |
| #2 | 2.033 | 1.936 | 2.135 | 7.388 | .1406 | -.0036 | 4.492 |
| #3 | 2.044 | 1.928 | 2.143 | 7.390 | .1418 | -.0050 | 4.500 |



Zoom In Zoom Out

Sample Name: mp14961-s1 Acquired: 5/13/2019 22:50:49 Type: Unk
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **136940.** | **24159.** | **5471.7** | **7492.8** |
| Stddev | 1038. | 200. | 25.6 | 23.1 |
| %RSD | .75773 | .82868 | .46796 | .30828 |
| #1 | 136590. | 23969. | 5448.8 | 7473.1 |
| #2 | 138110. | 24139. | 5467.0 | 7487.1 |
| #3 | 136120. | 24368. | 5499.3 | 7518.2 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 22:55:57 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.025** | **2.096** | **1.960** | **1.869** | **2.078** | **2.039** | **2.068** | **1.937** | **.2534** |
| Stddev | .002 | .003 | .002 | .003 | .002 | .003 | .013 | .004 | .0008 |
| %RSD | .1203 | .1362 | .0965 | .1589 | .0869 | .1356 | .6296 | .2033 | .3201 |
| #1 | 2.028 | 2.099 | 1.962 | 1.873 | 2.080 | 2.041 | 2.075 | 1.941 | .2535 |
| #2 | 2.024 | 2.094 | 1.959 | 1.867 | 2.079 | 2.040 | 2.075 | 1.934 | .2526 |
| #3 | 2.023 | 2.094 | 1.959 | 1.868 | 2.076 | 2.036 | 2.053 | 1.935 | .2542 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.974** | **1.963** | **1.906** | **2.081** | **1.943** | **1.913** | **1.934** | **40.52** | **41.78** |
| Stddev | .001 | .002 | .002 | .002 | .002 | .002 | .003 | .04 | .02 |
| %RSD | .0453 | .0778 | .1047 | .0891 | .1138 | .0907 | .1397 | .0970 | .0396 |
| #1 | 1.973 | 1.965 | 1.904 | 2.080 | 1.945 | 1.914 | 1.937 | 40.51 | 41.77 |
| #2 | 1.975 | 1.962 | 1.906 | 2.079 | 1.942 | 1.911 | 1.933 | 40.49 | 41.77 |
| #3 | 1.975 | 1.962 | 1.908 | 2.083 | 1.941 | 1.912 | 1.931 | 40.57 | 41.80 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.01** | **41.02** | **42.03** | **40.33** | **1.944** | **1.921** | **4.942** | **1.930** | **2.074** |
| Stddev | .09 | .04 | .03 | .03 | .002 | .002 | .005 | .001 | .003 |
| %RSD | .2215 | .0995 | .0731 | .0732 | .0939 | .0873 | .1031 | .0410 | .1294 |
| #1 | 40.08 | 40.97 | 42.05 | 40.34 | 1.946 | 1.921 | 4.948 | 1.931 | 2.077 |
| #2 | 39.91 | 41.05 | 41.99 | 40.35 | 1.943 | 1.919 | 4.939 | 1.929 | 2.071 |
| #3 | 40.04 | 41.04 | 42.05 | 40.29 | 1.942 | 1.922 | 4.941 | 1.930 | 2.074 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/13/2019 22:55:57 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.006** | **1.897** | **2.090** | **2.062** | **1.910** | **2.054** | F **4.426** |
| Stddev | .004 | .002 | .002 | .005 | .002 | .003 | .029 |
| %RSD | .1798 | .1171 | .0945 | .2225 | .1111 | .1305 | .6529 |
| #1 | 2.002 | 1.899 | 2.088 | 2.057 | 1.912 | 2.054 | 4.392 |
| #2 | 2.007 | 1.897 | 2.091 | 2.063 | 1.909 | 2.056 | 4.444 |
| #3 | 2.009 | 1.895 | 2.091 | 2.066 | 1.908 | 2.051 | 4.440 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141310.** | **24458.** | **5625.9** | **7895.8** |
| Stddev | 150. | 105. | 7.3 | 3.6 |
| %RSD | .10648 | .42950 | .13037 | .04501 |
| #1 | 141200. | 24546. | 5633.2 | 7897.9 |
| #2 | 141240. | 24487. | 5618.5 | 7891.7 |
| #3 | 141480. | 24342. | 5626.0 | 7897.9 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 23:00:57 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0002** | **.0001** | **-.0000** | **-.0000** | **.0005** | **.0001** | **.0003** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0002 | .0002 | .0000 | .0002 |
| %RSD | 2104. | 15.20 | 42.93 | 389.6 | 1777. | 48.13 | 16.21 | 78.53 |
| #1 | .0004 | .0002 | .0002 | -.0000 | -.0002 | .0005 | .0001 | .0004 |
| #2 | -.0003 | .0002 | .0001 | -.0001 | .0002 | .0006 | .0002 | .0004 |
| #3 | -.0000 | .0002 | .0001 | .0001 | -.0000 | .0002 | .0001 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0008** | **-.0004** | **-.0006** | **-.0008** | **.0006** | **.0007** | **.0001** |
| Stddev | .0002 | .0003 | .0001 | .0008 | .0011 | .0011 | .0013 | .0006 |
| %RSD | 15.04 | 41.46 | 21.58 | 126.0 | 129.1 | 183.2 | 180.5 | 476.3 |
| #1 | .0010 | .0012 | -.0003 | .0002 | -.0019 | .0018 | .0022 | -.0005 |
| #2 | .0009 | .0008 | -.0005 | -.0007 | .0002 | -.0003 | -.0002 | .0007 |
| #3 | .0012 | .0005 | -.0004 | -.0013 | -.0008 | .0003 | .0002 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0070** | **.0075** | **.0024** | **-.0072** | **.2474** | **.3254** | **.0041** | **.0015** |
| Stddev | .0027 | .0032 | .0006 | .0062 | .0174 | .0063 | .0005 | .0001 |
| %RSD | 38.97 | 43.03 | 26.27 | 86.78 | 7.042 | 1.950 | 11.95 | 7.554 |
| #1 | -.0039 | .0062 | .0017 | -.0003 | .2274 | .3291 | .0047 | .0015 |
| #2 | -.0090 | .0052 | .0024 | -.0088 | .2592 | .3181 | .0040 | .0016 |
| #3 | -.0081 | .0112 | .0030 | -.0124 | .2555 | .3291 | .0038 | .0014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/13/2019 23:00:57 Type: QC
Method: SGS 3 NO Valve(v19) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **.0001** | **.0001** | **.0002** | F **.0080** | **.0001** | **-.0087** | **.0010** |
| Stddev | .0003 | .0005 | .0001 | .0002 | .0005 | .0001 | .0018 | .0004 |
| %RSD | 19.20 | 576.7 | 115.9 | 133.5 | 5.706 | 55.54 | 20.70 | 41.12 |
| #1 | .0017 | -.0005 | -.0000 | .0003 | .0084 | .0002 | -.0081 | .0005 |
| #2 | .0012 | .0006 | .0001 | .0003 | .0075 | .0002 | -.0072 | .0010 |
| #3 | .0018 | .0002 | .0002 | -.0001 | .0081 | .0001 | -.0107 | .0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | .0050 | | | |
| Low Limit | | | | | -.0050 | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0056** | F **-.1286** |
| Stddev | .0013 | .0087 |
| %RSD | 23.48 | 6.765 |
| #1 | -.0057 | -.1298 |
| #2 | -.0042 | -.1193 |
| #3 | -.0068 | -.1366 |
| Check ? | Chk Fail | Chk Fail |
| High Limit | .0040 | .0200 |
| Low Limit | -.0040 | -.0200 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149570.** | **24371.** | **5881.7** | **8615.8** |
| Stddev | 500. | 159. | 23.3 | 31.8 |
| %RSD | .33438 | .65371 | .39530 | .36858 |
| #1 | 149620. | 24234. | 5897.8 | 8641.8 |
| #2 | 149040. | 24546. | 5892.2 | 8625.1 |
| #3 | 150040. | 24332. | 5855.0 | 8580.4 |





NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 1 | Zr | 0.001245 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 6 | V | 0.000080 | 0.000000 | No |
| | | | Mo | -0.000047 | 0.000000 | No |
| | | | Ti | -0.000951 | 0.000000 | No |
| | | | Mn | 0.000010 | 0.000000 | No |
| | | | Cu | 0.000014 | 0.000000 | No |
| | | | Bi | 0.000060 | 0.000000 | No |
| Cd 228.802 {448} | ☒ | 11 | As | 0.009400 | 0.000000 | No |
| | | | Ni | -0.000628 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| | | | V | 0.000091 | 0.000000 | No |
| | | | Ba | 0.000064 | 0.000000 | No |
| | | | Co | -0.001130 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mn | 0.000050 | 0.000000 | No |
| | | | Cu | -0.000026 | 0.000000 | No |
| | | | Zn | -0.000018 | 0.000000 | No |
| | | | W | -0.000482 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 7 | Fe | 0.000009 | 0.000000 | No |
| | | | Mo | -0.001690 | 0.000000 | No |
| | | | Ni | 0.000091 | 0.000000 | No |
| | | | Ti | 0.002192 | 0.000000 | No |
| | | | Ba | 0.000140 | 0.000000 | No |
| | | | W | 0.000327 | 0.000000 | No |
| | | | Cd | -0.000510 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 9 | Mn | 0.000348 | 0.000000 | No |
| | | | V | 0.000090 | 0.000000 | No |
| | | | Mo | -0.000082 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ti | 0.000060 | 0.000000 | No |
| | | | Ba | 0.000045 | 0.000000 | No |
| | | | Cu | 0.000100 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | W | 0.000404 | 0.000000 | No |
| Cu 324.754 {104}2 | ☒ | 13 | Cr | -0.000004 | 0.000000 | No |
| | | | V | -0.000397 | 0.000000 | No |
| | | | Mo | 0.000544 | 0.000000 | No |
| | | | Ti | -0.000208 | 0.000000 | No |
| | | | Fe | -0.000226 | 0.000000 | No |
| | | | Zn | -0.000041 | 0.000000 | No |
| | | | Co | -0.001373 | 0.000000 | No |
| | | | Si | 0.000016 | 0.000000 | No |
| | | | Mn | 0.000003 | 0.000000 | No |
| | | | Se | 0.000050 | 0.000000 | No |
| | | | Sb | 0.000069 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 4 | Fe | -0.000107 | 0.000000 | No |
| | | | Si | 0.000010 | 0.000000 | No |
| | | | Ba | 0.000004 | 0.000000 | No |
| | | | Ni | 0.000028 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 8 | Fe | 0.000008 | 0.000000 | No |
| | | | Zn | -0.000013 | 0.000000 | No |
| | | | Be | 0.000213 | 0.000000 | No |
| | | | Co | -0.000220 | 0.000000 | No |
| | | | Tl | 0.000209 | 0.000000 | No |
| | | | Mo | 0.000026 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Cu | 0.000050 | 0.000000 | No |
| | | | Se | 0.000100 | 0.000000 | No |
| Ag 328.068 {103} | ☒ | 14 | Mn | 0.000252 | 0.000000 | No |
| | | | Mo | 0.000012 | -0.000003 | No |
| | | | Ti | -0.000090 | 0.000000 | No |
| | | | Fe | -0.000300 | 0.000000 | No |
| | | | Zn | -0.000120 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Zr | 0.006915 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ba | 0.000071 | 0.000000 | No |
| | | | Cr | 0.000022 | 0.000000 | No |
| | | | V | -0.002500 | 0.000000 | No |
| | | | Al | -0.000006 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| V 292.402 {115} | ☒ | 6 | Ti | 0.000689 | 0.000000 | No |
| | | | Mo | -0.000304 | 0.000000 | No |
| | | | Fe | 0.000029 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | Cr | -0.012436 | 0.000000 | No |
| | | | Mn | -0.002777 | 0.000000 | No |
| Zn 206.200 {464} | ☒ | 9 | Cr | -0.000850 | 0.000000 | No |
| | | | Fe | 0.000011 | 0.000000 | No |
| | | | Si | 0.000015 | 0.000000 | No |
| | | | Mn | -0.000045 | 0.000000 | No |
| | | | Ba | -0.000060 | 0.000000 | No |
| | | | Sn | -0.000023 | 0.000000 | No |
| | | | Cu | 0.000148 | 0.000000 | No |
| | | | As | 0.000055 | 0.000000 | No |
| | | | Be | 0.000058 | 0.000000 | No |
| As 189.042 {478} | ☒ | 18 | Al | 0.000010 | 0.000000 | No |
| | | | Fe | -0.000087 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Mo | 0.002050 | 0.000000 | No |
| | | | Cr | 0.000800 | 0.000000 | No |
| | | | Ba | -0.000114 | 0.000000 | No |
| | | | Sn | -0.000130 | 0.000000 | No |
| | | | Cd | -0.000328 | 0.000000 | No |
| | | | Si | 0.000024 | 0.000000 | No |
| | | | Zn | -0.000082 | 0.000000 | No |
| | | | Sr | -0.000045 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Cu | -0.000058 | 0.000000 | No |
| | | | Co | -0.000045 | 0.000000 | No |
| | | | Zr | 0.000036 | 0.000000 | No |
| | | | Mn | -0.000078 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Ti | 0.000100 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 24 | Cr | 0.000315 | 0.000000 | No |
| | | | Mo | -0.010300 | 0.000000 | No |
| | | | Al | -0.000003 | 0.000000 | No |
| | | | Fe | -0.000052 | 0.000000 | No |
| | | | V | -0.028182 | 0.000000 | No |
| | | | Mn | 0.001890 | 0.000000 | No |
| | | | Si | -0.000018 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Ti | -0.002790 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Co | 0.005780 | 0.000000 | No |
| | | | Sr | 0.000010 | 0.000000 | No |
| | | | B | -0.000003 | 0.000000 | No |
| | | | Ba | 0.000034 | 0.000000 | No |
| | | | Zn | -0.000053 | 0.000000 | No |
| | | | As | 0.000068 | 0.000000 | No |
| | | | W | -0.007000 | 0.000000 | No |
| | | | Cu | 0.000142 | 0.000000 | No |
| | | | Pb | -0.000020 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Sn | -0.000086 | 0.000000 | No |
| | | | Li | 0.000000 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 20 | Al | -0.000161 | 0.000000 | No |
| | | | Fe | 0.000039 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |
| | | | Mn | 0.000154 | 0.000000 | No |
| | | | Mo | -0.000500 | 0.000000 | No |
| | | | Cu | 0.000154 | 0.000000 | No |
| | | | Co | 0.000264 | 0.000000 | No |
| | | | Ti | -0.000100 | 0.000000 | No |
| | | | Si | 0.000133 | 0.000000 | No |
| | | | Ba | -0.000022 | 0.000000 | No |
| | | | Sb | -0.000084 | 0.000000 | No |
| | | | Sr | -0.000033 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Mg | 0.000009 | 0.000000 | No |
| | | | Cd | 0.000012 | 0.000000 | No |
| | | | Cr | -0.000031 | 0.000000 | No |
| | | | Zr | -0.000281 | 0.000000 | No |
| | | | Ni | 0.000371 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Zn | -0.000106 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 23 | Al | -0.000008 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| | | | Mn | 0.000594 | 0.000000 | No |
| | | | Mo | 0.000400 | 0.000000 | No |
| | | | Fe | -0.000172 | 0.000000 | No |
| | | | Co | -0.000182 | 0.000000 | No |
| | | | Sr | -0.000011 | 0.000000 | No |
| | | | Cu | -0.000087 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Si | 0.000054 | 0.000000 | No |
| | | | Be | -0.000347 | 0.000000 | No |
| | | | Zn | 0.000050 | 0.000000 | No |
| | | | B | 0.000028 | 0.000000 | No |
| | | | Ti | -0.000020 | 0.000000 | No |
| | | | Cd | 0.000090 | 0.000000 | No |
| | | | Zr | -0.000297 | 0.000000 | No |
| | | | Ba | -0.000046 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Pb | -0.000078 | 0.000000 | No |
| | | | Ni | -0.000100 | 0.000000 | No |
| | | | Cr | -0.000024 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | S | -0.000014 | 0.000000 | No |
| | | | V | 0.000188 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 17 | Fe | -0.000015 | 0.000000 | No |
| | | | Al | 0.000015 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Ni | -0.000716 | 0.000000 | No |
| | | | Cr | 0.016900 | 0.000000 | No |
| | | | V | -0.003422 | 0.000000 | No |
| | | | Zn | -0.000115 | 0.000000 | No |
| | | | Mo | 0.000589 | 0.000000 | No |
| | | | Ti | 0.000630 | 0.000000 | No |
| | | | Sn | -0.010220 | 0.000000 | No |
| | | | Mg | -0.000003 | 0.000000 | No |
| | | | Zr | -0.000463 | 0.000000 | No |
| | | | Sr | 0.000031 | 0.000000 | No |
| | | | B | -0.000100 | 0.000000 | No |
| | | | Co | -0.000251 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Si | -0.000170 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 5 | Si | 0.000652 | 0.000000 | No |
| | | | Ca | 0.000018 | 0.000000 | No |
| | | | Mo | 0.043916 | 0.000000 | No |
| | | | Zr | 0.005268 | 0.000000 | No |
| | | | Ti | -0.000583 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | 14 | Fe | 0.000012 | 0.000000 | No |
| | | | W | 0.003960 | 0.000000 | No |
| | | | Tl | -0.000152 | 0.000000 | No |
| | | | Be | 0.001840 | 0.000000 | No |
| | | | Ba | -0.001224 | 0.000000 | No |
| | | | Cu | -0.000822 | 0.000000 | No |
| | | | Cd | -0.007593 | 0.000000 | No |
| | | | Ni | 0.000667 | 0.000000 | No |
| | | | B | -0.000210 | 0.000000 | No |
| | | | Se | 0.000923 | 0.000000 | No |
| | | | Co | -0.000408 | 0.000000 | No |
| | | | Cr | 0.000640 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | As | 0.010000 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 10 | Si | 0.000819 | 0.000000 | No |
| | | | Tl | -0.000051 | 0.000000 | No |
| | | | Cr | 0.000310 | 0.000000 | No |
| | | | Mn | -0.000196 | 0.000000 | No |
| | | | V | -0.000064 | 0.000000 | No |
| | | | Cu | -0.000015 | 0.000000 | No |
| | | | Zn | 0.000046 | 0.000000 | No |
| | | | Ti | -0.000631 | 0.000000 | No |
| | | | Ca | 0.000020 | 0.000000 | No |
| | | | Ba | 0.001000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 3 | Mo | -0.013702 | 0.000000 | No |
| | | | W | -0.006578 | 0.000000 | No |
| | | | Mn | -0.002445 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 11 | Fe | -0.000440 | 0.000000 | No |
| | | | Al | 0.000077 | 0.000000 | No |
| | | | Ca | -0.000121 | 0.000000 | No |
| | | | Mn | -0.007074 | 0.000000 | No |
| | | | Si | -0.003000 | 0.000000 | No |
| | | | V | -0.002000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Sn | -0.004700 | 0.000000 | No |
| | | | Ba | -0.010574 | 0.000000 | No |
| | | | Mo | -0.000850 | 0.000000 | No |
| | | | Cu | -0.011483 | 0.000000 | No |
| | | | Ni | -0.010000 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 4 | K | -0.000560 | 0.000000 | No |
| | | | Ba | 0.000900 | 0.000000 | No |
| | | | Ca | 0.000180 | 0.000000 | No |
| | | | V | -0.005000 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.038137 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 2 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000010 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 12 | Sr | 0.000366 | 0.000000 | No |
| | | | Ni | 0.002092 | 0.000000 | No |
| | | | Mo | 0.034932 | 0.000000 | No |
| | | | V | 0.036950 | 0.000000 | No |
| | | | Ti | 0.004593 | 0.000000 | No |
| | | | Al | -0.000010 | 0.000000 | No |
| | | | Cd | 0.001043 | 0.000000 | No |
| | | | Ba | 0.001987 | 0.000000 | No |
| | | | Sn | 0.007500 | 0.000000 | No |
| | | | Zn | 0.000385 | 0.000000 | No |
| | | | Be | -0.000048 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | 4 | Ti | -0.001964 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |
| | | | Si | 0.000131 | 0.000000 | No |
| | | | Zr | 0.000908 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 2 | Ca | 0.000018 | 0.000000 | No |
| | | | Si | 0.000033 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 3 | Cr | 0.000189 | 0.000000 | No |
| | | | Mo | 0.001351 | 0.000000 | No |
| | | | Si | 0.000035 | 0.000000 | No |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| In 230.606 {446}* | ☒ | None | | | | |
| W 207.911 {462} | ☒ | 20 | Si | 0.000105 | 0.000000 | No |
| | | | As | 0.000100 | 0.000000 | No |
| | | | Mn | 0.000066 | 0.000000 | No |
| | | | Mo | -0.000300 | 0.000000 | No |
| | | | Ti | 0.000080 | 0.000000 | No |
| | | | Sr | -0.000850 | 0.000000 | No |
| | | | V | -0.000140 | 0.000000 | No |
| | | | Cd | -0.000650 | 0.000000 | No |
| | | | Cr | -0.000390 | 0.000000 | No |
| | | | Zn | 0.013026 | 0.000000 | No |
| | | | Sn | 0.001300 | 0.000000 | No |
| | | | Zr | 0.000061 | 0.000000 | No |
| | | | B | 0.000009 | 0.000000 | No |
| | | | Sb | -0.000300 | 0.000000 | No |
| | | | Co | -0.001000 | 0.000000 | No |
| | | | Ni | -0.003000 | 0.000000 | No |
| | | | Be | -0.000185 | 0.000000 | No |
| | | | Se | -0.000105 | 0.000000 | No |
| | | | Cu | -0.000138 | 0.000000 | No |
| | | | Tl | -0.000220 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | Zr 339.198 { 99} | ☒ | 6 | Mo | 0.001069 | 0.000000 | No |
| | | | | Ti | 0.000203 | 0.000000 | No |
| | | | | Fe | -0.000070 | 0.000000 | No |
| | | | | Si | 0.000074 | 0.000000 | No |
| | | | | S | -0.000002 | 0.000000 | No |
| | | | | Cr | -0.000700 | 0.000000 | No |
| | S 182.034 {485} | ☒ | 7 | Mo | -0.004201 | 0.000000 | No |
| | | | | Al | -0.000034 | 0.000000 | No |
| | | | | Fe | 0.000002 | 0.000000 | No |
| | | | | Mn | 0.004620 | 0.000000 | No |
| | | | | W | -0.032564 | 0.000000 | No |
| | | | | Ca | 0.000032 | 0.000000 | No |
| | | | | Mg | 0.000005 | 0.000000 | No |
| | Bi 223.061 {451} | ☒ | 9 | Ti | -0.072020 | 0.000000 | No |
| | | | | V | -0.000704 | 0.000000 | No |
| | | | | Co | -0.002380 | 0.000000 | No |
| | | | | Ca | -0.000002 | 0.000000 | No |
| | | | | Mg | -0.000000 | 0.000000 | No |
| | | | | Fe | 0.000187 | 0.000000 | No |
| | | | | Cr | 0.001595 | 0.000000 | No |
| | | | | Cu | -0.001148 | 0.000000 | No |
| | | | | W | -0.020000 | 0.000000 | No |
| | Li 670.784 { 50} | ☒ | 2 | Ca | 0.000023 | 0.000000 | No |
| | | | | Fe | 0.000081 | 0.000000 | No |
| | P 177.495 {490} | ☒ | 9 | Mn | -0.006184 | 0.000000 | No |
| | | | | Al | -0.000060 | 0.000000 | No |
| | | | | V | -0.001953 | 0.000000 | No |
| | | | | Si | -0.001622 | 0.000000 | No |
| | | | | Ti | 0.000000 | -0.001185 | No |
| | | | | Mo | -0.001880 | 0.000000 | No |
| | | | | S | -0.000189 | 0.000000 | No |
| | | | | Co | -0.002198 | 0.000000 | No |
| | | | | Cu | -0.023500 | 0.000000 | No |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|---|
| | Ba 455.403 { 74} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.013899 | 1.956020 | 0.000000 | 1.000000 |
| | Be 313.042 {108} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000400 | 2.995030 | 0.000000 | 1.000000 |
| | Cd 228.802 {448} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000520 | 1.159524 | 0.000000 | 1.000000 |
| | Co 228.616 {448} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000206 | 0.770156 | 0.000000 | 1.000000 |
| | Cr 267.716 {126} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000036 | 0.149477 | 0.000000 | 1.000000 |
| | Cu 324.754 {104}2 | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.002529 | 0.257769 | 0.000000 | 1.000000 |
| | Mn 257.610 {131} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000057 | 0.810848 | 0.000000 | 1.000000 |
| | Ni 231.604 {446} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000267 | 0.644351 | 0.000000 | 1.000000 |
| | Ag 328.068 {103} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000553 | 0.149733 | 0.000000 | 1.000000 |
| | V 292.402 {115} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000405 | 0.210496 | 0.000000 | 1.000000 |
| | Zn 206.200 {464} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000495 | 1.688450 | 0.000000 | 1.000000 |
| | As 189.042 {478} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000291 | 0.132050 | 0.000000 | 1.000000 |
| | Tl 190.856 {477} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000344 | 0.079483 | 0.000000 | 1.000000 |
| | Pb 220.353 {453} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000505 | 0.274315 | 0.000000 | 1.000000 |
| | Se 196.090 {472} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000015 | 0.103239 | 0.000000 | 1.000000 |
| | Sb 206.833 {463} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000823 | 0.164373 | 0.000000 | 1.000000 |
| | Al 396.152 { 85} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000290 | 0.036838 | 0.000000 | 1.000000 |
| | Ca 317.933 {106} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.007848 | 0.107154 | 0.000000 | 1.000000 |
| | Fe 259.940 {130} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000154 | 0.053556 | 0.000000 | 1.000000 |
| | Mg 279.079 {121} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000045 | 0.012097 | 0.000000 | 1.000000 |
| | K 766.490 { 44} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.004905 | 0.021619 | 0.000000 | 1.000000 |
| | Na 589.592 { 57} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.002458 | 0.086117 | 0.000000 | 1.000000 |
| | B 208.959 {462} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000786 | 0.268317 | 0.000000 | 1.000000 |
| | Mo 202.030 {467} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000485 | 0.792107 | 0.000000 | 1.000000 |
| | Si 212.412 {459} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.002630 | 0.223212 | 0.000000 | 1.000000 |
| | Sn 189.989 {478} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000402 | 0.234277 | 0.000000 | 1.000000 |
| | Sr 407.771 { 83} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000955 | 3.491531 | 0.000000 | 1.000000 |
| | Ti 334.904 {101} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000086 | 0.174880 | 0.000000 | 1.000000 |
| | Y 360.073 { 94}* | 5/14/2019 10:31:26 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 371.030 { 91}* | 5/14/2019 10:31:26 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 224.306 {451}* | 5/14/2019 10:31:26 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | In 230.606 {446}* | 5/14/2019 10:31:26 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | W 207.911 {462} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | 0.000405 | 0.407399 | 0.000000 | 1.000000 |
| | Zr 339.198 { 99} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000301 | 0.469274 | 0.000000 | 1.000000 |
| | S 182.034 {485} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.001403 | 0.049461 | 0.000000 | 1.000000 |
| | Bi 223.061 {451} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.000378 | 0.205059 | 0.000000 | 1.000000 |
| | Li 670.784 { 50} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | None | -0.005404 | 0.503470 | 0.000000 | 1.000000 |
| | P 177.495 {490} | 5/14/2019 10:31:26 | 5/13/2019 9:21:15 | Linear | 1/Conc | -0.002737 | 0.020117 | 0.000000 | 1.000000 |

| | Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Slope | Y-int | Slope factor | Offset |
| | Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000250 | 0.000835 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.042 {108} | 1.000000 | 0.000000 | 0.000060 | 0.000199 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000194 | 0.000647 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {448} | 1.000000 | 0.000000 | 0.000243 | 0.000810 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000295 | 0.000985 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000392 | 0.001306 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000049 | 0.000163 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000334 | 0.001115 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000446 | 0.001488 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | 1.000000 | 0.000000 | 0.000356 | 0.001185 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000110 | 0.000368 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 189.042 {478} | 1.000000 | 0.000000 | 0.001060 | 0.003535 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001461 | 0.004870 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001105 | 0.003683 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | 1.000000 | 0.000000 | 0.001851 | 0.006170 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001504 | 0.005014 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 396.152 { 85} | 1.000000 | 0.000000 | 0.010878 | 0.036259 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 317.933 {106} | 1.000000 | 0.000000 | 0.002105 | 0.007017 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 259.940 {130} | 1.000000 | 0.000000 | 0.002144 | 0.007146 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | 1.000000 | 0.000000 | 0.012059 | 0.040197 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | 1.000000 | 0.000000 | 0.033853 | 0.112845 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | 1.000000 | 0.000000 | 0.008846 | 0.029486 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 208.959 {462} | 1.000000 | 0.000000 | 0.000639 | 0.002130 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000269 | 0.000897 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 212.412 {459} | 1.000000 | 0.000000 | 0.001108 | 0.003694 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000592 | 0.001973 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000095 | 0.000317 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000340 | 0.001133 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Y 360.073 { 94}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 371.030 { 91}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | Y 224.306 {451}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| | W 207.911 {462} | 1.000000 | 0.000000 | 0.001046 | 0.003486 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000179 | 0.000596 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | S 182.034 {485} | 1.000000 | 0.000000 | 0.002624 | 0.008745 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001624 | 0.005413 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001558 | 0.005194 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 177.495 {490} | 1.000000 | 0.000000 | 0.004978 | 0.016592 | OK. | 1.000000 | 0.000000 | 1 | 0 |

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

| | |
|---|---|
| MA Batch #: | MA46664 |
| Analyst: | EAL/LL |
| Date: | 5/7/2019 |
| Balance ID: | B24 |
| Reagents: | See attached sheet |
| Auto pipet ID: | M72 |

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

Hot Block # 7 Start Time: 10:30 End Time: 11:00 Tube # 1-48
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
Hot Block # 7 Start Time: 11:00 End Time: 11:30 Tube # 49-72
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| 1 | MP14857-MB1 | 0.6001 | 100 | | | | MP14857 | |
| 2 | MP14857-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-393-HGA1, IN. V |
| 3 | MP14857-S1 | 0.6066 | 100 | 2.0 ml | Y | 0.1 | | JC87325-1, HG-19-144-393-HGA1, IN. V |
| 4 | MP14857-S2 | 0.6159 | 100 | 2.0 ml | Y | 0.1 | | JC87325-1, HG-19-144-393-HGA1, IN. V |
| 5 | JC87325-1 | 0.6168 | 100 | | | | | |
| 6 | JC87325-2 | 0.7472 | 100 | | | | | |
| 7 | JC87499-1 | 0.6511 | 100 | | | | | |
| 8 | JC87499-2 | 0.6225 | 100 | | | | | |
| 9 | JC87499-3 | 0.6283 | 100 | | | | | |
| 10 | JC87499-4 | 0.6757 | 100 | | | | | |
| 11 | JC87422-5 | 0.6154 | 100 | | | | | |
| 12 | JC87396-1 | 0.6638 | 100 | | | | | |
| 13 | JC87364-1 | 0.6169 | 100 | | | | | |
| 14 | JC87364-2 | 0.6049 | 100 | | | | | |
| 15 | JC87364-3 | 0.6504 | 100 | | | | | |
| 16 | JC87364-4 | 0.6332 | 100 | | | | | |
| 17 | JC87364-5 | 0.7802 | 100 | | | | | |
| 18 | JC87364-6 | 0.6220 | 100 | | | | | |
| 19 | JC87364-7 | 0.6476 | 100 | | | | | |
| 20 | JC87364-8 | 0.7159 | 100 | | | | | |
| 21 | JC87364-9 | 0.6158 | 100 | | | | | |
| 22 | JC87364-10 | 0.6083 | 100 | | | | | |
| 23 | JC87364-11 | 0.6133 | 100 | | | | | |
| 24 | JC87364-12 | 0.6681 | 100 | | | | | |
| 25 | MP14858-MB1 | 0.6001 | 100 | | | | MP14858 | |
| 26 | MP14858-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-393-HGA1, IN. V |
| 27 | MP14858-S1 | 0.6362 | 100 | 2.0 ml | Y | 0.1 | | JC87450-16, HG-19-144-393-HGA1, IN. V |
| 28 | MP14858-S2 | 0.6422 | 100 | 2.0 ml | Y | 0.1 | | JC87450-16, HG-19-144-393-HGA1, IN. V |
| 29 | JC87450-16 | 0.6379 | 100 | | | | | |
| 30 | JC87450-1 | 0.6017 | 100 | | | | | |
| 31 | JC87450-2 | 0.6062 | 100 | | | | | |
| 32 | JC87450-3 | 0.6376 | 100 | | | | | |
| 33 | JC87450-4 | 0.6984 | 100 | | | | | |
| 34 | JC87450-5 | 0.6675 | 100 | | | | | |
| 35 | JC87450-6 | 0.6522 | 100 | | | | | |

**Form: HG-022F-02**
**Revision Date:08/24/15**

**ANALYST:** EAL **DATE:** 5/7/19
**SPIKE WITNESS:** LL **DATE:** 5/7/19
**QC REVIERER:** _____ **DATE:** _____

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

| | |
|---|---|
| MA Batch #: | MA46664 |
| Analyst: | EAL/LL |
| Date: | 5/7/2019 |
| Balance ID: | B24 |
| Reagents: | See attached sheet |
| Auto pipet ID: | M72 |

Hot Block # 7 Start Time: 10:30 End Time: 11:00 Tube # 1-48 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
Hot Block # 7 Start Time: 11:00 End Time: 11:30 Tube # 49-72 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| 36 | JC87450-7 | 0.6598 | 100 | | | | | |
| 37 | JC87450-8 | 0.6356 | 100 | | | | | |
| 38 | JC87450-9 | 0.6667 | 100 | | | | | |
| 39 | JC87450-10 | 0.6712 | 100 | | | | | |
| 40 | JC87450-11 | 0.6195 | 100 | | | | | |
| 41 | JC87450-12 | 0.6580 | 100 | | | | | |
| 42 | JC87450-13 | 0.6409 | 100 | | | | | |
| 43 | JC87450-14 | 0.6550 | 100 | | | | | |
| 44 | JC87450-15 | 0.6057 | 100 | | | | | |
| 45 | JC87450-17 | 0.6220 | 100 | | | | | |
| 46 | JC87421-1 | 0.6254 | 100 | | | | | |
| 47 | JC87421-5 | 0.6268 | 100 | | | | | |
| 48 | JC87421-10 | 0.6069 | 100 | | | | | |
| 49 | MP14859-MB1 | 0.6001 | 100 | | | | MP14859 | |
| 50 | MP14859-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-393-HGA1, IN. V |
| 51 | MP14859-S1 | 0.6324 | 100 | 2.0 ml | Y | 0.1 | | JC87535-7, HG-19-144-393-HGA1, IN. V |
| 52 | MP14859-S2 | 0.6321 | 100 | 2.0 ml | Y | 0.1 | | JC87535-7, HG-19-144-393-HGA1, IN. V |
| 53 | JC87535-7 | 0.6248 | 100 | | | | | CLUMPY/ROCKS |
| 54 | JC87535-1 | 0.6128 | 100 | | | | | |
| 55 | JC87535-2 | 0.6869 | 100 | | | | | |
| 56 | JC87535-3 | 0.6078 | 100 | | | | | |
| 57 | JC87535-4 | 0.6501 | 100 | | | | | |
| 58 | JC87535-5 | 0.6330 | 100 | | | | | |
| 59 | JC87535-6 | 0.6931 | 100 | | | | | |
| 60 | JC87535-8 | 0.6542 | 100 | | | | | |
| 61 | JC87535-9 | 0.6526 | 100 | | | | | |
| 62 | JC87535-10 | 0.6785 | 100 | | | | | |
| 63 | JC87535-11 | 0.7022 | 100 | | | | | |
| 64 | JC87535-12 | 0.6712 | 100 | | | | | |
| 65 | JC87423-4A | 0.6410 | 100 | | | | | |
| 66 | JC87423-5A | 0.6968 | 100 | | | | | |
| 67 | JC87520-1 | 0.6025 | 100 | | | | | |
| 68 | JC87530-1 | 0.6844 | 100 | | | | | |
| 69 | JC87530-2 | 0.6317 | 100 | | | | | |
| 70 | JC87530-3 | 0.6384 | 100 | | | | | |

13.8.1 13

Form: HG-022F-02
Revision Date:08/24/15

ANALYST: EAL
SPIKE WITNESS: LL
QC REVIERER:

DATE: 5/7/19
DATE: 5/7/19
DATE:

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

MA Batch #: MA46664
Analyst: EAL/LL
Date: 5/7/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 10:30 End Time: 11:00 Tube # 1-48 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
Hot Block # 7 Start Time: 11:00 End Time: 11:30 Tube # 49-72 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. (mg/L) | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | | | |
| 71 | JC87435-3 | 0.6401 | 100 | | | | | |
| 72 | JC86916-14 | 0.6798 | 100 | | | | | |
| 73 | | | 100 | | | | | |
| 74 | | | 100 | | | | | |
| 75 | | | 100 | | | | | |
| 76 | | | 100 | | | | | |
| 77 | | | 100 | | | | | |
| 78 | | | 100 | | | | | |
| 79 | | | 100 | | | | | |
| 80 | | | 100 | | | | | |
| 81 | | | 100 | | | | | |
| 82 | | | 100 | | | | | |
| 83 | | | 100 | | | | | |
| 84 | | | 100 | | | | | |
| 85 | | | 100 | | | | | |
| 86 | | | 100 | | | | | |
| 87 | | | 100 | | | | | |
| 88 | | | 100 | | | | | |
| 89 | | | 100 | | | | | |
| 90 | | | 100 | | | | | |
| 91 | | | 100 | | | | | |
| 92 | | | 100 | | | | | |
| 93 | | | 100 | | | | | |
| 94 | | | 100 | | | | | |
| 95 | | | 100 | | | | | |
| 96 | | | 100 | | | | | |
| 97 | | | 100 | | | | | |
| 98 | | | 100 | | | | | |
| 99 | | | 100 | | | | | |
| 100 | | | 100 | | | | | |
| 101 | | | 100 | | | | | |
| 102 | | | 100 | | | | | |
| 103 | | | 100 | | | | | |
| 104 | | | 100 | | | | | |
| 105 | | | 100 | | | | | |

13.8.1 13

Form: HG-022F-02
Revision Date:08/24/15

ANALYST: EAL DATE: 5/7/19
SPIKE WITNESS: LL DATE: 5/7/19
QC REVIERER: _____ DATE: _____

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

MA Batch #: MA46664
Analyst: EAL/LL
Date: 5/7/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3 C.

Hot Block # 7 Start Time: 8:00 End Time: 8:30 Tube # 1-CRI
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| S-1 | Calibration Blank | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | N/A |
| S-2 | 0.20 ug/l standard | 0.6 | 100 ml | 2.0 ml | Y | 0.0100 | N/A | HG-19-144-394-HGA2, IN. V |
| S-3 | 0.50 ug/l standard | 0.6 | 100 ml | 5.0 ml | Y | 0.0100 | N/A | HG-19-144-394-HGA2, IN. V |
| S-4 | 1.00 ug/l standard | 0.6 | 100 ml | 1.0 ml | Y | 0.1000 | N/A | HG-19-144-393-HGA1, IN. V |
| S-5 | 2.50 ug/l standard | 0.6 | 100 ml | 2.5 ml | Y | 0.1000 | N/A | HG-19-144-393-HGA1, IN. V |
| S-6 | 5.00 ug/l standard | 0.6 | 100 ml | 5.0 ml | Y | 0.1000 | N/A | HG-19-144-393-HGA1, IN. V |
| ICV | ICV (External) | 0.6 | 100 ml | 3.0 ml | Y | 0.1 | | HG-19-144-395-HGB1, IN. V |
| ICB | ICB | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | |
| CCV | CCV | 0.6 | 100 ml | 2.5 ml | Y | 0.1 | | HG-19-144-393-HGA1, IN. V |
| CCB | CCB | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | |
| CRI | CRI | 0.6 | 100 ml | 2.0 ml | Y | 0.01 | | HG-19-144-394-HGA2, IN. V |

13.8.1 13

SGS

# Reagent Information Log- Hg Soil

**MA # 46664**

| Reagents | Exp. Date | Reagent # or manufacturer lot # |
|---|---|---|
| Conc. HydroChloric Acid | 5/2/2021 | Baker 221681 |
| Conc. Nitric Acid | 4/19/2021 | Baker 205793 |
| Sodium Chloride-Hydroxylamine Hydrochloride | 11/6/2019 | HG-19-144 391 -HGHCL |
| Potassium Permanganate | 11/6/2019 | HG-19-144 389 -HGKM2 |
| Stannous Chloride | 5/8/2019 | HG-19-144 396 -HGS |
| *STD Hg standard solution 1000 ppm* | 3/1/2020 | Inorganic Ventures K2-HG669550 |
| STD Hg standard solution 100 ppb | 5/8/2019 | HG-19-144 393 -HGA1 |
| STD Hg standard solution 10 ppb | 5/8/2019 | HG-19-144 394 -HGA2 |
| *ICV Hg standard solution 1000 ppm* | 6/30/2021 | Ultra T00601 |
| ICV Hg standard solution 100 ppb | 5/8/2019 | HG-19-144 395 -HGB1 |
| Solid Lab control/Soil LC | 3/31/2020 | ERA D094-540 |
| Aqua Regia | 5/8/2019 | HG-19-144 397 -HGKAQ |
| Dilution acid | 11/6/2019 | HG-19-144 392 -HGD1 |
| Digestion Tubes | N/A | Environmental Express 1812114 |
| Teflon Chips (For Soil MB) | N/A | Chemware , Lot: 23656541 |

**Form: GN087A80-04**
**Rev.Date: 06/06/17**

SGS

**Mercury Hot Block Digestion Log**

Product **HG / HGTCLP**
Matrix: Aq / Liq / DW

**Methods (Circle as appropriate)**
**EPA 245.1** **SW846 7470A**
Required corrected Temp. Range is 90-95 C.

MA Batch #: MA46697
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: N/A
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 9:30 End Time: 11:30 Tube # 1-32, 57-76 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
Hot Block # 8 Start Time: 9:30 End Time: 11:30 Tube # 33-56, 77-101
Start Temp: 96 Corrected Start Temp: 94 Correction: -2 Thermometer ID: 3106989 .
End Temp: 97 Corrected Start Temp: 95 Correction: -2 Thermometer ID: 3106989 .

| Bot # | Sample ID | pH <2 Y/N | Initial Sample Vol ml | Final Samp Vol ml | Spiked Used Amount Spiked | Spiked Used Added- Y or N | Spikelot and Conc (mg/L) | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|---|
| 1 | MP14990-MB1 | N | 30 | 30 | | | | MP14990 | DOD |
| 2 | MP14990-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 3 | MP14990-S1 | Y | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87933-2, HG-19-145-270-HGA3, IN. V. |
| 4 | MP14990-S2 | Y | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87933-2, HG-19-145-270-HGA3, IN. V. |
| 5 | JC87933-2 | Y | 30 | 30 | | | | | |
| 6 | JC87775-9 | Y | 30 | 30 | | | | | |
| 7 | JC87842-10 | Y | 30 | 30 | | | | | |
| 8 | MP14991-MB1 | N | 30 | 30 | | | | MP14991 | TCLP DOD |
| 9 | MP14991-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 10 | MP14991-S1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87698-32B, HG-19-145-270-HGA3, IV. |
| 11 | MP14991-S2 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87698-32B, HG-19-145-270-HGA3, IV. |
| 12 | JC87698-32B | N | 30 | 30 | | | | | |
| 13 | JC87698-52B | Y | 30 | 30 | | | | | |
| 14 | MP14992-MB1 | N | 30 | 30 | | | | MP14992 | TCLP DOD |
| 15 | MP14992-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 16 | MP14992-S1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87752-1A, HG-19-145-270-HGA3, I. V. |
| 17 | MP14992-S2 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87752-1A, HG-19-145-270-HGA3, I. V. |
| 18 | JC87752-1A | N | 30 | 30 | | | | | |
| 19 | JC87752-2A | Y | 30 | 30 | | | | | |
| 20 | JC87752-3A | Y | 30 | 30 | | | | | |
| 21 | JC87752-4A | Y | 30 | 30 | | | | | |
| 22 | JC87838-1A | Y | 30 | 30 | | | | | |
| 23 | JC87838-2A | Y | 30 | 30 | | | | | |
| 24 | JC87838-4A | Y | 30 | 30 | | | | | |
| 25 | JC87838-5A | Y | 30 | 30 | | | | | |
| 26 | JC87838-6A | Y | 30 | 30 | | | | | |
| 27 | JC87838-7A | Y | 30 | 30 | | | | | |
| 28 | MP14993-MB1 | N | 30 | 30 | | | | MP14993 | TCLP DOD |
| 29 | MP14993-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 30 | MP14993-S1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87838-3A, HG-19-145-270-HGA3, I. V. |
| 31 | MP14993-S2 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87838-3A, HG-19-145-270-HGA3, I. V. |
| 32 | JC87838-3A | N | 30 | 30 | | | | | |
| 33 | MP14994-MB1 | N | 30 | 30 | | | | MP14994 | |
| 34 | MP14994-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 35 | MP14994-S1 | Y | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87848-3, HG-19-145-270-HGA3, IN. V. |

ANALYST: LL
Spike witness: LL
QC: REVIEWER:

DATE: 5/13/19
DATE: 5/13/19
DATE:

DAYT-MET-0113-01-FORM-HGWATERPREP
Revision Date: 8/28/18

13.8.2 13

SGS

**Mercury Hot Block Digestion Log**

Product **HG / HGTCLP**
Matrix: Aq / Liq / DW

**Methods (Circle as appropriate)**
**EPA 245.1** **SW846 7470A**
Required corrected Temp. Range is 90-95 C.

MA Batch #: MA46697
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: N/A
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 9:30 End Time: 11:30 Tube # 1-32, 57-76
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
Hot Block # 8 Start Time: 9:30 End Time: 11:30 Tube # 33-56, 77-101
Start Temp: 96 Corrected Start Temp: 94 Correction: -2 Thermometer ID: 3106989
End Temp: 97 Corrected Start Temp: 95 Correction: -2 Thermometer ID: 3106989

| Bot # | Sample ID | pH <2 Y/N | Initial Sample Vol ml | Final Samp Vol ml | Spiked Used | | Spikelot and Conc (mg/L) | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Amount Spiked | Added- Y or N | | | |
| 36 | MP14994-S2 | Y | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87848-3, HG-19-145-270-HGA3, IN. V. |
| 37 | JC87848-3 | Y | 30 | 30 | | | | | |
| 38 | JC87848-1 | Y | 30 | 30 | | | | | |
| 39 | JC87848-2 | Y | 30 | 30 | | | | | |
| 40 | JC87848-4 | Y | 30 | 30 | | | | | |
| 41 | JC87848-5 | Y | 30 | 30 | | | | | |
| 42 | JC87848-6 | Y | 30 | 30 | | | | | |
| 43 | JC87848-7 | Y | 30 | 30 | | | | | |
| 44 | JC87848-8 | Y | 30 | 30 | | | | | |
| 45 | JC87848-9 | Y | 30 | 30 | | | | | |
| 46 | JC87585-1 | Y | 30 | 30 | | | | | |
| 47 | JC87706-9F | Y | 30 | 30 | | | | | YELLOW SEDIMENT |
| 48 | JC87706-10F | Y | 30 | 30 | | | | | YELLOW SEDIMENT |
| 49 | JC87706-11F | Y | 30 | 30 | | | | | ORANGE SEDIMENT |
| 50 | JC87706-12F | Y | 15 | 30 | | | | | BROWN SEDIMENT |
| 51 | JC87853-9F | Y | 30 | 30 | | | | | |
| 52 | JC87853-10F | Y | 30 | 30 | | | | | |
| 53 | JC87853-19F | Y | 30 | 30 | | | | | |
| 54 | JC87853-20F | Y | 30 | 30 | | | | | |
| 55 | JC87832-1 | Y | 30 | 30 | | | | | |
| 56 | JC87582-2Q | Y | 30 | 30 | | | | | |
| 57 | MP14995-MB1 | N | 30 | 30 | | | | MP14995 | TCLP |
| 58 | MP14995-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 59 | MP14995-S1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87670-5A, HG-19-145-270-HGA3, I. V. |
| 60 | MP14995-S2 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87670-5A, HG-19-145-270-HGA3, I. V. |
| 61 | JC87670-5A | N | 30 | 30 | | | | | |
| 62 | JC87670-11A | Y | 30 | 30 | | | | | |
| 63 | JC87670-17A | Y | 30 | 30 | | | | | |
| 64 | JC87670-23A | Y | 30 | 30 | | | | | |
| 65 | JC87426-1 | Y | 30 | 30 | | | | | |
| 66 | JC87530-1A | Y | 30 | 30 | | | | | |
| 67 | JC87530-2A | Y | 30 | 30 | | | | | |
| 68 | JC87530-3A | Y | 30 | 30 | | | | | |
| 69 | JC87715-1 | Y | 30 | 30 | | | | | PINK |
| 70 | JC87747-1A | Y | 30 | 30 | | | | | |

ANALYST: LL
Spike witness: EM
QC: REVIEWER:

DATE: 5/13/19
DATE: 5/13/19
DATE:

DAYT-MET-0113-01-FORM-HGWATERPREP
Revision Date: 8/28/18

13.8.2 13

SGS

**Mercury Hot Block Digestion Log**

Product **HG / HGTCLP**
Matrix: Aq / Liq / DW

**Methods (Circle as appropriate)**
**EPA 245.1** **SW846 7470A**
Required corrected Temp. Range is 90-95 C.

MA Batch #: MA46697
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: N/A
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 9:30 End Time: 11:30 Tube # 1-32, 57-76
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
Hot Block # 8 Start Time: 9:30 End Time: 11:30 Tube # 33-56, 77-101
Start Temp: 96 Corrected Start Temp: 94 Correction: -2 Thermometer ID: 3106989
End Temp: 97 Corrected Start Temp: 95 Correction: -2 Thermometer ID: 3106989

| Bot # | Sample ID | pH <2 Y/N | Initial Sample Vol ml | Final Samp Vol ml | Spiked Used Amount Spiked | Spiked Used Added- Y or N | Spikelot and Conc (mg/L) | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|---|
| 71 | JC87747-2A | Y | 30 | 30 | | | | | |
| 72 | JC87747-3A | Y | 30 | 30 | | | | | |
| 73 | JC87747-4A | Y | 30 | 30 | | | | | |
| 74 | JC87623-2 | Y | 30 | 30 | | | | | |
| 75 | JC87754-1 | Y | 30 | 30 | | | | | |
| 76 | JC87760-2A | Y | 30 | 30 | | | | | |
| 77 | MP14996-MB1 | N | 30 | 30 | | | | MP14996 | TCLP |
| 78 | MP14996-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 79 | MP14996-S1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87414-5R, HG-19-145-270-HGA3, I. V. |
| 80 | MP14996-S2 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87414-5R, HG-19-145-270-HGA3, I. V. |
| 81 | JC87414-5R | N | 30 | 30 | | | | | |
| 82 | JC87414-10R | Y | 30 | 30 | | | | | |
| 83 | JC87414-15R | Y | 30 | 30 | | | | | |
| 84 | JC87535-13 | Y | 30 | 30 | | | | | |
| 85 | JC87535-14 | Y | 30 | 30 | | | | | PINK |
| 86 | JC87535-15 | Y | 30 | 30 | | | | | |
| 87 | JC87687-1 | Y | 30 | 30 | | | | | |
| 88 | MP14997-MB1 | N | 30 | 30 | | | | MP14997 | TCLP |
| 89 | MP14997-B1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| 90 | MP14997-S1 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87841-5A, HG-19-145-270-HGA3, I. V. |
| 91 | MP14997-S2 | N | 30 | 30 | 2.0 ml | Y | 0.03 | | JC87841-5A, HG-19-145-270-HGA3, I. V. |
| 92 | JC87841-5A | N | 30 | 30 | | | | | |
| 93 | JC87841-9A | Y | 30 | 30 | | | | | |
| 94 | JC87841-12A | Y | 30 | 30 | | | | | |
| 95 | TD38572-2 | Y | 30 | 30 | | | | | YELLOW |
| 96 | TD38572-3 | Y | 30 | 30 | | | | | |
| 97 | JC87610-2A | Y | 30 | 30 | | | | | |
| 98 | JC87610-4A | Y | 30 | 30 | | | | | |
| 99 | JC87918-1 | Y | 30 | 30 | | | | | YELLOW |
| 100 | JC87918-2 | Y | 30 | 30 | | | | | |
| 101 | JC87894-2A | Y | 30 | 30 | | | | | |
| 102 | | | | | | | | | |
| 103 | | | | | | | | | |
| 104 | | | | | | | | | |
| 105 | | | | | | | | | |

ANALYST: LL
Spike witness: EM
QC: REVIEWER:

DATE: 5/13/19
DATE: 5/13/19
DATE:

DAYT-MET-0113-01-FORM-HGWATERPREP
Revision Date: 8/28/18

13.8.2 13

SGS

**Mercury Hot Block Digestion Log**

Product **HG / EHG / HGTCLP**
Matrix: Aq / Liq / DW

**Methods (Circle as appropriate)**
**EPA 245.1** **SW846 7470A**

Required corrected Temp. Range is 90-95 C.
Hot Block # 7 Start Time: 7:30 End Time: 9:30 Tube # S1-CRI .

MA Batch #: MA46697
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: B-24
Reagents: See attached sheet
Auto pipet ID M-72

Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .

| Bot # | Sample ID | pH <2 Y/N | Initial Sample Vol ml | Final Samp Vol ml | Spiked Used Amount Spiked | Spiked Used Added- Y or N | Spikelot and Conc (mg/L) | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|---|
| S-1 | Calibration Blank | N | 30 ml | 30 ml | 0.0 ml | N | | | |
| S-2 | 0.2 ug/l Standard | N | 30 ml | 30 ml | 2.0 ml | Y | 0.003 | | HG-19-145-271-HGA4, IN. V. |
| S-3 | 0.5 ug/l Standard | N | 30 ml | 30 ml | 5.0 ml | Y | 0.003 | | HG-19-145-271-HGA4, IN. V. |
| S-4 | 1.0 ug/l Standard | N | 30 ml | 30 ml | 1.0 ml | Y | 0.030 | | HG-19-145-270-HGA3, IN. V. |
| S-5 | 2.5 ug/l Standard | N | 30 ml | 30 ml | 2.5 ml | Y | 0.030 | | HG-19-145-270-HGA3, IN. V. |
| S-6 | 5.0 ug/l Standard | N | 30 ml | 30 ml | 5.0 ml | Y | 0.030 | | HG-19-145-270-HGA3, IN. V. |
| ICV | ICV (External) | N | 30 ml | 30 ml | 3.0 ml | Y | 0.03 | | HG-19-145-272-HGB3, ULTRA |
| ICB | ICB | N | 30 ml | 30 ml | 0.0 ml | N | | | |
| CCV | CCV | N | 30 ml | 30 ml | 2.5 ml | Y | 0.03 | | HG-19-145-270-HGA3, IN. V. |
| CCB | CCB | N | 30 ml | 30 ml | 0.0 ml | N | | | |
| CRI | CRI | N | 30 ml | 30 ml | 2.0 ml | Y | 0.003 | | HG-19-145-271-HGA4, IN. V. |

Form HG022-03
Revision Date: 8/24/15

ANALYST: EL
QC: REVIEWER:

DATE: 5/13/19
DATE:

13.8.2 13

SGS

# Reagent Information Log- Hg Waters

**MA #** 46697

| Reagents | Exp. Date | Reagent # or manufacturer lot # |
|---|---|---|
| Conc. Sulfuric Acid | 5/1/2024 | Fisher -190597 |
| Conc. Nitric Acid | 5/9/2021 | Baker -213500 |
| Sodium Chloride-Hydroxylamine Hydrochloride | 11/13/2019 | HG-19-144-. 415 -HGHCL |
| Potassium Permanganate 5% | 11/13/2019 | HG-19-144-. 413 -HGKM2 |
| Potassium Persulfate | 11/13/2019 | HG-19-144-. 414 -HGKS |
| Stannous Chloride | 5/14/2019 | HG-18-140 273 -HGS |
| *STD Hg standard solution 1000 ppm* | 3/1/2020 | Inorganic Ventures K2-HG669550 |
| STD Hg standard solu tion 30 ppb | 5/14/2019 | HG-19-145- 270 -HGA3 |
| STD Hg standard solu tion 3ppb | 5/14/2019 | HG-19-145- 271 -HGA4 |
| *ICV Hg standard solution 1000 ppm* | 6/30/2021 | Ultra T00601 |
| ICV Hg standard solution 30ppb | 5/14/2019 | HG-19-145- 272 -HGB3 |
| Dilution Acid | 11/13/2019 | HG-19-145- 416 HGD2 |
| Digestion Tubes Lot | N/A | Environmental Express 1812114 |
| ph Paper | N/A | Hydrion: 206717 |

**Form:GN087A79-03**
**Rev. Date: 6/6/17**

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

MA Batch #: MA46698
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 11:30 End Time: 12:00 Tube # 1-23 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
Hot Block # _____ Start Time: _____ End Time: _____ Tube # _____ .
Start Temp: _____ Corrected Start Temp: _____ Correction: _____ Thermometer ID: _____ .
End Temp: _____ Corrected Start Temp: _____ Correction: _____ Thermometer ID: _____ .

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| 1 | MP14998-MB1 | 0.6001 | 100 | | | | MP14998 | |
| 2 | MP14998-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-408-HGA1, IN. V |
| 3 | MP14998-S1 | 0.6707 | 100 | 2.0 ml | Y | 0.1 | | JC87535-8, HG-19-144-408-HGA1, IN. V |
| 4 | MP14998-S2 | 0.6471 | 100 | 2.0 ml | Y | 0.1 | | JC87535-8, HG-19-144-408-HGA1, IN. V |
| 5 | JC87535-8 | 0.6898 | 100 | | | | | |
| 6 | JC87610-2 | 0.6595 | 100 | | | | | |
| 7 | JC87610-4 | 0.6148 | 100 | | | | | |
| 8 | JC87692-1 | 0.7305 | 100 | | | | | |
| 9 | JC87747-1 | 0.6642 | 100 | | | | | |
| 10 | JC87747-2 | 0.7191 | 100 | | | | | |
| 11 | JC87747-3 | 0.6856 | 100 | | | | | |
| 12 | JC87747-4 | 0.7239 | 100 | | | | | |
| 13 | JC87760-2 | 0.7536 | 100 | | | | | |
| 14 | JC87764-1 | 0.6934 | 100 | | | | | |
| 15 | JC87811-2 | 0.9770 | 100 | | | | | WATERY |
| 16 | JC87811-3 | 0.7669 | 100 | | | | | |
| 17 | JC87811-4 | 0.7253 | 100 | | | | | |
| 18 | JC87811-5 | 0.6646 | 100 | | | | | |
| 19 | JC87811-6 | 0.7626 | 100 | | | | | |
| 20 | JC87811-7 | 0.6161 | 100 | | | | | |
| 21 | JC87811-8 | 0.6524 | 100 | | | | | |
| 22 | JC87811-9 | 0.6237 | 100 | | | | | |
| 23 | JC87924-1 | 0.6792 | 100 | | | | | |
| 24 | | | 100 | | | | | |
| 25 | | | 100 | | | | | |
| 26 | | | 100 | | | | | |
| 27 | | | 100 | | | | | |
| 28 | | | 100 | | | | | |
| 29 | | | 100 | | | | | |
| 30 | | | 100 | | | | | |
| 31 | | | 100 | | | | | |
| 32 | | | 100 | | | | | |
| 33 | | | 100 | | | | | |
| 34 | | | 100 | | | | | |
| 35 | | | 100 | | | | | |

13.8.3 13

Form: HG-022F-02
Revision Date:08/24/15

ANALYST: LL
SPIKE WITNESS: EAL
QC REVIERER: _____

DATE: 5/13/19
DATE: 5/13/19
DATE: _____

SGS

**Mercury Digestion Log**

Product: EHG
Matrix: TCLPE Oil

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

MA Batch #: MA46698A
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: N/A
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 11:30 End Time: 12:00 Tube # 1-5

Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .

End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .

| Bot # | Sample ID | Initial Sample ml | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| 1 | MP14999-MB1 | 0.6 | 100 | | | | MP14999 | TCLP |
| 2 | MP14999-B1 | 0.6 | 100 | 2.0ml | Y | 0.1 | | HG-19-144-408-HGA1, IN. V |
| 3 | MP14999-S1 | 0.6 | 100 | 2.0ml | Y | 0.1 | | TD38572-1, HG-19-144-408-HGA1, IN. V |
| 4 | MP14999-S2 | 0.6 | 100 | 2.0ml | Y | 0.1 | | TD38572-1, HG-19-144-408-HGA1, IN. V |
| 5 | TD38572-1 | 0.6 | 100 | | | | | |
| 6 | | | 100 | | | | | |
| 7 | | | 100 | | | | | |
| 8 | | | 100 | | | | | |
| 9 | | | 100 | | | | | |
| 10 | | | 100 | | | | | |
| 11 | | | 100 | | | | | |
| 12 | | | 100 | | | | | |
| 13 | | | 100 | | | | | |
| 14 | | | 100 | | | | | |
| 15 | | | 100 | | | | | |
| 16 | | | 100 | | | | | |
| 17 | | | 100 | | | | | |
| 18 | | | 100 | | | | | |
| 19 | | | 100 | | | | | |
| 20 | | | 100 | | | | | |
| 21 | | | 100 | | | | | |
| 22 | | | 100 | | | | | |
| 23 | | | 100 | | | | | |
| 24 | | | 100 | | | | | |
| 25 | | | 100 | | | | | |
| 26 | | | 100 | | | | | |
| 27 | | | 100 | | | | | |
| 28 | | | 100 | | | | | |
| 29 | | | 100 | | | | | |
| 30 | | | 100 | | | | | |
| 31 | | | 100 | | | | | |
| 32 | | | 100 | | | | | |
| 33 | | | 100 | | | | | |
| 34 | | | 100 | | | | | |
| 35 | | | 100 | | | | | |

DAYT-MET-0115-01-FORM-HG TCLP OIL PREP ANALYST: LL DATE: 5/13/19
Revision Date:08/28/18 SPIKE WITNESS: EM DATE: 5/13/19
QC REVIERER: DATE:

13.8.3 13

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

MA Batch #: MA46698
Analyst: EAL/LL
Date: 5/13/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3 C.

Hot Block # 7 Start Time: 8:00 End Time: 8:30 Tube # 1-CRI
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| S-1 | Calibration Blank | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | N/A |
| S-2 | 0.20 ug/l standard | 0.6 | 100 ml | 2.0 ml | Y | 0.0100 | N/A | HG-19-144-409-HGA2, IN. V |
| S-3 | 0.50 ug/l standard | 0.6 | 100 ml | 5.0 ml | Y | 0.0100 | N/A | HG-19-144-409-HGA2, IN. V |
| S-4 | 1.00 ug/l standard | 0.6 | 100 ml | 1.0 ml | Y | 0.1000 | N/A | HG-19-144-408-HGA1, IN. V |
| S-5 | 2.50 ug/l standard | 0.6 | 100 ml | 2.5 ml | Y | 0.1000 | N/A | HG-19-144-408-HGA1, IN. V |
| S-6 | 5.00 ug/l standard | 0.6 | 100 ml | 5.0 ml | Y | 0.1000 | N/A | HG-19-144-408-HGA1, IN. V |
| ICV | ICV (External) | 0.6 | 100 ml | 3.0 ml | Y | 0.1 | | HG-19-144-410-HGB1, IN. V |
| ICB | ICB | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | |
| CCV | CCV | 0.6 | 100 ml | 2.5 ml | Y | 0.1 | | HG-19-144-408-HGA1, IN. V |
| CCB | CCB | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | |
| CRI | CRI | 0.6 | 100 ml | 2.0 ml | Y | 0.01 | | HG-19-144-409-HGA2, IN. V |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

13.8.3 13

SGS

# Reagent Information Log- Hg Soil

**MA # 46698**

| Reagents | Exp. Date | Reagent # or manufacturer lot # |
|---|---|---|
| Conc. HydroChloric Acid | 5/9/2021 | Baker 221681 |
| Conc. Nitric Acid | 5/9/2021 | Baker 213500 |
| Sodium Chloride-Hydroxylamine Hydrochloride | 11/13/2019 | HG-19-144 415 -HGHCL |
| Potassium Permanganate | 11/13/2019 | HG-19-144 413 -HGKM2 |
| Stannous Chloride | 5/14/2019 | HG-19-144 411 -HGS |
| *STD Hg standard solution 1000 ppm* | 3/1/2020 | Inorganic Ventures K2-HG669550 |
| STD Hg standard solution 100 ppb | 5/14/2019 | HG-19-144 408 -HGA1 |
| STD Hg standard solution 10 ppb | 5/14/2019 | HG-19-144 409 -HGA2 |
| *ICV Hg standard solution 1000 ppm* | 6/30/2021 | Ultra T00601 |
| ICV Hg standard solution 100 ppb | 5/14/2019 | HG-19-144 410 -HGB1 |
| Solid Lab control/Soil LC | 3/31/2020 | ERA D094-540 |
| Aqua Regia | 5/14/2019 | HG-19-144 412 -HGKAQ |
| Dilution acid | 11/13/2019 | HG-19-144 416 -HGD1 |
| Digestion Tubes | N/A | Environmental Express 1812114 |
| Teflon Chips (For Soil MB) | N/A | Chemware , Lot: 23656541 |

**Form: GN087A80-04**
**Rev.Date: 06/06/17**

SGS North America Inc.

# Solids/Soil Metals Digestion Form

## Batch Information

| Batch ID | Start Date | Start Time | End Date | End time | QC Samp 1 | QC Samp 2 |
|---|---|---|---|---|---|---|
| MP14865 | 5/8/2019 | 8:10 | 5/8/2019 | 12:40 | JC87654-4A | |

## Temperature

| | | Block ID | Therm. ID# | Balance ID | Temperature | Correction | Corrected Temp | |
|---|---|---|---|---|---|---|---|---|
| 1 | Start | 7 | 3124598 | B-41 | 94 | -2 | 92 | |
| 1 | End | 7 | 3124598 | NA | 94 | -2 | 92 | |
| 2 | Start | | | | | | | |
| 2 | End | | | NA | | | | |

## Methods and Equipment

| | Dig. Method | Heating Method | | Auto Pipette # | Digestion Tube Lot # | |
|---|---|---|---|---|---|---|
| | SW846 3050B | Digestion Block | | M-74 | 1812114 | |

| Sample ID | Bottle ID | Final Volume (ML) | Wet Weight (G) | Reagent Groups Added | Spike Groups Added | Comments |
|---|---|---|---|---|---|---|
| MP14865-MB1 | N/A | 100 | 0.97 | ABCD | | |
| MP14865-B1 | N/A | 100 | 1.04 | ABCD | ABCD | |
| MP14865-S1 | 1 | 100 | 1.02 | ABCD | ABCD | |
| MP14865-S2 | 1 | 100 | 1.03 | ABCD | ABCD | |
| MP14865-SD1 | 1 | 100 | 0.98 | ABCD | | |
| JC87535-1 | 1 | 100 | 0.99 | ABCD | | |
| JC87535-10 | 1 | 100 | 0.97 | ABCD | | |
| JC87535-11 | 1 | 100 | 0.97 | ABCD | | |
| JC87535-12 | 1 | 100 | 0.97 | ABCD | | |
| JC87535-2 | 1 | 100 | 1.02 | ABCD | | |
| JC87535-3 | 1 | 100 | 1.03 | ABCD | | |
| JC87535-4 | 1 | 100 | 0.99 | ABCD | | |
| JC87535-5 | 1 | 100 | 0.98 | ABCD | | |
| JC87535-6 | 1 | 100 | 1.02 | ABCD | | |
| JC87535-7 | 1 | 100 | 1.01 | ABCD | | |
| JC87535-8 | 2 | 100 | 1.01 | ABCD | | |
| JC87535-9 | 1 | 100 | 1.00 | ABCD | | |
| JC87654-1A | 1 | 100 | 0.98 | ABCD | | |
| JC87654-2A | 1 | 100 | 0.99 | ABCD | | |
| JC87654-3A | 1 | 100 | 1.02 | ABCD | | |
| JC87654-4A | 1 | 100 | 0.98 | ABCD | | |
| JC87670-11 | 1 | 100 | 1.01 | ABCD | | |
| JC87670-17 | 1 | 100 | 0.97 | ABCD | | |
| JC87670-23 | 1 | 100 | 0.98 | ABCD | | |
| JC87670-5 | 1 | 100 | 0.97 | ABCD | | |

**Reagents Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | CONC HNO3 | 5 |
| B | 1:1 HNO3 | 10 |
| C | H2O2 | 5 |
| D | CONC HCL | 10 |
| E | | |
| F | | |
| G | | |
| H | | |

**Spike Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | ACCUTEST 13A REV1 | 1 |
| B | ACCUTEST 14A REV1 | 1 |
| C | MINERALS 5000PPM | 0.5 |
| D | AG 20PPM | 1.25 |
| E | | |
| F | AG 20PPM | 1.25 |
| G | | |
| H | | |

**Comments:**

**Analyst** TAYLORG **Approved by** Wendyz **Approved on** 5/8/2019

**Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.**
**Serial Dilution samples shown for QC purposes only.**
**Acceptable Temperature range is 90-95 degrees C unless otherwise noted**

SGS

# Metals Digestion Reagents Information Log

**Digestion Batch ID:** MP 14865 **Date:** 5/8/19

**Matrix:** ALL

| Standard/Reagent Type | Exp. Date | Standard/Reagent ID |
|---|---|---|
| Spiking Solution - (ACCUTEST-13A REV1) | 10/23/2019 | MP-015-1161 |
| Spiking Solution - (ACCUTEST-14A REV1) | 10/23/2019 | MP-015-1162 |
| Spiking Solution - 5000 mg/l Minerals | 4/25/2020 | P2-MEB678659 MFG: INO. VENT. |
| Spiking Solution - Sulfur 1000ppm | 4/11/2021 | LOT: 041118 MFG: ABS. GRADE |
| Spiking Solution - Si 1000ppm | 10/31/2019 | N2-SI668066 MFG: INO. VENT. |
| Spiking Solution - Bi 1000ppm | 4/12/2020 | N2-BI669548 MFG: INO. VENT. |
| Spiking Solution - Se 20ppm | 10/10/2019 | MP-015-1156 |
| Spiking Solution - Li 1000ppm | 4/18/2020 | N2-LI665824 MFG: INO. VENT. |
| Spiking Solution- Ag 20 ppm | 10/30/2019 | MP-015-1165 |
| Spiking Solution - (ACCUTEST-13B REV1) | 10/10/2019 | MP-015-1157 |
| Spiking Solution - (ACCUTEST-14B REV1) | 9/27/2019 | MP-015-1148 |
| Spiking Solution - 1000ppm Minerals | 6/4/2019 | MP-015-1117 |
| Spiking Solution- P | | |
| Nitric Acid | 5/7/2021 | LOT: 213500 MFG: J.T. BAKER |
| Nitric Acid (1:1) | 11/3/2019 | MP-018-42-200 1:1 HNO3 |
| Hydrochloric Acid | 5/7/2021 | LOT: 221681 MFG: J.T. BAKER |
| Hydrochloric Acid (1:1) | 11/7/2019 | MP-018-42-202 1:1 HCL |
| Hydrogen Peroxide | 4/26/2021 | LOT: 189267 MFG: FISHER |
| Soil Lab Control/Soil LC | 3/31/2020 | LOT: D094-540 MFG: ERA |
| Teflon Chips(For Soil MB and Blank Spike) | N/A | LOT: 24242815 MFG: SAINT-GOBAIN |
| Digestion Tubes | N/A | LOT: 1812114 MFG: ENV. EXPRESS |
| pH Paper | 6/15/2021 | LOT: 217518 MFG: HYDRION |
| Filter paper Q8 | N/A | LOT: 16917460 MFG: FISHER |
| Filter paper 0.45µm | N/A | LOT: F8MA26136E MFG: FISHER |
| | | |
| | | |

Spike witnessed By: BP

Validated By:

Validated On:

Metals Prep Reagent
1/17/18

13.8.4 13

Date 5/9/2019 Analyst ND MP # 14865

## Post spike for ICP Method 6010D

QC sample #

| Spiking solution | Elements | Spike added (Y/N) | Vendor | Intermediate Lot # | Exp. Date | Conc. (mg/l) | Amt of Spike added (ml) | Digestate sample volume (ml) | Final Digestate volume in ml (Spike+ Sample) | Final Conc at the instrument (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1) | Ba,Be,B Cd,Cr,Co,Cu,Pb, Mn,Ni,P,Se,Sr,TL, V,Zn | Yes | Inhance | MP-015-1119 | 6/7/19 | 200 | 0.2 | 19.25 | 20 | 2 |
| Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1) | Sb,As,Mo,Sn,Ti, W,Zr | Yes | Inhance | MP-015-1120 | 6/7/19 | 200 | 0.2 | | | 2 |
| Ag Spike Intermediate | Ag | Yes | Inhance | MP-015-1116 | 5/28/19 | 20 | 0.25 | | | 0.25 |
| Metals Mix | Ca,Al,Fe,Mg,K, Na | Yes | Inorganic Ventures | N2-MEB 672948 | 11/28/19 | 5000 | 0.1 | | | 25 |
| S spike | S | | | | | 200 | 0.2 | | | 2 |
| Bi Spike | Bi | | | | | 200 | 0.2 | | | 2 |
| Li Spike | Li | | | | | 200 | 0.2 | | | 2 |
| Si spike | Si | | | | | 1000 | 0.1 | | | 5 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Form: DAYT-MET-0095-01-FORM
Rev. Date : 7/10/2018

Reviewed by:

SGS North America Inc.

# Solids/Soil Metals Digestion Form

**Batch Information**

| Batch ID | Start Date | Start Time | End Date | End time | QC Samp 1 | QC Samp 2 |
|---|---|---|---|---|---|---|
| MP14918 | 5/10/2019 | 6:30 | 5/10/2019 | 11:10 | JC87535-8 | |

**Temperature**

| | | Block ID | Therm. ID# | Balance ID | Temperature | Correction | Corrected Temp |
|---|---|---|---|---|---|---|---|
| 1 | Start | 7 | 3124598 | B-41 | 95 | -2 | 93 |
| 1 | End | 7 | 3124598 | NA | 96 | -2 | 94 |
| 2 | Start | | | | | | |
| 2 | End | | | NA | | | |

**Methods and Equipment**

| | Dig. Method | Heating Method | | Auto Pipette # | Digestion Tube Lot # | |
|---|---|---|---|---|---|---|
| | SW846 3050B | Digestion Block | | M-74 | 1812114 | |

| Sample ID | Bottle ID | Final Volume (ML) | Wet Weight (G) | Reagent Groups Added | Spike Groups Added | Comments |
|---|---|---|---|---|---|---|
| MP14918-MB1 | N/A | 100 | 0.98 | ABCD | | |
| MP14918-B1 | N/A | 100 | 0.99 | ABCD | ABCD | |
| MP14918-S1 | 4 | 100 | 1.02 | ABCD | ABCD | |
| MP14918-S2 | 4 | 100 | 1.00 | ABCD | ABCD | |
| MP14918-SD1 | 4 | 100 | 0.99 | ABCD | | |
| JC87535-8 | 4 | 100 | 0.98 | ABCD | | |
| JC87746-1 | 1 | 100 | 1.02 | ABCD | | |
| JC87746-2 | 1 | 100 | 1.00 | ABCD | | |
| JC87746-3 | 1 | 100 | 0.97 | ABCD | | |
| JC87747-1 | 1 | 100 | 1.00 | ABCD | | |
| JC87747-2 | 1 | 100 | 0.99 | ABCD | | |
| JC87747-3 | 1 | 100 | 1.00 | ABCD | | |
| JC87747-4 | 1 | 100 | 0.98 | ABCD | | |
| JC87750-3 | 2 | 100 | 0.99 | ABCD | | |
| JC87750-4 | 2 | 100 | 1.00 | ABCD | | |
| JC87750-5 | 2 | 100 | 0.99 | ABCD | | |
| JC87750-6 | 2 | 100 | 0.98 | ABCD | | |
| JC87750-7 | 2 | 100 | 1.03 | ABCD | | |
| JC87750-8 | 2 | 100 | 0.98 | ABCD | | |
| JC87750-9 | 2 | 100 | 0.97 | ABCD | | |

**Reagents Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | CONC HNO3 | 5 |
| B | 1:1 HNO3 | 10 |
| C | H2O2 | 5 |
| D | CONC HCL | 10 |
| E | | |
| F | | |
| G | | |
| H | | |

**Spike Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | ACCUTEST 13A REV1 | 1 |
| B | ACCUTEST 14A REV1 | 1 |
| C | MINERALS 5000PPM | 0.5 |
| D | AG 20PPM | 1.25 |
| E | | |
| F | AG 20PPM | 1.25 |
| G | | |
| H | | |

**Comments:**

**Analyst** TAYLORG **Approved by** Wendyz **Approved on** 5/10/2019

**Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.**
**Serial Dilution samples shown for QC purposes only.**
**Acceptable Temperature range is 90-95 degrees C unless otherwise noted**

SGS

# Metals Digestion Reagents Information Log

**Digestion Batch ID: MP** 14918 **Date:** 5/10/19

**Matrix: ALL**

| Standard/Reagent Type | Exp. Date | Standard/Reagent ID |
|---|---|---|
| Spiking Solution - (ACCUTEST-13A REV1) | 10/23/2019 | MP-015-1161 |
| Spiking Solution - (ACCUTEST-14A REV1) | 10/23/2019 | MP-015-1162 |
| Spiking Solution - 5000 mg/l Minerals | 4/25/2020 | P2-MEB678659 MFG: INO. VENT. |
| Spiking Solution - Sulfur 1000ppm | 4/11/2021 | LOT: 041118 MFG: ABS. GRADE |
| Spiking Solution - Si 1000ppm | 10/31/2019 | N2-SI668066 MFG: INO. VENT. |
| Spiking Solution - Bi 1000ppm | 4/12/2020 | N2-BI669548 MFG: INO. VENT. |
| Spiking Solution - Se 20ppm | 10/10/2019 | MP-015-1156 |
| Spiking Solution - Li 1000ppm | 4/18/2020 | N2-LI665824 MFG: INO. VENT. |
| Spiking Solution- Ag 20 ppm | 11/7/2019 | MP-015-1168 |
| Spiking Solution - (ACCUTEST-13B REV1) | 10/10/2019 | MP-015-1157 |
| Spiking Solution - (ACCUTEST-14B REV1) | 9/27/2019 | MP-015-1148 |
| Spiking Solution - 1000ppm Minerals | 6/4/2019 | MP-015-1117 |
| Spiking Solution- P | | |
| Nitric Acid | 5/9/2021 | LOT: 213500 MFG: J.T. BAKER |
| Nitric Acid (1:1) | 11/8/2019 | MP-018-42-203 1:1 HNO3 |
| Hydrochloric Acid | 5/7/2021 | LOT: 221681 MFG: J.T. BAKER |
| Hydrochloric Acid (1:1) | 11/7/2019 | MP-018-42-202 1:1 HCL |
| Hydrogen Peroxide | 4/26/2021 | LOT: 189267 MFG: FISHER |
| Soil Lab Control/Soil LC | 3/31/2020 | LOT: D094-540 MFG: ERA |
| Teflon Chips(For Soil MB and Blank Spike) | N/A | LOT: 24242815 MFG: SAINT-GOBAIN |
| Digestion Tubes | N/A | LOT: 1812114 MFG: ENV. EXPRESS |
| pH Paper | 6/15/2021 | LOT: 217518 MFG: HYDRION |
| Filter paper Q8 | N/A | LOT: 16917460 MFG: FISHER |
| Filter paper 0.45µm | N/A | LOT: F8MA26136E MFG: FISHER |
| | | |
| | | |

Spike witnessed By: LL

Validated By:

Validated On:

Metals Prep Reagent
1/17/18

13.8.5 13

SGS North America Inc.

# Accutest Aqueous Metals Digestion Form

**Batch Information**

| Batch ID | Start Date | Start Time | End Date | End time | QC Samp 1 | QC Samp 2 |
|---|---|---|---|---|---|---|
| MP14966 | 5/11/2019 | 15:00 | 5/12/2019 | 11:30 | JC87414-5R | |

**Temperature**

| | | Block ID1 | Therm. ID# | Temperature | Correction | Corrected Temp |
|---|---|---|---|---|---|---|
| 1 | Start | 8 | 4156601 | 94 | 0 | 94 |
| 1 | End | 8 | 4156601 | 94 | 0 | 94 |
| 2 | Start | | | | | |
| 2 | End | | | | | |

**Methods and Equipment**

| | Dig. Method | Heating Method | | Auto Pipette # | Digestion Tube Lot # | |
|---|---|---|---|---|---|---|
| | SW846 3010A | Digestion Block | | M-74 | 1812114 | |

| Sample ID | Bottle Number | Pres (Y/N) | Initial Sample Volume | Final Volume in ML | Reagent Groups Added | Spike Groups Added | Comments |
|---|---|---|---|---|---|---|---|
| MP14966-MB1 | N/A | N | 50 | 50 | AB | | * |
| MP14966-B1 | N/A | N | 50 | 50 | AB | ABCD | * |
| MP14966-S1 | 2.6 | N | 50 | 50 | AB | ABCD | * |
| MP14966-S2 | 2.6 | N | 50 | 50 | AB | ABCD | * |
| MP14966-SD1 | 2.6 | N | 50 | 50 | AB | | * |
| JC87414-10R | 1.6 | Y | 50 | 50 | AB | | |
| JC87414-15R | 2.6 | Y | 50 | 50 | AB | | |
| JC87414-5R | 2.6 | N | 50 | 50 | AB | | * |
| JC87535-13 | 1.2 | Y | 50 | 50 | AB | | |
| JC87535-14 | 1.2 | Y | 50 | 50 | AB | | |
| JC87535-15 | 1.2 | Y | 50 | 50 | AB | | |
| JC87687-1 | 1.1 | Y | 50 | 50 | AB | | |

**Reagents Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | CONC HNO3 | 3 |
| B | 1:1 HCL | 5 |
| C | | |
| D | | |
| E | | |
| F | | |
| G | | |
| H | | |

**Spike Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | ACCUTEST 13A REV-1 | 0.5 |
| B | ACCUTEST 14A REV-1 | 0.5 |
| C | AG 20PPM | 0.625 |
| D | MINERALS 5000PPM | 0.25 |
| E | | |
| F | MINERALS 5000PPM | 0.25 |
| G | | |
| H | | |

**Comments:** * EXTRA 0.5ML CONC HNO3 WAS ADDED PRIOR DIGESTION TO MAKE PH <2

**Analyst** BHOOMAP **Approved by** gulcagt **Approved on** 5/13/2019

**Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.**
**Serial Dilution samples shown for QC purposes only.**
**Acceptable Temperature range is 90-95 degrees C unless otherwise noted**

SGS

# Metals Digestion Reagents Information Log

**Digestion Batch ID:** MP 14966 **Date:** 5/11/19

**Matrix:** ALL

| Standard/Reagent Type | Exp. Date | Standard/Reagent ID |
|---|---|---|
| Spiking Solution - (ACCUTEST-13A REV1) | 10/30/2019 | MP-015-1166 |
| Spiking Solution - (ACCUTEST-14A REV1) | 10/30/2019 | MP-015-1167 |
| Spiking Solution - 5000 mg/l Minerals | 4/25/2020 | P2-MEB678659 MFG: INO. VENT. |
| Spiking Solution - Sulfur 1000ppm | 4/11/2021 | LOT: 041118 MFG: ABS. GRADE |
| Spiking Solution - Si 1000ppm | 10/31/2019 | N2-SI668066 MFG: INO. VENT. |
| Spiking Solution - Bi 1000ppm | 4/12/2020 | N2-BI669548 MFG: INO. VENT. |
| Spiking Solution - Se 20ppm | 10/10/2019 | MP-015-1156 |
| Spiking Solution - Li 1000ppm | 4/18/2020 | N2-LI665824 MFG: INO. VENT. |
| Spiking Solution- Ag 20 ppm | 11/7/2019 | MP-015-1168 |
| Spiking Solution - (ACCUTEST-13B REV1) | 10/10/2019 | MP-015-1157 |
| Spiking Solution - (ACCUTEST-14B REV1) | 9/27/2019 | MP-015-1148 |
| Spiking Solution - 1000ppm Minerals | 10/29/2019 | MP-015-1164 |
| Spiking Solution- P | | |
| Nitric Acid | 5/10/2021 | LOT: 213500 MFG: J.T. BAKER |
| Nitric Acid (1:1) | 11/8/2019 | MP-018-42-203 1:1 HNO3 |
| Hydrochloric Acid | 5/11/2021 | LOT: 221681 MFG: J.T. BAKER |
| Hydrochloric Acid (1:1) | 11/7/2019 | MP-018-42-202 1:1 HCL |
| Hydrogen Peroxide | 5/11/2021 | LOT: 189267 MFG: FISHER |
| Soil Lab Control/Soil LC | 3/31/2020 | LOT: D094-540 MFG: ERA |
| Teflon Chips(For Soil MB and Blank Spike) | N/A | LOT: 24242815 MFG: SAINT-GOBAIN |
| Digestion Tubes | N/A | LOT: 1812114 MFG: ENV. EXPRESS |
| pH Paper | 6/15/2021 | LOT: 217518 MFG: HYDRION |
| Filter paper Q8 | N/A | LOT: 16917460 MFG: FISHER |
| Filter paper 0.45µm | N/A | LOT: F8MA26136E MFG: FISHER |
| | | |
| | | |

Spike witnessed By: _____ Validated By: _____

Validated On: _____

Metals Prep Reagent
1/17/18

13.8.6 13

## General Chemistry

# QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Cyanide | GP21141/GN95210 | 0.24 | 0.0 | mg/kg | 2 | 2.07 | 103.5 | 90-110% |

Associated Samples:
Batch GP21141: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Corrosivity as pH | GN95409 | JC87862-2 | su | 5.81 | 5.28 | 4.0 | 0-5% |
| Cyanide | GP21141/GN95210 | JC87535-8 | mg/kg | 0.23 | 0.14 | 48.6 | 0-49% |
| Solids, Percent | GN95113 | JC87535-7 | % | 90.2 | 90.8 | 0.7 | 0-5% |
| Solids, Percent | GN95269 | JC87535-8 | % | 78.6 | 78.5 | 0.1 | 0-5% |
| Solids, Percent | GN95275 | JC87520-1 | % | 90.8 | 90.7 | 0.1 | 0-5% |
| Solids, Percent | GN95281 | JC87535-6 | % | 66.4 | 64.9 | 2.3 | 0-5% |

Associated Samples:
Batch GN95113: JC87535-7
Batch GN95269: JC87535-8
Batch GN95275: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5
Batch GN95281: JC87535-6, JC87535-9, JC87535-10, JC87535-11, JC87535-12, JC87535-13, JC87535-14, JC87535-15
Batch GN95409: JC87535-13, JC87535-14, JC87535-15
Batch GP21141: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Cyanide | GP21141/GN95210 | JC87535-8 | mg/kg | 0.23 | 2.45 | 1.8 | 64.2N(a) | 75-125% |

Associated Samples:
Batch GP21141: JC87535-1, JC87535-2, JC87535-3, JC87535-4, JC87535-5, JC87535-6, JC87535-7, JC87535-8, JC87535-9, JC87535-10, JC87535-11, JC87535-12
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference.

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E051019W1.CN Date Analyzed: 05/10/19 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: KI Run ID: GN95210
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:15 | GN95210-STD1 | 1 | | STDA |
| 17:17 | GN95210-STD2 | 1 | | STDB |
| 17:18 | GN95210-STD3 | 1 | | STDC |
| 17:19 | GN95210-STD4 | 1 | | STDD |
| 17:21 | GN95210-STD5 | 1 | | STDE |
| 17:22 | GN95210-STD6 | 1 | | STDF |
| 17:23 | GN95210-STD7 | 1 | | STDG |
| 17:25 | GN95210-ICV1 | 1 | | |
| 17:26 | GN95210-ICB1 | 1 | | |
| 17:27 | GN95210-CCV1 | 1 | | |
| 17:29 | GN95210-CCB1 | 1 | | |
| 17:30 | GP21160-MB1 | 1 | | |
| 17:31 | GP21160-B1 | 1 | | |
| 17:33 | GP21160-D1 | 1 | | |
| 17:34 | ZZZZZZ | 1 | | |
| 17:36 | ZZZZZZ | 1 | | |
| 17:37 | JC87414-10R | 1 | | (sample used for QC only; not part of login JC87535) |
| 17:38 | ZZZZZZ | 1 | | |
| 17:40 | ZZZZZZ | 1 | | |
| 17:41 | ZZZZZZ | 1 | | |
| 17:42 | ZZZZZZ | 1 | | |
| 17:44 | GN95210-CCV2 | 1 | | |
| 17:45 | GN95210-CCB2 | 1 | | |
| 17:46 | ZZZZZZ | 1 | | |
| 17:48 | ZZZZZZ | 1 | | |
| 17:49 | GP21141-MB1 | 1 | | |
| 17:51 | GP21141-B1 | 1 | | |
| 17:52 | GP21141-S1 | 1 | | |
| 17:53 | GP21141-S2 | 1 | | |
| 17:55 | GP21141-D1 | 1 | | |
| 17:56 | JC87535-8 | 1 | | |
| 17:57 | JC87535-9 | 1 | | |
| 17:59 | JC87535-10 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E051019W1.CN  Date Analyzed: 05/10/19  Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: KI  Run ID: GN95210
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:00 | GN95210-CCV3 | 1 | | |
| 18:01 | GN95210-CCB3 | 1 | | |
| 18:03 | JC87535-11 | 1 | | |
| 18:04 | JC87535-12 | 1 | | |
| 18:06 | JC87535-1 | 1 | | |
| 18:07 | JC87535-2 | 1 | | |
| 18:08 | JC87535-3 | 1 | | |
| 18:10 | JC87535-4 | 1 | | |
| 18:11 | JC87535-5 | 1 | | see rerun |
| 18:12 | JC87535-6 | 1 | | |
| 18:14 | JC87535-7 | 1 | | |
| 18:15 | ZZZZZZ | 1 | | |
| 18:16 | GN95210-CCV4 | 1 | | |
| 18:18 | GN95210-CCB4 | 1 | | |
| 18:19 | JC87535-5 | 1 | | |
| 18:20 | ZZZZZZ | 1 | | |
| 18:22 | ZZZZZZ | 1 | | |
| 18:23 | JC87530-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 18:25 | ZZZZZZ | 1 | | |
| 18:26 | ZZZZZZ | 1 | | |
| 18:27 | ZZZZZZ | 1 | | |
| 18:29 | ZZZZZZ | 1 | | |
| 18:30 | GP21142-MB1 | 1 | | |
| 18:31 | GP21142-B1 | 1 | | |
| 18:33 | GN95210-CCV5 | 1 | | |
| 18:34 | GN95210-CCB5 | 1 | | |
| 18:35 | GP21142-S1 | 1 | | |
| 18:37 | GP21142-S2 | 1 | | |
| 18:38 | GP21142-D1 | 1 | | |
| 18:40 | JC87644-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 18:41 | ZZZZZZ | 1 | | |
| 18:42 | ZZZZZZ | 1 | | |
| 18:44 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E051019W1.CN  Date Analyzed: 05/10/19  Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: KI  Run ID: GN95210
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:45 | ZZZZZZ | 1 | | |
| 18:46 | JC87553-1 | 1 | | (sample used for QC only; not part of login JC87535) |
| 18:48 | ZZZZZZ | 1 | | |
| 18:49 | GN95210-CCV6 | 1 | | |
| 18:50 | GN95210-CCB6 | 1 | | |
| 18:52 | ZZZZZZ | 1 | | |
| 18:53 | ZZZZZZ | 1 | | |
| 18:54 | ZZZZZZ | 1 | | |
| 18:56 | ZZZZZZ | 1 | | |
| 18:57 | ZZZZZZ | 1 | | |
| 18:59 | ZZZZZZ | 1 | | |
| 19:00 | ZZZZZZ | 1 | | |
| 19:01 | ZZZZZZ | 1 | | |
| 19:03 | ZZZZZZ | 1 | | |
| 19:04 | ZZZZZZ | 1 | | |
| 19:07 | GN95210-CCV7 | 1 | | |
| 19:08 | GN95210-CCB7 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC87535
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E051019W1.CN  Date Analyzed: 05/10/19  Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Run ID: GN95210  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN95210-ICV1 | Cyanide | 0.315 | 0.010 | 0.0041 | .3 | 105.0 | 90-110 |
| GN95210-ICB1 | Cyanide | -0.00770 | 0.010 | 0.0041 | | | |
| GN95210-CCV1 | Cyanide | 0.421 | 0.010 | 0.0041 | .4 | 105.3 | 90-110 |
| GN95210-CCB1 | Cyanide | -0.00448 | 0.010 | 0.0041 | | | |
| GN95210-CCV2 | Cyanide | 0.420 | 0.010 | 0.0041 | .4 | 105.0 | 90-110 |
| GN95210-CCB2 | Cyanide | -0.00622 | 0.010 | 0.0041 | | | |
| GN95210-CCV3 | Cyanide | 0.417 | 0.010 | 0.0041 | .4 | 104.3 | 90-110 |
| GN95210-CCB3 | Cyanide | -0.00692 | 0.010 | 0.0041 | | | |
| GN95210-CCV4 | Cyanide | 0.419 | 0.010 | 0.0041 | .4 | 104.8 | 90-110 |
| GN95210-CCB4 | Cyanide | -0.00659 | 0.010 | 0.0041 | | | |
| GN95210-CCV5 | Cyanide | 0.418 | 0.010 | 0.0041 | .4 | 104.5 | 90-110 |
| GN95210-CCB5 | Cyanide | -0.00564 | 0.010 | 0.0041 | | | |
| GN95210-CCV6 | Cyanide | 0.418 | 0.010 | 0.0041 | .4 | 104.5 | 90-110 |
| GN95210-CCB6 | Cyanide | -0.00627 | 0.010 | 0.0041 | | | |
| GN95210-CCV7 | Cyanide | 0.420 | 0.010 | 0.0041 | .4 | 105.0 | 90-110 |
| GN95210-CCB7 | Cyanide | -0.00755 | 0.010 | 0.0041 | | | |

(!) Outside of QC limits

# Percent Solids Raw Data Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** JC87535-1 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-157(7-9)

| | | |
|---|---|---|
| Wet Weight (Total) | 28.14 | g |
| Tare Weight | 19.14 | g |
| Dry Weight (Total) | 26.06 | g |
| Solids, Percent | 76.9 | % |

**Sample:** JC87535-2 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-157(23-25)

| | | |
|---|---|---|
| Wet Weight (Total) | 33.83 | g |
| Tare Weight | 24.27 | g |
| Dry Weight (Total) | 32.91 | g |
| Solids, Percent | 90.4 | % |

**Sample:** JC87535-3 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-156(3-5)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.1 | g |
| Tare Weight | 24.07 | g |
| Dry Weight (Total) | 30.63 | g |
| Solids, Percent | 81.7 | % |

**Sample:** JC87535-4 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-156(7.5-9.5)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.1 | g |
| Tare Weight | 23.62 | g |
| Dry Weight (Total) | 29.92 | g |
| Solids, Percent | 74.3 | % |

**Sample:** JC87535-5 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-156(14-16)

| | | |
|---|---|---|
| Wet Weight (Total) | 34.86 | g |
| Tare Weight | 26.27 | g |
| Dry Weight (Total) | 32.32 | g |
| Solids, Percent | 70.4 | % |

**Sample:** JC87535-6 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** SO-DUP-0503

| | | |
|---|---|---|
| Wet Weight (Total) | 34.71 | g |
| Tare Weight | 26.55 | g |
| Dry Weight (Total) | 31.97 | g |
| Solids, Percent | 66.4 | % |

# Percent Solids Raw Data Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** JC87535-7 **Analyzed:** 09-MAY-19 by RC **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-161(5-7)

| | | |
|---|---|---|
| Wet Weight (Total) | 37.88 | g |
| Tare Weight | 26.69 | g |
| Dry Weight (Total) | 36.78 | g |
| Solids, Percent | 90.2 | % |

**Sample:** JC87535-8 **Analyzed:** 13-MAY-19 by RC **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-161(10-12)

| | | |
|---|---|---|
| Wet Weight (Total) | 35.46 | g |
| Tare Weight | 24.25 | g |
| Dry Weight (Total) | 33.06 | g |
| Solids, Percent | 78.6 | % |

**Sample:** JC87535-9 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-162(5-7)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.73 | g |
| Tare Weight | 23.45 | g |
| Dry Weight (Total) | 30.79 | g |
| Solids, Percent | 79.1 | % |

**Sample:** JC87535-10 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-162(15-17)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.86 | g |
| Tare Weight | 24.67 | g |
| Dry Weight (Total) | 29.16 | g |
| Solids, Percent | 54.8 | % |

**Sample:** JC87535-11 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-160(10-12)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.12 | g |
| Tare Weight | 23.92 | g |
| Dry Weight (Total) | 30.26 | g |
| Solids, Percent | 77.3 | % |

**Sample:** JC87535-12 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-160(13-15)

| | | |
|---|---|---|
| Wet Weight (Total) | 26.09 | g |
| Tare Weight | 17.62 | g |
| Dry Weight (Total) | 22.36 | g |
| Solids, Percent | 56 | % |

# Percent Solids Raw Data Summary



**Job Number:** JC87535
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** JC87535-13 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** PCWC-1

| | | |
|---|---|---|
| Wet Weight (Total) | 34.88 | g |
| Tare Weight | 26.31 | g |
| Dry Weight (Total) | 33.45 | g |
| Solids, Percent | 83.3 | % |

**Sample:** JC87535-14 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** PCWC-2

| | | |
|---|---|---|
| Wet Weight (Total) | 36.63 | g |
| Tare Weight | 27.56 | g |
| Dry Weight (Total) | 34.83 | g |
| Solids, Percent | 80.2 | % |

**Sample:** JC87535-15 **Analyzed:** 13-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** PCWC-3

| | | |
|---|---|---|
| Wet Weight (Total) | 27.12 | g |
| Tare Weight | 17.57 | g |
| Dry Weight (Total) | 25.16 | g |
| Solids, Percent | 79.5 | % |

## General Chemistry

Raw Data

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E051019W1.CN
Analyst: KI

Date Analyzed: 05/10/19
Run ID: GN95210

Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: KI Date 5/10/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 5/13/19

GN95210

e051019 w/ CN

Author: Chemistry

Date : 5/10/2019

Original Run Filename: OM_5-10-2019_05-14-28PM.OMN Created: 5/10/2019 5:14:28 PM
Original Run Author's Signature: [Chemistry]
Current Run Filename: OM_5-10-2019_05-14-28PM.OMN Last Modified: 5/10/2019 7:11:04 PM
Current Run Author's Signature: [Chemistry]
Description: Default new Run

| Sample | Rep. | Cup No. | Channel 1 CN | Detection Time | MDF | %Rec |
|---|---|---|---|---|---|---|
| STDA | 1 | 1 | 0.800 | 5/10/2019@5:15:38 PM | | |
| STDB | 1 | 2 | 0.600 | 5/10/2019@5:17:00 PM | | |
| STDC | 1 | 3 | 0.400 | 5/10/2019@5:18:22 PM | | |
| STDD | 1 | 4 | 0.100 | 5/10/2019@5:19:44 PM | | |
| STDE | 1 | 5 | 0.0200 | 5/10/2019@5:21:06 PM | | |
| STDF | 1 | 6 | 0.0100 | 5/10/2019@5:22:28 PM | | |
| STDG | 1 | 7 | 0.00 | 5/10/2019@5:23:50 PM | | |
| ICV | 1 | 8 | 0.315 | 5/10/2019@5:25:11 PM | | |
| | Known Conc: | | 0.300 | | | 105 |
| | Calibration: | | Table/Fig. : 1 | | | |
| ICB | 1 | 9 | -7.70e-3 | 5/10/2019@5:26:33 PM | | |
| | Known Conc: | | 0.00 | | | |
| CCV | 1 | S9 | 0.421 | 5/10/2019@5:27:55 PM | | |
| | Known Conc: | | 0.400 | | | 105.25 |
| CCB | 1 | S10 | -4.48e-3 | 5/10/2019@5:29:17 PM | | |
| | Known Conc: | | 0.00 | | | |
| GP21160-MB1 | 1 | 10 | -7.96e-3 | 5/10/2019@5:30:38 PM | | |
| GP21160-B1 | 1 | 11 | 0.0374 | 5/10/2019@5:31:59 PM | | 1.87 |
| GP21160-D1 | 1 | 12 | -8.14e-3 | 5/10/2019@5:33:20 PM | | |
| JC87422-5A | 1 | 13 | -7.33e-3 | 5/10/2019@5:34:41 PM | | |
| JC87414-5R | 1 | 14 | -9.15e-3 | 5/10/2019@5:36:02 PM | | |
| JC87414-10R | 1 | 15 | -8.84e-3 | 5/10/2019@5:37:23 PM | | |
| JC87414-15R | 1 | 16 | -9.76e-3 | 5/10/2019@5:38:45 PM | | |
| JC87715-1 | 1 | 17 | -6.65e-3 | 5/10/2019@5:40:08 PM | | |
| JC87670-5A | 1 | 18 | -5.85e-3 | 5/10/2019@5:41:30 PM | | |
| JC87670-11A | 1 | 19 | -7.50e-3 | 5/10/2019@5:42:52 PM | | |
| CCV | 1 | S9 | 0.420 | 5/10/2019@5:44:14 PM | | |
| | Known Conc: | | 0.400 | | | 105 |
| CCB | 1 | S10 | -6.22e-3 | 5/10/2019@5:45:36 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC87670-17A | 1 | 20 | -5.43e-3 | 5/10/2019@5:46:57 PM | | |
| JC87670-23A | 1 | 21 | -7.83e-3 | 5/10/2019@5:48:19 PM | | |
| GP21141-MB1 | 1 | 23 | 9.82e-4 | 5/10/2019@5:49:41 PM | | |
| GP21141-B1 | 1 | 24 | 0.0864 | 5/10/2019@5:51:03 PM | | 103.7 |
| GP21141-S1 | 1 | 25 | 0.0623 | 5/10/2019@5:52:24 PM | | |
| GP21141-S2 | 1 | 26 | 0.0907 | 5/10/2019@5:53:45 PM | | |
| GP21141-D1 | 1 | 27 | 5.03e-3 | 5/10/2019@5:55:07 PM | | |
| JC87535-8 | 1 | 28 | 8.24e-3 | 5/10/2019@5:56:28 PM | | |
| JC87535-9 | 1 | 29 | 0.0373 | 5/10/2019@5:57:48 PM | | |
| JC87535-10 | 1 | 30 | 4.60e-3 | 5/10/2019@5:59:09 PM | | |
| CCV | 1 | S9 | 0.417 | 5/10/2019@6:00:31 PM | | |
| | Known Conc: | | 0.400 | | | 104.25 |
| CCB | 1 | S10 | -6.92e-3 | 5/10/2019@6:01:53 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC87535-11 | 1 | 31 | 0.239 | 5/10/2019@6:03:15 PM | | |
| JC87535-12 | 1 | 32 | 0.0447 | 5/10/2019@6:04:38 PM | | |
| JC87535-1 | 1 | 33 | 0.0232 | 5/10/2019@6:06:00 PM | | |
| JC87535-2 | 1 | 34 | -2.23e-3 | 5/10/2019@6:07:22 PM | | |
| JC87535-3 | 1 | 35 | 0.567 | 5/10/2019@6:08:44 PM | | |
| JC87535-4 | 1 | 36 | -3.81e-3 | 5/10/2019@6:10:06 PM | | |
| JC87535-5 (2) | 1 | 37 | 2.45e-4 | 5/10/2019@6:11:28 PM | | see rerun |
| JC87535-6 | 1 | 38 | 2.16e-3 | 5/10/2019@6:12:49 PM | | |
| JC87535-7 | 1 | 39 | 0.213 | 5/10/2019@6:14:11 PM | | |
| JC87638-1 | 1 | 40 | -1.80e-3 | 5/10/2019@6:15:32 PM | | |
| CCV | 1 | S9 | 0.419 | 5/10/2019@6:16:54 PM | | |
| | Known Conc: | | 0.400 | | | 104.75 |
| CCB | 1 | S10 | -6.59e-3 | 5/10/2019@6:18:16 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC87535-5 | 1 | 37 | -1.99e-3 | 5/10/2019@6:19:38 PM | | |
| JC87638-2 | 1 | 41 | -2.11e-3 | 5/10/2019@6:20:59 PM | | |



15.1 15

Author: Chemistry

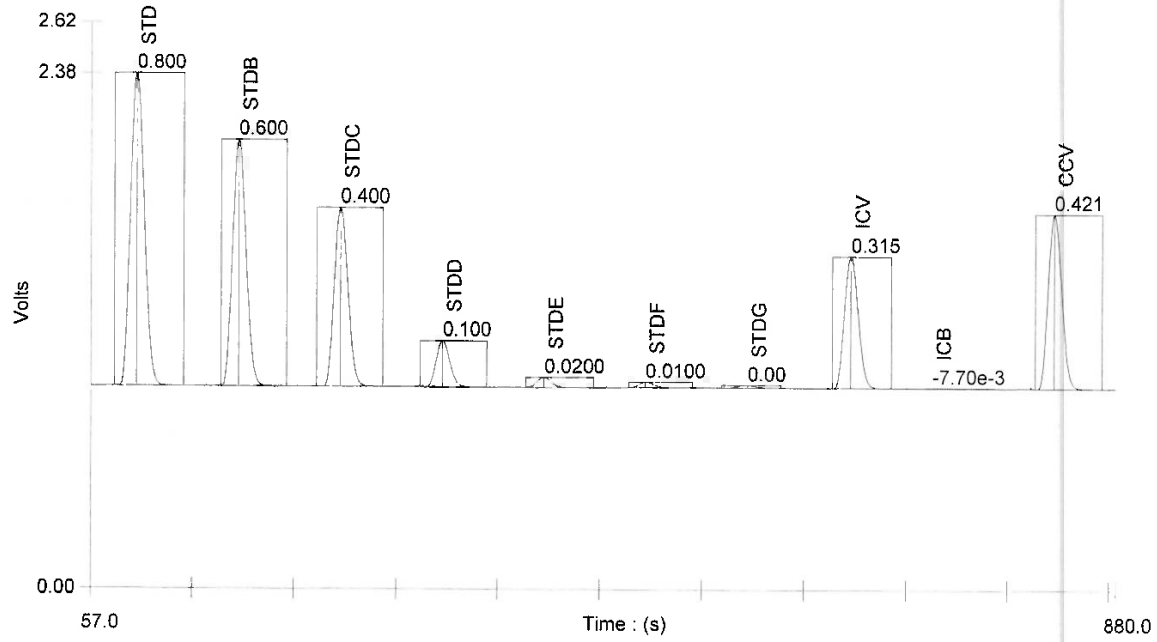
Date : 5/10/2019

| | | | | | |
|---|---|---|---|---|---|
| JC87638-4 | 1 | 42 | -1.78e-3 | 5/10/2019@6:22:20 PM | |
| JC87530-1 | 1 | 43 | -2.35e-3 | 5/10/2019@6:23:41 PM | |
| JC87530-2 | 1 | 44 | -1.51e-3 | 5/10/2019@6:25:02 PM | |
| JC87530-3 | 1 | 45 | -1.07e-3 | 5/10/2019@6:26:23 PM | |
| JC87670-5 | 1 | 46 | -1.18e-3 | 5/10/2019@6:27:45 PM | |
| JC87670-11 | 1 | 47 | -1.25e-3 | 5/10/2019@6:29:07 PM | |
| GP21142-MB1 | 1 | 48 | -1.84e-3 | 5/10/2019@6:30:29 PM | |
| GP21142-B1 | 1 | 49 | 0.0862 | 5/10/2019@6:31:51 PM | 103.4 |
| CCV | 1 | S9 | 0.418 | 5/10/2019@6:33:13 PM | |
| | Known Conc: | | 0.400 | | 104.5 |
| CCB | 1 | S10 | -5.64e-3 | 5/10/2019@6:34:35 PM | |
| | Known Conc: | | 0.00 | | |
| GP21142-S1 | 1 | 50 | 0.0861 | 5/10/2019@6:35:57 PM | |
| GP21142-S2 | 1 | 51 | 0.0727 | 5/10/2019@6:37:19 PM | |
| GP21142-D1 | 1 | 52 | -2.75e-4 | 5/10/2019@6:38:41 PM | |
| JC87644-1 | 1 | 53 | 1.05e-3 | 5/10/2019@6:40:02 PM | |
| JC87644-2 | 1 | 54 | 4.81e-4 | 5/10/2019@6:41:24 PM | |
| JC87644-3 | 1 | 55 | -1.60e-3 | 5/10/2019@6:42:45 PM | |
| JC87644-4 | 1 | 56 | 6.83e-4 | 5/10/2019@6:44:06 PM | |
| JC87644-6 | 1 | 57 | -3.50e-3 | 5/10/2019@6:45:27 PM | |
| JC87553-1 | 1 | 58 | -3.84e-3 | 5/10/2019@6:46:48 PM | |
| JC87579-1 | 1 | 59 | -1.25e-3 | 5/10/2019@6:48:09 PM | |
| CCV | 1 | S9 | 0.418 | 5/10/2019@6:49:31 PM | |
| | Known Conc: | | 0.400 | | 104.5 |
| CCB | 1 | S10 | -6.27e-3 | 5/10/2019@6:50:53 PM | |
| | Known Conc: | | 0.00 | | |
| JC87579-2 | 1 | 60 | 9.94e-3 | 5/10/2019@6:52:14 PM | |
| JC87579-4 | 1 | 61 | 0.0190 | 5/10/2019@6:53:37 PM | |
| JC87579-5 | 1 | 62 | 0.0127 | 5/10/2019@6:54:59 PM | |
| JC87579-6 | 1 | 63 | 0.0110 | 5/10/2019@6:56:21 PM | |
| JC87579-7 | 1 | 64 | 0.0153 | 5/10/2019@6:57:43 PM | |
| JC87579-8 | 1 | 65 | -3.47e-3 | 5/10/2019@6:59:05 PM | |
| JC87579-9 | 1 | 66 | -2.42e-3 | 5/10/2019@7:00:27 PM | |
| JC87579-10 | 1 | 67 | -4.20e-3 | 5/10/2019@7:01:49 PM | |
| JC87579-11 | 1 | 68 | -3.00e-3 | 5/10/2019@7:03:10 PM | |
| JC87597-1 | 1 | 69 | -4.05e-3 | 5/10/2019@7:04:32 PM | |
| CCV | 1 | S9 | 0.420 | 5/10/2019@7:07:35 PM | |
| | Known Conc: | | 0.400 | | 105 |
| CCB | 1 | S10 | -7.55e-3 | 5/10/2019@7:08:57 PM | |
| | Known Conc: | | 0.00 | | |

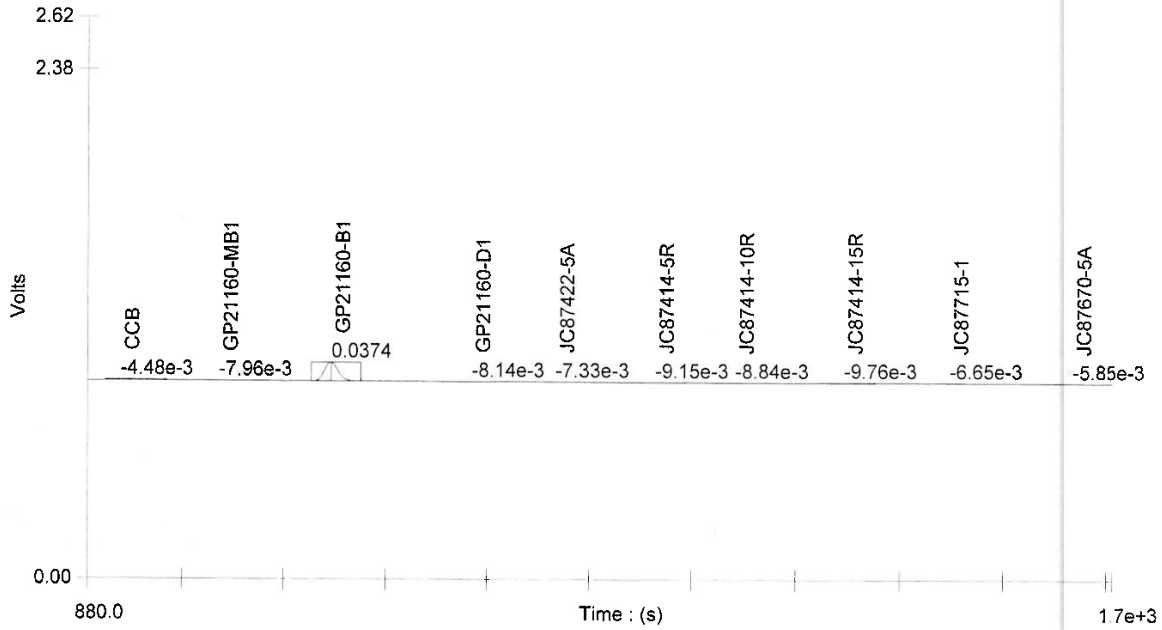
Author: Chemistry

Date : 5/10/2019

Channel 1 - Set: 1 / 9



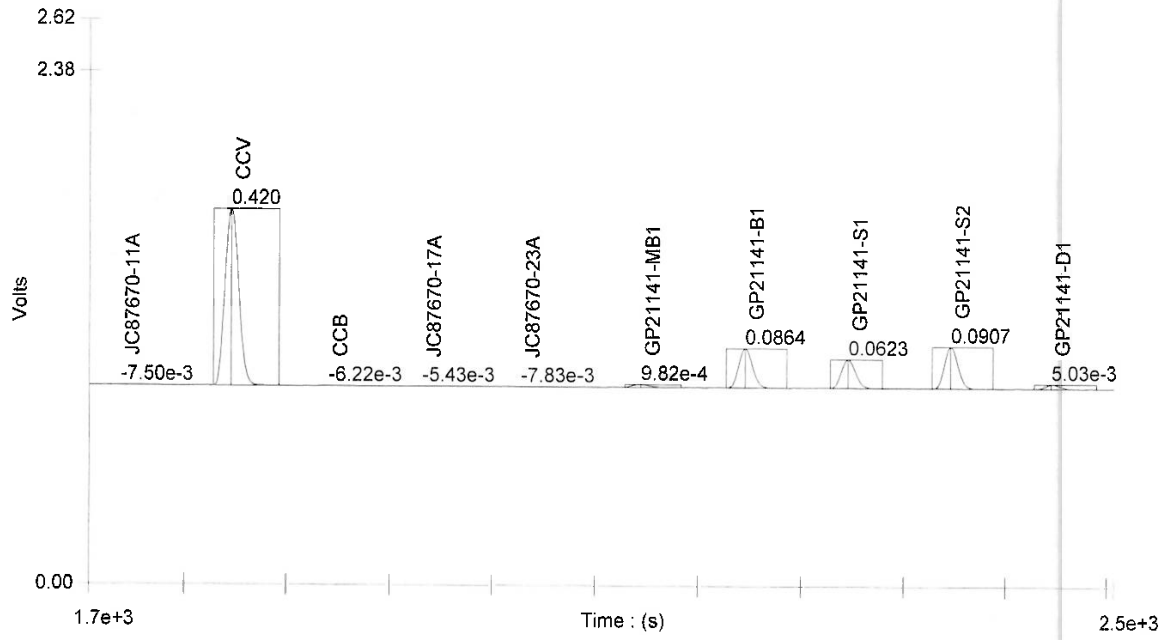

Channel 1 - Set: 2 / 9



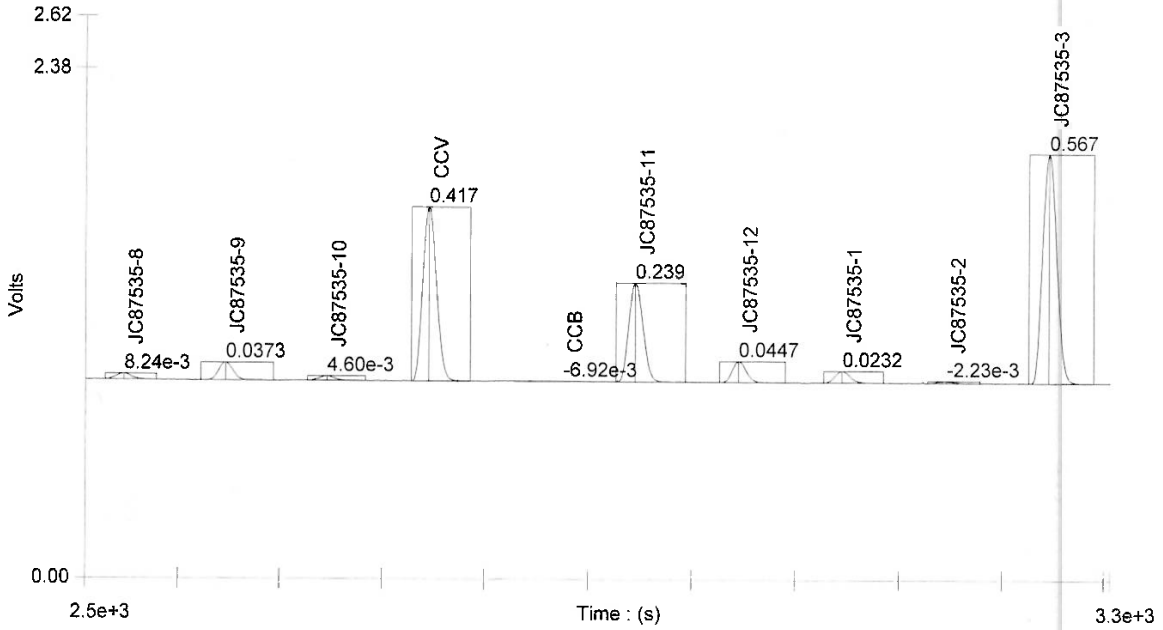
Author: Chemistry

Date : 5/10/2019

Channel 1 - Set: 3 / 9



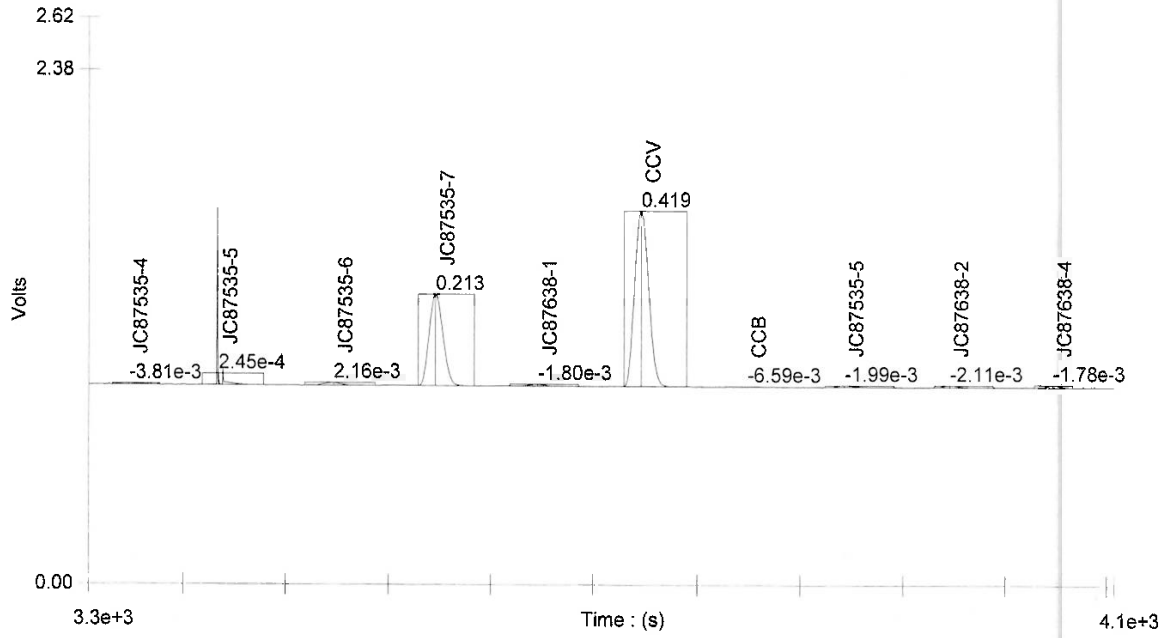

Channel 1 - Set: 4 / 9



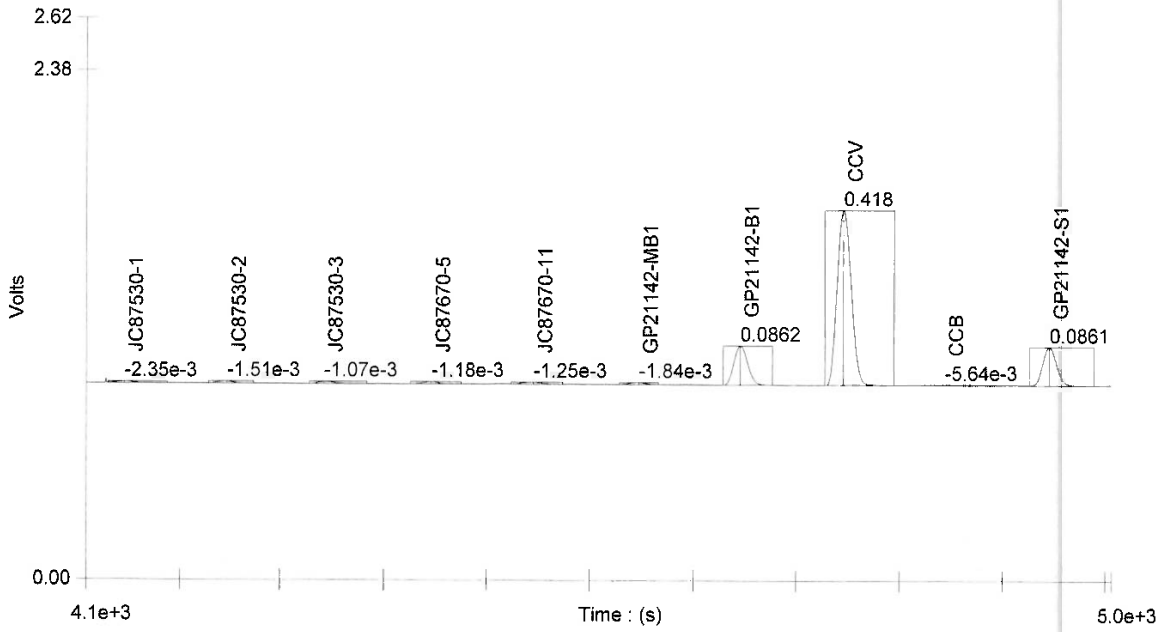
Author: Chemistry

Date : 5/10/2019

Channel 1 - Set: 5 / 9



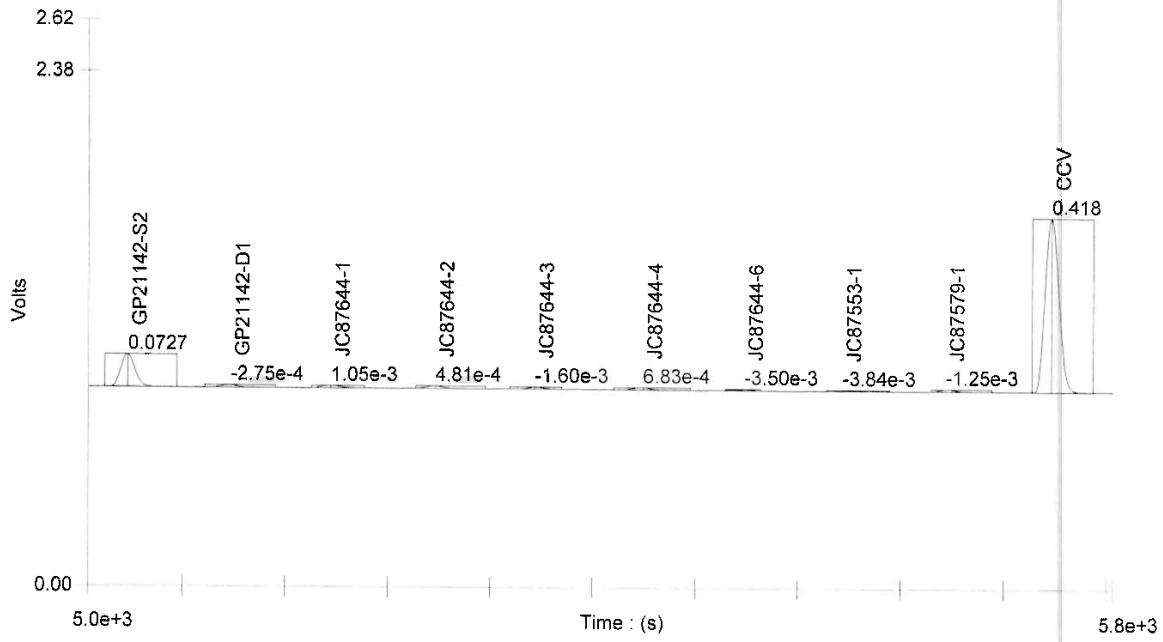

Channel 1 - Set: 6 / 9



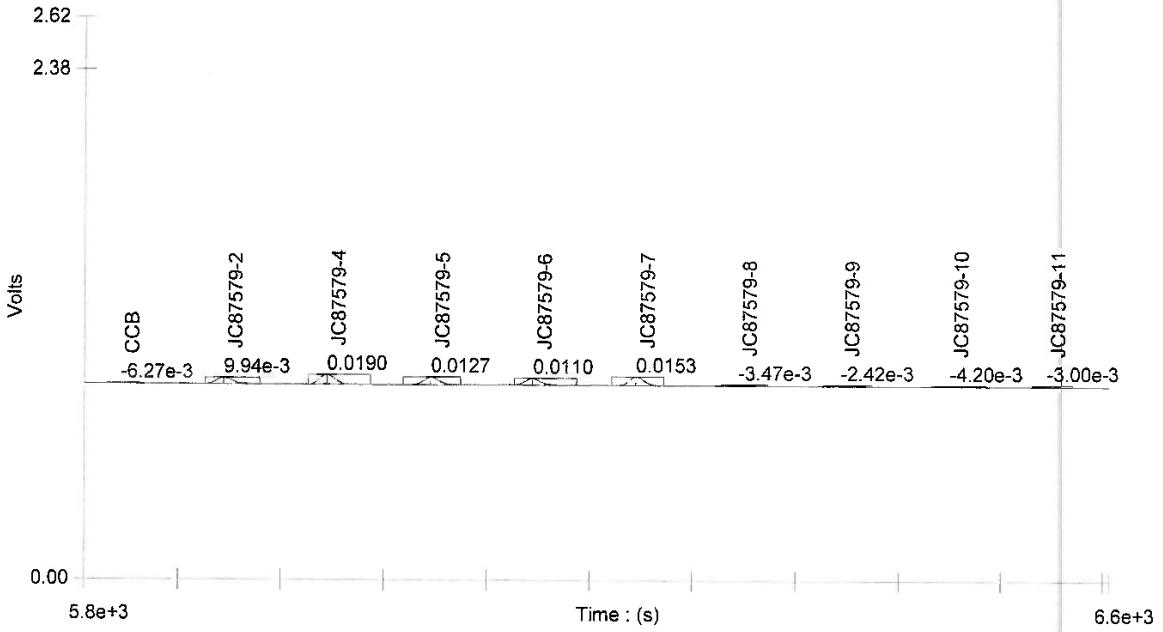
Author: Chemistry

Date : 5/10/2019

Channel 1 - Set: 7 / 9




Channel 1 - Set: 8 / 9



Author: Chemistry

Date : 5/10/2019

Channel 1 - Set: 9 / 9

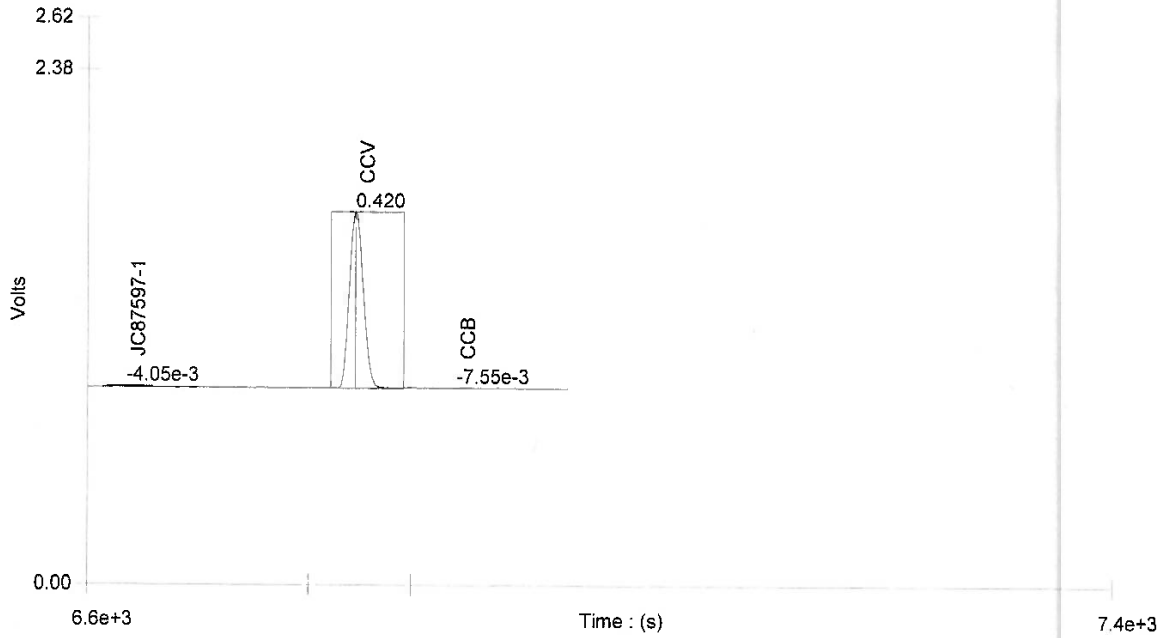
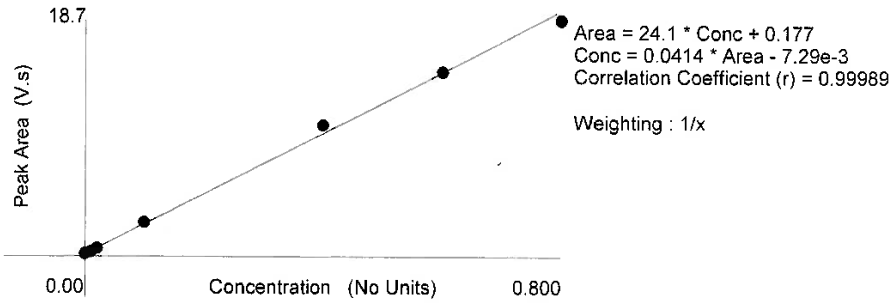



Table : 1 (CN)

| | Known Conc. () | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc () | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.800 | 1 | 18.7 | 1.45 | 0.0 | 3.9 | 0.767 | 5/10/2019 | 5:15:38 PM |
| 2 | 0.600 | 1 | 14.7 | 1.15 | 0.0 | -0.2 | 0.600 | 5/10/2019 | 5:17:00 PM |
| 3 | 0.400 | 1 | 10.5 | 0.835 | 0.0 | -6.8 | 0.427 | 5/10/2019 | 5:18:22 PM |
| 4 | 0.100 | 1 | 2.72 | 0.216 | 0.0 | -5.2 | 0.105 | 5/10/2019 | 5:19:44 PM |
| 5 | 0.0200 | 1 | 0.633 | 0.0478 | 0.0 | 4.0 | 0.0189 | 5/10/2019 | 5:21:06 PM |
| 6 | 0.0100 | 1 | 0.374 | 0.0270 | 0.0 | 10.6 | 8.19e-3 | 5/10/2019 | 5:22:28 PM |
| 7 | 0.00 | 1 | 0.214 | 0.0129 | | | 1.56e-3 | 5/10/2019 | 5:23:50 PM |

Figure : 1 (CN)



SGS

# Reagent Information Log - CN Lachat Autoanalyzer

GN Number: GN95210

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Pyridine-Bartituric Acid Reagent | GNE2-57177-CN | 8/7/2019 |
| Chloramine-T | GNE5-57974-CN | 5/13/2019 |
| Phosphate Buffer Solution, 1.0 M | GNE3-57668-CN | 9/28/2019 |
| 0.25 N Sodium Hydroxide Carrier Solution | GNE2-57210-CN | 8/11/2019 |
| | | |
| | | |
| | | |
| | | |

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form: GN087A-27
Rev. Date: 7/19/06

SGS

# REACTIVITY DISTILLATION LOG (SOILS)

Method: SW846 Chapter 7

CREAC GP21160 | SREAC GP21161

Batch ID: _____

Autopipette ID: Class A

Balance ID: B-27

| Bottle # | Sample ID | Initial Volume (g) | Final Volume (ml) | Start Time | End Time | Date | QC ID | Product (SREAC, CREAC, or both) | Check when spike added | Spike Amounts and Comments including Spike Lots | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | 10.00 | 500 | 14:00 | 14:30 | 5/10/19 | GP -MB | BOTH | | | BM |
| | B1 | 10.00 | | | | | GP -B | CREAC | ✓ | 10ml of 100ppm | |
| | BS1 | 10.00 | | | | | GP -B | SREAC | ✓ | 10ml of 537ppm | |
| | SJTC87414-10R | 10.05 | | | | | GP -S | SREAC | ✓ | 10ml of 537 ppm | |
| | D1 | 9.66 | | | | | GP -D | BOTH | | | |
| 1 | JC87422-5A | 9.62 | | | | | | | | | |
| 1 | JC87414-5R | 9.62 | | | | | | | | | |
| 2 | -10R | 9.66 | | | | | | | | | |
| 1 | -15R | 9.80 | | | | | | | | | |
| 1 | JC87715-1 | 9.86 | | | | | | | | | |
| 1 | JC87670-5A | 9.92 | | | | | | | | | |
| 1 | -11A | 9.77 | | | | | | | | | |
| 1 | -17A | 9.66 | | | | | | | | | |
| 1 | -23A | 9.67 | | | | | | | | | |
| N/A | JC80473-2A | 10.00 | | | | | | SREAC | | | |

Comments: Creac Spike: 20 ml of 1000ppm cyanide stock diluted up to 200ml w/ 0.25N NaOH
Sreac Spike: 2.0g of Sodium Sulfide Nonahydrate diluted up to 500ml w/ DI H20

QC Reviewer: _____ Date: _____

Form GN282-01b
Rev Date: 02/28/13

SGS

# Reagent Information Log - CREAC and SREAC Distillations

GP Numbers: GP21160,GP21161

| Reagent | Reagent # or Manufacturer/Lot | Expiration date | Standardization Date |
|---|---|---|---|
| Cyanide Spike Solution | GNE1-56946-CN | 7/11/2019 | 5/9/2019 |
| Sulfide Spike Solution | FISHER # 161566 | 4/22/2022 | NA |
| Sulfuric Acid, 0.010 N | GNE4-57873-REAC | 10/29/2019 | NA |
| Sodium Hydroxide, 0.25 N | GNE4-57872-REAC | 10/29/2019 | NA |
| Sodium Hydroxide, 0.25 N | GNE4-57872-REAC | 10/29/2019 | NA |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Form: GN087A-64
Rev. Date: 3/12/04

SGS

Batch ID: _____

Autopipette ID: 43

Balance ID: B-57

## CYANIDE DISTILLATION LOG (SOILS- MICRO DISTILLATION) GP 21141

Method: SW8469012B M

| Bottle # | Block # | Sample ID | pH | S2- | Add (a) | Initial Weight (g) | Final Volume (ml) | Temp. in Deg. C (b) | Start Time | End Time | Date | QC ID | Spike Amounts and Comments | Spike Lot | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | MB1 | 12.00 | ~ | ~ | 0.25 | 6 | 120 | 13:05 | 13:35 | 5/10/19 | GP -MB1 | | | RC |
| | | B1 | | | | 0.25 | | | | | | GP -B1 | 0.10 ml of 5.0 mg/l (c) | ~ | |
| 6 | | S1 JC87535-8 | | | | 0.26 | | | | | | GP -S1 | 0.10 ml of 5.0 mg/l | ~ | |
| 2 | | S2 " -9 | | | | 0.26 | | | | | | GP -S2 | 0.10 ml of 5.0 mg/l | ~ | |
| 6 | | D1 JC87535-8 | | | | 0.27 | | | | | | GP -D1 | | | |
| 6 | | JC87535-8 | | | | 0.27 | | | | | | | | | |
| 2 | | -9 | | | | 0.27 | | | | | | | | | |
| 2 | | -10 | | | | 0.26 | | | | | | | | | |
| 2 | | -11 | | | | 0.28 | | | | | | | | | |
| 2 | | -12 | | | | 0.28 | | | | | | | | | |
| | | -1 | | | | 0.26 | | | | | | | | | |
| | | -2 | | | | 0.25 | | | | | | | | | |
| | | -3 | | | | 0.26 | | | | | | | | | |
| | | -4 | | | | 0.26 | | | | | | | | | |
| | | -5 | | | | 0.28 | | | | | | | | | |
| | | -6 | | | | 0.27 | | | | | | | | | |
| | | -7 | | | | 0.28 | | | | | | | | | |
| 1 | | JC87638-1 | | | | 0.29 | | | | | | | | | |
| 1 | | -2 | | | | 0.28 | | | | | | | | | |
| 1 | | -4 | | | | 0.28 | | | | | | | | | |
| 2 | | JC87530-1 | | | | 0.28 | | | | | | | | | |
| 2 | | -2 | | | | 0.28 | | | | | | | | | |
| 2 | | -3 | | | | 0.26 | | | | | | | | | |
| 1 | | JC87670-5 | | | | 0.26 | | | | | | | | | |
| 1 | | " 71 | | | | 0.29 | | | | | | | | | |

(a) Check if sulfamic acid was added.

(b) Record temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.

(c) If the calibration curve is not distilled, then in addition to the blank spike, the analyst must also prepare two distilled standards using 0.12 ml of 1.0 mgl for one and 0.15 ml of 20.0 mg/l for the other.

Comments:

QC Reviewer: _____ Date: _____

SGS

# Reagent Information Log - CN - Distillation

GP Numbers: GP2114)

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Silver Nitrate Solution 0.0192 N | GNE3-57464-CN | 9/11/2019 |
| Magnesium Chloride Solution | gne12-56762-cn | 6/21/2019 |
| Sulfamic Acid | RICCA 1705K24 | 7/19/2021 |
| Sulfuric Ac id | FISHER 7664-93-9 | 11/6/2022 |
| Sodium Hydroxide 1.25N/0.25N | GNE4-57812-CN | 10/19/2019 |
| Cadmium Carbonate, Powder | MKBF5367V | 3/14/2022 |
| Micro Distillation tubes | ENV-815190-9044-2 | NA |
| .95 NaOH | GNE4-57813-CN | 10/19/2019 |
| Cyanide Stock Solution A - spiking/standards | GNE3-57465-CN | 9/11/2019 |
| Cyanide Stock Solution B- externals | GNE1-56947-CN | 7/19/2019 |
| Lead Acetate Test Paper | FISHER : 12/8/2016 | 12/8/2021 |
| pH paper - range 12.5 to 14 | HYDRION : 210114B | 3/20/2020 |
| pH paper - range 1 to 12 | HYDRION : 223016 | 9/15/2019 |
| Benzalrthodanine | ricca 1805T07 | 10/1/2019 |

Reason codes for data corrections: 1-reviewer error correction; 2 s

Form: GN087A-28
Rev. Date: 03/19/13

15.1 15

SGS

# GENERAL CHEMISTRY STANDARD PREPARATION LOG

**Product: CN**

**GN or GP Number:** GP21141

| Intermediate Standard Description | Stock used to prepare standard | Standardization Date | Stock concentration in mg/l | Stock volume used in ml (a) | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. of Intermediate (mg/l) | Expiration Date (c) | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 PPM intermediate | GNE3-57465-CN | 4/30/19 | 992 | 1.000 | 42 | .25 N NaOH | 200 | 5.00 | 5/16/19 | BM | 5/9/2019 |
| 5 PPM ext. | GNE1-56947-CN | 4/30/19 | 1000 | 1 | 42 | .25 N NaOH | 200 | 5.00 | 5/16/19 | BM | 5/9/2019 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| Standard Description | Intermediate or Stock used to prepare standard | | Intermediate or Stock concentration in mg/l | Intermediate or Stock volume used in ml | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. Of Standard (mg/l) | | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.0 ppm CN STD | | 5.0 | 16.00 | A | .25 N NaOH | 100 | | 5/16/19 | BM | 5/9/2019 |
| B | 5.0 ppm CN STD | | 5.0 | 12.00 | A | .25 N NaOH | 100 | 0.60 | 5/16/19 | BM | 5/9/2019 |
| C | 5.0 ppm CN STD | | 5.0 | 8.00 | A | .25 N NaOH | 100 | 0.40 | 5/16/19 | BM | 5/9/2019 |
| D | 5.0 ppm CN STD | | 5.0 | 2.00 | 42 | .25 N NaOH | 100 | 0.10 | 5/16/19 | BM | 5/9/2019 |
| E | 5.0 ppm CN STD | | 5.0 | 0.40 | 42 | .25 N NaOH | 100 | 0.02 | 5/16/19 | BM | 5/9/2019 |
| F | 5.0 ppm CN STD | 0.3 | 5.0 | 0.20 | 42 | .25 N NaOH | 100 | 0.01 | 5/16/19 | BM | 5/9/2019 |
| | | | | | | | | | | | |
| Undistilled ICV Int. | 5 PPM EXT STD | 11/4/18 | 0.3 | 6.00 | 42 | .25 N NaOH | 100 | 0.30 | 5/16/19 | BM | 5/9/2019 |
| Undistilled CCV Int. | 5.0 ppm CN STD | 11/4/18 | 0.4 | 8.00 | 42 | .25 N NaOH | 100 | 0.40 | 5/16/19 | BM | 5/9/2019 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | 0 | | | | | |
| | | | | | | | | | | | |

(a) Concentration will change with standardization concentration.

(b) Diluent reagent reference number: SEE ATTACHED

(c) Standards must be made fresh (daily) before distillation. After distillation, they may be held under refrigeration for a maxiumum of 28 days before analysis. Expiration Date: SEE ATTACHED

*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the approcpriate Accutest ID number.

Form: GN193-02
Rev. Date:1/6/2014

LABORATORIES

# CYANIDE DISTILLATION LOG (WATERS- MICRO DISTILLATION) GP 21142

Method: EPA 335.4 or SW-846 9012 M (Circle Method)

Batch ID:

Autopipette ID: 43

Balance ID: N/A

| Bottle # | Block # | Sample ID | pH | S2- | Add (a) | Initial Volume (ml) | Final Volume (ml) | Temp. in Deg. C (b) | Start Time | End Time | Date | QC ID | Spike Amounts and Comments | Spike Lot | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | NEB1 | | | | | | | | | | | | | PC |
| | | B1 | 12.0 | ✓ | ✓ | 6 | 6 | 120 | 13:05 | 13:35 | 5/10/19 | GP -MB1 | | | |
| 44 | | S1 JC87644-1 | | | | | | | | | | GP -B1 | 0.10 ml of 5.0 mg/l (c) | — | |
| 15 | | S2 JC87644-2 | | | | | | | | | | GP -S1 | 0.10 ml of 5.0 mg/l | — | |
| 44 | | D1 JC87644-1 | | | | | | | | | | GP -S2 | 0.10 ml of 5.0 mg/l | — | |
| 44 | | JC87644-1 QC | | | | | | | | | | GP -D1 | | | |
| 15 | | -2 | | | | | | | | | | | | | |
| 15 | | -3 | | | | | | | | | | | | | |
| 15 | | -4 | | | | | | | | | | | | | |
| 15 | | -6 | | | | | | | | | | | | | |
| 15 | | JC87670-5 (QC) -11 5/10/19 | | | | | | | | | | | | | |
| 15 | | JC87553-1 | | | | | | | | | | | | | |
| 15 | | JC87579-1 | | | | | | | | | | | | | |
| 15 | | -2 | | | | | | | | | | | | | |
| 15 | | -4 | | | | | | | | | | | | | |
| 15 | | -5 | | | | | | | | | | | | | |
| 15 | | -6 | | | | | | | | | | | | | |
| 15 | | -7 | | | | | | | | | | | | | |
| 15 | | -8 | | | | | | | | | | | | | |
| 15 | | -9 | | | | | | | | | | | | | |
| 15 | | -10 | | | | | | | | | | | | | |
| 15 | | -11 | | | | | | | | | | | | | |
| 15 | | JC87597-1 | | | | | | | | | | | | | |

eck if sulfamic acid was added.

cord temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.

e calibration curve is not distilled, then in addition to the blank spike, the analyst must also prepare two distilled standards using 0.12 ml of 1.0 mgl for one and 0.15 ml of 20.0 mg/l for the other.

ents:

viewer:

Date:

Form: GN0012-04
Rev. Date: 03/09/13

SGS

# Reagent Information Log - CN - Distillation

GP Numbers: GP 21142

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Silver Nitrate Solution 0.0192 N | GNE3-57464-CN | 9/11/2019 |
| Magnesium Chloride Solution | gne12-56762-cn | 6/21/2019 |
| Sulfamic Acid | RICCA 1705K24 | 7/19/2021 |
| Sulfuric Ac id | FISHER 7664-93-9 | 11/6/2022 |
| Sodium Hydroxide 1.25N/0.25N | GNE4-57812-CN | 10/19/2019 |
| Cadmium Carbonate, Powder | MKBF5367V | 3/14/2022 |
| Micro Distillation tubes | ENV-815190-9044-2 | NA |
| .95 NaOH | GNE4-57813-CN | 10/19/2019 |
| Cyanide Stock Solution A - spiking/standards | GNE3-57465-CN | 9/11/2019 |
| Cyanide Stock Solution B- externals | GNE1-56947-CN | 7/19/2019 |
| Lead Acetate Test Paper | FISHER : 12/8/2016 | 12/8/2021 |
| pH paper - range 12.5 to 14 | HYDRION : 210114B | 3/20/2020 |
| pH paper - range 1 to 12 | HYDRION : 223016 | 9/15/2019 |
| Benzalrthodanine | ricca 1805T07 | 10/1/2019 |

Reason codes for data corrections: 1-reviewer error correction; 2 s

Form: GN087A-28
Rev. Date: 03/19/13

15.1
15

SGS

# GENERAL CHEMISTRY STANDARD PREPARATION LOG

**Product: CN**

**GN or GP Number:** GP21142

| Intermediate Standard Description | Stock used to prepare standard | Standardization Date | Stock concentration in mg/l | Stock volume used in ml (a) | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. of Intermediate (mg/l) | Expiration Date (c) | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 PPM intermediate | GNE3-57465-CN | 4/30/19 | 992 | 1.000 | 42 | .25 N NaOH | 200 | 5.00 | 5/16/19 | BM | 5/9/2019 |
| 5 PPM ext. | GNE1-56947-CN | 4/30/19 | 1000 | 1 | 42 | .25 N NaOH | 200 | 5.00 | 5/16/19 | BM | 5/9/2019 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| Standard Description | Intermediate or Stock used to prepare standard | | Intermediate or Stock concentration in mg/l | Intermediate or Stock volume used in ml | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. Of Standard (mg/l) | | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.0 ppm CN STD | | 5.0 | 16.00 | A | .25 N NaOH | 100 | | 5/16/19 | BM | 5/9/2019 |
| B | 5.0 ppm CN STD | | 5.0 | 12.00 | A | .25 N NaOH | 100 | 0.60 | 5/16/19 | BM | 5/9/2019 |
| C | 5.0 ppm CN STD | | 5.0 | 8.00 | A | .25 N NaOH | 100 | 0.40 | 5/16/19 | BM | 5/9/2019 |
| D | 5.0 ppm CN STD | | 5.0 | 2.00 | 42 | .25 N NaOH | 100 | 0.10 | 5/16/19 | BM | 5/9/2019 |
| E | 5.0 ppm CN STD | | 5.0 | 0.40 | 42 | .25 N NaOH | 100 | 0.02 | 5/16/19 | BM | 5/9/2019 |
| F | 5.0 ppm CN STD | 0.3 | 5.0 | 0.20 | 42 | .25 N NaOH | 100 | 0.01 | 5/16/19 | BM | 5/9/2019 |
| | | | | | | | | | | | |
| Undistilled ICV Int. | 5 PPM EXT STD | 11/4/18 | 0.3 | 6.00 | 42 | .25 N NaOH | 100 | 0.30 | 5/16/19 | BM | 5/9/2019 |
| Undistilled CCV Int. | 5.0 ppm CN STD | 11/4/18 | 0.4 | 8.00 | 42 | .25 N NaOH | 100 | 0.40 | 5/16/19 | BM | 5/9/2019 |
| | | | | | | | | | | | |
| | | | | | | 0 | | | | | |
| | | | | | | | | | | | |

(a) Concentration will change with standardization concentration.

(b) Diluent reagent reference number: SEE ATTACHED

(c) Standards must be made fresh (daily) before distillation. After distillation, they may be held under refrigeration for a maxiumum of 28 days before analysis. Expiration Date: SEE ATTACHED

*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the approcpriate Accutest ID number.

Form: GN193-02
Rev. Date:1/6/2014

SGS

Test: pH, Corrosivity
Method: SW846 9040C or SW846 9045D
SM4500H+ B-11
Thermometer ID: 6406059
Correction Factor: 2

Product: PH, CORR
Analyst: JAREDO
GN Batch ID: GN95409
Analysis Date: 5/16/2019
pH Meter ID: 59

**QC Summary**

Duplicate ID: GN95409-D1
Dup Result: 5.28
Sample ID: JC87862-2
% RPD: 4.04%

| Sample ID | Wt./Vol. used for soilds | Uncorrected/ Corrected Temp in Deg C. | Result | Corrosivity | Read time |
|---|---|---|---|---|---|
| **Buffer Check: 4** | | 25/23 | 4.02 | | 12:50 |
| **Buffer Check: 7** | | 25/23 | 7.01 | | 12:52 |
| **Buffer Check: 10** | | 25/23 | 10.02 | | 12:23 |
| GN95409-D1 | | 25/23 | 5.58 | NC | 13:05 |
| JC86962-2R | | 25/23 | 9.50 | NC | 13:07 |
| JC87426-1 | | 25/23 | 11.95 | NC | 13:19 |
| JC87530-1A | | 25/23 | 5.96 | NC | 13:21 |
| JC87530-2A | | 25/23 | 5.48 | NC | 13:22 |
| JC87530-3A | | 25/23 | 5.13 | NC | 13:23 |
| JC87535-13 | | 25/23 | 7.22 | NC | 13:24 |
| JC87535-14 | | 25/23 | 7.27 | NC | 13:26 |
| JC87535-15 | | 25/23 | 7.36 | NC | 13:30 |
| JC87670-11A | | 25/23 | 7.59 | NC | 13:37 |
| **Buffer check: 7** | | 25/23 | 7.02 | | 13:39 |
| **Buffer check: 10** | | 25/23 | 9.99 | | 13:41 |
| **Buffer check: 13** | | 25/23 | 13.04 | | 13:42 |
| **JC87670-17A** | | 25/23 | 7.69 | NC | 13:43 |
| **JC87670-23A** | | 25/23 | 7.12 | NC | 13:44 |
| JC87670-5A | | 25/23 | 7.16 | NC | 13:45 |
| JC87862-2 | | 25/23 | 5.81 | NC | 13:48 |
| JC87864-2 | | 25/23 | 6.15 | NC | 13:50 |
| JC87865-2 | | 25/23 | 5.94 | NC | 13:52 |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | 25/23 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | 25/23 | | | |
| **Buffer Check:7** | | 25/23 | 7.03 | | 13:53 |
| **Buffer Check:10** | | 25/23 | 10.02 | | 13:54 |

* Initial pH checks must be within 0.05 pH units and continuing checks must be within 0.1 pH units.

Comments:

Reviewer: Date:

Validated By: N. Cole
Validated Date: 6/14/2017
Document Control #: **AGN-PH CORR-AQ-04**

5/16/19

GN95409

# Reagent Information Log

## Test Name: PH

| Reagent | |
|---|---|
| | |
| pH 2 Buffer Solutio | FISHER LOT # 175011 XP: 07/31/201 |
| pH 4 Buffer Solution | FISHER LOT#177759 EXP 10/19 |
| pH 7 Buffer Solution | FISHER LOT#186926 EXP 10/2020 |
| pH 10 Buffer Solution | FISHER LOT #181282 6/11/2019 |
| pH 13 Buffer Solution | AQUA SOLUTIONS LOT# 8071148:07 |
| pH Probe Identifier | ORION 9106BNWP VX1<br>OPENED:1/30/2019 |

Form: GN087-01
Rev. Date:5/16/2019

GN95409

SGS

## Preparation Log for pH, Corrosivity in soils and solid wastes

Test: pH, ~~Corrosivity~~
Method: SW846 9045D

Analyst: MO
Batch ID:
Balance ID: B27

Date ~~8/24/2018~~ 5/10/19

| | Sample ID | Sample mass(g) | Volume of water added(ml) | Shaken for 5 min | Settled for 1 hour | | Bottle # |
|---|---|---|---|---|---|---|---|
| | | | | | Start time | End time | |
| 1 | ~~JC87414-5R~~ | ~~50.23~~ | ~~50ml~~ | ~~4~~ | | | 1 |
| 2 | ~~-10R~~ | ~~50.62~~ | | | | | 2 |
| 3 | ~~-15R~~ | ~~50.09~~ | | | | | 1 |
| 4 | ~~JC87754-1~~ | ~~50.23~~ | | | | | 2 |
| 5 | ~~JC87764-1~~ | ~~50.21~~ | | | | | 1 |
| 6 | JC87426-1 | 50.23 | | | 11:00 | 12:00 | 1 |
| 7 | JC87670-5A | 50.09 | | | | | 1 |
| 8 | -11A | 50.19 | | | | | 1 |
| 9 | -17A | 50.07 | | | | | 1 |
| 10 | -23A | 50.08 | | | | | 1 |
| 11 | JC87530-1A | 50.31 | | | | | 1 |
| 12 | -2A | 50.23 | | | | | 1 |
| 13 | -3A | 50.15 | | | | | 1 |
| 14 | JC87535-13 | 50.32 | | | | | 1 |
| 15 | -14 | 50.17 | | | | | 1 |
| 16 | -15 | 50.11 | | | | | 1 |
| 17 | JC87862-2 | 49.85 | | | | | |
| 18 | JC87862-2 DUP | 49.99 | | | | | |
| 19 | JC87865-2 | 49.95 | | | | | |
| 20 | ~~JC87426-1~~ | | | | | | |
| DUP | ~~JC87414-5R~~ | ~~50.07~~ | ~~50ml~~ | ~~4~~ | | | 1 |

JC87864-2 49.99
JC86962-2 50.12

Reviewer: Date:

DAYT-WET-0104-01-FORM-pH9045D-Preplog
Rev. Date: 7/25/18

## Misc. Raw Data

Raw Data

SGS

# TOXICITY CHARACTERISTIC LEACHING PROCEDURE FOR METALS & EXTRACTABLES, METHOD SW846 1311 (TCLPE)

**NOTE: Only one lot of fluid 1 or fluid 2 may be used per sheet. Lots shown on page 2.** **TC Batch ID: TC0715**

**TCLPE**

| Samples | | Container | | | Leaching Dates | | Leaching Times | | | | Extracted Masses | | | Preliminary Evaluation* | | | | | Extraction Fluid | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | PS?* (Y/N) | No. | Type | Rot. | Started | Stopped | Start | Earliest Stop | Latest Stop | Actual Stop | Grams Total | %SOL | Grams Solid | Buffer TV | Step1 pH | Step 1 spin | Buffer TV | Step2 pH | Fluid # | pH | Pass? | Vol. (mL) | Buffer TV | Final pH |
| PH Buffer | | | | | | | | | | | | | | 4.00 | 4.00 | | 4.00 | 4.00 | #1 pH = 4.93 ± 0.05 #2 pH = 2.88 ± 0.05 | | | | 4.00 | 4.00 |
| PH Buffer | | | | | | | | | | | | | | 7.00 | 6.99 | | 7.00 | 7.00 | | | | | 7.00 | 6.99 |
| PH Buffer | | | | | | | | | | | | | | 10.00 | 10.03 | | 10.00 | 10.01 | | | | | 10.00 | 10.02 |
| LB (fluid #1) | | 123 | | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | NA | NA | NA | NA | NA | NA | NA | NA | 1 | 4.90 | YES | 2000 | NA | 4.95 |
| LB (fluid #2) | | | | | 10-May-19 | 11-May-19 | | | | | NA | NA | NA | NA | NA | NA | NA | NA | 2 | 2.84 | YES | 2000 | NA | |
| JC87414-5R | N | 71 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.26 | 100 | 100.26 | NA | 6.15 | 5 mins | NA | 1.86 | 1 | 4.90 | YES | 2005.2 | NA | 5.08 |
| JC87414-10R | N | 100 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.10 | 100 | 100.10 | NA | 5.56 | 5 mins | NA | 1.84 | 1 | 4.90 | YES | 2002 | NA | 4.95 |
| JC87414-15R | N | 3 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.10 | 100 | 100.10 | NA | 5.48 | 5 mins | NA | 1.84 | 1 | 4.90 | YES | 2002 | NA | 5.09 |
| JC87535-13 | N | 4 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.43 | 100 | 100.43 | NA | 6.74 | 5 mins | NA | 1.87 | 1 | 4.90 | YES | 2008.6 | NA | 5.08 |
| JC87535-14 | N | 16 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 99.99 | 100 | 99.99 | NA | 7.18 | 5 mins | NA | 1.89 | 1 | 4.90 | YES | 1999.8 | NA | 5.09 |
| JC87535-15 | N | 5 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.23 | 100 | 100.23 | NA | 6.85 | 5 mins | NA | 1.87 | 1 | 4.90 | YES | 2004.6 | NA | 4.99 |
| JC87687-1 | N | K1 | M | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.12 | 100 | 100.12 | NA | 6.44 | 5 mins | NA | 1.87 | 1 | 4.90 | YES | 2002.4 | NA | 5.03 |
| JC87752-1 | N | 50 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.02 | 100 | 100.02 | NA | 7.55 | 5 mins | NA | 1.89 | 1 | 4.90 | YES | 2000.4 | NA | 5.03 |
| JC87752-2 | N | 6 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.15 | 100 | 100.15 | NA | 7.62 | 5 mins | NA | 1.89 | 1 | 4.90 | YES | 2003 | NA | 4.96 |
| JC87752-3 | N | 164 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.32 | 100 | 100.32 | NA | 7.09 | 5 mins | NA | 1.88 | 1 | 4.90 | YES | 2006.4 | NA | 4.96 |
| PH Buffer | | | | | | | | | | | | | | 4.00 | 4.00 | | 2.00 | 2.00 | | | | | 4.00 | 4.00 |
| PH Buffer | | | | | | | | | | | | | | 10.00 | 10.02 | | 4.00 | 3.99 | | | | | 7.00 | 7.02 |
| JC87752-4 | N | 11 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.58 | 100 | 100.58 | NA | 7.23 | 5 mins | NA | 1.88 | 1 | 4.90 | YES | 2011.6 | NA | 5.11 |
| JC87838-1 | N | 7 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.74 | 100 | 100.74 | NA | 6.50 | 5 mins | NA | 1.87 | 1 | 4.90 | YES | 2014.8 | NA | 5.00 |
| JC87838-2 | N | 8 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.62 | 100 | 100.62 | NA | 6.32 | 5 mins | NA | 1.85 | 1 | 4.90 | YES | 2012.4 | NA | 5.11 |
| JC87838-4 | N | 10 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.23 | 100 | 100.23 | NA | 6.48 | 5 mins | NA | 1.85 | 1 | 4.90 | YES | 2004.6 | NA | 5.36 |
| JC87838-5 | N | 30 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.76 | 100 | 100.76 | NA | 6.76 | 5 mins | NA | 1.84 | 1 | 4.90 | YES | 2015.2 | NA | 5.23 |
| JC87838-6 | N | 504 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.09 | 100 | 100.09 | NA | 7.02 | 5 mins | NA | 1.88 | 1 | 4.90 | YES | 2001.8 | NA | 5.18 |
| JC87838-7 | N | 905 | M/E | 9 | 10-May-19 | 11-May-19 | 18:30 | 10:30 | 14:30 | 11:00 | 100.07 | 100 | 100.07 | NA | 6.54 | 5 mins | NA | 1.85 | 1 | 4.90 | YES | 2001.4 | NA | 5.02 |
| | | | | | | | | | | | | 100 | 0.00 | NA | | 5 mins | NA | | 1 | 4.90 | YES | | NA | |
| | | | | | | | | | | | | 100 | 0.00 | NA | | 5 mins | NA | | 1 | 4.90 | YES | | NA | |
| | | | | | | | | | | | | 100 | 0.00 | NA | | 5 mins | NA | | 1 | 4.90 | YES | | NA | |
| PH Buffer | | | | | | | | | | | | | | 4.00 | 4.00 | | 2.00 | 2.00 | | | | | 4.00 | 4.00 |
| PH Buffer | | | | | | | | | | | | | | 10.00 | 10.00 | | 4.00 | 4.00 | | | | | 7.00 | 7.02 |

Comments and additional information continued on the next page. (*PS=particle sizing)

Data Reviewer / Date: _____ Set-up analyst: TM Take-down analyst: TM

**Form: AGN-TCLPE-07b**
**Revised: 18-Jun-17**
**Validated: AD, 18-Jun-17**

SGS ACCUTEST

# TOXICITY CHARACTERISTIC LEACHING PROCEDURE FOR METALS & EXTRACTABLES, METHOD SW846 1311 (TCLPE)

**TC Batch ID:** **TC0715**

**Balance ID:** B54

**pH meter ID:** PH 63

**Temperature ranges during leaching. (Must be from 20.5-25.4 °C, and recorded for each leaching period).**

| | Uncorrected Temperatures | | | Corrected Temperatures | | |
|---|---|---|---|---|---|---|
| Probe ID | Minimum | Maximum | CF | Minimum | Maximum | For rotator(s) |
| 56418 | | | 0 | 0.00 | 0.00 | 7 & 8 |
| 50266 | 22.83 | 23.17 | 0 | 22.83 | 23.17 | 9 & 10 |
| 56717 | | | 0 | 0.00 | 0.00 | 4 |
| 45776 | | | 0 | 0.00 | 0.00 | 5 |
| 49504 | | | 0 | 0.00 | 0.00 | 11 & 12 |

**Rotator revolution rates. (Must be from 28-32 rpm, and check weekly for all rotators).**

| Rotator ID: | Rate: | Last measured: |
|---|---|---|
| 4 | 28 | 14-Apr-19 |
| 5 | 30 | 14-Apr-19 |
| 7 | 32 | 14-Apr-19 |
| 8 | 32 | 14-Apr-19 |
| 9 | 28 | 14-Apr-19 |
| 10 | 28 | 14-Apr-19 |
| 11 | 30 | 14-Apr-19 |
| 12 | 28 | 14-Apr-19 |

***Preliminary Evaluation Temperature (49.5-50.4 °C, heat for 10 min)**

Thermometer ID: 5624720

Expiration: 15-Feb-20

Recorded temperature: 50

Heating time: Start:

End:

| **Reagent Information** | **Reagent ID or Manufacturer Lot** | **Expiration Date** |
|---|---|---|
| **Reagent** | | |
| Extraction fluid 1 | GNE5-58004-TCLP | 24-May-2019 |
| Extraction fluid 2 | | |
| TCLP filters | Env. Exp. 110153-7270 | N/A |
| Filter acid-rinse solution | GNE1-57067-TCLP | 18-Jul-2019 |
| pH 2 buffer | Fisher Chemical 175011 | 1-Jul-2019 |
| pH 4 buffer | RICCA-2805681 | 20-Apr-2020 |
| pH 7 buffer | Fisher Chemical 183273 | 1-May-2020 |
| pH 10 buffer | Fisher Chemical 174997 | 2-Jul-2019 |
| pH 12 buffer | N/A | N/A |
| pH 13 buffer | AQUA SOLUTION-8071148 | 30-Sep-2019 |
| Nitric acid, concentrated | J.T. BAKER 197345 | 5-Sep-2023 |
| Nitric acid, qs | | |
| 1N HCl | GNE1-57008-TCLP | ####### |

# TOXICITY CHARACTERISTIC LEACHING PROCEDURE FOR VOLATILES, SW846 1311 (TCLPV)

**Batch ID:** ZHO715

| | | | | Leaching Dates | | Leaching Times | | | | Extraction Mass & Volume | | | | ZHE Pressure | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | Sample ID | ZHE ID | Rotator | Start | End | Start | Earliest Stop | Latest Stop | Actual Stop | %SOL | Grams Total | Grams Solid | Vol. (ml) | Initial (psi) | Final (psi) |
| LB | LB | 4 | 12 | 11-May-19 | 12-May-19 | 21:45 | | | 13:45 | 100.0 | | | | 10 | 10 |
| 1 | JC87535-13 | M | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.58 | 10.58 | 212 | 10 | 10 |
| 2 | JC87535-14 | P1 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.01 | 10.01 | 200 | 10 | 10 |
| 3 | JC87535-15 | I | 12 | | | 21:45 | | | 13:45 | 100.0 | 10.02 | 10.02 | 200 | 10 | 10 |
| 4 | JC87610-1 | B | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.24 | 10.24 | 205 | 10 | 10 |
| 5 | JC87610-3 | S1 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 9.98 | 9.98 | 200 | 10 | 10 |
| 6 | JC87761-1 | L2 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.45 | 10.45 | 209 | 10 | 10 |
| 7 | JC87761-2 | E | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.26 | 10.26 | 205 | 10 | 10 |
| 8 | JC87761-3 | A | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.22 | 10.22 | 204 | 10 | 10 |
| 9 | JC87761-4 | I2 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.03 | 10.03 | 201 | 10 | 10 |
| 10 | JC87761-5 | P | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.55 | 10.55 | 211 | 10 | 10 |
| 11 | JC80555-14 | B2 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.53 | 10.53 | 211 | 10 | 10 |
| 12 | JC87841-6 | K2 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.65 | 10.65 | 213 | 10 | 10 |
| 13 | JC87841-10 | H1 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.37 | 10.37 | 207 | 10 | 10 |
| 14 | JC87841-13 | H2 | 12 | 11-May-19 | 12-May-19 | 21:45 | 13:45 | 17:45 | 13:45 | 100.0 | 10.01 | 10.01 | 200 | 10 | 10 |
| 15 | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | |

**Extraction Fluid #1**

Lot no.: GNE5-58005-ZHE

Expires: 24-May-19

Extraction fluid pH: 4.96 (measured prior to leaching)

**Temperature ranges during leaching.**

***Must be 21.0-25.0 °C and recorded for each leaching period.**

| | Measured Temperatures | | | |
|---|---|---|---|---|
| Rots.:Probe | Start | End | Min | Max |
| 7 & 8: 56418 | | | | |
| 9 & 10: 50266 | | | | |
| 4: 56717 | | | | |
| 5: 45776 | | | | |
| 11 & 12: 49504 | 22.85 | 23.21 | 22.75 | 23.21 |

**Balance ID:** B-54

**pH meter ID:** PH 63

**Filter manufacturer & lot:** ENV EXP: 110153-7271

**Rotator revolution rates.**

***Must be 28-32 rpm and checked weekly.**

| Rotator | Rate | Last measured: |
|---|---|---|
| 4 | 28 | 2/11/2019 |
| 5 | 30 | 2/11/2019 |
| 7 | 32 | 2/11/2019 |
| 8 | 32 | 2/11/2019 |
| 9 | 28 | 2/11/2019 |
| 10 | 0 | 2/11/2019 |
| 11 | 30 | 2/11/2019 |
| 12 | 28 | 2/11/2019 |

**Set-up analysts:** TM

**Take-down analysts:** TM

**Data Reviewer:**

**Date:**

**DAYT-WET-0215-04-AGN TCLPV**
**Revised: 10/31/2018**
**Validated: 18-Jun-17**
**Validated by: Anthony Dapaah**

# Methanol Prep Log

| Vial Track #: | Lims ID: | Initial Tare Wt (g) | Total Wt (g) | Weight of Sample (g) | Date Prepared | Lot #: | Prep By | Vial Desc: | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | JC87535-1.3 | 36.8800 | 42.9700 | 6.0900 | | | | NAB | |
| | JC87535-1.4 | 35.9000 | 40.8800 | 4.9800 | | | | NAB | |
| | JC87535-1.5 | 36.0600 | 41.0100 | 4.9500 | | | | NAB | |
| | JC87535-10.3 | 36.9200 | 40.9100 | 3.9900 | | | | NAB | |
| | JC87535-10.4 | 35.6500 | 40.5700 | 4.9200 | | | | NAB | |
| | JC87535-10.5 | 35.7900 | 39.9100 | 4.1200 | | | | NAB | |
| | JC87535-11.3 | 37.0400 | 42.2500 | 5.2100 | | | | NAB | |
| | JC87535-11.4 | 35.7300 | 41.2900 | 5.5600 | | | | NAB | |
| | JC87535-11.5 | 35.7500 | 41.8800 | 6.1300 | | | | NAB | |
| | JC87535-12.3 | 36.7200 | 41.1700 | 4.4500 | | | | NAB | |
| | JC87535-12.4 | 35.5400 | 40.3700 | 4.8300 | | | | NAB | |
| | JC87535-12.5 | 35.7100 | 40.2900 | 4.5800 | | | | NAB | |
| | JC87535-2.3 | 36.7500 | 42.6900 | 5.9400 | | | | NAB | |
| | JC87535-2.4 | 35.8100 | 41.0100 | 5.2000 | | | | NAB | |
| | JC87535-2.5 | 35.7100 | 42.4700 | 6.7600 | | | | NAB | |

# Methanol Prep Log

| Vial Track #: | Lims ID: | Initial Tare Wt (g) | Total Wt (g) | Weight of Sample (g) | Date Prepared | Lot #: | Prep By | Vial Desc: | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | JC87535-3.3 | 36.9300 | 39.2000 | 2.2700 | | | | NAB | |
| | JC87535-3.4 | 35.6900 | 39.8100 | 4.1200 | | | | NAB | |
| | JC87535-3.5 | 36.0500 | 38.0600 | 2.0100 | | | | NAB | |
| | JC87535-4.3 | 36.9200 | 42.6100 | 5.6900 | | | | NAB | |
| | JC87535-4.4 | 36.2100 | 42.0300 | 5.8200 | | | | NAB | |
| | JC87535-4.5 | 35.4200 | 40.8400 | 5.4200 | | | | NAB | |
| | JC87535-5.3 | 36.7200 | 41.3000 | 4.5800 | | | | NAB | |
| | JC87535-5.4 | 35.8000 | 40.2800 | 4.4800 | | | | NAB | |
| | JC87535-5.5 | 35.9200 | 40.9000 | 4.9800 | | | | NAB | |
| | JC87535-6.3 | 36.7200 | 40.5300 | 3.8100 | | | | NAB | |
| | JC87535-6.4 | 35.7600 | 39.8900 | 4.1300 | | | | NAB | |
| | JC87535-6.5 | 35.7300 | 39.5500 | 3.8200 | | | | NAB | |
| | JC87535-7.3 | 36.6600 | 42.3800 | 5.7200 | | | | NAB | |
| | JC87535-7.4 | 35.6100 | 41.8500 | 6.2400 | | | | NAB | |
| | JC87535-7.5 | 35.5500 | 39.9700 | 4.4200 | | | | NAB | |

# Methanol Prep Log

| Vial Track #: | Lims ID: | Initial Tare Wt (g) | Total Wt (g) | Weight of Sample (g) | Date Prepared | Lot #: | Prep By | Vial Desc: | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | JC87535-8.10 | 35.9900 | 42.3000 | 6.3100 | | | | NAB | |
| | JC87535-8.11 | 35.4500 | 40.6300 | 5.1800 | | | | NAB | |
| | JC87535-8.12 | 35.4100 | 41.1000 | 5.6900 | | | | NAB | |
| | JC87535-8.13 | 35.9300 | 41.8300 | 5.9000 | | | | NAB | |
| | JC87535-8.14 | 35.4300 | 40.6100 | 5.1800 | | | | NAB | |
| | JC87535-8.15 | 35.7000 | 41.0500 | 5.3500 | | | | NAB | |
| | JC87535-8.7 | 36.8900 | 41.4700 | 4.5800 | | | | NAB | |
| | JC87535-8.8 | 36.4400 | 41.0200 | 4.5800 | | | | NAB | |
| | JC87535-8.9 | 36.5300 | 41.8900 | 5.3600 | | | | NAB | |
| | JC87535-9.3 | 37.0300 | 42.0200 | 4.9900 | | | | NAB | |
| | JC87535-9.4 | 35.4900 | 40.0500 | 4.5600 | | | | NAB | |
| | JC87535-9.5 | 35.7800 | 41.4900 | 5.7100 | | | | NAB | |